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Influence of Work Environment Conditions on the Ability of Critical Care Nurses to Provide Efficacious Nursing Care in Puerto Rico

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Influence of Work Environment Conditions on the Ability of Critical Care Nurses to Provide Efficacious Nursing Care in Puerto Rico

A Dissertation Presented

by

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DEDICATION

I dedicate my dissertation work to my family and many friends. A special feeling of gratitude to my parents: my father José J. Torres Seijo, who taught me to never give up, and my mother Yolanda Vélez Marina, who taught me that even the toughest task can be accomplished if it is done one step at a time. My sons Iván and Brian, who were always by my side and are my strength and inspiration. I also dedicate this work to my cousin Luis J. Zayas Seijo, who has inspired me to dream.

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ABSTRACT

INFLUENCE OF WORK ENVIRONMENT CONDITIONS ON THE ABILITY OF CRITICAL CARE NURSES TO PROVIDE EFFICACIOUS NURSING CARE IN PUERTO RICO

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The purpose of this study was to explore the conditions in the work environment that may contribute to caring efficacy of critical care nurses in Puerto Rico. The study measured nurses' perceptions of the empowering structures in the work environment, and the relationship to their perceived caring efficacy and explored the correlation between sociodemographic factors of age, education, and experience of work empowerment and/or caring efficacy. The Conditions for Work Effectiveness Questionnaire and Caring Efficacy Scale were used to assess the association between the nurses' work environment conditions and caring efficacy. The instruments were translated to Spanish and adapted to the Puerto Rican culture. Using convenience sampling, the instruments were paired and administered to nurses from selected critical care units of hospitals in Puerto Rico. Participation was voluntary. Findings support that there is no relationship between the working conditions environment and caring efficacy. Supplemental findings, however, support a significant positive correlation between relationships with patients and families and caring efficacy.

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CHAPTER 1

CONDITIONS FOR WORK EFFECTIVENESS, CARE EFFICACY, AND THE EMPOWERED NURSE

Being a nurse in today's chaotic healthcare environment is a very complex challenge. With the required formal knowledge and skills in patient care, the dynamics of teamwork and the organizational environment, the postmodern nurse performs a complex role among the multidisciplinary team. Today's caring environment requires from the nurse, in addition to the knowledge and skills necessary to provide excellent patient care, the ability to comply with organizational goals, standards, regulations, and reimbursement mechanisms, and to bear the responsibility of patient and family education. In balancing these caring and operational responsibilities, nurses struggle with feelings of powerlessness (Jansink, Braspenning, Van Der Weijden, Elwyn, & Grol, 2010; Olsen, 2013) and yet are expected to provide efficacious care.

Recent national reports and research studies address the role that nursing must assume to face the rising demand of safe, quality, and effective care and the importance of the environment on patient care outcomes (Institute of Medicine [IOM], 2011; Ulrich, Lavandero, Woods, & Early, 2014; Wilson, Whitaker, & Whitford, 2012). According to the IOM report (2011), nursing is the largest sector of the healthcare profession, with more than 3,000,000 nurses in the United States (US). The exclusive ability of nurses to act as partners in the multidisciplinary team is recognized in the report, due to their constant proximity to the patient and the application of evidence-based knowledge of the caring process across the continuum of care. Nurses are acknowledged in the report as being in a key role in preventing medication errors, reducing rates of infection, and facilitating patients' transition from hospital to home. There is substantial evidence

linking nursing care to the outcomes of high-quality, safe patient care. The complexity of the work environment conditions, however, results in an increasing demand of the nurse's time and effort away from the patient, when her focus should be on the health, healing, and alleviation of suffering of the patient (Gottlieb, 2014). Within this tension of organizational requirements and patient needs, the nurse is expected to provide efficacious care. Practicing on a critical care unit provides additional challenges.

Among the different hospital units, the critical care units are specialized units characterized by dynamic, stressful working environment. The critical care nurse work environment conditions play a principal role in the caring process thus impacting patient outcomes, patient and nurse satisfaction, and financial costs (Boev, 2012; Rose, 2011; Ulrich et al., 2014). Effective relationships among the multidisciplinary team members in this environment also impact the outcomes of critically ill patients (Rose, 2011).

The American Association of Critical-Care Nurses (AACN; 2005) has delineated the standards for establishing and sustaining a healthy care environment in the critical care scenario. The AACN (2005) establishes that in order for the environment to be healthy, the critical care work unit conditions must include the following systemic behaviors: skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership. An increasing body of evidence demonstrates the association between healthy nurse work environment conditions and patients' outcomes (Ulrich et al., 2014).

The structure of the work environment provides conditions that can empower nurses, enabling them to be effective throughout all levels of the organization, or create a sense of powerlessness, which may influence patient and staff relationships (Boev, 2012;

Purdy, Spence Laschinger, Finegan, Kerr, & Olivera, 2010; Rose, 2011; Ulrich et al., 2014). The conditions of the work environment that may empower nurses are access to opportunities, information, support, resources, and positive work relationships with peers/colleagues, patients/families, and mentors (Roche, Morsi, & Chandler, 2009).

Nurses' ability to provide efficacious care is based in the nurse's belief in self and his/her ability to achieve a desired outcome. The nurse's confidence in his/her competencies and the availability within the work environment of conditions that lead to empowerment are needed in order for him/her to take charge of the patient's health and healing (Gottlieb, 2014). The nurse who perceives herself as efficacious exhibits caring attitudes, establishes caring relationships, and is satisfied with the quality of the care she is providing to her patients (Coates, 1997). Work environments that make available the adequate conditions for nurses result in positive outcomes for patients and nurses (Purdy et al., 2010). Thus, understanding the influence of the conditions for work effectiveness of today's caring environment on the nurses' perception of their caring efficacy may provide insight into this process in order to promote caring attitudes and behaviors in the work environment.

Problem Statement

The problem is that, despite the evidence that workplace conditions can support work effectiveness and lead to the provision of safe and quality care, little is known about the influence of specific conditions of work effectiveness upon the nurse's perceived caring efficacy. The AACN (2005) has defined what a healthy critical care environment is and has established standards about the systemic behaviors that must be observed within it in order for it to be healthy. Research on caring efficacy has been focused on

different scenarios like nursing schools and, more recently, simulation labs, but it is limited in the context of the practice environment. Knowledge about the influence of the ever-changing work environment conditions for work effectiveness over the nurse's caring efficacy in clinical practice would allow nursing leaders and managers to create environments that will promote and sustain the desirable caring behaviors in their staff. This study was designed to explore the conditions in the work environment that may contribute to the nurses' perceived caring efficacy.

Background

Historically, the delivery of healthcare models in the US has been designed in response to economic changes, healthcare tendencies, and consumer needs. The IOM's (2011) report elucidates the multiple roles that nurses can assume with the increasing demand for safe, high-quality, and effective care and indicates the added responsibilities and complexities of the 21st century nurses' working environment.

Within the hospital environment the critical care units present additional challenges to nursing with the patients' severe and life-threatening conditions, the required constant monitoring, the required specialized skills, the need for continuous training, and the higher patient-to-nurse ratios. Because of the uniqueness of the critical care environment, concerns abound regarding the projections of the nursing shortage—about 1 million nurses by the year 2020 (Health Resources Services Administration [HRSA], 2002). Critical care and other specialty units are expected to be most affected by vacancies and turnover (American Association of Colleges of Nursing [AACN], 2014; American Nurses Association [ANA], 2001).

In order to use their own professional power through skill and knowledge, critical care nurses need access to the empowering structures of their work environment instead of relying only on the bureaucratic, rigid structures of the organization (Rao, 2012). The bureaucratic and rigid structures of the organization limit the access to the structures of power. Kanter (1977, 1993) encouraged nurses with the assurance that power is the ability to get things done and that accomplishment is the evidence of their empowerment. The ideal of the characterized empowered nurse is not commonly found (Rao, 2012). Research suggests that nurses who are empowered accomplish their work in meaningful ways (Hayes, Douglas, & Bonner, 2014).

Empowering work environment conditions were defined by Kanter (1977) as providing access to four empowering structures: information, resources, support, and opportunities. Information refers to the technical knowledge and expertise necessary to comply with the individual's professional requirements. Resources relate to the equipment, supplies, money, and time necessary to comply with established goals and objectives. Support refers to leadership, supervision, feedback, and guidance from superiors, peers, and subordinates. Opportunities refer to self-determination and autonomy, which provide a "feeling of challenge and the opportunity to learn and grow" (Cicolini, Comparcini, & Simonetti, 2014, p. 856).

Kanter's (1993) structural Theory of Organizational Behavior has been used in nursing for over 25 years. It was first tested in the nursing field by Chandler (1986, 1991, 1992a). Chandler (1991) demonstrated, and is supported by current management theory, that nurses who work in empowering environments exhibit empowered behaviors such as achievement orientation, increased motivation, risk taking, and high career aspirations

(Rao, 2012). In the research on the application of Kanter's theory in nursing, nurses identified a fifth component of structural empowerment, the importance of nurses' relationships in the workplace and their impact on the caring process (Chandler, 1991). Since then, Kanter's theory has been applied to nursing throughout different countries, demonstrating the correlations between the empowering workplace structures and job satisfaction, stress, burnout, nurses' health, nurses' emotional exhaustion, institutional commitment, staff retention, professional practice and patient outcomes (Cicolini et al., 2014; Hayes et al., 2014; Laschinger, Leiter, Day, Gilin-Oore, & Mackinnon, 2012; Yang, Liu, Huang, & Zhu, 2013).

Many aspects of Kanter's (1977) theory of structural empowerment are applied to the concept of healthy work environment conditions (Yang et al., 2013). The AACN (2005) has identified quality of patient care, staffing, communication and collaboration, respect, physical and mental safety, moral distress, nursing leadership, support for certification and continuing education, meaningful recognition, job satisfaction and career plans as environmental factors associated with healthy work environment conditions. All of these factors, except for quality of patient care, can be categorized within Kanter's (1977) empowerment structures (Table 1). The Quality of patient care has been positively related to empowering work environment conditions, as demonstrated by improved patients' outcomes (Yang et al., 2013).

Table 1: Relationship between environmental factors associated with healthy work environments (AACN, 2005) and Kanter's (1977) empowerment structures.

Environmental Factors Associated with Healthy Work Environments (AACN, 2005)	Empowerment Structures (Kanter, 1977)
Staffing	Resources
Communication and Collaboration	Information and Support
Respect	Support
Physical and Mental Safety	Resources
Moral Distress	Support
Leadership	Support
Support for Certification / Continued Education	Opportunities
Meaningful Recognition	Support/Opportunities
Job Satisfaction	Opportunities
Career Plans	Opportunities

Currently, the critical care work environment conditions are being negatively affected by the nursing shortage and the cost of healthcare (ANA, 2009; Boev, 2012; Ulrich et al., 2014). Increasing evidence demonstrates the impact of work environment conditions in negative outcomes such as mortality rates, complication rates, failure to rescue, medication errors, and healthcare-associated infections (Kelly, Kutney-Lee, McHugh, Sloane, & Aiken, 2014; Ulrich et al., 2014). Strategies to improve the critical care work environment conditions are achievable, but organizations must recognize the work environment as it is perceived by the nurses who *live* in it (Ulrich et al., 2014). Therefore the relationship between the workplace environment and the nurses' caring attitudes and behaviors was evaluated in this study.

Efficacy is defined as the power or capacity to produce an effect, the power to effect the object intended (Oxford English Dictionary, 2015). Thus, caring efficacy can be defined as the nurses' perception of their power to care. Gottlieb's (2014) definition of self-efficacy can be applied to the concept of efficacious care as the nurse's belief in herself and her ability to achieve a desired goal in bringing about a desired outcome. It is

the nurse's confidence in her competencies and resources that enable her to take charge of the patient's health and healing. Underlying elements are influenced by the work environment conditions (Hayes et al., 2014; Laschinger et al., 2012). The structural empowerment theory (Chandler, 1991; Kanter, 1977, 1993) offers a framework to support the provision of efficacious care (Hayes et al., 2014).

Significance to Nursing

No studies were found that assessed the association between the working conditions and how they influence the caring efficacy of nurses. This research provides a theoretical understanding of the conditions of work effectiveness and its influence over caring efficacy of nurses in critical care environments. Even though the concepts of empowerment and quality of care are well known in both the business and healthcare fields, no studies have been found that assess the association between the conditions for work effectiveness and how it affects the caring efficacy of nurses. The results of this study provide managers and administrators baseline information leading to the optimization of work environment conditions of nurses in Puerto Rico. Utilizing this information can lead to the achievement of the desired outcomes by promoting caring attitudes and relationships in the nurses.

Purpose

The purpose of this study was to explore the conditions in the work environment that may contribute to caring efficacy of critical care nurses in Puerto Rico. If nurses perceive they have access to the structures of power—opportunity, information, resources, support, and relationships in the work environment (with patients and their families, peers, colleagues, and mentors)—they might perceive having the power to

demonstrate the attitudes, ability, and cognitions necessary to exhibit the desired behaviors of caring attitude, caring relationships and satisfaction with care provided. Therefore, two main objectives of the study were defined as follows: (a) to explore the association between structural empowerment and the efficacy of care provided by critical care nurses, and (b) to explore whether structural empowerment and nurses' age, education, and experience were predictors of their caring efficacy.

The specific aims of the study were the following:

1. Measure the perceptions of the empowering structures in the work environment conditions (i.e., work empowerment) of the critical care nurses in Puerto Rico).
2. Measure the perceptions of caring efficacy of the critical care nurses in Puerto Rico.
3. Explore the association between critical care nurses' work empowerment and three sociodemographic factors: age, education, and years of experience.
4. Explore the association between critical care nurses' work empowerment and their perception of caring efficacy.
5. Explore if the critical care nurses' work empowerment can be a predictor of their perceptions of caring efficacy, using age, education, and experience as covariates.

Hypotheses

The study tested the following hypotheses:

1. There will be a significant correlation between the critical care nurses' age and their perceptions of their working conditions.
2. There will be a significant correlation between the critical care nurses' education level and their perceptions of their working conditions.

3. There will be a significant correlation between the critical care nurses' years of experience and their perceptions of their working conditions.
4. There will be a significant correlation between the critical care nurses' caring efficacy and their perceptions of their working conditions.
5. The critical care nurses' perceptions of their working conditions in combination with age, education, and experience as covariates, will be able to explain a significant amount of their perceptions of caring efficacy.

Summary

Accurate and comparable data on conditions in the critical care work environment that contribute to efficacious nursing care are needed to strengthen the redesign of the healthcare system in the US (IOM, 2011). Nursing's theoretical body of knowledge will be strengthened by the addition of this study's correlation of the critical care nurses' perceptions of the conditions of work effectiveness and caring efficacy through the administration of the CWEQ (Chandler, 1986) and the Caring Efficacy Scale (CES; Coates, 1997), respectively. Learning about the association of the covariates with the main variables in this study may provide valuable information for nursing managers, organizations, and nursing education for the development of future strategies that will lead to the enhancement of the caring relationship.

CHAPTER 2

REVIEW OF LITERATURE

The purpose of this study was to explore the elements in the work environment conditions that may contribute to caring efficacy of critical care nurses of hospitals in the commonwealth of Puerto Rico. This chapter includes an overview of the literature about Puerto Rico, cultural influences, work empowerment, caring efficacy, and the critical care nurse work environment conditions.

Puerto Rico

Puerto Rico is an island located in the Caribbean 1,000 miles southeast of Miami, Florida. It is 100 miles long by 35 miles wide. After its discovery, Puerto Rico remained a Spanish colony for 400 years. After the Spanish-American war in 1898, the US took over the island, which after that became US territory. In 1952, Puerto Rico officially became a commonwealth of the US.

Puerto Ricans are born US citizens and, as citizens, are provided with US passports. Spanish is the official language of the island. The teaching of English as a second language at schools is required by law. The currency is the US dollar. The population is 3.8 million (US Census Bureau, 2012). Puerto Rico is one of the most densely populated islands in the world (US Census Bureau, 2010). As a US territory Puerto Rico is strongly influenced by the American culture.

Cultural Influence

Culture is a process in which events, conflicts, power relations, and migration affect the opinions, practices, group values, norms, and experiences, as well as individual ideas and life stories of a population (Chávez & Canino, 2005). Puerto Rico has a rich

Hispanic culture even though its cultural identity has been greatly influenced by that of the US. The population is mostly bilingual (Spanish/English) and embraces both cultures; both basic philosophies of life have been merged into one. Puerto Ricans living in the US mainland are considered an ethnic minority. On the island, US social, economic, and political models are followed and merge with the cultural differences and the island's reality in the work environment.

Nursing Work Environment Conditions in Puerto Rico

Healthcare professionals, facilities, and technology have transformed Puerto Rico in the past 20 years into a place that possesses the high-quality health resources to take care of its own population (Belaval, 2012). Being a territory of the US, the healthcare system in Puerto Rico mirrors that of the US mainland. In addition to state rules and laws, the healthcare system operates within a framework of federal regulations and requirements that aim to ensure its quality and access to care. However, regardless of their US citizenship, cultural differences exist between the US and Puerto Rican population.

Low salaries (see Table 2), nursing shortage, burnout, lack of resources and opportunities have a direct impact on nurses in Puerto Rico (Alvarez, 2014; Hay Brown, 2002; Nolan, 2002). Nurses are relocating to the US to find better jobs and looking for better salaries. Yet, minimal changes in the work environment conditions of nurses in Puerto Rico have been recorded historically. Laws regulating nursing practice have been static.

The most recent preliminary statistics report of the Division of Statistical Analysis (DSA) of Puerto Rico's Department of Health (PRDH) revealed that between 2007 and

2010 there were 19,735 active registered nurses. The DSA's 2012 report classified these nurses as follows: 4,871 holding an Associate's Degree in Nursing (ADN); 13,940 holding a Bachelor of Science in Nursing (BSN); 902 holding either a Master of Science in Nursing (MSN) or a 1-year post-baccalaureate specialty certificate, which could be in critical care, oncology, cardiology, medical-surgical, spinal cord, sexual assault, nephrology, ophthalmic or plastic surgery; and 22 obstetric nurses, who possess a 1-year post-baccalaureate specialty certificate in midwifery.

