

THE INFLUENCE OF PERCEIVED SAME-STATUS NURSE-TO-NURSE  
COWORKER EXCHANGE RELATIONSHIPS, QUALITY OF CARE PROVIDED,  
OVERALL NURSE JOB SATISFACTION, AND ORGANIZATIONAL  
COMMITMENT ON INTENT TO STAY AND JOB SEARCH BEHAVIOR OF  
NURSES IN THE ACUTE CARE NURSE WORK ENVIRONMENT

by

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## ABSTRACT

# THE INFLUENCE OF PERCEIVED SAME-STATUS NURSE-TO-NURSE COWORKER EXCHANGE RELATIONSHIPS, QUALITY OF CARE PROVIDED, OVERALL NURSE JOB SATISFACTION, AND ORGANIZATIONAL COMMITMENT ON INTENT TO STAY AND JOB SEARCH BEHAVIOR OF NURSES IN THE ACUTE CARE NURSE WORK ENVIRONMENT

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Under the Supervision of Dr. Karen Morin

The nurse turnover rate continues to rise; currently 17.2%. The challenges of the acute care environment are multifaceted and contribute to nurse turnover. Stressful working conditions may contribute to negative relationships among colleagues; subsequently quality of care can suffer, as well as, job satisfaction and nurse intent to stay. A cross-sectional, correlational study, guided by the Coworker Exchange Theory (Sherony & Green, 2002), used data obtained through a printed survey from a sample of 427 registered nurses.

The purpose of this dissertation was to investigate the influence of perceived *same-status nurse-to-nurse* coworker exchange relationships, quality of care provided, overall nurse job satisfaction, and organizational commitment on intent to stay and job search behavior of nurses in the acute care nurse work environment. Study variables were made operational using six instruments.

Results from path analysis showed that *same-status nurse-to-nurse* coworker exchange relationships explained 43% of variance in nurse perceived quality of care provided, 21% of variance in overall nurse job satisfaction, and 8% of variance in nurse intent to stay. Overall

nurse job satisfaction accounted for 25% of the effect of *same-status nurse-to-nurse* coworker exchange relationships on nurse perceived quality of care provided and 68% of *same-status nurse-to-nurse* coworker exchange relationships on nurse intent to stay. Nurse perceived quality of care provided accounted for 71% of *same-status nurse-to-nurse* coworker exchange relationships on nurse intent to stay.

Findings provide beginning evidence that coworker exchange relationships influence the nurse work environment and nurse turnover. Strategies to address *same-status nurse-to-nurse* coworker exchange relationships warrant being identified. Organizational leaders may wish to consider allocating resources to build, develop, and maintain improved coworker exchange relationships within the nurse work environment to aid in discouraging nurse job search behavior.

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## DEDICATION

This dissertation is dedicated to my children: Melissa, Melanie, Malorie, Andy, Adam, Alex, and Alan. Throughout the years, of my personal educational accomplishments, I was preoccupied and at times was just not available for my children. From my children's perspective, they were probably most appreciative in that I spent a lot of my time focusing on my schooling rather than their personal doings. My studies made me sacrifice special time with my children and grandchildren, time that I cannot get back. I am hopeful that I have kindled a passion for the opportunities one has with an advanced education.

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## **Chapter One**

### **Intent**

Acute care hospital units continue to experience turnover. The influence of *same-status nurse-nurse* coworker relationships in the nurse work environment and on nurse turnover is unknown. The purpose of this study was to investigate the influence of perceived *same-status nurse-to-nurse* coworker exchange relationships, quality of care provided, overall nurse job satisfaction, and organizational commitment on intent to stay and job search behavior of nurses in the acute care nurse work environment. This is an important first step toward understanding the impact of same-status nurse-to-nurse coworker exchange relationship within the acute care nurse work environment. The findings of this dissertation provide beginning evidence for organizational leaders to consider allocating resources to build, develop, and maintain improved coworker exchange relationships within the nurse work environment to aid in discouraging nurse job search behavior.

### **Introduction**

Nurse turnover remains a critical issue in today's increasingly complex acute care nurse work environment (Institute of Medicine, 2010). Nursing Solutions, Inc. (2016) reported a steady rise in acute care registered nurse turnover; from 11.2% in 2011, 13.1% in 2012, 14.2 % in 2013, 16.4% in 2014, and currently 17.2% in 2015. Nurses leave the nursing workforce for a variety of reasons, some of which are temporary (such as family or continued education) or permanent (such as age or health). Nurses also leave the nursing workforce because they choose to change professions (Parry, 2008). The nursing shortage is a significant threat to the future of healthcare in the United States. In order to decrease the nursing shortage, it is critical for nurse researchers to continue to investigate nurse turnover. The Institute of Medicine, in the 2011

report *The Future of Nursing Leading Change, Advancing Health*, explains that minimizing nurse turnover and retaining highly skilled nurses assures access to quality healthcare, aides in stabilizing the nursing workforce, promotes the nursing profession and nurse job satisfaction, and increases organizational commitment.

Nurse job satisfaction has been identified as a key factor in nurse turnover with the empirical literature suggesting that it is related to a number of organizational, professional, and personal variables. Hayes et al. (2006) indicated, in their comprehensive literature review, that much of nurse turnover is influenced by organizational characteristics such as workload, management style, empowerment, promotional opportunities, and work schedules. In a more current comprehensive literature review, Hayes, Bonner, & Pryor (2010) indicated that the psychosocial nurse work environment and organizational climate are two additional organizational characteristics that influence nurse turnover behavior. Hayes et al. (2010) noted that differing generational needs, increased work complexity, lack of coworker support, and alternative job opportunity have consistently led to increased nurse intention to leave. Currie and Carr Hill (2012), in an update on existing empirical work, reported comparable key factors that influence nurse turnover behaviors. These key factors include organizational factors such as unit size, safety and quality of care concerns, leadership style, workplace stress, and workplace location as well as individual factors such as home and family, age and generational differences, values and ethics, and career opportunities/personal development. Likewise, nurses who reported working in poor care environments (environments lacking in staff development; quality management; nurse manager ability, leadership, and support; and collegial nurse-physician relations) also reported high burnout levels and dissatisfaction with their jobs (Aiken, Clarke, Sloane, Lake, & Cheney, 2009). Overall job dissatisfaction and lack of organizational

commitment (loyalty to an organization) were reported to be significant predictors of registered nurses desire to quit (Brewer, Kovner, Greene, & Cheng, 2009).

Nurse researches have been focused largely on negative working relationships relating to but not limited to horizontal violence (Egues & Leinung, 2013), bullying (Berry, Gillespie, Gates, & Schafer, 2012), and incivility (Gallo, 2012). Inspection of these findings reveals that negative personnel and poor health outcomes are related to negative relationships among colleagues. Less apparent in the literature are investigations focusing on positive relationships among nursing professionals. One such relationship could be that of collegial support. Collegial supportive *same-status* coworker exchange relationships such as registered nurse-to-registered nurse include many necessary functions such as mentoring, information exchange, social support, control, and influence (Sias, 2008). The quality and effectiveness of coworker relationships have important implications for the quality and effectiveness of employees' experiences and the organization as a whole (Duffy, 2013; Sias, 2008). A prerequisite for quality patient-centered care includes respectful, collaborative, working relationships among members of the nursing workforce (Vessey, Demarco, & Difazio, 2010). Nurse work environments that lack collaborative relationships among the nursing workforce jeopardize the open exchange of health care information putting patients at risk for negative health outcomes (Vessey et al., 2010). This investigation is focused on obtaining beginning evidence of nurse perception of and the influence of *same-status nurse-to-nurse* coworker relationships in the acute care nurse work environment. Future studies can more thoroughly investigate the influence of same-status coworker exchange with other interlinking concepts such as teamwork and organizational climate or culture.

There have been numerous investigators who have addressed varying levels of exchange relationships such as organization-member (Lam & Lau, 2012), leader-member (Vasset, Marnburg, & Furunes, 2012; Han & Jekel, 2011), and team-member exchange (Zhang, Waldman, & Wang, 2012; Tse & Dasborough, 2008). Although coworker relationships are the most prevalent exchange relationship in any organization, it is the most understudied workplace relationship (Basford & Offermann, 2012). Therefore, directing science toward a better understanding of the effects of positive collegial supportive working relationships requires a different philosophical and theoretical approach. In health systems, it is relationships that drive the work (Duffy, 2013). Relationships people have with their coworkers, their managers, their patients and caregivers, and even the organization, all impact the quality and costs of services provided (Duffy, 2013). Investigators who have examined the nurse work environment and retention issues have recommended advanced training for nurse managers (Duffield, Roche, Blay, & Stasa, 2011; Hill, 2011). But lacking in nursing research are investigations addressing the impact of positive collegial supportive *same-status* coworker relationships on nurse outcomes such as nurse perceived quality of care provided, job satisfaction, organizational commitment, and nurse turnover.

Many characteristics are associated with collegial support. However, it can be reasoned that a basic underpinning of collegial support is a dyadic exchange relationship. The perceived lack of collegial support among *same-status nurse-to-nurse* coworkers could be one possible factor of nurse turnover. Besides focusing on same-status coworker exchange relationships to determine nurse perception of the quality of collegial support within the nurse work environment this investigation concentrated on factors from a literature review that have been linked to nurse turnover. The purpose of this chapter is to describe the worsening problem of nurse turnover and

to identify gaps in literature that have generated this investigation to examine the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment on nurse intent to stay and nurse job search behavior of nurses in the acute care nurse work environment.

Retrieved from business management and adding to the growing body of nursing science research, the Coworker Exchange Theory (Sherony & Green, 2002) was used as the theoretical framework to guide this investigation as it identifies and discusses positive stages of relationship building and development. The research hypotheses are presented in this chapter including several hypothesized indirect mediation effects focusing on the relationships among nurse perceived same-status coworker exchange relationships, overall nurse job satisfaction, nurse intent to stay, and nurse perceived quality of care provided. Definitions of study variables are provided. Lastly, the anticipated significance of this knowledge to nursing practice, nursing education, nursing policy, nursing theory, and nursing research are presented.

## **Statement of the Problem**

### **Turnover and Consequences**

Nurse turnover has and still challenges healthcare administrators as high turnover rates continue to destabilize the nursing workforce (Institute of Medicine, 2010). The current national bedside registered nurse turnover rate is 17.2 percent, up from 11.2% in 2011 (Nursing Solutions, Inc., 2016). The American Nurses Association (2015) suggests that a consequence of nurse shortage is that nurses are often needed to work long hours under stressful conditions. The American Nurses Association (2015) reports that working with fewer nurses can result in nurse fatigue, nurse injury, and nurse job dissatisfaction. Nurses working in work environments

experiencing nurse shortages are more prone to making mistakes and medical errors. Subsequently, quality of care can suffer (American Nurses Association, 2015).

### **Turnover Concerns**

Other relevant nurse turnover issues include the aging nurse workforce, imminent nurse retirement, the loss of experienced nurses, and the projected rising nursing shortage. The average age of the registered nurse continues to increase. Currently, the average age of a nurse in the United States is 50 (Harrington & Heidkamp, 2013). The size of the nursing workforce will plateau as large numbers of registered nurses retire bringing the total number of job opening for nurses due to growth and replacements to 1.05 million by 2022 (American Association of Colleges of Nursing, 2014). Aging nurse turnover means a loss of experiential knowledge and leadership available to the workforce by seasoned nurses that will affect the nursing workforce going forward (Health Resources and Services Administration, 2013). The loss of experienced nurses from the hospital setting impacts not only patient care but also mentoring of new, less experienced nurses (Dimattio, Roe-Prior, & Rinaldi Carpenter, 2010).

Another concern about nurse turnover is the predicted need for more nurses. One reason for the increasing need for more nurses is that recent reforms in healthcare will give millions of people access to healthcare. Additionally, the increase in the longevity of people age sixty-five and over who have many medical and health care needs has added strain on the healthcare system. These concerns create a renewed critical shortage for registered nurses that demands priority attention on factors contributing to increased nurse turnover (American Nurses Association, 2015). Consequently, the implications of doing nothing to mitigate the development of the nursing shortage will mean that patients will have decreased access to health

care, will receive a poorer quality of care putting them at a greater risk for unsafe care, and will be called upon to finance more costly health care (Buerhaus, Staiger, & Auerbach, 2009).

### **Collegial Support and Coworker Exchange Relationship**

One factor that has received limited attention relating to nurse turnover is the relationship of collegial support and how it may influence nurse turnover or the nursing shortage. Although not consistently defined or measured, a new focus examining the effects of collegial support in nursing may foster the growth of collegial supportive exchange relationships in the nurse work environment.

Nursing cannot fully understand the influence that collegial support has on the nurse work environment and patient outcomes until a body of literature providing empirical data exists. In order to demonstrate the influence of collegial support in the nurse work environment, learn the effects of *same-status nurse-to-nurse* coworker exchange relationships, and foster the growth of collegial supportive nurse-to-nurse coworker relationships a focus on generating empirical studies on this topic must be undertaken. While collegial support is a concept that has not been delineated with a consistent and integrated definition it can be reasoned that coworker exchange relationships are a major component of collegial support. A *same-status* coworker exchange relationship (CWX) is an exchange (interaction) among *same-status* coworkers within the same hierarchical level who have no formal authority over one another and who report to the same supervisor (Sherony & Green, 2002; Sias, 2008).

Negative or unsatisfying coworker relationships are a strong motivator to quit a nursing job (Tourangeau, Cummings, Cranley, Ferron, & Harvey, 2010). Incivility and bullying in the nurse work environment have contributed to low job satisfaction and low rates of retention (Laschinger, Leiter, Day, & Gilin, 2009; Leiter, Price, & Laschinger, 2010; Simons & Mawn

2010). Employees who have been bullied or who have been exposed to bullying behavior in the work place have a significantly higher chance of reporting higher intentions to quit their job than those employees who do not report any exposure to bullying (Berthelsen, Skogstad, Lau, and Einarsen, 2011). Horizontal violence and a collective interprofessional (coworker) nurse work environment that has not been optimized have contributed to job dissatisfaction and nurse turnover (Duffy, 2013). Nurses are not good at supporting each other in the acute care nurse work environment and the workplace culture is rife with intimidation, favoritism, and inequalities (Huntington et al., 2011). Not addressing these negative issues may result in increasing nurse intention to leave the workforce (Huntington et al., 2011).

### **Types of Coworker Relationships**

Within any discipline there are limited studies of coworker influences as compared to influences by managers (Keup, Brunings, & Seers, 2004; Leiter et al., 2010; Wikaningrum, 2007). It is important to note that, even though coworker relationships have been addressed in the literature, the various levels (administrative, management, employee) or types of coworker relationships (director, supervisor, peer, interdisciplinary, interdepartmental) being investigated are not clearly differentiated or defined. Moreover, the examination of *same-status* collegial supportive exchange relationships in the nurse work environment is missing, even though coworker relationships are the most prevalent exchange relationship in any organization (Knapp & Daly, 2011; Sias 2008).

### **Coworkers and the Nurse Work Environment**

To successfully maintain a decrease in nursing turnover and to provide optimum healthcare it is important that we better understand the impact of *same-status* coworker relationships in the nurse work environment given that coworker relationships impact the work

environment (Basford & Offermann, 2012; Martin & Wilson, 2011; Shacklock & Brunetto, 2012). Around the globe, investigators have indicated that coworker relationships do matter. In Australia, New Zealand, and the United Kingdom, Huntington et al. (2011) found that coworkers do matter in relation to work attitudes and communication among nurses. In the U.S. coworkers do influence adaptation to the culture of nursing and on the development of skills needed to function as a professional nurse (Martin & Wilson, 2011). In Sweden, coworkers do matter as the availability of coworker support was found to influence meeting the needs of the patient, next of kin, and especially of meeting the needs of other nurses (Silén, Kjellstrom, Christensson, Sidenvall, & Svantesson, 2012). In addition, positive coworker relationships do matter in working as a team through the sharing of responsibility (Silén et al., 2012). Shacklock and Brunetto (2012) indicated that interpersonal (coworker) relationships at work, across generations, influenced Australian nurse intention to continue nursing. Coworker support was found to have a positive impact on employee motivation and intent to stay among employees of a large U.S. service-sector organization (Basford & Offermann, 2012). Nurses employed in Hong Kong reported that positive coworker relationships are associated with job satisfaction and intent to stay (Choi, Cheung, & Pang, 2013).

### **Interconnection of Study Variables**

Evidence clearly supports that coworkers do matter, but what has not been clearly identified are the types of coworker relationships being investigated. Some of the types of workforce coworker relationships include leader-member, peer-to-peer, same-status, multidisciplinary, and interdepartmental. Further investigation is needed to capture how coworker support matters. To add to the knowledge base, this study focused on the influence of *same-status nurse-to-nurse* coworker exchange relationships.

Previous research supports the examination of other variables chosen in this investigation. The five other variables included in this study are nurse perceived quality of care, overall job satisfaction, organizational commitment, nurse intent to stay, and nurse job search behavior. There are previous-validated instruments for measuring each of these variables, and there is a recognized need for more evidence within the acute care nurse work environment context.

**Quality of Care.** Excellent quality of care is associated with lower odds of both mortality and failure to rescue for surgical patients (McHugh & Stimpfel, 2012). Poor relationships with staff and patients were found to lead to stress, burnout, and turnover that ultimately reduced patient care (Dawson, Stasa, Roche, Homer, & Duffield, 2014). Investigations of insufficient and inadequate nurse staffing in the acute care nurse work environment have shown decreased quality of care (Aiken et al., 2012; Aiken, Sloane, Bruyneel, Van den Heede & Sermeus, 2013). Moreover, Aiken et al. (2011) reported half or more than half of nurses in nine countries lacked confidence that their patients were adequately prepared to manage their care after hospital discharge. In this study forty-five percent of U.S. nurses reported they were not confident that their patients were ready for discharge and sixteen percent of nurses in the U.S. believed that the quality of patient care in their institution was fair or poor (Aiken et al., 2011).

**Job Satisfaction.** Job dissatisfaction also contributes to nursing turnover. Staff shortages, increasing workloads, inefficient work and technology processes, and lack of nursing input in decision making processes all have a negative impact on job satisfaction and contribute to nurse turnover (IOM, 2011). Job satisfaction for nurses in acute care hospitals can be influenced by a combination many factors (Hayes et al., 2010). Hayes et al. (2010) identified

that coping strategies and coworker interactions are two key factors that contribute to nurse job satisfaction. Hayes et al. (2010) concluded that collaboration between individual nurses, their managers, and others is crucial to increase nurse job satisfaction.

A better understanding of the factors that contribute to job satisfaction could decrease nurse turnover. The examination of direct and indirect relationships is necessary. Adding a basic mediation analysis may attempt to explain ‘why’ the underlying process by which one variable (X) may influence another variable (Y) through a mediator (M). Palanski, Avey, and Jiraporn (2014) examined the roles leadership and abusive supervision play in the turnover process. Inspection of findings supported a path between ethical leadership and job search behaviors mediated by job satisfaction and turnover intentions. This dissertation study added to this knowledge base by further examining the direct relationship among high quality *same-status nurse-to-nurse* coworker relationships and overall nurse job satisfaction. Additionally, nurse job satisfaction was depicted as a mediator to the relationship between nurse perceived same-status nurse-to-nurse coworker exchange relationships and nurse perceived quality of care provided.

**Organizational Commitment.** Organizational commitment is associated with organizational effectiveness, productivity, attendance, and turnover (Chang, 2014; Ferreira, 2007). Nurses who display a higher turnover intention are less satisfied with their jobs and feel less committed to their hospitals (Chang, 2014; De Gieter, Hofmans, & Pepermans, 2011). Poor coworker relationships counteract efforts by the organization to enhance employee organizational commitment (Caykoylu, Egri, Havlovic, & Bradley, 2011). The role of same-status coworker exchange relationships however has not been investigated relative to job satisfaction.

**Intent to Stay.** Nurses working in units with higher vacancy rates may have a higher work load and therefore may have less intention to stay (Baernholt & Mark, 2009). Nurses with increased patient loads are more likely to describe feeling of burnout, emotional exhaustion, and job dissatisfaction which is a precursor to intent to leave (Aiken, Clarke, & Sloane, 2002). Nurses who are not able to perform at a high level are absent more often and have less intention to stay (Tschannen, Kalisch, & Lee, 2010). Coworker relationships may contribute to satisfaction with work and intent to stay in nursing (Basford & Offermann, 2012; Hill, 2011). Rather than focusing on intent to leave it has become increasingly important to investigate factors that contribute to nurses' intent to stay at their current job because of its impact upon the efficiency and effectiveness of the delivery of healthcare (Lu, While, & Barriball, 2008). Menard (2014) investigated collegiality among staff nurses working in the hospital setting and the relationship collegiality has to the nursing practice environment and missed nursing care. Menard (2014) found that not only are the practice environment and collegiality directly related, collegiality indirectly influences the relationship the practice environment has on missed nursing care. Although Menard's (2014) study pertains to different variables there is evidence in a different arena. There is some evidence about the indirect influence of collegiality which lends support for this dissertation study to explore potential mediation concerning nurse intent to stay. Thus, this study will examine hypothesized mediation where nurse intent to stay is depicted as a mediator between nurse's perceived *same-status nurse-to-nurse* coworker exchange relationships and overall nurse job satisfaction.

Turnover negatively effects performance (Felps, Mitchell, Hekman, Lee, Holtom, & Harman, 2009). While investigating turnover contagion among retail bank employees, Felps et al. (2009) hypothesized that when employees see and hear about coworkers looking for other

jobs, leaving becomes an option, which leads to a greater inclination to quit. In the study by Felts et al. (2009) the job embeddedness construct represented how well individual job skills fit in their jobs, the interpersonal links individuals have on and off the job with their coworkers and what individuals would have to give up or sacrifice in leaving their job and coworkers. In addition to investigating whether average coworkers' job embeddedness scores influences individual employee turnover, Felts et al. (2009) enriched their study by further examination of a potential mediation relationship. Felts et al. (2009) tested whether coworkers' average level of job search behaviors mediated the relationship between coworker's job embeddedness and employee voluntary turnover. Inspection of findings indicated that coworkers play critical roles in explaining why people quit their jobs as coworkers' job search behavior was found to mediate the relationship between job embeddedness and turnover even after bank branch size, local unemployment rate, co-workers' organizational commitment, coworkers' job satisfaction, and coworkers' perceptions of job alternatives were controlled (Felts et al., 2009). The direct relationship between nurse perceived quality of care provided and nurse intent to stay was examined in this dissertation. Similarly, a potential mediation relationship was tested; it was hypothesized that nurse perceived quality of care provided mediated the relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse intent to stay.

**Job Search Behavior.** One way to assess nurse intent to stay is by examining job search behavior. Job search behavior is an important construct to understand because job search behavior remains a key step to employee turnover (Boswell, Zimmerman, & Swider, 2011; Zimmerman, Boswell, Shipp, Dunford, & Boudreau, 2012). Job search behaviors of coworkers play a critical role in explaining why people quit their jobs (Felts et al., 2009). This study

examined nurse turnover cognitions and nurse job search behavior as well as nurse intent to transfer to another position within the organization and nurse intent on a career move outside of the nursing profession.

### Study Model Development

The ongoing nursing turnover issue has little promise of improvement without continued investigation. The implications of collegial supportive coworker relationships to lessen nursing turnover warrants further research. Nurse turnover is multi-dimensional; it cannot be explained by just one factor. Thus, this study investigating the relationships among combinations of linking variables associated with reasons for nurse turnover is justified. For this investigation, it was hypothesized that *same-status nurse-to-nurse* coworker exchange relationships has influence on nurse perception of quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior (Figure 1). This model was created based on the theoretical framework of this study, Coworker Exchange Theory (CWX) (Sherony & Green, 2002), and existing literature surrounding concepts closely related to the concepts in this study.

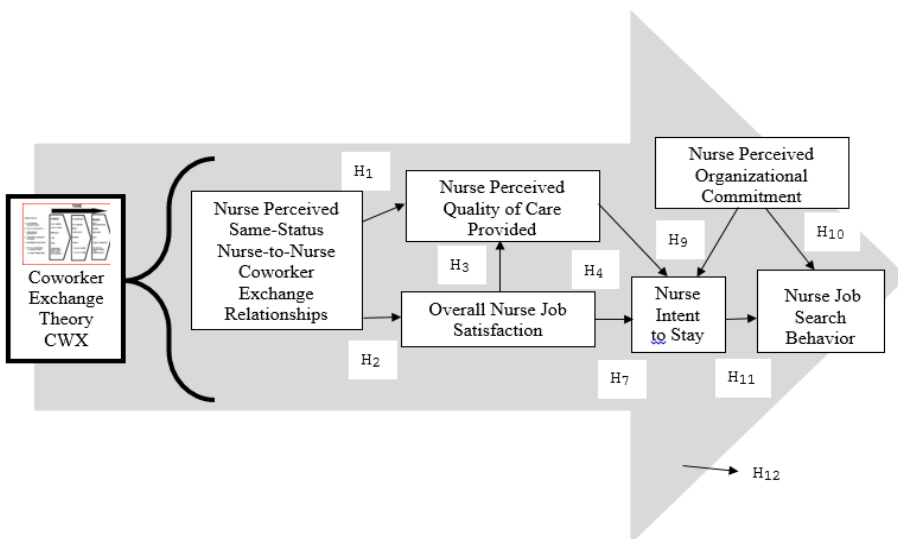


Figure 1. Dissertation: Represented hypothesis.

## **Nurse Perception**

Nurse perception is subjective. Perception is the process by which one acquires information about the world around them using their five senses. Perception requires one to possess concepts; a way of representing and thinking about the world. Perception also consists of perceptual beliefs which are grounded in one's perceptual experience of the world (O'Brien, 2004). In this investigation individual nurse perception was determined by individual nurse responses to the survey questionnaire.

## **Rationale for Investigation**

Three major factors provide impetus for an investigation on nurse perception of coworker exchange relationships among *same-status nurse-to-nurse* coworkers. First, relationship issues are real obstacles to the development of work environments where patients and their families can receive safe, even excellent, care (American Association of Critical-Care Nurses, 2005). Secondly, there has been numerous investigations concerning negative working relationships in nursing literature such as horizontal violence (Egues & Leinung, 2013), bullying (Berry et al., 2012), and incivility (Gallo, 2012) but little research dealing with collegial supportive *same-status* coworker relationship development has been documented so it needs to be explored. Finally, researchers have yet to consider *same-status nurse-to-nurse* coworker exchange relationships when examining nurse turnover. While relationships have been investigated, this particular one has not, even though a review of literature indicates that coworker relationships are in fact very important among colleagues and strongly affect individuals, organizations and healthcare outcomes.

## **Purpose of the Study**

The primary purpose of this study was to investigate the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment on nurse intent to stay and nurse job search behavior of nurses in the acute care nurse work environment. Examining these relationships will fill gaps that exist in literature and will contribute to the discipline of nursing by providing a better understanding of the impact of *same-status nurse-to-nurse* collegial supportive coworker exchange relationships in the acute care nurse work environment on factors associated with nurse turnover.

## **Theoretical Framework**

The Coworker Exchange Theory (CWX) (Sherony & Green, 2002) was used as the theoretical framework for this investigation. The Coworker Exchange Theory (CWX) (Sherony & Green, 2002) is an expansion of the Leader-Member Exchange Theory (LMX) (Graen & Uhl-Bien, 1995) and retains the same theoretical premises as the LMX theory. The Leader-Member Exchange Theory (LMX) has broadened from focusing on the quality level of only leader-member exchange relationships to addressing the quality level of coworker-coworker exchange relationships (CWX). The CWX theory withstands the equivalent theoretical underpinnings of relationship building and development as depicted in the LMX theory. The CWX theory is based on role theory (role-finding, role-making, and role implication) and social exchange theory (the exchange between coworkers) (Dansereau, Graen, & Haga, 1975; Graen, Novak, & Sommerkamp, 1982; Graen & Uhl-Bien, 1995).

In this theory the coworker exchange relationship provides an important foundation for collegial supportive work environments within organizations. Coworkers with strong

interdependent relationships are encouraged to help and assist each other. These behaviors can lead to group cohesiveness, group satisfaction, and higher job satisfaction (Wikaningrum, 2007). The CWX theory posits that positive dyadic workplace relationships are built over time and are developed based on mutual respect, trust, and obligation. High quality exchange relationships require the sharing of resources, information, and support and lead to effective and productive employees (Graen & Uhl Bien, 1995). In contrast some dyadic relationships may not advance and have limited interactions. These low-quality exchange relationships can be characterized as lacking in trust, mutual respect, loyalty, and affect. Members in low-quality exchange relationships are strictly contractual since incremental influence is not achieved and social exchange is minimal (Graen & Uhl Bien, 1995).

The CWX theory contains three stages of relationship building that occur over time: Stranger, acquaintance, and maturity. In theory, characteristics of relationship growth within each stage of relationship development are outlined (Figure 2). The characteristics of relationship growth within the stages of relationship development include the development of a relationship building, increasing reciprocity, an evolving time span of reciprocity, increased coworker exchange, increasing influence, and broadening attitudes of transactional and transformational leadership.

In an organizational setting the more experienced same-status employee is an extremely influential role-sender as he/she explains role expectations to new same-status coworkers. Beyond a formal employment contract, an unstructured informal interpersonal (coworker) exchange relationship between coworkers occurs (Dienesch & Liden, 1986).

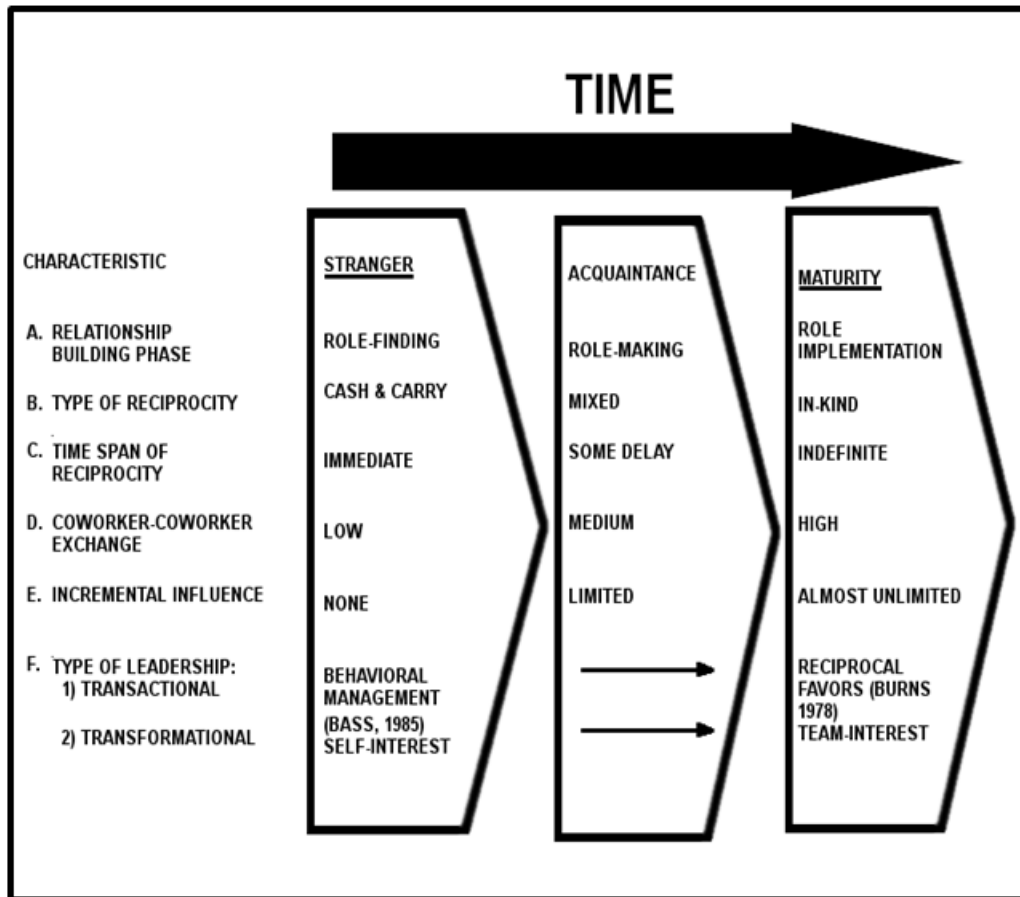


Figure 2. The stages of relationship building and development within the Leader-Member Exchange Theory (LMX).

Reprinted from *The Leadership Quarterly*, 6(2), Graen, G. B. & Uhl-Bien, M., Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective, p. 231, 1995, with permission from author, Mary Uhl-Bien and Elsevier (Appendix A)

The development of the proposed causal model for this investigation (Figure 3) was based on theory, logic, and prior empirical evidence. The stages of relationship building and development within the CWX theory are the underpinnings of an exchange relationship. Exchanges among coworkers who report to the same supervisor have been suggested to be an alternative influence on employees' work attitudes and behaviors (Sherony & Green, 2002). Thus, the perceived quality of an exchange relationship may influence and contribute to nurse perceived quality of care provided. The perceived quality of a coworker-to-coworker exchange

relationship may also effect or impact other healthcare and nurse outcomes. The CWX theory as applied to this study includes outcome variables reasoned to be interconnected by the perceived quality of *same-status nurse-to-nurse* coworker exchange relationships associated with nurse perceived quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior.

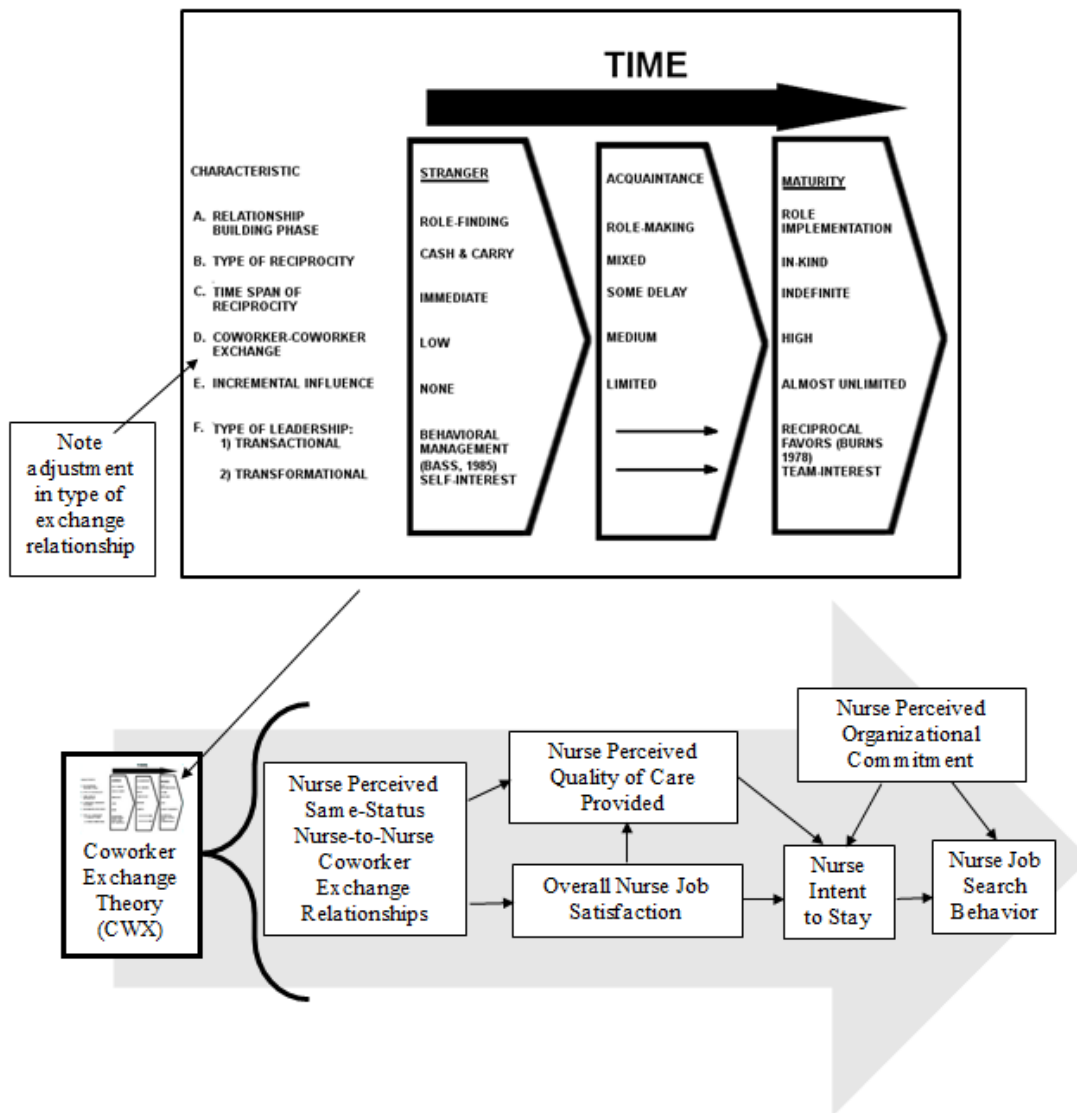


Figure 3. The stages of relationship building and development within the Coworker Exchange Theory (CWX) as applied to this study.

## Research Hypotheses

Based on research literature, theory, personal observation and experiences, and reasoning the following research hypotheses were posed (Figure 4):

**Hypothesis 1.** There is a direct relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse perceived quality of care provided.

Therefore, the greater the perceived quality level of coworker exchange among acute care registered nurses, the more positive will be nurse perceived quality of care provided.

**Hypothesis 2.** There is a direct relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and overall nurse job satisfaction. Therefore, the greater the perceived quality level of coworker exchange among acute care registered nurses, the more positive will be overall nurse job satisfaction.

**Hypothesis 3.** There is a direct relationship between overall nurse job satisfaction and nurse perceived quality of care provided. Therefore, the greater nurse perceived overall job satisfaction, the more positive will be nurse perceived quality of care provided.

**Hypothesis 4.** There is a direct relationship between nurse perceived quality of care provided and nurse intent to stay. Hence the greater nurse perceived quality of care provided the more positive will be nurse intent to stay.

**Hypothesis 5.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse perceived quality of care provided are mediated by overall nurse job satisfaction (Aiken et al, 2011; Van Bogaert, Kowalski, Mace Weeks, Van heusden, & Clarke, 2013). Hence overall nurse job satisfaction may explain a greater variance in nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse perceived quality of care provided.

**Hypothesis 6.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and overall nurse job satisfaction are mediated by nurse intent to stay (Buffington, Zwink, Fink, DeVine, & Sanders, 2012; Laschinger, Leiter, Day & Gilin, 2009). Hence overall nurse job satisfaction may explain a greater variance in nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse intent to stay.

**Hypothesis 7.** There is a direct relationship between overall nurse job satisfaction and nurse intent to stay. Hence the greater the nurse job satisfaction among acute care registered nurses, the more positive will be the nurse intent to stay.

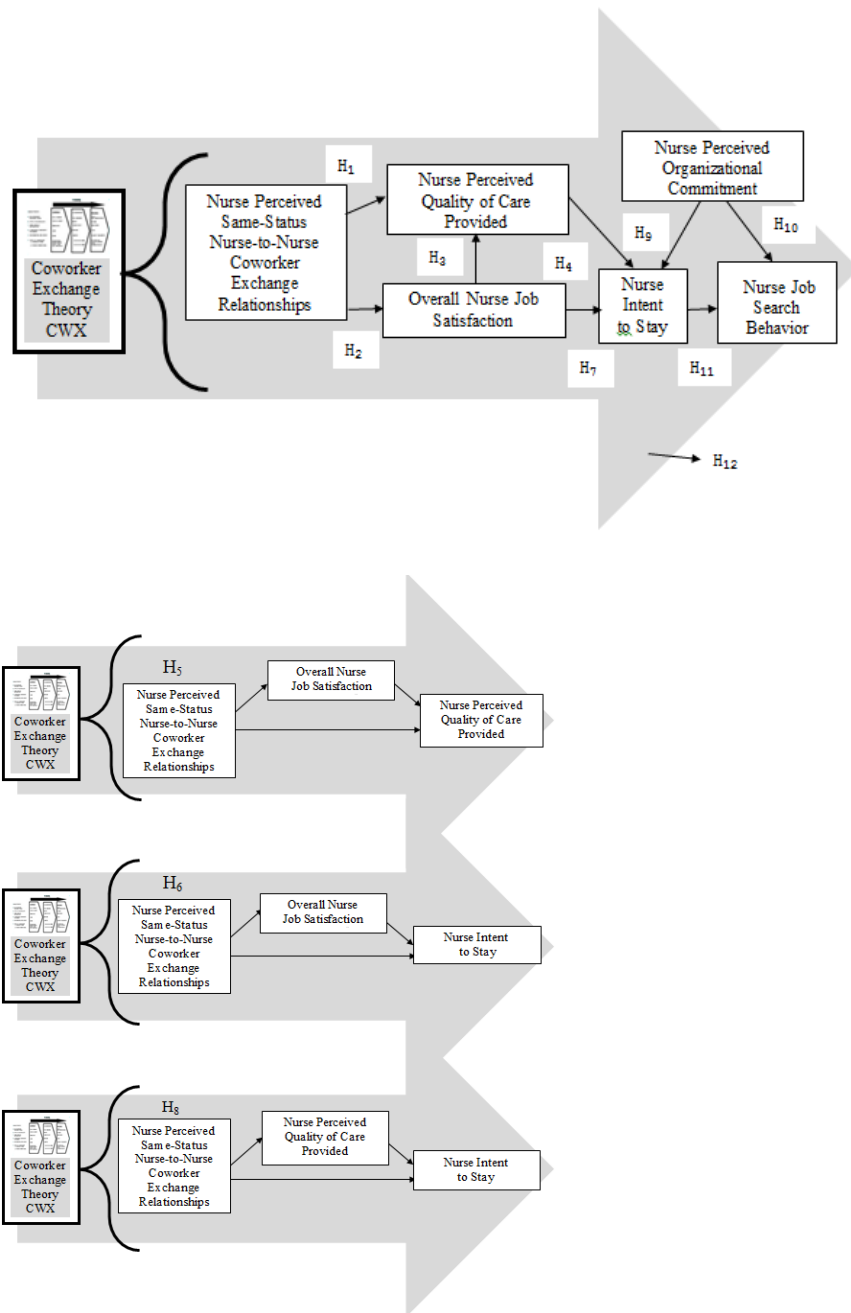
**Hypothesis 8.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse intent to stay are mediated by nurse perceived quality of care provided (Jacobs et al., 2012; Van den Heede et al., 2013). Hence nurse perceived quality of care provided may explain a greater variance in nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse intent to stay.

**Hypothesis 9.** There is a direct relationship between nurse perceived organizational commitment and nurse intent to stay. Therefore, the greater the nurse perceived organizational commitment the more positive will be nurse intent to stay.

**Hypothesis 10.** There is a direct relationship between nurse perceived organizational commitment and nurse job search behavior. Therefore, the greater the nurse perceived organizational commitment the lesser will be nurse job search behavior.

**Hypothesis 11.** There is a direct relationship between nurse intent to stay and nurse job search behavior. The greater nurse intent to stay among acute care registered nurses, the lesser will be nurse job search behavior.

**Hypothesis 12.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, and nurse intent to stay together are better predictors of nurse job search behavior than any one variable alone.



*Figure 4.* The stages of relationship building and development within the Coworker Exchange Theory (CWX) with represented hypothesis of direct and mediating processes.

## Definitions of Variables

The variables measured in this investigation include: Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior. The following theoretical and operational definitions are provided for purposes of clarity:

### Collegial Support

An effective conceptualization of the phenomenon of collegial support is needed to help nurses have a better understanding of the concept as it applies to the practice and science of nursing. This study will use the term collegial support as an overarching concept with varying definitions. It can be reasoned that coworker exchange relationships are a fundamental component of a collegial support and that exchange relationships build and develop overtime. The term *same-status nurse-to-nurse coworker exchange relationship* will be used to represent positive nurse behavior that is trusting, honest, open, professional, accepting, and respectful. Collegial supportive interactions among coworkers display a shared sense of responsibility, offer assistance, respect the professional competence of their colleagues, and promote the sharing of knowledge (Duffy, 2009). Although the concept of collegial support has not been measured, for this investigation, collegial support was made operational by the responses from the Coworker Exchange Relationship scale.

**Nurse Perceived *Same-Status* Coworker Exchange Relationships (CWX).** *Same-status* coworker exchange relationships (CWX) are exchanges (interactions) among *same-status* coworkers with the same hierarchical level who have no formal authority over one another and who report to the same supervisor (Sherony & Green, 2002; Sias,

2008). Operationally, nurse perceived *same-status nurse-to-nurse* coworker exchange relationships was measured by the total score obtained on the Coworker Exchange Scale (CWX7) (Sherony & Green, 2002) (Appendix B).

### **Nurse Perceived Quality of Care Provided**

The perception of the quality of care provided emanates from the perspective of the acute care registered nurse providing direct patient care (Aiken et al., 2011; Aiken et al., 2012; Cline, Rosenber, Kovner, & Brewer, 2011; Hinno, Partanen, & Vehvilainen-Juklunen, 2011; McHugh & Stimpfel, 2012). Operationally, nurse perceived quality of care provided was measured by the total score obtained on the Karen-Personnel Instrument (Andersson & Lindgren, 2008) (Appendix C).

### **Overall Nurse Job Satisfaction**

Overall job satisfaction reflects a general feeling toward one's job, encompassing all aspects of job satisfaction (Balzer et al., 1990). Operationally, overall nurse job satisfaction was measured by the total score obtained on the abridged Job in General Scale (aJIG) (Bowling Green State University, 2015) (Appendix D).

### **Nurse Perceived Organizational Commitment**

Organization commitment encompasses three forms of employee commitment to an organization: Desire-based (affective commitment), obligation-based (normative commitment), and cost-based (continuance commitment) (Meyer & Allen, 1991). Operationally, nurse perceived organizational commitment was measured by the total score of the Three-Component Employee Commitment Survey in which participants describe their perceived affective, normative, and continuance organizational commitment (Meyer, Allen, & Smith, 1993) (Appendix E).

## **Turnover**

Turnover is usually defined as the rate at which an organization gains and loses employees (Currie & Carr Hill, 2012). Internal turnover involves job changes within an organization whereas external turnover refers to employees who leave an organization for various reasons (Takase, 2010). Turnover research should include intention to change employer as well as intention to change professions (Parry 2008). Operationally, nurse turnover was measured by examining nurse cognitions and nurse job search behavior. For further clarification internal and external nurse turnover and nurse intent to change professions were assessed based on participant responses on the Individual Nurse Characteristics Form (Appendix F).

**Nurse Intent to Stay.** Nurse intent to stay is defined as the estimated likelihood of continued membership in an organization (Price & Mueller, 1981). Operationally, nurse intent to stay was be measured by the total score obtained on the Turnover Cognitions and Turnover Constructs Scale (Sager, Griffeth, & Hom, 1998) (Appendix G).

**Nurse Job Search Behavior.** Job search is a specific action undertaken by the individual to seek employment elsewhere (Zimmerman et al., 2012). Operationally, job search behavior was measured by the total score obtained on the Job Search Behavior Index (Kopelman, Rovenpor, & Millsap, 1992) (Appendix H).

### **Assumptions**

This investigation was based on the following assumptions:

1. Participants will respond honestly to the instrumentation and make no attempt to misrepresent workplace factors.
2. The selected instruments measure variables appropriately and adequately through documented evidence of validity and reliability.

3. Respondent's perceptions about their work environment as obtained from the research instruments contained within the present investigation provide meaningful information from which to draw conclusions about respondents' actual situations.

4. While collegial support is a concept that has not been delineated with a consistent and integrated definition it can be reasoned that coworker exchange relationships are a major component of collegial support.

5. A basic tenet of collegial support is that it consists of the building and development of an exchange relationship amongst individuals over time.

6. A collegial supportive exchange relationship among nurse coworkers in the nurse work environment begins with a dyadic exchange among *same-status nurse-to-nurse* coworkers.

