

RELATIONSHIPS AMONG HEALTHY WORK ENVIRONMENTS, NURSE  
RETENTION, AND NURSES' JOB SATISFACTION

A RESEARCH PAPER

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## ABSTRACT

**RESEARCH PAPER:** Relationships among Healthy Work Environments, Nurse

Retention, and Nurses' Job Satisfaction

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Retention of nurses in the workplace is a primary focus of health care systems worldwide. When one nurse leaves a position in an acute care hospital, replacement costs range from \$40,000 - \$82,000 (Twibell et al., 2012). Research has suggested that nurses' job satisfaction and work environments may influence nurse retention. However, research has not yet clarified the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention in diverse geographic areas. The aim of this study was to explore the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention. The framework for the correlational study was based on structural contingency theory (Baernholdt & Mark, 2009). The convenience sample consisted of 300 registered nurses who worked in one of 20 hospitals in a midwestern health care system. Instrumentation included the Healthy Work Environment Assessment tool (American Association of Critical Care Nurses, 2010) and an organizational job satisfaction scale (Hinshaw & Atwood, 1984). Nurse retention was calculated from job turnover rates. Results will illuminate factors that may be related to nurse retention and provide guidance for nursing leaders who aim to improve retention, enhance nurses' job satisfaction, and support healthy work environments.

## **Chapter I**

### **Introduction**

Health care in the United States is continuously transforming, evolving, and evaluating its purpose to its consumers, workforce, and industry. As this transformation in healthcare occurs, the goals for finance, quality, and service are focusing primarily on patient outcomes. The health care industry is no longer being graded on quantity of services, but rather is being graded on quality of services for patients. This transition directly affects health care organizations' margin of profit. In 2013, 1% of hospitals' Medicare payments will be at risk under the value-based payments, increasing to 2% in 2017. Value based purchasing provides financial incentives for hospitals that meet certain quality performance standards, including measures that focus on patients' perceptions of care. These incentives are anticipated to compel more health care leaders to champion the importance of providing patient-centered care (Cliff, 2012).

Nursing has a larger impact on patient satisfaction than any other single factor. Nurses are at the forefront of being able to directly impact all of the value-based purchasing criteria. Hospitals that invest in nursing and see nurses' value in providing a direct impact on higher reimbursement will be the most successful as hospitals transition towards quality-related payments (Bogue, 2012). Nursing leaders are beginning to recognize that the quality of outcomes may be related to the work environment in which

care is delivered. Specifically, research has suggested that healthy work environments in nursing are positively correlated to nurse retention and patient outcomes (Tomey, 2009).

The characteristics of a healthy work environment may include many variables such as: professional work satisfaction, generational differences, empowerment of nurses, manager characteristics, and leadership styles. Outcomes of a healthy work environment can be increased job satisfaction and organizational commitment. These outcomes can in turn correlate to a decrease in staff turnover. Retention of experienced, enculturated nurses, elevates the quality of care delivered and improves patient outcomes, such as length of stay and complications of hospitalization. A correlation has been found between healthy workplace environments and healthy patients and the well-being of personnel (Tomey, 2009).

Retention of nurses in the workforce has been a strong focus of health care systems worldwide for several decades. Health care organizations in the United States are faced with the reality of a work force crisis, as the shortage of nurses is projected to reach 500,000 by 2025 (Buerhaus, Staiger, & Auerbach, 2008). As the population is aging, the average age of a registered nurse (RN) at both the organizational level and the state level is 47 years, and nationally, it is 48 years (The Joint Commission, 2010). A large portion of these nurses could be projected to retire in the next 5 to 10 years, which will negatively affect health care delivery in the next decade.

It is essential to decrease nursing turnover now and in the future to assist in stabilizing the nursing workforce. New graduate nurse turnover rates are roughly 30% in the first year of practice and as much as 57% in the second year of practice. When one nurse leaves a position in an acute care hospital, replacement costs range from \$40,000 to

\$82,000 (Twibell et al., 2012). Development of a healthy work environment is an intradisciplinary and interdisciplinary collaborative effort and professional responsibility. Excellence emanates from a partnership between organizational and front-line nurse leadership and the clinical professional staff at the unit level (Kramer, Maguire, & Brewer, 2011). High nursing turnover is costly for both health care organizations and patient outcomes.

### **Background and Significance**

The role of work environments in increasing nurse retention is becoming a key focus of nursing leaders in today's health care systems. The American Association of Critical-Care Nurses (AACN) (2005) has defined six evidence-based standards required to establish and sustain a healthy work environment: skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition and authentic leadership. Nurse leaders can use these six standards to evaluate the effectiveness of the work environment to increase retention and high quality patient care.

The RN turnover rates for newly graduated nurses are very alarming for nursing leaders. New nurses have reported that low job satisfaction is primarily related to heavy workloads and an inability to ensure patient safety (Twibell et al., 2012). Twibell and colleagues also reported that new nurses expressed disillusionment about scheduling, lack of autonomous practice, lack of intrinsic and extrinsic rewards, insufficient time with patients, and dissatisfying relationships with peers, managers, and interprofessional colleagues. Many studies have suggested that nurse residency programs can effectively support the transition of newly licensed RNs into the reality of professional practice. Retention rates of new RNs in residency programs range from 88% to 96%. Residency

programs range from 6 months to 12 months in length. New nurses who are mentored, coached, and who feel like part of a team during their transition into nursing practice are more likely to be satisfied and committed to their organization.

Nursing leadership style has been identified as a significant contributing factor in creating and sustaining a healthy work environment that promotes positive patient outcomes and increased nurse job satisfaction. The quality of nursing leadership is essential to moving an organization forward. Leadership approaches consistent with transformational leadership have been shown to be more effective in creating a positive work environment, as well as increasing job satisfaction, commitment, and motivation. Transformational leaders have been described as visionary, charismatic, and able to motivate employees. Transformational leaders have been known to achieve organizational goals by empowering staff that are committed to the same organizational goals (Cassidy & Koroll, 1994).

Health care organizations and systems must focus on several key factors to retain nurses, elevate patient outcomes, and remain fiscally competitive in today's health care industry. Essential components to the solution for nurse turnover include utilizing AACN's (2005) six evidence-based standards required to establish and sustain a healthy work environment, focusing on new nurse job satisfaction, and recruiting leaders whose practice is consistent with the transformational leadership style. Understanding the relationship among healthy work environments, nurses' job satisfaction, and nurses' job retention in large health care systems can be the answer to improved patient outcomes and nurse retention in today's nursing workforce.