Table 2: Minimum salary for nurses in Puerto Rico (2007), as approved in 2005 by State Law No. 28.

Practice Level	Minimum Salary/Month
Licensed Practical Nurse without experience	$1,500
Associates Degree Nurse without experience	$2,000
Bachelor's Degree Nurse without experience	$2,350
Bachelor's Degree Nurse with experience	$2,500

No published research was found in the literature about the work environment conditions of nurses in Puerto Rico. However, one unpublished study was found that related to the Puerto Rican nursing work environment (León Jimenez, 1989). The purpose of the study was to investigate the association among differences in the psychological measures of locus of control in relation to nurses' perceived aspects of job satisfaction at different levels of professional experience. The job satisfaction factors were measured with the Index of Work Satisfaction Scale (Stamps, Piedmont, Slavitt, & Haase, 1978). Factors considered for the study were pay, task requirements, organizational administration, doctor-nurse relations (autonomy), professional interactions, and professional status. Professional experience was defined as (a) pre-service, senior nursing

students, (b) beginning professionals in nursing service (less than 1 year of working experience), and (c) the experienced nurse level (over 5 years of working experience). The concept of locus of control was grounded in social learning theory, in which expectations regarding the probability of reinforcement are predictors of behavior (León Jimenez, 1989). The study reveals that during the 1980s the most important job factor for both pre-service and experienced nurses was professional status and for the beginning nurses, was autonomy. León Jimenez (1989) states that for Puerto Rican nurses, autonomy is "the capacity of making decisions independently with knowledge and legal rights for the benefits of the consumer of health services and for the improvement of the scope of nursing practice" (p. 116). León Jimenez also recognized the inability of Law No. 30 of 1965, regulating the nursing practice, to give practitioners the much wanted autonomy. The study revealed that nurses who had autonomy in making their own decisions were in higher professional status. Locus of control did not account for significant variance on job satisfaction ($p < 0.05$) in the different nurse groups.

The major implication for nursing of this investigation was identification of the behaviors that would facilitate nurse satisfaction within the work environment in order to lower turnover in the nursing profession (León Jimenez, 1989). Other than the subliminal mention of a nursing turnover, the study does not elaborate on the conditions of the working environment of that decade or its impact on nurses' behaviors.

Work Empowerment

Autonomy is the individual's capacity of self-determination. It involves power, and the notion of power is at the core of the concept of empowerment. The concept of power has always been considered to move in a unidirectional manner from whoever is at

the top of the hierarchical ladder to its lower constituents. Kanter (1977) defined power as efficacy, as in the ability to mobilize resources, rather than domination (p. 6). She presented the theory of work effectiveness, based on a case study of workers in their working environment within a large, complex, multilevel corporation. Kanter's theory proposed that the perceived access to the structures of opportunities and power within the organizational influenced work performance, expanding the accepted paradigm that work performance was based solely on the individual's traits and motivation.

Kanter (1977) stated that people who perceived their work as providing them low opportunity exhibited less commitment toward the organization and were more focused on the barriers than on productivity. These workers exhibited what Kanter (1977) identified as *stuck* behavior. The elements of the structure of power within the working environment were identified as the workers' perception of access to the information, support, and resources needed to perform their work. Information referred to the knowledge about the organizational structure and necessary information to perform the job. Support referred to help, guidance, and feedback from others in the working environment, and resources referred to materials, human resources, and recognition needed to perform their work. Kanter (1977) stated that individuals who had access to information, support, and resources were motivated to work. Even though Kanter did not directly study hospitals, because of their large bureaucratic structural similarities, she compared the corporate business setting to that of a large corporate hospital.

Chandler's (1986) research, building on Kanter's, examined the nurses' perceptions of work environment conditions. Her findings supported the association between nurses' perceptions of access to power and opportunity and their work

behaviors. Kanter (1977) reported statistical significance suggesting that the Work Conditions Questionnaire (WCQ) could be applicable to nursing. Chandler (1986) applied Kanter's work to nursing and developed the CWEQ, defining empowerment as the influence of associations between the nurses' perception of access to power and opportunity.

Chandler (1986) surveyed 268 nurses from two hospitals with the same general characteristics to identify the prerequisites for an effective environment, and determined their association to individual and structural variables. She then interviewed a subgroup to identify their perceptions of antecedents to work environment conditions. The results of the study indicated that nurses who worked in empowered environments exhibit empowered behaviors (Rao, 2012).

The theoretical foundations for Chandler's study (1986) were Kanter's organizational behavioral theory (1977) and Martha Rogers's principle of integrality. Rogers's principle of integrality suggests that the human and the environment cannot be studied separately. This aspect is important because the *shared humanity* between the nurse and the patient needs to be recognized, since both become involved in a relationship with the purpose of tending to and understanding the patient's needs (Morgan, 1996).

In her search for the difference between the concepts of *empower* and *power*, Chandler (1992b) examined the source and process of staff nurse empowerment and powerlessness. In the study, 56 staff nurses from two community hospitals and three medical centers were asked to describe an empowered situation and a powerless situation. The study defined "to empower" as "to enable to act" (Chandler, 1992b, p. 65). It also

described the role of management as to provide access to the opportunities, information, support, and resources for nurses to develop and maintain positive relationships with peers/colleagues, patients and families, and mentors.

Chandler's research provided the basis for Laschinger's (1996) research program to examine the association of empowerment, defined as opportunity and power (information, support, and resources) with a number of nursing work variables. The research identified positive associations between work empowerment, nurses' commitment to the organization, job satisfaction, organizational trust, patients' safety culture, and work effectiveness. Negative correlations were identified between work empowerment, job strain, and burnout (Hatcher & Laschinger, 1996; Laschinger, Finegan, & Shamian, 2001; Laschinger, Finegan, Shamian, & Casier, 2000; Laschinger, Finegan, Shamian, & Wilk, 2001; Laschinger & Havens, 1997; Laschinger & Wong, 1999; Laschinger, Wong, McMahon, & Kaufmann, 1999; Sabiston & Laschinger, 1995; Wilson & Laschinger, 1994). This program supports the Chandler-Kanter model of work empowerment with nurses, predicting job satisfaction, trust and commitment to the organization, culture of patient safety, and work effectiveness while preventing work strain and burnout (Roche et al., 2009).

The effects of work environment conditions on nurse and patient outcomes were studied. The aim of the study was to determine the association between nurses' perceptions of their work environment and quality/risk outcomes for patients and nurses in acute care settings (Purdy et al., 2010). A multilevel design was used to collect data from 679 nurses and patients within 61 medical and surgical units in 21 hospitals in Canada. The CWEQ-II was used to assess structural empowerment, the Work Group

Characteristics Measure to assess group processes that are a part of teamwork, and two questionnaires were used to measure patient outcomes associated with nursing work effectiveness: the Patient Satisfaction with Nursing Care Quality Questionnaire (PSNCQQ) and the Therapeutic Self-care Questionnaire-Acute Care Version. The study concluded that empowered workplaces support positive outcomes for both nurses and patients. This study describes the role of relationships in the work environment and identifies the importance of these relationships on caring efficacy. Relationships are defined as group processes essential for work effectiveness, and have an impact on patient outcomes (Purdy et al., 2010). Laschinger et al. (2012), examined the impact of a workplace intervention (Civility, Respect, and Engagement in the Workplace [CREW]) as a means to provide access to empowerment structures and its association with supervisor and coworker incivility, and trust in nursing management. The study reported positive association between CREW and empowerment, respectful communication, and trust in management.

The CWEQ-II continues to be used in research studies that examine the association between structural empowerment and patient safety culture among critical care nurses (Armellino, Quinn Griffin, & Fitzpatrick, 2010). The 257 critical care nurses' survey study concluded that nurse leaders should consider providing structurally empowering work environments for nurses to adopt a patient safety culture. McDonald, Tullai-McGuinness, Madigan, and Shively (2010) examined the association between staff nurses' involvement in organizational power structures and perception of empowerment. The study supports Kanter's (1977) association with work empowerment structure and empowerment. For a successful practice, it is of upmost importance that the organization

enable the nurse with psychological and structural empowerment (Stewart, McNulty, Quinn, & Fitzpatrick, 2010).

Hayes et al., (2014) tested an explanatory model of the relationship between the nursing work environment, job satisfaction, job stress, and emotional exhaustion for hemodialysis nurses using Kanter's structural empowerment theory. Using validated instruments for each concept, including the CWEQ-II, they analyzed 417 online surveys submitted by nurses working on hemodialysis units. Findings once again were consistent with Kanter's theory, empowerment increases job satisfaction and decreases job stress and emotional exhaustion (Hayes et al., 2014).

The CWEQ-II is shorter and simpler than Chandler's (1986) original CWEQ. Some of the wording has been simplified. It has been used to assess associations between work empowerment and commitment to the organization, autonomy, work effectiveness, burnout, leadership, patient safety culture, quality/risk outcomes for patient and nurse, involvement in organizational power, and most recently, civility. The instrument includes only three relationship-related questions under the Organizational Relationship Scale, but does not include relationships with peers/colleagues, patients/families, or mentors.

Relationships are an informal source of power and the core of nurse empowerment (Chandler, 1992a). Both formal and informal sources of power need to be taken into account whenever research is being related to work empowerment. The three questions included in the CWEQ-II are limited in their scope. Relationships with peers/colleagues, patients/families and mentors are a key component in the caring environment, and nurses' relational competence needs to be taken into consideration whenever structural empowerment is being assessed (Chandler, 1992a).

Roche et al. (2009) tested a work empowerment–work relationship model to predict nursing expertise in experienced acute care nurses. The method used was an exploratory, predictive correlational design. Data were collected from a stratified random sample of 115 nurses on work empowerment and work relationships in Chandler's CWEQ (1986). Nursing expertise was assessed by the Clinical Nursing Expertise instrument (CNE). The study demonstrated that work relationships as described by Chandler (1992) are *directly instrumental* in nurses' ability to perform at higher levels of expertise. It adds to the evidence of the link between nursing expertise and fewer adverse events (Roche et al., 2009).

Rao (2012) developed a construction of empowerment to explain how nursing has applied the concept to professional nursing practice and to explain the extent of the concept by highlighting the complex interactions that shape nurse empowerment. Rao conducted an integrative review of literature on the subjects of nursing, management, and women's health for 1960–2010. She found that even though the literature suggests that empowerment is the result of individual, organizational, and sociocultural factors, the nursing construction of empowerment is based primarily on organizational antecedents to allow for the operationalization of the concept and its applications to nursing's diverse challenges (Rao, 2012). Therefore, the adequate individual, organizational, and sociocultural factors must be present in the working environment all at once. None of the mentioned factors by themselves or a combination of any two factors will lead to empowerment. She suggested that the mobilization of power at the individual, structural, and psychological levels will result in an empowered nurse and that further study of the complex interactions that empower the nurse are needed.

Since the first application of structural empowerment to the nursing profession by Chandler (1986), the literature continues to mount evidence of its impact on job satisfaction, patient safety, work effectiveness, job strain, burnout, organizational trust, and commitment to the organization in numerous countries and scenarios. Nothing was found in the literature about the impact of structural empowerment on caring. The caring aspect of the nurse-patient relationship has not been studied by Laschinger and colleagues until recently, resulting in it not being assessed by the CWEQ-II. Therefore, Chandler's CWEQ (1991) was used for this study in order to assess nurses' relationships in the workplace and their influence of work empowerment on caring efficacy.

Caring Efficacy

The Caring Efficacy Scale (CES) was developed by Coates (1997) to assess the individual's confidence in (or sense of efficacy about) his ability to express a caring orientation and establish a caring relationship with patients. The scale is based on the conceptual frameworks of Watson's Transpersonal Caring Theory emphasizing the caring relationship and on Bandura's social learning theory (1997).

Watson's transpersonal theory defines *professional caring* as the activities that promote healing, preserve dignity, and respect the nature of holistic nursing practice (Watson, 2005). It takes place by the implementation of humanistic caring through the carative factors/caritas processes. The three major elements are (a) transpersonal caring, (b) 10 carative factors/caritas processes, and (c) caring occasion/caring moment. Watson's (1996) theory is based on a moral commitment where the nurse recognizes the significance of the person being cared for, the patient is connected to the nurse by the

spirit of each other, and care is provided through modalities such as wholeness and harmony.

The concept of self-efficacy was defined by Bandura (1977) as "the conviction that one can successfully execute the behavior required to produce the outcomes" (p. 193). In the healthcare context, any intervention shown to have a positive effect on the patient increases the nurse's perception of self-efficacy thus, developing efficacy expectations that will determine subsequent behavior from the nurse.

The combination of beliefs based on Watson's theory (2005) and behaviors of human beings in their environment (Bandura, 1997) suggests the description of caring behaviors (Coates, 1997). Self-efficacy, according to Coates (1997), is displayed in the association between the work environment and practice behaviors.

The CES (Appendix B) was originally intended to assess caring efficacy as an outcome of the nursing curriculum at the University of Colorado School of Nursing. It has continued to be tested in more recent studies in both nursing education and in caring environments with demonstrated validity in content and construct and reliability demonstrated by a Cronbach's alpha coefficient of 0.752 (Amendolair, 2012; Betcher, 2010; Manojlovich, 2005a; Sadler, 2003). The scale has been documented to be a versatile instrument with testing applicability in both the clinical and nursing education settings. Watson (2009) recognized the instrument's psychometric complexity in its development and application. The Likert scale form makes it relatively easy to use, and it is one of the few caring measurement tools that offer content validity with reference to the carative factors in Watson's theory (Watson, 2009).

A pilot study used the CES to assess the self-reported caring competency of a cross-section of baccalaureate nursing students in one nursing program (Sadler, 2003). A total of 193 students at the pre-nursing, sophomore, junior, and senior levels completed the CES. The mean scores in this study were higher than those reported by Coates for novice student nurses, but slightly lower than the comparable baccalaureate seniors. The study demonstrated that as the students increased their knowledge and competencies so too did their belief increase in their ability to get things done or self-efficacy.

In a systematic review of the literature, Manojlovich (2005a) revealed that the interaction between environmental factors, such as structural empowerment, the clinical unit's leadership, and the nurses' perception of self-efficacy may determine whether the nurses' practice behavior is professional or task oriented. To assess this effect, she conducted a non-experimental, comparative survey using the CES, the CWEQ-II, the Managers Activity Scale (MAS), and the Nurse Activity Scale (NAS). The results of the study demonstrated that nursing leadership contributed to the effects of empowerment and self-efficacy on practice behaviors and to an additional association between empowerment and self-efficacy (Manojlovich, 2005b). The study concluded that facilitating staff with more access to structural empowerment components and strong nursing leadership at unit level can also affect nurses' self-efficacy (Manojlovich, 2005a). This would lead to what Manojlovich (2005b) refers to as professional practice behaviors contrasting with task-oriented behaviors. This study demonstrated a relationship between self-efficacy and professional practice behaviors.

In another non-experimental comparative design, Manojlovich (2005a) used the CES in the caring environment to measure one of the variables (self-efficacy) in a study

to examine how certain factors in the environment and personal characteristics interact to affect nursing behaviors. She used the same instruments for the variables: structural empowerment, as measured by the CWEQ-II; self-efficacy, as measured by the CES; professional nursing practice, as measured by the NAS. Educational level and years of work experience were associated with professional behaviors (Manojlovich, 2005a). A total of 251 nurses completed the surveys. Structural empowerment contributed to professional behaviors and to self-efficacy. Self-efficacy was exhibited in the association between the work environment and practice behaviors (Manojlovich, 2005b). The study revealed that nurses exhibit professional behaviors when the environment provides them opportunities and power, as supported by the structural empowerment theory. Therefore, we can assume that caring efficacy may also contribute to practice behaviors, especially in an environment that provides structural empowerment. The influence of relationships, peers, mentors, patients, and families over professional behaviors was not assessed in this study since relationships were not a scale in the CWEQ-II.

A new equation to assess nursing practice behaviors, professional as opposed to task oriented using structural empowerment (CWEQ-II), leadership (MAS, NAS) and self-efficacy (CES) resulting in nursing practice behaviors was suggested by Manojlovich (2005a, 2005b). Leadership is depersonalized when limited to managers' (MAS) and nurses' (NAS) activities. This is in reference to the mere task-oriented actions enacted through vertical leadership; for example, a nurse manager supervising a staff nurse without establishing a positive relationship between the both of them. Leadership occurs between formal and informal relationships throughout the organization. Leadership through the establishment of positive relationships between nurse and managers, doctors,

and mentors will result in the perceived self-efficacy of the nurse, thereby resulting in positive nursing practice behaviors.

An 18-month pilot study with palliative nurses in a 208-bed hospital in the US called The Elephant in the Room project (Betcher, 2010) was designed to help nurses perceive themselves as more caring with patients and families by implementing an educational intervention and assessing an increased caring attitude with the CES. The educational activity focused on effective and compassionate communication techniques related to end-of-life-care patients. The CES in this study was used to assess nurses' self-perception of their caring attitudes and building on its versatility. The CES was administered pre- and post- the educational intervention indicating an increased score on efficacy from 5% to 37%.

Caring and job satisfaction were correlated by Amendolair (2012) with time as a predictor of the nurses ability to express caring, surveying 5,000 randomly selected medical-surgical nurses.. The CES was correlated with the Index of Work Satisfaction (IWS) and its six components: nurse's work pay, autonomy, task requirements, organizational policies, interaction, and professional status. The results of the study indicated that spending time with patients can predict the potential of nurses to convey caring behaviors (Amendolair, 2012).

