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**Developing and Validating an Instrument to Measure the Perceived Job Competencies
Linked to Performance and Staff Retention of First-Line Nurse Managers Employed in
a Hospital Setting**

A Thesis in
Workforce Education and Development

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Abstract

The purpose of the study was to construct and test the psychometric properties of the Nurse Manager Competency Inventory (NMCI), a self-assessment tool for measuring the job competencies linked to performance and staff retention of first-line nurse managers employed in the hospital setting. The instrument was constructed using secondary data gleaned from a job analysis and interviews with seven high performing first-line nurse managers and supplemented with a literature review. Nurse managers from first-line, mid- and executive-level positions comprised the sample (n=527) which was accessed via email through membership directories of the Hospital and Healthsystem Association of Pennsylvania and the Pennsylvania Organization of Nurse Leaders . Univariate descriptive statistics were used to assess personal and professional characteristics of respondents, perceived job competencies of first-line nurse managers in the hospital setting, and the 12 items that corresponded to the competency domain *Promote Staff Retention*. First line nurse managers performed 6 of the 11 competencies *very often* and 5 of the 11 competencies *fairly many times*. The three highest means reported among first-line nurse managers were *Perform Supervisory Responsibilities*, *Promote Staff Retention* and *Conduct Daily Unit Operations*. Competency items *Maintain an “open door” policy*, *Serve as an advocate for staff*, and *Value the importance of work-family balance* reflected the three highest mean values among both first-line and mid-level nurse managers with regard to behaviors and skills associated with the competency domain *Promoting Staff Retention*. There were significant differences between first-line nurse managers and the other two nurse manager roles in 5 of the 11 competency domains: *Perform Supervisory Responsibilities*; *Ensure Patient Safety & Quality Care*; *Conduct Daily Unit Operations*; *Promote Professional Practice Model*; and *Develop*

Self. Nurse managers who supervise 10 or fewer employees reported significantly lower mean scores than those respondents supervising a larger number of employees in 9 of the 11 competency domains. Recommendations were proposed regarding the use of the NMCI as a tool for healthcare personnel in human resources, leadership, and education in areas related to: staff training and development; recruitment and selection; performance management; succession planning; and retention.

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Chapter 1

Introduction

Historical Perspectives

“There have been growing questions about the competency of the healthcare workforce in the United States” (Marrelli, Tondora & Hoge, 2005, p. 533). Ensuring a viable nurse workforce has recently been placed at the top of the professional agenda in workforce development. Over two and one-half million nurses comprise the largest health care profession (*Nursing World*, 2002). The severe shortage of nurses being experienced on national and global levels surpasses all previously documented shortages, according to some researchers (Purnell, Horner, Gonzalez & Westman, 2001). Registered nurses are projected to create the second largest number of new jobs among all occupations through 2014 (U.S. Department of Labor, Bureau of Labor Statistics). Past methods for reducing shortages, such as recruitment incentives (e.g., bonuses and salary increases), are no longer effective. Nurses are leaving the profession in record numbers; between 1996 and 2000, nearly 175,000 nurses left the licensure pool. The rate of those nurses who gave up their license to practice nursing is six to seven times greater than the rate of those leaving the profession during earlier measurement periods (Andrews & Dziegielewski, 2005). Nurse recruitment from other countries is no longer a viable alternative, as these countries are also experiencing nursing shortages and may even be in greater need than the United States (Mee & Robinson, 2003).

The reasons for this unique shortage are complex but can be generally categorized into four general areas (Goodin, 2003): demographic changes, declining enrollment, poor image of nursing, and changing work climate.

Demographic Changes

First, demographic changes are occurring at unprecedented proportions as baby boomers approach retirement. As life expectancy in the United States increases, more people are living longer with chronic diseases, thus adding pressure to an already strained healthcare system. In 1998 about 3.5 million citizens were 85 years old; that number is expected to double to approximately 7 million in 2020 (Cooper, 2003). The nurse population is subsequently aging; approximately one third of working nurses are over the age of 50 (Atencio, Cohen & Gorenberg, 2003). The physical demands of nursing generally prevent nurses from working in the profession much past their mid-50s and many will be retiring within the next decade (The Robert Wood Johnson Foundation, 2002).

Declining Enrollment

Second, fewer people are entering the workforce, thus escalating the “war for talent”. Declining enrollment has been significant; between 1995 and 2001, enrollment in entry-level baccalaureate nursing programs declined by over 21% and the number of graduating nurses who took the national licensure exam decreased by 26% (Goodin, 2003). There are a number of explanations for this. Women, who make up more than 90% of the nurse workforce, now have expanded career opportunities previously unavailable to them (Mee & Robinson, 2003). Those careers may offer a regular work schedule, lower stress environment, competitive salary and enhanced opportunities for career development and therefore hold more appeal than nursing jobs which are extremely demanding and may require shift work. “Generation X, the prime source of young workers, perceives nursing as unappealing” (The Robert Wood Johnson Foundation, 2002, p. 6). Decreased nursing enrollment may also be attributed, in

part, to a lack of nursing faculty. In 2000, approximately 6,000 students were turned away from nursing programs due to a lack of nursing faculty (American Association of Colleges of Nursing, 2001-2002). Another problem relates to the inability of nursing to increase diversity within the profession in a manner that reflects the racial and ethnic proportions of the general population.

Poor Image of Nursing

Third, poor image may be a deterrent to increasing the appeal of nursing. Though highly ranked as a trusted profession, there is lack of understanding about what a nurse really does. “Throughout history, stereotypical and negative portrayals of nurses such as the physician’s handmaiden have continued to dominate society’s perceptions of the nursing profession” (Goodin, 2003, p. 338) and is one reason for the failure of the profession to sufficiently attract males. Because graduates completing a two-, three- or four-year program are all required to pass the same exam and receive the same professional designation, there may be little incentive for nurses to strive for a bachelor degree which might heighten the credibility of the profession. For graduates taking the NCLEX-RN exam (the national licensure exam for all entry-level registered nurses) for the first time in 2003, nearly 62% held associate’s (2-year) degrees (Joint Commission Resources, 2005). Associate degree programs also tend to attract older students (average age of 30 years) because they hold particular appeal for women seeking second careers (Cooper, 2003). Because such a large proportion of nurses enter the workforce later in life, the challenges of employing an aging workforce are further intensified.

Changing Work Climate

Finally, one could argue that what is being called a “shortage” is, in reality, not a shortage at all but a failure of the healthcare system to provide a work environment conducive to job satisfaction and retention. Goodin (2003) categorizes this as “the changing work climate”. Changes in the traditional role of the nurse began to appear during World War II (O’Donovan & Bridenstine, 1983), when nurse-assistant occupations such as the Nurse Aide (NA) and the Licensed Practical Nurse (LPN) emerged to perform tasks previously performed by the RN. The complexity of health care delivery increased dramatically during the 1950s–1970s with the expansion of technology, contributing to the specialization and fragmentation of job skills (Cangelosi, Markham, & Bounds, 1998). The 1980s–1990s brought radical changes in reimbursement procedures, organizational restructuring and downsizing, and even heavier reliance on the use of advanced technology. This increased the pressure on nurses to provide more care for more people with fewer resources (Purnell, Horner, Gonzalez & Westman, 2001) and to care for patients who were sicker but hospitalized for a shorter length of time ((Wickett, McCutcheon & Long, 2003). “Competition, pressures in health care financing and a push for accountability do not bode well for a profession that lacks the authority to create change within the health care system” (The Robert Wood Johnson Foundation, 2002, p. 6). Working with fewer resources and greater demands has resulted in discontent and disillusionment among nurses (The Robert Wood Johnson Foundation, 2002). Currently, almost half-a-million licensed nurses are not employed in nursing; between 1996 and 2000, the number of licensed RNs not employed in nursing grew by 52,000 to over 490,000 (Health Resources and Services Administration, 2002). Expanded efforts to retain nurses must focus, in part, on the work environment (Reid

Ponte, 2004) and, within the context of the work environment, on the competencies of the first-line nurse manager.