**Statement of the Problem**

Retention of nurses in today's health care industry is essential for high quality patient outcomes and decreased costs for health care organizations. In order to improve nurse retention rates, nurse leaders need an understanding of how work environments of nurses are related to nurse and patient outcomes. Work environments are very complex due to increased workplace stressors, higher acuity of patients in acute care, increased fiscal restraints of the health care industry, and the looming shortage of nurses over the next decade. In order to assist nursing leaders in designing a nursing workplace that fosters the best possible patient outcomes, nursing leaders need new knowledge about the relationships among the components of a healthy work environment, nurse satisfaction, and nurse retention.

**Purpose of the Study**

The primary aim of this study was to explore the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention in a large health care system in one Midwestern state. Results will illuminate factors that may be related to nurse retention, enhance nurses' job satisfaction, and support healthy work environments.

**Research Question**

The research question that guided this study was "What are the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention in a large health care system in one Midwestern state?"

## **Conceptual Framework**

The framework for this correlational study was a conceptual model based on structural contingency theory (SCT) (Donaldson, 2001). According to the SCT, context, structure and effectiveness are related such that an organization's effectiveness depends on a match between its context and structure. If the internal structure does not take into account the context or the environment of the organization and the tasks it performs, effectiveness suffers. In this study, context was conceptualized as hospital and nursing unit characteristics; structure was conceptualized as the nurse work environment; and effectiveness was conceptualized as nurse job satisfaction and job turnover (Baernholdt & Mark, 2009).

Variables representing hospital characteristics were member of integrated network or not, technological complexity, and Magnet designation status. The variables representing nursing unit characteristics included size, work complexity, availability of support services, and safety climate. Structure was conceptualized as the nurses' work environment and operationalized as staffing adequacy and professional practice. The staffing adequacy included staffing measured as vacancy rates, education, and expertise. Professional practice was captured through work processes, such as autonomy and relational coordination with other health care professionals (Baernholdt & Mark, 2009).

## **Definition of Variables**

### **Healthy Work Environment.**

*Conceptual definition:* Nursing work environments that are safe, healing, humane, and respectful of the rights, responsibilities, needs, and contributions of all people, including patients, their families, and nurses.

**Operational definition:** Scores on the subscales of the Healthy Work Environment Assessment Tool, specifically labeled skilled communication, true collaboration, effective decision-making, appropriate staffing, meaningful recognition and authentic leadership (AACN, 2010).

#### **Nurse Satisfaction.**

**Conceptual definition:** Nurse satisfaction was defined as the feeling of happiness about the work that one does

**Operational definition:** Nurse satisfaction was computed as a total mean score on a 27-item organizational job satisfaction scale.

#### **Nurse Job Retention.**

**Conceptual definition:** Nurses do not leave a nursing position in an organization.

**Operational definition:** Nurse job retention is measured as the total number of RNs who did not end their employment in a nursing position in an organization. In this study, turnover rates were calculated as the total number of RNs who ended their employment on the unit (resigned, retired, transferred to another unit, released or terminated by the hospital) during a 6-month period, divided by the average number of RNs on the unit for the same period.

#### **Limitations**

One limitation of this study was that it only included one of the hospitals in the large health care system for one Midwestern state. Inclusion of some of the other hospitals within in the health care system could provide more data on work environment factors related to nurse retention across a demographic region. A second limitation was use of a convenience sample, which could have introduced bias into the results.

**Assumption**

The primary assumption underlying this study was that participants responded honestly to the instrumentation and made no attempt to mis-represent workplace factors.

**Summary**

The health care system in the United States has seen significant changes over the last decade. The present and future stability of hospitals in the United States depends on high quality patient outcomes. Research suggests that healthy work environments are an essential component to nurse job satisfaction, nurse retention, and positive patient outcomes. Nursing leaders will be the most successful in creating a healthy work environment for nurses if they can focus on AACN's (2005) six evidence-based standards required to establish and sustain a healthy work environment, recruit and retain new graduate nurses, and practice in alignment with the components of transformational leadership style.

The results of having a healthy work environment for nurses are projected to include reduced turnover costs that range from \$40,000 to \$82,000 per nurse (Twibell et al., 2012). Healthy work environments enhance nurse satisfaction, commitment to the organization, and high quality outcomes for patients. In order to assist nursing leaders in designing a nursing workplace that fosters the best possible patient outcomes, nursing leaders need new knowledge about the relationships among the components of a healthy work environment, nurse satisfaction, and nurse retention.

## **Chapter II**

### **Literature Review**

#### **Introduction**

Current day health care reform has begun to transform hospital environments. Hospitals all over the United States are joining large statewide health care systems. A large health care system can consist of a variety of hospitals with many different characteristics. These characteristics may include: geographical location, facility size, number of employees, multi-generational workforces, types of services offered, education required for staff, Magnet designation versus non-Magnet, and community engagement. Literature supports that a healthy work environment will improve job satisfaction and organizational commitment and in turn will correlate to positive patient outcomes and a decrease in staff turnover (Tomey, 2009). Today's nurse leaders need to understand how the characteristics of their organization or unit can have a direct effect on their work environment. The work environment, in turn, can directly affect nurses' job satisfaction, nurses' job retention, and high quality patient outcomes.

#### **Research Question**

The research question that guided this study was "What are the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention in a large health care system in one Midwestern state?"

## **Overview of Literature Review**

The literature review overviews the theoretical frameworks for the study and research on factors of a healthy work environment that may be related to nurse retention and overall job satisfaction in a variety of health care settings. The literature review provided a background for the understanding of how work environments affect nurses' job satisfaction and nurses' job retention in many health care settings. Health care professionals included only nurses in this review. This review examines research on hospital characteristics, leadership styles, and intergenerational influences in the workplace.

## **Theoretical Framework**

The framework that guided this literature review was a conceptual model based on structural contingency theory (SCT) (Donaldson, 2001). According to the SCT, context, structure and effectiveness were related such that an organization's effectiveness depended on a match between its context and structure. If the internal structure did not take into account the context or the environment of the organization and the tasks it performed, effectiveness suffered. The literature supported that nursing systems developed conceptual models in which context was conceptualized as hospital and nursing unit characteristics; structure was conceptualized as the nurse work environment; and effectiveness was conceptualized as nurse job satisfaction and turnover (Baernholdt & Mark, 2009).