### **Significance**

Quality patient-centered care requires cooperation among nurses, the multidisciplinary health team, patients, and their caregivers and families (Vessey et al., 2010). A prerequisite for such relationships includes respectful and collaborative exchanges among members of the nurse work environment (Vessey et al., 2010). The rise in team-based healthcare delivery now necessitates that nurses' display heightened interpersonal skills in collaborative relationships (Disch, 2010). Without these collaborative relationships the open exchange of health care information is jeopardized, putting patients at risk for negative health outcomes (Vessey et al., 2010).

The increasingly complex and stress-filled hospital environment may cause poor exchange relationships to deteriorate further into persistent bullying, harassment, or horizontal violence (BHHV) among nurses. BHHV takes on the form of relational aggression in the work environment (Vessey et al., 2010). Horizontal violence is prevalent in healthcare and a

collective interprofessional nurse work environment has not been optimized which has contributed to job dissatisfaction and nurse turnover (Duffy, 2013).

A collegial work environment is based on relationships between colleagues that are collaborative and supportive (Duddle & Boughton, 2009; Duffy 2013). “Promoting good working relationships among nurses and building a positive workplace relational environment is a crucial aspect in the retention of nurses and the provision of high quality patient care” (Duddle & Boughton, 2009, p.908). In the absence of research-based evidence to guide us, a theoretical perspective of relationship building and development in a collegial supportive nurse work environment can provide decisions based on best-available evidence.

More research is justified to investigate nurse turnover. Patient complications, including death, are associated with nurse turnover and low nurse retention (Aiken et al., 2011; Hunt, 2009; IOM 2011). The financial cost of losing a single nurse equals about twice a nurse’s annual salary; about \$130,000 (Atenico, Cohen, & Gorenberg, 2003; Hunt, 2009). Therefore, it has become increasingly important to investigate the factors that contribute to nurses' intent to stay at their current job as well as their commitment to the profession of nursing because of its impact upon the efficiency and effectiveness of the delivery of healthcare (Lu, Barriball, Zhang, & While, 2011). Job search behavior is an important construct to understand because job search behavior remains a key step to employee turnover (Boswell et al., 2011; Zimmerman et al., 2012). Extending inquiry beyond predicting nurse turnover, investigating nurse intentions to stay, and nurse job search behavior this study further investigates the influence of nurse perceived *same-status registered nurse-to-registered nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment.

The findings of this investigation will fill gaps which exist in literature and could advance nursing science. The resulting conclusions will provide a better understanding of the relationships between the study's constructs, will provide additional opportunity for healthcare administrators and nurse managers to appraise and improve *same-status nurse-nurse* coworker relationships within their nurse work environment, and may contribute to earlier intervention to reduce nurse turnover. Examining the relationships among *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior in the acute care nurse work environment can offer guidance for nursing practice, nursing education, nursing policy, nursing theory, and nursing research. Each is discussed.

### **Implications for Nursing Practice**

If findings indicate that *same-status nurse-to-nurse* coworker relationships are very influential nurse scholars may now want to focus on finding ways to foster higher levels of collegial supportive same-status nurse-to-nurse coworker relationships within a more positive nurse work environment. Implications for nursing practice may support the restructuring of nurse work environment processes such as offering dyadic nurse assignments, schedule nurse briefings as a regular part of the nurse's daily routine, incorporate additional resource technology, and a readily available nurse reserve. Additionally, information from this investigation may also provide direction to prepare healthcare administrators, nurse managers as well as acute care nurses to be more sensitive to coworkers within the acute care nurse work environment and to be proactive with interactions between themselves and their nurse colleagues in order to promote and incorporate more positive coworker exchange relationships. Nurse leaders may want to support recognition and rewards to individuals and nursing units who

emulate and promote high quality same-status nurse-to-nurse coworker exchange relationships within the nurse work environment. Rewards could consist of achievements in goals on nurse and nursing unit reviews, recognition of individual nurses and/or nursing units among the hospital staff and within the organization, and gift cards for nurse apparel or cafeteria vouchers.

If findings indicate that *same-status* coworker relationships are very influential it may need to be amalgamated into the Code of Ethics for nursing practice. Professional organizations may want to consider the influence of *same-status* coworker exchange relationships in future revisions of organizational standards. A clear discussion and identification of the importance of *same-status nurse-to-nurse* coworker relationships does not exist. In the past, professional organizations have focused on nurse-physician and interdisciplinary team member relationships. The nursing shortage is expected to continue as a healthcare problem and concern. Work focusing on decreasing turnover, increasing nurse retention, and drawing individuals into the profession may need to begin by demonstrating a value for building, developing, and sustaining high quality *same-status nurse-to-nurse* coworker relationships within the nursing profession. Overall, the coworker exchange theoretical framework that describes the stages of relationship building and development among exchanges of *same-status* coworkers in the acute care nurse work environment provides nursing with a rigorous theory that can be used to advance nursing practice.

### **Implications for Nursing Education**

Given that there is an abundance of nursing literature on negative working relationships and relationships among hierarchical relationships, such as managers and subordinates, within organizations and limited literature investigating the influence of *same-status* coworker exchange relationships, this study will contribute to the discipline of nursing by providing an initial

assessment the relationships among the abovementioned study constructs. The Coworker Exchange Theory could be used as a guiding framework for hospital administrators and unit managers who are seeking to successfully improve the acute care nurse work environment within their hospital setting. Educational classes for *same-status* collegial supportive coworker exchange relationships in the acute care hospital nursing unit could include teaching nurses that the hospital systems objective is seeking to improve nurse turnover as well as to improve the acute care nurse work environment through the building and development of *same-status nurse-to-nurse* coworker exchange relationships. Training should stress that relationship building and development will be supported by hospital administration and must be implemented within the clinical nurse work environment.

Findings may support that, in today's complex acute care hospital setting, there is a greater need for collegial supportive exchange relationships among *same-status* nurse colleague coworkers. Findings may also support the influence of *same-status* coworker relationship on nurse perceived quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, and nurse intent to stay. By sharing the resulting conclusions healthcare institutions can increase the awareness of, provide the opportunity for, and reinforce the need to build, to develop, and to maintain positive *same-status nurse-to-nurse* collegial supportive coworker exchange relationships amongst nursing colleagues. Results from the study may provide evidence to influence hospital administrators of the importance and need to establish and to provide for educational opportunities for *same-status nurse-to-nurse* collegial supportive work environments to exist and to be sustained within the acute care nurse work environment.

## **Implications for Nursing Policy**

Nurses need to be assessed on a regular basis for areas where management might augment work satisfaction and improve retention. Findings can provide a better understanding as well as beginning data about *same-status nurse-to-nurse* coworker relationships within the nurse work environment. Healthcare organizations can implement new policy influenced by the Coworker Exchange Theory on how nurses build and develop coworker exchange relationships with one another. The CWX theoretical framework can be reviewed, discussed, and addressed among acute care nurses to assist in creating processes to implement more positive coworker exchange relations on the acute care nurse work environment. For example, a policy ensuring a more manageable nurse workload in the acute care hospital setting that directs more opportunity for *same-status nurse-to-nurse* coworker exchanges for nurses to become more aware of other nurse needs and to become more satisfied in knowing what their nurse coworkers are doing. The information obtained from this investigation can also contribute to the designing policies for nurses to jointly address and support one another in tackling work problems through the building and development of *same-status nurse-to-nurse* coworker exchange relationships. Findings may rekindle and make use of a policy that already exists. Nurse support and confidence in their coworkers is expected to increase as *same-status nurse-to-nurse* coworker relationships build and develop. Therefore, the creation of internal policies related to additional expectations of nurses in regards to *same-status* coworker exchange interactions may be warranted based on the findings of this study.

## **Implications for Nursing Theory**

Introducing the Coworker Exchange Theory, from the business discipline, into nursing can bring new and additional knowledge to the nursing discipline. Demonstrating the influence

of *same-status nurse-to-nurse* coworker exchange relationships and its association with other variables on nurse turnover within the acute care nurse work environment can justify continued research in this area. If *same-status nurse-to-nurse* coworker exchange relationships are influential in the nurse work environment, nurse scientist may pursue theory development; perhaps beginning by conceptually defining the term collegial support. The phenomenon of collegial support is multifaceted and complex, involving many dimensions that need to be defined and theorized.

If higher quality *same-status nurse-to-nurse* coworker exchange relationships are associated with other variables linked to nursing turnover, there will be opportunity to replicate and further validate results of this study. Additionally, theory development may assist in designing education programs and intervention to foster and maintain higher quality *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment.

### **Implications for Nursing Research**

Understanding why nurses intend to change employers or to leave nursing as a career is key to nurse turnover. As this study will be the first to examine whether relationships exist among *same-status nurse-to-nurse* coworker relationships, nurse perceived quality of care provided, overall nurse job satisfaction and nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior in the acute care nurse work environment the results may provide beginning evidence of its importance. The resulting conclusions may stimulate nurse scientist to focus future investigations on more supportive behaviors within the nurse work environment. Measuring current nurse perception of the quality level of coworker exchange relationships among *same-status* acute care nurses in the hospital work environment is a

fundamental step needed prior to implementing intervention studies or recommending changes in organizational policies and cultures.

Lacking in literature are investigations and successful intervention strategies concerned with advancing the concept of positive collegial supportive *same-status* coworker exchange relationships. This material can provide relevant and timely information for the identification of interventions to be included in the design of healthcare policies that are sensitive to the acute care nurse experience and that could ultimately enhance quality of patient care, alleviate job dissatisfaction, heighten organizational commitment, increase intent to stay as well as boost nurse recruitment and nurse retention thus reducing nurse turnover. As most nurse work environments consists of daily interactions with *same-status* nurse colleagues and are also concerned with nurse turnover the Coworker Exchange Theory could be investigated within other hospital nurse work environments as well as in other nurse work environments such as ambulatory care clinics, surgical and rehabilitation centers, homecare and hospice organizations, nursing homes, nursing academics, and nursing in corrections. Further investigation of coworker exchange relationships in the nurse work environment may provide evidence to make changes in the acute care nursing regimen.

### **Chapter Summary**

Nurse turnover continues to present serious challenges within the nurse work environment as well as related costs, and the impact on patients and the health care team. From the literature we know that the importance of positive collegial supportive *same-status* coworker relationships to lessen nursing turnover warrants further research. A study to investigate the relationships among *same-status nurse-to-nurse* coworker exchange relationships, quality of care, overall job satisfaction, organizational commitment, intent to stay, and job search behavior

in the acute care nurse work environment was introduced in this chapter. It was explained that the Coworker Exchange Theory (Sherony & Green, 2002) was used to guide the study as it provides a theoretical framework of coworker relationship building and development. The research hypotheses, along with definitions of variables have been offered. In closing, implications for nursing practice, nursing education, nursing policy, nursing theory, and nursing research were described.

## Chapter Two

### Review of the Literature

Nurse turnover is concerning to healthcare. Literature is lacking the investigation of the influence of *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment. The primary purpose of this dissertation was to investigate the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment on nurse intent to stay and nurse job search behavior of nurses in the acute care nurse work environment.

The purpose of this chapter is to review the literature on the variables included in this study. The Coworker Exchange Theory used as the theoretical framework guiding this inquiry, is discussed in further detail and its use in research explicated. Next, theoretical models on turnover are identified. It is important to have a better understanding of the phenomenon of collegial support since literature lacks a unified definition of collegial support among disciplines. This chapter will present the presence of collegial support in literature. Offered are five models/frameworks associated with collegial support and the rationale for their non-use. In addition, this review of literature is organized by the major constructs of the study providing the reader with an understanding of the terms and concepts used in the investigation. Research articles are presented in chronological order providing descriptive evidence of each of the study variables under investigation. An overall synthesis of the findings from the literature showing justification and the need for this investigation is presented in the chapter summary.

#### Search Strategies

Search terms in this literature review included: Collegial support, concept analysis, nurse turnover, nurse retention, nurse work environment, coworkers, relationships, quality of care, job

satisfaction, and organizational commitment. With this broad criterion cumulative searches were completed. Initial searches began in 2011 and extended through 2014 with subsequent searches seeking most current information. Additional keywords searched were comprised of related terms such as social support, interpersonal (coworker) relationships, collaboration, collegiality, intent to stay, and job search behavior. The keywords were searched individually and in combinations. Selection criteria for review included studies: (1) written in English; (2) published between 2008 to present; (3) data-based articles; (4) examined factors of collegial support, the nurse work environment, nurse turnover; quality of care, job satisfaction, organizational commitment, intent to stay, and/or job search behavior; (5) were appropriate for the intended purpose of this review. The literature was obtained using two search engines: The Google Scholar search engine and a university database search.

The Google Scholar search engine searches the databases of business, medicine, and the social sciences. The databases of the research intensive university are specific to five areas of study: Nursing, business, education, sociology, and psychology. The university databases within the nursing field of study include Cumulative Index of Nursing and Allied Health Literature (CINAHL), Plus with Full Text Elton B. Stephens Company (EBSCO), Cochrane Library (Wiley), Health Source: Nursing/Academic Edition (EBSCO), MD Consult (Elsevier), and MEDLINE (PubMed). The university database within the business field of study consists of ABI/INFORMS Complete (ProQuest), Academic Search Complete (EBSCO), Business Abstracts with Full Text (EBSCO), Business Source Premier (EBSCO), and Journal Storage (JSTOR). The university database within the education field of study encompass: Education Research Complete (EBSCO), Educational Administration Abstracts (EBSCO), Educational Research Information Clearinghouse-ERIC (EBSCO), PantherCat Library Catalog, and

PsychINFO (EBSCO). The university databases within the sociology discipline include Annual Reviews, JSTOR, and sociological Abstracts (ProQuest); and in psychology the database contain Annual Reviews, ERIC (EBSCO), and PsychINFO (EBSCO).

## **The Coworker Exchange Theory**

### **Theoretical Background**

The Coworker Exchange Theory (CWX) (Sherony & Green, 2002) is an expansion of the Leader-Member Exchange (LMX) theory (Graen & Uhl-Bien, 1995) and retains the same theoretical premises of the LMX theory. The CWX theory was chosen as the most appropriate framework for this study as it theoretically identifies and discusses positive stages of relationship building and development among exchanges of coworkers.

Before continued discussion of CWX a brief overview of the underpinnings of the LMX theory is presented. The LMX theory has three dimensions: Respect, trust, and obligation and development. It is based on the characteristics of a working relationship as opposed to a personal or friendship relationship and this trust, respect, and mutual obligation and development refer specifically to an individual's assessment of another colleague in terms of professional capabilities and behaviors (Graen & Uhl Bien, 1995). Considerable scholarly attention has been given to the LMX theory (Graen & Uhl-Bien, 1995) and it has been used consistently since its inception. Originating in business management, the LMX theory was initially called the Vertical Dyad Linkage (VDL) theory (Dansereau et al., 1975). LMX is based on role theory (focusing on roles) and social exchange theory (the exchange between leader and members). Through continued refinement, the VDL theory was renamed the LMX theory (Graen et al., 1982) and has progressed to the development of a relationship-based approach to leadership (Graen & Uhl Bien, 1995).

As lateral structural arrangements within organizations have increased (American Hospital Association, 2015; Aiken et al., 2002; Kocolowski, 2010), research findings have contributed additional theoretical refinements focusing on varying workforce relationships. Continued analysis of leader-member exchange relationships (LMX) initiated investigations involving team-member relationships (TMX) (Seers, Petty, & Cashman, 1995) and more recently coworker relationships (CWX) (Sherony & Green, 2002). The CWX theory is applicable to all levels and types of organizations as it addresses how people within organizations relate to each other. The CWX theory is related to positive organizational outcomes (Sherony & Green, 2002).

According to Graen and Uhl Bien (1995), the Leadership-Making model within the LMX/CMX theoretical framework “was developed to identify the importance of generating more high-quality relationships among individuals within organizations and to describe a process for how these may be realized in practice” (p. 230). The quality of the exchange relationship is based on the degree of emotional support, reciprocity, and resources exchanged. Within the LMX/CMX theory there are three phases of a dyadic relationship development: Stranger, acquaintance, and partner (also called maturity) where, overtime, the leader and member (or coworkers) become partners. The LMX/CMX theory proposes that leaders form unique relationships with members. High quality exchange relationships, called in-group relationships, are characterized by trust, open communication, and information sharing between a dyadic professional relationship. These in-group relationships involve mutual respect that results in greater autonomy and assistance among the member in return for enhanced commitment and loyalty to the leader. Other relationships, considered low quality or referred to as out-group exchange relationships, are exchanges basic to more formal contractual-type obligations (Graen

& Uhl-Bien, 1995). The associated LMX7 instrument measures the quality of exchange relationships between a leader and a member (Graen & Uhl-Bien, 1995).

### **Empirical Literature**

Sherony and Green (2002) are attributed with the development of the CWX relationship theory as they analyzed differences between coworker exchange relationships (CWX), leader-member exchange relationships (LMX), and work attitudes towards organizational commitment and job satisfaction. The sample ( $N = 110$  coworker dyads) consisted of employees at an engineering company and a health service facility. The LMX theory focuses on leader-member exchange relationships within organizations while the CWX theory concentrates on coworker relationships. To measure CWX, Sherony and Green modified the wording of the LMX7 instrument from leader-member to coworker-coworker exchange relationship. The alpha coefficient for the CWX7 scale was 0.92 (Sherony & Green, 2002). Principal factor analysis using varimax rotation yielded separate CWX and LMX factors with no cross-loadings, indicating that employees were distinguishing between these two types of relationships (Sherony & Green, 2002).

Inspection of the findings lent support to extend research beyond the leader-member relationship to the coworker-to-coworker relationship (Sherony & Green, 2002). Sherony and Green (2002) reported that higher quality LMX relationships between two different coworkers (interaction term) and their leader revealed higher quality CWX relationships among those two coworkers; the overall regression model was significant;  $F(3, 106) = 6.54, p < 0.001$ ; adjusted  $R^2 = 0.13$ , as was the interaction term (standardized coefficient = 1.42,  $p < .05$ ). Also coworker dyads had a better quality of exchange when they had similar quality relationships with their supervisor ( $r = 0.24, p < 0.02$ ). Sherony and Green (2002) proposed that if the causal direction

of one worker's high quality LMX and CMX relationships influence another worker's LMX quality; this effect would deliver considerable value to a leader. This causal direction may be that CWX can serve as a multiplier of positive LMX relationship outcomes like satisfaction and commitment. However, leaders could face challenging and cohesive resistance from members who have strong CWX relationships but negative LMX relationships. By leaders fostering strong CWX relationships, positive LMX relationships could spread throughout the work group (Sherony & Green, 2002). After controlling for the effects of LMX, Sherony and Green (2002), reported that a greater variance in high and low quality CWX relationships among coworkers was related to lower levels of organizational commitment. This finding suggests a need to develop higher quality exchange relationships among coworkers because this finding indicates that leaders have the opportunity to set the stage for future cooperation among coworker dyads. By examining the integration of CWX with other nursing outcomes, we may better understand the impact of exchanges beyond the leader-member relationship.

Wikaningrum, 2007 replicated Sherony and Green's 2002 study. Wikaningrum (2007) used data from 146 nurse coworker dyads to examine the same relationships between CWX and LMX, and between exchange relationships and the work attitudes of organizational commitment and job satisfaction. Wikaningrum (2007) similarly reported that the quality of LMX relationship (independent variable) positively affected CWX relationship (control variable) quality. By adding LMX similarity as an independent variable, the results showed an increase of  $R^2$  of 0.34 ( $F = 7.106$ ;  $p < 0.05$ ) from the CWX relationship quality rating of 19.8 percent ( $R^2 = 0.198$ ;  $F = 4.373$ ;  $p < 0.05$ ). A high quality LMX relationship, characterized by the degree of support, respect, and leaders' obligations to their members was positively related to subordinates' job satisfaction ( $\beta = 0.47$ ;  $t = 4.349$ ;  $p = 0.001$ ) (Wikaningrum, 2007).

Wikaningurm (2007) reported that their findings are consistent with Sherony and Green's 2002 study in that the more similar the quality of the leader-member relationship is between two coworkers, the higher the quality is the relationship among the two coworkers.

### **Rationale for use of the Coworker Exchange Theory**

The CWX theory was selected to guide this inquiry for several reasons. First, from business management, the CWX theory (Sherony & Green, 2002) is an expansion of the LMX theory which originated in 1975. The LMX exchange theory is well established and has gone through revisions as management styles have evolved and the CWX theory is being used across disciplines. Second, the CWX theory is based on the characteristics of a working relationship rather than a friendship relationship: Respect, trust, and obligation and development. Third, the associated CWX7 instrument measures the quality of exchange relationships between coworkers (Sherony & Green, 2002). Lastly, the CWX theoretical foundation is consistent with this study and is one step towards improving the knowledge base in this area of nursing science.

## **Turnover**

### **Theoretical Models of Turnover**

Theory regarding voluntary employee turnover evolved through the writings and ideas of March and Simon (1958). March and Simon (1958) introduced a general theory of organizational equilibrium highlighting the importance of balancing employee and organization contributions and inducements. March and Simon (1958) conceptualized voluntary turnover as a function of perceived desirability (job satisfaction) of movement and perceived ease of leaving the organization (perceived alternatives). Since that time a number of theoretical models have been developed that identify relationships among determinants of turnover (Mobley, 1977; Price

& Mueller, 1981; Hinshaw & Atwood, 1983; Parasuraman, 1989; Irvine & Evans, 1995; Sager et al., 1998). A review of these theories supports the constructs included in this investigation.

Mobley (1977) theorized that thinking of quitting is the next logical step after having experienced dissatisfaction and that intention to leave was the last of a number of possible mediating steps prior to actual quitting. Other steps prior to actual quitting include alternative forms of withdrawal (absenteeism and passive job behavior), non-job related factors (transfer of a spouse or a health problem), and available alternative job opportunities. Mobley (1977) explicitly presented a causal model providing a comprehensive description that job satisfaction precedes intent to stay that, in turn, is influenced by behavioral and economic conditions.

From turnover literature Price and Mueller (1981) offered a Causal Model of Turnover for Nurses depicting how eleven determinants and two intervening variables operate to produce turnover. Price and Mueller (1981) viewed turnover as a product of job dissatisfaction and lack of commitment that are influenced by organizational factors, demographics, and environmental factors. The following eleven determinants produce variations in turnover: opportunity (the availability of alternative jobs within the organization), routinization (the degree to which a job is repetitive), participation, instrumental communications (the degree to which information is transmitted from the organization to its members), integration (the degree to which an individual has close friends among organizational members), pay, distributive justice, promotional opportunity, professionalism (the degree of dedication to occupational standards of performance), general training, and kinship responsibility (the degree of an individual's obligations to relatives in the community in which an employer is located). Both economic and noneconomic determinants are important in explaining variation in turnover. Job satisfaction and intent to stay are intervening variables between the determinants and turnover. Intent to stay

(a dimension of commitment) was reported to have the largest total impact on turnover (Price & Mueller, 1981).

Over time turnover models have differed. Some are more comprehensive than others; for example, Price and Mueller's (1981) Professional Turnover Model consisted of environmental, organizational, individual, and professional characteristics whereas Hinshaw and Atwood's (1983) Anticipated Turnover Model is based on a narrower perspective from research that focuses only on an individual's characteristics to explain variation in turnover. Prior to an individual's decision to quit they may experience anticipated turnover, which includes evaluating the desire to search and the subsequent time and effort involved in a new job search. For Price and Mueller (1981) turnover reflected the level of individual commitment to the organization but for Hinshaw and Atwood (1983) anticipated turnover allowed administration to assess and possibly prevent potential nurse termination, illustrating a preventative approach to the field of turnover research.

Based on existing literature, Parasuraman (1989) Integrated Model of Turnover incorporated personal, organizational, and job experience variables as well as job attitudes and behavior intentions, as predictors, of voluntary turnover. Parasuraman's investigation indicated that intent to leave was the most immediate determinant of actual turnover. Parasuraman (1989) contribution, to a better understanding of turnover, was the role of time lag in determining relationships. Parasuraman (1989) reported that the strength of the intention-turnover relationship decreased as the time interval between expressed intent and turnover behavior increased.

Irvine and Evans (1995) investigated the causal relationships among job satisfaction, behavioral intentions, and nurse turnover behavior. The theoretical model of Nurse Turnover

Behavior proposed by Irvine and Evans (1995) was based on Mueller and Price's (1990) conceptualization that nurse job satisfaction, behavior intentions, and turnover behavior is influenced by economic, sociological, psychological perspectives. The added dimension of behavioral intentions in the Nurse Turnover Behavior model views behavioral intentions as a direct antecedent to turnover behavior with the impact of job satisfaction mediated by behavior intentions.

Although a number of models have been developed to explain nurse turnover, they all describe a multistage, attitudinal (involving some aspect of satisfaction and organizational commitment), decisional (behavioral intentions), and behavioral process (the act) of turnover (Irvine & Evans, 1995). Behavioral intentions are decisions made by an individual that are influenced by job attitudes and job market factors, such as opportunity. Irvine and Evans discussed three antecedents to job satisfaction which included economic factors (pay, job market, and training); sociological factors (job content and work environment); and psychological factors (individual and demographic). Irvine and Evans (1995) reported that variables related to nursing job satisfaction, job content, and work environment had a stronger relationship with job satisfaction than economic or individual difference variables. The strong positive relationship between behavioral intentions and turnover indicated that as nurses develop their intentions to leave, they are inclined to follow through with turnover behavior. A smaller negative relationship exists between job satisfaction and turnover suggesting that as job satisfaction decreases, turnover behavior increases (Irvine & Evans, 1995).

In a review of the theoretical models of turnover, Holtom, Mitchell, Lee, and Eberly (2008) reiterated that the basic tenet in the earliest models of turnover was that job dissatisfaction caused turnover. According to Holtom et al., (2008) earlier turnover models point out several

important dimensions that should guide future research such as the influence of social networks, differences across cultures, early vs. late turnover, consequences of turnover, and multi-level investigations of turnover. Turnover has emerged as an interesting complex process with multiple indicators and outcomes (Holtom et al., 2008). The many multivariate turnover models of foundational research have greatly enhanced knowledge about turnover. Recognitions that other factors besides work attitudes and job alternatives have stimulated researchers to expand turnover research in new directions (Mossholder, Settoon, and Henagan, 2005). Studies designed to advance foundational knowledge continue to develop and refine turnover theory and methodology. Adding to this knowledge base of nurse turnover, this study's major contribution to the science of nursing will be a better understanding of the relationships between the interrelated variables in this investigation; each of which is further discussed. This research may become the basis for new improvements in nursing practice that might deter nurse turnover in the acute care nurse work environment.

### **The Presence of Collegial Support in the Literature**

Reviewing what is known about collegial support will help better understand the phenomenon of collegial support as it relates to the variable of interest in this investigation; nurse perceived quality of *same-status nurse-to-nurse* coworker exchange relationships. It is important to have an initial understanding of the definition of the word 'collegial' and the word 'support' as well as the definition of the combined term 'collegial support'. According to the Oxford Online Dictionary (2015), the word 'Collegial' is an adjective – defined as relating to or involving shared responsibility, as among a group of colleagues. The word 'support' is a verb - defined as to give assistance to, give approval, comfort, or encouragement to as well as to

be actively interested in and concerned for the success of somebody/something. Interestingly, the phrase ‘collegial support’ did not result in a definition when the two terms were combined.

LaPlant (1986), a professor of education, discusses collegial support among peers (coworkers) as a group with similar job requirements that allows professional development in a climate of cooperation, support, positive reinforcement, and rising expectations. Collegial support among peers (coworkers) is a means of providing assistance for immediate short-range problems and as a stimulus for longer-term growth; it is also a means for colleagues to share and to celebrate successes (LaPlant, 1986). The ideal collegial support among peers (coworkers) would ultimately feel responsible for each other to the point of not letting one another fail (LaPlant, 1986). Although LaPlant’s (1986) description of collegial support among peers (coworkers) was written thirty years ago it remains relevant today.

Scholars and various organizations promoting positive coworker relationships have recognized two essential characteristics of collegial support: Collegiality and collaboration. In nursing literature, Hansen (1995) pointed out that the term collegiality is often used interchangeably with collaboration. Collegiality is characterized by nonhierarchical relations, group cohesiveness, interpersonal (coworker) exchanges, and collaboration, coordination, and cooperation in making and implementing decisions (Hansen, 1995). In contrast, professional associates who collaborate actively cooperate, communicate, and coordinate their activities in pursuit of mutually held goal. Hansen (1995) further explains that “distinctions between the two concepts help clarify how collegiality and collaboration contribute in related ways to productive working relationships” (Hansen, 1995, p. 11). Hence, “collaboration enhances collegiality among a healthcare team’s members (Hansen, 1995, p. 11).

Henneman, Lee, and Cohen, (1995) identified nine attributes or characteristics for which collaboration can be said to occur: Joint venture, cooperative endeavor, willing participation, shared planning and decision making, team approach, contribution of expertise, shared responsibility, non-hierarchical relationships, and power is shared based on knowledge and expertise versus role or title. Beyer (1981) synthesized eight components from the work of Taylor and Bowers (1972) for her focus on the interpersonal (coworker) dimension of collegiality for nurse faculty: Confidence and trust; mutual help, mutual support, friendliness and enjoyment, team efforts towards goal achievement, creativity, open communication, and freedom from threat.

Duddle and Boughton (2009) defined collegiality as interactions among members which display a shared sense of responsibility, mutual respect and support, good communication, cooperation, and a sharing of knowledge. Types of behaviors that characterize a collegial workplace include: Respect, support, valuing opinion, exchange of ideas, open communication and effective conflict resolution (Duddle & Boughton, 2009). Petrie (2010) identified three attributes of the concept of interdisciplinary (coworker) collaboration: A problem-focused process, sharing, and working together. Although these researchers have identified different attributes for collaboration each attribute involves an exchange or interaction between coworkers. Additionally, collegiality in nursing is defined as building a high-quality work environment by developing mutual respect and strong bonds among colleagues (Lorenz, 2012).

The American Nursing Association's Nursing Scope and Standards of Practice (2010) currently uses the term collaboration as one of the Standards of Practice; Standard 13. Collaboration: The registered nurse collaborates with the healthcare consumer, family and others in the conduct of nursing practice. Likewise, the ANA *Code of Ethics for Nurses With*

*Interpretive Statements* (2010) uses the word collaboration to indicate that collaboration is not just cooperation it is the concerted effort of individuals and groups to attain a shared goal. The ANA Code of Ethics further states that collaboration requires mutual trust, recognition, and respect among the healthcare team, shared decision-making about patient care, and open dialogue among all parties who have an interest in and a concern for health outcomes (p. 5). The International Council of Nurses (2012) latest revision of the ICN Code of Ethics for Nurses defines collaborative relationship as a professional relationship based on collegial and reciprocal actions and behavior that aims to achieve certain jointly agreed goals.

It can be reasoned that a basic underpinning of collegial support is an exchange relationship. According to this investigator, in this body of literature, all of the aforementioned attributes and dimensions used to describe collaboration and collegiality can be theorized as characteristics of a collegial supportive exchange relationship.

The investigator recognized that there are other multidimensional constructs besides collegiality and collaboration that may be important attributes of collegial support such as teamwork, organizational climate, and organizational culture. Similar to collegial support there are many characteristics associated with the constructs of teamwork (Kalisch, Lee & Salas, 2010) and organizational climate or culture (Banaszak-Holl, Castle, Lin, Shrivastwa, & Spreitzer, 2013) however it can be reasoned that one key element of all of these constructs is that of a coworker exchange relationship. The intent of this investigation is to gather empirical evidence of the influence of same-status nurse-to-nurse coworker exchange relationships on the acute care unit. There is opportunity for future studies to investigate the influence of coworker exchange relationships on teamwork, organizational climate, and organizational culture.

## **Theoretical Models associated with Collegial Support**

Scholars have developed five different collegial models with interrelated and overlapping components: Ideal Model (Likert, 1961), Collegial Support Model (LaPlant, 1986), Conceptual Model for Collegiality (Hansen, 1995), Collegial Mentoring Model (CMM) (Thorpe & Kalischuk, 2003), and the Collegial Clinical Model (CCM) (Salera-Vieira, 2009).

**Ideal Model.** Likert (1961) developed the Ideal Model; a model of the interpersonal (coworker) processes of highly effective work groups within organizations. Likert advanced his theory of organizational effectiveness which is based on the concept of interpersonal (coworker) supportiveness. Likert's central principle stresses that in order to achieve productivity, all processes within an organization need to be supportive: Organizational climate, managerial leadership, group processes, and peer behavior.

**Collegial Support Model.** LaPlant (1986) developed the Collegial Support Model for professional development which has the potential to change behaviors and restructure the ways organizations are run. LaPlant (1986) indicates that a more positive stimulation is needed as opposed to forced change if change is to endure over time. The collegial support structure provides a climate for the exchange of constructive suggestions and peer (coworker) review and feedback. The ideas in this model were derived from six years of experience in developing and disseminating a program that included over 3,000 principals.

**Conceptual Model for Collegiality.** Hansen (1995) developed a Conceptual Model for Collegiality among staff nurses in acute care. Hansen defines collegiality as a unique condition of a definable, organized, professional work group characterized by nonhierarchical relations, group cohesiveness, interpersonal exchanges, and collaboration, coordination, and cooperation in making and implementing decisions. Previous research and interviews with nurses provided

support for the proposed linkages in the conceptual model. The Conceptual Model for Collegiality depicts collegiality as a dynamic, 3-dimensional construct: Work group cohesion, job involvement, and substantive exchange. Work group cohesion representing the degree to which an individual feels integrated into the work group; job involvement indicates the degree of personal psychological identification with the current job; and substantive exchange signifies the degree of give-and-take among coworkers of valued work-related, social, and personal benefits such as sharing expertise, knowledge, information, materials, advice, socialization, and personal support. In this conceptual model both individual and organizational factors were proposed as antecedents of collegiality. Individual antecedents of collegiality included staff nurse's believing in the value of work, competency and organizational commitment. Organization antecedents of collegiality consisted of staff nurse organizational satisfaction, participation in work decisions, job stress, and leadership style and influence (Hansen, 1995).

**Collegial Mentoring Model (CMM).** Thorpe and Kalischuk (2003) developed a Collegial Mentoring Model (CMM) for nurse educators. Thorpe and Kalischuk (2003) defined mentoring in the Collegial Mentoring Model “as a friendship-based, collegial relationship affording honest and open communication occurring over an extended period and resulting in a positive outcome for both individuals” (Thorpe & Kalischuk, 2003, p. 6). This model is based on published literature and personal and professional experiences of nurse educators. The model is nonhierarchical and focuses on the outcomes of personal and professional development. The CMM comprises both a macro and a micro realm. The macro realm is conceptualized as a background which encompasses the historical, social, political, cultural, and economic facets of the larger educational, health, and social service system and a foreground accommodating personal and professional factors. The micro realm of the CMM comprises making time for

togetherness, creating ambience, and promoting beingness; all of which are operationalized through collegial mentoring processes of caring, connecting, and communicating. These two realms operate simultaneously hence when the collegial mentoring processes are enacted they lead to personal and professional outcomes (Thorpe & Kalischuk, 2003). A valid notation was documented by these authors indicating that time and jealousy were recognized as limitations of the CMM model in that scheduling time for togetherness may be difficult in the midst of many work-related responsibilities and because the CMM model is based on the participation of two colleagues there is potential for personal or professional jealousy. With friendship providing the foundation of safety, comfort, and trust in a personal working relationship the CMM model enhances the professional development of colleagues and hypothetically increases employee retention (Thorpe & Kalischuk, 2003).

**Collegial Clinical Model (CCM).** More recently, Salera-Vieira (2009) developed the Collegial Clinical Model (CCM) for orientation of new graduate nurses and used it as a strategy to improve the transition from student nurse to professional nurse. The CCM consists of one clinical instructor to several students on a nursing unit. Although collegial was not clearly defined, Salera-Vieira (2009) indicated that the theoretical framework for this model was Lev Vygotsky's sociocultural development theory. Vygotsky placed greater emphasis on how social factors influence development. The concept defined as the zone of proximal development is central to Vygotsky's theory where learning takes place as the learner moves from other-assisted to self-assisted and finally to internalization in which learning is internalized and assistance is no longer needed.

These five models identify characteristics of supportive exchange relationships in a collegial work environment: All processes within an organization need to be supportive (Likert,

1961); there is an exchange of constructive suggestions and peer (coworker) review and feedback (LaPlant, 1986); present is work group cohesion, job involvement, and substantive exchanges (Hansen, 1995); the work environment consists of friendship-based, collegial relationships with honest and open communication (Thorpe & Kalischuk, 2003), and there is an organizational culture promoting learning through assistance (Salera-Vieira, 2009). However, these models lack theory that provides a better understanding of the building and development process of the coworker exchange relationship overtime.

### **The Presence of Collegial Support in the Literature Summary**

It is evident that researchers have identified a variety of aspects relating to the multifaceted phenomenon of collegial support. Inspection of the existing collegial supportive literature indicates a basic underpinning of collegial support is that it begins with a dyadic professional exchange relationship. Scholars and various organizations promoting positive coworker relationships have recognized two essential characteristics of collegial support: Collegiality and collaboration. Some of the commonalities noted to help define collegial support include cooperation (Duddle & Boughton, 2009; Hansen, 1995; Henneman et al., 1995; LaPlant, 1986), responsibility (Duddle & Boughton, 2009; Henneman et al., 1995; LaPlant, 1986), nonhierarchical relationships (Hansen, 1995; Henneman et al., 1995), supportive exchanges (Likert, 1961; Henneman et al., 1995; LaPlant, 1986; Duddle & Boughton, 2009; LaPlant, 1986; Hansen, 1995; Salera-Vieira, 2009; Thorpe & Kalischuk, 2003), and effective communication (Beyer, 1981; Duddle & Boughton, 2009; Thorpe & Kalischuk, 2003). Collegial support occurs at all levels within an organizational; between peers (coworkers), teams, managers, administration, and the organization overall. National Healthcare Associations have standards and guidelines to build positive and effective work environments however these associations

utilized one related term: Collaboration, which as described can be integrated within the concept of collegial support.

The lack of continued theory development concerning collegial support contributes to the lack of conceptual clarity. This body of literature could be improved with a better understanding of the process of building and developing coworker exchange relationships rather than identifying characteristics associated with collegial support. In order to learn how to foster the growth and maintenance of positive collegial supportive coworker exchange relationships and to better understand the effects of a collegial supportive exchange relationship environment a focus on generating empirical studies on this topic is necessary. Investigating the influence of *same-status nurse-to-nurse* coworker exchange relationships is one step towards improving the knowledge base in this area of nursing science.

### **Same-Status Coworker Exchange Relationship**

#### **Introduction**

Building on the previous discussion of collegial support, *same-status* coworker exchange relationships (CWX) are exchanges (interactions) among *same-status* coworkers with the same hierarchical level who have no formal authority over one another and who report to the same supervisor (Sherony & Green, 2002; Sias, 2008). Interactions between coworkers are based on trust, respect, and sharing of knowledge, skills, and values which leads to attaining optimal patient care (Kramer & Schmalenberg, 2008).

#### **Empirical Literature**

Chiaburu and Harrison's (2008) did a comparative analysis on coworker and leader influence focal employees' work experience testing lateral and vertical influence in the work environment. From a meta-analytic database, the authors examined 72 investigations that

included both coworker and leader-related information in the same study. However, the authors did not indicate whether or not the coworkers were *same-status* employees. Applicable to this investigation these researchers reported that coworker support ( $\beta = 0.33, p < 0.05$ ) exerted an even greater influence on employee job involvement than did leadership support ( $\beta = 0.06, p < 0.05$ ). Coworker support had a greater influence than did leadership support on factors related to withdrawal-related criteria including effort reduction ( $\beta = -0.22, p < 0.05$  vs.  $\beta = -0.04, p < 0.05$ ) and absenteeism ( $\beta = -0.08, p < 0.05$  vs.  $\beta = -0.01, p < 0.05$ ), than did leadership support, respectively. These values make a case for greater attention to lateral relationships in organizational research. The authors concluded that “Coworkers matter—making the place—for a broad pattern of employed outcomes” (Chiaburu & Harrison, 2008, p. 1097).

Li and Hung (2009) examined leader-member exchange (LMX) and coworker exchange relationships (CWX) of elementary teachers ( $N = 570$ ) to better understand the relationships between task performance and citizenship behaviors. Task performance was defined as behavior that is recognized by formal reward systems and is part of the requirements designated in job descriptions and citizenship behaviors defined as discretionary, not directly recognized by the formal reward system but essential to the efficient and effective functioning of the organization. Citizenship behaviors can be targeted to directly benefit individual coworkers (such as helping others with a heavy work load, sharing meeting notes when others are absent) or targeted to directly benefit the organization (loyalty, defending organizational objectives, and promoting the organizations image). Inspection of findings indicate that LMX had a stronger influence on task performance than did CWX ( $\beta = 0.334 > \beta = 0.284, p < 0.001$ ), CWX had a stronger influence on citizenship behaviors targeted to individual coworkers than did LMX ( $\beta = 0.474 > \beta = 0.237, p < 0.001$ ), and CWX had a stronger influence on citizenship behaviors targeted to the

organization than did LMX ( $\beta = 0.377 > \beta = 0.257, p < 0.001$ ). In sum, relationships with leaders were associated more strongly with outcomes relevant to task performance, while relationships with coworkers were associated more strongly with outcomes relevant to coworkers and the organization (Li & Hung, 2009). Armed with the knowledge, it is important to broaden the investigation of coworker relationships within the discipline of nursing to more confidently generalize and transfer the findings.

Propp et al. (2010) interviewed fifty multidisciplinary patient-care team members to examine critical team processes and to identify specific nurse-team communication that was perceived by team members to enhance patient outcomes. Nurses with their expertise and proximity to patients and other healthcare team members are often expected to serve as leaders of the team and must address issues of integration and coordination of the remaining team member's skillset (Propp et al., 2010). Findings comprise two communicative processes critical to patient outcomes: Nurses ensuring quality decisions and nurse promoting team synergy. Some of the ways nurses ensure quality decisions is by seeking information and through effective communication and collaboration with physicians. Some of the ways nurses promote a synergistic team include coordinating the patient care team, mentoring team members, empowering lower-level team members, and advocating on others' behalf. Supporting the importance of coworker exchange relationships Propp et al. (2010) concluded that nurses, as central and consistent members of the health care team, influence patient outcomes through direct bedside care and in their interactions with team members.

Leiter et al. (2010) in a survey of 522 nurses, identified significant differences among the Baby Boomer, Generation X, and the Millennial generations when contrasting the experience of social environments (work environments) between generations of nurses. For the purpose of

generational analysis, the authors defined and utilized Generation X participants who had a birthday from 1963 to 1981, Baby Boomer respondents with a birth date from 1943 to 1958 and Millennials/Generation Y participants with birth dates after 1981. To clarify the contrast between the Generation X and the Baby Boomer groups the authors eliminated participants with birth dates from 1959 to 1962. Inspection of findings indicate that turnover intention was more strongly related with supervisor incivility ( $r = 0.36$ ) than with coworker incivility ( $r = 0.19$ ) ( $z = 2.97, p < 0.01$ ). Team civility was more strongly related with coworker incivility ( $r = -0.53$ ) than supervisor incivility ( $r = -0.27$ ) ( $z = 5.074$ ) (Leiter et al., 2010). The analysis indicated greater distress (exhaustion, cynicism, turnover intention, and physical symptoms) among the GenX nurses than the Boomers. GenX nurses also scored more negatively on relationship indicators including supervisor incivility, coworker incivility, and team civility than did the Boomers (Leiter et al., 2010). These findings indicate that GenX nurses experience their workplace as having fewer qualities of civility and that they experienced greater incivility from coworkers and supervisors than did Boomers (Leiter et al., 2010). By inquiring about nurse age, differences and comparisons between generations of nurse respondents can be evaluated.

Pellico, Djukic, Kovner, and Brewer (2010) examined work experiences in a cohort of nurses within two and a half years of their initial RN licensure (time period two) compared to their work experiences one year earlier (time period one) ( $N = 299$ ). Persistent verbal abuse was reported by registered nurses at both time periods (Pellico et al., 2010). One respondent expressed that the more experienced nurses partake in a considerable amount of backstabbing as well as pointing out the lack of experience, confidence, and needed information of new nurses. Inspection of findings indicated that the primary verbal abuse was associated with physicians and to a lesser extent with nurse colleagues, family members, and hospital management. Some of the

participants reported leaving their jobs due to the persistence of a detrimental working environment and of these some left knowing that their move was associated with a decrease in wages (Pellico et al., 2010). Adding to this knowledge base, this investigation could contribute a better understanding of current nurse perception of *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment, along with present-day nurse intent to stay and nurse job search behaviors.

Hill (2011) examined clinical bedside registered nurse relationships, work satisfaction related to peers (coworkers) and work satisfaction in relation to supervisors, to better understand retention of experienced nurses and nurse intent to stay. Data from clinical bedside nurses ( $N = 64$ ) showed higher satisfaction between nurses and supervisors 87.8 (17.4) [possible score 21-105, mean ( $SD$ )] than among peers (coworkers) 53.4 (9.1) [possible score 13-65, mean ( $SD$ )]. Inspection of findings indicated significant findings between work satisfaction with peers and intent to stay ( $r = 0.35, p < 0.001$ ), and work satisfaction with supervisors and intent to stay ( $r = 0.45, p < 0.001$ ). Dissatisfaction with peers (coworkers) contributed to nurse turnover (Hill, 2011). Hill (2011) concluded the importance of directing organizational resources to the development of relationships among coworkers.

Chang (2014) investigated whether job satisfaction enhances organizational commitment among nurses ( $N = 386$ ). Interpersonal (coworker) satisfaction (one aspect of job satisfaction) consisted of five items related to coworker exchange relationships: Helping one another, working well together, having good communication, valuing one another's opinions and feelings, and an overall liking of hospital coworkers (Cronbach alpha value of 0.85). Inspection of findings indicated that within the nurse work environment the degree to which nurses are satisfied with their interpersonal coworker relationships positively influenced organizational commitment ( $r =$

0.58,  $p < 0.01$ ) (Chang, 2014). Also nurse job satisfaction positively influences their organizational commitment ( $r = 0.53, p < 0.01$ ) (Chang, 2014).

### **Same-Status Coworker Exchange Relationship Summary**

Although researchers do not distinguish within their reports the types of coworkers who participated in their investigations such as *multidisciplinary* coworkers or *same-status* coworkers, it is evident that coworker exchange relationships do influence outcomes. Researchers have reported that coworker support has a greater influence on job involvement and factors linked to withdrawal than does leadership support (Chiabura & Harrison, 2008). Coworker exchange relationships among elementary teachers were positively related to citizenship behaviors targeted to individual coworkers and to organizations than were leader-member exchange relationships (Li & Hung, 2009). Nurses influence patient outcomes through direct bedside care and in their interactions with team members (Propp et al., 2010).

Nonetheless, not all coworker exchanges are positive. Even low levels of rudeness undermine collegiality (Leiter et al., 2010). Incivility is present within the nurse work environment across all generations and staff positions and coworker incivility results in turnover (Leiter et al., 2010). Verbal abuse, backstabbing, and a lack of support from more experienced coworkers are prevalent in the nurse work environment but often are neglected problems (Pellico et al., 2010). Verbal abuse among coworkers was related to many participants leaving their positions, even when their move was associated with a decrease in salary (Pellico et al., 2010). As satisfaction with peers (coworkers) has more influence on intent to stay than satisfaction with supervisors Hill (2011) suggests nurse managers to focus on the development of relationships among coworkers. Nurses who have higher quality coworker relationships also have higher organizational commitment (Chang, 2014).

A critical omission in the healthcare literature is the role that positive *same-status* nurse-to-nurse coworker exchange relationships play in the acute care nurse work environment and nursing outcomes. Considering the vast differences that can exist in the quality and types of coworker exchanges, addressing *same-status* exchange relationships among work place factors may provide a more complete perspective.

## **Nurse Perceived Quality of Care Provided**

### **Introduction**

The nursing profession recognizes the importance of quality of care so much that there is considerable effort to infuse quality into nursing education. The American Nurses Association published *Nursing: Scope and Standards of Practice, Second Edition* which describes a competent level of nursing practice and professional performance common to all registered nurses (American Nurses Association, 2010). The Standards of Practice demonstrate the critical thinking model known as the nursing process: Assessment, diagnosis, outcome identification, planning, implementation, and evaluation. The Standards of Professional Practice describe behaviors and activities of the professional role: Ethics, education, evidence-based practice and research, quality of practice, communication, leadership, collaboration, professional practice evaluation, resource utilization, and environmental health.