Nurse Manager Role

“Leaders must assume a wide range of new skills in a challenging and changing healthcare system, the most significant of which is creating a new context for workers” (Porter-O’Grady, 2003, p. 177). The skill sets and leadership style of managers have become a major focus of nursing work environment improvement efforts (McManis & Monsalve Associates, 2003), as organizations that still employ traditional supervisors cannot build effective teams and retain staff nurses (AON Consulting, Inc, 2003). A study commissioned by the American Hospital Association concluded that institutions should evaluate the core competencies of first-line supervisors, and measure, improve, and reward those first-line nurse managers because they are key to retaining satisfied, long-term employees (The American Hospital Association Commission on Workforce for Hospital and Health Systems, 2002). “The role of the nurse manager as the hospital’s “chief retention officer” is now widely appreciated, especially in light of increased generational and cultural diversity within the nursing workforce and the highly demanding conditions under which it must perform” (McManis & Monsalve Associates, 2003, p. 69).

The American Hospital Association has reported that finding good front-line managers is one of the greatest challenges facing health care today (American Hospital Association Commission on Workforce for Hospital and Health Systems, 2002). The trajectory for the retirement of large numbers of very experienced nurse managers could begin shortly as it is projected that the average age of the working registered nurse will reach

50 by the year 2010 (Joint Commission on Accreditation of Healthcare Organizations, 2002). One of the major challenges is the persistent trend in healthcare to place good clinical staff nurses into leadership roles with no preparation or management training (AON Consulting, Inc., 2003), even though nurse managers rate charge duties and direct patient care as contributing *least* to their success as managers (Mathena, 2002). The scope, substance, and combination of management competencies of staff nurses differ from the management competencies expected of first-line nurse managers (Russell & Scoble, 2004). In addition, there is little consistency regarding preparation needed for the job and the scope of responsibilities, as the role of the first-line nurse manager evolves independently in each hospital. The first-line nurse manager is often given a wide range of fiscal, operational, clinical, and human resource responsibilities; must adapt to invariable challenges and frustrations; and is given little guidance about prioritizing and leveraging their time. The nurse manager role has no defined career path and is rarely a career choice (Nursing Leadership Institute, 2002). A 2002 study of graduate nursing students showed that fewer than 10% of those students expressed an interest in managerial positions (Kramer, Schmalenberg & Maguire, 2004). There are numerous specialty areas in nursing, each with its own certification credential, and the leader/manager role should also be formally recognized as a specialty area (American Organization of Nurse Executives, 2005). To that end, the American Nurses Association (2004) recommends that nurse managers achieve a master's degree (with a nursing focus) and obtain their Nursing Administration Certification, in addition to obtaining certification in an appropriate clinical specialty area. Eligibility for taking the basic Nursing Administration Certification requires that the nurse manager possess at least a baccalaureate degree or higher in nursing (a master's degree is recommended) and

that she/he has at least two years of experience in the manager role (American Nurses Credentialing Center, 2005). However, it is common for nurses with associate, diploma or bachelor degrees to hold manager positions (Joint Commission Resources, 2005). Kleinman (2003) reports that over two-thirds of first-line nurse managers do not hold a graduate degree. Over two-thirds of registered nurses enter the profession through associate degree and diploma programs (Andrews & Dziegielewski, 2005). In other words, the majority of nurse managers are currently not eligible for this certification as part of their professional development, and the majority of organizations do not require this certification in order to hire a nurse into a management position. Recognition of the nurse manager as a specialty area has not been widely endorsed.

Nurse Manager Competencies

There has been limited research on the identification of competencies required of the nurse manager and, specifically, the first-line nurse manager. Due to the nature of the nursing profession, the term “competencies” is generally associated with technical skills, and clinical competencies required for effective job performance are well defined and measured. Since the nurse manager role is ill-defined (as previously discussed), few studies have attempted to develop an instrument for measuring nurse manager competencies (Care & Udod, 2003; Chase, 1994; Donaher, 2004). Several professional organizations recommend that nurse managers demonstrate various competencies, but the methodology for deriving these is vague (American Organization of Nurse Executives, 2005; American Hospital Association Commission on Workforce For Hospitals and Health Systems, 2002; Nursing Leadership Institute, 2003).

The identification of competencies required for effective job performance has become a complex endeavor, and there appears to be inconsistency regarding how “competency” is defined, how competency models are derived and, once derived, how they are applied. After a thorough review of the competency literature, Stines (2003) concluded that “... there is not a universal definition for the words: “competence”, “competency”, “competency model” and “skill” (p. 28). Competencies can be identified through a combination of techniques (such as interviews, focus groups, surveys and observations) or through models that might include products, processes or job responsibilities (Langdon & Marrelli, 2002). While one organization might interview and contrast superior and average performers to isolate the characteristics of the high performer, another might seek to identify competencies by conducting a job analysis. “Neither method results in accurate or complete competency identification” (Langdon & Marrelli, 2002, p. 14).

Statement of the Problem

While there has been increased recognition of the critical role of the first-line nurse manager in staff retention, interest in studying the nurse manager has waned in recent years (Gould, Kelly, Goldstone & Maidwell, 2001). Existing research on nurse manager competencies is fragmented and meager. A blended approach to competency identification is needed that captures both the job specifications and the underlying characteristics of high-performing first-line nurse managers.

First-line, mid-level and executive nurse manager positions require differentiating skill sets (Russell & Scoble, 2004), yet the current credentialing mechanism available to the nurse manager is only two-tiered (Basic & Advanced), and eligibility requirements for the Nursing Administration Certification exceed the educational credentials of most first-line

nurse managers. A competency assessment tool is needed that will serve as a compass for the novice and aspiring first-line nurse managers. The furious changes taking place in healthcare demand new curricula and approaches to preparing nurse managers and more input from current nurse managers (Russell & Scoble, 2003).

Purpose of the Study

The purpose of this study was to develop and test the psychometric properties of the Nurse Manager Competency Inventory (NMCI), a self-assessment tool for measuring the job competencies of first-line nurse managers employed in the hospital setting. Due to the more recent recognition of the first-line nurse manager as a “chief retention officer”, this study also sought specific focus on the perceived competencies of first-line nurse managers as these are related to staff nurse retention. The nurse manager role is ill-defined, and retention is most often obscured among numerous responsibilities and not afforded enough emphasis and focus. The objectives of this study were to:

1. Construct the Nurse Manager Competency Inventory (NMCI)
2. Test the psychometric properties of the NMCI

The research questions to be answered in this study were as follows:

1. What perceived competencies of first-line nurse managers are needed for effective job performance in the hospital setting?
2. What perceived competencies of first-line nurse managers are specifically related to staff retention in the hospital setting?
3. Is there empirical support for a measure of first-line nurse manager competencies using the NMCI?

Significance of the Study

A large numbers of experienced nurse managers are planning retirement and nurse manager turnover is currently comparable to staff turnover. Hospitals must be strategic in identifying, developing, training and equipping current and future nurse managers in a cost-effective manner (AON Consulting, 2003). The results of this study were expected to provide a validated tool that could be used to assist in a number of human resource management functions related to: the recruitment and selection of personnel for the first-line nurse manager position; development of performance appraisal systems; individual development planning; training needs identification and prioritization; coaching; counseling; mentoring; succession planning and career path initiatives (Dubois & Rothwell, 2004; McLagan, 1980; Stines, 2003).

“There is documented need for management education and training for nurses” (Russell & Scoble, 2004, p. 41). This research was expected to provide educators and trainers with a framework for evaluating current curricula and planning new offerings. According to Bernthal, Colteryahn, Davis, et al. (2004), educators can use a competency model to (p. 42):

- Assess learner needs by measuring current capabilities against the competencies and areas of expertise (AOEs);
- Take stock of learners’ interest in enhancing their development;
- Evaluate existing course offerings to see what aspects of the model they are developing;
- Update existing course offerings to include broader coverage of AOEs and competencies;
- Plan an entire curriculum for the profession;
- Develop specific course offerings to improve performance in particular competencies or AOEs;
- Guide students’ development paths by evaluating individual development needs;
- Create measures, tests, and indicators that evaluate performance in the competencies and AOEs; and
- Evaluate faculty expertise.

Limitations

Study limitations included the following:

- The research is based on self-report, and therefore there is potential for response bias.
- The study sample was accessed through two third-party professional organizations and did not constitute a random sample.
- The study sample was limited to respondents employed in Pennsylvania hospitals.