The Roy Adaptation Model (Roy, 1976) is a theory used nationally and internationally in nursing practice that addressed the relationship between people and the environment. Sister Callista Roy defined nursing as the science and practice that

expanded adaptive abilities and enhanced person and environmental transformation. She identified nursing activities as the assessment of behavior and the stimuli that influenced adaptation. Nursing judgments were based on this assessment, and interventions were planned to manage the stimuli (Alligood & Tomey, 2010). Environment was “all the conditions, circumstances, and influences surrounding and affecting the development and behavior of persons or groups, with particular consideration of the mutuality of person and earth resources that includes focal, contextual, and residual stimuli” (Roy & Andrews, 1999, p. 81). Roy’s model can be applied to all nursing practice settings because it primarily addresses the person-environment adaptation of the patient. Roy’s propositions indirectly guided this study, which focused on the intersection between nurses and the work environment.

### **Hospital Characteristics**

The aim of a research study by Baernholdt and Mark (2009) was to explore whether the nurse work environment, job satisfaction, and turnover rates differed in rural and urban hospitals. The authors suggested that the differences between rural and urban hospitals may extend beyond geographical locations and include the number of beds, availability of technology, nurse/patient ratios, salary differentials, and the level of nurses’ education. Differences in work environments between urban and rural hospitals may also exist. A conceptual model based on the structural contingency theory (SCT) (Donaldson, 2001) was developed to guide this study. The variables used to describe hospital characteristics included hospital size, being a member of an integrated network or not, technological complexity, and Magnet status. The variables used to describe nursing unit characteristics included size, work complexity, availability of support

services, and safety climate. The variables used to describe nurse work environment were staffing adequacy and professional practice.

The research conducted by Baernholdt and Mark (2009) was a secondary data analysis that examined the differences between rural and urban hospitals in a subsample of the Outcomes Research in Nursing Administration (ORNA-II) project (Mark et al., 2007). The original ORNA-II study began in 2003 and ended in 2004, and it utilized a longitudinal design. Baernholdt and Mark's study examined cross-sectional relationships. The ORNA-II data were drawn from a national random sample of 286 general medical/surgical nursing units in 146 hospitals in the United States of America (USA). The subsample for this study included 194 nursing units from all 22 rural hospitals (99-450 beds) matched with 75 urban hospitals with the same number of beds. Data were collected from study coordinators appointed from the hospital to be responsible for the conduct of the study in their home institution and from surveys of RNs and the annual survey of the American Heart Association's (AHA). The study utilized the AHA's definition of rural hospitals. The AHA defined a rural hospital as a hospital located in a non-metropolitan statistical area, which was a geographic area with less than 50,000 in population. The sample included RNs who worked more than 20 hours/week in direct patient care and had worked in the participating units for more than 3 months. The RNs filled out surveys at three different time periods with a response rate of 62% and a total sample size of 194 nursing units. Staff nurse data were aggregated to the nursing unit level using the mean for the unit as that unit's score, not the individual RNs responses. The relationships among hospital characteristics, nursing unit characteristics, nurse work environment, and nurse outcomes were examined using



regression analysis and general estimating equations with hospital as the clustering variable (Stokes, Davis, & Koch, 2000).

The findings from this study showed several significant differences between urban and rural work environments. The two significant differences in hospital characteristics were that rural hospitals had fewer beds than urban hospitals ( $p < 0.002$ ) and rural hospitals were significantly lower in technological complexity ( $p < 0.04$ ). The two significant differences in nursing unit characteristics were: nursing units in rural hospitals were significantly smaller than urban hospitals (29.4 beds vs. 33.8 beds,  $p < 0.02$ ) and units in rural hospitals with 200-299 beds had 27.4 beds compared with 36.2 beds in urban hospitals ( $p < 0.003$ ). The three significant differences in nurse work environment included: the proportion of RNs was significantly lower in all rural hospitals compared with units in urban hospitals (50.1% vs. 59.6%,  $p < 0.001$ ); rural hospital units had a significantly lower proportion of RNs with baccalaureate or higher degree (27.2% vs. 35.3%,  $p < 0.006$ ); and vacancy rates were significantly lower in nursing units in rural hospitals (8.5% vs. 12.7%,  $p < 0.004$ ) (Baernholdt & Mark, 2009).

The authors concluded that rural/urban location was not significantly associated with nurse job satisfaction or nurse retention/turnover rates. The key factors that positively influenced nursing outcomes were characteristics of the nursing unit and many factors in the work environment. For example, RNs working in both rural and urban hospitals reported that positive influences on nurse job satisfaction were availability of support services, workflow with less complexity, working with nurses who have a commitment to care, and autonomy in nursing practice. Both rural and urban hospitals

can improve nurse satisfaction and retention by examining these important work environment characteristics (Baernholdt & Mark, 2009).

In another research study intended to explore nurses' perspectives of healthy work environments, Kramer et al. (2011) sought to describe the extent to which RNs with greater than one year of experience depicted healthy work environments (HWE) in Magnet hospitals. Other aims of this study included the exploration of contextual and demographic variables that potentially influenced the distribution and proportion of HWE on clinical units in hospitals. The contextual variables included: individual hospital, type of hospital, size of community in which the hospital is located, and regional location of the hospital. The demographic variables included: nurse education, experience, tenure and shift worked, and work variable of the type of patient served on the clinical unit. The Institute of Medicine (2004) identified eight work processes/relationships that were essential to HWE. The eight processes/relationships identified were: (a) working with clinically competent peers; (b) collegial/collaborative nurse-physician relationships; (c) clinical autonomy; (d) support for education; (e) perception of adequate staffing; (f) supportive nurse manager relationships; (g) control of nursing practice; and (h) transmission and adoption of patient-centered cultural values. In this study, the effect of demographic, contextual, and work variables on these eight work processes/relationships that were essential for HWE were also examined.

This descriptive study utilized 40 Magnet hospitals based on the following inclusion criteria:

1. Magnet designation in addition to one or more hospital or specialty recognition awards.

2. Equal distribution among three major types of hospitals (academic teaching, community teaching, and community), among four different regions of the country (Northeast, Southeast, Midwest, and West/Southwest), and among hospital locations in various-sized communities (less than 100,000, between 100,000 and 500,000, between 500,000 and 1,000,000, and over 1,000,000).
3. Representation of major orientation for new graduates, such as internships and residencies (Kramer et al., 2011).