### **Empirical Literature**

Using either quantitative or qualitative methodology, what follows is a selection of empirical research that measures nurse perception of quality of care. Aiken et al. (2011) assessed nurse perception ( $N = 98,116$ ) of quality of care provided in hospitals across nine countries. Quality of care was measured by two questions. The first question asked nurse respondents to rate their assessment of whether they felt patients were prepared to care for

themselves at the time of discharge on a 3-point scale: 'somewhat confident' or 'not at all confident', as opposed to 'very confident'. The second quality of care question asked how nurses rated the care on their work units over the past year on a 4-point scale: 'fair' or 'poor', as opposed to 'good' or 'excellent'. Inspection of findings indicated that almost half of the nurses in five countries (China and Thailand = 48%, New Zealand = 47%, USA = 45%, and UK 42%), and almost three-fourths of the nurses in two countries (Japan = 85%, South Korea = 78%, and Canada = 70%) lacked confidence that patients could manage their care after discharge.

Germany was the exception with only nineteen percent of the nurses not feeling confident that their patients could manage their care after discharge (Aiken et al., 2011). Nurse report varied for unit quality of care across the nine countries. At the highest level sixty-eight percent of South Korean nurses and sixty percent of Japanese nurses reported their unit quality of care was fair or poor as opposed to good or excellent. Other nurse reports of fair or poor quality of care on their work unit were China (30%), Germany (20%), Thailand (19%), U.S. (16%), UK (14%), with only twelve percent of New Zealand nurses and eleven percent of Canadian nurses reporting fair or poor quality of care on their work unit (Aiken et al., 2011).

Hinno et al., (2011) examined nurse perception ( $N = 334$ ) of quality of care provided in relation to the characteristics of hospital nurses' work environment. The characteristics of the nurses' work environment were derived from the Nursing Work Index-Revised (NWI-R) instrument developed by Aiken and Patrician (2000); Cronbach alpha value of 0.86. Questions from previous studies (e.g., Tervo-Heikkinen et al., 2008) were included in the questionnaire to measure nurse-assessed quality of care and nurse plans to leave the profession. Significant work environment characteristics identified were: Support for professional development, adequate staffing, nursing competence, and supportive management. Inspection of results indicated that

nurses who agreed that they had support for their professional development considered that the quality of care in their unit was high ( $p = 0.001$ ,  $b_1 = 2.147$ ,  $R^2 = 10\%$ ). Nurses who expressed more negative feelings concerning adequate staffing considered that the quality of care provided not high ( $p = 0.0005$ ,  $b_1 = 9.254$ ,  $R^2 = 22\%$ ). When nurses evaluated the support from the management to be better ( $p = 0.0005$ ,  $b_1 = 2.602$ ,  $R^2 = 10\%$ ), the quality of care was satisfactory. Also, support for assuring nurse competence ( $p = 0.001$ ,  $b_1 = 4.461$ ,  $R^2 = 10\%$ ) was positively related to nurse perception of quality of care provided. Hospital administration and nurse managers should monitor support for nurses' professional development, adequate staffing, the application of supportive management, and the assurance of nursing competence in order to develop and implement policies and interventions that will provide sufficient resources to ensure and sustain the quality of patient care (Hinno et al., 2011). This investigation supports that factors in the nurse work environment do affect the quality of patient care.

Cline et al. (2011) investigated how early-career registered nurses perceive high-quality nursing care. In this qualitative study early-career registered nurses, with four or fewer years of practice experience, were asked to respond to an open-ended statement: "Please tell me what you think high-quality nursing care is" (p. 674). Cline et al. (2011) used Krippendorff's (2004) technique for qualitative content analysis to identify three themes integral to high quality nursing care: Registered nurse presence, developing relationships, and knowledge and information. Cline et al. (2011) reported that early-career registered nurses ( $N = 171$ ) conceptualized high-quality care as nurse presence at the bedside, building trusting relationships with patients and families, and communicating knowledge and information through interdisciplinary teamwork (Cline et al., 2011). However organizational processes, structures, and culture might hinder or prevent registered nurses from spending time with patients and the lack in providing support and

resources for educational development and process improvement may be contributing factors to nurse perception of poor quality care (Cline et al., 2011). The three themes identified by Cline et al. (2011) that are integral to high quality nursing care (registered nurse presence, developing relationships, and communicating knowledge and information) may be components of nurse-to-nurse coworker exchange relationship development.

Aiken et al. (2012) used the Practice Environment Scale of the Nurse Work Index (revised) (PES-NWI) (Lake, 2002) instrument to measure the nurse work environment as they examined patient safety, nurse satisfaction, and quality of hospital care in twelve countries. The PES-NWI measures modifiable organizational behaviors including managerial support for nursing, nurse participation in hospital affairs, doctor-nurse relations, and promotion of care quality. Aiken et al. (2012) indicated that nurses in the U.S. ( $N = 27,509$ ) who reported better work environments (such as better managerial support for nurses, increased nurse participation in hospital affairs, better doctor-nurse relations, and the promotion of care quality) were half as likely to report poor or fair quality of care (adjusted odds ratio 0.54, 95% confidence interval 0.51 to 0.58) and give their hospital poor or failing grades on patient safety (0.55, 0.50 to 0.61). Each additional patient per nurse increased the odds of nurses reporting poor or fair quality care (1.06, 1.03 to 1.10) and poor or failing safety grades (1.05, 1.00 to 1.10). The authors reported high rates of nurse outcomes including nurse burnout, job dissatisfaction, and intention to leave. Aiken et al., 2012 concluded that nurse staffing and the quality of the hospital work environment (managerial support for nursing care, good doctor-nurse relations, nurse participation in decision making, and organizational priorities on quality of care) were significantly associated with patient satisfaction, quality and safety of care, and nurse workforce outcomes (Aiken et al., 2012).

McHugh and Stimpfel (2012) examined the association between nurse reported quality of care and standard indicators of quality (e.g., patient outcomes measures such as mortality, failure to rescue, and patient satisfaction) and process of care measures (treatments known to lead to the best possible outcomes for patients). Nurses ( $N = 6,241$ ) assessed the quality of nursing care by responding excellent, good, fair, or poor to a single question: "How would you describe the quality of nursing care delivered to patients in your unit?" (McHugh & Stimpfel, 2012; p. 567). Inspection of findings indicate that a ten percent increment in the proportion of nurses reporting excellent quality of care was associated with five percent ( $p < 0.001$ ) lower odds of both mortality and failure to rescue (OR = 0.95, 95% CI = 0.92 to 0.98) for surgical patients; and a 3.7 percent ( $p < 0.001$ ) increase in the percentage of patients who would recommend the hospital (McHugh & Stimpfel, 2012). Similarly, a ten percent increase in the proportion of nurses reporting that the quality of care on their unit was excellent was associated with higher process of care composite measures--for acute myocardial infarction (0.6 point increase,  $SE = 0.2$ ,  $p < 0.001$ ), pneumonia (0.9 point increase,  $SE = 0.3$ ,  $p < 0.001$ ), and surgical patients (2.0 point increase,  $SE = 0.4$ ,  $p < 0.0001$ ) (McHugh & Stimpfel, 2012). Findings also confirmed that nurses reported higher quality of care where evidence suggests expected higher quality of care such as in magnet status hospitals. Since the findings confirmed that nurses' perception of quality corresponded with outcome measures of mortality, failure to rescue, patient satisfaction and process of care measures McHugh and Stimpfel (2012) concluded that asking nurses, who are present at the bedside from patient admission through discharge, to gauge hospital quality of care offers a reliable indication of quality. Therefore, this dissertation study will report nurse perception of quality of care provided.

## **Nurse Perceived Quality of Care Provided Summary**

Researchers have sought to assess nurse perception of quality of care provided (Aiken et al., 2011; Aiken et al., 2012; Cline et al., 2011; Hinno et al., 2011; McHugh & Stimpfel, 2012). Nurses conceptualize high-quality care as nurse presence at the bedside, building trusting relationships with patients and families, and the communication of knowledge and information through interdisciplinary teamwork (Cline et al., 2011). However, according to Aiken et al. (2011) half or more than half of nurses in five countries perceived a lack of confidence that patients could manage their care after hospital discharge indicating the need for further research investigation targeting efforts to improve quality of care.

Increased support for professional development and supportive management, the assurance of nurse competence, and the affirmation of adequate staffing were associated with nurse perception of increased quality of care on their work unit (Hinno et al., 2011). Nurses who reported working in better work environments were half as likely to report poor or fair quality of care (Aiken et al., 2012). Nurses who reported excellent quality of care were associated with lower odds of mortality and failure to rescue for surgical patients and higher process of care treatments that lead to best possible outcomes for patients (McHugh & Stimpfel, 2012). To promote high-quality patient care it is essential in the acute care nurse work environment to have in place supportive hospital administration and nurse managers who will continually monitor and facilitate nurse professional development as well as to ensure adequate staffing (Hinno et al., 2011).

Combined measures of the practice environment, process measures, and measures of quality from multiple perspectives provide a more complete picture of hospital performance (McHugh & Stimpfel, 2012). The amount of missed nursing care where nurses are routinely

unable to complete care to basic standards is a significant risk to the quality and safety of hospital patient outcomes (Castner, Wu, and Dean-Baar, 2015). Castner et al. (2015) recommend future model testing of the relationship of the demand for nursing service (predicting missed nursing care) be conceptualized as potential mediators or moderators for other types of workload measures. In response to the need for future research concerning potential mediation or moderation, this study depicts nurse perceived quality of care provided as a mediator between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and nurse intent to stay.

## **Overall Nurse Job Satisfaction**

### **Introduction**

Shader, Broome, M., Broome, C., West, and Nash (2001) stated that “satisfaction with work is a multidimensional construct consisting of elements essential to personal fulfillment of one’s job” (p. 212). Russell et al., (2004) explain that the two most common methods of assessing job satisfaction are the use of facet and global surveys. Facet measures treat satisfaction as a multidimensional construct and explore which components of the job produce satisfaction or dissatisfaction such as satisfaction with pay or with supervision and dissatisfaction with workload or available resources. Alternatively, global measures gauge an overall evaluative or affective judgment about one’s job (Russell et al., 2004).

Since this dissertation study is not intended to identify and to address a specific job satisfaction component, a global measure of overall nurse job satisfaction will be employed. For a better understanding of factors that contribute to nurse perceived overall nurse job satisfaction, several job satisfaction literature reviews that provide more detail identifying communal factors associated with nurse job satisfaction are discussed.

## **Empirical Literature**

Blegen (1993) identified 48 studies limited to research originating from the U.S. and concluded that there are thirteen variables that are linked with job satisfaction. Three of the variables are attributes of exchange relationships: Communication with supervisor, communication with peers (coworkers), and professionalism. As a result of changes in healthcare since Blegen's (1993) meta-analysis, Zangaro and Soeken (2007), examined thirty-one studies seeking relationships between job satisfaction and autonomy, job stress and nurse-physician collaboration. The investigators found that job satisfaction was negatively related with job stress and positively related with nurse-physician collaboration and autonomy. Zangaro and Soeken (2007) found an increased emphasis by nurses on autonomy since Blegen's (1993) meta-analysis.

Hayes et al. (2010) examined seventeen research reports from recent literature (spanning from 2004 to 2009) and reported exploring forty-four factors contributing to nurse job satisfaction in the acute care hospital environment. These authors identified intra-, inter-, and extra-personal factors that influence acute care nurses' job satisfaction. Intra-personal factors were those a nurse brings as a person to the job such as age, educational preparation, experience, and individual coping strategies. Inter-personal factors are those factors that relate to interactions between the nurse, her colleagues, and patients, for example autonomy, providing direct patient care, coworker interaction, professional pride, supervisory support, and work group cohesion. Extra-personal factors are those beyond a nurse's direct interactions with others and are influenced by institutional or government policies such as organizational policies, pay, resource adequacy, and workload. Hayes et al. (2010) concluded that nurse managers play a

pivotal position to increase job satisfaction among acute care nurses in any or all of these factor combinations.

Utriainen and Kyngäs (2009) completed a literature review of nurse job satisfaction with a goal of creating knowledge based on recent research results. To assess whether there have been any changes in nurse job satisfaction over the past years Utriainen and Kyngäs (2009) focused on finding new original studies (N = 21) of high scientific quality (peer reviewed articles) describing factors with a positive influence on acute care nurse job satisfaction. The studies chosen were published between 1997 and 2007. Utriainen and Kyngäs (2009) indicated that patient care, especially high-quality patient care, is a major factor generating nurse job satisfaction. Also, from this review there are implications to help nurse managers strengthen their nurses' job satisfaction. The three major areas from which acute care hospital nurses develop job satisfaction are interpersonal relationships, patient care, and organizing nursing work. Utriainen and Kyngäs (2009) "concluded that nurses' job satisfaction is primarily grounded on the communal aspects of nursing work: Interpersonal (coworker) relationships, social interaction, and communication with peers (coworkers)" (p. 1009). While relevant to the proposed study, it is important to note that this is one study, thus supporting additional investigation on the influence of positive coworker exchange relationships.

Recruitment and retention of nurses are persistent problems associated with job satisfaction. Therefore, Lu et al., (2011) objective was to update their previous work (Lu, et al., 2008) regarding nurses' job satisfaction and its associated factors. Lu et al. (2011) conducted a more comprehensive systematic review that added an additional forty-six studies examining acute care hospital nurse job satisfaction and its associated factors. Inspection of findings indicated that hospital nurse job satisfaction across studies is closely related to working

conditions and the organization environment, increasing job stress associated with healthcare restructuring and rapid technological changes, role conflict and ambiguity, role perception and role content, and organizational and professional commitment (Lu et al., 2011). In the absence of a robust casual model reflecting moderators and mediators between the predictors and job satisfaction the authors concluded that more research is required to understand the relative importance of the many identified factors relating to hospital nurse job satisfaction (Lu et al., 2011).

### **Overall Nurse Job Satisfaction Summary**

Even though a global measure of nurse job satisfaction will be employed in this study, robust job satisfaction literature reviews were examined. In literature nurse scholars have identified more current insights by integrating multiple strands of research and findings from prior work to provide more definitional clarity about factors associated with job satisfaction (Blegen, 1993; Hayes et al., 2010; Lu et al, 2011; Utriainen & Kyngäs, 2009; Zangaro & Soeken, 2007). Key factors contributing to hospital nurse job satisfaction include communication with supervisor, communication with peers (coworkers), and professionalism (Blegen, 1993) job stress and nurse-physician collaboration and autonomy (Zangaro & Soeken, 2007), strengthening nurses interpersonal relationships (Utriainen & Kyngäs, 2009), encouraging interactions among multidisciplinary team members (Hayes et al., 2010), and improving the nurse work environment and organizational climate (Lu et al., 2011). Even though nurse scholars have investigated characteristics associated with coworker relationships there is little evidence exploring *same-status* collegial supportive coworker exchange relationships and job satisfaction.

## **Organizational Commitment**

### **Introduction**

Organizational commitment is another major contributor to employee behavior as it is associated with organizational effectiveness, productivity, attendance, and turnover (Chang, 2014; Ferreira, 2007). The study of organizational commitment can contribute to a better understand of the intensity and stability of an individual's dedication to an organization (Ferreira, 2007). Meyer and Allen (1991) identified three distinguishable forms of organizational commitment: Affective, normative, and continuance after reviewing organizational commitment theory and research. The affective component of organizational commitment signifies employees' emotional attachment to, identification with, and involvement in, the organization. The normative component of organizational commitment denotes employees' feelings of obligation to stay with the organization. The continuance component refers to organization commitment based on costs that employees associate with leaving the organization (Meyer & Allen, 1991).

While examining nurse perceived organizational commitment, one may also inquire about organizational culture. Organizational culture is formed through meaningful accumulated learning at the organizational level; experiences of success and failure that are retrieved and incorporated into the culture of an organization and shared by the members (Schein, 2004). Organizational culture comprises common beliefs, attitudes, and values (Naicker, 2008). Different aspects of organizational culture include routines, rituals, stories, symbols, power structure, control system, and organizational structure. On the other hand, organizational commitment is the degree an employee identifies with an organization, wants to continue to actively participate in it, and wants to remain with the organization in the future (Naicker, 2008).

This investigation did not account for the broader facets or dimensions of organizational culture, nor was any form of unit culture data requested. It is suggested that future studies incorporate contextual factors such as culture type, work design, employee attitudes, and behavior, associated with both organizational and unit level culture when examining the acute care nurse work environment.

### **Empirical Literature**

Ahmad and Oranye (2010) examined the relationships between empowerment, job satisfaction, and organizational commitment among nurses working in two culturally and developmentally different societies; Malaysia ( $N = 388$ ) and England ( $N = 166$ ). They examined structural empowerment, which focuses on organizational aspects and management, and psychological empowerment, which relates to employee perception or attitudes about their work and organizational role. Organizational commitment was based on Meyer and Allen's (1991) three typologies of affective, continuance, and normative commitment. The internal consistency reliability for the organizational commitment scale was reported as 0.86 for Malaysia nurses and 0.78 for English nurses. Inspection of findings indicated that nurses in Malaysia perceived greater empowerment and commitment than nurses in England and nurses in Malaysia were less satisfied when compared with nurses in England. Psychological empowerment was more significant in accounting for organizational commitment for Malaysian nurses (0.424) than English nurses (0.337). Although there was a significant association between organizational commitment and job satisfaction, the regression value in the English hospital was  $R = 0.321$  with  $R^2 = 0.103$ , whereas in Malaysian Hospital  $R = 0.429$  and  $R^2 = 0.184$  (Ahmad & Oranye, 2010). Only 10.3 percent and 18.4 percent of the organizational commitment among nurses is attributed to job satisfaction and more than eighty percent of workers' organizational commitment is

unexplained by their job satisfaction. Ahmad and Oranye (2010) concluded that nurses are more likely to demonstrate greater organizational commitment if they feel psychologically empowered and that difference in levels of empowerment and the relationship to job satisfaction and organizational commitment in Malaysian and English nurses highlights the fact that cultural factors play an important role in organizational management across cultures.

De Gieter et al. (2011) studied the impact of job satisfaction and organizational commitment on nurse turnover intention in Belgium ( $N = 287$ ). Organizational commitment was measured using Meyer et al.'s (1993) six-item affective commitment scale; Cronbach alpha of 0.85. Both antecedents predicted 44.2 percent of nurse turnover intention variance ( $F(2,284) = 112.4; p < .001$ ). Nurses who displayed a higher turnover intention were less satisfied with their jobs and felt less committed to their hospitals (De Gieter et al., 2011).

Chang (2014) investigated whether job satisfaction enhances organizational commitment among nursing personnel in a Taiwanese hospital ( $N = 386$ ) and also explored whether perceived organizational support had a moderating effect on the relationship between nurse job satisfaction and organizational commitment. Based on differences between Eastern and Western cultures the authors referenced the scales developed by C. S. Chang and Chang (2009) and Feather and Rauter (2004). Three factors formed after factor analysis: Affective, continual, and normative organizational commitment with Cronbach's alpha values of 0.87, 0.93, and 0.83, respectively. Inspection of findings indicate that nurse job satisfaction positively influences their organizational commitment ( $\gamma_{11} = 0.53, p < .01$ ) and that nurse perceived organizational support had a significant moderating effect on the association between their job satisfaction and organizational commitment ( $\Delta\chi^2 = 26.058; p < .01$ ). As nurse perception of organization support increased their organizational commitment strengthened. Chang (2014) concluded that

heightened levels of perceived organizational support among nurses can strengthen their organizational commitment toward their hospitals. If hospital organizations want to be supported by staff members, hospital organizations must first show their support by providing sufficient support and welfare to nursing staff (Chang, 2014).

### **Organizational Commitment Summary**

Affective, normative and continuance are three distinguishable forms of organizational commitment identified by Meyer and Allen (1991). These components of organizational commitment continue to be investigated by researchers throughout literature. Organization commitment varies in differing cultures (Ahmad & Oranye, 2010). Increased job satisfaction is linked to more organization commitment (Chang, 2014; De Gieter et al., 2011). Nurse perceived organizational support has a moderating effect on nurse job satisfaction and organizational commitment (Chang, 2014). Lacking in literature are investigations on the relationship between *same-status nurse-to-nurse* coworker exchange relationships and organizational commitment. Hospitals organizations seeking increased organizational commitment from their staff first need to show their support to their staff (Chang, 2014). Hence, it can be reasoned as well, nurses who are seeking support from their coworkers first need to show their support to their coworkers.

### **Nurse Intent to Stay**

#### **Introduction**

Nurse intent to stay is defined as the estimated likelihood of continued membership in an organization (Cavanagh, 1989; Price & Mueller, 1981). Intent to stay reflects a conscious and purposeful decision to remain with the organization (Cho, Johanson & Guchait, 2009). Intent to stay is a valuation of intent and not an observed behavior (Cavanagh, 1989). There are three dimensions of turnover cognitions that relate with intent to stay: Thinking of quitting, intention

to search, and intention to quit (Sager et al., 1998). Rather than focusing on intent to leave it has become increasingly important to investigate the factors that contribute to nurses' intent to stay at their current job as well as their commitment to the profession of nursing because of its impact upon the efficiency and effectiveness of the delivery of healthcare (Lu et al., 2011).

### **Empirical Literature**

Sager et al. (1998) compared four different psychological structural models representing different relationships between the turnover cognitions constructs that precede turnover. These networks of structural relationships originated from tests of Mobley's (1977) multiple-cognitions turnover model and its variations (Arnold & Feldman, 1982; Griffeth & Hom, 1993; Hom, Griffeth, & Sellaro, 1984; Mobley, Horner, & Hollingworth, 1978). According to Sager et al. (1998) turnover cognitions represent mental decisions intervening between an individual's attitude regarding a job and the stay or leave decision. For whatever reason(s) or circumstance an individual has for contemplating job termination there are three dimensions of turnover cognitions: Thinking of quitting, intention to search, and intention to quit (Sager et al., 1998). Organizations can effectively manage employee turnover with continued monitoring of employee's intent to quit. An employer learning that an employee intends to search for an alternative job may not effectively be able to persuade the employee to stay even if the employer makes a counteroffer because quit decisions are formed before search behaviors develop (Sager et al., 1998).

Letvak and Buck (2008) investigated which factors influence work productivity and intent to stay in hospital nurses providing direct patient care ( $N = 323$ ). Inspection of findings indicated that total years worked as a registered nurse, quality of care provided, job stress score, having had a job injury, and having a health problem were significant predictors of work

productivity (Letvak & Buck, 2008). The most frequently reported reason for leaving was job stress (28.4%) and retirement (16.3%). Inability to provide quality of care and poor job satisfaction were also associated with a lack of intent to stay. Letvak and Buck (2008) reported that sixty percent of participants planned on staying in nursing over the next five years, twenty-five percent were unsure, and fifteen percent plan on leaving. Letvak and Buck (2008) concluded that to enhance nurse job satisfaction and to retain nurses at the bedside nurse leaders must advocate for changes that will improve the hospital nurse work environment. Nurse leaders must place additional efforts to improve the nurse work environment which will allow for decreased job stress, improved nurses' ability to provide quality care, and assure the health and safety of acute care nurses (Letvak & Buck, 2008). One way to do so may be by focusing on same-status coworker exchange relationships.

Baernholdt and Mark (2009) compared the nurse work environment, job satisfaction, and turnover rates in a random sample of rural and urban nursing units ( $N = 194$ ) in the U.S. Nursing unit characteristics were size, work complexity, availability of support services, and safety climate. The nurse work environment consisted of staffing adequacy (proportion of registered nurses, vacancy rate, experience, education, expertise, and commitment to care) and professional practice (decentralization, autonomy, and relational coordination). Inspection of findings indicated that vacancy rates were significantly lower in nursing units in rural hospitals when compared to urban hospitals (8.5% vs. 35.1%,  $p < 0.002$ , respectively). Less availability of support services was associated with lower job satisfaction. Support services include secretarial, housekeeping, intravenous teams, social work and dieticians, stocked linen and supply carts, and delivery of medication and intravenous fluids. Increased work complexity was associated with lower job satisfaction and higher turnover rates. Increased work complexity involves increased

patient acuity and a higher number of patients during a shift. Nurses in units with higher vacancy rates may have a higher work load and therefore may more have more intent to leave (Baernholt & Mark, 2009). Baernholdt and Mark (2009) concluded that to recruit and retain nurses in both rural and urban hospitals hospital organizations can improve nurse job satisfaction and turnover rates by creating better support services, work flow with less complexity, a nurse work environment that supports autonomous nursing practice, and nurses who are committed to their care.

Tschannen et al. (2010) investigated the relationship between missed nursing care (care that is omitted in whole or in part or significantly delayed) and intention to leave in 110 patient-care units while controlling for patient acuity (Case Mix Index – CMI). Inspection of findings indicated larger amounts of missed care were associated with higher turnover rates ( $r = .23; p < 0.05$ ). Higher rates of missed care ( $r = 0.40; p < 0.01$ ) and absenteeism ( $r = 0.40; p < 0.01$ ) were associated with greater intention to leave within one year. When nurses are not able to perform at a high level they may be absent more often. Intention to leave was also significantly related with turnover ( $r = 0.30; p < 0.01$ ), patient acuity ( $r = 0.22; p < 0.05$ ), skill mix ( $r = 0.34; p < 0.01$ ), education (BSN or higher) ( $r = 0.23; p < 0.01$ ) (Tschannen et al., 2010). The authors concluded that the care that nursing staff are able to deliver has an impact on their intention to leave (Tschannen et al., 2010).

Duffield et al. (2011) examined the impact of leadership characteristics of nursing unit managers on staff nurse job satisfaction and nurse retention ( $N = 2,141$ ). Twelve leadership items were examined from the Revised Nursing Work Index (Lake, 2002). Inspection of findings indicated that praise and recognition for a job well done had the strongest influence on job satisfaction and satisfaction with nursing, with an increase of one point yielding a forty-seven

percent increase in the odds of being satisfied with the job and a forty percent increase in the odds of being satisfied with nursing. This item was also associated with a seventeen percent decrease in nurse intent to leave (Duffield et al., 2011). A nurse manager or immediate supervisor who is a good manager and leader' decreased nurse intent to leave by twenty percent and increased job satisfaction by seventeen percent. Duffield et al. (2011) concluded that an effective nursing unit manager who consults with staff and provides positive feedback is instrumental in increasing nurse job satisfaction and satisfaction with nursing.

Basford and Offermann (2012) investigated the impact of coworker relationships with supervisor and senior management support on employee motivation and intent to stay among a large sample of service sector employees ( $N = 69,501$ ). Inspection of findings found that, after controlling for perceptions of immediate supervisor and senior management support, the perceptions of coworker relations had a significant positive impact on motivation ( $\beta = 0.226, p < 0.0001$ ) and on intent to stay ( $\beta = 0.195, p < 0.0001$ ). Intent to stay did differ by job level with coworker relationships displaying a greater impact on the intent to stay of employees in higher-status job positions. Basford and Offermann (2012) concluded that coworker relationships do matter; good coworker relations exert a positive impact on employee motivation and employee intent to stay (Basford & Offermann, 2012).

Choi et al. (2013) explored the relationships among nursing work environment factors, nurse job satisfaction, and intent to leave in nurses employed in Hong Kong ( $N = 1,259$ ). Five nursing work environment factors examined were ward practice, coworker relationship, staffing and resources, professionalism, and management. The five-factor solution accounted for 46.8 percent of the total variance with an overall internal consistency reported as 0.87. Nurses depicted management as not spending time understanding their thoughts and not showing

understanding of their heavy workload. Nurses were displeased with their organization for not providing the necessary resources and support for improving quality of care. Inspection of findings indicated that 44.5 percent of the respondents reported being dissatisfied with their jobs and more than sixty percent of them indicated that they had thought about resigning from their current position. All five nursing work environment factors demonstrated significant positive associations with nurses' job satisfaction and significant negative correlation with nurses' intent to leave indicating that nurses dissatisfied with their work environment have more intent to leave (Choi et al., 2013). The authors concluded that organizational and managerial efforts are needed to develop and integrated plan for transforming the nursing work environment in order to ensure quality care and promote nurse retention (Choi et al., 2013).

Unruh and Zhang (2013) explored newly licensed nurses' perceptions of their work environment on their professional commitment and investigated work environment issues that contribute to thoughts of leaving the nursing profession. Inspection of findings revealed that nurse perception ( $N = 414$ ) of job difficulty ( $\beta = 0.359, p < = 0.0001$ ) and job demands ( $\beta = 0.195, p < = 0.001$ ) were significantly related to greater intent to leave ( $N = 414$ ) (Unruh & Zhang, 2013). Job difficulties was described as nurse perceptions of working conditions that impede good performance and job demand was described as nurse perceptions of time pressure and heavy workload. Most respondents experienced job difficulties 1-3 days *or less* each month however they experienced job demands 1-2 days *or more* each week. Additional findings indicated that the strongest ranked of the job difficulties were: Lack of supervisor support ( $\beta = 0.294, p < = .0001$ ), incorrect instruction ( $\beta = 0.291, p < = 0.0001$ ), organizational rules and procedures ( $\beta = 0.280, p < = 0.0001$ ), interruptions ( $\beta = 0.244, p < = 0.0001$ ), and inadequate help from others ( $\beta = 0.238, p < = 0.0001$ ). The strongest ranked of the job demand items were

“having no time to get things done” ( $\beta = 0.227, p \leq 0.0001$ ) and “having to do more than can be done” ( $\beta = 0.228, p \leq 0.001$ ). Of these study participants 8.6 percent were thinking about leaving and 6.5 percent intended to look for a new profession (Unruh & Zhang, 2013). To improve newly licensed nurse long-term commitment, the nursing profession, Unruh and Zhang (2013) concluded that hospitals need to strengthen newly licensed nurses’ orientation and reduce barriers to getting work done and time pressures (e.g., by providing stronger supervisor support and cultivating a culture of assisting other with work, reduce interruptions, and improving staffing).

### **Nurse Intent to Stay Summary**

Reasons for nurse intent to leave have been well documented in nursing literature. Intent to leave nursing has been linked to job stress and retirement (Letvak & Buck, 2008); lack of support services and increased work complexity (Baernholdt & Mark, 2009); missed care and absenteeism (Tschannen et al., 2010); an ineffective nurse manager or immediate supervisor (Duffield et al., 2011); lack of support from supervisors, senior managers, and coworkers (Basford & Offermann, 2012); negative perceptions of the nurse work environment (Choi et al., 2013); and job difficulty and job demands (Unruh & Zhang, 2013). These factors are associated with job dissatisfaction and job dissatisfaction is most frequently cited with intent to leave. Literature is lacking investigations about positive factors relating to nurse intent to stay. Perhaps focusing on the positive aspects of nurse intent to stay rather than the negatives may increase nurse intent to stay. For further investigation, this investigation has depicted nurse intent to stay as a mediator to nurse perceived *same-status nurse-to-nurse* coworker exchange relationships and overall nurse job satisfaction.

## **Nurse Job Search Behavior**

### **Introduction**

Job search is a specific action undertaken by the individual to seek employment elsewhere (Zimmerman et al., 2012). Job search behavior is an important construct to understand because job search behavior remains a key step to employee turnover (Boswell et al., 2011; Zimmerman et al., 2012). Job search behavior examines actions a person might logically be expected to take during the job search process such as updating a resume, contacting an employment agency, or attending a job interview (Kopelman et al., 1992). Different job search objectives result in different job search behaviors therefore not all job search behaviors result in turnover (Hoye & Saks, 2008). In addition to seeking a new job other objectives for job search behavior include comparing alternative employment opportunities, to develop and maintain a network of professional relationships, and to improve bargaining position in negotiating terms of employment (Hoye & Saks, 2008; Zimmerman et al., 2012). Job search behavior is a multidimensional construct (Kopelman et al., 1992). The majority of job search studies operationalize job search behavior in terms of effort or intensity indicating how hard one tries to find a job (Kopelman, et al., 1992).

### **Empirical Literature**

Felps et al. (2009) wanted to test whether coworkers' job search behavior would mediate the relationship between coworkers' job embeddedness and focal employee voluntary turnover. The authors chose to focus on job embeddedness, as opposed to job satisfaction or organizational commitment, because job embeddedness captured a greater range of individual-level factors that provoke learning. Individual-level factors included how well people fit in their jobs (personal skills are well suited to the work assigned) and community, the interpersonal links (coworker

exchanges) people have on and off the job, and what they would have to sacrifice in leaving their job or community. Three hundred and twenty-one employees from a retail bank were surveyed. Inspection of findings indicate that coworkers' job embeddedness was significantly and negatively related to coworker's job search behavior ( $\beta = -0.41$ ;  $p < 0.001$ ). Coworkers' job embeddedness significantly predicted turnover ( $\beta = -0.91$ ;  $p < 0.001$ ) and coworkers' job search mediates the relationship between coworkers' job embeddedness and turnover. Additionally, one standard deviation increase in coworkers' job embeddedness decreased the probability of an individual voluntarily leaving from 12.9 percent per year to 4.2 percent per year. One standard deviation decrease in coworkers' job search behavior decreased the probability of an individual quitting by thirty-five percent. Supporting previous research, Felps et al. (2009) concluded that job embeddedness and job search behavior of coworkers play critical roles in explaining why people quit their jobs (Felps et al., 2009).

Palanski et al. (2014) examined the roles leadership and abusive supervision play in the turnover process. Participants ( $N = 949$ ) were full time business owners, senior managers, or partners of larger firms and worked under a direct manager/supervisor. Inspection of findings supported a path between ethical leadership and job search behaviors mediated by job satisfaction and turnover intentions (Palanski et al.; 2014). Also, ethical leadership is significantly related to job satisfaction ( $\beta = 0.31$ ;  $p < .01$ ), job satisfaction is significantly related to turnover intentions ( $\beta = -0.61$ ;  $p < 0.01$ ), and turnover intentions are significantly related to job search behaviors ( $\beta = 0.68$ ;  $p < 0.01$ ). A direct path relationship from abusive supervision to job search behaviors ( $\beta = 0.22$ ;  $p < 0.01$ ). Additionally, both ethical leadership and abusive supervision had a significant impact on job search behaviors. Employees who indicated that their supervisor displayed ethical leadership showed higher job satisfaction, lower turnover

intentions, and lower job search behaviors. Correspondingly, employees who indicated that their supervisor displayed abusive behaviors were less satisfied with their jobs, leading to higher turnover intentions, and more job search behavior (Palanski et al., 2014). The authors concluded that even low levels of abusive supervision neutralize high levels of ethical leadership (Palanski et al., 2014). The investigation of *same-status nurse-to-nurse* coworker exchange relationships and job search behavior may similarly influence job satisfaction and nurse intent to stay.

Erdogan (2013) investigated whether and how job search behaviors are related to the development of career strategies and to perceived employability. Evidence was collected from sixty students enrolled in graduate programs of major universities in Turkey. Results of linear regression analysis indicated that job search behavior was positively related to the use of career strategies ( $\beta = 0.265, p < 0.05$ ) and that the use of career strategies was positively related to perceived employability ( $\beta = 0.320, p < 0.05$ ). However, the frequency of job search behaviors was not significantly related to perceived employability ( $\beta = -0.028, NS$ ). Erdogan (2013) concluded that individuals with greater job search behaviors are more prone to use career strategies such as enhancing employability, mentoring, networking, and career planning. Erdogan (2013) proposed that the relationship between career strategies and employability is due to individuals' development of career competencies. An interesting finding was that job search behaviors do not directly lead to employability. Erdogan (2013) recommended future research focusing on the processes by which individuals feel themselves employable in the job market.

### **Nurse Job Search Behavior Summary**

Job search behaviors have different objectives; not all job search behaviors result in turnover. Some job search behaviors compare alternative employment opportunities, broaden and maintain a professional network, and provide better informed negotiation terms for

continued employment (Hoye & Saks, 2008; Zimmerman et al., 2012). Coworkers play critical roles in explaining why people quit their jobs as coworkers' job search behavior was found to mediate the relationship between job embeddedness and turnover (Felps et al., 2009). Ethical leadership and abusive supervision have a significant impact on job search behaviors (Palanski et al., 2014). Job satisfaction and turnover intentions mediate a path between ethical leadership and job search behaviors (Palanski et al., 2014). Abusive behaviors are linked to job dissatisfaction and lead to increased intent to leave and more job search behaviors (Palanski et al., 2014). Job search activities are related to career strategies and career strategies to employability, but no significant relationship exists between job search activities and employability (Erdogan, 2013). It is important to continue further investigation on job search behavior because job search behavior remains a key step to employee turnover.

### **Relationships among Variables**

The Coworker Exchange Theory (Sherony & Green, 2002) provides a better understanding of relationship building and development. *Same-status* coworker exchanged relationships is a fairly new concept in nursing and is understudied in most disciplines. Even though terms are used interchangeable with the distinctions between them not clearly identified, the literature has taken a respectable course in helping to identify attributes of the phenomenon of collegial support. Literature supports that workplace relationships influence outcomes such as coworker support influences job involvement (Chiabura & Harrison, 2008), intention to leave is associated with incivility and verbal abuse (Leiter et al., 2010; Pellico et al., 2010), nurse-team communication enhances patient outcomes (Propp et al., 2010), and a lack of nurse collaboration affects quality of care provided (Vessey et al., 2010). There are many reasons for turnover. From the literature review some of the key factors associated with turnover include coworker

relationships, quality of care, job satisfaction, and organizational commitment. Multivariate turnover models indicate that intent to search and job search behavior precede turnover (Mobley, 1977; Parasuraman, 1989; Price & Mueller, 1981). Relating to nurse turnover and the nurse work environment, exploring the relationships that may exist among the variables in this investigation including examining possible mediation factors will provide a great foundation for exploring the concept of same-status nurse-to-nurse coworker exchange relationships.

### **Chapter Summary**

This review of the literature began by presenting The Coworker Exchange Theory (CWX) (Sherony & Green, 2002). According to the theory, the quality of the exchange relationship is based on the level of emotional support, reciprocity, and resources exchanged. Within the Coworker Exchange Theory there are three phases of a dyadic relationship development: Stranger, acquaintance, and maturity where, overtime, coworkers become partners. The associated CWX7 instrument appropriately captures three important dimensions of a supportive coworker exchange relationship, namely trust, respect, and obligation and development (Sherony & Green, 2002). The CWX theory was selected to guide this inquiry for several reasons. First, the exchange theory is well established and has gone through revisions as management styles have evolved. Second, the CWX theory identifies and discusses stages of positive relationship building and development reasoned to be the basic underpinning of a collegial supportive exchange relationship among same-status coworkers. Third, the LMX theory is based on the characteristics of a working relationship rather than a friendship relationship: Respect, trust, and obligation and development. Forth, the review of the research using the Coworker Exchange Theory provides evidence for its usefulness within nursing research. Lastly, by utilizing the CWX theory this investigation will be the first to establish correlations among

important study constructs which can confirm the significance of a better understanding on the impact of *same-status nurse-to-nurse* coworker exchange relationships within the acute care nurse work environment.

Next, this literature review examined theoretical models on turnover. March and Simon (1958) hypothesized voluntary turnover to be a function of perceived desirability (job satisfaction) of movement and perceived ease of leaving the organization (perceived alternatives). Since that time a number of theoretical models have identified relationships among determinants of turnover. Job satisfaction precedes intent to stay which is influenced by behavioral and economic conditions (Mobley, 1977). Price and Mueller (1981) viewed turnover as a product of job dissatisfaction and lack of commitment which are influenced by organizational factors, demographics, and environmental factors. Hinshaw and Atwood's (1983) focused only on the individual characteristics of expectation of tenure and mobility characteristics including age, education, and pre-tenure. Parasuraman's (1989) incorporated personal, organizational, and job experience variables as well as job attitudes and behavior intentions as predictors of voluntary turnover. Irvine and Evans (1995) viewed behavioral intentions as a direct antecedent to turnover behavior with the impact of job satisfaction mediated by behavior intentions. The different disciplinary perspectives of economists, sociologists, and psychologists contribute to explaining nurse turnover. Antecedents to job satisfaction include economic factors (pay, job market, and training); structural factors (work environment and work context); and psychological factors (individual and demographic) (Irvine & Evans, 1995). Sager et al. (1998) concentrated on turnover cognitions that precede turnover: thinking of quitting, intention to search, and intention to quit. It is evident from the review of literature that undeniably turnover has emerged as an interesting complex process with multiple indicators and

outcomes (Holtom et al., 2008). Identified as a gap throughout literature are investigations on *same-status* coworker relationships and the exploration on what relationship exist between positive *same-status* coworker supportive exchange relationships and turnover. This review of turnover literature abetted the format of this study to further investigate the integration and some potential mediation effects of the following constructs: *Same-status nurse-to-nurse* coworker exchange relationships, quality of care, job satisfaction, organization commitment, intent to stay, and job search behaviors.

Chronological literature reveals that nurse scholars have developed various collegial models relating to improving factors within the work environment: Ideal Model (Likert, 1961), Collegial Support Model (LaPlant, 1986), Conceptual Model for Collegiality (Hansen, 1995), Collegial Mentoring Model (CMM) (Thorpe & Kalischuk, 2003), and the Collegial Clinical Model (CCM) (Salera-Vieira, 2009). However, none of these scholars has theoretically addressed the quality level of coworker relationship development process which is critical in measuring collegial support. These models do help to better understand the components of a collegial supportive work environment and offer opportunity to capture a range of philosophical positions. This investigation seeks to add to the current knowledge of factors concerning the phenomenon of collegial support made operational as literature lacks empirical investigation of the phenomenon of collegial support.

Lastly, this review of literature provided descriptive evidence of each of the study variables selected for this investigation: *Same-status nurse-to-nurse* coworker exchange relationships, quality of care, overall job satisfaction, organizational commitment, intent to stay, and job search behavior in the acute care nurse work environment. This has provided the reader with an understanding of the terms and concepts used in the investigation and that there remain

gaps in our understanding of the impact of *same-status nurse-to-nurse* coworker exchange relationships. It is reasoned that these variables are interlinked based on the fundamental understanding that collegial support begins with an evolving exchange relationship between at least two individuals in the nurse work environment. This study investigating the relationships that exist among these concepts offers a beginning point for gaining understandings of the impact of the *same-status nurse-to-nurse* coworker exchange relationships on nursing and healthcare outcomes. There is opportunity for future studies to build upon this investigation to better clarify and understand the influence of *same-status nurse-to-nurse* coworker exchange relationships with other factors and dimensions intertwined within the nurse work environment such as teamwork, organizational climate, organizational culture, and within the phenomenon of collegial support.

## **Chapter Three**

### **Methods**

The purpose of this study was to investigate the relationships among nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior in the acute care nurse work environment. To advance nursing science an aim of this study was to fill gaps that exist in literature by providing a better understanding of the impact of perceived *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment. This chapter describes the design of this investigation developed to test the hypothesized theoretical model. Sampling and data collection procedures, details of the instruments utilized, and procedures for data management and data analysis are discussed. Study limitations are also addressed.

### **Research Design**

A cross-sectional correlational study design was employed (Hulley, Cummings, Browner, Grady, & Newman, 2007). Although there is an understanding that coworker relationships are associated with nurses' perceived quality of care (Cline et al., 2011), job satisfaction (Hayes et al., 2010), organizational commitment (Ahmad & Oranye, 2010), and turnover (Basford & Offermann, 2012), the impact of collegial supportive *same-status nurse-to-nurse* coworker exchange relationships on nursing and healthcare outcomes remains elusive. In cross-sectional research variables are not manipulated and causal statements about the relationships between variables cannot be made. The Coworker Exchange Theory (Sherony & Green, 2002) guided this investigation. In this study the predictor variables, nurse perceived *same-status nurse-to-nurse* coworker relationships, nurse perceived quality of care provided, nurse job satisfaction,

nurse perceived organizational commitment, and nurse intent to stay, are hypothesized to influence nurse job search behavior. This investigation was enhanced through further examination of potential mediation relationships.

A source of bias occurs from missing data which is common to many studies. The best solution to the problem of missing data is to prevent its occurrence initially (McCleary, 2002). To avoid missing data, the investigator incorporated within the study survey several reminder notations to encourage participants to check that they have responded to each question before submitting their survey.

### **Setting**

Every acute care nurse work environment setting is unique. Nurse respondents in this investigation were employed within one health care system that incorporates the same policies and procedures across affiliated facilities. Participants were drawn from seven separate facilities of one large health care system located in a Midwestern state in the United States. Approximately thirteen hundred registered nurses are employed in this health system.

### **Sample**

The sample consisted of 427 registered nurse participants. Inclusion criteria for the sample consisted of registered nurses currently employed in direct patient care at least 24 hours per week at the participating health system. Registered nurses holding management or lead positions who are not assigned to patient care (e.g., nurse educators, team leaders, and supervisors) were excluded. Registered nurses employed less than 24 hours per week, nurses contracted per diem or as an on call relief position, and outside agency nurses were excluded from this study due to lack of contracted and continuous employment indicative of ongoing organizational commitment. For clarification purposes, a contracted per diem nurse was

described as a nurse with a local contract for a set amount of time who agrees to pick up available work shifts on a day-to-day basis or a nurse that schedules a block of shifts several weeks out. A nurse on call relief position was as a nurse who agrees to work a shift for another coworker or is called in for a shift due to nurse absence or due to additional nurse need.

Using two different statistical software program calculations a small effect size (0.02), a midrange effect size (0.08) and a medium (0.15) effect size were compared. According to the Statistics Calculators (Version 3.0) software program the minimum required sample size with five independent predictors for a-priori power analysis for multiple regression using a small effect size (0.02) is 643 participants, a midrange effect size (0.08) is 165 participants, and a medium effect size (0.15) requires a minimum sample size of 91 participants (Soper, 2014; Cohen, 1988). As a comparison the G\*Power 3.1 power analyses program calculation for the estimated sample size for a-priori power analysis for linear multiple regression small effect size (0.02) with five predictor variables is 647 participants; a midrange effect size (0.08) is 165 participants, and a medium effect size (0.15) is 92 participants (Faul, Erdfelder, Buchner, & Lang, 2009). An alternative approach to detect a small effect size to examine relationships was approximately thirty participants per study variable (Wilson Van Voorhis & Morgan, 2007).

After consideration of the sample calculation methods given for the results of the power analysis the investigator used, for this multiple regression study, the midrange effect size (0.08) for calculating the minimum required sample size of 165 participants. Justified by the results of the power analysis the investigator proposed collecting data from an a minimum sample size of  $N = 207$  (165 participants plus a twenty-five percent oversampling allowance which includes an additional forty-two participants to equal a minimum sample size of  $N = 207$  participants).

## **Protection of Human Subjects**

Approval to conduct the investigation was obtained from the University of Wisconsin – Milwaukee Institutional Review Board (IRB) (Appendix I). An approval was also obtained from the participating health care system and their individual hospital organization review committee (Appendix J). There were no known risks associated with participation in this study. Return of the survey by the nurse respondent implied consent. Data obtained in this investigation were intended for research purposes only. Participation in this study was voluntary and all data collected remained anonymous and confidential. All data were stored in a locked file cabinet in the principal investigator's home office. Computer data were stored in a non-networked computer with password protection at the principal investigator's home office. Both written and computer data will be kept on file for five years and then destroyed or erased.

## **Instrumentation**

Six self-report outcome instruments and an investigator designed individual nurse characteristics form were used to measure the study variables. The research instruments in order of administration were: the Coworker Exchange Scale (Sherony & Green, 2002) (Appendix B) , Karen-Personnel Instrument (Andersson & Lindgren, 2008) (Appendix C), abridged Job in General Scale (Bowling Green State University, 2009) (Appendix D), Three-Component Employee Commitment Survey (Meyer et al., 1993) (Appendix E), Turnover Cognitions and Turnover Constructs Scale (Sager et al., 1998) (Appendix G), and Job Search Behavior Index (Kopelman et al., 1992) (Appendix H). Permission was obtained for use of the instruments developed by others (Appendix K). The survey took approximately twenty to thirty minutes of nurse time to complete. A list of the instruments used in this investigation and the corresponding

number of items for each is included in Table 1. A description of each of the instruments, in the order of their administration on the survey, is presented.