Definition of Terms

Competencies: "...characteristics that are causally related to effective and/or superior performance in a job" (Boyatzis, 1982, p. 23).

Effective Performance: "... a "minimally acceptable" level of work, the lower cutoff point below which an employee would not be considered competent to do the job" (Spencer & Spencer, 1993, p. 13).

Effective Staff Retention: "...facilitating the professional growth, responsibilities, and rewards of employees to attain organizational success and satisfaction in their jobs" (Donaher, 2004, p.80).

Exemplars: "...Superlative incumbents-the 'best-in-class' performers..." (Rothwell & Gerity, 2004, p. 34).

First-line Nurse Manager: A nurse who can "...plan, organize, deliver, and evaluate nursing and interdisciplinary care to a targeted group of patients and manage the human and material resources needed to deliver that care" (Russell & Scoble, 2004, p. 46).

Hospital: "A health care organization that has a governing body, an organized medical staff and professional staff, and inpatient facilities and provides medical, nursing, and related services for ill and injured patients 24 hours per day, seven days per week. For licensing purposes, each state has its own definition of a hospital" (JCAHO, 2002). Retrieved June 10, 2005, from <http://www.jcaho.org/accredited+organizations/hospitals/oryx/glossary.htm>

Job Competency: "...underlying characteristic of an employee (i.e. motive, trait, skill, aspects of one's self-image, social role, or a body of knowledge) which results in effective and/or superior performance in a job" (Boyatzis, 1982, p. 20).

Chapter 2

Review of the Literature and Research

Introduction

As discussed in chapter 1, the challenges of ensuring an adequate pool of competent nurses to meet escalating healthcare demands can be categorized into four general areas, with the most significant source of nurses' dissatisfaction being the work environment. Within the context of the work environment, there is emerging interest in the role of the first-line nurse manager in creating an environment conducive to staff retention. This study sought to develop and validate an instrument to assess the competencies of the first-line nurse manager working in the hospital setting. Chapter 2 contains an exploration of the literature regarding the changing nurse manager role and nurse retention, competency research, contextual information related to the organizational environment in which the nurse manager works and their job demands, and competency research specific to the nurse manager.

Changing Nurse Manager Role and Nurse Retention

“A leader is someone who directs the operations, activity or performance of others” and nurse leaders are called by many different titles, including that of *nurse manager* (Joint Commission Resources, 2005, p. 9). In nursing, management refers to the performance of functions related to planning, organizing, staffing, leading, directing, controlling and evaluating the activities of a nursing enterprise and departmental subunits (Roussel, 2002). The nurse manager role has been described as one of the most difficult positions in a health care organization and researchers have argued that this role has undergone more change over the past twenty years than any other position in healthcare (Kramer, Schmalenberg &

Maguire, 2004). “Although the title hasn’t changed, many more leadership behaviors are now expected than in the past: counseling staff, orienting physicians, providing opportunities for growth, procuring and allocating resources, and facilitating a highly professional staff to work together” (Kramer, Schmalenberg & Maguire, 2004, p. 45). Nurse managers must draw on various disciplines, including human relations, labor relations, personnel management, and industrial engineering, to become effective managers (Roussel, 2002). A successful synthesis of these disciplines can promote employee commitment, increased productivity, enhanced competency, good labor relations, and competitiveness in health care (Roussel, 2002).

The importance of the leader to the culture and context of the organization is increasingly evident (Porter-O’Grady, 2003); nursing leadership is primarily responsible for establishing, maintaining, and altering culture and climate at the individual level (Kramer, Schmalenberg & Maguire, 2004). “Creating a positive climate creates a direct link to predictors of productivity, job satisfaction, and retention and commitment of employees” (Snow, 2002, p. 397). According to an extensive literature review conducted by Johnson and Buelow (2003), having a satisfactory supervisor was rated as one of the five top organizational factors affecting nurse satisfaction, turnover, and retention. In a survey of more than 10,000 nurses among 300 hospitals in the United States, Scotland, Canada and England, researchers found that organizational and managerial support was strongly related to staff nurse satisfaction and retention (Aiken, Clarke & Sloane, et al., 2002).

“Manager effectiveness is one of the most important drivers of staff nurse retention; a wealth of evidence exists from health care and other industries indicating that employees satisfied with their managers are likely to be more satisfied overall and stay with the

organization longer” (Nursing Executive Center, 2001, p. 14). Nurses with effective supervision have experienced significant improvement in their ability to manage stress associated with moral dilemmas, manage organizational change, and integrate nursing theory with practice (Andrews & Dziegielewski, 2005). Managers who encourage their staff to participate in decision-making and collaboration tend to create a more positive climate among the nursing team (Staten, Mangalindan, Saylor & Stuenkel, 2003), and nurses who perceive their managers to be collaborative and supportive are more satisfied and more likely to stay with an organization (Laschinger, Almost & Tuer-Hodes, 2003). The American Organization of Nurse Executives has encouraged nurses to seek work environments in which they share the same expectations with the unit manager and a sense of trust is communicated between the nurse manager and nursing staff (Reid Ponte, 2004).

Manion (2004) sought to determine the ways in which successful nurse managers contribute to a culture of staff retention. Nurse managers were selected for the study based upon criteria that included some combination of: low turnover rates; high patient, employee, and provider satisfaction levels; good patient outcomes; and overall positive working relationships with staff members. Twenty-six interviews were conducted with nurse managers from across the country, and the researcher interviewed three focus groups composed of the participating managers’ employees as well as three of the managers’ direct supervisors. Five major themes emerged regarding how these nurse managers contributed to staff retention (pp. 30–39):

1. **Put the staff first.** “These successful managers clearly believe that their job is to put the staff first, and, if they’re successful, the staff will put the patient first” (p. 30). Descriptors used to define this theme included: care about them;

meet their needs; listen and respond; treat others with respect; appreciate and recognize; support.

2. **Forge authentic relationships.** “Taking time to connect with staff members is important...each person needs to maintain a personal, individual connection with his or her manager” (p. 33). Descriptors used to define this theme included: get to know them; create a sense of community; hire the right people; have fun together.
3. **Coach for-and expect-competence.** “These managers create a culture of retention though their focus on growth and development, both personal and professional, of the individuals with whom they work” (p. 34). Descriptors used to define this theme included: set high standards and expectations; support development; model behavior.
4. **Focus on results.** “Successful managers consistently achieve improvements within their department, often based on feedback from others” (p. 36). Descriptors used to define this theme included: solve problems; empower and involve staff; provide adequate resources and a pleasing physical environment.
5. **Partner with staff.** “The final key theme relates to the way these managers work with their staff members. Most describe a leadership style based on partnership” (p. 36). Descriptors used to define this theme included: visibility; accessibility; set clear boundaries.

Considering the heightened focus on nurse retention and the role of the nurse manager in that capacity, the importance of identifying the management practices, competencies, and skills of effective managers has been amplified. Organizations today are finding competencies to be of great value in their training practices, and competency-based approaches to training, assessment, and staff development are increasingly viewed as a fundamental strategy for improving the effectiveness of those who provide care (Marrelli, Tondora & Hoge, 2005).

Competency Research

The application of competencies is now a leading organizational strategy in all major human resource areas (Arthur Anderson/Schoonover Associates, 2000). Competencies are the building blocks of work performance, and performance consists of many features of practice, cognitive, affective and psychomotor skills (Donaher, 2004). Competency models enable people in an organization or profession to understand, discuss, and apply the competencies to workforce performance (Marrelli, Tondora & Hoge, 2005).

Dubois and Rothwell (2004) acknowledged two primary schools of thought concerning the interpretation of competency. The first school of thought is based on the premise that competency implies knowledge or skills, and is usually based on a job analysis; that is, the focus is on the *job responsibilities* and *tasks*. This approach has been referred to as the “outputs-driven methodology” (Rothwell, Lindholm, & Wallick, 2003; Stine, 2003). In the second school of thought, competency is interpreted as any characteristic that supports performance and can include knowledge, skill, or any number of other characteristics; the focus is on the underlying characteristics of the individual more than the work he or she does

(Rothwell & Gerity, 2004). This method has been referred to as a “process-driven methodology” (Rothwell, Lindholm, & Wallick, 2003; Stine, 2003).