The Essentials of Magnetism II (EOMII) (Schmalenberg & Kramer, 2008) instrument was used to survey 10,752 nurses working on the 540 clinical units in 34 Magnet hospitals. Participation in this survey was completed in three stages over an 18-month research period. This met the 40% response rate requirement for representative group-level data aggregation. The EOMII is a 58-item tool that measured each work processes/relationships with a separate subscale. The variable HWE was scored as the total score of the eight subscale scores. The eight essential work processes were conceptualized as all interrelated and did not stand alone in HWE. Two measures, the intraclass correlation coefficient, ICC(2), and the within-group inter-rater reliability were done to check the reliability of data aggregated to the unit level. The ICC(2) for seven of the eight EOMII scales ranged from 0.63 to 0.94 and met the criterion level of 0.60. The only scale that did not meet the criterion level of 0.60 was the nurse-physician relationships scale (Kramer et al., 2011).

Eighty two percent of nurses, on 540 clinical units, confirmed healthy work environments. The combined 82% (54% very healthy work environment and 28% healthy work environment) achievement rate for a healthy work environment reported by

these Magnet facilities sets the bar high for excellence in non-Magnet hospitals. This study reported many significant correlates of HWE. Some of the consistent patterns included: nurses with 3 years or less of experience and more than 30 years of experience perceived the work environments as healthier than did nurses in other groups; eight-hour day shift nurses reported favorable environmental conditions for practice in five of the eight variables (support for education, nurse-physician relationships, clinical autonomy, perceived adequacy of staffing, and patient centered care) compared to other shifts; and baccalaureate-prepared nurses scored higher on all variables except nurse-physician relationships than did nurses with other educational backgrounds. In addition, experienced nurses working on psychiatric units, outpatient care clinics, day surgery, and orthopedic units reported that the unit work environments enabled the development of positive relationships and essential work processes to deliver high quality of care to a greater extent than did nurses working in operating rooms and post-anesthesia care units, although the finding was not significant ( $p < .094$ ) (Kramer et al., 2011).

The hospital contextual variables in this study (type, geographical location, and community) did not correlate significantly with HWE. The strongest correlates of both HWE and of the essential work processes/relationships were the demographic variables of nurses' education, shift worked, and tenure. Multivariate analyses of the contextual, work, demographic, and hospital variables by HWE units indicated that the strongest correlate of HWE resided within the individual hospital. This study supported that many organizations, despite unique characteristics, could gain and maintain healthy work environments with the right kind of leadership, support, and nurse empowerment (Kramer et al., 2011).

## **Leadership Style**

In a different approach to exploring the nurses' work environments, Malloy and Penprase (2010) explored leadership styles and the psychological work environment of nurses. One of many studies on leadership styles and the work environment in general, this study specifically examined the three unique leadership styles of transformational leadership, transactional leadership, and passive avoidance leadership. The aim of this study was to identify components of each of these three unique leadership style behaviors on the impact of positive or negative psychological work environments for registered nurses.

The theoretical framework used in this study was the Full Range Leadership Model developed by Bruce Avolio and Bernard Bass in 1990 (Bass & Avolio, 2004). Transformational leadership included the following five components: idealized influence-attributes (built trust), idealized influence-behavior (demonstrated integrity), inspirational motivation (inspired others), intellectual stimulation (encouraged thinking), and individualized consideration (coached). Transactional leadership included the following two components: contingent reward (rewards achievements) and management by exception-active (monitored mistakes). Lastly, passive avoidant leadership included the following two components: management by exception-passive (fought fires), and laissez faire (avoided involvement) (Bass & Avolio, 2004).

The sample included 87 non-supervisory nurses and 35 supervisory nurses who were female with a mean age of 48 years. Of the 400 questionnaires distributed, 122 were returned, for a response rate of 30.5%. The data for this study were collected from the responses to the Multifactor Leadership Questionnaire (MLQ) (Bass & Avolio, 2004)

and the Copenhagen Psychosocial Work Environment Questionnaire (COSOQ) (Kristensen & Borg, 2000). The MLQ was a 45-item questionnaire used to measure 12 leadership subscales (five transformational, two transactional, two passive avoidant, leadership effectiveness, extra effort/motivation, and satisfaction with leadership). The MLQ was both reliable and valid with a consistently strong Cronbach's alpha of greater than 0.90 for measures of leadership characteristics. The COSOQ was a 144-question scale used to measure psychological-social work environment dimensions. The COSOQ was also assessed for reliability, with a Cronbach's alpha ranging from 0.59 to 0.87. The limitations of this study included a small sample size, no measurement of the individual supervisors' perception of their own leadership style, and no relational link between individual supervisor and nurses (Malloy & Penprase, 2010).

The findings of the study revealed that the most frequently identified leadership style component was idealized-influenced attributes, with a mean of 62.4. The least frequently identified leadership style component was laissez-faire, with a mean of 29.70. The psychosocial work environment dimensions that had the highest three mean scores were cognitive demands ( $M = 73.90$ ), hiding emotions demands ( $M = 69.93$ ), and social community ( $M = 68.77$ ). The psychosocial work environment dimensions that had the lowest three mean scores were family-work conflict ( $M = 8.98$ ), somatic stress ( $M = 20.77$ ), and cognitive stress ( $M = 23.65$ ). Transformational leadership components had a significant and positive correlation with 17 out of the 37 psychological work environment dimensions. There was a significant positive correlation between all components of transformational leadership and contingent reward ( $p < 0.01$ ). There was also a significant negative correlation between all of the components of transformational

leadership and contingent reward with management by exception-passive and laissez faire components ( $p < 0.01$ ). (Malloy & Penprase, 2010).

This research supported that the components of transformational leadership and the contingent-reward component of transactional leadership positively affected work environments for RNs. The research also supported that the component of transactional leadership, exception-active, and the two components of passive avoidance leadership, exception-passive and laissez faire, promoted a negative work environment. The authors recommended that the leadership styles that reflected these positive outcomes for RNs' work environments should be utilized to provide an increased job satisfaction, commitment, and motivation for RNs in the workplace (Malloy & Penprase, 2010).

Another component of leadership in relation to practice environment was explored in the study by Zori, Nosek, and Musil (2010). The study described how staff RNs' perceptions of the work environment were related to the managers' critical thinking skills. The aim of this study was to determine if nurse managers' ability to creatively problem solve and their development of relationships with staff positively influenced the work environment.