Table 1

*Study Variables and Outcome Instruments*

Study Variable	Outcome Instrument	Number of Items in Instrument
Nurse perceived Coworker Exchange Relationship (CWX)	Coworker Exchange Scale (CWX7)	7
Nurse Perceived Quality of Care Provided (QOC)	Karen-Personnel Instrument	35
Nurse Overall Job Satisfaction (JIG)	abridged Job in General Scale (aJIG)	8
Nurse perceived Organizational Commitment (ORGC)	Three-Component Employee Commitment Survey	18
Nurse Intent to Stay (ITS)	Turnover Cognitions and Turnover Constructs Scale	7
Nurse Job Search Behavior (JSB)	Job Search Behavior Index (JSB)	10
Individual Nurse Characteristics	Individual Nurse Characteristics Form	20

**Coworker Exchange Scale (CWX7)** (Sherony & Green, 2002) (Appendix B)

**Description.** The Coworker Exchange Scale (CWX7) (Sherony & Green, 2002) captures three important dimensions of the coworker exchange relationship, namely trust, respect, and obligation and development. The CWX7 was used to measure nurse perceived quality level of same-status registered nurse-to registered nurse coworker exchange relationships (CWX) in the acute care nurse work environment. The CWX7 (Sherony & Green, 2002) is a variation of the LMX7 scale. The CMX7 has seven items that measure respondent’s perception of their coworker exchange relationships such as – “Do you know where you stand with your coworkers...do you usually know how satisfied your coworkers are with what you do?” The variables were measured using a 5-point Likert-scales ranging from 1 to 5; such as from 1

(rarely) to 5 (very often), from 1 (none) to 5 (very high), and from 1 (strongly disagree) to 5 (strongly agree).

**Reliability.** Reliability has been established through internal consistency. Sherony and Green (2002) analyzed differences between coworker exchange relationship (CWX), leader-member exchange relationships (LMX), and the work attitudes towards organizational commitment and job satisfaction in a sample of employees at an engineering company and a health services facility ( $N = 66$ ). The CWX instrument reported acceptable reliability statistics with a coefficient alpha of 0.92. The CWX7 was one of the instruments used by Keup et al. (2004) to analyze leader-member, team-member, and member-member (coworker) relationships associated with individual job outcomes. Over four hundred ( $N = 429$ ) individual workers' work relationships in three organizations in two North American countries were tested. The CWX7 scale showed high reliability with a coefficient alpha of 0.91 in their study. In the current study, to measure nurse perceived same-status nurse-to-nurse exchange relationships, Cronbach's alpha coefficient for the total Coworker Exchange Scale (CWX7) was .84 ( $N = 427$ ).

**Validity.** Prior research of validation of the LMX7 by Graen and Cashman (1975) indicated that negotiating latitude (vertical exchange) was measured with two different methods from the perspective of leaders, members, and peers (coworkers). The resulting multimethod-multisource matrix (based on Campbell & Fiske, 1959) showed convergent validity among leaders, members, and peers (coworkers) with both methods utilized indicating that each group is measuring a different construct (Liden & Graen, 1980).

More recent studies using the CWX instrument continue to report validity. Sherony and Green (2002) adapted the CWX7 items by rephrasing the items of the LMX7 to gauge the respondent's assessment of his or her relationship with a coworker rather than with his/her

leader. In their study one item—“How well does your leader recognize your potential?”—was dropped because it did not seem appropriate for coworker relations. Principal factor analysis using varimax rotation yielded separate CWX and LMX factors with no cross-loadings, indicating that employees were distinguishing between these two types of relationships (Sherony & Green, 2002). Wikaningrum (2007) reported validity testing indicated that there were no cross-loading on LMX variables with CWX loading even though no details of the validity testing procedure completed was explained in the research article. Baker and Omilion-Hodges (2013) used confirmatory factor analysis to assess the dimensionality of the CWX6 scale which met criteria for both validity and reliability: Face validity, internal consistency, and external consistency (parallelism).

**Scoring.** For this investigation all seven items of the CMX7 instrument were used because it is relevant to know how well nurse coworkers recognize another’s potential. Participants selected a numerical value for every item on the Coworker Exchange Scale (CWX7); respondents’ choices indicating a greater number signify more agreement to the item of concern. Thus, the possible range of scores of the Coworker Exchange Scale is from 7-35 with the greater score indicating more positive nurse perceived *same-status nurse-to-nurse* coworker exchange relationships.

#### **Karen-Personnel Instrument** (Andersson & Lindgren, 2008) (Appendix C)

**Description.** The Karen-Personnel Instrument (Andersson & Lindgren, 2008) was used to measure nurse perceived quality of care (QOC). The Karen-Personnel Instrument is a 35-question instrument that focuses on three content areas concerning the perception of quality of care: The quality of staff (structure quality), the quality of implementing care (process quality), and the quality of patient-related quality results (outcome quality). The perception of personnel

regarding the quality of care was analyzed in relation to six subscales that make up the Karen-  
Personnel Instrument: Psychosocial relations, commitment, work satisfaction,  
openness/closeness, competence development, and security/insecurity. Item examples include  
“We are able to talk to each other”, “The staff shows no interest”, and “The work develops me as  
a human being”. The variables are measured using a 5-point Likert-scale ranging from 1  
(strongly disagree) to 5 (strongly agree).

**Reliability.** Reliability has been established through studies that determined the  
discriminative power of the items in the Karen-Personnel Instrument and through internal  
consistency. Following a four-step discrimination analysis Andersson and Lindgren (2008)  
reported good reliability with the Cronbach’s alpha coefficient of 0.88 in a sample of personnel  
from a medical-surgical unit at a University Hospital ( $N = 42$ ). A subsequent two-step factor  
analysis of the Karen-Personnel Instrument had a Cronbach’s alpha correlation coefficient of  
0.92 in a sample of personnel from surgical and medical units ( $N = 120$ ) (Lindgren & Andersson,  
2011). In the current study, to measure nurse perceived quality of care provided, Cronbach’s  
alpha coefficient for the total Karen-Personnel Instrument (QOC) was .84 ( $N = 427$ ).

**Validity.** The development of the Karen-Personnel Instrument was started by Andersson  
in 1995. Thematic interviews were conducted with hospital staff personnel focusing on the  
meaning of the concept quality of care, factors influencing the quality, important aspects of care,  
the meaning of health and quality of life, the goals of nursing care, quality of care related to self-  
care, and factors increasing the quality of care. The Donabedian’s Structure-Process-Outcome  
quality model constituted the theoretical framework for the construction of the items included in  
the instrument. A 76-item Karen-Personnel Instrument was generated inductively by analyzing  
the content of the interview material. Andersson in 1995 developed a Karen group ( $N = 193$ ) to

determine the content relevance in relation to quality of the 76-item Karen-Personnel Instrument. According to the theoretical underpinning of the Donabedian triad quality model 14 items were discarded from the Karen-Personnel Instrument resulting in a 62-item Karen-Personnel Instrument (Andersson & Lindgren, 2008).

Andersson and Lindgren's (2008) goal was to determine the discriminative power of the 62-item Karen-Personnel Instrument for measuring quality of care and to reduce the number of items on the instrument. Discriminant validity tests whether concepts or measurements that are supposed to be unrelated are, in fact, unrelated. A discrimination analysis of the Karen-Personnel Instrument was carried out using the four step Likert's method. Personnel from a medical-surgical unit participated in this study ( $N = 42$ ). First the total sum of scores for all items, for each participant, was calculated. Second two extreme groups of respondents were selected. One group with the highest total score (H) and the other group with the lowest total score (L) were further analyzed. The high scoring group included 11 (25%) and the low scoring group consisted of 11 (25%) of the 42 personnel respondents. Next, the mean (M) for every item in the selected groups H and L was calculated, resulting in two mean values for each item, a mean high (MH) and a mean low (ML). Lastly, the difference between the MH and the ML was calculated for each item. The difference between the MH and the ML is regarded as an expression of the discriminative power of each item. After performing face validity, a discriminant power analysis resulted in further reducing the number of items to the current 35-item Karen-Personnel Instrument. The Karen-Personnel Instrument has been reduced to a suitable number to handle in clinical practice when examining care quality and the content of the items corresponds with the original items (Andersson & Lindgren, 2008).

The objective of Lindgren and Andersson, (2011) study was to further develop the Karen-  
Personnel instrument with regard to construct validity. Personnel from six surgical and medical  
units ( $N = 120$ ) participated in the study. Construct validity was established by confirmatory  
factor analysis. Six factors (subscales) in the Karen-Personnel Instrument were labeled and  
termed in accordance with their meaning: Psychosocial Relations, Commitment, Work  
Satisfaction, Openness/Closeness, Competence/Development, and Security/Insecurity. The  
interpretation was made from a nursing care perspective using the four central concepts (person,  
environment, health and nursing) to categorize the quality of care phenomenon of interest to the  
nursing discipline. The total variance explained for the Karen-Personnel Instrument was 59.2  
percent (Lindgren & Andersson, 2011).

**Scoring.** Participants were asked to select a numerical value for every item on Karen-  
Personnel Instrument. Some of the items on the Karen-Personnel Instrument are worded such  
that strong agreement actually reflects a lower level of quality of care. For scoring purposes,  
scores on nineteen reverse-keyed statements will be recoded (e.g., 1 = 5, 2 = 4, ... 5 = 1) before  
scoring. Thus, the possible range of scores of the Karen-Personnel Instrument is from 35-175  
with the greater score indicating more positive nurse perceived quality of care provided.

**abridged Job in General Scale (aJIG)** (Bowling Green State University, 2015) (Appendix D)

**Description.** The abridged Job in General (aJIG) scale (Bowling Green State University,  
2015) is an 8-item instrument that was used to measure participants overall feeling of job  
satisfaction (JIG). The aJIG is a measure of global satisfaction, meaning that participants are  
asked to think about how satisfied they are with their job in a broad, overall sense. Participants  
were asked to respond to “Think of your job in general. All in all, what is it like most of the

time?” For each word or phrase respondents circle “Yes” (1) if it describes their job, “No” (2) if it does not describe it, or “?” (3) if they cannot decide.

**Reliability.** Reliability has been established through internal consistency. Russell et al. (2004) completed three studies following structured scale reduction procedures developed by Stanton et al. (2002) to develop an abridged version of the Job in General instrument. The studies yielded alpha coefficients for the aJIG of 0.87, 0.85 and 0.87, respectively without sacrificing the psychometric properties of the 18-item full-length JIG version (Russell et al., 2004). In the current study, to measure overall nurse job satisfaction, Cronbach’s alpha for the total abridged Job in General scale (JIG) was .85 ( $N = 427$ ).

**Validity.** The original Job in General scale (Ironson, Smith, Brannick, Gibson, & Paul, 1989) consisted of 18-items. Across three studies Russell et al. (2004) carefully developed and cross-validated an abridged version of the Job in General instrument. Refer to Russel et al., 2004 for complete detail analysis. In the first study, the 8-item aJIG instrument had satisfactorily replicated the covariance patterns of the full-length 18-item JIG instrument (Russell et al., 2004). Study two involved a cross-validation technique with an additional sample. The sample for study two consisted of full-time non-managerial employees ( $N = 250$ ). Specifically, the aJIG correlated with affective commitment,  $r = 0.48$  ( $p < 0.05$ ), with normative commitment,  $r = 0.21$  ( $p < 0.05$ ), and organizational identification,  $r = 0.47$  ( $p < 0.05$ ) lending considerable support to the success of the scale reduction process and construct validity of the aJIG for continued use in research of employee attitudes about overall job satisfaction (Russell et al., 2004). In study three the authors further investigated the aJIGs theoretical linkages to organizational commitment (affective and continuance commitment) and to withdrawal behaviors such as searching for a new job. The sample for study three were recruited from the field of information technology and

completed a baseline survey ( $N = 164$ ) and six weeks later completed the second survey ( $N = 110$ ). Again the aJIG correlated strongly with affective commitment,  $r = 0.59$  ( $p < 0.05$ ) and a small, negative correlation was found between overall job satisfaction and continuance organizational commitment,  $r = -0.24$  ( $p < 0.05$ ) (Russell et al., 2004). Low job satisfaction was found to accompany both preparatory and active job search. The third study lends additional credibility to the aJIG scale as a valid and brief measure of overall job satisfaction (Russell et al., 2004).

The latest revision of the aJIG by Bowling Green State University (2015) used a sample representative of the U.S. working population ( $N = 1,485$ ) and developed overall national norms based on demographic and industry variables for comparison purposes to support the aJIG scale. Demographic and industry variables included organization level, education, management status, age, tenure, and organization type (government, for profit, not for profit, and self-employed). The research group completed a scale refinement process to ensure the individual items on the aJIG scale were psychometrically sound (continued to represent distinct factors) and that the scale continued to be relevant to science and practice. Items selected to be used in the scale were based on item-total correlation, item response theory parameters, item valence (e.g., positively worded vs. negatively worded), and confirmatory factor analysis loadings. No specific details of the results were reported however now that the aJIG instrument has been updated Bowling Green State University offers easy access to investigators and practitioners free of charge. The 8-item aJIG scale used in this current study was downloaded directly from <http://www.bgsu.edu/arts-and-sciences/psychology/services/job-descriptive-index.html>

**Scoring.** Five items in the aJIG are worded favorably (e.g., excellent) so a “yes” response indicates satisfaction. The scoring methodology for the aJIG instrument establishes a

weight for each question. Participants were asked to respond (1) “yes”, (2), “no”, or (3) “?”. According to the users’ manual, the scoring was modified during analysis so that yes = 3 points, no = 0 points, and ? = 1 point (Baltzer et al., 1990). Three items are worded unfavorable (e.g., poor) meaning that the “yes” response would indicate dissatisfaction. The users’ manual indicates that these unfavorable items were reverse-scored (no = 3 points, yes = 0 points, and ? = 1 point) so that all scores will reflect more positive job satisfaction (Baltzer et al., 1990). Thus, the possible range of scores of the aJIG is from 0-24 with the greater score indicating more positive overall job satisfaction.

### **Three-Component Employee Commitment Survey** (Meyer et al., 1993) (Appendix E)

**Description.** The Three-Component Employee Commitment Survey (Meyer et al., 1993) is an 18-item instrument that was used to measure nurse perceived organizational commitment (ORGC). The Three-Component Model of Employee Commitment Survey includes three well-validated subscales: the 6-item Affective Commitment Scale (ACS) measuring desire-based commitment, the 6-item Normative Commitment Scale (NCS) measuring obligation-based commitment, and the 6-item Continuance Commitment Scale (CCS) measuring cost-based commitment. The instrument contains statements pertaining to employees’ perception of their relationship with the organization and their reasons for staying. Participants respond to statements such as “I really feel as if this organization’s problems are my own” (Affective Commitment Scale), “It would be very hard for me to leave my organization right now, even if I wanted to” (Continuance Commitment Scale), and “I owe a great deal to my organization” (Normative Commitment Scale). The variables are measured using a 5-point Likert-scale ranging from 1 (strongly disagree) to 5 (strongly agree).

**Reliability.** Reliability of the Three-Component Employee Commitment Survey has been established through internal consistency. Several studies have examined the reliability (alphas) of the Three-Component Employee Commitment Survey. Allen and Meyer (1990) reported .87 for affective, .75 for continuance, and .79 for normative. Dunham, Grube, & Castaneda (1994) found alpha ranges of .74 to .87 for affective, .73 to .81 for continuance, and .67 to .78 for normative. Meyer et al. (2002) performed a meta-analysis of studies using the later 18-item version, as well as, the earlier 24-item version of the Three-Component Employee Commitment Survey. They collected data from people who had sought permission to use the Three-Component Employee Commitment Survey during the last fifteen years as well as from computer databases dating back to 1985. The mean reliability from all the studies was .82 for affective, .73 for continuance, and .76 for normative.

More recent, Ahmad and Oranye (2010) examined the relationships between nurses' empowerment, job satisfaction, and organizational commitment in culturally and developmentally different societies; two teaching hospitals in England and Malaysia. The internal consistency reliability of the Three-Component Employee Commitment Survey instrument for the two study groups was reported as 0.86 (Malaysia Hospital,  $N = 388$ ) and 0.78 (British Hospital,  $N = 168$ ) (Ahmad & Oranye, 2010).

In this dataset, poor Cronbach's alpha coefficients were obtained for each of the subscales of the Three-Component Model of Employee Commitment Survey (ACS = .332, NCS = .198, and CCS = .164). The total Three-Component Employee Commitment Survey represented poor internal consistency yielding an unacceptable Cronbach's alpha coefficient of .42 ( $N = 427$ ). Exploratory principal component analysis (PCA) was conducted to examine which linear components exist within the data and how particular variables might contribute to that

component (Field, 2011). A principal component analysis (PCA) was conducted on the 18-item scale with orthogonal rotation (varimax). The Kaiser-Meyer-Olkin measure verified the sampling adequacy for the analysis as being great,  $KMO = .85$ . However most of the KMO values for individual items were between 0.5 and .07, with 0.5 being the bare minimum (four values were  $< 0.5$  and would need to be excluded from further analysis). Twelve of the eighteen values ranged from .49 to .69 (mediocre) with only two values of .79 and .83 considered good. For these data these low KMO values for individual items determines that the sample size is not adequate for factor analysis (Field, 2011).

Additionally, item-total analysis was used to assess the internal consistency of the instrument. Item-total analysis is a test designed to measure a single construct (in this case organizational commitment) and determines the degree to which all of the items measure the same construct. All item-total correlations should always be positive. Generally, item-total correlations of greater than 0.7 are considered desirable, those less than 0.3 are considered weak, and items with correlations less than 0.3 should be removed from the scale. In this case no items were greater than 0.7; nine items were less than 0.3 and the nine remaining items had item-total correlations less than desirable of .327 to .564 (Cronk, 2012). In the current study, the variable nurse perceived organizational commitment was not included in analysis due to inconsistency of nurse responses in this sample.

**Validity.** Construct validity of the three commitment scales was examined by analyzing both convergent and discriminant validity by performing confirmatory factor analysis (Meyer et al., 1993). Data were collected from two separate samples of student nurses enrolled in a 4-year nursing program ( $N = 366$  for the first year and  $N = 296$  for the following year). Data were also obtained from a random sample of register nurses ( $N = 603$ ). The confirmatory factor analysis

resulted in all affective commitment items defined on factor, all continuance commitment items a second factor, and all normative commitment items a third factor (Meyer et al., 1993, Table 3, p. 544). Meyer et al. (1993) assessed the fit of the Three-Component Employee Commitment Survey by computing two indexes: The relative non-centrality index (RNI) and the parsimonious normed-fit index (PNFI). The three factor affective, continuance, and normative commitment to the organization reported a better fit ( $N = 530$ ,  $RNI 0.938$ ,  $PNFI 0.880$ ) (Meyer et al., 1993).

Ahmad and Oranye (2010) indicated that a nursing expert panel was recruited to discuss and establish the construct and content validity of the Three-Component Employee Commitment Survey instrument however no further explanation or description of this process or procedure was documented in their study.

**Scoring.** The Three-component Employee Commitment Survey contains three 6-item commitment scales: ACS, NCS, and CCS. Some of the items in the commitment scales are worded such that strong agreement actually reflects a lower level of commitment. According to the users' guide, the four reverse-keyed statements were recoded (e.g., 1 = 5, 2 = 4, ... 5 = 1) before scoring so that all scores reflected more positive nurse perceived organizational commitment. Three scores were obtained, one each for the ACS, NCS, and CCS for each respondent. Thus, the possible range of scores for each of the three commitment subscales contained within the Three-Component Employee Commitment Survey is from 6-30 with higher scores indicating stronger commitment. In this study, for scoring purposes the scores for each subscale were summed to yield an overall organizational commitment score for each respondent. The possible range of scores for nurse perceived organization commitment was from 18-90 with greater scores indicating more positive nurse perceived organizational commitment.

### **Turnover Cognitions and Turnover Constructs Scale** (Sager et al., 1998) (Appendix G)

**Description.** The Turnover Cognitions and Turnover Constructs Scale (Sager et al., 1998) is a 6-item instrument that was used to measure nurse intent to stay (ITS). The Turnover Cognitions and Turnover Constructs instrument was developed based on the literature (Bluedorn, 1982; Hom, Griffeth, & Sellaro, 1984; Lee & Mowday, 1987; Mowday, Koberg, & McArthur, 1984). The three turnover cognition constructs, known to precede turnover behavior, make up this instrument (thinking of quitting, intention to search, and intention to quit); each construct is represented by two items (Sager et al., 1998). For the thinking of quitting construct participants are asked to respond to the following two items: “How often do you think of quitting your job?” measured using a 5-point Likert scale ranging from 1 (never) to 5 (always) and “Often think about quitting my job?” measured using a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). For the intention to search construct participants are asked to respond to the following two items: “For me, searching for another job in the next three months is” measured by a 7-point Likert scale ranging from 1 (very awful) to 7 (very nice) and “For me, searching for another job in the next three months is” measured by a 7-point Likert scale ranging from 1 (very bad) to 7 (very good). For the intention to quit construct participants are asked to respond to the following two questions: “Quitting in the next three months” and “Quitting in the next six months” both measured using a 7-point Likert-scales ranging from 1 (terrible) to 7 (excellent).

**Reliability.** Sager et al. (1998) did not report reliability for the Turnover Cognitions and Turnover Constructs Scale. Simpson (2007) reported the Cronbach alpha, mean, and standard deviations in a sample of 167 registered nurses working in medical and surgical units for the following turnover cognitions: Thinking of quitting  $\alpha = 0.88$ ,  $M = 5.43$ ,  $SD = 2.09$ ; intent to

search:  $\alpha = 0.90$ ,  $M = 5.11$ ,  $SD = 2.40$ ; and intent to quit  $\alpha = 0.94$ ,  $M = 5.11$ ,  $SD = 3.25$ .

Cronbach's alpha coefficient for the total 6-item instrument was reported as 0.91 (Simpson, 2007). In the current study, Cronbach's alpha coefficient for the total Turnover Cognitions and Turnover Constructs Scale used to measure nurse intent to stay (ITS) was .88 ( $N = 427$ ).

**Validity.** Content validity of the Turnover Cognitions and Turnover Constructs Scale was established through a review of the turnover literature (Sager et al., 1998). The items on the instrument were further operationalized through data obtained from 245 salespeople and managers employed by a national manufacturer that promoted household and personal care products to individual retail stores and chain store buying offices. Assessment of the three-dimensional measurement model was conducted in three stages resulting in the identification of a six-item measurement model that significantly captures the three turnover cognitions: Thinking of quitting, intention to search, and intention to quit. All paths of the revised Mobley model produced a suitable  $\chi^2$  ( $12, N = 242$ ) = 29.94 ( $p < 0.01$ ). The Tucker-Lewis Index is a reliability coefficient for maximum likelihood factor analysis; the correspondence between the reproduced and sample covariance matrices remained quite high (TLI = 0.98) representing a better fit. The structural analysis by Sager et al. (1998) indicated a direct effect from thinking of quitting to intention to leave ( $\beta = .81$ ,  $t = 4.50$ ,  $p < 0.001$ ); hence a revised Mobley model enhances fit by incorporating the thinking of quitting  $\rightarrow$  intention to leave path and by representing turnover as and outcome of intention to search (Sager et al., 1998).

Simpson (2007) conducted a principal component analyses of the 6-item instrument to provide an empirical summary of the turnover cognitions data. All interitem correlations exceeded  $r = 0.528$  and explained 71.8 percent of the variance (Simpson, 2007). To confirm a three-factor model of turnover cognitions a maximum-likelihood analysis with varimax rotation

was also conducted. Results revealed three factors extracted and were in line with the three cognition components and together these factors explained 85.1 percent of the variance in the 6-item Turnover Cognitions and Turnover Constructs Scale (Simpson, 2007).

**Scoring.** Participants were asked to select a numerical value for each item on the Turnover Cognitions and Turnover Constructs Scale. The items on the instrument are worded such that strong agreement actually reflects a lower level of intent to stay. For scoring purposes, scores on the six statements were recoded (e.g., 1 = 5, 2 = 4, ... 5 = 1) before scoring. Thus, the possible range of scores of the Turnover Cognitions and Turnover Constructs Scale was from 6-38 with a greater score indicating more positive nurse intent to stay due to greater turnover cognitions.

#### **Job Search Behavior Index** (Kopelman et al., 1992) (Appendix H)

**Description.** The Job Search Behavior Index (JSBI) (Kopelman et al., 1992) is a 10-item instrument was used to measure nurse job search behavior (JSBI). The JSBI was developed to examine actions a person might logically be expected to take during the job search process such as updating a resume, contacting an employment agency, or attending a job interview. Participants are asked to indicate whether they have or have not carried out each of these behaviors in the past three months by responding “yes” (1) or “no” (2).

**Reliability.** Reliability for the Job Search Behavior Index has been established through internal consistency and test-retest procedures. Kopelman et al. (1992) reported the coefficient alpha reliabilities of the JSBI for three samples: graduate students ( $N = 116$ ), nurses ( $N = 223$ ), and business college alumni ( $N = 145$ ) as 0.77, 0.76, and 0.85 respectively. A two-month interval test-retest reliability for a subset of the student sample ( $N = 65$ ) was 0.82 (Kopelman et

al., 1992). In the current study the total Job Search Behavior Index (JSB) Cronbach's alpha coefficient was .77 ( $N = 427$ ).

**Validity.** Convergent and discriminant validity have been established for the JSB instrument. Kopelman et al. (1992) found conceptually related variables showing high correlations with the JSBI: Intent to leave ( $r = .49, p < 0.001$ ), intent to stay ( $r = - 0.45, p < 0.001$ ), organizational commitment ( $r = - 0.41, p < 0.001$ ), and general job satisfaction ( $r = - 0.44, p < 0.001$ ). Conceptually unrelated variables had expected low correlations to the JSBI: Family satisfaction ( $r = - 0.04$ ), family salience ( $r = 0.09$ ), and narcissism ( $r = 0.15, p < 0.05$ ). The validity of the JSBI for predicting future turnover behavior was assessed by comparing several attitudinal and intentional measures using the data from the follow-up sample of alumni. Data were examined over a two-year period for the criterion variables: Organizational turnover and intraorganizational job change; the JSBI was correlated with intraorganizational job change ( $r = 0.32, p < 0.01$ ) and organizational turnover ( $r = 0.40, p < 0.001$ ). Predictive validity was also reported by Kopelman et al. (1992). Predicting future turnover behavior yielded significant predictions of turnover for the correlation between intention to stay 5 years and turnover ( $r = 0.24, p < 0.05$ ) and for the correlation between intention to leave and turnover ( $r = 0.28, p < 0.05$ ).

**Scoring.** Participants were asked to respond "yes" or "no" for each item on the Job Search Behavior Index Scale. The scoring of the scale was modified during analysis; yes = 1, no = 0. Thus the possible range of scores of the JSBI instrument is from 0-10 with a greater score indicating more positive job search behavior.

### **Individual Nurse Characteristics Form** (Appendix F)

The final part of the survey contained the Individual Nurse Characteristics form which consists of demographic and work variables. The form was developed by the investigator to identify the characteristics of the sample including nurse age, gender, race, living situation, registered nurse education level, years of registered nursing experience, years employed in current position, years at current organization, and if employed full-time or part time. Additionally, nurse participants were asked about their intent to transfer to another position within their organization and their intent concerning a career move outside of the nursing profession.

Included on the Individual Nurse Characteristic form were optional open-ended questions. The first question asked the nurse respondent to identify the name of the hospital unit they are working on. The next four questions asked nurses to identify strategies to improve coworker exchange relationships in their acute care nurse work environment setting, reasons to stay or leave their current position, reasons to leave the nursing profession (if applicable), and what profession one might be pursuing if planning to leaving the nursing profession. The two final questions were for additional comments pertaining to the survey and for any additional thoughts, comments, suggestions, or concerns relating to nurse turnover and the nurse work environment. The questions on the Individual Nurse Characteristics form were written with maximal clarity to avoid potential ambiguities. The open-ended question responses may be of value in providing more realistic nurse work environment opportunities to promote coworker exchange relationships and will also indicate nurse's current areas of concern relating to the nurse work environment and nurse turnover.

## Instrument Reliability

Internal consistency reliability of each instrument was computed using Cronbach's Alpha reliability statistics (Table 2). For this study the minimum criterion for determining an acceptable value for Cronbach's Alpha is in the range of 0.70 to 0.80 (Field, 2011). The instrument, the Three-Component Employee Commitment Survey, used to measure nurse perceived organizational commitment, was not used in data analysis in this study due to inconsistency of nurse responses in this sample

Table 2

### *Summary of the Study Instruments' Cronbach's Alphas, Means, and Standard Deviations*

Instrument	Number of Items	Cronbach's Alpha	<i>M</i>	<i>SD</i>
Coworker Exchange Scale (CWX)	7	.84	26.47	4.33
Karen-Personnel Instrument (QOC)	35	.84	127.72	11.29
abridged Job in General Scale (JIG)	8	.85	19.02	5.85
Three-Component Employee Commitment Survey (ORGC)	18*	.42*	50.82*	5.76*
Turnover Cognitions and Turnover Constructs Scale (ITS)	6	.88	17.61	7.35
Job Search Behavior Index (JSB)	10*	.77	2.14	2.18

*N* = 427; \*For this study, this scale was removed from data analysis due to inconsistency of nurse responses in this sample

## Data Collection Procedures

Prior to Institutional Review Board (IRB) approval, the investigator had a preliminary discussion with the Nursing Research Coordinator of a large healthcare system seeking organizational support and cooperation for data collection. The data collection procedure process involved twelve steps (Table 3). First, after the investigator received IRB approval from the University of Wisconsin – Milwaukee and the participating healthcare organization, a copy a of the IRB approval letters (Appendices I & J) was submitted to the Nursing Research Coordinator who served as the contact person at the participating healthcare organization. The

Nursing Research Coordinator from the participating healthcare organization arranged for the investigator to work with the Unit Educators assigned to the acute care units at seven hospitals within the healthcare system. All acute care units were asked to participate in this study. The names of hospital units varied across the participating organizational facilities. Some of the combined units were Cardiac, Pulmonary, Thoracic or Cardio, Pulmonary, and Medical; Obstetrics, Post-Partum, and Nursery or Perinatal Services and Special Care Nursery; Medical, Oncology, and Palliative Care or Medical, Cardiac, Surgical, Oncology, and Orthopedics; Same Day Surgery and Post-Anesthesia Care Unit or Operating room and Surgical Services; and Cath Lab, Radiology RNs, Interventional Radiology or Interventional Radiology Nursing.

Table 3

*Data Collection Timeline with Start Date of 11/2/15*

<b>Step</b>	<b>Coordinator</b>	<b>Task</b>	<b>When</b>
I.	Investigator	The investigator contacted the Nursing Research Coordinator at the participating healthcare organization, via email to submit copies of the IRB Approval Letters (Appendices I & J)	Following IRB approval, 10/19/15
II.	Investigator	The investigator contacted the Unit Educators, via email: 1. To confirm which acute care units in the seven hospitals will participate in the study 2. To obtain the number of employed registered nurses on each of the participating acute care units	Following IRB approval. 10/19/15
III.	Investigator	The investigator contacted the Nursing Research Coordinator and Unit Educators, via email, to convey the survey distribution date; the beginning of the three-week survey time frame	<i>10/20/15</i> <i>Survey Distribution date:</i> Monday November 2 <sup>nd</sup> , 2015 <i>Survey Time Frame:</i> Week 1: 11/02/15 to 11/08/15 Week 2: 11/09/15 to 11/15/15 Week 3: 11/16/15 to 11/22/15
IV.	A. Investigator	The investigator contacted the Unit Educators via email: 1. To coordinate, on behalf of the investigator, the distribution of four emails to employed registered nurses on the acute care units, at designated time frames during the survey time frame a) The first email - an introductory recruitment email (Appendix K) with a subject heading – Look for survey packet displays next week! b) The second email - an informational letter/email (Appendix L), with a subject heading: Survey packets are here! This is WEEK ONE of a three-week survey time frame	a) <i>One-week prior</i> of the survey distribution date; week of 10/26/15 b) <i>On the survey distribution date</i> ; 11/02/15

Step	Coordinator	Task	When
	B. Investigator	<p>c) The third email - a reminder email (Appendix M), with a subject heading: Please take a survey! This is WEEK TWO of a three-week survey time frame.</p> <p>d) The forth email – the recruitment and thank you email (Appendix N), with a subject heading: Did you take a survey? This is WEEK THREE, the final week of the three-week survey time frame.</p> <p>2. To coordinate four different visits to <i>each</i> of the participating acute care units</p> <p>a) To <i>hang posters</i> about the study, in the nurse stations and in the nurse break rooms on each participating acute care unit (Appendix M)</p> <p>b) Coordinate a visit to <i>each</i> of the participating acute care units to <i>set up the survey packet box displays</i> at a visible location in each unit’s nurse’s station. If asked, the investigator will introduce herself, and alert the nursing staff to watch their interoffice email for an upcoming survey announcement.</p> <p>c) Coordinate visits to <i>each</i> participating acute care unit three times once in the morning, once in the early evening, and once during the night shift <i>to stand by each of the survey packet box displays</i>, at varying times of the day for a minimum of ten minutes; longer if nurses are asking the investigator questions.</p> <p>d) Coordinate visits to <i>each</i> participating acute care unit three times once in the morning, once in the early evening, and once during the night shift <i>to stand by each of the survey packet box displays</i>, at varying times of the day. If surveys remain in the survey packet display box the investigator will stand by the display for a minimum of ten minutes; longer if the nurses are asking questions. The investigator will inquire among the registered nurses on duty if they choose not to take a survey what could have the investigator done to induce their participation.</p>	<p>c) <i>During week two</i> of the three-week data survey time frame; week of 11/08/15</p> <p>d) <i>During week three</i> of the three-week survey time frame; week of 11/15/15</p> <p>a) <i>One week before</i> the survey distribution date; week of 10/26/15</p> <p>b) <i>The weekend prior to the survey distribution date</i>; 10/31/15 and 11/01/15</p> <p>c) <i>During week <u>two</u></i> of the three-week survey time frame; week of 11/08/15</p> <p>d) <i>During week <u>three</u></i> of the three-week survey time frame; week of 11/15/15</p>
	C. Investigator	<p>3. The principal investigator will coordinate email correspondence with the Unit Educators by the end of the fourth week following the survey distribution. Per request of the Nursing Research Coordinator, the Unit Educators will submit to the principal investigator, via email, a tally of the number of Acknowledgment of Participation forms (Appendix P) returned to them by the participating registered nurses.</p>	<p><i>By the end of the fourth week</i> following the survey distribution date; 11/27/15</p>
V.	Investigator	Hang posters, about the study, in the nurse stations and in the nurse break rooms on <i>each</i> of the participating acute care units (Appendix O).	<i>Two days and one week prior</i> to the survey distribution date; 10/24/15 and 10/25/15
VI.	Unit Educators (on behalf of the Investigator)	Distribute the first email, an introductory recruitment email (Appendix K), to the employed registered nurses, via interoffice email	<i>One week prior to the survey distribution date</i> ; 10/25/15 to 10/31/15
VII.	Investigator	Sets up the survey packet displays in each of the participating acute care unit’s nurse stations	<i>Two days prior</i> to the survey distribution date; 10/30/15 to 10/31/15

Step	Coordinator	Task	When
VIII.	Unit Educators (on behalf of the Investigator)	Distribute the second email, the informational letter/email (Appendix L), to the employed registered nurses, via interoffice email	<i>On the survey distribution</i> date which begins the survey three-week time frame; 11/02/15
IX.	Investigator	Attend three separate acute care unit meetings or shift reports	<i>During week one</i> of the three-week survey time frame; 11/02/15 to 11/08/15
X.	A. Unit Educators (on behalf of the investigator) B. Investigator	Distribute the third email, a reminder email (Appendix M), to the employed registered nurses, via interoffice email  1. Add a note to each of the posters on the acute care units 2. Stand by the survey packet displays on <i>each</i> of the participating acute care units at varying times of the day, three different days of the week	<i>During week two</i> of the three-week survey time frame; 11/08/15 to 11/15/15
XI.	A. Unit Educators (on behalf of the investigator) B. Investigator	Distribute the final recruitment and thank you email (Appendix N) to the employed registered nurses via interoffice email  1. Add a note to each of the posters on the acute care units 2. Stand by the survey packet displays on <i>each</i> of the participating acute care units at varying times of the day, three different days of the week	<i>During week three</i> of the three-week survey time frame; week of 11/15/15
XII.	Investigator	Collect all remaining survey packet display boxes and posters from the participating acute care units	<i>On the final day</i> of the three-week survey time frame; 11/22/15
XIII.	Investigator	Additional time allotted for U.S. postal delivery of surveys	One week <i>following</i> the three-week survey time frame; 11/23/15 to 11/28/15

During the second step of data collection (10/20/15) the investigator contacted each of the Unit Educators via email addresses received from the Nursing Research Coordinator. Thirty-nine Unit Educators were contacted regarding 70 units across the seven facilities. Some of the Unit Educators were responsible for more than one unit and unit responsibilities occurred across several facility locations within the organization. The investigator determined the acute care units appropriate for this investigation based on inclusion criterion and obtained the number of employed registered nurses on *each* acute care unit for survey printing purposes. Throughout data collection the investigator maintained contact with the Nursing Research Coordinator and thirty-three Unit Educators responsible for forty-one acute care units that employed a total of 1,353 nurses among seven facility locations.

During step three of data collection (the investigator contacted the Nursing Research Coordinator and all of the participating Unit Educators, via email, with the established survey distribution date of November 2<sup>nd</sup>, 2015, the beginning of the three-week survey time frame.

During step four of data collection the investigator contacted *each* of the participating Unit Educators, via email, to coordinate three different data collection activities: Email correspondence to employed registered nurses throughout the study time frame, investigator visits to the acute care units during the survey time frame, and documentation of nurse participation in survey completion. First, the investigator coordinated with the Unit Educators the distribution of four separate emails, sent on behalf of the investigator, to the employed registered nurses in their assigned acute care units during the survey time frame. The first email was distributed *one week prior to the survey distribution date*. This was an introductory recruitment email (Appendix K) with a subject heading – Look for survey packet displays next week! The second email was distributed one week later *on the survey distribution date*. This email was an informational letter/email (Appendix L), with a subject heading: Survey packets are here! This is WEEK ONE of a three-week survey time frame. The third email was distributed *during week two* of the survey time frame and is a reminder email (Appendix M), with a subject heading: Please take a survey! This is WEEK TWO of a three-week survey time frame. The fourth email was distributed *during week three* of the survey time frame and is a recruitment and thank you email (Appendix N), with a subject heading: Did you take a survey? This is WEEK THREE, the final week of the three-week survey time frame.

Additional, data collection activities included in this step required that the investigator coordinate with the Unit Educators investigator visits to *each* of the participating acute care units. The first visit, one week before the survey distribution date, was to hang posters about the

study in the nurse stations and in the nurse break rooms, on each participating acute care unit (Appendix O). The investigator coordinated a second visit with each of the Unit Educators to visit *each* of the participating acute care units, *the weekend prior to the survey distribution date*, to set up the survey packet box displays at a visible location within each unit's nurse's station.

In addition, the investigator coordinated visits to *each* of the participating acute care unit three times during the second and again during the third week of the three-week survey time frame. The investigator visited the participating acute care units at varying times of the day (once in the morning, once in the early evening, and once during the night shift) to stand by each of the survey packet box displays, for a minimum of ten minutes; longer if nurses are asking the investigator questions. As planned, the investigator visited each of the acute care units during the second and third week of the three-week survey time frame on two different week days and the third visit was on either on Saturday or Sunday of the weekend. While at the display, *during week two* of the survey time frame, the investigator encouraged the registered nurses working that day to take a survey packet home if they have not already taken one, complete it at their convenience, and drop their completed survey in the provided postage paid mailer bag. The investigator also reminded the registered nurses to complete and return the Acknowledgement of Participation form (Appendix P), attached to the survey packet, to their Unit Educator.

*During the third week*, the investigator again visited *each* of the participating acute care units three times, standing next to the survey packet display at varying times to be visible to the registered nurses working different shifts. If the survey packets were gone, the investigator collected the survey display box. If surveys remained in the survey packet display box the investigator stood by the display for a minimum of ten minutes; longer if the nurses are asking questions. The investigator inquired among the registered nurses on duty if they choose not to

take a survey what could have the investigator done to induce their participation. Most of the nurses indicated that they already had responded to the survey or were planning to do so. A couple of the nurses said that they do not take the time to fill out surveys but with encouragement from the investigator after a review of the survey purposes they indicated that they would complete the survey packet handed to them.

For the fourth step of data collection the investigator coordinated with the Unit Educators documentation of nurse participation in survey completion. On behalf of the Nursing Research Coordinator, the Unit Educators were asked to submit to the investigator, via email, a tally of the number of Acknowledgment of Participation forms returned to them by the participating registered nurses. To allow for late returned forms, completed late in the three-week survey time period, the investigator requested this tally by the end of the fourth week following the survey distribution date.

Prior notice of a survey may increase response rates (Dillman, Smyth, & Christian, 2014) therefore the fifth step of data collection, the investigator hung posters about the study in the nurse stations and in the nurse break rooms on *each* of the participating acute care units (Appendix O). The investigator hung posters about the study *during the two days prior to the survey distribution date*. If and when the investigator was questioned while at the acute care units, the investigator introduced herself and alerted the nursing staff to watch their interoffice email for an upcoming survey announcement. The sixth step of data collection occurred *one week prior to the survey distribution date*. The Unit Educators distributed the first email, an introductory recruitment letter/email (Appendix K) to the registered nurses via interoffice email. The seventh step of the data collection occurred *two days prior to the survey distribution date*.

The investigator set up the survey packet displays at a visible location in *each* of the participating acute care nurse's stations.

The eighth step of data collection occurred *on the survey distribution date which is the beginning of the survey's three-week time frame*. The Unit Educators, via interoffice email, were to distribute an informational letter/email about the survey (Appendix L) to the employed registered nurses. The ninth step of the data collection occurred *during week two of the survey's three-week time frame*. Follow-up reminders have been shown to increase survey response rates (Dillman, et al., 2014). Hence, on behalf of the investigator, the Unit Educators were asked to distribute, via interoffice email, a third email to the employed registered nurses, a reminder email (Appendix M). During week two of the survey time frame, the investigator added a note to each of the posters on the acute care units indicating that it was week two of the three-week survey time period. Additionally, during week two of the survey's three-week time frame, the investigator stood by the survey packet displays on *each* participating acute care unit, at varying shift times, on three different days during this week to be visible to registered nurses working different shifts.

The tenth step of data collection occurred *during week three of the survey's three-week time frame*. The Unit Educators were asked to distribute, via interoffice email, a final recruitment and thank you email to the employed registered nurses (Appendix N). During week three of the survey time frame the investigator added a note to each of the posters on the acute care units that this is final and third week of the three-week survey time period. Additionally, during week three, the investigator visited *each* of the participating acute care units on three different days this week, again at varying times of the day. If surveys remained in the survey packet display box, the investigator stood by the display for a minimum of ten minutes. The

investigator inquired among the registered nurses on duty if they choose not to take a survey what could have the investigator done to induce their participation. The nurses indicated that they already have completed the survey or planned to finish it by the end of the week.

The eleventh step of data collection occurred on the final day of the third week of the survey period, the investigator collected all the remaining survey packet display boxes and posters from the participating acute care units. The twelfth step of data collection occurred one week later, one week following the survey's three-week time period. One additional week was allowed for U.S. postal delivery of surveys completed late in the survey time period.

### **Data Management**

All of the research study materials were kept in a locked file cabinet at the investigator's home office. A codebook was developed to identify each variable, its definition, and its level of measurement. A journal was developed to track returned surveys and to document the investigator's data analysis process. Each returned survey was assigned a number. Next, each survey was examined for completeness, and reviewed by the investigator to ensure each nurse respondent met inclusion criteria. Surveys that were found ineligible per inclusion criteria were excluded from the dataset. Nurse respondents employed less than 24 hours/week and who did not fill in their employment status (hours/week) were excluded. Nurse respondents that indicated they do not provide direct patient care were excluded. Finally, nurse respondents contracted per diem or contracted as an agency nurse were excluded.

The research coordinator of the participating healthcare organization wanted to know the nurse response rate of the study by market region, rather than by each acute care unit since the acute care unit names varied among the seven facility locations. The participating healthcare organization is divided into three market regions: North, Central, and South. A blue, green, or

pink colored return address label on the returned mailer bag differentiated the markets that the surveys originated from. Following the investigator's code book, each returned survey was assigned a number corresponding with the market region as noted by the color of the return label.

In the current study, an Acknowledgment of Participation form was used to encourage nurse participation, as well as, to provide written documentation of nurse participation in nursing research, a part of the organization's career ladder program. The investigator visited each of the participating acute care units, 2-3 times each week, during the three-week data collection time frame to encourage nurse participation and to count the remaining number of surveys on each of the participating units. Following the data collection time frame, less than half of the participating Unit Educators/Managers reported a tally of the nurses who had returned the Acknowledgment of Participation form. A total of 227 Acknowledgment of Participation forms were reported as being returned by nurse participants to their Unit Educators/Managers. Hence, in this study, it is noted that less than half (47%) of the nurses who returned a survey did not return the Acknowledgement of Participation form to their Unit Educators/Managers as directed in the instruction noted on the survey packet.

Useable surveys were scanned into TeleForm. The investigator used TeleForm Verifier to correct and validate questionable data values by comparing the values with the raw data before data was exported to Statistical Package for the Social Sciences version 23 (SPSS). SPSS version 23 was used for statistical analysis and continues to be used for data storage on the investigator's non-networked password protected computer. Non-numeric responses on the Individual Nurse Characteristic form were copied verbatim within an Excel spreadsheet designed to keep the data segmented by category on the investigator's password protected non-networked computer (Table 4).

Table 4

*Sample Spreadsheet Headings for Nurse Perspectives Narrative Responses*

Survey Number	Q.14	Q.15	Q. 16	Q. 17	Q. 18a	Q18b	Q. 19	Q20
	Name of Acute Care Unit	Strategies to Improve Coworker Exchange Relationships	Reasons to Stay in Current Position	Reasons to Leave Current Position	Reasons to Leave the Nursing Profession	What Profession Pursing if Leaving the Nursing Profession	Comments pertaining to the Survey	Additional Thoughts Comment, Suggestions, or Concerns

**Data Cleaning**

Before beginning hypotheses testing, applicable instrument items were modified or reverse-coded in SPSS as required per individual instrument guidelines. Frequency distributions for all variables were examined for data entry errors and outliers and instrument values were totaled.

A total of 484/1,353 surveys were returned during the data collection time frame for a response rate of 35.8% (Table 5). It was noted that some of the surveys were returned without the first page. For better scanning purposes and for appropriate return postage, nurse respondents were instructed to remove and discard the plastic binder that held the survey pages together and to return only the survey pages, unfolded, in the enclosed pre-addressed, postage paid mailer bag. This may have contributed to some of the surveys being returned without the first page. Twenty-one participants were eliminated from the study because nurse respondents omitted sending back the first page of the survey during the 3-week data collection time frame. Five additional participants were eliminated from the study because they were returned with other missing page(s).

Thirty-one participants were excluded from the sample because nurse respondents did not meet inclusion criterion. The sample size resulted in useable surveys of 88.22% (427/484).

Refer to Figure 5 for a flowchart providing information on data cleaning and dealing with missing pages for the sample.