Outputs-driven Methodology

The DACUM Method, Customized Occupational Profile and The Mastery Path are three examples of the outputs-driven methodology.

DACUM Method

DACUM is an acronym for **D**eveloping **A** **C**urriculum (Norton, 1997). DACUM is a job analysis process that relies on a disciplined, focus group approach to identify the major areas of responsibility and tasks of a role, job, or occupation. “Dubois and Rothwell (2000) extended the DACUM process to include the identification of abstract competencies (for example, patience) that are frequently difficult to identify and verify” (Dubois & Rothwell, 2004, p. 31). The DACUM method assembles a group of between five and twelve work experts and asks them, in a methodical and facilitative manner, to describe the work activities that they perform. DACUM is based on three premises (Norton, 1997, pp. 1–2):

1. Expert workers can describe and define their job/occupation more accurately than anyone else.
2. An effective way to define a job/occupation is to precisely describe the tasks that expert works perform.
3. All tasks, in order to be performed correctly demand the use of certain knowledge, skills, tools and positive worker behaviors.

The information is organized into a chart that lists the major areas of responsibilities and accompanying tasks performed by the workers. “These work activities become the basis for discovering the underlying competencies essential to achieving work outputs or results” (Dubois & Rothwell, 2004, pp. 31–32). Additional information is listed, such as knowledge, skills, characteristics and tools required for effective job performance.

DeOnna (2002) conducted a DACUM analysis for Instructors of Nurse Aides in Pennsylvania. The five panel members who participated in the development of the DACUM chart were employed as full-time registered nurses who collectively represented sixty-eight years of teaching experience, forty of which had been served in the capacity of nurse aide instructor. The findings were verified (although this step is considered to be arbitrary) (Norton, 1997) with fifty nurse aide instructors, with equal geographical representation across the state. Thirty-two verification forms were returned for a response rate of 64%. Overall, the respondents concurred with the duties and tasks identified in the DACUM chart originated by the DACUM panel with the exception of five tasks. Responses to these tasks were about evenly divided between those who performed the task and those who did not, and were modified to include “*if applicable*” on the final product. The DACUM chart was used to provide a “big picture” of the duties and responsibilities that a new instructor should be prepared to assume, served as the foundation for curriculum development model, and served as the basis for a state-wide training needs assessment.

Customized Occupational Profile

DeOnna (2005), in collaboration with the Pennsylvania State University’s Management Development program personnel, conducted a job analysis referred to as a

Customized Occupational Profile (COP) using a modified DACUM approach with a panel of seven hospital-based, first-line nurse managers in Pennsylvania. The content for a Customized Occupation Profile is supplied by a carefully chosen group of top performers in a particular job position. A skilled COP facilitator uses a modified brainstorming technique and groupware systems to identify job activities and develop the COP chart. The COP represents the collective expertise of the top performers and depicts all of the tasks and activities associated with the position. Related tasks are organized into major job categories; an average COP contains between eight and fifteen major job categories. The associated task statements are organized with associated job categories, and the typical COP contains from 50 to 200 task statements.

The key to successfully developing a COP is ensuring that high-performing subject matter experts are represented on the panel. With regard to developing a COP for first-line, hospital-based nurse managers, DeOnna (2005) attempted to achieve the highest standards by engaging the Pennsylvania State Nurses Association to help identify some of the top performing hospitals in the State from which to recruit exemplary personnel. The rationale for this approach was based on Boyatzis's Model of Effective Job Performance (1982), which suggests that effective job performance occurs when individual competencies, job demands, and organizational environment are balanced, but that effective job performance will occur when at least two of the three components support one another.

Six institutions agreed to participate in the initiative. Four of those institutions held "magnet" status, with one of those hospitals holding the designation as the first Magnet Hospital. The American Nurses Credentialing Center distinguishes hospitals that demonstrate a "culture of excellence" by assigning them "magnet" status for their ability to attract and

retain nurses. Magnet hospitals are those institutions that possess an organizational structure and culture that fosters high levels of nurse autonomy, control, and better relations with physicians (Laschinger, Shamian & Thomson, 2001). The organizational characteristics of a Magnet culture are well documented as the foundation of a workplace that supports professional nursing practice and significantly contributes to the ability of institutions to attract and retain nurses.

Of the remaining two hospitals, both had received prestigious honors that placed them on the *U.S. News & World Report* magazine's Best Hospitals Honor Roll. The hospitals ranged in size from 100 licensed beds to a large health system comprised of 19 hospitals with more than 4,000 licensed beds. The hospitals were geographically dispersed across the state.

Administrators were asked to each select a first-line nurse manager whom they considered to be exemplary and to provide a rationale for their selection. Seven nurse managers were nominated and available to participate in the job analysis. Some descriptors used by administrators to describe why they considered these managers to be exemplars included:

1. Success Oriented
 - Understands the organization's mission and aligns goals that are measurable and realistic
 - Networks interdisciplinary and interdepartmentally to ensure high standards and positive outcomes
 - Develops action plans for unit performance improvement
 - Seeks best practices
2. People Focused
 - Coaches
 - Mentors
 - Teaches
 - Challenges others
3. Team Orientation

- Fosters an environment where personal and professional experiences are equally important
 - Creates a teamwork environment
 - Uses the FISH philosophy to set tone for the unit
 - Collaborator
4. Results Orientation
- Measures patient satisfaction
 - Measures staff satisfaction
 - Uses data to drive process and performance improvement
5. Develops Self
- High emotional intelligence
 - Flexible
 - Hard-working
 - Intelligent
 - Educated
 - Excellent communication skills
6. Exemplifies characteristics of a developed leader
- A facilitator of change
 - Rescuer-sent in to “fix” other units
 - Inspires others
7. Staff retention:
- Turnover for FY 2005 was only 5%
 - Views staff as a long-term investment for the organization
 - Helps staff develop a career path within the organization

Following the protocol for conducting a modified DACUM analysis using groupware systems, a Customized Occupational Profile of the First-Line Nurse Manager employed in the hospital work environment was produced. The job analysis produces descriptor items with far more detail than is achieved by most competency modeling efforts (Shippman, Ash, Battista et al., 2000). In this approach, the *technical* and *functional* competencies form the foundation of the competency model. This is consistent with the conceptual model developed by Russell and Scoble (2004) that is referred to as the Mastery Path.

The Mastery Path

Russell and Scoble (2004) proposed a competency model to be used in developing nurses for management in health care organizations, referred to as the Mastery Path. The Mastery Path focuses on the management practices, competencies and skills of first-, middle- and executive-level nurse managers. In the Mastery Path, competence is defined as “the ability to perform particular skills-based activities to a prescribed standard” (Donaher, 2004, p. 14). The Mastery Path suggests that there are five broad areas of management practice related to: (1) managing human capital; (2) managing health care finances; (3) managing the professional nursing practice environment; (4) managing healthcare operations; and (5) managing the organizational growth and development. Competencies are defined within skills-based activities categorized as human, conceptual and technical skills. The model rests on the following assumptions (Russell & Scoble, 2004, p. 46):

1. Management is more than leadership, although leadership is an essential component.
2. Management is commitment to organizational goals and objectives in addition to the nurse’s professional norms and values.
3. Management is a skills-based activity (Katz, 1955).
4. Management skills can be learned/developed. They are not characteristics of personality or individual style.
5. The learning of management skills occurs in many contexts. These include: academic settings, on-the-job training, continuing education, mentoring relationships and reflection on practice and theory (Schon, 1983).
6. The learning of management skills occurs over the length of a career managing nursing and interdisciplinary care in complex delivery systems (Senge, 1990).
7. Nurses in any position in the health care delivery system require management skills.