In this descriptive study, data were collected by the California Critical Thinking Disposition Inventory (CCTDI) (Facione & Facione, 1996) and the Practice Environment Scale (PES) (Lake, 2002; Zori et al., 2010). The CCTDI had 75 items that targeted one of the seven critical thinking dispositions and was scored using a continuous 6-point Likert scale. The CCTDI was developed utilizing the American Philosophical Association's Delphi approach, which led to defining critical thinking skills as interpretation, analysis, evaluation, inference, explanation, and self-regulation and the

dispositions of critical thinking as truth-seeking, open-mindedness, analyticity, systematicity, critical thinking self-confidence, inquisitiveness, and critical thinking maturity (Facione & Facione, 1996). The reliability testing of the final 75 items was conducted on an initial sample of 160 college students and a subsequent study of 1,019 college students. Cronbach's alpha score for the overall initial study for critical thinking disposition was 0.91 and on subsequent studies was 0.90. The CCTDI was considered a reliable tool to measure critical thinking dispositions (Facione, Facione, & Sanchez, 1994).

The PES consisted of 31 items grouped into five subscales intended to examine nurses' job satisfaction. It was scored on a four-point Likert scale. The five subscales included: nurse participation in hospital affairs, nursing foundations for quality of care, nurse manager ability, leadership and support of nurses, staffing and resource adequacy, and collegial nurse-physician relations (Lake, 2002). The PES was considered to be a robust tool that had been endorsed by the National Quality Forum and used by the ANA as part of the National Database of Nursing Quality Indicators to measure staff nurse job satisfaction (Lake, 2007).

Twelve useable CCTDI surveys were returned from nurse managers with at least 6 months experience in their current position and the ability to read and write in English. Return rate was 31.6%. PES surveys were returned from 132 staff RNs (response rate of 44%) who were full or part-time for at least 6 months on a patient care unit where the nurse manager had participated in the study. The limitations for this study included the limited nurse manager response, the sample was from one tertiary medical center in the



northeastern US, and variables that may have influenced staff RNs' perceptions of the practice environment were not examined in this study (Zori et al., 2010).

The results of this study indicated that the staff RNs' PES scores were consistently higher when the nurse manager showed a positive disposition in analyticity ( $p < .001$ ), systematicity ( $p < .01$ ), open-mindedness ( $p < .001$ ), and critical thinking confidence ( $p < .001$ ). These data suggested that there was a positive correlation between the nurse managers' critical thinking dispositions and the staff RNs' perceptions of the practice environment as measured by the PES scores (Zori et al., 2010).

The findings from this research study supported the relationship between nurse managers' critical thinking dispositions of open-mindedness, analyticity, systematicity, and critical thinking confidence and the respective staff RNs' perceptions of the practice environment. This positive perception of the practice environment assisted to build the trust that the staff RNs have in their nursing leaders. Investing in development and support of critical thinking skills in nursing leaders can create a positive practice environment for RNs, which may increase nurse retention and put organizations in a better position to achieve high quality patient outcomes (Zori et al., 2010).

Perceptions of the practice environment and the quality of care delivered to patients can be significantly different between the nurse leader and the staff RN. The aim of the research study by Gormley (2011) was to examine differences in perceptions of work environment and quality of care between nurse managers and staff nurses and the relationship between nurses' perceptions of the work environment and intent to leave. A significant amount of research can be found on the effects of work environment on nurses' intention to stay or leave the workplace. This study evaluated the differences in

perceptions of staff nurses and managers on work environment factors and their potential influence on turnover. The study used a cross-sectional, non-experimental design to assess staff nurse perceptions and nurse manager perceptions of work climate, quality of care, and staff nurse turnover intention.

This study was conducted in one urban hospital with 650 beds and one suburban hospital with 96 beds. The urban hospital employed approximately 1100 nurses who were represented by a union bargaining unit. The suburban hospital employed 230 nurses who were not represented by a union. The inclusion criteria for both hospitals were that the participants be full-time or part-time registered nurses employed as staff nurses or managers in acute and ambulatory care. The convenience sample consisted of 336 staff nurses and nurse managers. The number of staff nurses was 296, totaling 88% of the sample, and managers numbered 40, which was 12% of the sample (Gormley, 2011).

Staff nurses and nurse managers were asked to complete the Perceived Nurse Work Environment Scale (PNWE) (Choi, Bakken, Larson, Du, & Stone, 2004). The respondents indicated perceptions of each of the seven subscales by rating them as strongly disagree (1) to strongly agree (5). The seven subscales were: (a) opportunity for advancement (nine items); (b) participatory governance (four items); (c) unit decision-making (four items); (d) nursing management (six items); (e) nurse-physician collaboration (four items); (f) positive scheduling climate (five items); and (g) job enjoyment (seven items) (Gormley, 2011). Staff nurses were also asked to complete the self-reported Anticipated Turnover Scale (ATS) (Hinshaw, Smeltzer, & Atwood, 1987), and an item that assessed their perceptions of quality of care using a 10-point single-item indicator. Participants were recruited through emailed requests to respond to a secure

survey link. In addition, a pencil/paper method was made available on nursing units; instrumentation completed by pen and paper was returned to a secure mailbox accessible only to the researcher (Gormley, 2011).

The results of the study found that there were no organizational or individual demographic factors related to perceptions of the work environment, anticipated turnover, or perceptions of quality of care, except for membership in a union or collective bargaining unit (Gormley, 2011). The nurses who reported they were a member of a union or collective bargaining unit had significantly lower mean scores on all key variable measurements ( $p \leq 0.05$ ). Nurse managers scored all PNWE subscales significantly higher than staff nurses except for nurse-physician collaboration. Mean scores also were significantly different between nurse managers and staff nurses in quality of care ( $p \leq 0.001$ ). Staff nurse anticipated turnover was negatively correlated with all work environment subscales ( $p \leq 0.05$ ). The perceptions of quality of care were directly related to perceptions of work environment in almost all areas ( $p < .001$ ). The work environment factors that were perceived by staff nurses to affect turnover were related to participative governance, perceptions of nursing management, job enjoyment, and perceptions of quality of care ( $r = .39-.59, p < .001$ ).

This study concluded that nurse managers and staff nurses differed on their perceptions of the work environment. Nurse managers consistently viewed the work environment as more positive than staff nurses. Positive perceptions of the work environment correlated with positive perceptions with the quality of care provided in the unit. This study supported the notions that professional growth and engagement in the

work environment were important to staff nurses and may have a significant effect on creating and maintaining a healthy work environment (Gormley, 2011).