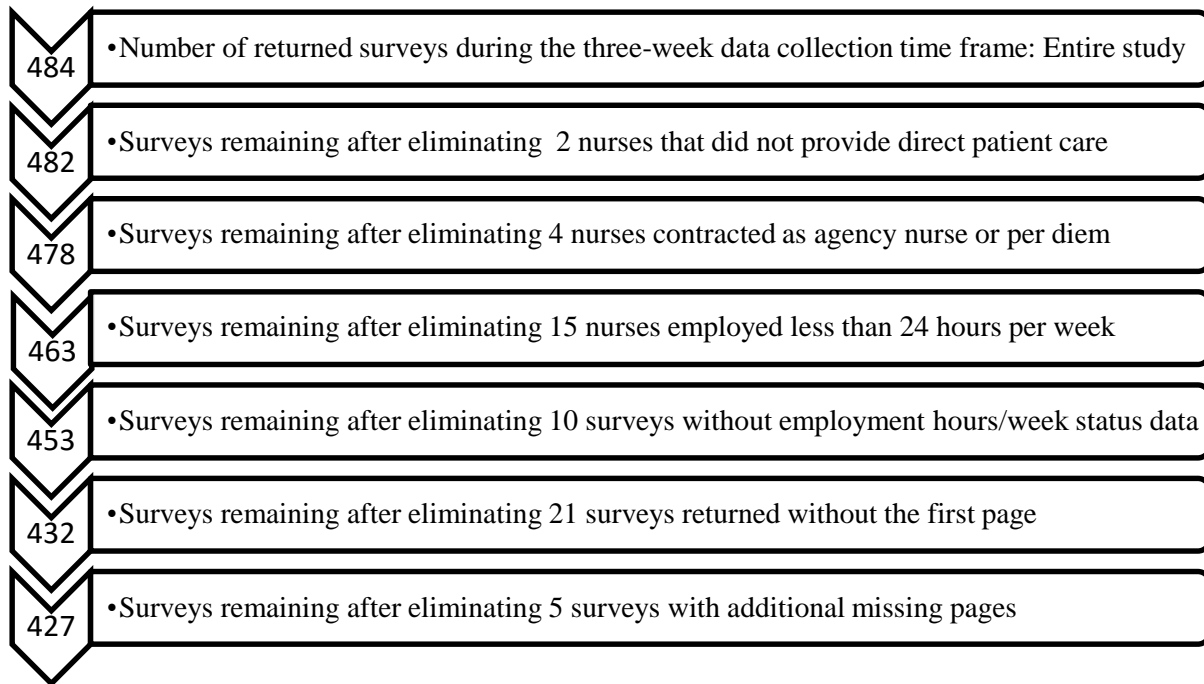


Figure 5. Study sample ( $N = 427$ ): Data cleaning and missing pages

### Pilot Study

**Objectives.** The objective of the pilot study ( $N = 91$ ) was to review the appropriateness of the data collection procedures of this study by evaluating survey response (previously discussed), to review the functioning and accuracy of the TeleForm data capture software program, to examine the amount of missing data, as well as, to determine whether there were any differences in responses from nurses who returned the survey during week one of data collection as compared to the nurse responses from nurses who returned surveys during the remaining two-week data collection time frame.

**Survey Response for Pilot Study.** Of the 1,353 survey packets requested among the 41 participating acute care units, 103 (7.6%) surveys were returned during week one of the three-week data collection time frame and used for the pilot study. A minimum sample size of  $N =$

207 (15.3%) was determined per previous power analysis calculations. As part of the pilot study, the investigator noted that the receipt of a 7.6% survey return during week one of data collection indicated that a printed survey strategy provided a favorable response rate for study analysis to proceed. The investigator noted that the study sample size could be close to thirty percent if an additional ten percent of the surveys are returned during each of two remaining weeks of the three-week data collection time frame.

**TeleForm.** TeleForm was used to capture data from paper format into an electronic format by using recognition technologies. The use of TeleForm replaced a tedious manual *data* entering process to an automated process and therefore minimized manual data entry errors. Data were scanned into the TeleForm. The use of the TeleForm Verifier within TeleForm allowed the investigator to correct and validate questionable data values by comparing the values with the raw data before exporting the data into an SPSS, a Statistical Package for the Social Sciences software program.

**Missing Data.** The sample size for the pilot study resulted in  $N = 91$  useable surveys (88.35%). Each survey was reviewed to ensure inclusion criteria were met. Surveys returned from nurses with unfilled employment status (hours/week), from nurses employed less than 24 hours/week, from nurses who do not provide direct patient care, and from nurses contracted per diem or contracted as an agency nurse were excluded. Six surveys returned during the first week of the data collection process that did not meet inclusion criteria were excluded from the pilot study. Six additional surveys were removed from the pilot study because they were returned without the first page. Refer to Figures 6 for a flowchart providing information on data cleaning and dealing with missing pages for the pilot study.

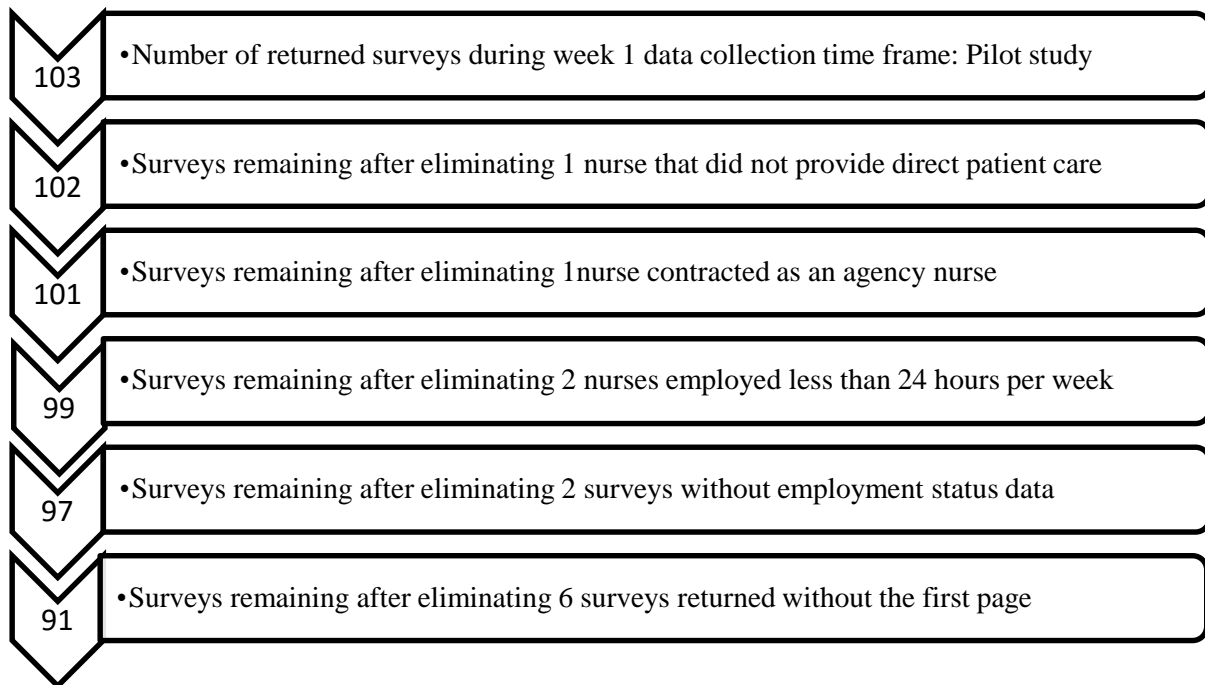


Figure 6. Pilot study sample ( $N = 91$ ): Data cleaning and missing pages

The investigator examined returned surveys for missing data. Missing values are a common occurrence in data collection and can have a significant effect on the conclusions that can be drawn from the data (Field, 2011). Nurse responses who returned surveys without the first page did not complete the first study instrument; the Coworker Exchange Scale which was on the backside of the survey front page. This scale measured nurse perceived same-status nurse-to-nurse coworker exchange relationships (CWX) which was an integral part of this study. Therefore, as part of the pilot study, the investigator made the decision to remove the six surveys returned without the first page during week one of the data collection time frame.

To measure the variables in this study, the survey contained six distinct instruments. Six surveys returned during week one (pilot study) of the data collection time frame had a total of eleven unanswered instrument values: One survey had four missing values, three surveys had two missing values, and three surveys had a lone missing instrument value; one of which did not report nurse age or race. One survey did not report nurse age and another survey did not report

age, gender, race, number of years as a registered nurse (RN), number of years working current RN position, and the number of years employed as an RN at their organization. Listwise deletion or trimming of data is an acceptable practice when there are few missing values; roughly, less than 5% of the total number of cases (IBM SPSS Missing Values 22, 2013). Of the 103 surveys returned during week one of the three-week data collection time frame, twelve participants were excluded that did not meet the inclusion criterion or were returned without the first page. Removing six surveys with missing instrument data out of the 91 remaining surveys for week one of the data collection time frame is 6.59% of the cases therefore listwise deletion was not acceptable. Thus, the pilot study results for examining missing data indicated that if missing values continued throughout the three-week data collection time frame at the same rate as those obtained in the pilot study sample a detailed missing value analysis and a method to replace missing values would be required prior to completing data analysis for the entire study sample.

**Nurse Response Comparison.** The individual nurse characteristics that were examined in this study included the nurse age, the nurse gender and race, the nurse's living situation (alone, single parent, with partner, or with partner and child or children), the nurse's education level, the number of years the nurse has been a registered nurse, the number of years the nurse have been employed at their current job, and the number of years the nurse has been employed at their current organization. As part of pilot study objectives, the investigator compared all of the mean scores from nurse responses for the individual nurse characteristics from week one with all of the means scores from nurse responses for the individual nurse characteristics of participants from the remaining data collection time frame. For this pilot study comparison, the investigator used a complete dataset of  $N = 396$ ; a dataset with no missing instrument values or uncompleted nurse

individual characteristics responses. No significant differences among the mean scores for each individual nurse characteristic from nurses who responded during week one of the data collection time frame and the remaining two-weeks of the data collection time frame were noted.

The six study variables examined in this study included the nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided to patients on the nurse's work unit, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior. An independent-samples test compared the mean scores of the scores of nurse responses from week one and the mean of the scores of nurse responses from the remaining two-weeks of data collection found a significant difference between the means of the two groups of nurse responses relating to job search behavior ( $t(394) = 1.974, p < .05$ ). The mean of the nurse responses from week one was significantly higher ( $M = 2.53, SD = 2.41$ ) than the mean of the nurse responses from the remaining two-week data collection time frame ( $M = 2.01, SD = 2.08$ ). Thus, nurse responses from week one of data collection indicated more job search behavior as compared to nurse responses from the remaining two-week data collection time frame.

### **Missing Values Management**

The total number of surveys received during the data collection time frame for this study was 484. Twelve nurse respondents did not completely fill in all of the individual nurse characteristic form questions; four of which had missing instrument values as well. The two most prevalent missing individual nurse characteristics was nurse age (10) and nurse gender (4).

Twenty-three surveys returned during the data collection time frame had a total of 42 unanswered instrument values: Four surveys had four missing values, one surveys had three missing values, five surveys had two missing values, and thirteen surveys had a lone missing

instrument value; one of which did not report nurse age or race. Twenty-three (5.39%) of the 427 surveys contained missing instrument values. Listwise deletion or trimming of data is only appropriate if there are less than 5% cases with missing values.

### **Little's MCAR Analysis**

Prior to data analysis, Little's Missing Completely at Random (MCAR) test was employed to test the hypothesis that data are only missing at random. The results indicate that data may *not* be missing at random for two of the study instruments (Table 5). As a result of the Little's MCAR test, the appropriate method to replace the missing values for these data was the multiple imputation method which is used to replace data that are either missing randomly or missing non-randomly.

**Multiple Imputation Analysis.** Inspection of the missing values analysis indicated that the dataset contained data missing randomly as well as data missing non-randomly. Imputation is the substitution or filling in of values for missing data using the available data from the participant's observed values in order to predict a subject's missing value (McCleary, 2002). Multiple imputation is generally considered to be superior to single imputation for replacing missing values (IBM SPSS Missing Values 22, 2013). According to McCleary (2002), the benefits of multiple imputation are it "(a) results in unbiased estimates, providing more validity than ad hoc approaches to missing data; (b) used all available data, preserving sample size and statistical power; (c) is able to be used with standard statistical software; and, (d) results are easily interpreted" (McCleary, 2002, p. 339).

Data was imputed for missing instrument values using linear regression method in SPSS. For this study, multiple imputation algorithm were employed to run analytic procedures (five simulations) on missing data relative to the data that were available to replace the missing data

with data that is most likely similar to the current data available. In this process, multiple imputation looked at patterns in the available data and then made a probability adjustment as to what the missing values would probably be or would most likely be and then replaced those missing values with imputed values in order to create a full or pooled output that estimates what the results would have been if the original dataset had no missing values. These pooled results are generally more accurate than those providing a single imputation method (IBM SPSS Missing Values 22, 2013).

Table 5

*Little's MCAR test results for Instruments used to Measure Variables in this Study*

Study Variable	Chi-Square ( $\chi^2$ )	Degrees of Freedom ( <i>df</i> )	Significance
CWX	33.93	24	.086
QOC	359.43	202	.001*
JIG	45.00	35	.120
ORGC	51.76	34	.026
ITS	62.33	17	.001*
JSB	61.47	52	.173

\* $p < .001$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ORGC: Nurse Perceived Organizational Commitment

ITS: Nurse Intent to Stay

JSB: Job Search Behavior

### **Descriptive Data Analysis**

Descriptive statistics were generated to describe and summarize characteristics of the participant sample and to check study variables for any violation of assumptions of statistical tests. Categorical data from the individual nurse characteristics were analyzed using percentages and analysis of variance (ANOVA). Descriptive analysis included measures of central tendency and measures of dispersion to identify patterns and distribution of the study variables.

## Inferential Data Analysis

Assumptions of multiple regression within the dataset were verified (e.g., multicollinearity, outliers, normality, linearity, homoscedasticity, and independence of residuals) (Pallant, 2010). The sample size of  $N = 427$  surpassed the minimum sample size requirement of  $N = 207$  of the priori power analysis reported earlier in this chapter. To test for normal distribution and homoscedasticity, frequency distributions were assessed for outliers and violation of normality of distribution. Preliminary screening for multicollinearity and singularity was performed using a correlation matrix (Table 6). Inspection of the correlation matrix indicated the strongest correlation coefficient (0.66) was between nurse perceived same-status coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC). None of the remaining bivariate relationships exceeded 0.66. Therefore, multicollinearity and singularity were not an issue. Additionally, the variance inflation factor (VIF) values for this model were all well below ten and the tolerance statistics all well above 0.2; further validating that multicollinearity does not exist within this data set (Pallant, 2013). A scatterplot of the residuals against the predicted dependent variable was inspected to check for the assumptions of regression (normality, linearity, homoscedasticity, and independence of residuals) (Pallant, 2013). The Durbin-Watson test for serial correlations between errors in regression models was used in assessing the assumption of independent errors (Field, 2011).

Data analysis included construct validation and hypothesis testing using structural equation modeling (SEM) in Analysis of a Moment Structures (AMOS), Version 23. Structural equation modeling (SEM), using AMOS 23.0 allows specification of relationship among variables. The variable that is being explained by the model (job search behavior) is referred to as the endogenous variable, while all variables not explained by the model are referred to as

Table 6

*Pearson Product-Moment Correlation Matrix of Study Variables*

	CWX	QOC	JIG	ITS	JSB
CWX	1				
QOC	.66	1			
JIG	.45	.58	1		
ITS	.28	.37	.47	1	
JSB	-.22	-.25	-.33	-.66	1

*Note:* Pooled results; All correlations significant at  $p < .01$ ,  $N = 427$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ITS: Nurse Intent to Stay

JSB: Nurse Job Search Behavior

exogenous variables. Endogenous variables are assumed to have their variance explained by the exogenous variables included in the model; whereas, fluctuations of the exogenous variables are assumed to be explained by other variables outside the causal model under consideration (Mertler & Vannatta, 2005). The indirect, direct, and total effects of the predictor variables (CWX, QOC, JIG, and ITS) on nurse job search behavior (JSB) were estimated and tested. The parameter estimates reflect the influence of the predicted variables on each other and indicate the magnitude, level of significance for each parameter, and the amount of variance explained in the model. Lastly, SEM provides the data to analyze model fit.

Regression analysis (path analysis) is a way of predicting an outcome variable from one (simple regression) or several (multiple regression) predictor variables (Field, 2011). Multiple regression was used to explore the interrelationship among the study variables. The specification of the model for this investigation was influenced by several sources of information, including the research literature, theory, personal observation and experiences with the phenomenon of interest, and reasoning. A prediction equation was developed to test the hypothesized

relationships between the predictor variables and the outcome or criterion variable in the study model. The predictor variables in the study model include nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), and nurse intent to stay (ITS). The criterion variable was nurse job search behavior (JSB).

Investigating the paths of multiple regression is a multivariate statistical procedure and has a substantial advantage over simple regression in that it allows for the examination of the direct and indirect relationships among a set of variables. Mediation effects were also tested in this study. A mediating variable explains the nature of the relationship between an independent and dependent variable. In order to state that a variable is a mediator, four conditions must be met (Baron & Kenny, 1986; von Eye, Mun, & Mair, 2009). First, the relationship between the predictor and outcome variable must be statistically significant (path  $c$ ). Second, the relationship between the predictor and mediator variables should also be significant (path  $a$ ). Third, the relationship between the predictor and the outcome variable in the model, taking the effects of the mediator into account needs to be significant also. Lastly, the relationship between the predictor and outcome variable is then reduced significantly when the mediator is added to the model (compare  $c'$  with  $c$ ). Full mediation by the mediator variable occurs when the relationship between the predictor and outcome variable is not statistically significant when the mediator is added to the model. Partial mediation occurs when the relationship between the predictor and outcome variable remains greater than zero after the mediator variable is added to the model, but the relationship is significantly smaller (von Eye et al., 2009).

The PROCESS procedure for SPSS, used in this study, presents the needed path values for mediation analysis with a few clicks in SPSS and is considered a more robust test because

results include confidence limits of the mediated effect using bootstrap methods (MacKinno, Fairchild, & Fritz, 2007; Preacher & Hayes, 2004). Bootstrapping is a class of computer intensive statistical methods that uses resampling procedures that can build empirical estimates of population distribution. Bootstrapping allows the evaluation of an estimated standard error and bootstrapping does not rely on the assumption of normality (Preacher & Hayes, 2004). The Sobel test (Sobel, 1982) determines whether the reduction in the effect of the independent variable, after including a mediator in the model, was a statistically significant reduction and the effect of the mediator remained significant (Preacher & Hayes, 2004; Preacher & Leonardelli, 2015). The Sobel test uses the magnitude of the indirect effect compared to its estimated standard error of measurement to derive a *Z* statistic.

**Hypothesis 1.** There is a direct relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC). Simple linear regression was used to test the relationship between these predictor variables. To obtain measures of tolerance, the variable QOC was treated as the outcome variable and regressed on the predictor variable, CWX. The simple linear regression equation for prediction of nurse perceived quality of care provided was:

$$Y^1 = a + bX$$

$Y^1$ : nurse perceived quality of care provided (QOC)

$a$ : intercept constant

$b$ : regression coefficient

$X$ : nurse perceived same-status nurse-to-nurse coworker exchange relationships

(CWX)

The effect of CWX (X) on QOC (Y<sup>1</sup>) was predicted based on the intercept constant (*a*) and the regression coefficient (*b*). The resulting coefficient of determination (*R* square) in the model summary provided the proportion of the variance on the predictor variable and the significance level was identified from the resulting ANOVA summary table.

**Hypothesis 2.** There is a direct relationship between nurse *perceived same-status nurse-to-nurse* coworker exchange relationships (CWX) and overall nurse job satisfaction (JIG). Similar to hypothesis one, the relationship between these predictor variables was analyzed using simple linear regression with JIG being treated as the outcome variable and regressed on the predictor variable, QOC. The simple linear regression equation for prediction of overall nurse job satisfaction was:

$$Y^2 = a + bX$$

Y<sup>2</sup>: overall nurse job satisfaction (JIG)

*a*: intercept constant

*b*: regression coefficient

X: nurse perceived same-status nurse-to-nurse coworker exchange relationships (QOC)

**Hypothesis 3.** There is a direct relationship between overall nurse job satisfaction (JIG) and nurse perceived quality of care provided (QOC). The relationship between the predictor variable, QOC and the outcome variable, JIG was analyzed using simple linear regression. The simple linear regression equation was:

$$Y^3 = a + bX$$

Y<sup>3</sup>: nurse perceived quality of care provided (QOC)

*a*: intercept constant

*b*: regression coefficient

X: overall nurse job satisfaction (JIG)

**Hypothesis 4.** There is a direct relationship between nurse perceived quality of care provided (QOC) and nurse intent to stay (ITS). Again, the relationship between the predictor variable, QOC and ITS as the outcome variable was analyzed using simple regression to reveal level of tolerance and possible multicollinearity. The simple linear regression equation was:

$$Y^4 = a + bX$$

Y<sup>4</sup>: nurse intent to stay (ITS)

a: intercept constant

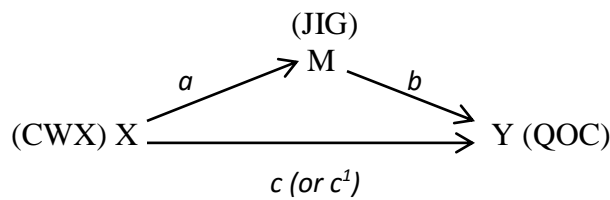
b: regression coefficient

X: nurse perceived quality of care provided (QOC)

**Hypothesis 5.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC) is positively mediated by overall nurse job satisfaction (JIG). The investigator used the PROCESS procedure for SPSS (Hayes, 2013) to analyze the difference between bivariate and multivariate relationships between a variable and a criterion (collinearity and suppressor effects). The basic mediation analysis consisted of a three-variable path analysis. First a simple linear regression equation between the predictor variable, CWX (X) and the criterion variable, QOC (Y), was evaluated to see if a correlation existed (path *c*). Then, a simple linear regression equation between the predictor variable, CWX (X) and the criterion variable JIG (M), was evaluated to see if second correlation existed (path *a*) (Refer to Figure 7).

Next, to show that the mediator (M) affects the outcome variable (Y), a multiple regression equation between QOC (Y) as the criterion variable and CWX (X) and JIG (M) as predictors was evaluated to estimate and test paths *b* and *c'*. Both CWX (X) and JIG (M) were

used as predictors because the causal predictor variable CWX (X) must be controlled in establishing the effect of the mediator, JIG on the outcome, QOC. The total effect equals the direct effect plus the indirect effect. The mediated (indirect) effect is the change in the correlation between two variables when the mediator is added to the model. Lastly, significance testing as well as bootstrapping methods was examined to rule if full mediation or partial mediation resulted.




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Figure 7. Illustration of mediating variable (Hypothesis 5).

$$Y = B_{01} + cX + e_1$$

$$Y = B_{02} + c^1 X + bM + e_2$$

$$M = B_{03} + aX + e_3$$

X (Predictor): Nurse perceived same-status nurse-to-nurse coworker exchange relationships (CWX)

M (Mediator): Overall nurse job satisfaction (JIG)

Y (Outcome): Nurse perceived quality of care provided (QOC)

**Hypothesis 6.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS) is positively mediated by overall nurse job satisfaction (JIG). A mediation effect and analyses using a three-variable path analysis was performed using the PROCESS procedure for SPSS (Hayes, 2013). First a simple linear regression between the predictor variable, CWX (X) and the criterion variable, ITS (Y), was evaluated to see if a correlation existed (path *c*). Then, a simple linear regression between the

predictor variable, CWX (X) and the criterion variable JIG (M), was evaluated to see if second correlation existed (path *a*) (Refer to Figure 8). Next, to show that the mediator (M) affects the outcome variable (Y), a multiple regression equation between ITS (Y) used as the criterion variable and CWX (X) and JIG (M) as predictors was evaluated to estimate and test paths *b* and *c*'. Finally, significance testing was examined to rule if full mediation or partial mediation has resulted.

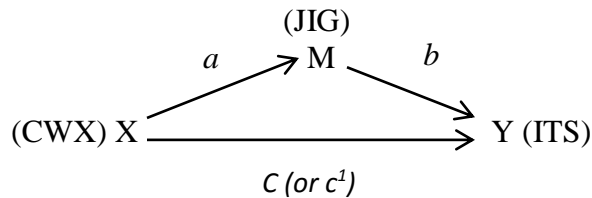


Figure 8. Illustration of mediating variable (Hypothesis 6).

$$Y = B_{01} + cX + e_1$$

$$Y = B_{02} + c^1 X + bM + e_2$$

$$M = B_{03} + aX + e_3$$

X (Predictor): Nurse perceived same-status nurse-to-nurse coworker exchange relationships (QOC)

M (Mediator): Overall nurse job satisfaction (JIG)

Y (Outcome): Nurse intent to stay (ITS)

**Hypothesis 7.** There is a direct relationship between overall nurse job satisfaction (JIG) and nurse intent to stay (ITS). The relationship between the predictor variable, overall nurse job satisfaction (JIG) and the outcome variable, nurse intent to stay (ITS) was analyzed using simple linear regression. The simple linear regression equation was:

$$Y^4 = a + bX$$

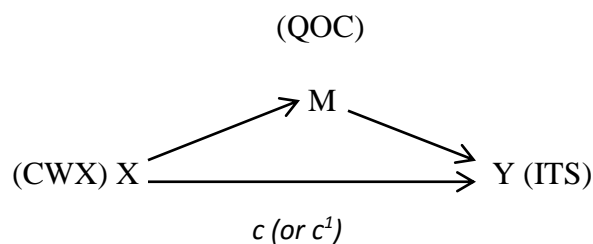
Y<sup>4</sup>: nurse intent to stay (ITS)

*a*: intercept constant

*b*: regression coefficient

X: overall nurse job satisfaction (JIG)

**Hypothesis 8.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS) is positively mediated by nurse perceived quality of care provided (QOC). A mediation effect and analyses using a three-variable path analysis was performed using the PROCESS procedure for SPSS (Hayes, 2013). First a simple linear regression between the predictor variable, CWX (X) and the criterion variable, ITS (Y), was evaluated to see if a correlation existed (path *c*). Then, a simple linear regression between the predictor variable, CWX (X) and the criterion variable QOC (M), was evaluated to see if second correlation existed (path *a*) (Refer to Figure 9). Next, to show that the mediator (M) affects the outcome variable (Y), a multiple regression equation between ITS (Y) used as the criterion variable and CWX (X) and QOC (M) as predictors was evaluated to estimate and test paths *b* and *c'*. Finally, the investigator examined significance testing to rule if full mediation or partial mediation has resulted.



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Figure 9. Illustration of mediating variable (Hypothesis 8).

$$Y = B_{01} + cX + e_1$$

$$Y = B_{02} + c^1 X + bM + e_2$$

$$M = B_{03} + aX + e_3$$

X (Predictor): Nurse perceived same-status nurse-to-nurse coworker exchange relationships (CWX)

M (Mediator): nurse perceived quality of care provided (QOC)

Y (Outcome): nurse intent to stay (ITS)

**Hypothesis 9.** There is a direct relationship between nurse perceived organizational commitment (ORGC) and nurse intent to stay (ITS). Inspection of instrument reliability coefficients revealed unacceptable values. A decision was made to exclude this variable, and its measure from analysis. Therefore, hypothesis nine analyzing the relationship between nurse perceived organizational commitment (ORGC) and nurse intent to stay (ITS) was not completed.

**Hypothesis 10.** There is a direct relationship between nurse perceived organizational commitment and nurse job search behavior. Inspection of instrument reliability coefficients revealed unacceptable values. A decision was made to exclude this variable, and its measure from analysis. Therefore, hypothesis ten analyzing the relationship between nurse perceived organizational commitment (ORGC) and nurse job search behavior (JSB) was not completed.

**Hypothesis 11.** There is a direct relationship between nurse intent to stay (ITS) and nurse job search behavior (JSB). The relationship between the predictor variable, ITS (X) and JSB (Y) as the outcome variable was analyzed using simple linear regression. The simple linear regression equation was:

$$Y^7 = a + bX$$

$Y^7$ : nurse job search behavior (JSB)

$a$ : intercept constant

$b$ : regression coefficient

X: nurse intent to stay (ITS)

**Hypothesis 12.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), nurse perceived organizational commitment (ORGC), and nurse intent to stay (ITS) together are better predictors of nurse job search behavior (JSB) than any one variable alone. Inspection of instrument reliability coefficients revealed unacceptable values. A decision was made to exclude this variable, and its measure from analysis. Therefore, this hypothesis was not completed.

A table identifying the predictor variable(s) and the outcome variable for each of the hypotheses in this investigation is presented in Table 7.

Table 7

*Predictor Variable(s) and Outcome Variable for Study Hypotheses*

Hypothesis	Predictor	Outcome
1.	CWX	QOC
2.	CWX	JIG
3.	JIG	QOC
4.	QOC	ITS
5.	CWX and JIG	QOC
6.	CWX and JIG	ITS
7.	JIG	ITS
8.	CWX and QOC	ITS
11.	ITS	JSB

CWX: Nurse perceived same-status nurse-to-nurse coworker exchange relationships

QOC: Nurse perceived quality of care provided

JIG: Overall nurse job satisfaction

ITS: Nurse intent to stay

JSB: Nurse job search behavior

**Post Hoc Analysis**

**Evaluation of Group Means**

Using Analysis of variance (ANOVA) and post hoc testing was employed to examine whether there were significant differences in the scores of the instrument totals (CWX, QOC,

JIG, ITS, & JIG) and in individual nurse characteristics (nurse age, nurse education level, years employed at current job, nurse living situation). To test homogeneity of variances, the Brown–Forsythe test was used because it is considered a more robust test when two or more groups that are to be compared have unequal sample sizes. The Brown–Forsythe test performs the analysis on the deviations from the group medians. Olejnik and Algina (1987) have shown that, the Brown–Forsythe test will give quite accurate error rates even when the underlying distributions for the raw scores deviate significantly from the normal distribution. If the Brown-Forsythe test is significant it indicates that not all group means are equal. This test does not identify which groups are unequal. Therefore, the Scheffe multiple comparisons post hoc test was examined to identify the presence of any specific group differences between the group means and the total instrument scores.

### **Revised Model: Predictors of Nurse Job Search Behavior**

The primary purpose of this study was to investigate the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment on nurse intent to stay and nurse job search behavior of nurses in the acute care nurse work environment. The variable, nurse perceived organizational commitment, was removed from the study due to inconsistency of nurse responses in this sample. Therefore, a revised model was created for additional analysis. Refer to Figure 10 for an illustration of the revised model.

Nurse perceived same-status nurse-to-nurse coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), and nurse intent to stay (ITS) together are better predictors of nurse job search behavior (JSB) than any one variable alone. Hierarchical regression was used to determine how well the combination of

predictor variables explained the variance in job search behavior. Using hierarchical multiple regression, the temporal relationships between CWX, QOC, JIG, and ITS were analyzed in the hypothesized order. For this study, the order of variable entry into the analysis was based on theory. The basic multiple regression equation for predicting nurse job search behavior was:

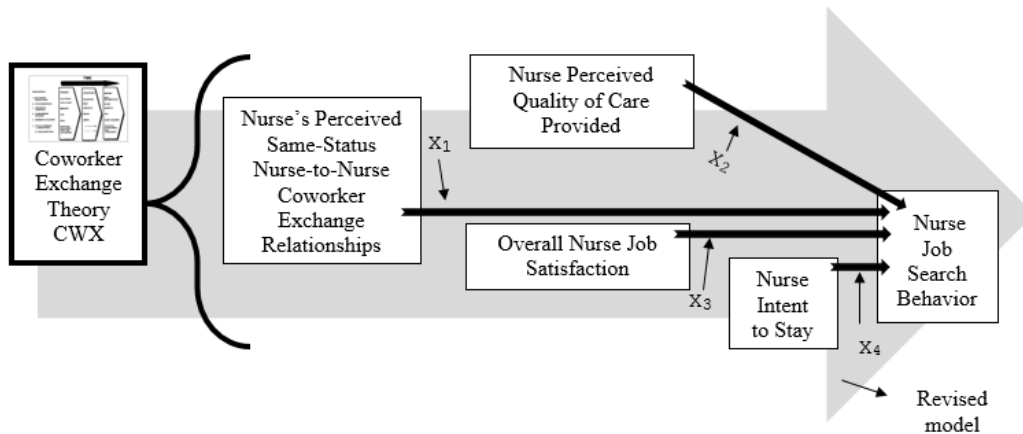


Figure 10. Additional Analysis: Revised model: Predictors of nurse job search behavior. Bold Arrow: Hierarchical Regression Equation

$$Y^1 = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

$Y^1$ : nurse job search behavior

$a$ : intercept constant

$b$ : regression coefficient

$X_1$ : nurse perceived same-status nurse-to-nurse coworker exchange relationships

$X_2$ : nurse perception of the quality of care provided

$X_3$ : overall nurse job satisfaction

$X_4$ : nurse intent to stay

$e$ : random error associated with  $Y^1$

## Chapter Summary

The purpose of this study was to investigate the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), and nurse perceived organizational commitment (ORGC) on nurse intent to stay (ITS) and nurse job search behavior (JSB) of nurses in the acute care nurse work environment. This cross-sectional, correlational study was intended to fill a gap in nursing literature. This chapter concerning study methodology described the steps taken to ensure adequate considerations regarding human subject research, identified the study setting, and study sample of acute care registered nurses providing direct patient care. A description of, the validity, reliability, and scoring of each of the following six research instruments used in the study survey were offered: The Coworker Exchange Scale (Sherony & Green, 2002) (Appendix B), Karen-Personnel Instrument (Andersson & Lindgren, 2008) (Appendix C), abridged Job in General Scale (Bowling Green State University, 2009) (Appendix D), Three-Component Employee Commitment Survey (Meyer et al., 1993) (Appendix E), Turnover Cognitions and Turnover Constructs Scale (Sager et al., 1998) (Appendix G), and Job Search Behavior Index (Kopelman et al., 1992) (Appendix H). Data collection procedures and data management were described. Also contained in this chapter the investigator shared the data analysis plan using the Statistical Package for the Social Sciences (SPSS) Version 23.0 for Windows including how the investigator manages missing data.

## Chapter Four

### Results

The primary purpose of this study was to investigate the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment on nurse intent to stay and nurse job search behavior of nurses in the acute care nurse work environment. The underpinnings of the model were based on the hypothesis that the Coworker Exchange Theory is linked with the study variables. Therefore, a secondary aim to advance nursing science was to fill gaps which exist in literature by providing a better understanding of the impact of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment and in nurse job search behavior (turnover). The results are described in this chapter. Sample characteristics are presented first, followed by a discussion of the research hypotheses.

#### Characteristics of the Study Sample

The sample was limited to registered nurses ( $N = 427$ ) currently providing direct patient care in the acute care hospital setting and employed for at least 24 hours per week at the participating health system. Descriptive statistics for continuous variables are presented in Table 8. Descriptive statistics about the categorical variables of the individual nurse characteristics can be found in Table 9.

The typical nurse in this study was a 40-year old female ( $SD 13.03$ ) with a Bachelor Degree (60.9%) in nursing education, working full time with the majority of her working hours during the day and early afternoon hours. Within the previous three months, ninety-four (22%) of the nurses had thoughts about a job transfer within their organization, forty-nine nurses

(11.5%) had looked into a job transfer, seventeen nurses (4%) applied for a job transfer within their organization, and three nurses (0.7%) planned to transfer to another position within their organization. Within the previous three months, sixty (14.1%) of the nurses had thoughts about a *career move* outside of nursing, twenty (4.7%) had looked into a career move outside of nursing, four nurses (0.9%) had applied for a career move outside of nursing, and one nurse (0.2) had plans to leave the profession.

Table 8

*Mean, Standard Deviation, Minimum, and Maximum for Total Sample*

Variables	<i>N</i>	Mean	<i>SD</i>	Median	Mode	LBCI	UBCI
Years of RN experience	425	13.21	12.54	8.00	3	11.89	14.28
Years of RN in current job	424	9.94	11.14	5.50	1	8.88	11.00
Years of RN at current organization	424	10.65	11.25	6.50	2	9.58	11.72
Age	417	39.55	13.03	35.00	24	38.30	40.81

*Note.* *N* values vary due to missing data. LBCI = Lower Bound Confidence Interval; UBCI = Upper Bound Confidence Interval.

Table 9

*Number and Percent for Categorical Variables*

Variables		<i>N</i>	%	Valid %
Highest Level of Nursing Education ( <i>N</i> = 426)	Diploma	4	0.9	0.9
	Associate Degree	140	32.8	32.9
	Bachelor Degree	260	60.9	61.0
	Master's Degree	20	4.7	4.7
	Doctorate of Nursing Practice	2	0.5	0.5
Gender ( <i>N</i> = 423)	Male	18	4.2	4.3
	Female	405	94.8	95.7
Race ( <i>N</i> = 425)	White	385	90.6	90.6
	Black/African American	10	2.3	2.3
	Native American	2	0.5	0.5
	Hispanic/Latino	13	3.0	3.0
	Asian/Asian American/Pacific Islander	15	3.5	3.5
	Other	8	1.9	1.9
	Marital Status ( <i>N</i> = 426)	Alone	81	21.3
	Single Parent	36	8.4	8.5
	With Partner	128	30.0	30.0
	With Partner and child(ren)	171	40.0	40.1
Majority of Working Hours ( <i>N</i> = 425)	Daytime/Early Afternoon (7AM-3PM)	214	50.1	50.4
	Later Afternoon/Evening (3PM-11PM)	64	15.0	15.1
	Night-time (11PM-7AM)	147	34.4	34.6
Employment Status ( <i>N</i> = 427)	Full-time (36 or more hours/week)	278	65.1	65.1
	Part-time (24-35 hours/week)	149	34.9	34.9

*Note:* *N* values vary due to missing data

Frequency and percentages of nurse intent to search for another job and nurse intent to quit in the next six months are presented in Table 10 and 11, see Figures 11 and 12. Frequency and percentages of nurse intent to transfer to another position within same organization are presented in Table 12, refer to Figure 13. Frequency and percentages of nurses reporting they had talked to coworkers about getting a job in another organization are presented in Table 13, see Figure 14. Frequency and percentages of nurse intent to transfer to a career move *outside* of the nursing profession are presented in Table 14, refer to Figure 15.

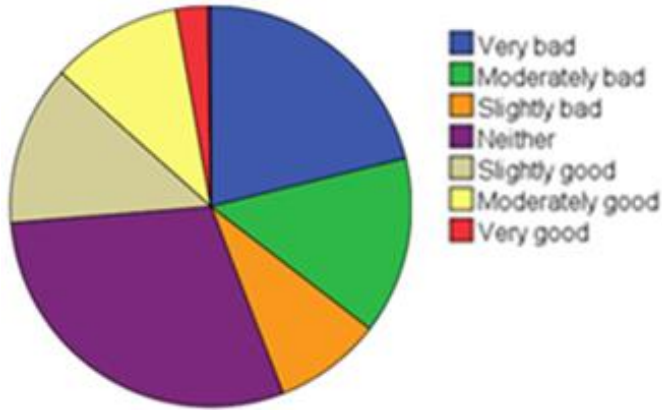


Figure 11. Diagram for Nurse Intent to Search for another Job in the next Six Months

Table 10

*Frequency and Percentages of Nurse Intent to Search in the next Six Months*

	Frequency	Percent
Very Bad	90	32.6
Moderately Bad	61	19.0
Slightly Bad	37	19.7
Neither	128	15.7
Slightly Good	55	4.4
Moderately Good	45	3.7
Very Good	11	4.9
Total	427	100.0

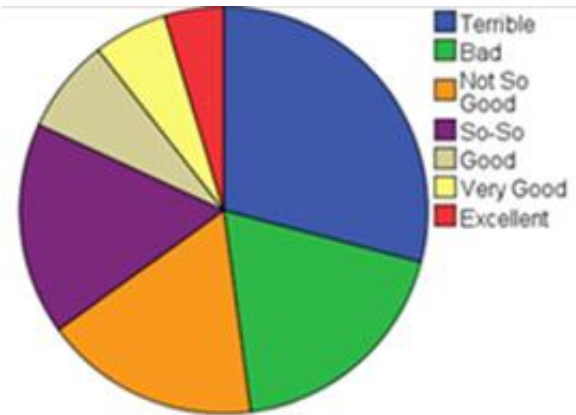


Figure 12. Diagram for Nurse Intent to Quit in the next Six Months

Table 11

*Frequency and Percentages of Nurse Intent to Quit in the next Six Months*

	Frequency	Percent
Terrible	124	29.0
Bad	80	18.7
Not So Good	74	17.3
So-So	72	16.9
Good	32	7.5
Very Good	25	5.9
Excellent	20	4.7
Total	427	100.0

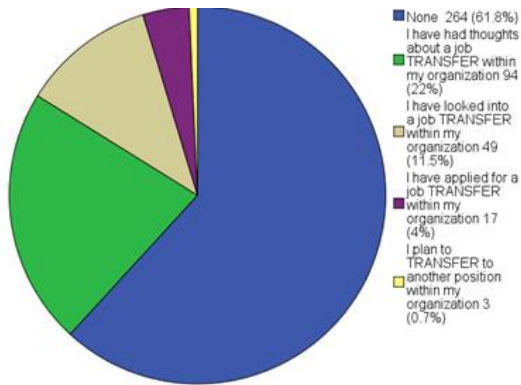


Figure 13. Diagram for Nurse Intent to Transfer to another Position within Same Organization

Table 12

*Frequency and Percentages of Nurse Intent to Transfer to another Position within Same Organization*

	Frequency	Percent
None	264	61.8
Had Thoughts	94	22.0
Have Looked	49	11.5
Have Applied	17	4.0
Plan to Transfer	3	0.7
Total	427	100.0

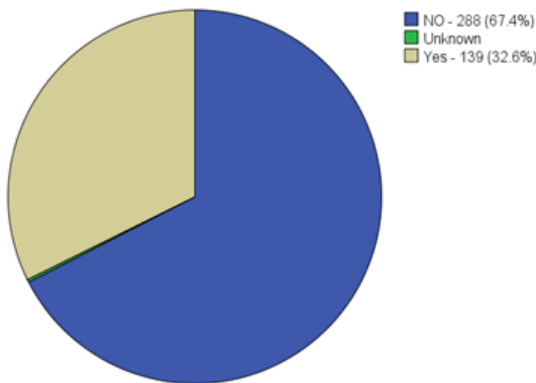


Figure 14. Diagram of Nurses Reporting they had Talked to Coworkers about Getting a Job in Another Organization

Table 13

*Frequency and Percentages of Nurses Reporting they had Talked to Coworkers about Getting a Job in another Organization*

	Frequency	Percent
No	288	67.4
Yes	139	32.6
Total	427	100.0

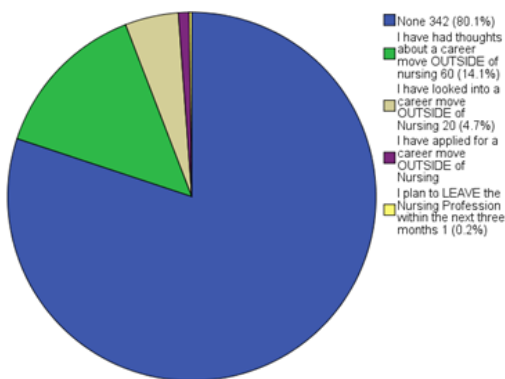


Figure15. Diagram for Nurse Intent to Transfer to a Career Move Outside of the Nursing Profession

Table 14

*Frequency and Percentages of Nurse Intent to Transfer to a Career Move Outside of the Nursing Profession*

	Frequency	Percent
None	342	80.1
Had Thoughts	60	14.1
Have Looked	20	4.7
Have Applied	4	0.9
Plan to Leave	1	0.2
Total	427	100.0

There were more registered nurses with 0-5 years of nursing experience working full-time (48.9%) as compared to part-time (22.1%). In comparison there were more registered nurses with 6-15 years of nursing experience working part-time (36.9%) rather than full-time (23%). Almost twice as many nurses with 26-35 years of nursing experience were employed part-time (20.8%) rather than full-time (11.2%). In this sample, nurses with increasing nursing experience are employed part-time.

Sixty-five percent of the nurses that were employed full-time (36 or more hours/week) and 35% worked part-time (24-35 hours/week) (Table 15). There were slightly more registered nurses between the ages of 26-35 (37.8%) working full-time (36 or more hours/week) as compared to part-time (34.2%) (24-35 hours per week). Younger nurses (ages to 25) were employed full-time (17.6%) rather than part-time (4.0%). There were an equal percentage of nurse's ages 56-65 working full- and part-time (15%). There were more part-time registered nurses between the ages of 36-45 (21.5%) and the ages of 46-55 (22.8%) than full-time; 14.4% and 11.2% respectively. There were almost twice as many registered nurses with partner and child(ren) employed part-time (58.4%) as compared to full-time (30.3%). There was a minimal difference in the percentage of single parent nurses working full-time and part-time; 8.3% and 8.7% respectively.

Table 15

*Employment Status: Full-time or Part-time and Nurse Age*

		Left Age Blank	Age to 25	Age 26-35	Age 36-45	Age 46-55	Age 56-65	Age Over 66	Total
Full-Time (≥36 hours per week)	Count	9	49	105	40	31	42	2	278
	% Full-Time	3.2%	17.6%	37.8%	14.4%	11.2%	15.1%	0.7%	100.0%
Part-Time (24 – 35 hours per week)	Count	3	6	51	32	34	23	0	149
	% Part-Time	2.0%	4.0%	34.2%	21.5%	22.8%	15.4%	0.0%	100.0%
Total	Count	12	55	156	72	65	65	2	427
	% within Employment Status	2.8%	12.9%	36.5%	16.9%	15.2%	15.2%	0.5%	100.0%

**Descriptive Summary of Study Instruments**

Measures of central tendency, measures of variability around the mean, (Table 16) and measures of deviation from normality were obtained for the total scores on each study instrument (Table 17). Visualization of the histograms indicated that the distribution of total instrument values deviated from normality. This is echoed by the P-P plots where the data points were close to the ‘ideal’ diagonal line. The skewness and kurtosis values, along with Fisher’s Exact Test and the Shapiro-Wilk’s test ( $p > .05$ ) indicate that the total scores on each of the instruments used in the study were not approximately normally distributed. Reverse score transformations exaggerated the skewness issue. In a large sample (200 or more) it is more important to look at the shape of the distribution visually and to look at the skewness and kurtosis statistics rather than calculate their significance (Field, 2011). The central limit theorem explains that in big samples the sampling distribution tends to be normal regardless of the shape of the data collected and in samples of 30 or more the sampling distribution will tend to be normal regardless of the population distribution (Field, 2011). As the sample size increases the variance decreases. Less

variance means a tighter, more normal distribution. With the use of a dataset of  $N = 427$ , the shape of the data shouldn't affect significance tests. Bootstrapping, a more robust test, was used in data analysis because of the known violation of normality assumption.

Table 16

*Range, Mean, Standard Deviation, Confidence Intervals, Median, and Mode for Study Instruments*

Instrument	Instrument Score Range	Actual Score Range	Mean/ <i>SD</i>	95% Confidence Interval for mean Lower/Upper Bound	Median	Mode
CWX	7-35	12-35	26.43/4.32	26.02/26.84	27	29
QOC	35-175	79-155	127.45/11.10	126.40/128.51	128	129
JIG	0-24	0-24	18.97/5.85	18.42/19.53	21	24
ORGC	18-90	33-74	50.85/5.78	50.30/51.40	51	49
ITS	6-38	6-38	26.39/7.35	25.69/27.09	26	28
JSB	0-10	0-10	2.14/2.18	1.93/2.35	2	0

\* $p < .05$ ;  $N = 427$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ITS: Nurse Intent to Stay

JSB: Nurse Job Search Behavior

Table 17

*Measures of deviation from normality for Study Instruments*

Variable	Skewness/ Standard Error	Kurtosis/ Standard Error	Fisher's Exact Test (*Normality if between -1.96 and + 1.96)	Shapiro-Wilk (Normality if > .05)
CWX	-.498/.118	.261/.236	-4.22/1.11	.000
QOC	-.441/.118	.654/.236	-3.74/2.77	.000
JIG	-1.433/.118	1.494/.236	-12.14/6.33	.000
ORGC	.300/.118	1.113/.236	2.54/4.72	.058
ITS	-.224/.118	-.697/.236	-1.90/-2.95	.000
JSB	1.071/.118	-.608/.236	9.08/-2.58	.000

$N = 427$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ITS: Nurse Intent to Stay

JSB: Nurse Job Search Behavior

## Hypotheses Testing

**Hypothesis 1.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) have a direct positive effect on nurse perceived quality of care provided (QOC). Hypothesis one was answered by employing simple linear regression. Inspection of results indicated that nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) explained 43% of the variance in nurse perceived quality of care provided (QOC) (Pooled results:  $F(1,425) = 312.20$ ;  $p < .001$ ;  $R^2 = .43$ ;  $B = 1.7(1.5, 1.9)$ ;  $p = .001$ ). The Pearson's product-moment correlation coefficient is a standardized measure of the strength of relationship between the predictor and outcome variables. The effect size, the magnitude of the observed effect, based on Pearson's product-moment correlation coefficient of  $R^2$  of .43, is a moderate effect size (Cohen & Steinberg, 1992). Bootstrap confidence intervals and significance values were computed as they do not rely on assumptions of normality or homoscedasticity, thus providing a more robust estimate of the true population value of the unstandardized coefficient for each predictor. Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) had a direct positive effect on nurse perceived quality of care provided (QOC), supporting Hypothesis 1. In other words, nurses indicating more positive nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) have more positive perception of quality of care provided (QOC). A summary of results from hypotheses using simple linear regression analysis is displayed in Table 18.