Watson's theory of caring for healthcare practitioners was developed and measured by an instrument that was first used in 2005 before any caring interventions were implemented, which demonstrated a mean score of 5.10 (1–6 Likert scale, $n = 174$). Then it was used again in 2008, after an intervention to improve caring behavior with a

mean score of 5.30 (n = 157), demonstrating a significant (p = .012) improvement (Nelson & Watson, 2012).

Based on the need to include caring concepts in the designing of simulation scenarios and the evaluation of competence performance, Eggenberger, Keller, Chase, and Payne (2012) designed a study to assess the effectiveness of the simulation environment and caring through quantitative methods. Coates's (1997) CES was adapted for both faculty and students in simulation scenarios. The CES was modified to Caring Efficacy Scale–Simulation Student Version (CES-SSV) and CES–Simulation Faculty Version (CES-SFV). "Both scales were found to have excellent internal consistency and significantly correlated reliability" (Eggenberger et al., 2012, p. 408).

The CES has demonstrated both reliability and versatility in its use (Amendolair, 2012; Betcher, 2010; Eggenberger et al., 2012; Manojlovich, 2005a, 2005b; Nelson & Watson, 2012). In this study, the CES was used to measure caring efficacy of nurses in the critical care environment and to examine the influence of work empowerment in relation to the desired caring behaviors.

Critical Care Nurse Work Environment

The fast-paced critical care nurse work environment is characterized by the complex acuity of its patients (Boev, 2012). Changes in practice, new modalities in treatment, and advances in technology can be distressing and overwhelming to both nurse and patient. Providing care in a critical care unit such as an intensive care unit (ICU), as observed by Almerud (2008), is to be assaulted by an environmental collision of contradictions, ambiguities, and ambivalence. Often, the attention needed to care for the patient is distracted by technology. The engagement that needs to occur in the caring

relationship between human beings—nurse and patient—is affected by the complexity of the critical caring environment.

It is important to recognize that nurses are human beings, with basic needs that should be met before therapeutic levels of care can be provided for extended periods of time (Jarrín, 2012). It is important to recognize the shared humanity of both nurse and patient in the critical care environment. Therefore, impact of the work environment on critical care nurse effectiveness needs to be carefully assessed. The association between nurses' perception of work environment and nurse-related patient outcomes, nurse turnover, and burnout has been studied in general, but the critical care scenario requires further research (Boev, 2012).

The health of the critical care nurses work environment conditions is crucial to patient outcomes (Boev, 2012; Kelly et al., 2014; Ulrich et al., 2014). The critical care nursing impact on 30-day mortality of mechanically ventilated older adults demonstrated that patients with better nurse work environments experienced 11% lower odds of 30-day mortality than those in worse nurse work environments (Kelly et al., 2014).

The AACN published in 2005 their *Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence.* The standards were developed by an expert panel and reviewed by over 50 experts with different roles in acute and critical scenarios from different US locations. The six essential standards are the following: skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership. These standards "placed a spotlight on systemic behaviors despite the mounting evidence that their absence affects safety, quality of care, and job satisfaction of health professionals" (Ulrich et al., 2014, p.

65). Systemic behaviors refer to the interpersonal relationships in the work environment that should be based on and thrive with skilled communication, true collaboration, effective decision-making, meaningful recognition, and authentic leadership.

Based on the standards, the AACN is evaluating the critical care nurse work environment conditions through online surveys. The Critical Care Nurse Work Environment Survey was first piloted in 2006 after the publication of the standards, later in 2008, and most recently in 2013. The survey includes three questionnaires: the Critical Elements of a Healthy Work Environment survey, a 32-item Likert-type, belief-statements scale with 4-point response options ranging between strongly disagree (1) to strongly agree (4); a series of 62 questions exploring work environment elements such as perceptions of quality of patient care, staffing and work that gets done, job and career satisfaction and career plans; and a 29-item questionnaire asking for demographic data about the participant and employing organization.

Overall, the results of the 2013 AACN Critical Care Nurse Work Environment Survey indicate that the health of critical care nurse work environment conditions has declined since 2008 and collaboration among nurses, between nurses and physicians, frontline nurse managers, and administrators is necessary to ensure a healthy work environment to provide patient care (Ulrich et al., 2014). This study highlights the importance of relationships in the work environment.

Conceptual Framework of the Study

Power is the ability of getting things done (Kanter, 1993). The concept *efficacious* has been defined as having the power to produce a desired result or effect (Coates, 1997;

Merriam-Webster, 2015). Caring efficacy refers to the nurse's perceived power to demonstrate the desired behaviors of caring attitudes, caring relationships, and satisfaction with caring. When first studying the association between power and nurses, Chandler (1991) concluded that "without necessary support from the work environment conditions, the experience of empowerment and the resulting efficacious behaviors will remain elusive" (p. 20). The lack of structural empowerment results in powerlessness (Chandler, 1991; Rao, 2012). We can then assume that structural empowerment has a direct effect on caring efficacy. The conceptual framework for this study integrates Chandler's empowerment model with Coates's concept of caring efficacy (Figure 1).

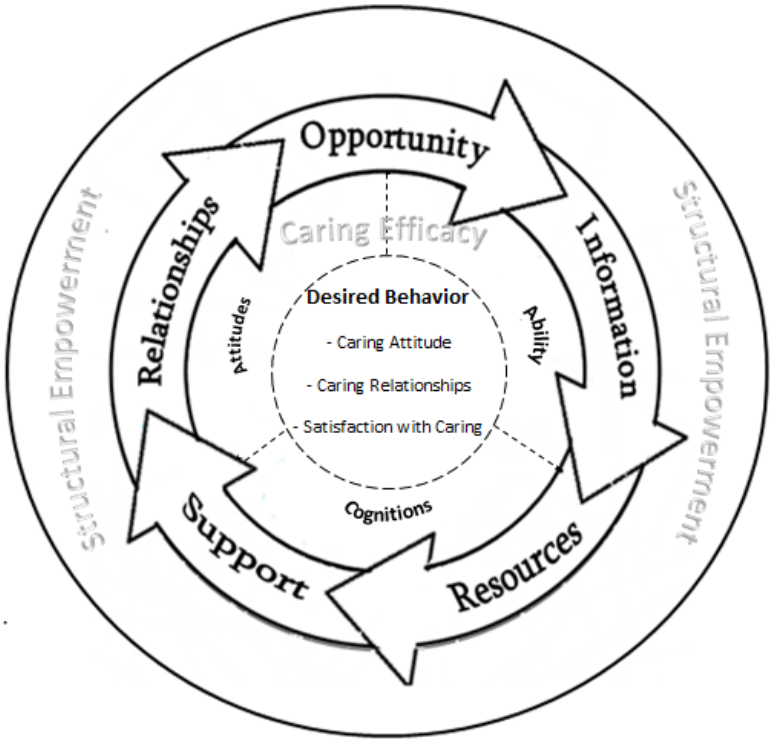

Figure 1: Conceptual framework model: Structural empowerment and caring efficacy. (Designed by Brian A. Colón-Torres, 2012)vii

It has been documented that structures within the work environment influence workers' performance (Boev, 2012; Chandler, 1987, 1991; Hayes et al., 2014; Jarrín, 2012; Kelly et al., 2014; Laschinger, 1996, 2003; Laschinger et al., 2012; Roche et al., 2009; Ulrich et al., 2014). Structural empowerment is defined by the individual's access to support (i.e., guidance from supervisors and peers), resources (i.e., money, time, equipment, and supplies), information (i.e., knowledge about the organization goals, technical knowledge), opportunity (i.e., growth, advancement), and relationships. Relationships within the working environment are complex, and it is the organization administration's responsibility to keep the empowering structures in place (Kanter, 1977; Laschinger et al., 2012). Chandler (1992b) identified that the role of the manager could affect both the source and the process of empowerment. She added that empowerment is being in an interactive relationship. Structure is defined by the Farlex Online Free Dictionary as "the pattern or system of beliefs, relationships, institutions, etc., in a social group or society." Relationships are a social structure. Therefore, Chandler's concept of work relationships (mentors, peers/colleagues, and patients/families) was considered another structure within the nursing work empowerment model.

Relationships within the work environment enable nurses to accomplish their job in a meaningful way by fostering civil working relationships and enhancing work effectiveness (Chandler, 1986, 1991; Kanter 1977, 1993). Laschinger et al. (2012) demonstrated that fostering civil working relationships and respectful working environments enhance significantly the support- and opportunities-empowering structures, thus creating a healthier workplace.

Work relationships have also been found to facilitate nursing expertise in the work environment. In her study, Roche (2009) explored the elements in the work environment that influenced nursing expertise. Results demonstrated that work relationships experienced in the specialty contribute directly to nursing expertise.

Coates's caring efficacy framework is grounded on two theories. The *caring* aspect is founded on Watson's (1979, 1985, 1988, 1996) Theory of Transpersonal Human Caring and emphasizes the combination of scientific knowledge and the humane aspect of nursing. It provides for the establishment of a caring relationship with the patient, and the experience of caring as a whole, and focuses on the process of caring and not merely on individual behaviors (Coates, 1997). The process considers the influence of the environment on the individual not just his/her self-influence in caring behaviors.

The efficacy aspect of the concept is based on Bandura's Self-Efficacy Theory from the discipline of social psychology (1977). Bandura's Social Cognitive Model states that three factors influence self-efficacy: behaviors, environment, and personal factors. From this theoretical perspective, human functioning is viewed as the result of a dynamic interaction of personal, behavioral, and environmental influences. According to this theory, it is possible to increase an individual's well-being by improving their emotional, cognitive, or motivational processes, increasing behavioral competencies, or altering the social conditions under which people live and work. Self-efficacy develops from the mastery of experiences in which goals are achieved through perseverance and overcoming obstacles and from observing others succeed through sustained effort. It relates to a person's perception of their own ability to perform the actions necessary to meet specific goals (Bandura, 1977).

The caring efficacy concept refers to the nurse's confidence in the ability to express a caring attitude and develop a caring relationship with patients, and feel satisfaction with the care provided (Betcher, 2010). Based on Bandura (1977), caring efficacy infers that the nurse possesses the attitudes, behaviors, and cognition to produce the desired outcomes (Coates, 1997). Though the model implies that caring efficacy is an internal psychological concept, Kanter's structural theory would predict caring may be less likely to occur without an external environment to support the nurses' attitudes, behaviors, and cognitions.

The model (Figure 1) is a representation of the dynamic association between the structures of work empowerment (opportunity, support, resources, information, and relationships; Chandler, 1986, 1991; Laschinger et al., 2012) and the caring efficacy of the nurse in terms of attitudes, ability, and cognition (Coates, 1987; Watson, 2009). The model represents a direct positive association between structural empowerment and caring efficacy leading to the attainment of the desired caring behavior of the nurse that will ultimately lead to efficacious patient care.

The social structures in the caring environment that comprise the dynamic, empowering conditions have been described by Kanter (1977), Chandler (1986, 1991), Laschinger (1996, 2003), Roche et al., (2009) and Laschinger et al. (2012). Opportunity, information, resources, support, and relationships are the structures that comprise structural empowerment. The empowering environment may provide the conditions that influence caring efficacy. The research question would be this: Does the nurse's ability, attitude, and cognition necessary to elicit desired patient behaviors, to exhibit a caring attitude, develop caring relationships, and to feel satisfaction with the care provided

depend on the conditions in the work environment? (Betcher, 2010; Coates, 1997; Hayes et al., 2014; Laschinger et al., 2012).

Conceptual and Operational Definitions of Terms

The following conceptual definitions are used in this study. Operational definitions are also included for all concepts that were measured.

Critical Care Environment

Hospital unit specialized in intensive nursing and medical care of critically ill patients, characterized by high quality, continuous nursing and medical supervision and monitoring through the use of sophisticated technology.

Structural Empowerment

The access to opportunity, information, support, and resources, which are social structures in the work environment conditions (Kanter, 1997) and enable employees to accomplish their work in a purposeful, meaningful way. Empowerment is being in an interactive relationship with patients, peers, managers, doctors, and mentors (Chandler, 1986, 1992b).

Work Empowerment

Work empowerment (Chandler, 1991; Laschinger, 2003; Laschinger et al., 2012; Roche et al., 2009) refers to the nurse's perception of their access to the structures of opportunity and power (support, resources, opportunity, information, and relationships) in the caring environment. Operationally, it is defined as the total score scale of the CWEQ (Chandler, 1986).

Structures of Power

Structures of power refers to those essential structural conditions in any work environment that provide the employee the possibility of getting things done according to the prevailing quality and/or performance standards. This study focuses on five structures of power (hereafter called dimensions), as defined below:

Opportunity is based on the nurse's expectations. It is the nurse's perception on the job of potential professional growth, development, and advancement. Operationally, it is defined as the score obtained in the Opportunity subscale of the CWEQ (Chandler, 1986).

Information refers to the nurse's perception about their *knowing about* what is happening within the organization; the values, decisions, and plans related to their job, patients, and unit. Operationally, it is defined as the score obtained in the Information subscale of the CWEQ (Chandler, 1986).

Support refers to the nurse's perception about the recognition of their day-to-day work and the available help, proactive assistance, and guidance. Operationally, it is defined as the score obtained in the Support subscale of the CWEQ (Chandler, 1986).

Resources refer to the allotted time to complete the required tasks, the access to supplies, materials, and personnel and the influence over the decisions in relation to the resources at the caring environment. Operationally, it is defined as the score obtained in the Resources subscale of the CWEQ (Chandler, 1986).

Work relationships refers to the nurse's perception of the opportunity to establish positive relationships with mentors, peers and colleagues, patients, and families in the caring environment. Operationally, it is defined as the score obtained in the Work

relationship subscale of the CWEQ (Chandler, 1986). Three aspects of relationships are considered, as defined below:

Relationships with mentors refers to the nurse's perception of the opportunity to be able to relate and learn from them, as measured by the Work Relationships with Mentors subscale of the CWEQ (Chandler, 1986).

Relationships with peers and colleagues refers to the nurse's perception of the opportunity to be able to establish networks and partnerships with other nurses (peers) and members of the collaborative team (colleagues), as measured by the Work Relationships With Peers and Colleagues subscale of the CWEQ (Chandler, 1986).

Relationships with patients and families refers to the nurse's perceived opportunity of being able to engage and relate with patients and their families as measured by the Work Relationships With Patients and Families subscale of the CWEQ (Chandler, 1986; Roche et al., 2009).

Caring Efficacy

Caring efficacy refers to the nurse's perception about her ability, knowledge, and attitudes toward demonstrating caring behaviors. It is the belief of her own competence to develop caring relationships and express a caring orientation toward patients or clients. Operationally, it is defined as the score obtained in the CES (Coates, 1997).

Summary

The challenge particular to critical care is its fast-paced critical care nurse work environment, characterized by the complex acuity of its patients (Boev, 2012), the technology-mediated care, and its impact on the nurse-patient relationship and care efficacy. The greatest challenge for the critical care nurse is to "blend nursing art and

science and facilitate their harmonious coexistence in clinical practice" (Ladanyi & Elliott, 2008, p. 148). Ashworth (1990) suggested that, even though technological advantages take the nurse away from the bedside in critical care units, the major attribute of nursing in this field is the humanizing influence, conveyed by constant presence with the patient.

The critical care work environment can interfere with the ability of the nurse to exert autonomous practice based on professional practice standards (Manojlovich, 2005a). The level of the institution's compliance with the AACN standards for establishing and sustaining healthy work environments (AACN, 2005) could be used as predictor of the access of nurses to empowering structures within their work environment leading to empowered behaviors that result in effective patient care. In this study, the influence of structural empowerment over caring efficacy of the critical care nurse was explored.

CHAPTER 3

METHODS

The purpose of this study was to explore the conditions in the work environment that may contribute to caring efficacy of critical care nurses in Puerto Rico. The objectives were to determine (a) the association between structural empowerment and the efficacy of care reported by critical care nurses, and (b) to explore whether structural empowerment and nurses' age, education, and experience were predictors of their caring efficacy. In this chapter, the methods and procedures used to conduct this study are presented and described. The approach for the study was twofold. First, objective one, participants were surveyed to establish a descriptive profile of their sociodemographic data and, objective two, their perceptions of the work environment conditions and caring efficacy. Correlation analyses were performed to test the first objective, and linear multiple regression analysis was performed to test the second objective.

Research Design

This research used a descriptive-correlational design because the study's purpose was to determine either an associational or a predictive link between variables (Mertens, 2010). This design was selected for two main reasons: (a) Only a few studies about this phenomenon exist in the nursing literature; and (b) the present study was carried out in a natural context, where experimental designs are usually not feasible. For the predictive approach, caring efficacy was used as the dependent variable, work empowerment as the independent variable, and age, education, and years of experience as covariates.

Setting and Sample

This study was conducted in critical care units of two government-owned hospitals in Puerto Rico. Each of the hospitals provides acute care and has at least three critical care areas (Table 3). Services are rendered to the entire population and are not limited by geographical area.

The first hospital's emergency room has 135 beds with areas provided for critical care. Critical care is offered at the emergency room since the hospital's critical care beds are not enough to attend the entire critical care population. All trauma and emergency room nurses rotate through all sections of each area, respectively.

Table 3: Setting—Hospitals and critical care units.

Hospital	Critical Care Units	Number of Critical Care Nurses
Hospital I	Emergency Room (ER)	95
	Recovery Room (PACU)	25
	Trauma	120
Hospital II	Med/Surg ICU	25
	MICU	9
	Neuro ICU	34
	Neuro INT	18
Total of critical care nurses		326

The second hospital offers several services: internal medicine, gynecology, obstetrics, neurology, neurosurgical, and orthopedics. The hospital serves the island's population

A sample size of 201 was determined, based on Krejcie and Morgan's (1970) recommendations, according to which, 201 is the minimum number of responses required to achieve a 95% confidence interval and a ±5 percentage point confidence interval in generalizing to the 326 critical care nurses. The inclusion criteria were female and male

nurses at least 21 years old who provide critical care at the selected sample setting. Subjects were approached according to their work schedule.