### **Intergenerational Nursing Workforce**

Staff perceptions can be a result of the many generational differences in today's workforce. There are currently four generational cohorts in the workforce. It is not well understood how each generation perceives the work environment in regards to managers' leadership style and unit climate. The research study by Farag, Tullai-McGuinness, and Anthony (2009) described and compared nurses representing the four age cohorts (silent generation, Baby Boomers, Gen-Xers, and Millennials) regarding perceptions of their nurse managers' leadership style and their unit climate.

This study was a cross-sectional, descriptive design that was conducted in Cleveland, Ohio. Three non-Magnet, community hospitals were selected for this study. The convenience sample included 394 registered nurses who worked full-time, part-time, and per diem for at least 20 hours per week. The RNs must have worked in their unit with their current unit manager for at least a 3-month period and had no leadership responsibilities (Farag et al., 2009).

RNs completed Bass and Avolio's (1997) Multifactorial Leadership Questionnaire (MLQ-5X rater form). The instrument measured three different leadership styles: transformational, transactional, and passive-avoidant from the RNs' perspective. There were 36 items with nine subscales on the MLQ-5X. Five subscales measured transformational leadership, two subscales measured transactional leadership, and two subscales measured passive-avoidant leadership styles. The responses on the MLQ-5X had a potential range from (0) not at all to (4) frequently if not always. The higher scores

indicated the more frequently used leadership style. RNs also completed the Litwin and Stringer's (1968) Organizational Climate Questionnaire (LSOCQ) to measure perceptions of unit climate. The instrument contained 25 items that represented two main dimensions, specifically warmth/belonging and structure/administrative support. The responses ranged from strongly agree (1) to strongly disagree (4). The higher scores indicated a less favorable unit climate (Farag et al., 2009).

Surveys were distributed to the RNs' mailboxes after a brief presentation by the researcher at the units' regularly scheduled staff meetings. Only 35 surveys were returned from RNs representing the silent generation and the millennial generations. Because there was not sufficient representation from these two generations, they were excluded from the study, and only Baby Boomers and Gen-Xers were included (Farag et al., 2009).

The results of this study suggested that the two generations did not differ in their perceptions of their nurse managers' leadership styles. Both age cohorts perceived that their managers used both transformational and transactional leadership styles more frequently than passive-avoidant style. The major differences in the two cohorts were in the perceptions of the unit climate. The younger nurses reported a climate of less warmth and belonging ( $p < 0.006$ ) and less administrative support ( $p < 0.008$ ). These results do conflict with previous research on this topic. The differences may be contributed to the researchers' definition of unit climate. For the present study, climate was conceptualized as a distinct concept that was derived from the broader construct of environment, and the focus was on the unit climate (Farag et al., 2009). The authors suggested that nurse

managers and RNs needed to work collaboratively in creating a flexible work environment that accommodated our diverse nursing workforce.

Lavoie-Tremblay et al. (2010) also investigated the intergenerational perspectives of work climate perceptions and the linkage to nurse turnover. The purpose of the study was to describe perspectives of three generations (Baby Boomers, Generation X, and Generation Y) of healthcare workers and nurses working in a hospital on work climate and intent to quit. The authors contended that managers needed to be able to recognize generational differences and perspectives when assessing the work climate of employees and their intention to stay or leave.

This quantitative study used a correlational descriptive design. The sample consisted of 1,324 participants who were employed at a university-affiliated healthcare center in the Province of Quebec, Canada. Out of the respondents, 614 employees (46.4%) were members of the Baby Boomer generation, between 45 and 63 years of age. A total of 468 employees (35.3%) were members of the Generation X, between 29 and 44 years of age. Lastly, a total of 242 employees (18.3%) were members of the Generation Y, 29 years of age and younger. The employee sample consisted of 558 nurses (42.1%) and 766 other hospital workers (57.9%) that included support staff, office staff, and health professionals or technicians (Lavoie-Tremblay et al., 2010).

The Psychological Climate Questionnaire (CRISO-PCQ), developed by Gagnon, Paquet, Courcy, and Parker (2009), was used to measure work climate. This tool consisted of 60 items organized according to 15 scales and five theoretical dimensions. The respondents rated items on a 5-point Likert-type scale ranging from strongly disagree (1) to strongly agree (5). Respondents were also asked a single dichotomous question

about their intention to quit or stay in the organization. For the respondents who indicated their intention to quit, a second question was asked to identify the reason that motivated their desire to leave. Fourteen answer choices were given (Lavoie-Tremblay et al., 2010).

Questionnaires were distributed by managers to their employees. Employees were given four weeks to return the survey to the research group (Lavoie-Tremblay et al., 2010).

The results of the study found that the proportion of respondents from Generation Y and Generation X who intended to quit the organization was higher than for the Baby Boomers. When separated out by job category, the proportion of Generation Y nurses who wanted to quit was almost triple (29.8%) the rate of other hospital workers (10.8%). The main reason given by all employees in the Generations Y and X intending to quit the organization was career advancement/development, while for Baby Boomers the main reason was retirement (Lavoie-Tremblay et al., 2010).

The 15 scales used to measure work climate showed significant statistical differences among the three generations. On the “challenge” scale of the CRISO-PCQ, Generation Y respondents ( $M = 3.88$ ;  $SD = 0.73$ ) obtained a lower score than did the Baby Boomers ( $M = 4.04$ ;  $SD = 0.62$ ) ( $p < .005$ ). The challenge scale of the work climate questionnaire referred to a work environment that allowed for the use of a variety of competencies and knowledge. Generation Y respondents had a positive view of challenges, but less positive than Baby Boomers. Generation Y respondents felt their work environment allowed them to make full use of their skills, but not as much as Baby Boomer respondents felt this to be true. On the “absence of conflict” scale, the opposite

occurred; the Baby Boomers ( $M = 3.31$ ;  $SD = 0.88$ ) reported a significantly lower score than did respondents from Generation Y ( $M = 3.48$ ;  $SD = 0.87$ ) ( $p = .044$ ). The absence of conflict scale was perceived positively when respondents felt that the workplace rules, regulations, and co-workers did not interfere with their work. Even though Baby Boomers positively perceived the absence of conflict, they still perceived more conflict in the workplace than did Generation Y. The same occurred for scores on the “warmth” scale of the CRISO-PCQ; Baby Boomers ( $M = 3.30$ ;  $SD = 1.01$ ) reported a significantly lower score than did the Generation Y ( $M = 3.49$ ;  $SD = 1.02$ ) ( $p < .025$ ). The respondents from the Baby Boomers and Generation Y perceived the workplace as having a friendly atmosphere, a supportive environment, and that they had people on their team who were concerned about one another. However, the Generation Y respondents agreed more strongly with these statements than did Baby Boomers (Lavoie-Tremblay et al., 2010).