**Hypothesis 2.** Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) have a direct positive effect on overall nurse job satisfaction (JIG). This hypothesis was addressed using simple linear regression. Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) explained 21% of the variance in nurse perceived

overall nurse job satisfaction (JIG) (Pooled results:  $F(1,425) = 112.53$ ;  $p < .001$ ;  $R^2 = .21$ ;  $B = 0.6 (.45, .73)$ ;  $p = .001$ ). The effect size, the magnitude of the observed effect, based on Pearson's product-moment correlation coefficient of  $R^2$  of .21, is a small effect size (Cohen & Steinberg, 1992). Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) had a direct positive effect on nurse overall job satisfaction (JIG); supporting Hypothesis 2. As nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) increased, overall nurse job satisfaction (JIG) increased as well.

**Hypothesis 3.** Overall nurse job satisfaction (JIG) has a direct positive effect on nurse perceived quality of care provided (QOC). Simple linear regression was used to answer the hypothesis. Inspection of the results indicated that overall nurse job satisfaction (JIG) explained 34% of the variance in nurse perceived quality of care provided (QOC) (Pooled results:  $F(1,425) = 216.81$ ;  $p < .001$ ;  $R^2 = .34$ ;  $B = 1.7 (1.5, 1.9)$ ;  $p = .001$ ). The effect size, the magnitude of the observed effect, based on Pearson's product-moment correlation coefficient of  $R^2$  of .34, is a small-moderate effect size (Cohen & Steinberg, 1992).

Overall nurse job satisfaction (JIG) had a direct positive effect on nurse perceived quality of care provided (QOC); supporting Hypothesis 3. Nurses indicating more positive overall nurse job satisfaction (JIG) have more positive nurse perceived quality of care provided (QOC).

**Hypothesis 4.** Nurse perceived quality of care provided (QOC) has a direct positive effect on nurse intent to stay (ITS). This hypothesis was answered by employing simple linear regression. Nurse perceived quality of care provided (QOC) explained 13% of the variance in nurse intent to stay (ITS) (Pooled results:  $F(1,425) = 65.69$ ;  $p < .001$ ;  $R^2 = .13$ ;  $B = 0.2 (.18, .30)$ ;  $p = .001$ ). The effect size, the magnitude of the observed effect, based on Pearson's product-moment correlation coefficient of  $R^2$  of .13, is a small effect size (Cohen & Steinberg,

1992). Supporting Hypothesis 4, nurse perceived quality of care provided (QOC) has a direct positive effect on nurse intent to stay (ITS). As nurse perceived quality of care provided (QOC) increased, nurse intent to stay (ITS) increased as well.

Table 18

*Summary of Simple Linear Regression Results for Hypotheses \**

Hypotheses		R	R <sup>2</sup>	df	F Statistic	B	t Statistic	Bootstrap B (CI)
1	CWX→QOC	.66	.43	425	321.20	1.70	17.80	1.7 (1.5, 1.9)
2	CWX→JIG	.46	.21	425	112.53	.61	10.26	0.6 (.45, .73)
3	JIG→QOC	.58	.34	425	216.81	1.11	14.72	1.1 (.93, 1.3)
4	QOC→ITS	.36	.13	425	65.69	.24	8.10	0.2 (.18, .30)
7	JIG→ITS	.47	.22	425	118.78	.60	10.99	0.6 (.50, .70)
11	ITS→JSB	.64	.41	425	300.80	-.19	17.36	-0.2 (-.21, -.17)

\*All relationships significant at  $p < .001$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ORGC: Nurse Perceived Organizational Commitment

ITS: Nurse Intent to Stay

JSB: Job Search Behavior

**Hypothesis 5.** The relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC) is mediated by overall nurse job satisfaction (JIG). The PROCESS procedure in SPSS (Hayes, 2013) was used to examine the mediation hypothesis. The hypothesized path is presented in Figure 16.

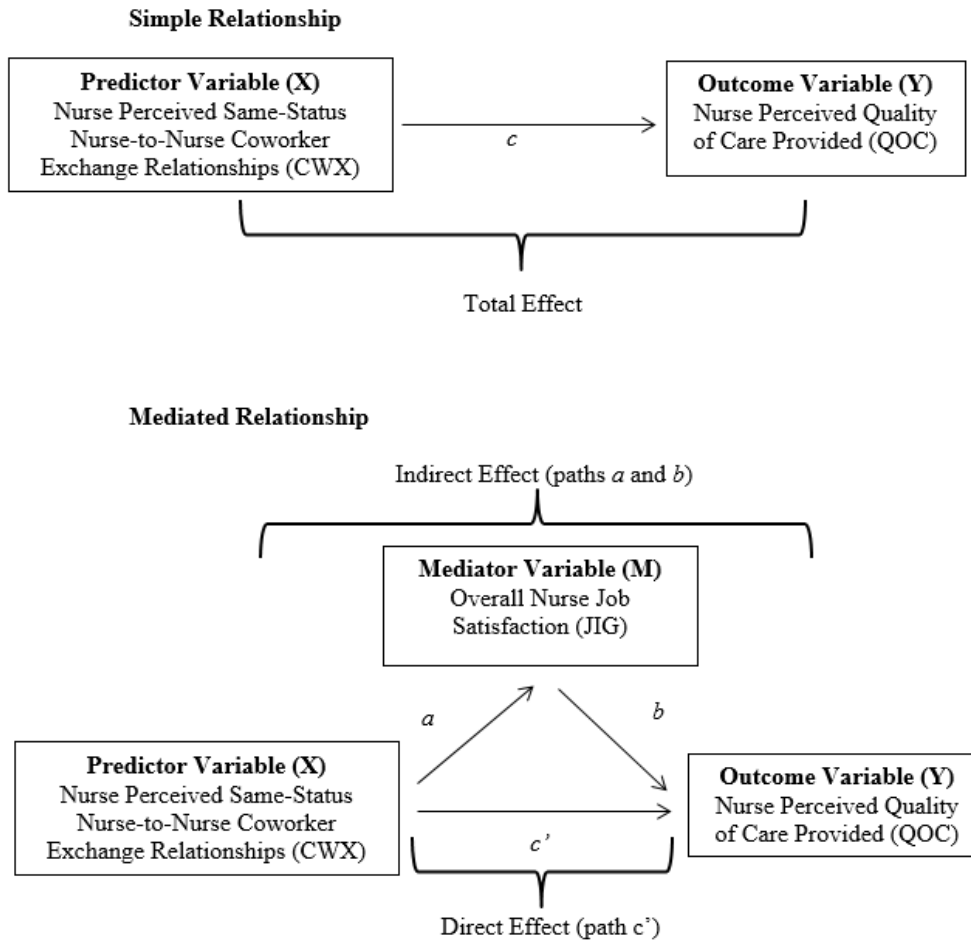


Figure 16. Hypothesis 5: Path model analyzed in this study.

Note. The path model as a whole (represents  $c'$ ) addresses JIG as a mediator to the effect CWX has on QOC. The *indirect effects* of the model are the product of the path coefficients path  $a$  and path  $b$ . The *total* effect of the model (path  $c$ ) is the sum of the *direct* and *indirect* effects of the predictor on the outcome;  $a * b + c'$ . The *direct effect* is the effect of the predictor on the outcome when taking the mediator into account ( $X \rightarrow M \rightarrow Y$ ).

The PROCESS output was analyzed to assess each component of the proposed mediation model. First, the *indirect effects* of the model were inspected. The unstandardized regression coefficient between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and overall nurse job satisfaction (JIG) (path  $a$ ) was positively statistically significant ( $b = 0.62$ ,  $t(425) = 10.61$ ,  $p = < .001$ ). This finding suggests that one-unit increase in coworker exchange relationships (CWX) results in 0.62 increase in overall nurse job satisfaction (JIG). The unstandardized regression coefficient between the mediator, overall nurse job satisfaction (JIG)

and nurse perceived quality of care provided (QOC) (path *b*) was positively statistically significant ( $b = 0.67, t(427) = 9.50, p < .01$ ).

Next, *total effect* of the model was inspected (path *c*). The unstandardized regression coefficient between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC) (path *c*) was positively statistically significant ( $b = 1.69, t(427) = 17.92, p < .01$ ). The simple linear analysis results can be found in Table 19.

Table 19

*Hypothesis 5: PROCESS: Analysis of Variables used in Path Analysis*

		R	R <sup>2</sup>	F Statistic	B	t Statistic
Path <i>a</i>	CWX→JIG	.46	.21	112.53*	.62	10.61*
Path <i>b</i>	JIG→QOC	.73	.53	239.39*	.67	9.50*
Path <i>c</i>	CWX→QOC	.66	.43	321.20*	1.69	17.92*
Path <i>c'</i>	CWX→JIG→QOC	.73	.53	239.39*	1.27	13.18*

\* $p < .001, N = 427$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

JIG: Overall Nurse Job Satisfaction

QOC: Nurse Perceived Quality of Care Provided

For a mediation relationship to exist, the *total effect* (path *c*) must be greater than the *direct effect* (path *c'*) (Baron & Kenny, 1986; von Eye et al., 2009). In this case, when considering the effects of the mediator, overall nurse job satisfaction (JIG), the *direct effect* from coworker exchange relationships (CWX) to nurse perceived quality of care provided (QOC) (path *c'* = 1.27) was less strong than when considering the *total effect* with the absence of the mediator in the model (path *c* = 1.69). The unstandardized regression coefficient between the predictor, coworker exchange relations (CWX), and the outcome variable in the model, nurse perceived quality of care provided (QOC), taking the effects of the mediator, overall nurse job satisfaction (JIG) into account, was positively statistically significant (*path c'*) ( $b = 1.27, t(427) = 13.18, p < .001$ ). This finding indicates that when adding in the mediator path *c* remained

significant which suggests that overall nurse job satisfaction (JIG), *partially* mediates the relationship between coworker exchange (CWX) and nurse perceived quality of care provided (QOC). The unstandardized regression coefficient results are illustrated in Figure 17.

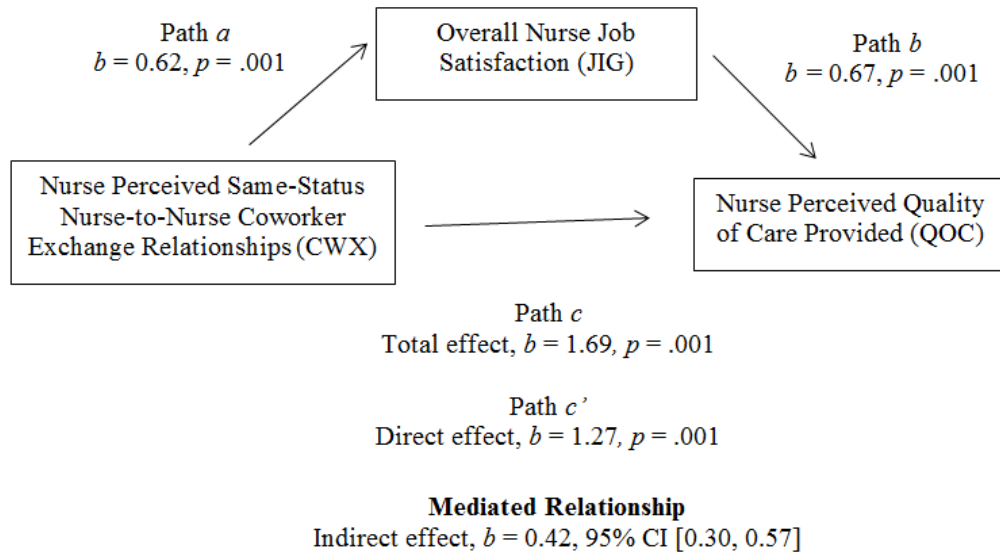


Figure 17. Hypothesis 5: PROCESS: Unstandardized regression coefficients for the relationship between CWX and QOC as mediated by JIG  
\* $p < .001$ .

For *full* mediation to exist the direct effect (path *c'*) of predictor variable on the outcome variable will *not* be significant in the presence of the mediator but the indirect effect (path *a* and path *b*) through the mediator will be significant. For *partial* mediation to exist, the direct (path *c'*) and indirect effects (path *a* and path *b*) from the predictor to the outcome variable *must be* significant. In this case, *partial* mediation is supported since path *a* and *b* were significant and path *c'* remained *significant* (Rucker et al., 2011; von Eye et al., 2009). The mediator accounted for 25% of the total effect ( $P_m = .25, \text{ CI } .18, .33$ ). Next, the  $R^2$  mediation effect size indicates the proportion of the variance explained by the indirect effect;  $b = 0.238, \text{ CI } .16, .31$ .

The normal theory or Sobel test determines if the indirect mediation effect is statistically significant (Sobel, 1982). In this case, the Sobel test result was significant,  $Z = 7.06, p = .001$

with a reduction effect of .42; subtracting path  $c'$  ( $b = 1.27$ ) from path  $c$  ( $b = 1.69$ ). To ensure the significance of the indirect mediation effect the lower and upper bound confidence interval results must be analyzed. The PROCESS mediation procedure uses the bootstrapping method with bias-corrected confidence estimates to test the significance of the indirect mediation effect (Baron & Kenny, 1986; Preacher & Hayes, 2004). The bootstrapped unstandardized indirect effect of overall nurse job satisfaction (JIG) on the relationship between coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC) was .42, and the 95% confidence interval ranged from .30 to .57. Since the value zero is not included within the confidence interval the results indicate a significant indirect mediation effect. The indirect effect was statistically significant at a medium-large effect size ( $\kappa^2 = .19$ , CI = .14 to .25) (Cohen & Steinberg, 1992).

A summary of the mediation analysis indicated that overall nurse job satisfaction (JIG) *partially* mediates the effect of *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse perceived quality of care (QOC), supporting Hypothesis 5. Results indicate that overall nurse job satisfaction (JIG) explained 25% of the effect of *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse perceived quality of care (QOC).

When nurses in the acute care nurse work environment experience higher quality coworker exchange relationships (CWX), overall nurse job satisfaction (JIG) is positively influenced, which influences greater nurse perceived quality of care provided (QOC). These findings provide a greater understanding of the relationship between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC).

**Hypothesis 6.** The relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS) is mediated by overall

nurse job satisfaction (JIG). The PROCESS procedure in SPSS (Hayes, 2013) was used to examine the mediation hypothesis. The hypothesized path is presented in Figure 18.

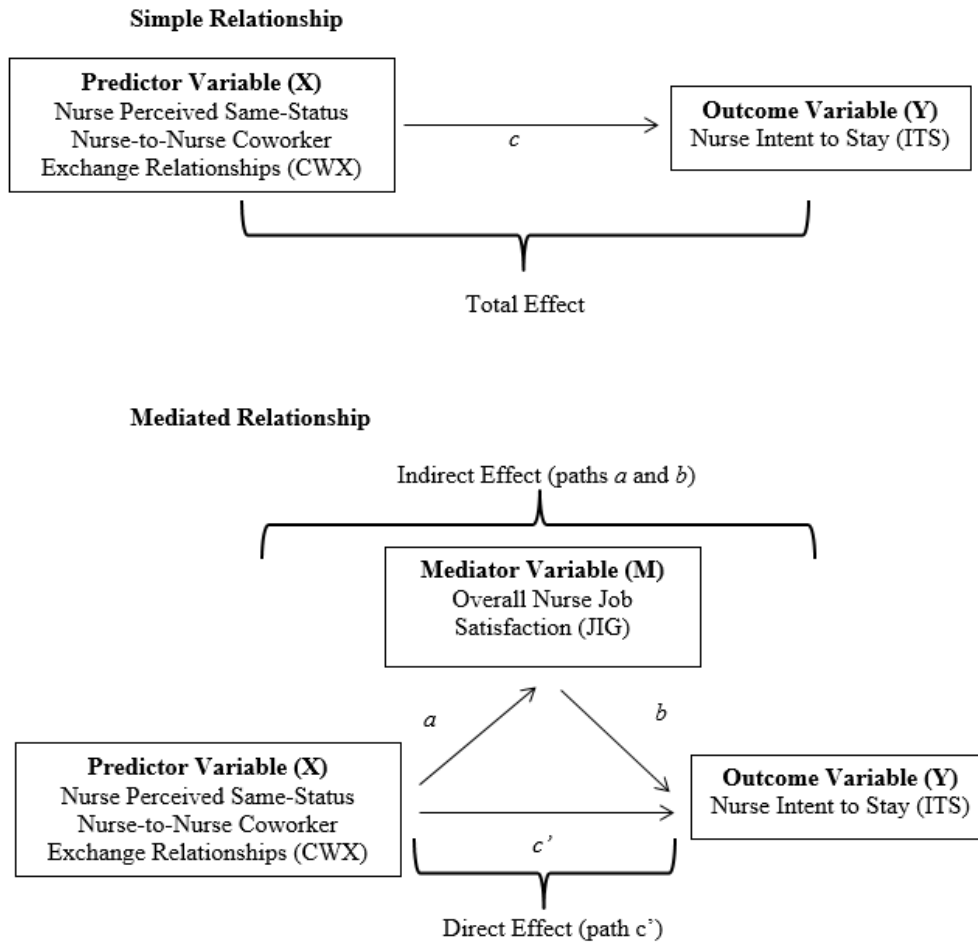


Figure 18. Hypothesis 6: Path model analyzed in this study.

Note. The path model as a whole (represents  $c'$ ) addresses JIG as a mediator to the effect CWX has on ITS. The *indirect effects* of the model are the product of the path coefficients path  $a$  and path  $b$ . The *total effect* of the model (path  $c$ ) is the sum of the *direct* and *indirect* effects of the predictor on the outcome;  $a * b + c'$ . The *direct effect* is the effect of the predictor on the outcome when taking the mediator into account ( $X \rightarrow M \rightarrow Y$ ).

The PROCESS output was analyzed to assess each component of the proposed mediation model. First, the *indirect effects* of the model were inspected. The unstandardized regression coefficient between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and overall nurse job satisfaction (JIG) (path  $a$ ) was positively statistically significant ( $b = 0.62$ ,  $t$

(425) = 10.61,  $p = < .001$ ). This finding suggests that one-unit increase in *same-status nurse-to-nurse* coworker exchange relationships (CWX) results in 0.62 increase in nurse perceived quality of care provided (QOC). The unstandardized regression coefficient between the mediator, overall nurse job satisfaction (JIG) and nurse intent to stay (ITS) (path *b*) was also positively statistically significant ( $b = 0.53$ ,  $t(427) = 8.84$ ,  $p = < .001$ ).

Next, *total effect* of the model was inspected (path *c*). The unstandardized regression coefficient between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS) (path *c*) was positively statistically significant ( $b = 0.49$ ,  $t(427) = 6.17$ ,  $p = < .001$ ). Results of the simple linear analysis can be found in Table 20.

Table 20

*Hypothesis 6: PROCESS: Analysis of Variables used in Path Analysis*

		R	R <sup>2</sup>	F Statistic	B	t Statistic
Path <i>a</i>	CWX→JIG	.46	.21	112.53*	.62	10.61*
Path <i>b</i>	JIG→ITS	.48	.23	61.60*	.53	8.85*
Path <i>c</i>	CWX→ITS	.29	.08	38.06*	.49	6.17*
Path <i>c</i> '	CWX→JIG→ITS	.48	.23	61.60*	.16	1.92*

\* $p = < .001$ ,  $N = 427$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

JIG: Overall Nurse Job Satisfaction

ITS: Nurse Intent to Stay

For a mediation relationship to exist, the *total effect* (path *c*) must be greater than the *direct effect* (path *c*') (Baron & Kenny, 1986; von Eye et al., 2009). In this case, when considering the effects of the mediator, overall nurse job satisfaction (JIG), the *direct effect* from *same-status nurse-to-nurse* coworker exchange relationships (CWX) to nurse intent to stay (ITS) (path *c*' = 0.16) was less strong than when considering the *total effect* with the absence of the mediator in the model (path *c* = 0.49). The unstandardized regression coefficient between the predictor, *same-status nurse-to-nurse* coworker exchange relations (CWX), and the outcome

variable in the model, nurse intent to stay (ITS), taking the effects of the mediator, overall nurse job satisfaction (JIG), into account was statistically *non-significant* (path  $c'$ ) ( $b = 0.16, t(427) = -1.92, p < .056$ ). This finding indicates that adding in the mediator reduces the significance of the path  $c$  which suggests that overall nurse job satisfaction (JIG) is *fully* mediating the relationship between *same-status nurse-to-nurse* coworker exchange (CWX) and nurse intent to stay (ITS). The unstandardized regression coefficient results are illustrated in Figure 19.

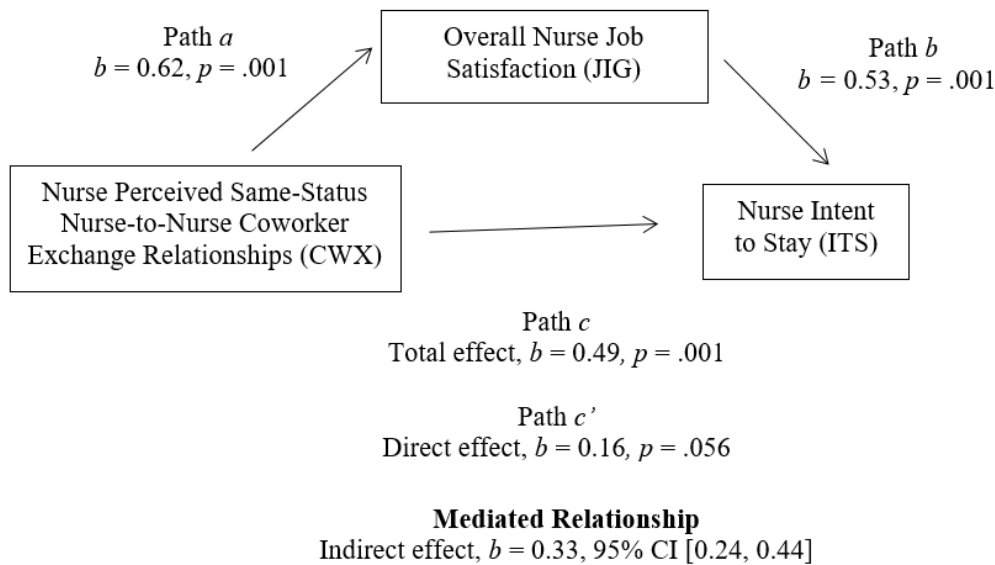


Figure 19. Hypothesis 6: PROCESS: Unstandardized regression coefficients for the relationship between CWX and ITS as mediated by JIG.  
\* $p < .001$ .

For *full* mediation to exist the direct effect (path  $c'$ ) of predictor variable on the outcome variable will *not* be significant in the presence of the mediator but the indirect effect (path  $a$  and path  $b$ ) through the mediator will be significant. For *partial* mediation to exist, the direct (path  $c'$ ) and indirect effects (path  $a$  and path  $b$ ) from the predictor to the outcome variable *must be* significant. In this case, *full* mediation is supported since path  $a$  and  $b$  were significant and path  $c'$  became *non-significant* (Rucker et al., 2011; von Eye et al., 2009). The mediator accounted

for 68% of the total effect ( $R_m = .67$ , CI .46, 1.01). Next, the  $R^2$  mediation effect size indicates the proportion of the variance explained by the indirect effect;  $b = 0.076$ , CI .04, .12.

The normal theory or Sobel test determines if the indirect mediation effect is statistically significant (Sobel, 1982). In this case, the Sobel test result was significant,  $Z = 6.78$ ,  $p = .001$  with a reduction effect of .33; subtracting path  $c'$  ( $b = 0.16$ ) from path  $c$  ( $b = 0.49$ ). To ensure the significance of the indirect mediation effect the lower and upper bound confidence interval results must be analyzed. The PROCESS mediation procedure uses the bootstrapping method with bias-corrected confidence estimates to test the significance of the indirect mediation effect (Baron & Kenny, 1986; Preacher & Hayes, 2004). The bootstrapped unstandardized indirect effect of overall nurse job satisfaction (JIG) on *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse intent to stay (ITS) was .33, and the 95% confidence interval ranged from .24 to .44. Since the value zero is not included within the confidence interval the results indicate a significant indirect mediation effect. Finally, examination of Kappa-squared indicates the effect size of the indirect effect. The indirect effect was statistically significant at a medium-large effect size ( $\kappa^2 = .18$ , CI = .14 to .24) (Cohen & Steinberg, 1992).

A summary of the mediation analysis indicated that overall nurse job satisfaction (JIG) *fully* mediates the effect of *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse intent to stay (ITS), supporting Hypothesis 6. Results indicate that overall nurse job satisfaction (JIG) explained 68% of the effect of *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse intent to stay (ITS). When nurses in the acute care nurse work environment experience higher quality *same-status nurse-to-nurse* coworker exchange relationships (CWX), overall nurse job satisfaction (JIG) is positively influenced, which influences greater nurse intent to stay (ITS). These findings provide a greater understanding of

the relationship between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS).

**Hypothesis 7.** Overall nurse job satisfaction (JIG) has a direct positive effect on nurse intent to stay (ITS). Simple linear regression was used to answer the hypothesis. Regression analysis revealed that 22% of the variance in overall nurse job satisfaction (JIG) was explained by nurse intent to stay (ITS) (Pooled results:  $F(1,425) = 118.78$ ;  $p < .001$ ;  $R^2 = .22$ ;  $B = 0.6$  (.50, .70);  $p = .001$ ). The effect size, the magnitude of the observed effect, based on Pearson's product-moment correlation coefficient of  $R^2$  of .22, is a small effect size (Cohen & Steinberg, 1992). Overall nurse job satisfaction (JIG) has a direct positive effect on nurse intent to stay (ITS), supporting Hypothesis 7. As overall nurse job satisfaction (JIG) increased, nurse intent to stay (ITS) increased as well.

**Hypothesis 8.** The relationship between nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS) is mediated by nurse perceived quality of care provided (QOC). In the current study, the PROCESS procedure in SPSS (Hayes, 2013) was used to examine this mediation hypothesis. The hypothesized path is presented in Figure 20.

The PROCESS output was analyzed to assess each component of the proposed mediation model. First, the *indirect effects* of the model were inspected. The unstandardized regression coefficient *same-status nurse-to-nurse* between coworker exchange relationships (CWX) and nurse perceived quality of care provided (QOC) (path *a*) was positively statistically significant ( $b = 1.69$ ,  $t(427) = 17.92$ ,  $p < .001$ ). This finding suggests that one-unit increase in *same-status nurse-to-nurse* coworker exchange relationships (CWX) results in 1.69 increase in nurse perceived quality of care provided (QOC). The unstandardized regression coefficient between

the mediator, nurse perceived quality of care provided (QOC) and nurse intent to stay (ITS) (path *b*) was also positively statistically significant ( $b = 0.21, t(427) = 5.22, p < .001$ ).

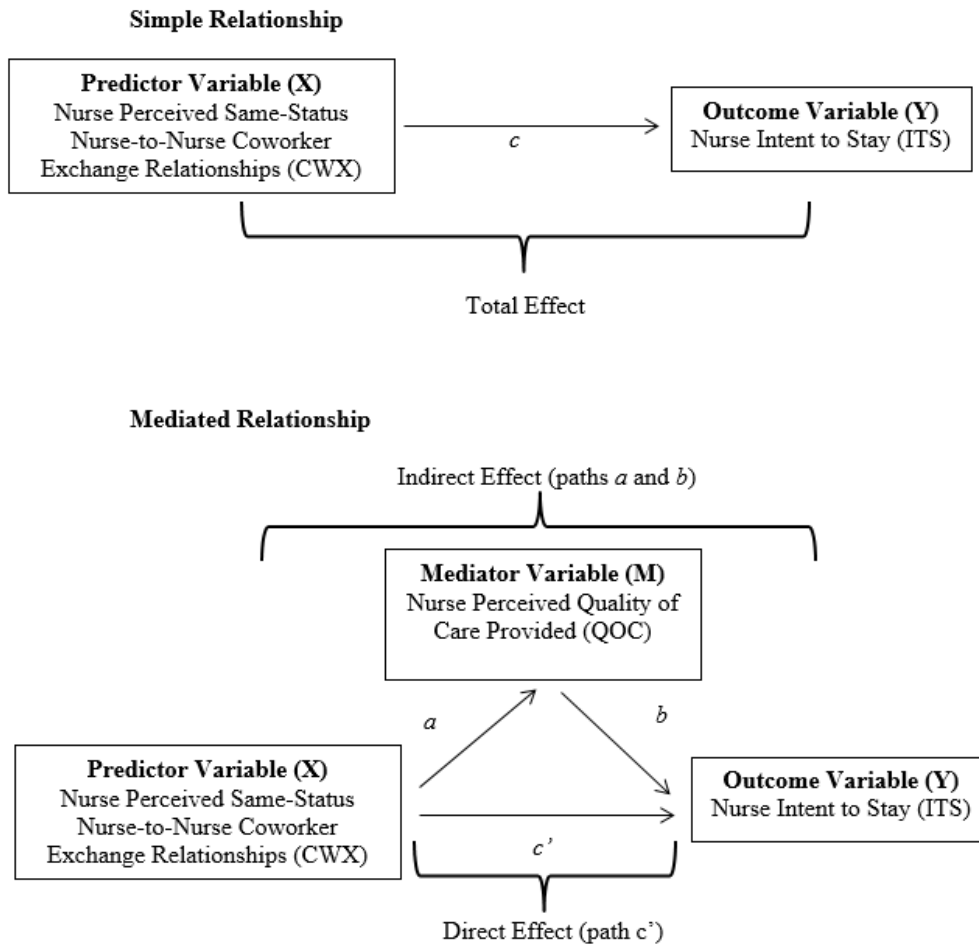


Figure 20. Hypothesis 8: Path model analyzed in this study.

Note. The path model as a whole (represents  $c'$ ) addresses QOC as a mediator to the effect CWX has on ITS. The *indirect effects* of the model are the product of the path coefficients path *a* and path *b*. The *total effect* of the model (path *c*) is the sum of the *direct* and *indirect* effects of the predictor on the outcome;  $a * b + c'$ . The *direct effect* is the effect of the predictor on the outcome when taking the mediator into account ( $X \rightarrow M \rightarrow Y$ ).

Next, *total effect* of the model was inspected (path *c*). The unstandardized regression coefficient between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS) (path *c*) was positively statistically significant ( $b = .49, t(427) = 6.17, p < .001$ ). Results of the simple linear analysis can be found in Table 21.

Table 21

*Hypothesis 8: PROCESS: Analysis of Variables used in Path Analysis*

		R	R <sup>2</sup>	F Statistic	B	t Statistic
Path <i>a</i>	CWX→QOC	.66	.43	321.20*	1.69	17.92*
Path <i>b</i>	QOC→ITS	.37	.14	33.85*	.21	5.22*
Path <i>c</i>	CWX→ITS	.29	.08	38.06*	.49	6.17*
Path <i>c'</i>	CWX→QOC→ITS	.37	.14	33.85	.14	1.37*

\* $p < .001$ ,  $N = 427$

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

ITS: Nurse Intent to Stay

For a mediation relationship to exist, the *total effect* (path *c*) must be greater than the *direct effect* (path *c'*) (Baron & Kenny, 1986; von Eye et al., 2009). In this case, when considering the effects of the mediator, nurse perceived quality of care provided (QOC), the *direct effect* from *same-status nurse-to-nurse* coworker exchange relationships (CWX) to nurse intent to stay (ITS) (path *c'* = 0.14) was less strong than when considering the *total effect* with the absence of the mediator in the model (path *c* = 0.49). The unstandardized regression coefficient between the predictor, *same-status nurse-to-nurse* coworker exchange relationships (CWX), and the outcome variable in the model, nurse intent to stay (ITS), taking the effects of the mediator, nurse perceived quality of care provided (QOC) into account, was statistically *non-significant* (path *c'*) ( $b = 0.14$ ,  $t(427) = 1.37$ ,  $p < .171$ ). This finding indicates that adding in the mediator reduces the significance of the path *c* which suggests that nurse perceived quality of care (QOC) *fully* mediates the relationship between *same-status nurse-to-nurse* coworker exchange (CWX) and nurse intent to stay (ITS). The unstandardized regression coefficient results are illustrated in Figure 21.

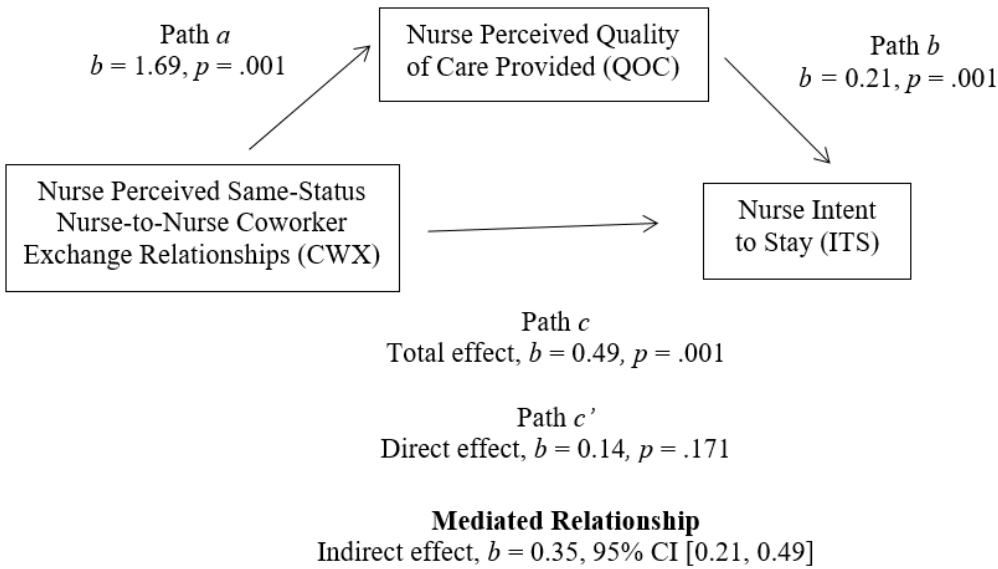


Figure 21. Hypothesis 8. PROCESS: Unstandardized regression coefficients for the relationship between CWX and ITS as mediated by QOC.  
\* $p < .001$ .

For *full* mediation to exist the direct effect (path  $c'$ ) of predictor variable on the outcome variable will *not* be significant in the presence of the mediator but the indirect effect (path  $a$  and path  $b$ ) through the mediator will be significant. For *partial* mediation to exist, the direct (path  $c'$ ) and indirect effects (path  $a$  and path  $b$ ) from the predictor to the outcome variable *must be* significant. In this case, *full* mediation is supported since path  $a$  and  $b$  were significant and path  $c'$  became *non-significant* (Rucker et al., 2011; von Eye, et al., 2009). The mediator accounted for 71% of the total effect ( $R_m = .71, \text{ CI } .41, 1.18$ ). Next, the  $R^2$  mediation effect size indicates the proportion of the variance explained by the indirect effect;  $b = 0.078, \text{ CI } .04, .13$ .

The normal theory or Sobel test determines if the indirect mediation effect is statistically significant (Sobel, 1982). In this case, the Sobel test result was significant,  $Z = 5.01, p < .001$  with a reduction effect of .35; subtracting path  $c'$  ( $b = .14$ ) from path  $c$  ( $b = .49$ ). To ensure the significance of the indirect mediation effect the lower and upper bound confidence interval results must be analyzed. The PROCESS mediation procedure uses the bootstrapping method

with bias-corrected confidence estimates to test the significance of the indirect mediation effect (Baron & Kenny, 1986; Preacher & Hayes, 2004). The bootstrapped unstandardized indirect effect of nurse perceived quality of care (QOC) on *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse intent to stay (ITS) was .35, and the 95% confidence interval ranged from .21 to .49. Since the value zero is not included within the confidence interval the results indicate a significant indirect mediation effect. Finally, examination of Kappa-squared indicates the effect size of the indirect effect. The indirect effect was statistically significant at a medium-large effect size ( $\kappa^2 = .16$ , CI = .13 to .19) (Cohen & Steinberg, 1992).

A summary of the mediation analysis indicated that nurse perceived quality of care provided (QOC) *fully* mediates the effect of *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse intent to stay (ITS), supporting Hypothesis 8. Results indicate that nurse perceived quality of care (QOC) explained 71% of the effect of *same-status nurse-to-nurse* coworker exchange relationships (CWX) on nurse intent to stay (ITS). When nurses in the acute care nurse work environment experience higher quality *same-status nurse-to-nurse* coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC) is positively influenced, which influences greater nurse intent to stay (ITS). These findings provide a greater understanding of the relationship between *same-status nurse-to-nurse* coworker exchange relationships (CWX) and nurse intent to stay (ITS).

**Hypothesis 9.** In this study, according to the data obtained, there was inconsistent nurse response with the instrument measuring nurse perceived organizational commitment. Therefore, hypothesis nine analyzing the relationship between nurse perceived organizational commitment (ORGC) and nurse intent to stay (ITS) was not completed.

**Hypothesis 10.** In this study, according to the data obtained, there was inconsistent nurse response with the instrument measuring nurse perceived organizational commitment. Therefore, hypothesis ten analyzing the relationship between nurse perceived organizational commitment (ORGC) and nurse job search behavior (JSB) was not completed.

**Hypothesis 11.** Nurse intent to stay (ITS) has a direct positive effect on nurse job search behavior (JSB). Hypothesis eleven was tested using simple linear regression. Regression analysis revealed that 41% of the variance in nurse job search behavior (JSB) was explained by nurse intent to stay (ITS) (Pooled results:  $F(1,425) = 300.80$ ;  $p < .001$ ;  $R^2 = .41$ ;  $B = -0.2$  (-.21, -.17);  $p = .001$ ). The effect size, the magnitude of the observed effect, based on Pearson's product-moment correlation coefficient of  $R^2$  of .41, is a moderate effect size (Cohen & Steinberg, 1992). Nurse intent to stay (ITS) did have a direct positive effect on nurse job search behavior (JSB), supporting Hypothesis 11. Nurses indicating more positive nurse intent to stay (ITS) indicated less job search behavior (JSB).

**Hypothesis 12.** In this study, according to the data obtained, there was inconsistent nurse response with the instrument measuring nurse perceived organizational commitment. Therefore, hypothesis twelve analyzing nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), nurse perceived organizational commitment (ORGC), and nurse intent to stay (ITS) together are better predictors of nurse job search behavior (JSB) than any one variable alone was not completed.

### Summary of Hypotheses Results

A summary of the hypotheses results is presented in Table 22.

Table 22

*Summary Table of Hypotheses Results*

Hypothesis	Statistical Results	Interpretation
1. CWX → QOC	$F(1,425) = 312.20; p < .001; R^2 = .43$ B = 1.70, $t(425) = 17.80, p < .001$ Bootstrap CI 1.5, 1.9, $p = .001$	Nurses indicating more positive same-status nurse-to-nurse coworker exchange relationships have more positive nurse perception of quality of care provided.
2. CWX → JIG	$F(1,425) = 112.53; p < .001; R^2 = .21$ B = .61, $t(425) = 10.26, p < .001$ Bootstrap CI .45, .73, $p = .001$	Nurses indicating more positive same-status nurse-to-nurse coworker exchange relationships have more positive overall nurse job satisfaction.
3. JIG → QOC	$F(1,425) = 216.81; p < .001; R^2 = .34$ B = 1.11, $t(425) = 14.72, p < .001$ Bootstrap CI .93, 1.3, $p = .001$	Nurses indicating more positive overall nurse job satisfaction. have more positive nurse perception of quality of care provided.
4. QOC → ITS	$F(1,425) = 65.08; p < .001; R^2 = .13$ B = 2.42, $t(425) = 8.10, p < .001$ Bootstrap CI .18, .30, $p = .001$	Nurses indicating more positive nurse perception of quality of care provided have more positive nurse intent to stay.
5. CWX → JIG → QOC	Path a: $F(1, 425) = 112.53, p < .001; R^2 = .21$ Path a: B = .62, $t(427) = 10.61, p < .001$  Path b & c': $F(2, 424) = 239.39, p < .001; R^2 = .53$ Path b: B = .67, $t(427) = 9.50, p < .001$ Path c': B = 1.27, $t(427) = 13.18, p < .001$ (remained significant = partial mediation)  Path c: $F(1, 425) = 321.20, p < .001; R^2 = .43$ Path c: B = 1.69, $t(427) = 17.92, p < .001$  Indirect effect of X on Y = .42, CI .30, .58. Ratio of indirect to total effect of X on Y = .25, CI .18, .33. $R^2$ mediation effect size = .24, CI .16, .31 Z = 6.78, $p < .001$ $\kappa^2 = .18, CI = .14, .24$ ; medium-large effect size	Twenty five percent of the total variance of same-status nurse-to-nurse coworker exchange relationships on nurse perception of quality of care provided is explained by overall nurse job satisfaction.
6. CWX → JIG → ITS	Path a: $F(1, 425) = 112.53, p < .001; R^2 = .21$ Path a: B = .62, $p < .001$  Path b & c': $F(2, 424) = 61.60, p < .001; R^2 = .23$ Path b: B = .53, $p < .001$ Path c': B = .16, $p < .056$ (became insignificant = full mediation)  Path c: $F(1, 425) = 38.06, p < .001; R^2 = .08$ Path c: B = -.49, $p < .01$	Most of the effect of same-status nurse-to-nurse coworker exchange relationships on nurse intent to stay is explained by overall nurse job satisfaction.

	<p>Indirect effect of X on Y = .33, CI .24, .44  Ratio of indirect to total effect of X on Y = .67, CI .46, 1.02.  <math>R^2</math> mediation effect size = .08, CI .04, .11  <math>Z = -6.79, p &lt; .001</math>  <math>\kappa^2 = .18, CI = .14 \text{ to } .24</math>; medium-large effect size</p>	
7. JIG → ITS	<p><math>F(1, 425) = 118.78, p &lt; .001; R^2 = .22</math>  <math>B = .60, t(425) = 10.99, p &lt; .001</math>  Bootstrap CI .50, .70, <math>p = .001</math></p>	Nurses indicating more positive overall nurse job satisfaction have more positive nurse intent to stay.
8. CWX → QOC → ITS	<p>Path a: <math>F(1, 425) = 321.20, p &lt; .001, R^2 = .43</math>  Path a: <math>B = 1.69, p &lt; .001</math></p> <p>Path b &amp; c': <math>F(2, 424) = 33.85, p &lt; .001, R^2 = .14</math>  Path b: <math>B = .21, p &lt; .001</math>  Path c': <math>B = .14, p = &lt; .171</math> (became insignificant = full mediation)</p> <p>Path c: <math>F(1, 425) = 38.06, p &lt; .001, R^2 = .49</math>  Path c = .49, <math>p &lt; .001</math></p> <p>Indirect effect of X on Y is .35, CI = .22, .49  Ratio of indirect to total effect of X on Y is .71, CI .41 to 1.18.  <math>R^2</math> mediation effect size = .08, CI .04, .013  <math>Z = 5.01, p &lt; .001</math>  <math>\kappa^2 = .16, CI = .10, .23</math>; medium-large effect size</p>	Most of the effect of same-status nurse-to-nurse coworker exchange relationships on nurse intent to stay is explained by nurse perception of quality of care provided.
11. ITS → JSB	<p><math>F(1, 425) = 300.80; p &lt; .001; R^2 = .41</math>  <math>B = -.19, t(425) = -17.36, p &lt; .001</math>  Bootstrap CI -.21, -.17, <math>p = .001</math></p>	Nurses indicating more positive nurse intent to stay have <i>less</i> nurse job search behavior.

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ITS: Nurse Intent to Stay

JSB: Nurse Job Search Behavior

## Post Hoc Analyses

### Study Variables Comparison with Individual Nurse Characteristics

Using One Way Analysis of Variance (ANOVA), data were tested to determine whether there were significant differences in total scores for continuous variables (CWX, QOC, JIG, ITS, & JSB) when individual nurse characteristics (nurse age, nurse education level, years of registered nurse experience, years employed at current job, employed full-time or part-time, and nurse living situation) were considered.

Two statistically group mean differences were identified between nurse age and nurse job search behavior scores: “Age 26-35” and “Age 56-65”,  $p = .036$ ; “Age 36-45” and “Age 56-65”,  $p = .036$ . This result indicates that 4.6% of the variability in nurse age is accounted for by nurse job search behavior;  $\eta^2 = .046$ , small effect size (Cohen, 1988, pp. 413–414; Bakeman, 2005). There was a small statistical difference in group means between nurse ages 26-35 and nurse ages 56-65 regarding job search behavior. In this sample, nurses between the ages of 26-35 reported the most job search behavior whereas nurses between the ages of 56-65 reported the least job search behavior.

Additionally, a group mean difference was identified between registered nurse number of years at current job and overall nurse job satisfaction scores: “RNCJ 0-5 years” and “RNCJ over 35 years”,  $p = .023$ .” This result indicates that 2.3% of the variability in years of registered nursing experience at their current job is accounted for by nurse job search behavior;  $\eta^2 = .030$ , small effect size (Cohen, 1988, pp. 413–414; Bakeman, 2005). There is a small statistical difference in group means between the registered nurse employed 0-5 years at their current job and the registered nurse employed over 36 years at their current job regarding overall nurse job satisfaction. In this sample, nurses with job tenure of 0-5 years and nurses with job tenure of 26-35 years reported having greater overall nurse job satisfaction as compared to nurses with 36+ years of job tenure who reported having the lowest overall nurse job satisfaction.

### **Revised Model: Predictors of Nurse Job Search Behavior**

The organizational commitment variable was removed from the initial hypothesized model due to inconsistency in nurse responses on the measuring tool. Hierarchical multiple regression was used to test whether nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC), overall nurse

job satisfaction (JIG), and nurse intent to stay (ITS) together are better predictors of nurse job search behavior (JSB) than any one variable alone (the revised model). The regression model was found to be significant ( $p < .001$ ) (Table 23). Forty-two percent of variance in nurse job search behavior was explained by the full model,  $F(4, 422) = 75.78, p < .001$ . Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) was entered into the regression equation at Step 1 explaining 5.5% of the variance in nurse job search behavior (JSB),  $R$  squared change = .055,  $F$  change (1, 425) = 24.69,  $p = .001^*$ . After entry of nurse perceived quality of care provided (QOC) at Step 2 the total variance explained by Model 2 was 7.2%. The two control measures (CWX and QOC) explained an additional 1.7% of the variance in nurse job search behavior (JSB), after controlling for nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX),  $R$  squared change = .072,  $F$  change (2, 424) = 7.72,  $p = .006$ .

When overall nurse job satisfaction (JIG) was added in Step 3, the total variance explained by Model 3 was 11.9%. The three control measures (CWX, QOC, JIG) explained an additional 4.7% of the variance in nurse job search behavior (JSB), after controlling for nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX),  $R$  squared change = .119,  $F$  change (3,423) = 22.63,  $p = .001$ .