Instruments

Work Empowerment

Work empowerment was measured using Chandler's CWEQ (1991; Appendix A). The CWEQ includes four structural empowerment subscales based on work environment conditions that enable role performance (Wong & Laschinger, 2013). The CWEQ total scale and all three subscales showed good reliability values in the original version (shown below in parenthesis):

- Total scale (.971)
- Opportunities (.835)—involving work activities that provide challenge, learning, growth and autonomy
- Information (.890)—about technical knowledge and organizational goals
- Support—in the form of feedback and guidance
- Resources (.789)—such as equipment, supplies and time

According to Roche et al. (2009), each of these subscales has acceptable reliability with large samples for nurses. Each item of the CWEQ is answered using a Likert scale, spanning from *none* (1) to *a lot* (5). The score for both the total scales and the subscales is the sum of the values corresponding to the selected response.

In 1992, Chandler identified an additional source of empowerment for nurses: work relationships (1992a, 1992b). This new source of empowerment was defined in three relationship dimensions: with mentors; with patients and their families; and with peers and colleagues. The original version of the CWEQ was then revised to include a

work relationships general subscale and three more specific subscales, developed by Roche, Morsi, and Chandler. According to Roche et al. (2009), the new subscales were defined as follows (reliabilities are shown in parenthesis):

- Relationships with peers/colleagues (.897)—include interactions with the collaborative team
- Relationships with patients/families (.925)—include patient/family education, comforting, feedback, and recognition
- Relationships with mentors (.968)—based on collaboration, feedback, recognition, expertise, and assistance

The reliability for the general work relationship subscale was (.722).

Caring Efficacy

A short version of the CES consisting of the top 12 loading items appears in a factor analysis by Coates (1997). The latest version of the CES—the one used in this study—has 30 items that measure caring attitudes, skills, and behaviors on a 6-point Likert scale in a self-report form that ranges from *strongly disagree* (-3) to *strongly agree* (+3). Items are balanced between positive and negative content. Scores are added and averaged. Higher numbers are associated with higher efficacy beliefs. Reid, Courtney, Anderson, and Hurst (2015b) reported an alpha reliability coefficient of 0.857.

A summary of the study variables and the measurement instruments is presented in Table 4.

Table 4: Study variables and instruments for measurement.

Variable	Instruments for Measure	# of items	Reliability	Validity	Author
Work Empowerment	Conditions for Work Effectiveness Questionnaire (CWEQ)		.934	Content and construct	Chandler (1991)
	Structural Empowerment	10			
	Opportunity	10			
	Information	10			
	Support	10			
	Resources	7			
	Relationships				
	Peers/colleagues	11			
	Patients/families	10			
	Mentors	10			
Caring Efficacy	Caring Efficacy Scale (CES)	30	.752	Content and construct	Coates (1997)

Translation and Adaptation Process of the CWEQ and the CES

Since the CWEQ and the CES had not been translated to Spanish or adapted to the Puerto Rican culture, both instruments were translated and adapted for use with the nurses in Puerto Rico according to the following procedure:

1. Forward translation: The instruments were translated from their original English language to Spanish by a professional translator certified by the American Translators Association (ATA). The translator was experienced in the translation of health-related instruments and documents (Chavez & Canino, 2005; Friedemann, Astedt-Kurki, & Paavilainen, 2003).

2. Bilingual-Bicultural Expert Committee (BBEC) evaluation: The committee was comprised of four bilingual-bicultural nurses including the researcher. Three members had discipline-related doctoral degrees, and the

researcher had a MSN. This committee was responsible for verifying the Spanish version's content, semantics, criterion, and conceptual equivalency (Chavez & Canino, 2005; Thorsteinsson, 2012).

3. Backward translation: The Spanish translation of the instrument was back-translated to English by an independent translator with the same qualifications of the forward translator (Chavez & Canino, 2005; Friedemann et al., 2003; Lee, Li, Arai, & Puntillo, 2009; Sidani, Guruge, Miranda, Ford-Gilboe, & Varcoe, 2010; Thorsteinsson, 2012).

4. Evaluation: After the back-translation step was concluded, both English versions were compared by the BBEC. Consensus was obtained that both versions were equivalent, and the Spanish translation was deemed suitable for the next step: pilot testing (Chavez & Canino, 2005; Lee et al., 2009; Thorsteinsson, 2012).

5. Pilot testing: Both instruments were administered to the 10% of the projected sample of the target population who were not included in the research sample. Respondents were encouraged to comment on the content and clarity of the translated instrument (Chávez & Canino, 2005; Lee et al., 2009; Sidani et al., 2010; Thorsteinsson, 2012).

After translation and adaption to Puerto Rican Spanish, the two instruments were pilot tested for reliability (see Spanish versions in Appendices A and B). They were administered to a total of 30 staff registered nurses of various hospitals in the San Juan area. This number, represented approximately 10% of the projected target population and were not included in the research sample. Respondents were encouraged to comment on the content and clarity of the translated instrument for content validity (Chavez &

Canino, 2005; Lee et al., 2009; Sidani et al., 2010; Thorsteinsson, 2012). No doubts, questions or comments were reported by the participants.

Sociodemographic Data Sheet

The sociodemographic information data sheet was designed to ask participants for the following information: gender, age, nationality, last degree awarded, time of nursing experience (in years), time working as critical nurse (in years), and job status. All questions were in a closed-multiple choice format. Age, time of nursing experience, and time working as a critical nurse were categorized in ordinal ranges (see Appendix C).

Procedures

Ethical Considerations

Authorization to perform the study was obtained from each hospital in writing according to hospital protocol (Appendix D). Each participant received a Survey Consent Form (Appendix E). Because questionnaires about work environment conditions and efficacy of care collect sensitive information, it was important to preserve confidentiality. Therefore, each questionnaire was assigned a pre-coded number not related with identification characteristics or information of the nurses. Also, participants were instructed to abstain from writing their names on the instruments and the socio-demographic data sheet. The nurses' names list was kept in a locked file at the researcher's office in a separate envelope and was properly destroyed and discarded by the researcher after data analysis was complete. The study proposal was submitted and approved by the University of Massachusetts IRB.

Neither of the two hospitals selected for this study had IRBs. Therefore, nursing research studies had to be evaluated and authorized by the hospital's director of nursing

(DON). The DON determined the level of risks to participants and, if deemed necessary, would have submitted the study for evaluation and approval of the ethics committee of each institution. Neither hospital administration deemed that further submission was necessary since it was their understanding that the study represented little or no risk to participants. Both hospital authorization letters appear as Appendix D.

Potential participants were approached by the researcher and asked for their willingness to join the research study. If they volunteered to participate, they were provided with a Survey Consent Form (Appendix E) that described the study, promised confidentiality, and guaranteed that participation could be stopped at any time without penalty. It stated that, by proceeding to answer the survey/questionnaire, the participant had read, understood, and signed the consent form and agreed voluntarily to participate. No economic incentive was offered to the participants.

Data Collection

The researcher met with hospital administration and nurse managers prior to data collection. Once IRB approval was given, orientation of the data collection process was provided to them, as well as a script of the approach for individual participation.

When a nurse agreed to participate, he or she was provided with a coded envelope. Each envelope included the Survey Consent Form (Appendix E), Sociodemographic Data Sheet (Appendix C), CWEQ (Appendix A) and the CES (Appendix B). The documents were identified with the same number of the envelope for data management and analysis.

The researcher was provided with a list of the nurses from each unit. Each name was assigned a number in ascending order starting from number one. Participants were

coded on a separate control sheet that included the name list-assigned number of the participants along with an assigned code. The code was the same as the assigned envelope. Each hospital was coded with Roman numeral I or II. Participants were coded as follows: The first participant from hospital I was coded "I-001," etc. The researcher visited the scheduled units during the different work shifts. Visits were scheduled for 14 consecutive days throughout the shifts: 7:00 a.m. to 3:00 p.m., 3:00 p.m. to 11:00 p.m., and 11:00 p.m. to 7:00 a.m. for adequate and time-saving data collection procedures.

Survey Procedures

Consenting participants were approached according to the researcher's schedule on a one-to-one basis. After consent was obtained, a coded envelope was handed to the participant at the beginning of the shift. Participants completed the surveys at their convenience during the shift. They were instructed to seal the envelopes after completing the surveys. Sealed envelopes were picked up at the end of each shift. If additional time was required by the participant, it was provided and scheduled with the researcher.

Data Analysis

Version 23 of IBM SPSS Statistics was used for data analysis. Previous to collecting the data from the research sample, reliability analysis was performed on the pilot study's data to verify the psychometric adequacy of the Spanish version of the CWEQ. Once the research sample data were collected, descriptive analysis of all variables was conducted. Sociodemographic data were summarized for gender, age, nationality, educational level, years of experience in nursing, and job status. Frequencies, percentages, means, and standard deviations were calculated for the CES total scale and for the CWEQ total scale and subscales. Reliability analysis (Cronbach's alpha) was

performed on both questionnaires, CES and CWEQ. Correlational analysis was performed to test Hypotheses 1, 2, 3, and 4. The guides that were used to determine the extent or degree of the association, based on Cohen, Manion, and Morrison (2000) and Creswell (2005), are as follows:

.00–.20	Weak or no association
.21–.35	Low
.36–.65	Moderate
.66–.85	Strong
.86–1.00	Very strong

Linear multiple regression analysis was performed to test Hypothesis 5.

Summary

In this chapter, the methods and procedures used to examine the influence of work empowerment in the ability of critical care nurses to provide efficacious nursing care were presented and described. Instruments were described along with the statistical analysis techniques. The translation process of the instruments was described in detail.

CHAPTER 4

RESULTS

Introduction

The purpose of this study was to explore the conditions in the work environment that may contribute to caring efficacy of critical care nurses in Puerto Rico. Data were assessed with two main instruments: the Conditions of Work Effectiveness Questionnaire (CWEQ) and the Caring Efficacy Scale (CES). The results of the study are presented in this chapter in two main sections.

The first section provides a description of the sample characteristics. This section includes the sociodemographic profile of the critical care nurses who answered the questionnaires in the two hospitals in Puerto Rico. The variables of age, education, and work experience were examined as possible predictors of work empowerment and caring efficacy. The second section is organized to display results regarding the five hypotheses that guided the study. The descriptive and statistical analyses that were conducted to examine each hypothesis are explained in detail.

Sample Characteristics and Sociodemographic Profile

A total of 201 questionnaires were distributed to 201 nurses; all participants returned completed questionnaires. Eleven participants were excluded from the sample because they did not complete the sociodemographic data sheet, returning it with 80% or more incomplete answers. A total of 190 sets of questionnaires (n = 190) were considered legitimate and usable for research purposes. Completing the surveys took each participant an average of 20–30 minutes. As shown in Table 5, all intensive care units of the two hospitals were duly represented in the sample, and the minimum of 175 responses of all

eligible nurses required to achieve the sampling group with 95% confidence interval was attained.

Table 5: Sample information—Hospitals and critical care units.

Hospital	Specific Care Units	Sample number of critical care nurses
Hospital #1	Emergency	51
	Trauma	59
	Post-Anesthesia Care Unit (PACU)	26
Hospital #2	Medical Intensive Surgical Care Unit (MISCU)	16
	Neuro- Intensive	13
	Neuro- Intermediate	10
	Medical Intensive Care Unit (MICU2)	7
	Neuro- Surgical Intensive Care Unit (NSICU)	8
Total of critical care nurses' sample		190

The description of the sociodemographic characteristics of the critical care nurses in the study sample are presented in Tables 6 and 7. In terms of gender, female participation was 22% greater than male. Forty-three nurses (22.7%) did not answer this question.

Ages ranged from 20 to 69 years old. The sample is predominantly composed of nurses within the ages of 20 to 29 years and 30 to 39 years (53.2%). With respect to the nationality of the study sample, the majority, 151 (79.5%) of respondents were Puerto Rican, followed by 24 (12.6%) American-USA. Ten nurses of Dominican Republic, Cuban, and South American nationality completed the questionnaire. Five nurses (2.6%) opted to leave this question without an answer.

Table 6: Gender, age, and nationality of study sample of critical care nurses in Puerto Rico (n = 190).

Variable	*f*	%
Gender		
Female	111	58.4
Male	36	18.9
No answer	43	22.7
Age		
20–29	41	21.6
30–39	60	31.6
40–49	44	23.2
50–59	30	15.8
60–69	6	3.1
No answer	9	4.7
Nationality		
Puerto Rican	151	79.5
American (USA)	24	12.6
Cuban	1	0.5
Dominican	8	4.2
South American	1	0.5
No answer	5	2.6

Concerning the education level and work experience, the majority (85.3%) held a bachelor of science in nursing (BSN) degree, 60.4% had worked 5–20 years as a critical care nurse, and 96.9% had full-time positions. Six nurses (3.1%) did not answer this question (see Table 7).

Table 7: Professional demographics of study sample of critical care nurses in Puerto Rico (n = 190).

Variable	*f*	%
Last degree awarded		
Associate's degree (ADN)	10	5.3
Bachelor's degree (BSN)	162	85.3
Master's degree (MSN)	13	6.8
No answer	5	2.6
Years working in critical care		
Less than 1	22	11.6
1–4	41	21.5
5–10	43	22.6
11–15	31	16.3
16–20	16	8.4
21–25	17	9.0
More than 25	17	9.0
No answer	3	1.6
Job status		
Full-time	184	96.9
No answer	6	3.1

Instrumental Analyses

Analysis of the Pilot Study Data

As indicated previously, translation and adaptation of the CWEQ required the Spanish version to be pilot tested. Validity was established, and reliability analysis showed Cronbach's alpha of 0.968 for the CWEQ and 0.885 for the CES.

Analyses of This Study's Sample Data

The internal consistency reliability of each scale and subscales was estimated using the Cronbach's alpha coefficient. Recommendations in the literature for what constitutes adequate internal consistency vary. Traditionally, a minimum value of .70 has been considered acceptable for basic research and between 0.90 and 0.95 in cases where important decisions are to be made on the basis of the scores (Brink & Wood, 1998; Cicchetti, 1994, cited by Hunsley & Mash, 2007; Nunnally, 1978). The scales and corresponding subscales of the three variables met the widely accepted 0.70 parameter of internal consistency. The CES reliability was .752, while the total scale of the CWEQ reliability was .934. Reliability values for the CWEQ subscales ranged from .742 to .957 (see Table 8).

Both the CES and CWEQ were found to be reliable instruments to measure caring efficacy and work effectiveness in the population of nurses in Puerto Rico. Both scales, as discussed in an earlier chapter, have been reported to show consistent reliability in other nursing settings and populations.

Table 8: Cronbach's alpha reliability coefficients for Caring Efficacy (CES) and Conditions for Work Effectiveness (CWEQ) scales and subscales.

Scale and subscales	Number of items	Alpha
Caring Efficacy (CES)	30	.752
Work Empowerment	37	.934
Opportunity	10	.742
Information	10	.886
Support	10	.907
Resources	7	.864
Work Relationships with	31	.951
Peers & Colleagues	11	.890
Patients & Families	10	.944
Mentors	10	.957

Sample's Descriptive Statistics of the Research Variables

Descriptive Statistics of the CWEQ

The descriptive statistical analysis for work empowerment (Table 9) reveals that the means for this variable and its individual constituent structures of power were all greater or very close to 3.0 on a 5-point scale, indicating that all of the measures were higher than average. The five constituent structures of power identified in this study were Opportunity, Information, Support, Resources, and Work Relationships.

Of these structures of power, the nurses ranked establishing work relationships and having access to opportunities in their work setting with the highest mean scores (M = 3.488 and M = 3.481, respectively). The lowest mean was registered to access to support (M = 2.893). The support subscale involves receiving feedback and guidance from subordinates, peers, and superiors.

An in-depth analysis of the data regarding work empowerment, indicated that in terms of work relationships the highest mean score was observed with Patients & Families (M = 4.187). Although the greatest variation and lowest mean score of this work

empowerment structure was in terms of work relationships with Mentors (M = 2.985, SD = 1.0970).

Table 9: Descriptive statistics for work empowerment scale and subscales (Conditions for Work Effectiveness [CWEQ]).

Variable	*n*	Minimum	Maximum	Mean	Median	Std. Deviation
Work Empowerment	168	1.82	4.75	3.304	3.213	.6325
Opportunities	168	1.40	4.70	3.481	3.500	.6578
Information	167	1.10	5.00	3.241	3.200	.8391
Support	166	1.00	5.00	2.893	2.900	.8741
Resources	168	1.14	4.71	2.986	3.000	.7526
Work Relationships with	168	1.00	5.00	3.488	3.500	.7715
Peers & Colleagues	168	1.00	5.00	3.371	3.364	.8420
Patients & Families	166	1.70	5.00	4.187	4.300	.7727
Mentors	168	.30	5.00	2.985	3.000	1.0970

Additional information was obtained from an item descriptive analysis of the work empowerment variable (see Appendices F to I). The analysis revealed that nurses perceived their work environment was moderately empowering (M = 3.304) and from the 68 CWEQ items they denoted higher levels of empowering perception in nine items ($M \geq$ 4.22 and Mdn = 5). Specifically, the critical care nurses reported high access to opportunities for tasks that use all their own skills and knowledge (M = 4.46), challenging work (M = 4.26) and the chance to gain new skills and knowledge on the job (M = 4.24). The nurses also reported high mean scores in the following six items: Listen to patients (M = 4.42); Comfort patients (M = 4.39); Get feedback from patients (M = 4.33); Collaborate on patient care with physicians (M = 4.33), Provide patient support (M = 4.32); and Provide patient teaching (M = 4.22).

The lowest rated items (range 0 [none]–5 [a lot], $M < 2.50$) alluded to access to the following: information of how salary decisions are made for people in positions

similar to the ones occupied by the nurses (M = 2.39); opportunity to influence work outside their unit (M = 2.36) and rewards for jobs well done (M = 2.34); support in terms of recognition for a job well done (M = 2.19); and receiving credit for ideas or achievements from superiors (M = 2.15).