Based on the work of Lavoie-Tremblay et al. (2010), work climate did affect retention of healthcare workers. This study identified three specific measures of the work environment that were perceived differently among the generations in the workforce. The intergenerational differences were found in: challenges, absence of conflict, and warmth. Leaders should focus on these measures when establishing and maintaining healthier work environments for healthcare workers. In assisting with the retention of Generation Y nurses, leaders need to provide Generation Y nurses with opportunities for ongoing education and professional development in the workplace.

In a similar study, Weick, Dols, and Landrum (2010) aimed to provide a generational analysis of nurse satisfaction and management priorities. The authors



introduced the study by discussing a generational assessment of job satisfaction, work environment, and what each generation desired in a nurse manager in an effort to improve nurse retention. The authors noted that retaining nurses is becoming a more crucial part of the nurse manager's role as the nursing shortage evolves. The manager must respond to the needs of staff of different generations to encourage retention of nurses.

The study was conducted in 22 hospitals in a large multi-state system. Nurses were invited to complete an online survey in the hospital intranet systems. The original survey drew a response of 2,102 out of a 5,553 available nurses, for a response rate of 31.9%. Only 1,773 usable surveys were analyzed for this study. The online survey consisted of three parts: (a) demographic questions, including measures of job satisfaction and perceptions of safety; (b) the Nurse Manager Desired Traits survey (Weick, Prydun, & Walsh, 2002); and (c) the Nursing Work Index-Revised (Aiken & Patrician, 2000) (Weick et al., 2010).

Nurses were asked: "Overall, how satisfied are you with your current position?" The respondents answered on a scale ranging from highly satisfied (4) to highly dissatisfied (1). Respondents scored very high in satisfaction, with 89% stating they were highly satisfied or generally satisfied. Although the nurses reported high satisfaction in their job, 61% of the sample stated they planned to leave their job within 10 years. One third of the nurses under the age of 26 years planned to leave their job within the next two years, and over one third of this cohort intended to leave their job in the next five years. Thirty three percent of the nurses over the age of 40 years stated that they planned to

retire in between 2016 and 2020, a number that could constitute over one third of the nursing workforce in the next decade (Weick et al., 2010).

Nurses did have some concerns in perceptions of safety. Forty percent of all of the nurses believed that they or their nurse colleagues were put in the position of being at risk for an injury every day. When asked about their perception of risk to the patient, the nurses perceived that patients were in a safer situation than nurses (Weick et al., 2010).

The survey that compared the generational differences in desired nurse manager traits revealed some differing priorities. All of the generations appeared to want to work for a “people person,” and they wanted to depend on their manager for support. The younger generations want to be managed by a team player who also offered regular praise and gratitude (Weick et al., 2010).

A perfect score on the Nursing Work Index-Revised was a score of 228. In this study, the mean overall score was 160.10 (SD = 33.4). The nurse/physician relationships were the most satisfactory for all three generations. Millennials were least satisfied with their control over practice (M = 2.78) and organizational support (M = 2.79). The Generation X nurses were least satisfied with autonomy (M = 2.74) and control over practice (M = 2.75). Nurses over the age of 40 were least satisfied with control over practice (M = 2.81) and satisfaction with the work environment (M = 2.82) (Weick et al., 2010).

This study conveyed that managers needed more support in the next decade to develop, stabilize, and retain the nursing workforce. Organizations needed to establish priorities that included: creating model managers, empowering staff nurse councils, staff

stabilization planning, revamping incentive packages for employees, and focusing on employee and patient safety (Weick et al., 2010).

### **Summary of Findings**

In providing background for this study, this chapter reviewed eight studies on work environment in relation to nurse retention. The literature supported that there was a positive correlation between healthy work environments and nurses' intention to stay with an organization. A theoretical framework was not commonly cited. Baernholdt and Mark (2009) were an exception in that they used a conceptual model based on structural contingency theory. Each study used a different study design. The designs ranged from descriptive studies to cross-sectional non-experimental designs.

The common variables used to examine work environments were hospital characteristics, unit characteristics, and nurse characteristics. The samples across the studies were diverse. The staff response samples ranged from 122 RNs to 10,752 RNs. The hospital samples included: 44 rural hospitals and 150 urban hospitals; 34 Magnet hospitals; a Quality Assurance Department of a governmental agency; a tertiary medical center in northeastern United States; one urban and one suburban hospital; three non-Magnet community hospitals; a university affiliated health care center; and 22 hospitals in a large multi-state system. This broad sampling represents how diverse health care systems are becoming. The unit samples ranged from medical surgical units to all units in a facility.

The hospital demographics described in the research studies included: size, Magnet status, hospital type, community size, and members of an integrated network. The nurse/unit demographics commonly described included: nurse education level, nurse

experience, tenure, shift worked, type of patients served, safety climate, staffing adequacy, and professional practice models. All of the studies used different instrumentation to collect data. All of the researchers used a survey-type tool. However, all of the tools were different in variables measured and methods for data collection.

The research findings supported that retention efforts should have a strong focus on the work environment. The diverse demographics of the hospitals supported that there is a correlation between the need for positive workplace management initiatives, style of transformational leadership and participative management, increased education levels of nurses, autonomy in practice, and generational workforce awareness (Tomey, 2009).

Nursing leadership style has been shown to affect staff nurses perceptions of the work environment. Kramer and colleagues (2011) found that a larger percent of baccalaureate-prepared nurses confirmed healthy work environments than did nurses with other educational backgrounds. This difference could be due to inclusion of more didactic information regarding clinical autonomy, patient-centered cultural values in baccalaureate curricula, or collaboration and teamwork in the baccalaureate curricula.

The current nursing workforce has a diverse generational population. The research supported that, even though Gen X and Gen Y nurses reported satisfaction with their current positions, they did not necessarily intend to stay with an organization. Weick et al. (2010) reported that 61% of their entire RN sample stated they planned to leave within 10 years, even though they exhibited high satisfaction levels. Nurses, especially younger generations, expressed their need for autonomy in practice, safety in the work environment, and positive reinforcement on a daily basis. Several researchers concluded that attending to generational differences could assist nurse managers in

creating a healthy work environment with positive patient outcomes and nurses who were highly satisfied in their career.