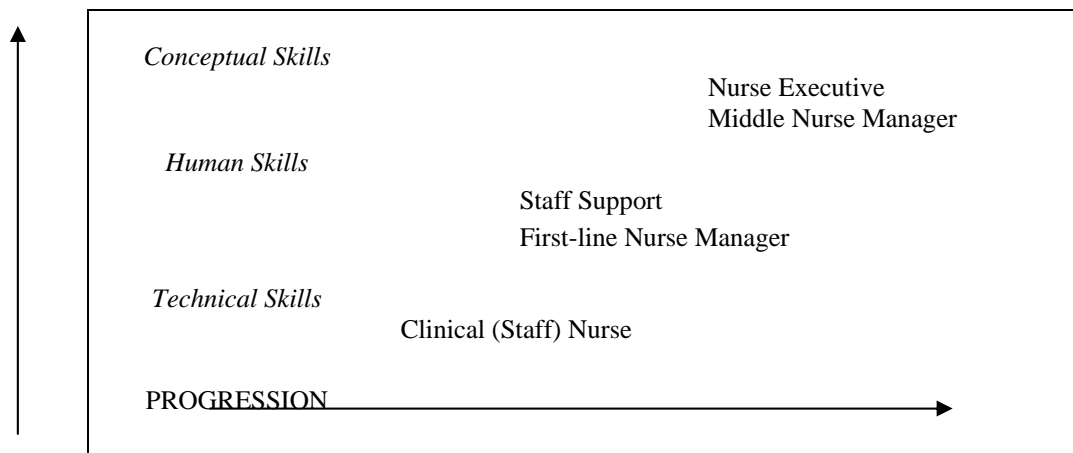


Figure 2.1. The Mastery Path: Nurse Manager Skill and Career Trajectories. Source: Russell, G. & Scoble, K., 2004. *Nursing Leadership Forum*, 9(2), p. 45, Used by permission. Springer Publishing Company, Inc., New York.

In the Mastery Path, management is considered to be a *skills-based* activity and is *not* characteristic of personality or individual style.

Process-Driven Methodology

Shippman, Ash, Battista, et al. (2000) described a job analysis as looking at “what” is accomplished, and a competency modeling as looking more on “how” objectives are met or “how” work is accomplished. The second school of thought coined “process-driven methodology” by Dubois & Rothwell (2004) focuses on the *underlying characteristics of the individual* more than the work he or she does. In this paradigm, competencies refer to the unique qualities held by individuals that lead to successful work results and, according to Dubois and Rothwell (2004), some competencies must be hired or selected for while some competencies can be developed through training, coaching, experience, education, or other learning pursuits. This approach is rooted in the research of David McClelland and the work of McBer and Company, which began in the 1970s, during which time the Behavioral Event

Interview (BEI) was developed as a key tool in competency identification (Spencer & Spencer, 1993).

Behavioral Event Interview

The behavioral event interview (BEI) is a technique developed by David McClelland and Charles Dailey that was built upon a combination of the motivation research of McClelland and a process originally developed by John Flanagan to identify the task elements of jobs, referred to as the *Critical Incident Interview* technique. “In the BEI, the interviewer asks a series of detailed questions about actions performed in the work setting that workers perceive to be successful or unsuccessful and the thoughts, feelings, and outcomes that accompanied them...” (Dubois & Rothwell, 2004, p. 28). The objective of the BEI is to get very detailed behavioral descriptions of what employees have done in the most critical situations in their job (Dubois & Rothwell, 2004; Spencer & Spencer, 1993). “McClelland’s BEI method identifies the *competencies* needed to do the job *well*. Asking people to focus on the most critical situations they have faced produces data on the most important skills and competencies” (Spencer & Spencer, 1993, p. 98). The goal is to obtain rich descriptive stories that describe the specific behaviors, thoughts and actions of the person in a particular job situation. It is preferred over traditional interviewing when identifying competencies because people may not know their competencies, strengths or weaknesses, or be willing to reveal their real motives and abilities if asked directly (Spencer & Spencer, 1993). “The purpose of the BEI method is to get behind what people say they do to find out what they *really* do” (Spencer & Spencer, 1993, p. 115). It is recommended that researchers conduct between six and twelve individual BEIs for each job they are modeling

(Dubois & Rothwell, 2004). Interview data are transcribed, key themes are identified by the interviewers, and themes are coded using qualitative data analytical methods. Characteristics or traits of exemplary and fully successful performers that emerge from the data are considered to be competencies (Dubois & Rothwell, 2004). The BEI is a five-step process (Spencer & Spencer, 1993, p. 119):

1. Introduce self and explain the purpose and format of the interview.
2. Have interviewee describe his or her major job responsibilities and tasks.
3. Ask the interviewee to describe, in detail, some examples of major successes and “low points” in the job.
4. Ask the interviewee to describe what he or she thinks it takes to do the job effectively.
5. Thank the interviewee and summarize key incidents and findings from the interview.

The BEI method was used by Richard Boyatzis (1982), who wrote the first empirically based, research-based book on competency model development entitled *The Competent Manager: A Model for Effective Performance*. “It was with Boyatzis that job competency came to be widely understood to mean an underlying characteristic of a person that leads to or causes superior or effective performance” (Rothwell, Lindholm & Wallick, 2003, p. 9).

Following the protocol of Spencer and Spencer (1993), DeOnna (2005) conducted Behavioral Event Interviews with a panel of seven hospital-based first-line nurse managers who were identified as exemplars by their administrators. The BEI results served to augment the Customized Occupational Profile of the First-Line Nurse Manager as recommended by Boyatzis (1982), which was generated through the expertise of a panel of exemplary first-line

nurse managers. The interviews transcripts were studied, comments were isolated that reflected specific skills, knowledge and characteristics, and those items were grouped and assigned a name as recommended by Lucia & Lepsinger (1999) The characteristic roles of high performing hospital-based first-line nurse managers are represented in Figure 2.2 and the characteristics associated with each role are described below.

Characteristic Roles of High Performing Hospital-based First-Line Nurse Managers

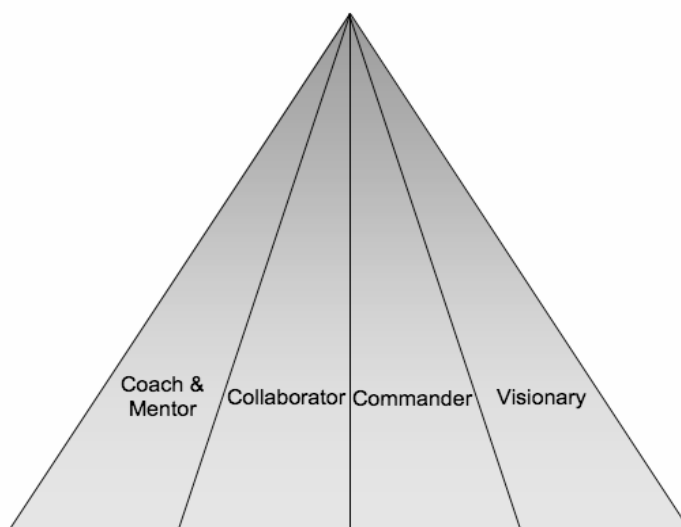


Figure 2.2. Roles of High Performing, Hospital-based First-Line Nurse Managers.

Coach & Mentor

- Demonstrates a goal orientation
- Likes the challenge
- Supportive demeanor
- Provides both positive feedback and feedback for improvement
- Committed to work-family balance
- Directs and redirects to the common goal: highest good for the patient
- Identifies strengths of staff and capitalizes on those strengths
- Develops self-directed leaders
- Passionate and inspirational to staff
- Celebrates small gains
- Energizes and motivates staff
- Approachable, good listener
- Models restraint and calm
- Models professional conduct toward student interns

Collaborator

- Supports shared decision-making
- Builds strong relationships, trust with staff
- Uses teams to develop and implement strategies
- Serves as nurse/patient advocate
- Demonstrates an egalitarian (democratic, classless) philosophy
- Advocates for flexible staffing, self-scheduling
- Involves staff in hiring process
- Anticipates and communicates change to staff using multiple media
- Solicits and acts on feedback from staff
- Responsive to staff satisfaction needs
- Uses peers to address employee satisfaction issues and non-clinical related issues
- Adaptable to different cultural needs
- Models a deliberate and logical approach to problem-solving
- Builds trust with physicians

Commander

- Creates high standards and enforces accountability
- Consistently adheres to deadlines and policies
- Develops and communicates guidelines and clarifies expectations
- Models equitable and consistent enforcement of policies and procedures
- Takes control of situations as needed
- Implements evidence-based protocol
- Documents staff performance issues and analyzes information to look for patterns
- Collects and analyzes data related to staff performance improvement and satisfaction
- Generates and analyzes financial reports to assess fiscal status of unit
- Utilizes technology and systems to manage information
- Invests heavily in new hire orientation

Visionary

- Anticipates, recognizes and responds to changing needs
- “Global thinker”, always looking for ways to improve patient care
- Identifies “best practices” and integrates into existing systems

Superior or Exemplary Performance

A competent individual is one who has the knowledge, skills, and abilities to perform a job adequately; the purpose of competency assessment then is to ensure that every employee performs at least at the minimally acceptable level. In contrast, competency has also been used to define “exemplary” performers—those who excel over acceptable performers. From this perspective, competencies are developed based on characteristics and abilities of highly successful performers. “Some individuals excel in certain spheres of human effort. We call those people *exemplars*” (Dubois & Rothwell, 2004, p. 22). According to Dubois and Rothwell (2004), research indicates that exemplars may be as much as twenty

times more productive in achieving work results compared to other experienced job incumbents who hold similar job titles and responsibilities and receive comparable compensation.