The studied sample perceived their working environment as moderately empowering (M = 3.304). They perceived having access to all structures of power; information, support, opportunity, resources, and work relationships. Establishing positive work relationships had the highest significance to nurses. Within the work relationships, relationships with patients and families had the highest mean score, and relationships with mentors the lowest. Another important finding is the nurses' perception to having access to opportunities.

Descriptive Statistics of the CES

The descriptive analysis of Caring Efficacy indicated that the overall mean score of this variable, out of a range of -3 (strongly disagree) through +3 (strongly agree), was 5.279, with a SD = .5789, n = 168. This overall mean was higher than those reported in previous research studies (Coates, 1997; Sadler, 2003).

In assessing responses for individual statements of the Caring Efficacy scale, an item descriptive analysis was performed (see Appendices J and K). The nurses reported the highest means ($M \geq 5.55$) in items that stated the following: they convey a sense of personal strength to clients/patients (Statement #4, M = 5.71); clients/patients can tell them most anything and the nurse won't be shocked (Statement #5, M = 5.65); they can walk into a room with a presence of serenity and energy that makes clients/patients feel better (Statement #9, M = 5.63); they are able to tune into a particular client/patient and

forget personal concerns (Statement #10, *M* = 5.62); and they feel comfortable in touching clients/patients in the course of caregiving (Statement #3, *M* = 5.55).

In addition, it was found that the lowest means (*M* < 5.00) were derived from four negative statements and one positive statement. The negative statements affirm the following: nurses have difficulty in suspending personal beliefs and biases in order to hear and accept a client/patient as a person (Statement #8, *M* = 4.03); nurses don't use creative or unusual ways to express caring to clients/patients (Statement #30, *M* = 4.72); nurses often find it hard to get their point of view across to patients/clients when they need to (Statement #20, *M* = 4.80); and nurses often become overwhelmed by the nature of the problems clients/patients are experiencing (Statement #27, *M* = 4.86). The positive statement with the lowest mean expresses that when a client/patient is having difficulty communicating with the nurse, the professional is able to adjust to his/her level (Statement #28, *M* = 4.47). The nurses' perception of their caring efficacy was high (M = 5.279).

Research Hypotheses

Hypotheses 1, 2, and 3

The first three hypotheses stated that there would be a significant ($p < 0.05$) correlation between the critical care nurses' work empowerment and their age (H1), their education level (H2) and their years of experience (H3). The hypotheses for all three cases were rejected with respect to the CWEQ total score: All correlations were nonsignificant, as shown in Table 10.

Table 10: Correlation matrix of work empowerment and sociodemographic variables.

Variable	Statistic	WE	Age	Education	Experience
Work Empowerment (WE)	*r*	1	-.142	.047	-.149
	Sig. (2-tailed)		.071	.545	.055
	n	168	161	168	166
Age	*r*	-.142	1	-.069	.678*
	Sig. (2-tailed)	.071		.387	< .001
	n	161	161	161	161
Education	*r*	.047	-.069	1	.069
	Sig. (2-tailed)	.545	.387		.380
	n	168	161	168	166
Experience in nursing critical care	*r*	-.149	.678*	.069	1
	Sig. (2-tailed)	.055	< .001	.380	
	n	166	161	166	166

* Correlation is significant at the 0.05 level (2-tailed).

However, as Table 11 shows, when the association between the CWEQ subscales and the sociodemographic data was examined, statistically significant correlations were found between three sets of variables: between Information and years of experience (r = -.164, p < .05, n = 165), between Resources and years of experience (r = -.156, p < .05, n = 166), and between Work Relationships and age (r = -.156, p < .05, n = 166).

Table 11: Correlation matrix of the CWEQ subscales (work empowerment structures of power) and sociodemographic variables.

Work Empowerment Structures of Power	Statistic	Age	Education	Experience
Opportunity	*R*	-.128	.069	-.090
	Sig. (2-tailed)	.106	.376	.248
	N	161	168	166
Information	*R*	-.076	.023	-.164*
	Sig. (2-tailed)	.336	.772	.036
	N	160	167	165
Support	*R*	-.067	.023	-.067
	Sig. (2-tailed)	.402	.773	.391
	N	160	166	164
Resources	*R*	-.151	-.062	-.156*
	Sig. (2-tailed)	.056	.426	.045
	N	161	168	166
Work Relationships	*R*	-.156*	.064	-.131
	Sig. (2-tailed)	.049	.410	.092
	N	161	168	166

* Correlation is significant at the 0.05 level (2-tailed).

Hypothesis 4

The fourth hypothesis stated that there would be a significant correlation between the critical care nurses' work empowerment and their perceptions of caring efficacy. Hypothesis 4 was rejected, the correlation between the CWEQ total scores and the CES scores was not significant (see Table 12).

Table 12: Correlation matrix of caring efficacy and sociodemographic variables.

Variable	Statistic	Caring Efficacy	Work Empowerment
Caring Efficacy	*r*	1	.024
	Sig. (2-tailed)		.761
	n	168	168
Work Empowerment	*r*	.024	1
	Sig. (2-tailed)	.761	
	n	168	168

However, when the association between the CWEQ subscales scores and CES was examined, the most statistically significant positive correlation was found between Caring Efficacy and Work Relationships with Patients & Families ($r = .217$, $p < .01$, $n = 166$) as seen in Table 13, which includes the correlations between all pairs of data sets.

Table 13: Correlation matrix of work empowerment structures and caring efficacy.

Variable	Statistic	CE	Opp	Info	Supp	Reso	WR
Caring Efficacy (CE)	*R*	1	-.076	.044	-.061	-.066	.043
	Sig. (2-tailed)		.325	.570	.434	.394	.576
	N	168	168	167	166	168	168
Opportunity (Opp)	*R*	-.076	1	.524**	.544**	.385**	.484**
	Sig. (2-tailed)	.325		.000	.000	.000	.000
	N	168	168	167	166	168	168
Information (Info)	*R*	.044	.524**	1	.637**	.564**	.533**
	Sig. (2-tailed)	.570	.000		.000	.000	.000
	N	167	167	167	166	167	167
Support (Supp)	*R*	-.061	.544**	.637**	1	.641**	.591**

	Sig. (2-tailed)	.434	.000	.000		.000	.000
	N	166	166	166	166	166	166
Resources (Reso)	*R*	-.066	.385**	.564**	.641**	1	.469**
	Sig. (2-tailed)	.394	.000	.000	.000		.000
	N	168	168	167	166	168	168
Work relationships (WR)	*R*	.043	.484**	.533**	.591**	.469**	1
	Sig. (2-tailed)	.576	.000	.000	.000	.000	
	N	168	168	167	166	168	168
Peers & Colleagues	*R*	.016	.465**	.493**	.532**	.487**	.813**
	Sig. (2-tailed)	.832	.000	.000	.000	.000	.000
	N	168	168	167	166	168	168
Patients & Families	*r*	.217**	.331**	.348**	.327**	.211**	.726**
	Sig. (2-tailed)	.005	.000	.000	.000	.006	.000
	n	166	166	165	164	166	166
Mentors	*r*	-.083	.448**	.520**	.577**	.461	.849**
	Sig. (2-tailed)	.287	.000	.000	.000	.000	.000
	n	167	167	166	165	167	167

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

Hypothesis 5

The fifth hypothesis stated that the critical care nurses' work empowerment, along with age, education, and experience as covariates, will be able to explain a significant amount of the nurses' perceptions of caring efficacy. This hypothesis was rejected in the case of CWEQ total score, and the Opportunity, Information, Support, and Resources subscale scores. It was also rejected in the case of the Work Relationship subscale scores, and the scores of two of the three specific dimensions of work relationship: Peers & colleagues, and Mentors. In all of these cases, there was no need to perform a regression analysis for two reasons: (a) the correlations between the listed variables and the CES score were nonsignificant; and (b) a basic assumption of regression analysis is that there must be a correlation between the dependent and the independent variables—in this case,

between the CES scores and the CWEQ scales and/or subscale scores. However, a significant correlation between the CES and the Patient & Families dimension of the Work Relationship subscale and Educational Level was found to have a significant goodness of fit, as shown in Table 14. However, the model only explains 6.8% of the variance of the CES score. Therefore, caring efficacy cannot predict positive relationships with patients & families.

Table 14: Analysis of variance—Caring efficacy, work empowerment based on work relationships with patients & families and educational level.

Model	Sum of Squares	*df*	Mean Square	*F*	Sig.	*R*	R^2
Regression	2.439	2	1.219	5.661	.004	.260	.068
Residual	33.598	156	.215				
Total	36.036	158					

Table 15 shows the partial correlation coefficients for the two significant predictors that remained on the final model, the Patient & Families dimension of the Work Relationship subscale ($p < .01$) and Educational Level ($p < .05$). Age and years of experience did not reach sufficient significance to be included in either of the two steps.

Table 15: Caring efficacy, work empowerment based on work relationships with patients & families and educational level.

	Unstandardized Coefficients		Standardized Coefficients		
Model	*B*	Std. Error	*Beta*	*T*	Sig.
(Constant)	4.122	.374		11.018	<.001
Patients & Families	.128	.048	.208	2.688	.008
Educational Level	.210	.104	.156	2.02	.045

Summary of Findings

The purpose of this study was to examine the influence of the empowering structures of work environment in the ability of critical care nurses to provide efficacious nursing care. Correlational and regression analyses were performed to further analyze the data that guided this research.

No relationship was found between work empowerment and the sociodemographic factors of age, education, and experience. However, some statistically significant relationships were identified between the sociodemographic factors and some of the structures of work empowerment.

No significant correlation was found between the total scores of the environment working conditions (CWEQ) and caring efficacy (CES). However, a statistically significant relationship was identified between caring efficacy and work relationships with patients and families ($p < .01$) when the subscales were correlated.

Additional tests revealed that age, education, access to Opportunities, and Relationships with Patients & Families explained 12.6% of the nurses' perceived caring efficacy. Furthermore, the nurses' level of education, their perception of access to opportunities, and work relationships with patients and families were significantly associated with the nurses' perception about their ability or inability to establish caring relations and behaviors in their critical care work environment.

CHAPTER 5

DISCUSSION

Introduction

The study findings suggest that no significant association exists between the critical care nurses' age, level of education, years of experience and their perceptions of work empowerment. The findings also suggest no significant relationship exists between the critical care nurses' work empowerment and their caring efficacy. However, when the association between the CWEQ subscales, sociodemographic data, and caring efficacy was examined, several significant relationships were identified.

Almost half (43.5%) of the sample of nurses in Puerto Rico are over the age of 40, and these nurses reported moderate-to-low levels of empowerment. Findings validate that nurses over age 40 perceive less access to opportunities. It was also noted that as the years of experience increased, the nurses' perception of their access to information decreased. Nurses over the age of 40 perceived lower levels of work empowerment and opportunity. Younger nurses (< 40) perceived higher levels of work empowerment enhanced by work relationships.

It has been evidenced (Al-Hussami, 2008) that older nurses perceive they are not appreciated and are treated differently by other healthcare professionals. These nurses perceive that they receive no attention and no effort is made to make them feel as if they are needed and are important members of the organization (Al-Hussami, 2008). With the documented aging population of nurses (Ulrich et al., 2014), this finding provides important information to nurse managers. Special attention must be provided to older nurses, suggesting frontline nurse managers provide them with the opportunity for

professional growth, development, and advancement; the information of what is happening within the organization; the values, decisions, and plans related to their job, patients, and the unit; and recognition of their day-to-day work and the available help, proactive assistance, and guidance. These actions will lead to the improvement of their working conditions. These nurses are expected to have higher levels of expertise and should exhibit attitudes and behaviors consistent with mentoring less experienced nurses (Roche et al., 2009).

A longitudinal predictive study with staff nurses in urban teaching hospitals in Ontario, Canada that compared differences in sociodemographic variables, including age, structural empowerment, psychological empowerment, and job satisfaction, found that none of the comparisons were significant (Spence Laschinger, Finegan, Samian, & Wilk, 2004). The same result was found in the current study. Nevertheless, negative correlations were identified between years of experience and access to information, years of experience and access to resources, and years of experience and work relations. The nurses' age resulted in a significant demographic variable in relation to the level of work empowerment perceived by the tested Hispanic sample.

No significant relationship existed in this study between each individual sociodemographic variable and the caring efficacy. Yet, further analysis of a combined regression model reflects that these variables (age, education, and experience) explained approximately 6% of the nurses' reported caring efficacy perception in this study ($R2 = .055$, $p = .030$). This was not a strong association, but the sociodemographic variable of education level contributed to the significant explanation of nurses' perceived caring efficacy ($p = .018$). Of the tested sample, a total of 85.3% had bachelor's degrees in

nursing and 6.8% held master's degrees in nursing, for a total of 92% of the surveyed nurses at the professional practice level. This result coincides with Reid et al.'s research work (2013) with Australian registered nurses, which indicated that levels of caring efficacy vary according to the professional's level of education ($M = 5.138$, $SD = 0.452$, $p < .01$). Similarly, it has been stated that increased education levels of nursing students have been shown to improve perceptions of caring dimensions and caring self-efficacy (confidence in the ability to perform caring abilities). It has also been demonstrated that students are better in building relationships once they develop *command* of the technical aspects of care (Wiechula et al., 2016). Therefore, the higher the level of education, the higher the nurses' perception of their caring efficacy and their ability to establish positive work relationships.

This fact is validated by a combined model including the sociodemographic variables of age and education with opportunity and work relationships with patients and families that explained 12.6% of the nurses' perception of their caring efficacy. When work empowerment based on access to opportunity and work relationships with patients and families was entered into a regression with the sociodemographic variables of age and education, the combined model contributed in a significant explanation to nurses' perceived caring efficacy ($R2 = .126$, $p = .004$). This finding suggests that (a) the higher the level of education, the higher the nurse's perception of access to opportunity for self-development and advancement, and (b) the higher the fostering of strong working relationships with patients and families, peers and colleagues, the higher the nurse's perceived confidence and manifestation of caring attitudes and behaviors. This is validated by the fact that 92.1% of the sample had a BSN degree or higher.

These findings validate Roche et al.'s (2004) study on the empowering impact of opportunity as defined by access to skill development and maintenance and professional knowledge and relationships in the work environment that serve to promote lateral professional growth instead of leaving the caring environment. It is essential for healthcare organizations and nursing leadership to promote the professionalization of nurses through the emerging advanced practice roles to expand nurses' knowledge and skills.

With these results indicating that participants value relationships with peers, patients, and families, and since the experience of being mentored scored low with this population, a plan worth considering would be to educate the more experienced nurses about the mentoring process and then introduce a formal mentoring program. The goal would be to empower older nurses using a collaborative mentoring model (Chandler, 2005), where both mentee and mentor learn from each other. The mentoring experience provides the relational connection the nurse values and creates an opportunity for the older and younger nurse to educate each other.

Descriptive analysis of the data demonstrates that the tested sample of critical care nurses in Puerto Rico perceive moderate levels of work empowerment (M = 3.304). Further analysis revealed that these nurses perceive they have access to opportunity and empowering relationships with peers and colleagues and patients and families.

The perceived access to opportunity for professional growth, development, and advancement, the information of what is happening within the organization; the values, decisions, and plans related to their job, patients, and the unit, and relationships with peers, colleagues, and patients and families is a very significant aspect of this study.

Knowledge about the nurses' perception of their working environment and their impact on the caring relationship is crucial.

The study validates Roche et al.'s (2004) seminal work on empowerment, work relationships, and expertise in experienced acute care nurses. In the Roche et al. study, the nurses described opportunity as important to facilitating expertise and as related to enhancing their current central job activity of engaging with patients and families. Roche et al. recognized opportunity as empowering to nurses and reframed the concept in order to emphasize developing and maintaining the knowledge and skills required for patient care. This finding highlights the critical role in providing the necessary means for staff acquisition of clinical knowledge and skills necessary to support and promote the nurses' involvement in the relationships with patients and families. This would be another reason to formally match expert nurses with newer nurses to share knowledge and skills (Chandler, 2005).

In a recent review of evidence by Wiechula et al. (2016), the importance of the nurses' knowledge and skills in their relationships with patients is also validated. Wiechula et al. (2016) identified the factors that influence the nurse-patient relationship: expectations of the relationship, values, knowledge and skills, and communication. Clinical competence and support behaviors are essential to knowledge and skills. Clinical competence from the nurse's perspective is the ability to manage relationship building and relying. This aptitude is rooted on the nurse's self-confidence in her own abilities (which Coates [1997] defines as caring efficacy). Support behaviors refer to the nurse's ability of providing support regarding the patient's decision-making and the building of trust in the relationship.

Effective nursing is based on the ability of the nurse to establish an effective relationship with the patient (Wiechula et al., 2016). From the nurse's perspective, the ability of relationship building and the nurse's perception of caring efficacy result in clinical competence and expert knowledge. Nurse leaders play a key role in providing nurses opportunity through the development of programs and policy that lead to the enhancement and recognition of clinical knowledge and skills. Recognition of the importance of the nurse-patient relationships must be acknowledged as well.

The total (99.6%) tested sample of critical care nurses in Puerto Rico reported high perceived caring efficacy scores ($M > 5.3$), higher than those reported in previous research studies (Coates, 1997; Sadler, 2003). This finding could be related to the cultural elements identified in the caring relationship by the National Hispanic and Latino Addiction Technology Transfer Center Network and the Universidad del Caribe (http://ATTCnetwork.org, 2015). This organization, the ATTC, is a nationwide, multidisciplinary resource for professionals in the addictions treatment and recovery services field.

The cultural elements in treating Hispanic and Latino populations are the following:

Familism—The whole is greater than the sum of its parts. Hispanics and Latinos have strong family ties and support each other when experiencing challenging issues.