With the entry of nurse intent to stay (ITS) in the final step of the regression equation, the total variance explained by the full model was 41.8%. The four control measures (CWX, QOC, JIG, ITS) explained an additional 29.9% of the variance in nurse job search behavior (JSB), after controlling for nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX),  $R$  squared change = .299,  $F$  change (5, 422) = 216.89,  $p = .001$ . Based on this model, nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX), nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), and nurse intent

to stay (ITS) are predictive of nurse job search behavior. Findings show that nurse intent to stay (ITS) played a more significant role than other factors in nurse job search behavior (JSB).

It is noted that as the predictor variables were entered in the second and later stages of the regression, these variables became non-significant indicating further exploration is needed for a better understanding on how these predictors impact job search behavior.

Table 23

*Summary of Hierarchical Regression Analysis for Predictors of Nurse Job Search Behavior (JSB)*

Model	B	$\beta$	R	R <sup>2</sup> Change	R <sup>2</sup> / Adjusted R <sup>2</sup>	Std. Error of the Estimate	F Change	Sig.	t Statistic
<b>Model 1</b>									
CWX	-.114	-.234*	.234	.055	.055/.053	2.13	24.69	.000*	-4.97
<b>Model 2</b>									
CWX	-.052	-.121						.051	-1.96
QOC	-.037	-.172*	.268	.017	.072/067	2.11	7.72	.006*	-2.779
<b>Model 3</b>									
CWX	-.036	-.085						.162	-1.40
QOC	-.010	-.040						.552	-.60
JIG	-.101	-.269*	.345	.047	.119/.113	2.06	22.63	.000*	-4.78
<b>Model 4</b>									
CWX	-.027	-.066						.184	-1.33
QOC	.005	.038						.487	.70
JIG	-.009	-.031						.526	-.64
ITS	-.186	-.624*	.647	.299	.418/.413	1.67	216.89	.000*	-14.73

Note. N = 427; Pooled results; \*p < .001

CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships

QOC: Nurse Perceived Quality of Care Provided

JIG: Overall Nurse Job Satisfaction

ITS: Nurse Intent to Stay

**Structural Equation Modeling**

The hierarchical linear regression model was not sufficient to explore the mechanism by which the predictors influenced job search behavior since with the addition of predictors to the model; the previously entered predictors became insignificant. Only intent to stay was predictive in the final hierarchical linear model. Therefore, structural equation modeling using IBM

Statistics Amos 23, a multivariate analysis technique, was performed to estimate and test relationships among the variables in the model as well as to examine fit between the revised hypothesized model structure and the data. Refer to Figure 22 for a diagram of the revised hypothesized model with standardized regression weights.

The theory-based model includes exogenous and endogenous variables. In any theory, there are variables called exogenous variables that are external to the theory that may be related to variables within the theory. The exogenous (or predictor) variable in this model was nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX). The endogenous variables in this model are nurse perceived quality of care provided (QOC), overall nurse job satisfaction (JIG), nurse intent to stay (ITS), and job search behavior (JSB); these variables may be influenced by a combination of the predictors. SEM provides numerical estimates for each of the parameters (arrows) in the model to indicate the strength of the relationships. Any variance not accounted for in the model is attributed to residual variables not included in the analysis designated as an unobserved exogenous variable. For a good model fit the Chi Square statistic should be significant. A Chi-Square value of less than 1.0 is a poor model fit; more than 5.0 reflects a need for improvement.

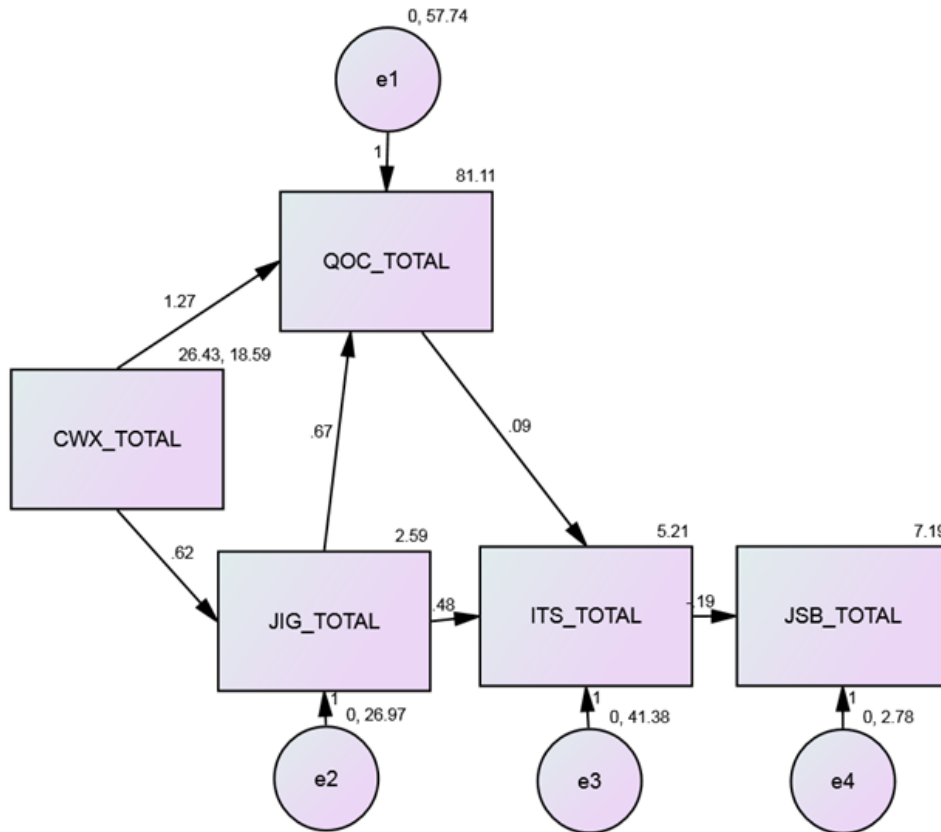


Figure 22. SEM Results: Revised Model with Standardized Regression Weights.  
 CWX: Nurse Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships  
 QOC: Nurse Perceived Quality of Care Provided  
 JIG: Overall Nurse Job Satisfaction  
 ITS: Nurse Intent to Stay  
 JSB: Nurse Job Search Behavior

The model is recursive indicating that the relationships are unidirectional. A *non-significant* interaction was found ( $\chi^2 (4) = 2.92, p < .571$ ) in the hypothesized model. This is good; there is no significant difference between the hypothesized model in this study and the saturated model or perfect model. Standardized regression weights results are presented in Table 24. Results showed *strong* relationships from nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) to nurse perceived quality of care provided (QOC) at 1.27,  $p = .001$ , overall nurse job satisfaction (JIG) to nurse perceived quality of care

provided (QOC) at 0.68,  $p = .001$ , and nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) to overall nurse job satisfaction (JIG) at 0.62,  $p = .001$ .

Fit indexes indicate how good of a fit the hypothesized model is with the perfect model. A critical cut off value for fit index values is .9. In this case, the fit index values were close to 1 indicating a good fit (normed fit index (NFI) of 1.00, relative fit index (RFI) of .99, incremental fit index (IFI) of 1.00, Tucker-Lewis index (TLI) of 1.00, and comparative fit index (CFI) of 1.00. A value of zero for a Root Mean Square Error of Approximation (RMSEA) indicates the best model fit in relation to the degrees of freedom ( $\leq .05$  is close approximate fit,  $> .05$  but  $< .08$  is reasonable approximate fit,  $> .10$  is poor fit). In this case, the RMSEA was zero indicating best model fit. Overall, this model was a good model fit for the data presented in this path analysis.

Table 24

*SEM Results for Hypothesized Model: Parameter Estimates - Regression Weights*

		Estimate	Standard Error	Critical Ratio	$p$
JIG_TOTAL	<--- CWX_TOTAL	.620	.058	10.621	***
QOC_TOTAL	<--- CWX_TOTAL	1.269	.096	13.215	***
QOC_TOTAL	<--- JIG_TOTAL	.675	.071	9.518	***
ITS_TOTAL	<--- JIG_TOTAL	.483	.066	7.371	***
ITS_TOTAL	<--- QOC_TOTAL	.094	.035	2.727	.006
JSB_TOTAL	<--- ITS_TOTAL	-.191	.011	-17.364	***

\*\*\*  $p < .001$

**Controlling for Nurse Age and Nurse Tenure.** In structural equation modeling, when controlling for nurse age and nurse tenure, the paths among the study variables remained significant and three additional significant differences were found concerning the confounding variables (Figure 23; Table 25). First, there was a difference (inverse relationship) between nurse tenure (number of years at current job) and overall nurse job satisfaction ( $-0.86, p = .002$ ).

In this sample, nurses with job tenure between 0-5 years and nurses with job tenure between 26-35 years reported having greater overall job satisfaction (88.89% and 87.18% respectively) whereas nurses with 36+ years of job tenure reported lowest overall job satisfaction (56.25%). Secondly, there was a difference between nurse age and nurse intent to stay (0.82,  $p = .004$ ). In this sample, nurses between the ages of 20-25 and nurses between the ages of 56-65 reported greater intent to stay (72.22% and 73.85% respectively) whereas nurses between the ages of 26-35 and nurses between the ages of 36-45 reported less intent to stay (66.03% and 70.77% respectively). Third, there was a difference (inverse relationship) between nurse tenure and nurse job search behavior (-0.22,  $p = .013$ ). In this sample, nurses with tenure between 0-5 years reported the most job search behavior (17.59%) whereas nurses with tenure between 26-35 years reported the lowest job search behavior (5.13%).

In summary, when predictor variables were analyzed using hierarchical regression with the outcome variable, job search behavior, only nurse intent to stay remained significant explaining 30% of job search behavior. However, when analyzing the relationships among variables theoretically determined to predict job search behavior in the revised model using structural equation modeling, a better understanding of the strength of the relationships among the predictor variables on the outcome variable were captured. SEM results indicate that there are strong significant relationships among all predictor variables as well as additional relationships concerning confounding variables.

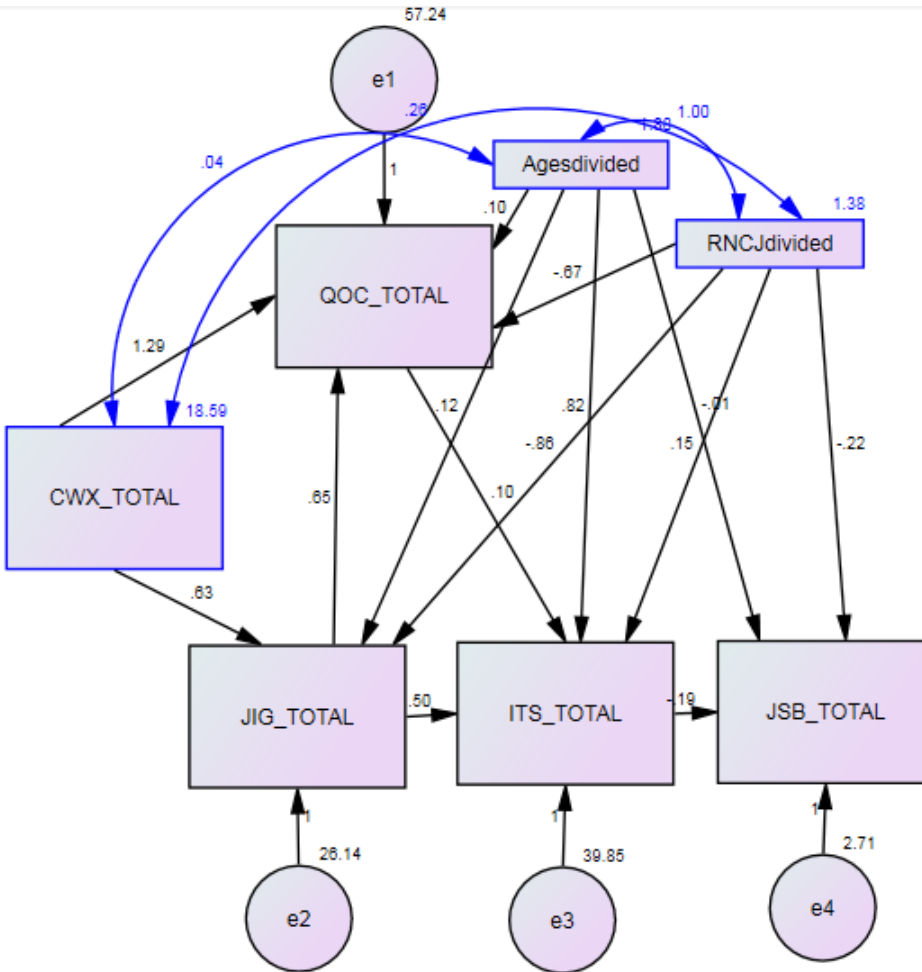


Figure 23. SEM Results: Confounding Variables: Regression Weights

Table 25

SEM Confounding Variables - Regression Weights

		Estimate	Standard Error	Critical Ratio	<i>p</i>
JIG_TOTAL	<--- Agesdivided	.124	.231	.535	.593
JIG_TOTAL	<--- RNCJdivided	-.858	.271	-3.172	.002
QOC_TOTAL	<--- Agesdivided	.096	.342	.280	.779
QOC_TOTAL	<--- RNCJdivided	-.675	.405	-1.665	.096
ITS_TOTAL	<--- Agesdivided	.816	.285	2.859	.004
ITS_TOTAL	<--- RNCJdivided	.155	.335	.461	.645
JSB_TOTAL	<--- Agesdivided	-.013	.075	-.173	.863
JSB_TOTAL	<--- RNCJdivided	-.216	.087	-2.485	.013

## **Chapter Summary**

Findings include descriptive information on the characteristics of the participant sample and results specific to each research hypothesis posed in this study. Preliminary tests were conducted prior to data analysis to test assumptions of statistical analyses being performed. The chapter closes with post hoc data analysis.

## Chapter Five

### Discussion, conclusions, and implications

The primary purpose of this study was to investigate the influence of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse perceived organizational commitment on nurse intent to stay and nurse job search behavior of nurses in the acute care nurse work environment. The Coworker Exchange Theory was the framework used to guide this study. A secondary aim to advance nursing science was to fill gaps which exist in literature by providing a better understanding of the impact of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment and what association these coworker relationships have with the other study variables linked to nurse turnover. In this chapter, a brief review of the study is presented first, followed by discussion of the outcome of each of the study variables. Findings are discussed within the context of the literature and the theoretical underpinnings of the study. The concluding section contains conclusions, limitations, and implications for nursing practice, nursing education, nursing policy, nursing theory, and nursing research.

#### Brief Review of the Study

Registered nurses at one healthcare system, working at least 24 hours a week, and providing direct patient care in an acute care setting in a Midwestern State in the United States of America ( $N = 427$ ) comprised the convenience sample. The Coworker Exchange Theory provided the theoretical basis for the study. Survey instruments used included the Coworker Exchange Scale (Sherony & Green, 2002) to measure nurse perceived *same-status nurse-to-nurse* coworker exchange relationships; the Karen-Personnel Instrument (Andersson & Lindgren,

2008) to measure nurse perceived quality of care provided, the abridged Job in General Scale (Bowling Green State University, 2009) to measure overall nurse job satisfaction, the Turnover Cognitions and Turnover Constructs Scale (Sager et al., 1998) to measure nurse intent to stay, and lastly the Job Search Behavior Index (Kopelman et al., 1992) to measure nurse job search behavior. Nurse participants ( $N = 484$ ) returned a printed survey to the investigator via U.S. postal service.

The results of this investigation advance nursing science by adding knowledge of the influence of *same-status nurse-to-nurse* coworker relationships within the acute care nurse work environment. Inspection of results indicate that *same-status nurse-to-nurse* coworker exchange relationships predicts nurse perceived quality of care provided, as well as, overall nurse job satisfaction. Overall nurse job satisfaction predicts nurse perceived quality of care provided and nurse perceived quality of care provided predicts nurse intent to stay. Inspection of results indicate that overall nurse job satisfaction partially mediates *same-status nurse-to-nurse* coworker exchange relationships as the predictor variable and nurse perceived quality of care as the outcome variable. In addition, overall nurse job satisfaction fully mediates *same-status nurse-to-nurse* coworker exchange relationships as the predictor variable and nurse intent to stay as the outcome variable. Also, overall nurse job satisfaction predicts nurse intent to stay. Additionally, nurse perceived quality of care fully mediates *same-status nurse-to-nurse* coworker exchange relationships as the predictor variable and nurse intent to stay as the outcome variable. Nurse intent to stay predicts nurse job search behavior. Inspection of the findings of structural equation modeling revealed significant strong relationships between coworker exchange and quality of care provided and between coworker exchange and overall nurse job satisfaction as well as strong relationships between overall nurse job satisfaction and nurse perceived quality of

care provided. Additionally, a strong relationship was found between overall nurse job satisfaction and nurse intent to stay. Results of this dissertation suggest that health care organizations review and update their recruitment and retention practices and policies to deter nurse turnover. Additionally, results from this investigation provide nurse administrators and nurse leaders with nurse perception of quality of care provided, overall nurse job satisfaction, nurse intent to stay, and nurse job search behavior on the acute care nurse work environment. Innovative and adaptable healthcare administrative leadership interventions are needed to improve nurse coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse intent to stay.

## **Discussion of the Findings**

### **Descriptive Results for Study Variables**

**Individual Nurse Characteristics.** Nurse age in this study was younger than the U.S. average and nurse education level was higher than average. The average age a registered nurse, in this sample, was 40 years of age as compared to the U.S. average registered nurse age of 44.6 in 2013 (HRSA, 2013). The percentage of nurses holding a bachelor's degree in nursing education, in this sample, was 60.9%; significantly greater than the U.S. average of 44.6% (HRSA, 2013).

**Nurse perceived same-status nurse-to-nurse coworker exchange relationships.** This is the first recent study to look at nurse perceived *same-status nurse-to nurse* coworker exchange relationships in the acute care nurse work environment, thus, the findings of this study provide a baseline level of *same-status nurse-to-nurse* coworker exchange relationships. The majority of the nurses, in this sample, were between the ages of 26 and 35. For each nurse age group consisting of 55 or more nurses, the mean total score for nurse perceived *same-status nurse-to-*

*nurse* coworker relationships was between 25.57 and 27.06. The maximum total instrument score was 35. Although, the total mean scores indicated more positive nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, there is opportunity for healthcare administration and nurse leaders of this healthcare system to improve coworker relationships among all nurse age groups.

One reason for the less than optimal scoring of the coworker exchange relationship may be that in this sample there were twice as many nurses in the nurse age group 26-35 and nursing experience ranged from zero to 52 years. The available extended years of nurse experience on the unit may be related to the ability to provide clinical and collegial support to coworkers (Abrahamson, Ramanujam, & Anderson, 2011).

Another reason for less than optimal scoring of the coworker exchange relationship may be that just one of the seven facilities in this study holds Magnet designation (American Nurses Credentialing Center, 2016). Magnet hospitals are generally thought to have ideal practice environments; therefore, magnet designated hospitals may have higher quality coworker exchange relationships. The participating healthcare administration and nurse leaders may consider an opportunity to improve *same-status nurse-to-nurse* coworker exchange relationships through additional Magnet designation across institutional facilities.

**Nurse perceived quality of care provided.** In this sample, the total mean instrument score for nurse perceived quality of care provided was 127.45. The total possible score for nurse perceived quality of care provided was 175. Research supports that colleague support influences perceived quality of care provided (Jones & Johnston, 2012). It has also been demonstrated in a previous study that factors such as nurse staffing, managerial support, nurse participation in hospital affairs, and promotion of care quality (Aiken et al., 2012) also effect nurse perceived

quality of care provided. The participating healthcare administration and nurse leaders may consider the pursuit and facilitation of strategic objectives relating to collegial supportive nurse training, flexible staffing resources for varying patient acuity, increasing nurse autonomy through non-hierarchical leadership structures, and the further development of evidenced based clinical practice to improve nurse perceived quality of care on the organizational acute care nurse work environments.

**Overall nurse job satisfaction.** The mean total score for overall nurse job satisfaction in this sample was 18.97. The total possible score for overall nurse job satisfaction was 24 indicating that, for this sample, overall nurse job satisfaction can be improved. This is consistent with existing literature. Negative work environments have been linked to intent to leave, nurse turnover, burnout and lower rates of job satisfaction (Aiken et al., 2012, Baernholdt, 2009, Budin et al., 2013). Findings from this study provide beginning evidence on the impact of same-status nurse-to-nurse coworker exchange relationships. Healthcare organizations can improve nurse job satisfaction by promoting positive dyadic workplace relationships. There could be organizational commitment in providing educational training to nurses, using the Coworker Exchange Theory framework, on the characteristics of relationship growth within the stages of relationship development.

**Nurse intent to stay.** In this sample, total scores for nurse intent to stay varied. The mean nurse intent to stay total score was 26.39 with the highest possible total score for nurse intent to stay at 38. Inspection of the results of this current study indicated that nurse intent to stay influences nurse job search behavior. The results of the study suggest evidence consistent with turnover models that turnover cognitions precede nurse job search behaviors. During investigator presence on the acute care units, nurses spoke of uncertainty and a shared uneasiness

concerning discussion about a recent notice pertaining to an organizational merger. Also, nurse intent to leave may not always be negative as nurses may leave to further their education or for a better job opportunity or their intent to leave may be associated with their partner's job relocation. Therefore, close monitoring and surveillance of the three turnover cognition constructs (thinking of quitting, intention to search, and intention to quit) of staff nurses by this healthcare organization and their nurse leaders may strengthen nurse intent to stay.

**Nurse job search behavior.** In this sample, the total mean instrument score for nurse job search behaviors was 2.14. The total possible score for job search behavior was ten indicating that in this sample, most of the nurse participants were not searching for a different nursing job. Analysis of this study showed that a combination of predictor variables: *Same-status nurse-to-nurse* coworker relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse intent to stay, together, were better predictors of nurse job search behavior than any one variable alone. This hierarchical relationship brings forth a continued discussion that nurse turnover is a complex and critical issue.

Job search behaviors can vary for multiple reasons. Younger nurses may have just begun their career with current job position therefore would not have job search behaviors at this time. Some older nurses may be seeking a different position with flexible part-time hours; other older nurses may be considering retirement and therefore would not have any job search behaviors. It may be advantageous for healthcare administrators to consider flexible scheduling options to retain experienced nurses to mentor and support younger nurses which may subsequently foster improved nurse job satisfaction and nurse perceived quality of care provided.

The work environment influences nurse intent to stay. High quality coworker exchange relationships may lead to nurse retention however low quality coworker exchanges will probably

lead to increase job search behaviors. Nurses with higher job satisfaction may not be seeking alternative employment options, whereas, nurses with higher job dis-satisfaction may be seeking a transfer within or outside of the organization. Similarly, nurse perception of higher quality of care provided lends to nurse retention and nurse perception of low quality of care may lead to increased job search behaviors.

The American Association of Critical-Care Nurses strongly mandates compliance in establishing and sustaining healthy work environments (AACN 2016). The recent update of AACN standards stresses that fostering healthy work environments is imperative for ensuring patient safety and optimal outcomes, enhancing staff recruitment and retention, and maintaining health care organizations' financial viability. Registered nurse job search behaviors are expected to be low when nurses work in a healthy work environment. To keep nurse job search behavior low, it is suggested that organizations commit to instituting an organizational influence emphasizing relationship building and development to improve overall nurse job satisfaction and nurse perception of quality of care provided on the acute care unit.

### **Inferential Results for Relationships among Predictors and Outcomes**

**Nurse perceived same-status nurse-to-nurse coworker exchange relationships as predictor of nurse perceived quality of care provided.** Nurses who reported positive perceptions of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships reported more positive nurse perceived quality of care provided. Jones and Johnston (2012) found that nurses reporting high negative affect at the end of their shift and who did not receive colleague support reported the most negative perceived quality of care delivery. Findings of this study addressing *same-status nurse-to-nurse* coworker exchange relationships in combination with nurse outcomes of the nurse work environment can be explained within the context of the

theoretical framework guiding this study. As dyadic relationships advance into high quality coworker exchange relationships employees have increased reciprocity and are more effective and productive.

Acute care work environments should *not* tolerate ineffective interpersonal relationships and organizations must support education to acquire skills need to prevent harm (American Association of Critical-Care Nurses, 2016). AACN recently published an updated report, *AACN Standards for Establishing and Sustaining Healthy Work Environments: A Journey to Excellence*, 2<sup>nd</sup> ed. (2016), recognizing the inextricable links among quality of the work environment, excellent nursing practice, and patient care outcomes. This report stresses that *all* health care professionals are obligated to address work environment issues. Establishing and sustaining healthy work environments requires the commitment of each nurse, each unit, and each organization. Time and education to develop skills is vital in the development of work environments where patients and their families can receive safe care and achieve optimal outcomes (AACN, 2016).

**Nurse perceived same-status nurse-to-nurse coworker exchange relationships as a predictor of overall nurse job satisfaction.** In this study, nurse perceived *same-status nurse-to-nurse* coworker exchange relationships was positively related with overall nurse job satisfaction. The result lends support to Purpora and Blegen, (2015) who reported that peer relationships mediated the association between horizontal violence and job satisfaction.

Negative behavior among nurse colleagues resulted in lower job satisfaction, less organizational commitment, and less intent to stay (Budin, Brewer, Chao, & Kovner, 2013). Additionally, as horizontal violence increased, peer relationships became less supportive (Duddle & Boughton, 2009; Purpora & Blegen, 2015; Topa & Moriano, 2013). Conversely, the findings

of this study indicated that nurses who reported higher nurse perception of *same-status nurse-to-nurse* coworker exchange relationships reported more overall nurse job satisfaction. The results lend support to Menard's (2014) finding that collegiality, mainly teamwork and mutual help, among nurses were significant contributors to the nursing work environment (Menard, 2014).

**Overall nurse job satisfaction as a predictor and mediator of nurse perceived quality of care provided.** Study findings indicate that nurses who reported more positive overall nurse job satisfaction reported more positive nurse perceived quality of care provided. Previous research suggests that nurse job satisfaction is a particularly important variable to examine because it is a predictor of patient care quality and safety (Aiken et al. 2012, Choi et al. 2013). This study adds to existing literature by demonstrating both same-status nurse-to-nurse coworker exchange relationships as a whole and overall nurse job satisfaction are significant predictors of nurse perceived quality of care provided. The results of this study provide evidence that support the theoretical model for this study. High quality exchange relationships require the sharing of resources, information, and support and lead to effective and productive employees (Graen & Uhl Bien, 1995).

With this knowledge, future efforts in the nursing discipline may be directed toward gaining a better understanding of coworker exchange relationships, its impact on nurse perceived quality of care provided, and ways in which the discipline can begin to foster more positive coworker exchange relationships within the acute care nurse work environment. These findings support continued investigation on the building, development, and maintenance of high quality collegial supportive same-status nurse-to-nurse coworker exchange relationships to improve overall nurse job satisfaction and nurse perceived quality of care provided.

**Nurse perceived quality of care provided as a predictor and mediator of nurse intent to stay.** For this study, nurse perceived quality of care reported was positively related with nurse intent to stay. Nurses who reported more positive nurse perceived quality of care provided reported more positive nurse intent to stay. This result lends support to Letvak and Buck's (2008) finding that inability to provide quality of care and poor job satisfaction is associated with a lack of nurse intent to stay. Findings in this current study also demonstrated that both nurse perceived quality of care provided as a whole and same-status nurse-to-nurse coworker exchange relationships are significant predictors of nurse intent to stay. Healthcare organizations and nurse leaders must advocate for improving coworker relationships, and improved ability to provide quality patient care in order to retain registered nurses in the acute care nurse work environment.

**Overall nurse job satisfaction as a predictor and mediator of nurse intent to stay.** Positive perceptions of overall nurse job satisfaction were positively related with nurse intent to stay. Nurses who reported more positive overall nurse job satisfaction reported more positive nurse intent to stay. This is consistent with the literature in that DiMattio et al. (2010) found that nurses who intended to stay were more satisfied in their jobs than those who intended to leave. Additionally, Han & Jekel (2011) reported that job satisfaction mediates the link between leader-member exchange and turnover intentions. This study provided beginning empirical evidence, supporting existing literature, by demonstrating that both overall nurse job satisfaction and nurse perceived same-status nurse-to-nurse coworkers exchange relationships are significant predictors of nurse intent to stay.

The more frequent reasons nurses reported intent to leave included to advance education or to take new positions, stress/burnout, long hours, and lack of administrative support/respect

(DiMattio et al., 2010). With the increasing turnover rates of registered nurses working in acute care, it is imperative to identify and implement solutions to recruit and retain adequate numbers of experienced nurses stay at the bedside.

**Intent to stay as a predictor of job search behavior.** The inverse relationship demonstrated between high, or more positive, nurse intent to stay scores and low, or less, nurse job search behavior lends support to previous literature relating to turnover cognitions. It has been demonstrated in previous studies that cognitions influence job search behavior (Carrier, Schuring, van Lenthe, & Burdof, 2014). Holtom et al. (2008) indicated that turnover is a complex process with multiple indicators and outcomes. Future research should be guided by important dimensions of earlier turnover models such as social networks, differences across culture, early vs. late turnover, and consequences of turnover (Holtom et al. 2008). This investigation, guided by the Coworker Exchange Theory with interconnecting concepts of turnover cognitions and job search behaviors can advance knowledge within the nursing discipline to better understand antecedents and outcomes of coworker exchange relationships and nurse turnover. It would be advantageous for the participating healthcare administrators and nurse leaders to be well-informed of their staff nurses turnover cognitions. The emphasis on nurse turnover cognitions may suggest that healthcare administrators and nurse leaders restructure strategic objectives to prevent or delay staff nurse turnover.

**Nurse job search behavior as an outcome of factors associated with nurse turnover.** A combination of the four predictor variables in this study explained 41.8% of variance in nurse job search behavior: Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (5.5%), nurse perceived quality of care provided (1.7%), overall nurse job satisfaction (4.7%), and nurse intent to stay (29.9%). The findings of this study are consistent

with previous work and contribute knowledge of the association of a combination of variables that help to explain nurse job search behavior among registered nurses working in the acute care environment.

This investigation introduced a new focus in the acute care nurse work environment: *Same-status nurse-to-nurse* coworker exchange relationships. Inspection of the findings indicate that *same-status nurse-to-nurse* coworker exchange relationships helps to explain nurse job search behavior and influences overall nurse job satisfaction, nurse perceived quality of care provided, nurse intent to stay, and nurse job search behaviors.

In the study, nurse intent to stay played a more significant role than other factors of nurse job search behavior. This result supports previous literature indicating that turnover cognitions precede turnover (Irvine & Evans, 1995; Parasuraman, 1989; Sager et al., 1998). Therefore, healthcare organizations and nurse leaders should implement practices that deter the three dimensions of turnover cognitions: Thinking of quitting, intention to search, and intention to quit among.

Although this study provides initial support on the influence of *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment on job search behavior, the results suggest that there continues to be an area of unexplained variance of nurse job search behavior. Such findings continue to challenge nursing as a discipline to be more inclusive when assessing job search behavior. Perhaps all-inclusive turnover models could be restructured and renamed to distinguish a specific turnover intent such as a turnover intent due to relocation or a turnover intent due to lack in maintaining nursing skill competencies. Strategies may then be identified to guide turnover transition

## **The Coworker Exchange Theory**

The Coworker Exchange Theory was chosen as the most appropriate framework for this study as it theoretically identifies and discusses positive stages of relationship building and development over time. Coworker exchange relationships provides an important foundation for collegial supportive acute care nurse work environments. The Coworker Exchange Theory (CWX) posits that coworker exchange is a skill that needs to be developed, valued, and sustained. The CWX theory evolved from the Leader-Member Exchange Theory (Graen & Uhl-Bien, 1995) and retains the same theoretical premises of the LMX theory (Sherony & Green, 2002). The stages of relationship building and development within the CWX theory are the underpinnings of an exchange relationship. In theory, the characteristics of relationship growth within the stages of relationship development include the development of a relationship building, increasing reciprocity, an evolving time span of reciprocity, increased coworker exchange, increasing influence, and broadening attitudes of transactional and transformational leadership. Positive dyadic workplace relationships are built over time and are developed based on mutual respect, trust, and obligation.

The CWX theory proposes that coworkers develop different quality of relationships with their coworkers, ranging from low to high. High quality relationships received support and trust from their coworkers, share in responsibility, and have better performance (Dienesch & Linden, 1986; Dansereau et al., 1975; Graen & Uhl Bien, 1995). In low quality relationships, work is performed as a formal set of rules abiding by the employment contract. Coworkers receive limited support and trust from their coworkers. Some coworkers could differentiate the quality of their relationships with multiple coworkers resulting in a clear distinction of in- and out-groups. Other coworkers may differentiate very little in their relationships with multiple

coworkers, making in- and out-group distinctions less clear. The actual degree of differentiation will have important effects on employee performance. Inspection of results indicated that the majority of nurses in this sample perceived more positive *same-status nurse-to-nurse* coworker exchange relationships (CWX) however this study did not examine any degree of differentiation among nurse coworker in- or out-groups on the acute care work unit.

Results support the building and development of *same-status nurse-to-nurse* coworker exchanges relationships to improve nurse perceived quality of care provided and overall nurse job satisfaction. In theory, the building and development of relationships occurs over time and coworker exchange relationships are developed based on mutual respect, trust, and obligation. In this study, nurses who reported more positive nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) reported more positive nurse perceived quality of care provided (QOC). Likewise, nurses who reported more positive nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (CWX) also reported more positive overall nurse job satisfaction (JIG). The positive relationship association in the study correlates with the characteristics of higher quality relationship growth within the coworker exchange theory's stages of relationship development.

In this study, *same-status nurse-to-nurse* coworker relationships (CWX) explained 5.5% of the variance in nurse job search behavior (JSB). These relationships are consistent with the theoretical framework used in this study and with previous investigations that revealed that Leader-Member Exchange is associated with supervisory support (Chen et al., 2008; Davies et al., 2011). Thus, this investigation supports the value of forming positive exchange relationships with *same-status nurse-to-nurse* coworkers to influence nurse outcomes. Further investigation is needed to explore the differentiation of coworker exchange relationships.

## Conclusions

Based on the study findings, the following conclusions are offered:

1. Significant positive relationships exist between:
  - a. Positive perceptions of *same-status nurse-to-nurse* coworker exchange relationships were associated with greater nurse perceptions of quality of care provided; moderate effect size
  - b. Positive perceptions of *same-status nurse-to-nurse* coworker exchange relationships were associated with greater nurse overall nurse job satisfaction; small effect size
  - c. Positive perceptions of overall nurse job satisfaction were associated with greater nurse perceived quality of care provided; small-moderate effect size
  - d. Positive perceptions of nurse perceived quality of care provided were associated with greater nurse intent to stay; small effect size
  - e. Positive perceptions of overall nurse job satisfaction were associated with greater nurse intent to stay; small effect size
  - f. Positive perceptions of nurse intent to stay were associated with less nurse job search behavior; moderate effect size
2. Overall nurse job satisfaction explained twenty-five percent of the effect of nurse perceived *same-status nurse-to-nurse* coworker exchange relationships on nurse perceived quality of care provided.
3. Overall nurse job satisfaction and nurse perceived quality of care provided have a more important role on nurse intent to stay than does nurse perceived *same-status nurse-to-nurse* coworker exchange relationships.

4. In this sample, nurses between the ages of 26-35 reported the most job search behavior whereas nurses between the ages of 56-65 reported the least job search behavior.
5. In this sample, nurses with job tenure of 0-5 years and nurses with job tenure of 26-35 years reported having greater overall nurse job satisfaction as compared to nurses with 36+ years of job tenure who reported having the lowest overall nurse job satisfaction.
6. Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, and nurse intent to stay were better predictors of nurse job search behavior than any one predictor alone. Nurse intent to stay explained most of the variance on nurse job search behavior.
7. In this sample, nurses between the ages of 20-25 and nurses between the ages of 56-65 reported greater intent to stay whereas nurses between the ages of 26-35 and nurses between the ages of 36-45 reported less intent to stay.
8. In this sample, nurses with tenure between 0-5 years reported the most job search behavior whereas nurses with tenure between 26-35 years reported the lowest job search behavior.

### **Limitations**

Investigators that point out study limitations within the discussion section of a study report demonstrate to readers that they are aware of the study limitations and that they take them into account when interpreting the findings (Polit & Beck, 2012). This study did not directly address the relationship building and development components of the Coworker Exchange Theory. In addition, participants were not asked to describe coworker exchange or support

received and if they have positive or negative experiences. Since the cross-sectional design captured data at only one point in time for each participant, consideration should be given to alternative for findings from additional phases of data collection such as months worked and role development stages.

The phenomenon of collegial support in the nurse work environment encompasses many interweaving variables making it difficult to conceptualize and to study. The importance of using clearly defined terms and variables cannot be unrecognized. Although defined on the survey, a limitation to this study may be clear understanding of the term coworker exchange relationship. There are concerns of validity and accuracy when studies rely on self-reporting. External validity threats of this study involve a homogeneous sampling which limits generalizability and adds additional bias as the nurse participants were volunteers.

Generalizability is a limitation of this study, the participants were limited to the perceptions of same-status registered nurses providing direct patient care in the acute care hospital environment. This sample is from one health system in the United States therefore the term applicability rather than generalizability may be more appropriate to other settings. Another limitation of this study is the cross-sectional design, as causation cannot be inferred from the results. A cross-case discussion of the findings may detract from a sense of the individual cases.

The variable nurse perceived organizational commitment was removed from the hypothesized model due to unexpected inconsistent nurse responses. After further review, item wording confusion may have contributed to variant nurse responses. Future data collection strategies may consider the use of another instrument choice for measuring organization commitment.

Additionally, this study did not examine organizational climate, culture, or teamwork related to employee behavior; the intent was to investigate the influence of *same-status nurse-to-nurse* coworker exchange relationships within the acute care nurse work environment. There is opportunity for future studies to examine the influence of *same-status nurse-to-nurse* coworker exchange relationships on behavior and constructs associated with teamwork, organizational climate, and culture. With the rising need of registered nurses in today's complex acute care environment, healthcare may face major challenges in preventing the loss of nurses to its competitors. These challenges create the need to possibly change an organization's culture to be more supportive to nurses, while, at the same time, finding innovative ways of retaining talent.

When reviewing measurements there is a disadvantage for questionnaires that use a Likert scale in that the space between each choice cannot possibly be equidistant. Therefore, Likert scales fail to measure the true attitudes of respondents (Polit & Beck, 2012). Another limitation to this study is that the responses of the questionnaire during any data collection period may be influenced by factors such as the unit of work, patient acuity and number of patients assigned to nurse, staff skill mix, recent interpersonal (coworker) conflict, and personal concerns which may alter the nurses' perception of the relational environment of the workplace. Possibly influencing responses, the participating organization recently announced a merger and acquisitions venture approximately one month prior to data collection.

### **Summary of Results**

Findings of path analysis revealed that *same-status nurse-to-nurse* coworker exchange relationships explained 43% of variance in nurse perceived quality of care provided, 21% of variance in overall nurse job satisfaction, and 8% of variance in nurse intent to stay. Overall nurse job satisfaction accounted for 25% of the effect of *same-status nurse-to-nurse* coworker

exchange relationships on nurse perceived quality of care provided and 68% of *same-status nurse-to-nurse* coworker exchange relationships on nurse intent to stay. Nurse perceived quality of care accounted for 71% of nurse coworker exchange relationships on nurse intent to stay. Overall job satisfaction explained 34% of variance in nurse perceived quality of care provided and nurse intent to stay explained 41% of variance in nurse job search behaviors.

In this sample, nurses between the ages of 26-35 reported the most job search behavior whereas nurses between the ages of 56-65 reported the least job search behavior. Additionally, nurses with job tenure of 0-5 years and nurses with job tenure of 26-35 years reported having greater overall nurse job satisfaction as compared to nurses with 36+ years of job tenure who reported having the lowest overall nurse job satisfaction.

Using hierarchical regression, 41.8% of variance in nurse job search behavior was explained by: Nurse perceived *same-status nurse-to-nurse* coworker exchange relationships (5.5%), nurse perceived quality of care provided (1.7%), overall nurse job satisfaction (4.7%), and nurse intent to stay (29.9%). This regression model was not sufficient to explore the mechanism by which the predictors influenced job search behavior since only intent to stay was predictive in the final model; therefore, structural equation modeling was employed.

Findings of SEM revealed strong relationships between *same-status nurse-to-nurse* coworker exchange and quality of care provided and between *same-status nurse-to-nurse* coworker exchange and overall nurse job satisfaction as well as strong relationships between overall nurse job satisfaction and nurse perceived quality of care provided. Additionally, a strong relationship was found between overall nurse job satisfaction and nurse intent to stay. There was a strong negative inverse association between nurse tenure and overall nurse job

satisfaction, a strong positive association between nurse age and nurse intent to stay, and a small negative inverse association between nurse tenure and job search behavior.

In this sample, nurses between the ages of 20-25 and nurses between the ages of 56-65 reported greater intent to stay whereas nurses between the ages of 26-35 and nurses between the ages of 36-45 reported less intent to stay. Additionally, nurses with tenure between 0-5 years reported the most job search behavior whereas nurses with tenure between 26-35 years reported the lowest job search behavior.

## **Implications**

### **Nursing Practice**

Findings from this study provide beginning evidence *same-status nurse-to-nurse* coworker exchange relationships positively influenced nurse perceived quality of care provided, overall nurse job satisfaction, nurse intent to stay, and had an inverse relationship with job search behavior. Nurse leaders may now want to focus on finding ways to foster higher levels of collegial supportive *same-status nurse-to-nurse* coworker exchange relationships within a more positive nurse work environment.

Nurse administration and nurse leaders should be thinking and supporting strategies to foster good working relationships, within the nurse work environment, such as relationship building and development and teamwork. In the current acute care nurse work environment, it will be a challenge to incorporate time within nurse role function and daily activities of nurse work to build and develop positive *same-status nurse-to-nurse* coworker exchange relationships. However, initiatives to improve coworker exchange may positively influence job satisfaction, nurse perceived quality of care, and intent to stay thus minimizing negative effects of nurse turnover in the acute care environment. Intent to build coworker exchange relationships should

be emphasized among all staff, both new and tenured nursing staff. Clearly defined nurse expectations and practice guidelines could originate in nurse orientation or residency programs but will need to be incorporated within the daily nurse practice environment.

Following nursing standards, it is suggested that all nurses, as role models and leaders of a professional discipline, contribute to the nursing profession by collaborating with healthcare administration in taking on the initiative to be proactive and assist in assessing, improving, and sustaining a more positive collegial supportive nurse work environment rather than expecting more from their nurse managers or their organization. The positive relationships found in this study suggest direction to healthcare administrators, nurse managers, and acute care nurses to be more sensitive to their coworkers and to be proactive with interactions between themselves and their nurse colleagues in order to promote and incorporate more positive *same-status nurse-to-nurse* coworker exchange relationships.

As a highly valued behavior, nurse leaders can promote and incorporate recognitions and rewards to nurses and nursing units who emulate and promote higher quality *same-status nurse-to-nurse* coworker exchange relationships within the acute care nurse work environment. Rewards for contributions to improving higher quality *same-status nurse-to-nurse* coworker exchange relationships could consist of achievement in goals on nurse and nursing unit reviews, recognition of individual nurses and/or nursing units within the organization, and gift cards for nurse apparel or cafeteria vouchers.

Professional organizations have encouraged and developed standards for positive nurse work environments (ANA 2010; ICN 2012; IOM 2004, 2011). Recent revisions in the *Code of Ethics for Nurses with Interpretative Statements* address physical or verbal abuse from anyone in the work setting and focuses on the nurse responsibility to maintaining practice environments

that support nurses and others in the fulfillment of their ethical obligation (Lachman, Swanson, & Winland-Brown, 2015; Winland-Brown, J., Lachman, 2015). Nurse leaders can focus attention, within the nurse practice environment, on a better understanding of new expectations of the *Code* at unit meetings and through interdepartmental email. Nurse leaders can review organizational consequences for violating organizational expectations and policies as well as reviewing the appropriate chain of command to resolve any problem.

ANA has established a 2016 Culture of Safety presenting core values and behaviors to emphasize safety over competing goals. As demonstrated through the findings of this study, a focus on positive collegial supportive same-status nurse-to-nurse coworker relationships would be a nice addition to one of the monthly topic discussions.

### **Nursing Education**

This investigation supports using the Coworker Exchange Theory as a guiding framework in nurse education for hospital administrators and unit managers who are seeking to successfully improve the acute care nurse work environment within their hospital setting. Disseminating the resulting conclusions of this investigation, through ongoing educational requirements, to registered nurses employed on the acute care unit can increase the awareness of, provide the opportunity for, and reinforce the need to build, to develop, and to maintain *same-status nurse-to-nurse* collegial supportive coworker exchange relationships to improve nurse outcomes. Training should stress that relationship building and development will be supported by hospital administration and must be implemented within the clinical nurse work environment.

Emphasis is needed in training and educating acute care nurses on positive coworker exchange relationships rather than focusing on negative behaviors in the acute care nurse work environment. Continuing education programs can begin by focusing on evaluating current *same-*

*status nurse-to-nurse* coworker exchange relationships within the acute care nurse work environment. Educating nursing staff on the building and development of *same-status nurse-to-nurse* coworker exchange relationships may help nurse coworkers cope and support one another with the challenges of complex nurse practice environment. Education programs can instill the characteristics of relationship growth within the stages of relationship development as designated in the Coworker Exchange Theory. The stages of relationship building and development within the Coworker Exchange Theory are the underpinnings of an exchange relationship. The characteristics of relationship growth include the development of a relationship building, increasing reciprocity, an evolving time span of reciprocity, increased coworker exchange, increasing influence, and broadening attitudes of transactional and transformational leadership.

Education focusing on decreasing nurse turnover and drawing nurses to an organization may need to begin by demonstrating a value for *same-status nurse-to-nurse* coworker relationships. Additional education programs can further explore, discuss, and evaluate nurse needs and wants, their perception of the quality of care provided on their work unit, what factors on the nurse unit influences nurse job satisfaction, reasons why nurses stay employed on their current unit or why they may be searching for a different position.

As a healthcare professional, registered nurses are leaders in that they teach health and well-being and promote healthy lifestyles. However, nurses are not educated about coworker exchange relationships and may need continued education in this area to be able to foster and maintain a healthier nurse work environment.

### **Nursing Policy**

To enhance nurse job satisfaction to improve nurse intent to stay and decrease nurse job search behavior, health care management may consider regular examination of acute care nurse

needs. Findings support the creation of new policy, influenced by the Coworker Exchange Theory (CWX), to facilitate the building and development of *same-status nurse-to-nurse* coworker exchange relationships on the acute care nursing unit. Health care managers can review, discuss, and address among acute care nurses the coworker exchange theoretical framework and request assistance in creating processes to implement a more positive nurse work environment on the acute care unit. For example, a policy ensuring a more manageable nurse workload in the acute care hospital setting that directs more opportunity for *same-status nurse-to-nurse* coworker exchanges, that directs more opportunity for nurses to become more aware of other nurse needs, and that directs more opportunity for nurses to become more satisfied in knowing what their nurse coworkers are doing in regards to providing quality patient care.

To deter turnover, nurse management can design policies increasing nurse expectations such as implementing a thirty-minute monthly lunch and learn session with a *same-status nurse-to-nurse* coworker to jointly address work challenges and unit progress initiatives through the building and development of their own coworker exchange relationships.

Findings from this study support the development or revision of retention and recruitment policies and procedures. What is the organization offering to attract and retain their staff nurse that goes above and beyond what competitors are offering? Policies can be implemented that provides additional staff to allow more opportunity for *same-status nurse-to-nurse* coworker exchange and that allows nursing staff to actively participate in unit progress initiatives.

### **Nursing Theory**

This investigation contributes new knowledge to the science of nursing through the presentation of the theoretical framework of the Coworker Exchange Theory. The results of this study provide beginning evidence of the influence of *same-status nurse-to-nurse* coworker

exchange relationships on the acute care nurse work environment. Nurse scientists are encouraged to pursue theory development pertaining to behaviors relating to the building, development, and maintenance of same-status nurse-to-nurse coworker exchange relationships in the acute care nurse work environment.