This study proposes to fill a gap in knowledge regarding the relationships between healthy work environments and improved nurse retention. Nursing leaders need to have a diverse tool belt to assist the current nursing workforce with improved job satisfaction and healthier work environments. High quality patient outcomes are dependent on improvement in our daily work environments.

## **Chapter III**

### **Methodology**

#### **Introduction**

The literature supported that healthy work environments were key factors in positive patient outcomes, nurses' job satisfaction, and nurse job retention. Complex health care systems in today's turbulent economy have to stay focused on maintaining workforce stability. When one nurse leaves a position in an acute care hospital, replacement costs range from \$40,000 to \$82,000 (Twilbell et al., 2012). Understanding the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention can provide leaders with guidance to support healthy work environments and decrease overall turnover expenses for their organization.

This study is a partial replication of a research study by Baernholdt and Mark (2009). The purpose of this study was to explore factors that may be related to nurse retention and to provide nursing leaders with tools to improve retention, enhance nurses' job satisfaction, and support healthy work environments in a large health care system in one Midwestern state.

#### **Research Question**

The research question that guided this study was "What are the relationships among healthy work environments, nurses' job satisfaction, and nurses' job retention in a large health care system in one Midwestern state?"

### **Population, Sample, and Setting**

The population consisted of registered nurses from one of the 20 hospitals in a large state-wide health care system in a Midwestern state. A convenience sample of 300 RNs employed full or part-time as staff nurses in medical-surgical units and critical care units participated. Licensed practical nurses and non-licensed healthcare workers were excluded from participating in this study. In addition, the participating RNs were all over 18 years of age and could read and write in English. A power analysis was done to determine minimal acceptable sample size.

### **Protection of Human Subjects**

Prior to initiation of this study, approval was given by the Institutional Review Board of the hospital. Approval and support was also given by the Chief Nursing Officer and the Director of Quality Management.

The researchers invited staff nurses in medical-surgical units and critical care units in one of the health care system's hospitals to participate in the study through an emailed invitation and a hyperlink to the secure survey site. Copies of the invitation to participate and the instrumentation were also placed on nursing units within the hospital units for nurses wishing to complete the survey through paper and pencil method. Locked mailboxes accessible only to the researcher were placed in various locations in the hospital for collection of completed pen-and-paper surveys. Mailboxes were emptied by the researcher every 72 hours during the survey period. An information letter describing the purpose, risks and benefits of participation accompanied all surveys on-line and by paper. There was no direct interaction between the researcher and the participants of the study; participants could contact the researcher by email to ask

questions about the study prior to participating. Return of the surveys was considered consent to participate, as indicated in a cover letter.

Participation was voluntary, and the participants were informed that they could withdraw from the study at any time. All data were confidential and seen only by the researcher and data entry personnel. Nurses were instructed to not write their names on the survey. The only possible risk to participants was the risk of being identified by the demographics reported. The demographic variables included age, gender, education level, current professional certifications, and years of clinical experience. In the pool from which the sample was drawn, there were nurses of a wide range of ages. However, there were few male nurses. The participants were informed that they could skip any demographic question if they did not wish to disclose demographic information. The instrumentation was not coded in any way. There was no punishment for not participating in the study.

There were no benefits to the participants other than to contribute to professional knowledge for the discipline. The importance of the study was cited in the cover letter and included gaining knowledge about nurses' perceptions. No one can provide these perceptual data except staff nurses. The risk-benefit ratio was considered acceptable.

Completed surveys were kept secured by the primary researcher in a locked file. Data were destroyed at the study's completion.

## **Procedures**

The researchers invited staff nurses from medical-surgical units and critical care units in one of the health care systems hospitals to participate in the study through emailed requests and a hyperlink to the secure survey site. Copies of the request to



participate and the survey were also placed on nursing units within the hospital units for nurses wishing to complete the survey through paper and pencil method. Locked mailboxes accessible only to the researcher were placed in various locations in the hospital for collection of completed surveys every 72 hours during the survey period. Participants had two weeks to return the surveys.

### **Instruments and Methods of Measurement**

Two instruments were used to measure nurses' perceptions of their work environment and organizational job satisfaction. The Healthy Work Environment Assessment tool (AACN, 2010) was used to measure nurses' perceptions of the health of their work environment. The instrument consisted of 18 items using a 5-point Likert scale with response ranging from strongly disagree (1) to strongly agree (5). The tool had six subscales that included: skilled communication, true collaboration, effective decision making, appropriate staffing, meaningful recognition, and authentic leadership. subscales scores were used for analysis of data. The second instrument was an organizational job satisfaction scale (Hinshaw & Atwood, 1984) used to measure nurse job satisfaction. The 27-item tool used a 5-point Likert scale, ranging from strongly disagree (1) to strongly agree (5). These two instruments had demonstrated evidence of adequate validity and reliability (AACN, 2010; Hinshaw & Atwood, 1984). Nurse retention was calculated from job turnover rates on the units during a 12-month period, divided by the average number of RNs on the units for the same period. Job turnover included nurses who resigned, retired, transferred to another unit, or were released or terminated by the hospital.

Demographic variables used to measure hospital characteristics included: hospital size, Magnet status, and community size. Demographic variables used to measure nursing unit characteristics included: size, work complexity, safety climate, and availability of support services. Lastly, the demographic variables used to measure characteristics of the nurses included: age, gender, education level, current professional certifications, and years of clinical experience. Demographic variables were measured by closed-ended items at the nominal or ordinal level of data.

### **Data Analysis**

Data were entered into an SPSS program by data entry personnel. In order to address the research question about interrelationships among study variables, a variety of correlations were computed, appropriate to the level of data (Burns & Grove, 2009). Psychometrics of the HWE instrument and the measure of nurse satisfaction were computed for this sample, including internal consistency reliability, factor analysis, and analysis of variance for construct and concurrent validity. Descriptive statistics analyzed the characteristics of the sample and mean scores on the study instruments.

### **Summary**

As a partial replication of the study conducted by Baernholdt and Mark's (2009), this study aimed to explore the perceptions of staff nurses on the health of their work environment in relation to job satisfaction and nurse retention in one hospital within a large health care system. This descriptive correlational study used two instruments, for which there was evidence of validity and reliability (AACN, 2010; Hinshaw & Atwood, 1984). Data collection occurred with responses from a secured survey link and through a written questionnaire completed by a convenience sample of 300 RNs. Data analysis

included descriptive and inferential statistics to address the research question. Results of the study enhance nurse leaders' understanding of how a healthy work environment can increase nurses' job satisfaction and overall retention in complex health care delivery systems.

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