Respect and kindness—Recognition of the uniqueness of others. Requires the fostering of a confidential supportive relationship and must exist before intimate information is shared or advice and criticism can be advanced.

Trust—Share of beliefs, values, and worldviews. When the Hispanic nurse/client feels that he has established trust, they value the time they spend talking with their healthcare nurse/patient and are more likely to believe what they say/advise.

Personal relationships—Latinos stress the importance of personal relationships. They expect their healthcare providers to be warm, friendly, and personal, and to take an active interest in their life. The development of warm and friendly relationships is expected, as opposed to impersonal or very formal relationships.

Spirituality—Connection between faith and health. Hispanic cultures tend to view health holistically. Some Hispanic patients may have traditional syndromes symptoms, behaviors, or illnesses. They may use folk medicine or herbal remedies.

Two of the cultural elements that involve relationships can be aligned to the highest-rated items from both the CWEQ and the CES (Table 16).

Table 16: Relationship between Hispanic and Latino cultural influences, caring efficacy, and conditions for work effectiveness.

Cultural Element	CWEQ Item	Mean	CES Item	Mean
Trust	—Listen to patients	M = 4.42	—I convey a sense of personal strength to my patients.	M = 5.71
	—Get feedback from patient	M = 4.33	—Patients can tell me almost anything and I won't be shocked.	M = 5.65
			—I can walk into a room with a presence of serenity and energy that makes patients feel better.	M = 5.63
Personal Relationships	—Establishing patient and family relationships (subscale)	M = 3.49	—I feel comfortable in touching my patients in the course of caregiving.	M = 5.55
	—Comfort patients	M = 4.39		
	—Provide patient support	M = 4.32		

These cultural aspects influence directly the nurse and patients' and families' caring relationships where caring behaviors are essential and are a manifestation of the nurses' caring efficacy. Cultural elements in caring behaviors and work environment need to be studied.

Previous research has demonstrated that self-efficacy impacts professional practice behaviors (Manojlovich, 2005a) and relational empowerment directly impacts caring (Chandler, 1992). In her seminal work, Chandler (1992) identified that relationship is where nurses thrive, and she furthermore identified a *nurse relational competence.* Until recently, this aspect of nursing has largely been ignored. Relationships with patients and families is one of the key components in the caring environment (Chandler, 1992a) and evidences a link between nursing expertise and fewer adverse events (Roche et al., 2009). Therefore, this may suggest that acknowledging and developing the nursing *relational competence* could play a key role in preventing medication errors, reducing rates of infection, and speeding up the patients' transition from hospital to home, thus linking care to high-quality, safe patient care. This is for future research.

The nurses in this study reported having limited access to information, support, resources, and relationships with mentors. They rated moderately low those structures of empowerment associated with the following: receiving feedback or guidance from others; acquiring financial means, materials, time, and supplies required to do their work; and having the knowledge and expertise required to be effective in the workplace and understanding organizational policies and decisions. This finding supports Reid et al. (2015b), who validated that there is a focus on cost restraints. "There are fewer resources in hospital settings" (p. 909). Gordon (2008) who observed that workplace conditions

inconsistent with nurses' values negatively influence their ability to develop caring relationships with their patients. Because the critical care scenario attends to the most vulnerable patients in the most vulnerable conditions, it is necessary to provide nurses the necessary time to talk with patients and teach them (Ulrich et al., 2014). In order to assist nurses with the chaotic conditions of their ever-changing work environment, nursing educators and healthcare organizations should be aware of the issues that affect caring efficacy in nursing (Reid et al., 2015b).

Strengths and Limitations

Validated instruments with acceptable reliability coefficients (CWEQ and CES) were used to collect the data in this study. The translation and adaptation method designed by the researcher for this study proved to be a valid and reliable method for translation and adaptation of instruments from one language/culture to another.

The CES was originally designed for nursing students, and the concept of efficacy is often confused with effectiveness. The CES was recently tested for psychometric properties and proved valid to use with registered nurses (Reid et al., 2015b).

A limitation of the study was that the tested sample was not randomly selected. For regression-based analyses, a random sample is the preferred sampling technique since convenience sampling may introduce bias (Burns & Grove, 2009). In addition, the surveys were handed out at the beginning of the nurses' shifts and collected at the end. Being that critical care units can be such unpredictable and complex environments, completing the questionnaires during work hours might have been somewhat overwhelming for the participating nurses, limiting their time and comfort to respond. To limit the social desirability response bias that can occur when participants rate their own

behaviors (Klesges et al., 2004), our participants were assured confidentiality in an effort to minimize bias.

Conclusion

The study explored perceptions of work empowerment and caring efficacy in the tested population. The study did not support the proposed hypotheses. Results from this study identified existing associations between the scale measuring the empowering structures in the working environment, sociodemographic variables, and caring efficacy. A positive correlation between the relationships with patients and families and caring efficacy was established ($p < .01$). The nurses' perceptions of their caring efficacy was higher than in previous studies ($M = 5.279$, range of -3 [strongly disagree] through +3 [strongly agree]). This could be a result of the specific Hispanic and Latino cultural elements identified in this study: familism, respect, trust of personal relationships, and spirituality.

Another positive correlation was identified between patient and family relationships and education ($p < .05$). Therefore, professional development and education opportunities are indispensable, empowering factors in the critical care environment, validating the IOM's (2011) recommendation to increase BSNs to 80% by 2020. Making them available is essential, especially to older nurses in order to foster clinical expertise and professional practice for the enhancement of work relationships. A well-done and well-respected mentoring program could meet these needs. The Caring, Connecting, and Empowering Nursing Mentorship Initiative (2005) in public health units in Ontario describes the benefits of a mentorship program:

For mentors:

Increased career satisfaction for mid- to late-career nurses

Increased professional development of mentors

Continued commitment to learning

For mentees:

Opportunities to expand professionally

Increased confidence in their professional role

Receiving counseling, encouragement, positive reinforcement, leading to increased self-efficacy and feelings of empowerment

For organizations:

Enhanced recruitment

Increased retention of staff,

Decreased staff turnover with subsequent replacement costs

Retention of corporate knowledge

Development of nurse leaders able to contribute to healthcare reform

Increased pool of individuals who contribute to the mission

and vision of the organization

Findings also suggest that a direct association exists between the level of education and perception of access to opportunity for self-development and advancement, with the fostering of strong working relationships with patients and families, which is the essence of nursing. Positive work relationships with patients and families, peers and colleagues, and mentors are essential for nurses' caring behaviors. Healthcare organizations have to ensure the opportunity for professional growth, development, and advancement, the information of what is happening within the organization, the values, decisions, and plans related to their job, patients, and the unit, recognition of their day-to-day work and the available help, proactive assistance, and guidance, allotted time to

complete required tasks, the access to supplies, materials, and personnel, and the influence over the decisions in relation to the resources at the caring environment.

Implications

One of the main implications of this study is that it is not clear if the conditions for work effectiveness impact caring efficacy. This study was able to demonstrate that certain sociodemographic, environmental, and individual factors influence caring behaviors. This is a fact supported by Bandura's Social Cognitive Theory (1997). Caring behaviors are not a consequence of environmental influences but of positive work relationships. Work relationships influence the nurse's beliefs in her ability to exhibit caring behaviors. Therefore, positive, meaningful work relationships and relational competence must be fostered for nursing to have a more powerful influence in healthcare.

Caring efficacy, as measured by the CES, was higher in the Hispanic population than in other tested populations (Coates, 1997; Sadler, 2003). The influence of cultural elements—familism, respect, trust, personal relationships, and spirituality—in the nursing care of Hispanic and Latino populations needs to be studied.

This study implies that special attention must be given to the provision of professional growth, development, and advancement especially to older nurses. Based on the study findings, the following specific recommendations are presented:

Recommendations for Nursing Practice, Education, and Research

- Develop mentoring and career-coaching programs to foster relationships with mentors as a source of opportunity and support to nurses, especially older nurses. This includes the creation of formal training programs for older nurses to become mentors and achieve recognition for it.

- Establish clinical recognition programs recognizing the importance of the relationships with patients and families to nurses and their caring behaviors, which will empower nurses.
- Put in place organizational programs that promote formal education for advanced practice roles.
- Integrate the dynamics of relational competence to the BSN curriculum to enhance the student's ability to promote caring behaviors.
- Perform further research to evaluate the impact of cultural elements in caring behaviors.
- Develop qualitative research to gather data through interviews, focus groups, or similar methods that can contribute to a better understanding of the cultural elements in caring for Hispanic and Latino populations.

Summary

This study was conducted to evaluate the relationship between the variables and their value to influence the nurses' perceptions regarding their caring relations and confidence in expressing caring behaviors in the critical care work environment. The findings of this study support the proposition that the importance of nurses' relationships in the work environment needs to be recognized. The importance of formal mentoring programs must be acknowledged. The *nurse relational competence* (Chandler, 1992) needs to be further assessed and developed in order to grasp a deeper understanding of the dynamics of the caring processes. This fact can no longer be ignored. It is the true essence of nursing. Relationships with patients and families is one of the key components in the caring environment (Chandler, 1992a).

APPENDIX A

CONDITIONS FOR WORK EFFECTIVENESS QUESTIONNAIRE (ENGLISH AND SPANISH VERSIONS)

(Chandler)

PURPOSE OF SURVEY

This survey is designed to get your ideas about certain aspects of your job and your hospital. Specifically, it explores access to aspects of

Work empowerment, including opportunities, information, support, and resources, & Work relationships with peers/colleagues, patients/families, and mentor(s).

Your answers to this survey are important. Please take your time and answer each question as honestly as possible. All of your answers are strictly confidential.

A. OPPORTUNITIES

Here is a list of some different opportunities for growth, development, and advancement that people might have in their jobs**.**

Circle the Number that Best Describes Opportunities Available to You

		None		Some		A Lot
1.	Challenging work	1	2	3	4	5
2.	The chance to gain new skills and knowledge on the job.	1	2	3	4	5
3.	Access to training programs for learning new things.	1	2	3	4	5
4.	The chance to work together closely with your boss.	1	2	3	4	5
5.	The chance to learn how the hospital works.	1	2	3	4	5
6.	Tasks that use all of your own skills and knowledge	1	2	3	4	5
7.	The chance to advance to better jobs.	1	2	3	4	5
8.	Rewards for jobs well done.	1	2	3	4	5
9.	To assume roles not related to your current job.	1	2	3	4	5
10.	To influence your work outside your unit (opportunity to serve on Committees).	1	2	3	4	5

B. INFORMATION

How much information do you have about what goes on in your hospital?

Circle the Number that Best Indicates Your Access to Information

		None		Some		A Lot
1.	The current state of the hospital.	1	2	3	4	5
2.	Current theories about the illnesses on your unit	1	2	3	4	5
3.	Current information on new treatments used on your unit	1	2	3	4	5
4.	Current information on new medications used on your unit	1	2	3	4	5
5.	This year's plan for your work unit.	1	2	3	4	5
6.	How salary decisions are made for people in positions like yours.	1	2	3	4	5
7.	What patients think of the work in your unit.	1	2	3	4	5
8.	Receiving timely information about patients.	1	2	3	4	5
9.	Receiving timely information about unit changes.	1	2	3	4	5
10.	Receiving timely information on new equipment.	1	2	3	4	5

C. SUPPORT

Here is a list of different types of support that might be available to you**.**

Circle the Number that Best Indicates Your Access to Support

		None		Some		A Lot
1.	Specific information about things you do well.	1	2	3	4	5
2.	Specific comments about things you could improve.	1	2	3	4	5
3.	Helpful hints or problem solving advice.	1	2	3	4	5
4.	Information or suggestions about job possibilities.	1	2	3	4	5
5.	Discussion of further training or education.	1	2	3	4	5
6.	Help when there is a work crisis.	1	2	3	4	5
7.	Help in gaining access to people who can get the job done.	1	2	3	4	5
8.	Help in getting materials & supplies needed to get the job done.	1	2	3	4	5
9.	Recognition for a job well done.	1	2	3	4	5
10.	Receiving credit for ideas or achievements from superiors.	1	2	3	4	5

D. RESOURCES/SUPPLIES

The following are examples of resources or supplies required to do your job.

Circle the Number that Indicates Your Access to Resources

		None		Some		A Lot
1.	Having supplies necessary for the job.	1	2	3	4	5
2.	Time available to do necessary paperwork.	1	2	3	4	5
3.	Time available to accomplish job requirements.	1	2	3	4	5
4.	Acquiring temporary help when needed.	1	2	3	4	5
5.	Influencing decisions about obtaining support personnel	1	2	3	4	5
6.	Influencing decisions about obtaining supplies for your unit.	1	2	3	4	5
7.	Influencing decisions about obtaining equipment for your unit.	1	2	3	4	5

E. Relationships with peers/colleagues: Here is a list of people nurses interact with frequently.

How Much of an Opportunity Do You Have for These Activities?

		None		Some		A Lot
1.	Collaborating on patient care with physicians.	1	2	3	4	5
2.	Receiving helpful feedback from physicians.	1	2	3	4	5
3.	Being sought out by physicians for patient information.	1	2	3	4	5
4.	Receiving recognition by physicians.	1	2	3	4	5
5.	Having physicians ask for your opinion.	1	2	3	4	5
6.	Having immediate supervisor ask for your opinion.	1	2	3	4	5
7.	Seeking out ideas from auxiliary workers on the unit, e.g., secretaries, nursing assistants, housekeeping.	1	2	3	4	5
8.	Receiving helpful feedback from peers.	1	2	3	4	5
9.	Being sought out by peers for help with patient problems.	1	2	3	4	5
10.	Working out conflicts with peers without going to manager	1	2	3	4	5
11.	Seeking out ideas from professionals other than physicians	1	2	3	4	5

F**. Relationships with patients/families**
Here is a list of people nurses interact with frequently
How Much Of An Opportunity Do You Have for These Activities?

	None		Some		A Lot
1. Provide patient teaching.	1	2	3	4	5
2. Provide patient support.	1	2	3	4	5
3. Comfort patients.	1	2	3	4	5
4. Listen to patients.	1	2	3	4	5
5. Get feedback from patients.	1	2	3	4	5
6. Receive recognition for your contributions by patients.	1	2	3	4	5
7. Provide family teaching.	1	2	3	4	5
8. Provide family comfort.	1	2	3	4	5
9. Receive recognition by families.	1	2	3	4	5
10. Receive feedback from families.	1	2	3	4	5

G. Relationships with mentor(s)
Here is a list of people nurses may interact with routinely.
How Much Of An Opportunity Do You Have For These Activities?

	None		Some		A Lot
1. Seeking out mentor(s) to collaborate on patient problems.	1	2	3	4	5
2. Collaborating with mentor(s) on patient care.	1	2	3	4	5
3. Receiving helpful feedback from mentor(s).	1	2	3	4	5
4. Being sought out by mentor(s) for patient information.	1	2	3	4	5
5. Receiving recognition by mentor(s).	1	2	3	4	5
6. Having mentor(s) ask for your opinion.	1	2	3	4	5
7. Seeking out ideas from clinical experts on the unit about patient care issues.	1	2	3	4	5
8. Being sought out by clinical expert(s) for information.	1	2	3	4	5
9. Receiving helpful feedback from clinical experts.	1	2	3	4	5
10. Being sought out by clinical experts for help with problems.	1	2	3	4	5

The 2-item Resources subscale listed below is used only for construct validation and is not included in the total empowerment score.

	Strongly disagree				Strongly Agree
1. In my unit technology is essential in the provision of care.	1	2	3	4	5
2. I often feel that technology is a barrier in the nurse/patient relationship.	1	2	3	4	5

There is one more page with questions about demographics – age, gender, ethnicity, education and work activities. These questions are important to clarify the relationship between these variables and the work environment. All of the information is confidential. The demographic information will only be used in describing and analyzing the data in groups.

CONDICIONES PARA EFECTIVIDAD EN EL TRABAJO

PROPÓSITO DE LA ENCUESTA

Esta encuesta está diseñada para obtener su opinión sobre ciertos aspectos de su empleo y su hospital. Específicamente, explora el acceso a aspectos de capacitación en el trabajo, incluidos: oportunidades, información, apoyo y recursos, y relaciones laborales con: pares/colegas, pacientes/familias y mentores.

Sus respuestas a este cuestionario son importantes. Por favor, tómese su tiempo y conteste cada pregunta con la mayor franqueza posible. Todas sus respuestas son estrictamente confidenciales. Sin embargo, siéntase libre de no contestar cualquiera de las preguntas.