Inspection of results indicated that coworker exchange, quality of care, job satisfaction, and nurse intent to stay accounted for 42% of the variance in job search behavior. Therefore, there are other variables involved in predicting nurse intent to stay and nurse job search behavior. Since there was an inconsistency of responses for the organization commitment measurement tool in this study, one such variable might be organizational commitment. Behaviors associated with *same-status nurse-to-nurse* coworker exchange relationships may be intertwined with behaviors of organizational culture. These variables may be significant factors to provide further understanding on perceptions of coworker exchange relationships for nursing theory development.

The nature of relationships among *same-status* coworkers as well as support from other coworkers, nurse management and administration, interdepartmental colleagues, and patients may help to better understand coworker support in the acute care nurse work environment. Suggested is future research focusing on the investigation and facilitation of the positive aspects of coworker exchange relationships and its influence on the multidimensional phenomenon of collegial support. It may be prudent for further research to conceptualize collegial support for a better understanding of the dimensions and concepts of this phenomenon. Furthermore, providing nursing with a conceptual definition of the phenomenon of collegial support may result in applying clinical interventions strategized to improved coworker exchange relationships within the acute care nurse work environment.

## **Nursing Research**

Demonstrating the existence of more positive *same-status nurse-to-nurse* coworker relationships and the influence this concept has on nurse outcomes (overall job satisfaction, perceived quality of care, and intent to stay) within the acute care nurse work environment provided beginning evidence of its importance. The Coworker Exchange Scale (CWX7) (Sherony & Green, 2002) requires further testing with a larger sample in a variety of nurse work environment settings. The analysis will increase awareness, and will confirm and support similar recommendations to improving nursing practice.

Further inquiry relating to the specific characteristics of coworker exchange relationships among *same-status nurse-to-nurse* coworkers may help further explain coworker support in the acute care environment. For example, exploring *same-status nurse-to-nurse* coworker exchange among nurses in each of the relationship building phases of role-finding, role-making, and role implementation and how nurses in each phase can contribute to enhancing and supporting one another's critical thinking skills.

There is opportunity for nurse scientist to replicate as well as build on the findings of this study. The Karen-Personnel Instrument measuring nurse perceived quality of care provided has six subscales: Psychosocial relations, commitment, work satisfaction, openness/closeness, competence, and security/insecurity. The Turnover Cognitions and Turnover Constructs scale measuring nurse intent to stay has three subscales: thinking of quitting, intention to search, and intention to quit. The Three-Component Employee Commitment Survey measuring organizational commitment has three subscales: Affective, normative, and continuance commitment. Future studies, using structural equation modeling, can analyze each of these

subscales to identify which subscales have strong relationships with coworker exchange, job satisfaction, and job search behavior.

The significance of coworker exchange relationship raises the theoretical question of the extent to which *same-status nurse-to-nurse* coworkers in the acute care environment might influence patient outcomes. Investigations using similar concepts in other healthcare organizations and in other nurse work environments can investigate if higher levels of *same-status nurse-to-nurse* coworker relationship are related to more sensitive quality of care outcomes such as more rapid identification of deteriorating change in patient conditions and less frequent medication errors.

Additionally, the influence of coworker exchange might be an important aspect to study to further define and explain organizational climate and organizational culture. Future studies can examine *all* hospital employee disciplines' perceptions of *same-status* coworker exchange relationships within the acute care hospital setting as well as in all other healthcare settings. This study did not address the American Nurses Credentialing Center's ANCC) Magnet Recognition Program® (MRP). Therefore, another avenue for further exploration could differentiate quality of coworker exchange relationships in magnet and non-magnet status hospitals.

Existing literature has shown the significance of supportive management (Bormann & Abrahamson 2014; Brunetto et al., 2012; Delaney, 2013; Hesselgreaves & Scholarios, 2014) however less apparent in the literature are investigations focusing on supportive coworker exchange relationships among *same-status* acute care nurses. Research has also shown that nurses perceived distrust, disrespect, and poor communication with managers (Duffield et al., 2011; Laschinger et al, 2009; Ogle & Nel Glass, 2014; Yuan & Jian, 2012). Further research is

needed to explore whether acute care nurses have these same perceptions with their *same-status nurse-to-nurse* coworkers as well as with all other coworkers.

Further studies are needed to gain a better understanding of and to address satisfactory levels of *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment. Further research can investigate if *same-status nurse-to-nurse* coworker exchange relationships improve nurse work environments among diversity of nurses and in different nurse age groups in relationship to flexible employment options, and in delaying older nurse retirement. If further study continues to demonstrate the importance of *same-status nurse-to-nurse* coworker exchange relationships, it would be pertinent to foster these relationships and develop intervention studies to improve nurse outcomes. One such intervention study to evaluate levels of coworker exchange relationships could be to set up a comparison study of two groups of nursing units where one nursing unit received training on making and implementing opportunities for coworker exchanges during and outside of nurses daily shifts and complete a daily end-of-day assessment and evaluation report to promote, maintain, and log coworker exchanges.

Examining the relationship of increased organizational cost to provide the building and development of *same-status nurse-to-nurse* coworker exchange relationships to improve overall nurse job satisfaction, nurse perceived quality of care, nurse perceived organizational commitment, nurse intent to stay, and to decrease nurse job search behavior will be needed to promote and justify opportunity for more positive collegial supportive coworker exchanges in all nurse work environments.

## Chapter Summary

This chapter discussed the study findings with the relationship of these findings to limited existing literature. Conclusions were summarized. Implications for nursing practice, nursing education, nursing policy, nursing theory, and nursing research complete the chapter.

In conjunction with the use of the theoretical framework, the Coworker Exchange Theory, this study contributes to the knowledge of nursing science by adding the influence of *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment. The emphasis on *same-status nurse-to-nurse* coworker exchange relationships has some predictive validity in nurse job search behavior. These data also show that *same-status nurse-to-nurse* coworker exchange relationships adds to the prediction of nurse perceived quality of care provided, nurse job satisfaction, and nurse intent to stay. This empirical finding complements and extends understanding of the influence of *same-status nurse-to-nurse* coworker exchange relationships in the acute care nurse work environment. This study provides a foundation for future research on the conceptualization of collegial support among *same-status nurse-to-nurse* coworkers in the acute care nurse work environment to influence nurse intent to stay and to deter nurse turnover.

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## Appendix A

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Thank you for considering this request.  
Madonna

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## Appendix B

### Coworker Exchange Scale (CWX 7) (Sherony & Green, 2002)

Instructions: *Please read each of the following statements carefully and circle the number that best describes how you perceive your **same-status** coworker exchange relationships.*

1. Do you know where you stand with your coworkers...do you usually know how satisfied your coworkers are with what you do?

1	2	3	4	5
Rarely	Occasionally	Sometimes	Fairly Often	Very Often

---

2. How well do your coworkers understand your job problems and needs?

1	2	3	4	5
Not a Bit	A Little	A Fair Amount	Quite a Bit	A Great Deal

---

3. How well do your coworkers recognize your potential?

1	2	3	4	5
Not at All	A Little	Moderately	Mostly	Fully

---

4. Regardless of how much formal authority your coworkers have built into their positions, what are the chances that your coworkers would use their power to help you solve problems in your work?

1	2	3	4	5
None	Small	Moderate	High	Very High

---

5. Again, regardless of the amount of formal authority your coworkers have, what are the chances that your coworkers would “bail you out,” at their expense?

1	2	3	4	5
None	Small	Moderate	High	Very High

---

6. I have enough confidence in my coworkers that I would defend and justify my coworker’s decision if my coworker was not present to do so.

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree

---

7. How would you characterize your working relationship with the majority of your coworkers?

1	2	3	4	5
Extremely Ineffective	Worse than Average	Average	Better than Average	Extremely Effective

---

## Appendix C

### Karen-Personnel Instrument (Lindgren & Andersson, 2011)

*Please read each of the following statements carefully and circle the number that best indicates the degree of your agreement or disagreement with each statement by checking one of the five alternatives below each statement.*

---

Strongly Disagree 1	Disagree 2	Neither Disagree nor Agree 3	Agree 4	Strongly Agree 5
<hr/>				
1.	We are able to talk to each other			
2.	We all get on well together			
3.	The staff collaborates			
4.	There is a positive atmosphere			
5.	There is no enviousness			
6.	The patients receive individual treatment			
7.	The staff is nice, kind, happy, good			
8.	The patients get to know the staff			
9.	The staff shows no interest (R)			
10.	The staff shows no commitment (R)			
11.	The staff shows no consideration (R)			
12.	The staff ability to vivid realization (feeling insight)			
13.	The staff is not able to motivate the patients (R)			
14.	The work develops me as a human being			
15.	The work gives me a lot as a human being			
16.	I feel harmony in the work			
17.	The work gives me satisfaction			

18. There is orderliness on this unit
19. They are able to find out what is wrong, to diagnose
20. We do not consider each other (R)
21. The staff is calmed, assured
22. We cannot talk about the problems (R)
23. We do not listen to each other (R)
24. Savings have affected the patients (R)
25. We never learn anything new (R)
26. The patient is not involved in the treatment (R)
27. No one is responsible (R)
28. The patient has no say (R)
29. The tasks are performed routinely (R)
30. I do not feel secure in my work (R)
31. So many staff categories (R)
32. I feel no work fellowship (R)
33. I do not have the strength for the nursing tasks (R)
34. No personal contact with the patients (R)
35. The staff does not make the patients calm (R)

Note. (R) indicates a reverse-keyed item. Scores on these items should be reflected (e.g., 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1) before computing scale scores.

## Appendix D

### abridged Job in General Scale (aJIG) (Bowling Green State University, 2015)

*Think of your job in general. All in all, what is it like most of the time? For each word or phrase below, circle "Yes" if it describes your job, "No" if it does not describe it, "?" if you cannot decide.*

---

	Yes	No	?
	1	2	3
1.	Good		
2.	Undesirable (R)		
3.	Better than most		
4.	Disagreeable (R)		
5.	Makes me content		
6.	Excellent		
7.	Enjoyable		
8.	Poor (R)		

---

Note. Scoring is modified during analysis: yes = 3, no = 0, and ? = 1. (R) indicates a reverse-keyed item. Scores on these items should be reflected (e.g., No = 3, Yes = 0, and ? = 1) before computing scale scores.

## Appendix E

### Three-Component Employee Commitment Survey (Meyer et al., 1993)

Instructions: *Please read each of the following statements carefully and circle the number that best describes your perceived organizational commitment.*

---

Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree
1	2	3	4	5

---

#### Affective Commitment Scale

1. I would be very happy to spend the rest of my career with this organization
2. I really feel as if this organization's problems are my own.
3. I do not feel a strong sense of "belonging" to my organization. (R)
4. I do not feel "emotionally attached" to this organization. (R)
5. I do not feel like "part of the family" at my organization. (R)
6. This organization has a great deal of personal meaning for me.

#### Continuance Commitment Scale

1. Right now, staying with my organization is a matter of necessity as much as desire.
2. It would be very hard for me to leave my organization right now, even if I wanted to.
3. Too much of my life would be disrupted if I decided I wanted to leave my organization now.
4. I feel that I have too few options to consider leaving this organization.
5. If I had not already put so much of myself into this organization, I might consider working elsewhere.
6. One of the few negative consequences of leaving this organization would be the scarcity of available alternatives.

#### Normative Commitment Scale

1. I do not feel any obligation to remain with my current employer. (R)

2. Even if it were to my advantage, I do not feel it would be right to leave my organization now.
3. I would feel guilty if I left my organization now.
4. This organization deserves my loyalty.
5. I would not leave my organization right now because I have a sense of obligation to the people in it.
6. I owe a great deal to my organization.

Note. (R) indicates a reverse-keyed item. Scores on these items should be reflected (e.g., 1 = 5, 2 = 4, 3 = 3, 4 = 2, 5 = 1) before computing scale scores.

**Appendix F**

**Individual Nurse Characteristics Form**

*Please fill in the blank or circle the appropriate response for each question.*

1. What is your age? \_\_\_\_\_ years

---

2. What is your gender?

1	2
Male	Female

---

3. Identify your racial category:

- a) White
- b) Black or African American
- c) American Indian or Alaska Native — Print name of enrolled or principal tribe:  
\_\_\_\_\_
- d) Asian Indian
- e) Chinese
- f) Filipino
- g) Other Asian — Print race, for example, Hmong, Laotian, Thai, Pakistani, Cambodian, and so on: \_\_\_\_\_
- h) Japanese
- i) Korean
- j) Vietnamese
- k) Native Hawaiian
- l) Guamanian or Chamorro
- m) Samoan
- n) Other Pacific Islander — Print race, for example, Fijian, Tongan, and so on:  
\_\_\_\_\_
- o) Some other race — Print race: \_\_\_\_\_

---

4. What is your marital status?

1	2	3	4
Alone	Single Parent	With Partner	With Partner and child(ren)

---

5. What is your highest nursing education level in nursing?

1	2	3	4
Associate Degree	Bachelor Degree	Master's Degree	Doctorate Degree

---

6. How many years have you been a RN? \_\_\_\_\_ year(s)

---

7. How many years have you been employed as an RN in your current job?  
\_\_\_\_\_ year(s)

---

8. What is the number of years you have worked as a RN at your current organization?  
\_\_\_\_\_ year(s)

---

9. Are you currently providing direct patient care as a registered nurse in an acute care hospital setting?

1 Yes	2 No
10. During what time of the day are the majority of your working hours?	
1 Daytime/Early Afternoon (7AM-3PM)	2 Later Afternoon/Evening (3PM-11PM)
	3 Night-time (11PM -7AM)

11. Indicate whether you are employed full-time or part-time and/or please indicate other as described below.

1 Full-Time (36 or more hours/week)	2 Part-time (25 – 36 hours/week)	3 Other: Part-time (Less than 24 hours/week)
4 Other: Contracted per Diem	5 Other: On Call Relief Position	6 Other: Outside Agency Nurse

12. Within the last three months, what is your intent relating to transferring to another unit within your organization?

1 None	2 Had Thoughts	3 Looked into a Job Transfer	4 Actively Requested a Job Transfer	5 Plan to Transfer
13. Within the last three months, what is your intent relating to a career move outside of the nursing profession?				
1 None	2 Had Thoughts	3 Looked into Alternative Career Options	4 Actively Searched Outside of Nursing	5 Plan to Leave Nursing

13. Within the last three months, what is your intent relating to a career move outside of the nursing profession?

1 None	2 Had Thoughts	3 Looked into Alternative Career Options	4 Actively Searched Outside of Nursing	5 Plan to Leave Nursing
-----------	-------------------	---	--	-------------------------------

*Your input is sincerely appreciated. Please respond to the following open-ended questions (if needed please use the back page for additional writing space).*

14. Describe or name the type of hospital unit you work on such as Medical/Surgical or Intensive care.

15. What strategies would you recommend to improve coworker exchange relationships in your nurse work environment?

16. Please identify reasons to stay in your current position.

---

17. Please identify reasons to leave your current position.

---

18 (a). Please identify your reasons to leave the nursing profession (if applicable) and (b) where you may be going.

---

19 (a). Comments pertaining to this survey and (b) additional thoughts, comments, suggestions, or concerns.

---

## Appendix G

### Turnover Cognitions and Turnover Constructs Scale (Sager, Griffeth, & Hom, 1998)

Instructions: *Please read each of the following statements carefully and circle the number that best indicates your mental processing thoughts concerning your personal turnover intentions.*

#### Thinking of Quitting

1. How often do you think of quitting your job?

1	2	3	4	5
Never	Almost Never	Sometimes	Often	Always

---

2. I often think about quitting my job?

1	2	3	4	5
Strongly Disagree	Disagree	Neither Disagree nor Agree	Agree	Strongly Agree

---

#### Intention to Search

Instructions: *Check a response for each pair of adjectives which best describes how you feel about:*

3. For me, searching for another job in the next three months is:

<b>Awful</b>	<----->						<b>Nice</b>
1	2	3	4	5	6	7	
Very	Moderately	Slightly	Neither	Slightly	Moderately	Very	

---

Instructions: *Check a response for each pair of adjectives which best describes how you feel about:*

4. For me, searching for another job in the next three months is:

<b>Bad</b>	<----->						<b>Good</b>
1	2	3	4	5	6	7	
Very	Moderately	Slightly	Neither	Slightly	Moderately	Very	

---

#### Intention to Quit

Instructions: *Please read each of the following statements carefully and circle the number that best indicates your mental processing thoughts concerning your personal turnover intentions.*

*How would you rate your chances of:*

5. Quitting in the next three months

1	2	3	4	5	6	7
Terrible	Bad	Not So Good	So-So	Good	Very Good	Excellent

---

6. Quitting in the next six months

1	2	3	4	5	6	7
Terrible	Bad	Not So Good	So-So	Good	Very Good	Excellent

---

## Appendix H

### Job Search Behavior Index (JSBI) (Kopelman, Rovenpor, & Millsap, 1992)

*Please read each item and indicate whether you have or have not carried out each of these behaviors in the past three months. If you have carried out the behavior, circle "yes". If you have not, circle "no".*

---

Yes	No
1	2

---

**During the past three months have you:**

1. Read a book about getting a new job?
2. Revised your resume?
3. Sent copies of your resume to a prospective employer?
4. Contacted an employment agency or executive search firm to obtain a job with another organization?
5. Read the classified/help wanted advertisements in the newspaper?
6. Gone on a job interview?
7. Talked to friends or relatives about getting a new job?
8. Sought to transfer to a new job within your organization?
9. Talked to co-workers about getting a job in another organization?
10. Made any telephone inquiries to prospective employers?

Note. Scoring is modified during analysis: yes remains 1 however no = 0.

## Appendix I

### University of Wisconsin-Milwaukee Institutional Review Board Approval Letter



Department of University Safety & Assurances

#### New Study - Notice of IRB Exempt Status

**Date:** October 14, 2015

**To:** Karen Morin, PhD  
**Dept:** College of Nursing

**Cc:** Madonna Kubichka

**IRB#:** 16.108

**Title:** THE RELATIONSHIP AMONG NURSE PERCEIVED SAME-STATUS NURSE-TO-NURSE COWORKER EXCHANGE RELATIONSHIPS, NURSE PERCEIVED QUALITY OF CARE PROVIDED, OVERALL NURSE JOB SATISFACTION, NURSE PERCEIVED ORGANIZATIONAL COMMITMENT, NURSE INTENT TO STAY, AND NURSE JOB SEARCH BEHAVIOR IN THE ACUTE CARE NURSE WORK ENVIRONMENT

After review of your research protocol by the University of Wisconsin – Milwaukee Institutional Review Board, your protocol has been granted Exempt Status under **Category 2** as governed by 45 CFR 46.101(b).

This protocol has been approved as exempt for three years and IRB approval will expire on **October 13, 2018**. If you plan to continue any research related activities (e.g., enrollment of subjects, study interventions, data analysis, etc.) past the date of IRB expiration, please respond to the IRB's status request that will be sent by email approximately two weeks before the expiration date. If the study is closed or completed before the IRB expiration date, you may notify the IRB by sending an email to [irbinfo@uwm.edu](mailto:irbinfo@uwm.edu) with the study number and the status, so we can keep our study records accurate.

Any proposed changes to the protocol must be reviewed by the IRB before implementation, unless the change is specifically necessary to eliminate apparent immediate hazards to the subjects. The principal investigator is responsible for adhering to the policies and guidelines set forth by the UWM IRB, maintaining proper documentation of study records and promptly reporting to the IRB any adverse events which require reporting. The principal investigator is also responsible for ensuring that all study staff receive appropriate training in the ethical guidelines of conducting human subjects research.

As Principal Investigator, it is also your responsibility to adhere to UWM and UW System Policies, and any applicable state and federal laws governing activities which are independent of IRB review/approval (e.g., [FERPA](#), [Radiation Safety](#), [UWM Data Security](#), [UW System policy on Prizes, Awards and Gifts](#), state gambling laws, etc.). When conducting research at institutions outside of UWM, be sure to obtain permission and/or approval as required by their policies.

Contact the IRB office if you have any further questions. Thank you for your cooperation and best wishes for a successful project

Respectfully,

Melissa C. Spadanuda  
IRB Manager

Melissa Spadanuda  
IRB Manager  
Institutional Review Board  
Engelmann 270  
P. O. Box 413  
Milwaukee, WI 53201-0413  
(414) 229-3173 phone  
(414) 229-6729 fax

<http://www.irb.uwm.edu>  
[spadanud@uwm.edu](mailto:spadanud@uwm.edu)

## Appendix J

### Participating Health Care System Institutional Review Board Approval Letter

To: Madonna Kubichka  
Subject: Protocol #923  
Date: 10/19/2015

The protocol 923 **"THE RELATIONSHIP AMONG NURSE PERCEIVED SAME-STATUS NURSE-TO-NURSE COWORKER EXCHANGE RELATIONSHIPS, NURSE PERCEIVED QUALITY OF CARE PROVIDED, OVERALL NURSE JOB SATISFACTION, NURSE PERCEIVED ORGANIZATIONAL COMMITMENT, NURSE INTENT TO STAY, AND NURSE JOB SEARCH BEHAVIOR IN THE ACUTE CARE NURSE WORK ENVIRONMENT"** has been reviewed by the IRB chair and found not to require further IRB review or oversight.

This study does not require further **XXX** IRB review since we will not be "engaged" in conducting the research.

If the scope or intent of this project changes, please contact me to see if it impacts this determination.

Sincerely,

E., **XXX** B. **XXX**, BS  
IRB Administrator  
**XXX**  
**XXX**  
**XXX**

## Appendix K

### Permission to use Study Instruments

Permission for the Coworker Exchange Scale (CWX7) Sherony, & Green, 2002)

University of Nebraska – Lincoln  
Management Department at Digital Commons  
Attn: Permissions Department  
[proyster@unl.edu](mailto:proyster@unl.edu)

Date: 3/5/14  
Subject: Obtain Permission  
Dear Permissions Department,

I am a PhD student at the University of Wisconsin-Milwaukee College of Nursing. I am preparing my doctoral dissertation.

I am seeking permission to use a modified version of the LMX7 scale found in Table 3 (p. 237) of the article written by George B. Graen and Mary Uhl-Bien entitled “Relationship-Based Approach to Leadership: Development of Leader-Member Exchange (LMX) Theory of Leadership over 25 Years: Applying a Multi-Level Multi-Domain Perspective” (1995). *Management Department Faculty Publications*. Paper 57. Similar to Sherony and Green (2002) I am planning on adapting the LMX7 measure (Graen & Uhl-Bien, 1995) by rephrasing the items to gauge the respondent’s assessment of his or her relationship with a coworker as one of my data collection instruments for my dissertation.

Thank you for considering this request.

Madonna

Madonna M. Kubichka MSOLQ, BSN  
BSN-PhD nursing student at UW-Milwaukee  
N3781 Weeks Road  
Chilton, WI 53014  
[madonnasmiles7@gmail.com](mailto:madonnasmiles7@gmail.com)

From: Mary Uhl-Bien <[mary.uhlbien@gmail.com](mailto:mary.uhlbien@gmail.com)>  
Date: Wed, Mar 5, 2014 at 4:17 PM  
Subject: Fwd: Obtain Permission  
To: [mecker@uwm.edu](mailto:mecker@uwm.edu)

It is a publicly available measure so you are free to use it.

Permission to use the The Karen Personnel Instrument (Andersson, & Lindgren, 2008)

Copyright Clearance Center

Permission type: Republish or display content

Type of use: Thesis/Dissertation

Journal: Journal of Nursing Management, ISSN: 1365-2834

Publisher: Blackwell Publishing LTD.

Publication Year: 1992

Republish or display content: Republish in a thesis/dissertation

Who will republish the content: Author of requested content

Would like to use: chart/graph/table/figure

Rights for: Main product and other compilations/derivatives

Format: Print

Duration of use: Life of current edition

For distribution to: United States

Language: Original language of publication

The lifetime unit quantity of new product: up to 499

Title: Thesis/dissertation

Author: Madonna Kubichka, Doctoral Candidate at University of Wisconsin – Milwaukee

Publisher: Doctoral dissertations are required by the Graduate School to be deposited in the UW-Milwaukee Library Catalog

Expected publication date: December 2016

Estimated size (e.g. number of pages): 200

The standard identifier: Doctoral dissertations are required by the Graduate School to be deposited in the UW-Milwaukee Library Catalog

Made available in the following markets: Education

Title, description or numeric reference of the portion(s): I am seeking permission to use the Questions listed in 2 for the Karen-personnel instrument as on the instruments for my dissertation study.

Title of the article or chapter the portion is from: The Karen instruments for measuring quality of nursing care: Construct validity and internal consistency

Author of portion: Lingren, M. & Andersson, I. S.

Volume of serial or monograph: 23

Issue: 3

Page range of chapter/article: 298-299

Publication date of portion: 2011

The requesting person/organization: Madonna Kubichka, Doctoral Candidate at University of Wisconsin – Milwaukee

Permission type: Republish or display content

Type of use: Republish in a thesis/dissertation

Confirmation Number: 11317983

Order Date: 03/15/2015

Permission Status: Granted

Order detail ID: 66417627

Order License ID: 3590540064946

Permission to use the abridged Job in General Scale (aJIG) (Bowling Green State University, 2015)

Copyright Clearance Center

Permission type: Republish or display content

Type of use: Thesis/Dissertation

Journal: Educational and Psychological Measurement, ISSN: 0013-1644

Publisher: Sage Publications, Inc

Publication Year: 2004

Rightsholder: Sage Publications Inc. Journals

Republish or display content: Reuse in a dissertation/thesis

Article title: Shorter can also be better: The abridged job in general scale

Article author: Russell

DOI: 10.1177/0013164404264841

Volume: 64

Issue: 5

Start page 878

Publication date: October, 2004

Requestor Type: Article non-author

Order Date: 03/15/2015

Gratis: Permission is granted at no cost for sole use in a Master's thesis and/or Doctoral Dissertation. Additional permission is also granted for the selection to be included in the printing of said scholarly work as part of UMI's "Books on Demand" program. For any further usage or publication, please contact the publisher.

Permission to use the Three-Component Employee Commitment Survey (Meyer, Allen, & Smith, 1993)

Date: 3-15-15

Re: Permission to Use Copyrighted Material in a Doctoral Thesis

Dear Permissions Department:

I am a University of Wisconsin-Milwaukee graduate student completing my Doctoral thesis entitled "The Relationship Among Same-Status Nurse-to-Nurse Coworker Exchange Relationships, Nurse Perceived Quality of Care, Overall Job Satisfaction, Organizational Commitment, Nurse Intent to Stay, and Nurse Job Search Behavior in the Acute Care Work Environment".

My thesis will be available in full-text on the internet for reference, study and / or copy. Except in situations where a thesis is under embargo or restriction, the electronic version will be accessible through the UW-Milwaukee web pages, the Library's web catalogue, and also through web search engines. I will also be granting Library and Archives Canada and ProQuest/UMI a

non-exclusive license to reproduce, loan, distribute, or sell single copies of my thesis by any means and in any form or format. These rights will in no way restrict republication of the material in any other form by you or by others authorized by you.

I would like permission to allow inclusion of the following material in my thesis:

Material: The Revised Version of the TCM Employee Commitment Survey by Meyer, Allen, & Smith (1993) found on page 12 and 13 in the following publication.

Publication: TCM Employee Commitment Survey Academic Users Guide 2004

Published by: John P. Meyer and Natalie J. Allen, Department of Psychology at the University of Western Ontario (2004).

The material will be attributed through a citation.

Please confirm in writing or by email that these arrangements meet with your approval.

Respectfully submitted,  
Madonna Kubichka  
Doctoral Candidate  
University of Wisconsin – Milwaukee  
N3781 Weeks Road  
Chilton, WI 53014  
Telephone: 414-914-5323  
E-mail: [kubichka@uwm.edu](mailto:kubichka@uwm.edu)

John Meyer <meyer@uwo.ca>

Mon 3/16/2015 9:59 AM

To:

Dear Madonna,

Your request to include the Meyer et al. (1993) commitment items in your dissertation was forwarded to me. You have our permission to include the items in your dissertation as long as the original source is cited and readers are instructed not to reproduce the items without permission from the original authors.

Best regards,  
John Meyer

Dr. John Meyer  
Department of Psychology  
Rm 8411, Social Science Centre  
Western University  
London, Ontario, Canada  
N6A 5C2

Phone: (519) 661-3679  
Fax: (519) 661-3961  
Email: [meyer@uwo.ca](mailto:meyer@uwo.ca)

Permission to use the Turnover Cognitions and Turnover Constructs Scale (Sager et al, 1998)

Copyright Clearance Center

Permission type: Republish or display content

Type of use: Thesis/Dissertation

Journal: Journal of Vocational Behavior, ISSN: 0001-8791

Publisher: Academic Press

Publication Year: 1998

Rightsholder: Elsevier Science & Technology Journals

Republish or display content: Thesis/Dissertation

Who will republish the content: Academic Institution

Would like to use: page

Page Range: 269-270

Number of pages: 2

Right for: Main product and other compilations/derivatives

Format: Print

Duration of use: Life of current edition

For distribution to: United States

Language: Original language of publication

The lifetime unit quantity of new product: up to 499

Title: Thesis/dissertation

Author: Madonna Kubichka, Doctoral Candidate at University of Wisconsin – Milwaukee

Publisher: Doctoral dissertations are re.....be deposited in the UW-Milwaukee Library Catalog

Expected publication date: December 2016

Estimated size (e.g. number of pages): 200

The standard identifier: Doctoral dissertations are re.....be deposited in the UW-Milwaukee Library Catalog

Made available in the following markets: Education

Title, description or numeric reference of the portion(s): From the APPENDIX. Six of the 15 Manifest Indicators for Turnover Cognitions and Turnover Constructs on p. 260 to 270. Items: Y2, Y3, Y5, Y7, Y12, and Y13 as one of the instruments in my dissertation study.

Title of the article or chapter the portion is from: A Comparison of Structural Models Representing Turnover Cognitions

Author of portion: Sager, J. K., Griffeth, R. W. & Home, P. W.

Volume of serial or monograph: 53

Issue: 2

Page range of chapter/article: 273

Publication date of portion: 1998

The requesting person/organization: Madonna Kubichka, Doctoral Candidate at University of Wisconsin – Milwaukee

Permission type: Republish or display content

Type of use: Thesis/Dissertation

Permission Status: Granted

Confirmation Number: 11317980  
Order Date: 03/15/2015  
Order detail ID: 66417624  
Order License ID: 3590520981390

Permission to use the Job Search Behavior Index (JSBI) (Kopelman et al., 1992)

From: Madonna Marie Ecker  
To: Richard Kopelman  
Date: October 10, 2013, 3:50PM

Subject: JSBI measurement tool  
Dr. Richard Kopelman,

My name is Madonna Ecker. I am a third year doctoral student at the University of Wisconsin - Milwaukee College of Nursing. My research interest is nurse retention and the nurse work environment. My concept of interest is collegial support.

Upon reviewing the literature concerning turnover I came across your article entitled Rationale and Construct Validity Evidence for the Job Search Behavior Index: Because Intentions (and New Year's Resolutions) Often Come to Naught, published in the Journal of Vocational Behavior authored by yourself, Janet L. Rovenpor, and Roger E. Millsap (Volume 40 p. 269-287). I agree that job search behaviors better explain intentions to stay or leave a job.

I am working on putting together a dissertation study proposal and looking for measurement instruments. I am inquiring if I may use the 10-item JSBI measurement tool - as described within the article.

I will be looking forward to your response.

Respectfully submitted,  
Madonna Ecker, MSOLQ, RN  
BSN-PhD Nursing Student  
[mmecker@uwm.edu](mailto:mmecker@uwm.edu)  
608-443-7744

From: Richard Kopelman  
To: Madonna Marie Ecker  
Cc: Janet Rovenpor  
Date: October 10, 2013, 10:33PM

Subject: JSBI measurement tool  
Dear Ms. Ecker.  
Permission granted.  
Good luck.  
Richard Kopelman

Richard E. Kopelman  
Professor of Management and  
Academic Co-Director, Executive MSILR Program  
Management Department  
VC 9-237  
Zicklin School of Business  
Baruch College  
One Bernard Baruch Way  
New York, NY 10010-5585  
tel: 646.312.3629, fax: 646.312.3621

# APPENDIX L

## Research Announcement and Participation Poster

**Watch Your Email for a Survey Announcement!**  
As a registered nurse, working with direct patient care, you are invited to participate in a 20-30 minute printed survey.

The resulting research may benefit the nursing profession indirectly by furthering knowledge on improving nursing turnover. This is very important because the demand for registered nurses continues to grow.

UNIVERSITY of WISCONSIN  
**UWMILWAUKEE**

# 2015

## Registered Nurse Survey

**Look for and Pick up a Survey Packet from a survey packet display box on Your hospital work unit!**

**The Surveys will be Available on: November, 2<sup>nd</sup>.**

**The Final Date to Return the Surveys, via U.S. Mail, is: November 22<sup>nd</sup>!**

**Meet the researcher via YouTube**  
Link: <https://youtu.be/-jwhIpqdjh0>  
Madonna Kubichka, Doctoral Candidate  
University of Wisconsin – Milwaukee  
N3781 Weeks Rd, Chilton, WI 53014  
414-914-5323, kubichka@uwm.edu

Madonna Marie Kubichka

Readers should not reproduce the items contained within this Registered Nurse Survey without permission from the original authors. Instruments used with author references are listed on the last page of this survey.

This study is being conducted under the supervision of Karen H. Morin, PhD, RN, ANEF, FAAN, and Professor Emerita at the University of Wisconsin-Milwaukee College of Nursing  
414-229-4801, morin@uwm.edu

XXXX# 923; UWM IRB# 16.108 (10/14/15-10/13/18)

## APPENDIX M

### Introductory Recruitment Email to Registered Nurses



10/26/15

Dear Registered Nurse,

As a registered nurse, working with direct patient care, you are invited to participate in a 20-30 minute printed survey. The nurse turnover rate continues to rise and is a major healthcare concern. The challenges of the acute care nurse work environment are multifaceted and contribute to nurse turnover. Not one factor can explain nurse turnover thus, the purpose of this dissertation research is to investigate the relationships among perceived same-status nurse-to-nurse coworker exchange relationships, nurse perceived quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior in the acute care nurse work environment. Please take a few minutes to meet the researcher by watching the following YouTube presentation: <https://youtu.be/-jwhIpqjdh0>

Soon, you will find the survey in a display on your hospital work unit. Take the survey home, you can complete the Registered Nurse 2015 survey at any time that is convenient for you during the data collection time frame of 11/2/15 to 11/22/15. When finished please return the survey using the provided preaddressed postage paid mailer bag.

All registered nurses employed within a hospital setting of a large Midwestern United States Healthcare system are being asked to participate. There are no known risks associated with your being in the study. Data obtained is intended for research purposes only. Although there is no direct benefit to you, the resulting research may benefit the nursing profession indirectly by furthering our knowledge on this important topic. This is very important because the demand for registered nurses continues to grow.

Approval for this dissertation research has been granted by the University of Wisconsin – Milwaukee Institutional Review Board (IRB) as well as with the IRB affiliated with the participating healthcare system. This study is being conducted under the supervision of Karen H. Morin, PhD, RN, ANEF, FAAN, and Professor Emerita at the University of Wisconsin-Milwaukee College of Nursing; Telephone 414-229-4801, Email: [morin@uwm.edu](mailto:morin@uwm.edu). If you have questions about the study, please contact me, Madonna Kubichka, at [kubichka@uwm.edu](mailto:kubichka@uwm.edu), telephone at 414-914-5323 or, you may contact the University of Wisconsin-Milwaukee Human Research Protection Program at 414-229-3173.

Thanks very much for taking the time to participate!

*Madonna.*

Madonna Kubichka, Doctoral Candidate  
University of Wisconsin – Milwaukee



## Appendix N

### Survey Informational Letter to A Registered Nurse



11/2/15

Dear Registered Nurse Participant:

I am a Registered Nurse in the BSN-PhD College of Nursing program at the University of Wisconsin – Milwaukee. I am conducting a research study in partial fulfillment of my doctoral degree requirement. If you are a registered nurse who provides direct patient care in an acute care hospital setting and have been employed for at least 24 hours per week in your current position, your participation is greatly appreciated.

The nurse turnover rate continues to rise and is a major healthcare concern. The challenges of the acute care nurse work environment are multifaceted and contribute to nurse turnover. Not one factor can explain nurse turnover thus, the purpose of this dissertation research is to investigate the relationships among perceived same-status nurse-to-nurse coworker exchange relationships, nurse perception of the quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior in the acute care nurse work environment. I would appreciate your participation in this study, as it will assist in making recommendations for improving nurse turnover. Please take the opportunity to meet the researcher by watching the following YouTube presentation: <https://youtu.be/-jwhIpqdh0>

If you agree to participate you will be asked to fill out the enclosed survey. Completion of this survey indicates that you are at least 18 years old and are giving informed consent to participate in this study. Approximately twenty to thirty minutes are needed to complete the enclosed survey. There are no known risks associated with your being in the study. Data obtained is intended for research purposes only. Although there is no direct benefit to you, the resulting research may benefit the nursing profession indirectly by furthering our knowledge on this important topic. This is very important because the demand for registered nurses continues to grow.

The survey you fill out will be treated anonymously. Please do not put your name anywhere on the survey. There will be no way to link you to your responses. Individual nurse characteristics are being collected for correlational purposes only. Your responses will be kept strictly confidential and no individual or institution will be identified. No information will be reported that could identify you either directly or indirectly. All information will be reported in groups. Data from this study may be published in professional journals and/or presented at professional seminars.

Please understand your participation in this study is completely voluntary and all data collected will remain anonymous and confidential. You can withdraw from this study while filling out the survey for any reason. If you decide to discontinue your participation while filling out the survey, please do not return the survey. There is no penalty for withdrawing. Your employee status will not be affected in any way, whether you decide to participate or not in this study. All written data will be stored in a locked file cabinet in the principal investigator's home office. Computer data will be stored in a non-networked computer with password protection at the principal investigator's home office. Both written and computer data will be kept on file for five years and then destroyed or erased.

Thank you sincerely for your anticipated participation in this research. Your time and effort spent are considered invaluable. After completing the enclosed survey, please mail it back to me by placing it in the provided pre-addressed, pre-paid US mail, sealable mailer bag. All surveys must be post marked on or before 11/30/15.

This study is being conducted under the supervision of Karen H. Morin, PhD, RN, ANEF, FAAN, and Professor Emerita at the University of Wisconsin-Milwaukee College of Nursing; Telephone 414-229-4801, Email: [morin@uwm.edu](mailto:morin@uwm.edu).

If you have any questions about your rights or experiences as a participant in this study, please call or write the University of Wisconsin-Milwaukee Human Research Protection Program at 414-229-3173. Address: Institutional Review Board, Human Research Protection Program, Department of University Safety and Assurances, University of Wisconsin – Milwaukee, P.O. Box 413, Milwaukee, WI 53201.



Sincerely,  
*Madonna*  
Madonna M. Kubichka, MSOLQ, BSN  
Doctoral Candidate  
University of Wisconsin-Milwaukee

Enclosure

## APPENDIX O

### Reminder Email to Registered Nurses



11/8/15

Dear Registered Nurse,

As a registered nurse, working with direct patient care, you are invited to participate in a 20-30 minute printed survey. The nurse turnover rate continues to rise and is a major healthcare concern. The challenges of the acute care nurse work environment are multifaceted and contribute to nurse turnover. Not one factor can explain nurse turnover thus, the purpose of this dissertation research is to investigate the relationships among perceived same-status nurse-to-nurse coworker exchange relationships, nurse perceived of quality of care provided, overall nurse job satisfaction, nurse perceived organizational commitment, nurse intent to stay, and nurse job search behavior in the acute care nurse work environment. Please take the opportunity to meet the researcher by watching the following YouTube presentation: <https://youtu.be/-jwhIpqdh0>

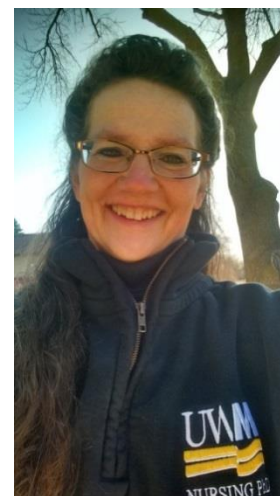
Thanks to the registered nurses who have by this time taken the time to complete the Registered Nurse 2015 survey. Your participation is greatly appreciated. If you have not yet taken this anonymous 20-30 minute survey, please participate in this important research study as soon as possible. The survey packets are displayed on your hospital work unit. Take the survey home, you can complete the printed survey at a time most convenient for you. When finished please return the printed survey using the provided preaddressed stamped envelope. There are no known risks associated with your being in the study. Data obtained is intended for research purposes only. Although there is no direct benefit to you, the resulting research may benefit the nursing profession indirectly by furthering our knowledge on this important topic. This is very important because the demand for registered nurses continues to grow.

Approval for this dissertation research has been granted by the University of Wisconsin – Milwaukee Institutional Review Board (IRB) as well as with the IRB affiliated with the participating healthcare system. This study is being conducted under the supervision of Karen H. Morin, PhD, RN, ANEF, FAAN, and Professor Emerita at the University of Wisconsin-Milwaukee College of Nursing; Telephone 414-229-4801, Email: [morin@uwm.edu](mailto:morin@uwm.edu). If you have questions about the study, please contact me, Madonna Kubichka, at [kubichka@uwm.edu](mailto:kubichka@uwm.edu), telephone at 414-914-5323 or, you may contact the University of Wisconsin-Milwaukee Human Research Protection Program at 414-229-3173.

Many thanks,

*Madonna*

Madonna Kubichka, Doctoral Candidate  
University of Wisconsin - Milwaukee



## APPENDIX P

### Final Recruitment and Thank You Email to Registered Nurses



11/15/15

Dear Registered Nurse,

Thanks to the registered nurses who have already taken the time to complete the Registered Nurse 2015 survey. Your participation is greatly appreciated.

If you have not yet taken this anonymous 20-30 minute survey, you can still participate in this important research study. The time frame for survey data collection period ends this week on 11/22/15.

You can complete the Registered Nurse 2015 printed survey at any time most convenient for you. When finished please return the printed survey using the provided preaddressed postage-paid mailer bag. Although there is no direct benefit to you, the resulting research may benefit the nursing profession indirectly by furthering our knowledge on this important topic. This is very important because the demand for registered nurses continues to grow.

Approval for this dissertation research has been granted by the University of Wisconsin – Milwaukee Institutional Review Board (IRB) as well as with the IRB affiliated with the participating healthcare system. This study is being conducted under the supervision of Karen H. Morin, PhD, RN, ANEF, FAAN, and Professor Emerita at the University of Wisconsin-Milwaukee College of Nursing; Telephone 414-229-4801, Email: [morin@uwm.edu](mailto:morin@uwm.edu). If you have questions about the study, please contact me, Madonna Kubichka, at [kubichka@uwm.edu](mailto:kubichka@uwm.edu), telephone at 414-914-5323 or, you may contact the University of Wisconsin-Milwaukee Human Research Protection Program at 414-229-3173.

Respectfully and with appreciation,

*Madonna*

Madonna Kubichka, Doctoral Candidate  
University of Wisconsin - Milwaukee



## APPENDIX Q

### Reference Page for Printed Survey

Instrument	References
Coworker Exchange Scale (CWX7) Sherony, & Green, 2002)	Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. <i>Leadership Quarterly</i> , 6(2), 219-247. Sherony, K. M., & Green, S. G. (2002). Coworker exchange: Relationships between coworkers, leader-member exchange, and work attitudes. <i>Journal of Applied Psychology</i> , 87(3), 542-548.
Karen-Personnel Instrument (Andersson, & Lindgren, 2008)	Andersson, I. S., & Lindgren, M. (2008). The Karen instruments for measuring quality of nursing care. Item analysis. <i>Vård I Norden</i> 89 (28), 14 -18.
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Turnover Cognitions and Turnover Constructs Scale (Sager, Griffeth, & Hom, 1998)	Sager, J. K., Griffeth, R. W., & Hom, P. W. (1998). A comparison of structural models representing turnover cognitions. <i>Journal of Vocational Behavior</i> 53(2), 254-273.
Job Search Behavior Index (JSBI) (Kopelman, Rovenpor, & Millsap, 1992)	Kopelman, R. E., Rovenpor, J. L. & Millsap, R. E. (1992). Rationale and construct validity evidence for the job search Behavior index: Because intentions (and New Year's resolutions) often come to naught. <i>Journal of Vocational Behavior</i> , 40(3), 269-287.
Individual Nurse Characteristics Form	Developed by author of survey. Contact: Madonna Kubichka @ <a href="mailto:kubichka@uwm.edu">kubichka@uwm.edu</a> or <a href="mailto:madonnasmiles7@gmail.com">madonnasmiles7@gmail.com</a>

**APPENDIX R**

**Acknowledgement of Participation Form**

**XXXXXXXXXX Healthcare *Strongly Embraces*  
the Support and Advancement of Nursing Research**

Categories of the Clinical Ladder Program at **XXX** Healthcare consist of teaching, leadership, community service, and research and publications. Benefits for nurse participation in the Clinical Ladder program include increased knowledge, recognition, and added compensation.

At **XXX** Healthcare nurses have performance expectations in their unit evaluations. *Nurse participation in nursing research surveys* provides an opportunity to contribute to the advancement of nursing science and is acknowledged in **XXX** Healthcare's Clinical Ladder Program.

**Acknowledgment of Participation**

Date: \_\_\_\_\_

I have contributed to the support of nursing research through the completion and mailing of the Registered Nurse Survey 2015.

\_\_\_\_\_  
Printed Name

\_\_\_\_\_  
Signature

**Return this acknowledgment of participation to your unit educator or your manager prior to the end of the survey time frame, November 22, 2015**

## CURRICULUM VITAE

Madonna Marie Kubichka

Place of birth: Chilton, WI

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### ACADEMIC BACKGROUND

Doctorate Candidate for PhD in Nursing – University of Wisconsin – Milwaukee	May/2016
Master of Science in Organizational Leadership and Quality (MSOLQ) – Marian University – Wisconsin	Aug 2006
Bachelor of Science in Nursing (BSN) - Indiana State University	Dec 2009
Bachelor of Science in Organizational Communication – Marian University – Wisconsin	Aug 2004

Dissertation Title: The Influence of Perceived Same-Status Nurse-to-Nurse Coworker Exchange Relationships, Quality of Care Provided, Overall Nurse Job Satisfaction, and Organizational Commitment on Intent to Stay and Job Search Behavior of Nurses in the Acute Care Nurse Work Environment

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### PROFESSIONAL EXPERIENCE

ProHealth Care Medical Associates, Internal Float Pool – Clinic RN	2013-Present
Staff RN, Emergency room - St. Elizabeth Hospital, Appleton, WI	2011-2013
Staff RN, Emergency Room – St. Francis Hospital, Milwaukee, WI	2010-2011
Staff RN, Long-term Acute Care – Select Specialty Hospital, St. Luke’s Campus, Milwaukee, WI	2010-2011

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### PROFESSIONAL LICENSES/CERTIFICATIONS

Wisconsin RN License	2010-2016
Advanced Cardiac Life Support	2016
Basic Life Support	2016

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### PROFESSIONAL AFFILIATIONS/MEMBERSHIP

Midwest Nursing Research Society	2011-2012; 2015-2016
Sigma Theta Tau – International Eta Nu Chapter	2010-2012
Doctorate Nursing Student Organization – UW-Milwaukee	2010-2016
	Vice President 2010-2011
	On-Campus Liaison 2011-2014
	Treasurer 2014-2016
Stockbridge First Responders	1993-2012

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### PUBLICATIONS/POSTER/PRESENTATIONS

1. Hartlep, N. D., Ecker, M. M., Miller, D. D., Whitmore, K. E. (2013). Asian Pacific American college freshmen: Attitudes toward the abolishment of affirmative action in college admissions. *Critical Questions in Education*, 4(1), 1-20.

2. Ecker, M. (2012). Letter to the Editor: Research on nurse retention: Time to move on from pure description. *International Nursing Review*, 59(1), 5. DOI: 10.1111/j.1466-7657.2012.00980.x

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