Dubois and Rothwell (2004) suggested that employers train toward building individual competence relative to a competency model of *exemplary* performance. “In other words, competencies should answer the question—‘What does an excellent performer look like in a particular work setting?’” (Arthur Anderson/Schoonover Associates, 2000).

According to Marrelli, Tondora and Hoge (2005), the goal of competency modeling should be to identify the competencies needed for excellent performance, not average performance. Competency identification is based on the view that *exemplary* performers can be much more productive than *average* performers, with the expectation that the outcome of selected interventions (e.g., training, education, mentoring, etc.) will bring *all* employees in that particular job category up to the level of exemplars (Dubois & Rothwell, 2004).

According to Boyatzis (1982), individual competencies are necessary but not sufficient for effective performance in a job. In his Model of Effective Job Performance, Boyatzis suggested that effective action, and therefore performance, will occur when all three of the critical components of the model (individual competencies, job demands, and organizational environment) are consistent or fit, but that effective job performance will occur when at least two of the three components support one another.

Boyatzis’s Model of Effective Job Performance

Boyatzis’s model of effective job performance offers a conceptual and contextual framework for discussing the role of the individual, the job demands and the work

environment in developing a competency model. Within the Boyatzis conceptual model (1982), *individual competencies* represent the capability that the person brings to the job situation. The requirements of the job are considered to be the *job demands* on the person. The internal *organizational environment* consists of the physical, financial, and technical resources; policies and procedures; and strategic direction such as the mission, purpose or corporate strategy.

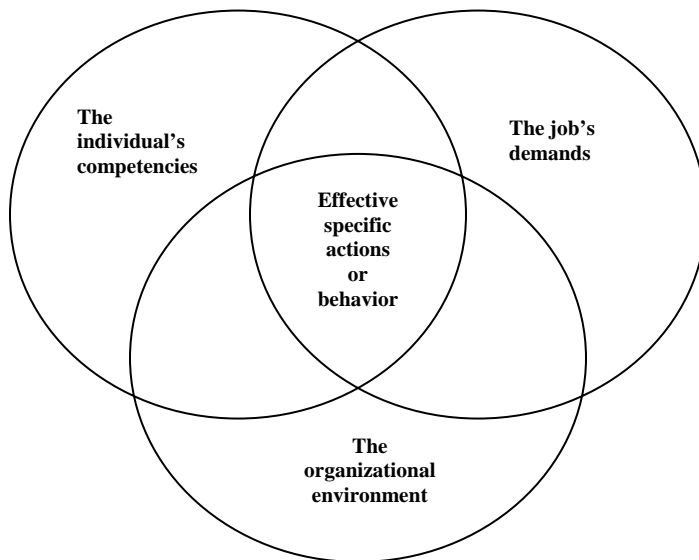


Figure 2.3. Boyatzis's Model of Effective Job Performance.

Source: Boyatzis, R.E. (1982). The competent manager: A model for effective performance. New York: John Wiley & Sons. © Reprinted by permission of John Wiley & Sons, Inc.

Blended Approach to Competency Modeling

The Society for Industrial and Organizational Psychology convened a task force to investigate how competency modeling compares to job analysis and to identify the strengths and weaknesses of both approaches (Shippman, Ash, Battista et al., 2000). The task force concluded that by focusing only on broad general competencies, a large portion of items related to individual job success remains unaccounted for. They suggested that the technical or functional competencies gleaned through job analyses could be beneficially integrated into competency models because “not all competency items or behaviors that operationally define a competency dimension are equally useful for all jobs, job levels, business segments, or regions throughout the organization...” (p. 734). Conversely, the panel recognized that the inclusion of variables such as personality and value orientations into job analysis might be useful. “Obviously, job performance is of interest because it affects an organization’s success. Value, however, depends on context: A work behavior that is desirable in one setting may be undesirable in another. For example, strategic planning in senior management may be highly rewarded, but in first-line supervision it may be a wasteful distraction” (Tett, Guterman, Bleier & Murphy, 2002, p. 215). No single type of descriptor content (e.g., competencies, work activities, performance standards) was endorsed as being best suited for all purposes, but the panel recommended that the selection of methods and measures depend upon the organizational objective. The panel acknowledged the value of *both* approaches to competency modeling and suggested that the next generation of competency modeling might result in a blending of best practices to include both identifying and describing the important work-related aspects of a job and the associated worker requirements (Shippman, Ash, Battista et al, 2000).

Organizational Environment and Job Demands

Boyatzis (1982) proposed that competencies manifest through specific behavior within the context of the job demands and organizational environment. “It is worth emphasizing here that appropriate behaviors linked to a competency may differ, depending on the corporate culture in which that competency is grounded...hence, the demonstration of a competency is tied to the unique corporate culture in which it appears...” (Dubois & Rothwell, 2004, p. 20). Work roles, job requirements and organizations do not exist independently (Shippman, Ash, Battista et al, 2000). Therefore, discussion about nurse manager competencies should include an exploration of the context in which the work is performed and the demands of the job, consistent with Boyatzis’s conceptual model of effective job performance.

The Joint Commission on Accreditation of Healthcare Organizations (JCAHO) calls for workplaces to be improved “through redesigned work processes, effective staffing and scheduling, adoption of information and ergonomic technologies, and, *most importantly, workplace cultures that empower, value and reward nurses*” [italics added] (JCAHO, 2002, p. 37). According to Aiken, Clark, Sloane et al (2001), dissatisfied nurses are more likely to cite unhappiness with their work than with their salaries. “Many values that attracted people to the nursing profession are seriously challenged in the current practice environment. The move away from traditional roles and activities provides decreasing time and value for nursing practice” (Porter-O’ Grady, 2003, p. 176). Nurses are frequently tied up in non-nursing work. A study by Aiken, Clarke, Sloane et al (2001) found that less than half (43%) of hospital nurses have enough support services to get the work done and only 29% felt that their administration listened and responded to their concerns. A recent survey of over 700

U.S. hospital CEOs showed that only 17% rated “quality” and only 9% rated “patient safety” as one of their top three concerns (Health Administration Press, 2004). As a result, job-related stress and anxiety have, in part, driven nurses into leaving active practice or into non-nursing professions (Cangelosi, Markham & Bounds, 1998). According to a 1999 national survey of RNs, over 40% of nurses expected to leave their current jobs within three years, regardless of age or tenure (Nursing Executive Center, 2001), and in 2000 the rate of nurse turnover was estimated to be over 21% (Atencio, Cohen & Gorenberg, 2003).