A. OPORTUNIDADES

A continuación una lista de las diferentes oportunidades para el crecimiento, desarrollo y progreso que las personas podrían tener en sus empleos. PARA CADA ASEVERACIÓN ENUMERADA, HAGA UN CÍRCULO EN EL NÚMERO QUE MEJOR DESCRIBE LAS OPORTUNIDADES DISPONIBLES PARA USTED EN SU EMPLEO ACTUAL:

	Ninguna		Alguna		Mucha
1. Trabajo que represente un reto	1	2	3	4	5
2. La oportunidad de desarrollar nuevas destrezas y conocimientos en el empleo.	1	2	3	4	5
3. Acceso a programas de adiestramiento para aprender cosas nuevas.	1	2	3	4	5
4. La oportunidad de trabajar de cerca con su jefe.	1	2	3	4	5
5. La oportunidad de aprender cómo funciona el hospital.	1	2	3	4	5
6. Labores que requieren el uso de todas sus destrezas y conocimientos.	1	2	3	4	5
7. La oportunidad de progresar a mejores empleos.	1	2	3	4	5
8. Recompensa por un trabajo bien realizado.	1	2	3	4	5
9. Asumir funciones no relacionadas con su empleo actual.	1	2	3	4	5
10. Influenciar su trabajo fuera de su unidad (oportunidad de participar en Comités)	1	2	3	4	5

B. INFORMACIÓN: Otro asunto es cuánta información tiene sobre lo que sucede en su hospital. **PARA CADA ASEVERACIÓN, HAGA UN CÍRCULO EN EL NÚMERO QUE MEJOR INDICA SU ACCESO A INFORMACIÓN EN LAS SIGUIENTES ÁREAS:**

	Ningún conocimiento		Algún conocimiento		Sabe mucho
1. Cómo opera el hospital.	1	2	3	4	5
2. Cómo otras personas en puestos como el suyo realizan su trabajo.	1	2	3	4	5
3. Los valores de la administración.	1	2	3	4	5
4. Las metas de la administración.	1	2	3	4	5
5. El plan de este año para su unidad de trabajo.	1	2	3	4	5
6. Cómo se toman las decisiones de salario para las personas en puestos como el suyo.	1	2	3	4	5
7. La opinión de sus pacientes sobre el trabajo en su unidad.	1	2	3	4	5
8. La información para pacientes se brinda de manera oportuna.	1	2	3	4	5
9. Se recibe información puntual sobre los cambios en la unidad.	1	2	3	4	5
10. Información puntual sobre equipo nuevo.	1	2	3	4	5

C. **APOYO:** A continuación una lista de diferentes tipos de apoyo que podrían estar disponibles para usted. **PARA CADA ASEVERACIÓN, HAGA UN CÍRCULO EN EL NÚMERO QUE MEJOR INDICA SU ACCESO A APOYO EN LAS SIGUIENTES ÁREAS:**

	Ningún		Algún		Mucho
1. Información específica sobre las cosas que usted hace bien.	1	2	3	4	5
2. Comentarios específicos sobre las cosas que podría mejorar.	1	2	3	4	5
3. Sugerencias o recomendaciones útiles sobre cómo solucionar problemas.	1	2	3	4	5
4. Información o sugerencias sobre las posibilidades de empleo.	1	2	3	4	5
5. Conversaciones sobre adiestramiento o educación adicional.	1	2	3	4	5
6. Ayuda cuando hay una crisis en el trabajo.	1	2	3	4	5
7. Ayuda para lograr acceso a las personas que pueden hacer el trabajo	1	2	3	4	5
8. Ayuda para obtener los materiales y suministros necesarios para hacer el trabajo.	1	2	3	4	5
9. Reconocimiento por un trabajo bien hecho.	1	2	3	4	5
10. Recibir crédito por sus ideas o logros de sus superiores.	1	2	3	4	5

D. **RECURSOS/MATERIALES:** Los siguientes son ejemplos de los recursos o materiales necesarios para poder hacer su trabajo. **PARA CADA ASEVERACIÓN, HAGA UN CÍRCULO EN EL NÚMERO QUE MEJOR INDICA SU ACCESO A RECURSOS EN LAS SIGUIENTES ÁREAS:**

	Ningún		Algún		Mucho
1. Tiene suficientes materiales para hacer el trabajo.	1	2	3	4	5
2. Tiempo disponible para hacer el papeleo necesario.	1	2	3	4	5
3. Tiempo disponible para lograr los requisitos del trabajo.	1	2	3	4	5
4. Conseguir ayuda temporal cuando es necesario.	1	2	3	4	5
5. Influenciar las decisiones relacionadas con obtener recursos humanos (personal de apoyo) para su unidad.	1	2	3	4	5
6. Influenciar las decisiones relacionadas con obtener materiales para su unidad.	1	2	3	4	5
7. Influenciar las decisiones relacionadas con obtener equipo para su unidad.	1	2	3	4	5

E. **Relaciones con pares/colegas:** A continuación una lista de las personas con las que el personal de enfermería interactúa frecuentemente. Para cada aseveración enumerada, haga un círculo en el número que mejor describe las oportunidades disponibles para usted. **¿CUÁNTA OPORTUNIDAD TIENE PARA ESTAS ACTIVIDADES EN SU EMPLEO ACTUAL?**

	Ninguna		Alguna		Mucha
1. Colaborar con los médicos en el cuidado del paciente.	1	2	3	4	5
2. Recibir comentarios útiles de los médicos.	1	2	3	4	5
3. Que los médicos lo(a) busquen para información sobre el paciente.	1	2	3	4	5
4. Recibir reconocimiento de los médicos.	1	2	3	4	5
5. Que los médicos le pidan su opinión.	1	2	3	4	5
6. Que su supervisor inmediato le pida su opinión.	1	2	3	4	5
7. Solicitar ideas de los trabajadores auxiliares de la unidad, por ejemplo, secretarias asistentes del personal de enfermería, personal de mantenimiento.	1	2	3	4	5
8. Recibir comentarios útiles de los pares.	1	2	3	4	5
9. Que sus pares lo(a) busquen para ayuda con los problemas con los pacientes.	1	2	3	4	5
10. Poder solucionar los conflictos con los	1	2	3	4	5

pares sin tener que acudir al director.					
11. Solicitar ideas de profesionales fuera de los médicos, por ejemplo, terapistas físicos, terapistas ocupacionales, dietistas.	1	2	3	4	5

F. **Relaciones con los pacientes/familiares:** A continuación una lista de actividades del empleo. Para cada aseveración enumerada, haga un círculo en el número que mejor describe las oportunidades disponibles para usted. **¿CUÁNTA OPORTUNIDAD TIENE PARA ESTAS ACTIVIDADES EN SU EMPLEO ACTUAL?**

	Ninguna		Alguna		Mucha
1. Poder brindar educación al paciente.	1	2	3	4	5
2. Proveer apoyo al paciente	1	2	3	4	5
3. Consolar a los pacientes.	1	2	3	4	5
4. Escuchar a los pacientes.	1	2	3	4	5
5. Obtener los comentarios de los pacientes.	1	2	3	4	5
6. Recibir reconocimiento por sus contribuciones de sus pacientes.	1	2	3	4	5
7. Poder brindar educación a la familia.	1	2	3	4	5
8. Consolar a la familia.	1	2	3	4	5
9. Recibir reconocimiento de las familias.	1	2	3	4	5
10. Recibir comentarios de las familias.	1	2	3	4	5

G. **Relaciones con los mentores:** Para cada aseveración enumerada, haga un círculo en el número que mejor describe las oportunidades disponibles para usted. **¿CUÁNTA OPORTUNIDAD TIENE PARA ESTAS ACTIVIDADES EN SU EMPLEO ACTUAL?**

	Ninguna		Alguna		Mucha
1. Buscar mentores para que colaboren con los problemas de los pacientes.	1	2	3	4	5
2. Colaborar con los mentores en el cuidado del paciente.	1	2	3	4	5
3. Recibir comentarios útiles de los mentores.	1	2	3	4	5
4. Que los mentores lo(a) busquen para información sobre el paciente.	1	2	3	4	5
5. Recibir reconocimiento de los mentores.	1	2	3	4	5
6. Que los mentores le pidan su opinión.	1	2	3	4	5
7. Solicitar ideas de los expertos clínicos de la unidad sobre asuntos relacionados con el cuidado del paciente.	1	2	3	4	5
8. Que los expertos clínicos lo(a) busquen para que les brinde información.	1	2	3	4	5
9. Recibir comentarios útiles de los expertos clínicos.	1	2	3	4	5
10. Que los expertos clínicos soliciten su ayuda	1	2	3	4	5

con los problemas.

Hay una página adicional con preguntas sobre información demográfica – edad, sexo, etnia, educación y actividades del trabajo. Estas preguntas son importantes para aclarar la relación entres estas variables y el ambiente de trabajo. Toda la información es confidencial y no se compartirá información individual con otra persona. La información demográfica se usará solo para describir y analizar los datos en grupos.

APPENDIX B

CARING EFFICACY SCALE (ENGLISH AND SPANISH VERSIONS)

Coates (Copyright) **Version B-** 30 items

Instructions: When completing these items, think of your work in clinical settings and/or similar experiences. Complete the following scale based on your work with clients or patients. Please indicate your degree of agreement with each item. (Circle the number which best expresses your opinion.)

Rating Scale:

-3 strongly disagree
-2 moderately disagree
-1 slightly disagree
+1 slightly agree
+2 moderately agree
+3 strongly agree

	Strongly disagree				Strongly agree	
1. I do not feel confident in my ability to express a sense of caring to my clients/patients.	-3	-2	-1	+1	+2	+3
2. If I am not relating well to a client/patient, I try to analyze what I can do to reach him/her.	-3	-2	-1	+1	+2	+3
3. I feel comfortable in touching my clients/patients in the course of care giving	-3	-2	-1	+1	+2	+3
4. I convey a sense of personal strength to my clients/patients.	-3	-2	-1	+1	+2	+3
5. Clients/patients can tell me most anything and I won't be shocked	-3	-2	-1	+1	+2	+3
6. I have an ability to introduce a sense of normalcy in stressful conditions.	-3	-2	-1	+1	+2	+3
7. It is easy for me to consider the multi-facets of a client's/ patient's care, at the same time as I am listening to them.	-3	-2	-1	+1	+2	+3
8. I have difficulty in suspending my personal beliefs and biases in order to hear and accept a client/patient as a person.	-3	-2	-1	+1	+2	+3
9. I can walk into a room with a presence of serenity and energy that makes clients/patients feel better.	-3	-2	-1	+1	+2	+3
10. I am able to tune into a particular client/patient and forget my personal concerns.	-3	-2	-1	+1	+2	+3
11. I can usually create some way to relate to most any client/patient	-3	-2	-1	+1	+2	+3
12. I lack confidence in my ability to talk to clients/patients from backgrounds different from my own.	-3	-2	-1	+1	+2	+3
13. I feel if I talk to clients/patients on an individual, personal basis, things might get out of control.	-3	-2	-1	+1	+2	+3
14. I use what I learn in conversations with clients/patients to provide more individualized care.	-3	-2	-1	+1	+2	+3

Rating Scale:

-3 strongly disagree
-2 moderately disagree
-1 slightly disagree
+1 slightly agree
+2 moderately agree
+3 strongly agree

	Strongly disagree				Strongly agree	
15. I don't feel strong enough to listen to the fears and concerns of my clients/patients.	-3	-2	-1	+1	+2	+3
16. Even when I'm feeling self-confident about most things, I still seem to be unable to relate to clients/patients.	-3	-2	-1	+1	+2	+3
17. I seem to have trouble relating to clients/patients.	-3	-2	-1	+1	+2	+3
18. I can usually establish a close relationship with my clients/patients.	-3	-2	-1	+1	+2	+3
19. I can usually get patients/clients to like me.	-3	-2	-1	+1	+2	+3
20. I often find it hard to get my point of view across to patients/ clients when I need to.	-3	-2	-1	+1	+2	+3
21. When trying to resolve a conflict with a client/patient, I usually make it worse.	-3	-2	-1	+1	+2	+3
22. If I think a client/patient is uneasy or may need some help, I approach that person.	-3	-2	-1	+1	+2	+3
23. If I find it hard to relate to a client/patient, I'll stop trying to work with that person	-3	-2	-1	+1	+2	+3
24. I often find it hard to relate to clients/patients from a different culture than mine.	-3	-2	-1	+1	+2	+3
25. I have helped many clients/patients through my ability to develop close, meaningful relationships.	-3	-2	-1	+1	+2	+3
26. I often find it difficult to express empathy with clients/patients.	-3	-2	-1	+1	+2	+3
27. I often become overwhelmed by the nature of the problems clients/patients are experiencing	-3	-2	-1	+1	+2	+3
28. When a client/patient is having difficulty communicating with me, I am able to adjust to his/her level.	-3	-2	-1	+1	+2	+3
29. Even when I really try, I can't get through to difficult clients/patients.	-3	-2	-1	+1	+2	+3
30. I don't use creative or unusual ways to express caring to my clients/patients.	-3	-2	-1	+1	+2	+3

Word file: CARINGB.SLF

Please contact Dr. Carolie Coates, 1441 Snowmass Court, Boulder, Colorado 80305 USA for permission and scoring information. Email: coatescj@comcast.net tel. and fax: 303-499-5756 http://www.caringefficacyscale.com

Escala de eficacia del cuidado

Instrucciones: Mientras completa estos ítemes, piense en su trabajo reciente con los pacientes/clientes en los entornos clínicos. Haga un círculo alrededor del número que mejor expresa su opinión.

Escala de clasificación:

-3 totalmente en desacuerdo
-2 moderadamente en desacuerdo
-1 ligeramente en desacuerdo
+1 ligeramente de acuerdo
+2 moderadamente de acuerdo
+3 totalmente de acuerdo

	Totalmente en desacuerdo					Totalmente de acuerdo
1. No me siento confiado(a) en mi capacidad de poder expresar a mis clientes/pacientes un sentido del cuidado.	-3	-2	-1	+1	+2	+3
2. Si no me estoy relacionando bien con un cliente/paciente, trato de analizar qué puedo hacer para llegar a él/ella.	-3	-2	-1	+1	+2	+3
3. Me siento cómodo(a) cuando tengo que tocar a mis clientes/pacientes durante el proceso de brindar cuidado.	-3	-2	-1	+1	+2	+3
4. Transmito una sensación de fortaleza personal a mis clientes/pacientes.	-3	-2	-1	+1	+2	+3
5. Los clientes/pacientes pueden hablarme sobre	-3	-2	-1	+1	+2	+3

	Totalmente en desacuerdo					Totalmente de acuerdo
prácticamente cualquier cosa y no me escandalizo.						
6. Tengo la capacidad de proyectar una sensación de normalidad en condiciones de estrés.	-3	-2	-1	+1	+2	+3
7. Se me hace fácil considerar las facetas múltiples del cuidado de un cliente/paciente y al mismo tiempo escucharlo.	-3	-2	-1	+1	+2	+3
8. Se me hace difícil dejar a un lado mis creencias y prejuicios a fin de escuchar y aceptar al cliente/paciente como una persona.	-3	-2	-1	+1	+2	+3
9. Puedo entrar a un salón con una presencia de serenidad y energía que hace que mis clientes/pacientes se sientan mejor.	-3	-2	-1	+1	+2	+3
10. Puedo centrarme en un cliente/paciente en particular y olvidar mis problemas personales.	-3	-2	-1	+1	+2	+3
11. Por lo general, puedo crear alguna manera de relacionarme con prácticamente cualquier cliente/paciente.	-3	-2	-1	+1	+2	+3

	Totalmente en desacuerdo					Totalmente de acuerdo
12. No confío en mi capacidad de hablar con clientes/pacientes que provienen de trasfondos diferentes a los míos.	-3	-2	-1	+1	+2	+3
13. Siento que si hablo con los clientes/pacientes de forma individual, personalizada, las cosas podrían salirse de control.	-3	-2	-1	+1	+2	+3
14. Uso lo que aprendo en las conversaciones con mis clientes/pacientes para proveer un cuidado más individualizado.	-3	-2	-1	+1	+2	+3
15. No me siento lo suficientemente fuerte como para escuchar sobre los temores y preocupaciones de mis clientes/pacientes.	-3	-2	-1	+1	+2	+3
16. Incluso, con un sentimiento de autoconfianza sobre la mayoría de las cosas, aún así, siento que no puedo relacionarme con los clientes/pacientes.	-3	-2	-1	+1	+2	+3
17. Parece que tengo problemas para relacionarme con los clientes/pacientes.	-3	-2	-1	+1	+2	+3
18. Por lo general, puedo establecer una relación estrecha con mis	-3	-2	-1	+1	+2	+3

	Totalmente en desacuerdo					Totalmente de acuerdo
clientes/pacientes.						
19. Por lo general, puedo lograr agradar a mis clientes/pacientes.	-3	-2	-1	+1	+2	+3
20. A menudo se me hace difícil transmitir mi punto de vista a mis clientes/pacientes cuando es necesario.	-3	-2	-1	+1	+2	+3
21. Cuando trato de solucionar un conflicto con un cliente/paciente, por lo general, empeoro la situación.	-3	-2	-1	+1	+2	+3
22. Si considero que un cliente/paciente está incómodo o que puede necesitar algún tipo de ayuda, me acerco a esa persona.	-3	-2	-1	+1	+2	+3
23. Si se me hace difícil relacionarme con un cliente/paciente, dejo de trabajar con esa persona.	-3	-2	-1	+1	+2	+3
24. A menudo se me hace difícil relacionarme con los clientes/pacientes que provienen de una cultura diferente a la mía.	-3	-2	-1	+1	+2	+3
25. He ayudado a muchos clientes/pacientes a través de mi capacidad de desarrollar relaciones estrechas y significativas.	-3	-2	-1	+1	+2	+3

	Totalmente en desacuerdo					Totalmente de acuerdo
26. A menudo se me hace difícil expresar empatía con los clientes/pacientes.	-3	-2	-1	+1	+2	+3
27. A menudo me siento abrumado(a) por la naturaleza de los problemas que los clientes/pacientes están experimentando.	-3	-2	-1	+1	+2	+3
28. Cuando un cliente/paciente tiene problemas de comunicación conmigo, puedo ajustarme a su nivel.	-3	-2	-1	+1	+2	+3
29. Incluso por más que trato, no puedo llegar a los clientes/pacientes difíciles.	-3	-2	-1	+1	+2	+3
30. No uso métodos creativos o fuera de lo normal para expresar a mis clientes/pacientes que son importantes para mí.	-3	-2	-1	+1	+2	+3

APPENDIX C

SOCIODEMOGRAPHIC DATA SHEET

Gender	○ Female ○ Male
Age	○ Under 20 ○ 20 – 29 ○ 30 – 39 ○ 40 – 49 ○ 50 – 59 ○ 60 – 69 ○ Older than 70
Nationality	○ Puerto Rican ○ American (USA) ○ Cuban ○ Dominican ○ South America _____ ○ Other _____
Last Degree Awarded	○ Diploma ○ Associate degree (ADN) ○ Bachelor degree (BSN) ○ Master degree (MSN) ○ Doctoral degree - (PhD / DNP)
Time of Nursing Experience in Years	○ 0 – 1 ○ 1 – 4 ○ 5 – 10 ○ 11 – 15 ○ 16 – 20 ○ 21 – 25 ○ More than 25
Time Working as a Critical Care Nurse in Years	○ 0 – 1 ○ 1 – 4 ○ 5 – 10 ○ 11 – 15 ○ 16 – 20 ○ 21 – 25 More than 25
Job Status	○ Full time ○ Part time

APPENDIX D

HOSPITAL AUTHORIZATION LETTERS

ESTADO LIBRE ASOCIADO DE PUERTO RICO
DEPARTAMENTO DE SALUD
administración de servicios médicos
de puerto rico CENTRO MEDICO

April 16, 2013

Yolanda M. Torres, PhDc, RN
University of Massachusetts
Amherst, MA

Mrs.Torres:

I hereby authorized you to use ASEM as the setting to conduct the research study: *The Influence of the Conditions of Work Environment on the Ability of Critical Care Nurses to Provide Efficacious Nursing Care in Puerto Rico.* I am pleased to have the opportunity to collaborate with you on this important project.