The need for RNs who can work in a faster-paced and increasingly complex work environment is increasing (Reid Ponte, 2004). New graduates entering the workforce are often unprepared to perform a variety of patient care tasks, and managers are hesitant to pull experienced nurses from patient care activities to serve as trainers and mentors (Joint Commission Resources, 2005). Thus, new hires are more likely to leave their jobs than older, more seasoned nurses, increasing the burden on existing staff with subsequently greater burnout and lower morale. High turnover in staffing poses a threat to patient care quality and has been associated with higher patient mortality (Aiken, Clarke, Sloane et al, 2002). Researchers have reported an increased risk of patient death, nurse burnout, and decreased job satisfaction associated with increased patient:nurse ratios (Aiken, Clarke, Sloane et al, 2002). High turnover places increased strain on the nursing staff and has been associated with higher patient mortality and decreased profitability for the hospital, as the cost of replacing a nurse is estimated to be equivalent to the nurse’s annual salary or even double (Staten, Mangalindan, Saylor & Stuenkel, 2003). In reality, nurse turnover typically costs four to five times more than hospitals estimate (Nursing Executive Center, 2001).

Magnet Hospitals

Within American hospitals, extensive research has been conducted on the organizational elements that consistently attract and retain nurses and deliver high-quality patient care. The American Nurses Credentialing Center (ANCC) assigns “Magnet” status to hospitals demonstrating this “culture of excellence” in which high levels of nurse autonomy, control, and better relations with physicians are reflected (Laschinger, Shamian & Thomson, 2001). These organizational characteristics are well documented as the foundation of a workplace that supports professional nursing practice and significantly contributes to nurse recruitment and retention.

The Magnet Designation for Hospitals of Excellence has received the most attention as a model for attracting and retaining nurses. Kramer, Schmalenberg and Maguire (2004) conducted a study of fourteen magnet hospitals and identified eight attributes considered to be essential to creating a magnetic hospital work environment: support for education; working with other nurses who are clinically competent; positive nurse/physician relationships; autonomous nursing practice; a culture that values concern for the patient; control of and over nursing practice; perceived adequacy of staffing; and *nurse-manager support*. “The support of nurse-managers affects productivity, nurse attraction, retention, and job satisfaction-the four outcomes of a magnetic work environment for nurses” (Kramer, Schmalenberg & Maguire, 2004, p. 44). Nurse managers in magnet hospitals are more likely to demonstrate leadership behaviors than management behaviors, facilitate teamwork, support autonomy, and empower RN/physician relationships (Kramer, Schmalenberg & Maguire, 2004).

By making and sustaining fundamental organizational and cultural changes in their nursing work environment, magnet hospitals “have been able to significantly reduce staff turnover, enhance nurse recruitment and retention, and improve both job satisfaction and patient care quality” (American Organization of Nurse Executives, 2005, p. 10). Higher levels of job satisfaction among clinical nurses have been associated with magnet hospitals (Upenieks, 2003), and magnet hospital characteristics have been found to be significantly independent predictors of job satisfaction (Laschinger, Almost & Tuer-Hodes, 2003). In theory, these environmental factors are responsible for better patient, nurse, and organizational outcomes (Aiken & Patrician, 2000). The Nursing Work Index-Revised (NWI-R) is an instrument that has been used extensively to measure major characteristics of the nurse practice environment associated with magnet hospitals that contribute to increased job satisfaction, nurse retention and improved patient outcomes (Aiken & Fagin, 1997; Aiken, Havens & Sloane, 2000; Aiken & Patrician, 2000; Aiken & Sloane, 1997a,b; Aiken, Sloane & Sochalski, 1998; Aiken & Sochalski, 1997; Aiken, Sochalski & Lake, 1997).

Additional Nurse Manager Competency Research

While there has been extensive research on the hospital environment and a validated tool (NWI-R) has been developed to assess the organizational elements that contribute to a favorable practice environment for nurses, research has been limited regarding the identification of competencies required of the nurse manager and, specifically, the first-line nurse manager. In 2002, the American Hospital Association Commission on Workforce for Hospitals and Health Systems stated that hospitals must have qualified and capable supervisors and managers in order to have satisfied and long-term employees, and

recommended that hospitals “measure, improve, and reward the capabilities of front-line managers. They are key to the retention of satisfied, long-term employees” (p. 32). The Commission made a series of tactical recommendations:

- Evaluate the core competencies of first-line supervisors and provide education and mentoring to increase skills, along with the time needed to perform supervisory functions
- *Develop approaches to assess and hire managers based on the ASHHRA [American Society for Healthcare Human Resources Administration] list of key middle management competencies....[italics added]*
- Provide first-line supervisors with skills development aimed more for the management of those they supervise than the skills needed for senior management
- Develop a succession plan for every supervisory position
- Design the role of front-line supervisors so that they are on-site and have the time to effectively coach, mentor, reward, assess performance, and hold individuals accountable for results

The reference to advising the use of *middle manager competencies* as general guidelines for hiring and assessment illustrates a problem in the competency development literature in that the researcher could not determine how these competencies were ascertained. “Validation of competencies identified by faculty or professional bodies is vital if the competencies are to be considered by stakeholders as meaningful and robust” (Prescott, Hurst & Rennie, 2003, p. 155). Furthermore, since nurse managers perform at several levels in the health care organization, middle manager competencies may not be an appropriate standard by which to

assess and hire staff nurses who aspire to enter management positions or for those already in the first-line nurse manager position, as previously discussed. This is supported by Russell and Scoble (2004), who differentiated the skill sets of nurse managers by their level of nurse management practice and categorized them by human, conceptual and technical skills (Table 2.1).

Table 2.1

Mastery Paths Differentiating Skill Sets by Level of Nurse Management Practice

	First-line Nurse Manager Practice	Mid Level Nurse Manager Practice	Executive Nurse Manager Practice
Practice Scope	Organized nursing/ interdisciplinary unit that provides patient care services	Organized nursing or interdisciplinary program/service providing patient care across departments or service settings	Health care system-wide management responsibility for patient care
Conceptual Skills	Define philosophy of nursing care consistent with goals of the organization Contribute to the development of a nursing practice model	Define a program philosophy consistent with organizational goals Collaborate in the development of interdisciplinary practice models	Define mission, vision, and goals (values) of the organization Explicate and describe environmental factors requiring organizational response to achieve goals & meet community need for health care services Influence health policy
Human Skills	Identify own learning needs & opportunities thus serving as a role model Hire appropriate unit staff Maintain a nursing practice environment that encourages employee development, mutual respect, & job satisfaction Coach staff to achieve professional standards & organizational objectives Engage & acknowledge	Seek organizational training & academic learning opportunities to enhance competencies Hire or collaborate in hiring appropriate interdisciplinary employees. Maintain an interdisciplinary practice environment that encourages excellence, innovation, mutual respect & energizes employees	Commit to the principles of human capital Encourage the use of self-assessment and reflection in practice through supportive policies and educational opportunities Develop & maintain personnel policies that reward excellence & innovation in nursing and interdisciplinary practice

	First-line Nurse Manager Practice	Mid Level Nurse Manager Practice	Executive Nurse Manager Practice
	employee input into patient care and unit management operations & improvement activities		
Technical Skills	<p><i>Clinical Process Management</i> Demonstrate expert clinical knowledge & skill; & knowledge of clinical resources</p> <p>Use nursing process to develop, implement and evaluate plan of care for patient</p> <p>Assure that nursing care meets professional standards and serves organizational goals</p> <p>Delegate nursing care tasks to appropriate nursing and ancillary personnel</p> <p><i>Managerial Processes</i> Nursing process management</p> <p>Use nursing information systems/ patient classification systems to establish data-based staffing patterns</p> <p>Assure compliance of nursing with regulatory, licensing, & accrediting authorities</p> <p>Work with & through nursing personnel to achieve safe and effective patient care</p> <p>Implement change to achieve improved care</p> <p><i>Financial, Capital And Material Resource Management</i> Develop & monitor budgets</p>	<p><i>Clinical Process Management</i> Coordinate patient care across an episode or spell of care</p> <p>Assures that patient care meets standards for quality and outcome attainment</p> <p>Coordinate interdisciplinary team activities</p> <p>Coordinate across organizational units</p> <p><i>Managerial Processes</i> Nursing/ Interdisciplinary practice management</p> <p>Achieve process improvement, innovation & manage change by working through interdisciplinary groups</p> <p>Achieve accreditation & licensure from appropriate agencies</p> <p><i>Financial Management</i> Integrate clinical & financial data to evaluate new products, technologies, or interventions</p> <p>Develop new business/ patient care opportunities</p>	<p><i>Clinical Process Management</i> Support the development of clinical expertise through education, policies & programs of recognition</p> <p>Assure availability of resources to accomplish patient care</p> <p><i>Managerial Processes</i> Organizational support processes</p> <p>Support the development of management expertise through education & policies/ programs of recognition</p> <p>Manage risk</p> <p>Assure corporate compliance</p> <p>Provide resources necessary to achieve & maintain accreditation and licensure</p> <p>Assure organization's compliance with environmental safety</p> <p>Assure compliance with federal & state laws and regulations</p> <p>Maintain active community relations</p> <p><i>Organizational development</i> Strategic planning Interact with stakeholders Work through professional practice groups, the organization's executive team, the board of directors, and community groups</p> <p>Refine corporate culture</p>

	First-line Nurse Manager Practice	Mid Level Nurse Manager Practice	Executive Nurse Manager Practice
	Provide data & participate in management decisions Develop, manage, interpret data		Develop organizational policy

Source: Russell, G. & Scoble, K. (2004). *Mastery Paths Differentiating Skill Sets by Level of Nurse Management Practice*. Nursing Leadership Forum, 9(2), p.47. Used by permission. Springer Publishing Company, Inc., New York 10036.