I am confident that you will abide by all IRB procedures. I am convinced that your research will continue to develop nursing science and improve practice. I will gladly work with you to meet the project's aims.

The nurses of our Trauma and Emergency Departments very well accommodate your research sample. We have specialized human resources and equipment of high complexity and modern technology, which allow the provision of specialized care to the entire population of Puerto Rico.

On behalf of ASEM, we wish you much success in the completion of your research study. I'd like to express my support for this project and my conviction that this research will be worthwhile. We will be looking forward to the presentation of your findings.

Sincerely,

Ana C. Rius Armendáriz, MD
Executive Director

P. O. BOX 2129 • SAN JUAN, PUERTO RICO • 00922-2129 • TEL. 777-3535
Dirija toda correspondencia al Director Ejecutivo

ESTADO LIBRE ASOCIADO DE PUERTO RICO
HOSPITAL UNIVERSITARIO ADULTOS
P. O. BOX 2116
SAN JUAN, PUERTO RICO 00922-2116

DEPARTAMENTO DE SALUD
GOBIERNO DE PUERTO RICO

OFICINA DE ENFERMERIA

May 16, 2013

Yolanda M. Torres, PhDc, RN
University of Massachusetts
Amherst, MA

Dear Yolanda:

I hereby authorized you to use UDH as the setting to conduct the research study: *The Influence of the Conditions of Work Environment on the Ability of Critical Care Nurses to Provide Efficacious Nursing Care in Puerto Rico.* I am pleased to have the opportunity to collaborate with you on this important project.

I am confident that you will abide by all IRB procedures. I am convinced that your research will continue to develop nursing science and improve practice. I will gladly work with you to meet the project's aims.

The nurses of our Neuro Intensive Care Unit and Medical-Surgical Intensive Care Units very well accommodate your research sample. We have specialized human resources and equipment of high complexity and modern technology, which allow the provision of specialized care to the entire population of Puerto Rico.

On behalf of UDH, we wish you much success in the completion of your research study. I'd like to express my support for this project and my conviction that this research will be worthwhile. We will be looking forward to the presentation of your findings.

Sincerely,

Ms. Ada Reyes
Director of Nursing, UDH
San Juan, Puerto Rico

APPENDIX E

SURVEY CONSENT FORM (ENGLISH AND SPANISH VERSIONS)

You are being invited to participate in a research study titled *"Influence of the Conditions of Work Environment on the Ability of Critical Care Nurses to Provide Efficacious Nursing Care in Puerto Rico."* This study is being done by Yolanda M. Torres from the University of Massachusetts Amherst. You were selected to participate in this study because you are a registered nurse (RN) with a Puerto Rico license, working in a critical care department/unit. The purpose of this research study is to explore how the conditions of the working environment affect the ability of critical care nurses to provide efficacious nursing care. If you agree to take part in this study, you will be asked to complete the questionnaire on the next page. This questionnaire will ask about your perceptions on the conditions of your work environment and perceptions on your ability to express a caring orientation and establish a caring relationship with patients, and it will take you approximately 20 minutes to complete. You may not directly benefit from this research; however, we hope that your participation in the study may improve the working conditions of critical care nurses in Puerto Rico. Your answers will remain confidential. Your name will not be on the questionnaires. The questionnaires will be coded for the purpose of data analysis. The information will be kept in a locked cabinet at the researcher's office. When no longer needed, the questionnaires will be shredded before disposal.

Your participation in this study is completely voluntary and you can withdraw at any time. You are free to skip any question you choose.

If you have questions about this project or if you have a research-related problem, you may contact the researcher, Yolanda M. Torres at (787) 800-7461. If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

By proceeding to the survey/questionnaire on the next page you are indicating that you are at least 21 years old, have read and understood this consent form and agree to participate in this research study. Please keep this page for your records and return the survey/questionnaire to the researchers. Please DO NOT write your name on the survey/ questionnaire.

Consentimiento a Participación de Profesionales de Enfermería de Cuidado Crítico

Estás siendo invitado/a participar en un estudio de investigación titulado *"La Influencia de las Condiciones del Ambiente de Trabajo en la Habilidad de los Profesionales de Enfermería para Proveer Cuidado de Enfermería Eficaz en Puerto Rico."* Este estudio está siendo realizado por Yolanda M. Torres, estudiante de doctorado en enfermería de la Universidad de Massachusetts- Amherst. Tú has sido seleccionado/a para participar en esta investigación por ser colega de enfermería con licencia de Puerto Rico (vigente) y porque trabajas en una unidad/departamento de cuidado crítico. El propósito de esta investigación es explorar como las condiciones del ambiente de trabajo afectan la habilidad del profesional de enfermería de cuidado crítico para proveer cuidado de enfermería eficaz. Si tú accedes a participar en esta investigación, se te estará pidiendo que completes el cuestionario que se encuentra en la próxima página. En ese cuestionario encontrarás preguntas sobre tus percepciones de las condiciones de tu ambiente de trabajo y tus percepciones de tu habilidad de expresar una orientación hacia el cuidado y establecer una relación de cuidado con tus pacientes. El contestar las preguntas te tomará aproximadamente unos 20 minutos. Aunque no recibirás ningún beneficio personal, tu participación en este proyecto de investigación puede ayudar a mejorar las condiciones de trabajo de los profesionales de enfermería de cuidado crítico de Puerto Rico. Tus contestaciones serán confidenciales. Tu nombre no aparecerá en el cuestionario. Los cuestionarios serán codificados con el propósito de analizar los datos. La información será mantenida en un gabinete cerrado con llave en la oficina de la investigadora. Cuando ya no sean necesarios serán triturados antes de ser descartados.

Tu participación en este estudio es completamente voluntaria y te puedes retirar en cualquier momento. Tienes la libertad de no contestar alguna pregunta si así lo deseas.

Si tuvieras alguna pregunta sobre este proyecto o si tienes algún problema relacionado a la investigación te puedes comunicar con la investigadora, Yolanda M. Torres, al (787) 800-7461. Si tienes alguna pregunta con relación a tus derechos como participante de la investigación, te puedes comunicar con la Universidad de Massachusetts a la Oficina de Protección de la Investigación Humana de Amherst, HRPO por sus siglas en inglés al (413) 545-3428 o en línea a través de humansubjects@ora.umass.edu.

Al proceder a contestar el cuestionario en la próxima página estás indicando que tienes por lo menos 21 años de edad, y que has leído y entendido este consentimiento y estás dispuesto a participar en este estudio de investigación. Por favor mantén esta página para tus records y devuelve el cuestionario a la investigadora. Por favor **NO ESCRIBAS** tu nombre en el cuestionario.

APPENDIX F

DESCRIPTIVE STATISTICS OF WORK EMPOWERMENT: ACCESS TO OPPORTUNITY AND INFORMATION ITEMS

Subscales and Items	*n*	Minimum	Maximum	Mean	Median	*SD*
OPPORTUNITY						
Tasks that use all of your own skills and knowledge	168	0	5	4.46	5.00	.953
Challenging work	168	0	5	4.26	5.00	1.117
The chance to gain new skills and knowledge on the job	168	0	5	4.24	5.00	1.047
The chance to learn how the hospital works.	168	0	5	3.70	4.00	1.125
Access to training programs for learning new things	168	1	5	3.67	4.00	1.059
The chance to advance to better jobs.	168	0	5	3.38	3.00	1.361
The chance to work together closely with your boss.	168	0	5	3.36	3.00	1.254
To assume roles not related to your current job.	168	0	5	3.05	3.00	1.396
To influence your work outside your unit.	168	0	5	2.36	2.00	1.216
Rewards for jobs well done.	168	0	5	2.34	2.00	1.375
INFORMATION						
What patients think of the work in your unit.	168	0	5	3.66	4.00	1.266
The current state of the hospital.	168	0	5	3.63	4.00	1.130
Current theories about the illnesses on your unit	168	0	5	3.63	4.00	1.197
Receiving timely information about patients.	168	0	5	3.60	4.00	1.239
Current information on new treatments used on your unit	168	0	5	3.35	3.00	1.194
Current information on new medications used on your unit	167	0	5	3.23	3.00	1.329
Receiving timely information on new equipment.	168	0	5	3.11	3.00	1.259
Receiving timely information about unit changes.	168	0	5	2.89	3.00	1.233
This year's plan for your work unit.	168	0	5	2.74	3.00	1.327
How salary decisions are made for people in positions like yours	168	0	5	2.39	2.00	1.257

APPENDIX G

DESCRIPTIVE STATISTICS OF WORK EMPOWERMENT: SUPPORT AND RESOURCES ITEMS

Subscales and Items	*n*	Minimum	Maximum	Mean	Median	*SD*
SUPPORT						
Help in gaining access to people who can get the job done.	167	0	5	3.28	3.00	1.206
Discussion of further training or education.	167	0	5	3.22	3.00	1.148
Help when there is a work crisis.	166	0	5	3.21	3.00	1.306
Help in getting materials & supplies needed to get the job done.	167	0	5	3.18	3.00	1.258
Specific comments about things you could improve.	167	0	5	3.15	3.00	1.175
Helpful hints or problem solving advice.	167	0	5	3.02	3.00	1.242
Specific information about things you do well.	167	0	5	2.77	3.00	1.311
Information or suggestions about job possibilities.	167	0	5	2.60	3.00	1.172
Recognition for a job well done.	167	0	5	2.19	2.00	1.217
Receiving credit for ideas or achievements from superiors.	167	0	5	2.15	2.00	1.165
RESOURCES						
Time available to accomplish job requirements.	168	0	5	3.22	3.00	.925
Having supplies necessary for the job.	168	0	5	3.18	3.00	.970
Time available to do necessary paperwork.	168	1	5	3.11	3.00	.963
Acquiring temporary help when needed.	168	0	5	2.97	3.00	1.035
Influencing decisions about obtaining supplies for your unit.	168	1	5	2.85	3.00	1.053
Influencing decisions about obtaining equipment for your unit.	168	1	5	2.81	3.00	1.061
Influencing decisions about obtaining support personnel for your unit.	168	1	5	2.76	3.00	1.086

APPENDIX H

DESCRIPTIVE STATISTICS OF WORK EMPOWERMENT: WORK RELATIONSHIPS WITH PEERS & COLLEAGUES AND PATIENTS & FAMILIES ITEMS

Subscales and Items	*n*	Minimum	Maximum	Mean	Median	*SD*
PEERS & COLLEAGUES						
Collaborating on patient care with physicians.	168	1	5	4.33	5.00	.872
Being sought out by physicians for patient information.	168	0	5	3.91	4.00	1.152
Being sought out by peers for help with patient problems.	168	0	5	3.74	4.00	1.128
Receiving helpful feedback from physicians.	168	1	5	3.71	4.00	1.174
Working out conflicts with peers without going to manager	168	0	5	3.45	4.00	1.270
Seeking out ideas from professionals other than physicians	168	0	5	3.29	3.00	1.385
Receiving helpful feedback from peers.	168	1	5	3.18	3.00	1.080
Having physicians ask for your opinion.	168	0	5	2.98	3.00	1.410
Seeking out ideas from auxiliary workers on the unit.	168	0	5	2.92	3.00	1.267
Receiving recognition by physicians.	168	0	5	2.88	3.00	1.339
Having immediate supervisor ask for your opinion.	168	0	5	2.70	3.00	1.242
PATIENTS & FAMILIES						
Listen to patients.	168	0	5	4.42	5.00	.951
Comfort patients.	168	0	5	4.39	5.00	.942
Get feedback from patients.	168	0	5	4.33	5.00	.988
Provide patient support	168	0	5	4.32	5.00	1.040
Provide patient teaching.	168	0	5	4.22	5.00	1.063
Provide family teaching.	168	0	5	4.21	4.00	1.004
Provide family comfort.	168	0	5	4.10	4.00	1.151
Receive feedback from families.	168	0	5	3.95	4.00	1.131
Receive recognition by families.	168	0	5	3.77	4.00	1.248
Receive recognition for your contributions by patients.	168	0	5	3.65	4.00	1.354

APPENDIX I

DESCRIPTIVE STATISTICS OF WORK EMPOWERMENT: WORK RELATIONSHIPS WITH MENTORS ITEMS

Subscale and Items	*n*	Minimum	Maximum	Mean	Median	*SD*
MENTORS						
Seeking out ideas from clinical experts on the unit about patient care issues.	168	0	5	3.20	3.00	1.329
Being sought out by clinical expert(s) for information.	168	0	5	3.17	3.00	1.312
Receiving helpful feedback from clinical experts.	167	0	5	3.10	3.00	1.311
Collaborating with mentor(s) on patient care.	168	0	5	3.05	3.00	1.287
Seeking out mentor(s) to collaborate on patient problems.	168	0	5	2.99	3.00	1.274
Being sought out by mentor(s) for patient information.	168	0	5	2.95	3.00	1.370
Being sought out by clinical experts for help with problems.	167	0	5	2.95	3.00	1.325
Receiving helpful feedback from mentor(s).	168	0	5	2.90	3.00	1.316
Receiving recognition by mentor(s).	168	0	5	2.70	3.00	1.311
Having mentor(s) ask for your opinion.	168	0	5	2.68	3.00	1.323

APPENDIX J

DESCRIPTIVE STATISTICS: POSITIVE STATEMENTS OF THE CARING EFFICACY SCALE

	Variables	*n*	Minimum	Maximum	Mean	Median	*SD*
4	I convey a sense of personal strength to my clients/patients.	168	1	6	5.71	6.00	.799
5	Clients/patients can tell me most anything and I won't be shocked.	168	1	6	5.65	6.00	.897
9	I can walk into a room with a presence of serenity and energy that makes clients/patients feel better.	167	1	6	5.63	6.00	.740
10	I am able to tune into a particular client/patient and forget my personal concerns.	167	1	6	5.62	6.00	.876
3	I feel comfortable in touching my clients/patients in the course of caregiving.	168	0	6	5.55	6.00	1.126
19	I can usually get patients/clients to like me.	167	1	6	5.54	6.00	.929
11	I can usually create some way to relate to most any client/patient.	167	1	6	5.51	6.00	.993
22	If I think a client/patient is uneasy or may need some help, I approach that person.	167	1	6	5.49	6.00	1.231
7	It is easy for me to consider the multi-facets of a client's/patient's care, at the same time as I am listening to them.	167	2	6	5.48	6.00	.904
14	I use what I learn in conversations with clients/patients to provide more individualized care.	167	1	6	5.44	6.00	1.165
6	I have an ability to introduce a sense of normalcy in stressful conditions.	167	2	6	5.43	6.00	.861
2	If I am not relating well to a client/patient, I try to analyze what I can do to reach him/her.	168	0	6	5.36	6.00	1.490
25	I have helped many clients/patients through my ability to develop close, meaningful relationships.	167	1	6	5.25	6.00	1.226
18	I can usually establish a close relationship with my clients/patients.	167	0	6	5.03	6.00	1.519
28	When a client/patient is having difficulty communicating with me, I am able to adjust to his/her level.	167	0	6	4.47	5.00	1.951

APPENDIX K

DESCRIPTIVE STATISTICS: NEGATIVE STATEMENTS OF THE CARING EFFICACY SCALE

	Variables	*n*	Minimum	Maximum	Mean	Median	*SD*
17	I seem to have trouble relating to clients/patients.	167	0	6	5.77	6.00	.942
21	When trying to resolve a conflict with a client/patient, I usually make it worse.	167	1	6	5.66	6.00	.923
16	Even when I'm feeling self-confident about most things, I still seem to be unable to relate to clients/patients.	167	1	6	5.59	6.00	1.031
12	I lack confidence in my ability to talk to clients/patients from backgrounds different from my own.	167	0	6	5.57	6.00	1.164
26	I often find it difficult to express empathy with clients/patients.	166	0	6	5.53	6.00	1.158
15	I don't feel strong enough to listen to the fears and concerns of my clients/patients.	167	0	6	5.49	6.00	1.293
24	I often find it hard to relate to clients/patients from a different culture than mine.	167	1	6	5.43	6.00	1.249
29	Even when I really try, I can't get through to difficult clients/patients.	167	0	6	5.37	6.00	1.291
13	I feel if I talk to clients/patients on an individual, personal basis, things might get out of control.	167	0	6	5.09	6.00	1.810
1	I do not feel confident in my ability to express a sense of caring to my clients/patients.	168	0	6	5.05	6.00	1.848
23	If I find it hard to relate to a client/patient, I'll stop trying to work with that person.	167	1	6	5.05	6.00	1.571
27	I often become overwhelmed by the nature of the problems clients/patients are experiencing.	167	0	6	4.86	6.00	1.567
20	I often find it hard to get my point of view across to patients/clients when I need to.	167	1	6	4.80	6.00	1.684
30	I don't use creative or unusual ways to express caring to my clients/patients.	167	0	6	4.72	6.00	1.796
8	I have difficulty in suspending my personal beliefs and biases in order to hear and accept a client/patient as a person.	167	1	6	4.03	5.00	2.169

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