A major limitation of current studies in nurse manager competency research is that the terms *skill* and *competency* are used interchangeably (Donaher, 2004), and long lists of skills/competencies are reported with limited or no structure or context. The Nursing Leadership Institute (2003) conducted a study to identify the critical leadership competencies for today's nurse manager. The study involved interviews with one hundred and twenty nurse managers in twenty-four healthcare agencies throughout South Florida. The resulting competency model embraced six core competencies:

- Personal mastery
- Systems thinking
- Caring for self, staff and patients
- Interpersonal effectiveness
- Human resource management
- Financial management

The American Organization of Nurse Executives defined their vision as shaping the future of healthcare through innovative leadership, which requires that nurses in leadership positions are competent (AONE, 2005). This organization's position is that managers at all levels must be competent in a number of areas:

- Communication and relationship-building

- A knowledge of the healthcare environment
- Leadership
- Professionalism
- Business skills

Nurse Manager Competency Instruments

Few studies report the development of instruments to measure nurse manager competencies. Chase (1994) conducted a descriptive study of first-line nurse manager behavioral competencies considered to be important for hospital-based nurse manager effectiveness. The study was based on the conceptual framework of Katz, which focuses on what the individual can accomplish rather than personal traits and characteristics (Chase, 1994). A two-part questionnaire was developed by the researchers, with competency groups and statements derived from the research and theoretical literature that produced fifty-three competency statements. These statements were grouped into five categories: technical, human, conceptual, leadership, and financial management. The questionnaire was pilot-tested using test/retest reliability conducted two weeks apart with eight first-line nurse managers at a large Midwestern hospital. A Pearson's product-moment correlation analysis was performed on overall scores ($r=0.93$) and on each categorical section, all of which were greater than 0.80. A representative sample of 300 American Organization of Nurse Executives nurse manager council members from small, medium and large hospitals were asked to rate competencies relative to effective job performance. Two hundred eleven questionnaires were returned via mail for a response rate of 70.3%. The sample ranked human and leadership competencies to be most important for job effectiveness in the nurse manager role, specifically "effective communication" and "decision making". The lowest

ranked items consisted primarily of technical and conceptual competencies, specifically knowledge of and ability to implement the “research process” and “nursing theories”.

Care and Udod (2003) replicated Chase’s study in a western province of Canada with a sample of 400 first-line nurse managers who self-identified as being a “Head Nurse” or “Unit Manager”. Respondents were asked to respond to two questions: “What is a nurse manager’s need for knowledge and understanding about this competency?” and “What is your ability to implement and/or use this competency?” The researchers added a third component to the survey, using a qualitative critical incident technique to explore specific competencies that were important to the nurse manager role but might not have been adequately addressed in the survey. Respondents were asked to (p. 111):

- Think back over the past 3 to 6 months
- Recall an incident when you performed at your best in your role
- Briefly describe the incident
- Describe what you did that was so effective

One hundred and seventeen questionnaires were returned via mail for a response rate of 33%. The two researchers conducted content analysis of the critical incident data separately. Findings indicated that most respondents possessed the U.S. equivalence of an associate (2-year) degree. Nurse managers aged 48 and older rated *conceptual need* items higher than did younger nurses. Nurse managers with less than ten years of experience in a management role rated *human need* items higher than did those with greater experience. Participants rated *effective communication* as the highest need for knowledge and the highest ability to implement. This was supported by the critical incident findings in which *effective communication* was identified as a major theme. The lowest ranked competency linked to

need for knowledge was related to *nursing theories, political processes, and research process*.

Donaher (2004) developed an instrument to measure nurse manager competencies in managing human capital, guided in part by the Mastery Path, called the Human Capital Competencies Inventory (HCCI) for Nurse Managers. In this study, the term *competencies* was defined as “self-assessed judgments of an individual’s ability to perform a skills-based activity that can be developed through education practice” (Donaher, 2004, p. 35). The research questions were:

1. What perceived competencies of first-line nurse managers are needed for effective job performance in the hospital setting?
2. What perceived competencies of first-line nurse managers are specifically related to staff retention in the hospital setting?
3. Is there empirical support for a measure of first-line nurse manager competencies using the NMCI?

The study was conducted in three phases.

Phase 1

During the first phase, an integrative review of the literature was conducted to form an inventory of competencies and to generate human skills-based activities to describe competencies. Secondary, formal and informal channels were used to identify competencies, generate items and form the HCCI. Four domains emerged from the literature: recruiting, developing, utilizing and retaining. Consistent with the Mastery Path, activity statements that described competencies were structured to focus on what managers do, as opposed to the

specific traits or qualities of a good manager, and were measured according to how often an individual had performed a particular activity.

Phase 2

Phase 2 involved developing the instrument by organizing activity statements within domains, assigning numbers to construct a scale, and assessing content validity. Four content experts were asked to evaluate a list of items that reflected mastery of the construct of interest according to three response choices:

YES, the activity definitely describes competency

UNDECIDED, undecided

NO, Activity definitely does not describe competency

To reduce respondent burden, content experts were not asked to classify activities; activities were classified by competency, and respondents were asked to judge the extent to which the activity described the competency. Suggestions for revisions were invited. Institutional Review Board approval was obtained, and the research was considered to be of less than minimal risk to human participants. Consent was implied when participants returned the completed instrument. Materials were distributed to the expert panel and collected by mail during a four-week data collection period. Three usable instruments were returned. The researcher evaluated content validity using the content validity index (CVI), the Average Congruence Percentage (ACP), and proportion of observed agreements (P_0). Interrater agreement for the instrument was estimated to be .8166. Items meeting the CVI criterion of 1.0 were retained and items with an ACP of .90 or more were retained. Items with a P_0 value of .90 were retained. Undecided items were collapsed and double-barrel items were

reworded. Phase 2 results produced a 58-item measure of human capital management with acceptable content validity.

Phase 3

In Phase 3, a representative sample of nurse managers in first- and middle-level management positions was selected. One hundred subjects were considered sufficient for factorial stability. (A minimum of 20 subjects per latent factor is considered sufficient for a meaningful analysis when the number of expected factors is known.) Subjects were identified from the Massachusetts Organization of Nurse Executives membership directory. Using a 4-point scale, nurse managers were asked to rate how often they had performed an activity. Of the 251 questionnaires that were mailed, one hundred and twelve responses were received by mail for a 45% response rate. Of those, 99 were deemed usable. The sum total competency scores of first- and middle-level nurse managers were compared to test the null hypothesis of no difference in the competency scores. Lower scores were expected among new nurse managers. Significant differences were found ($p=.004$) between the scores of the first- and middle-level nurse managers ($t= 2.79$). Reliability was estimated using Cronbach's Alpha to obtain the degree to which observed scores reflected true scores ($\alpha=.9530$; $n=88$). Factor analysis was used to estimate eleven constructs/latent variables that included the five competency variables, educational attainment, graduate degree, years in nursing, years in management, a log transformation of current years, and management level. Three latent variables in the measurement model explained 68.87 of the sample variance: education, experience and competencies.

Summary

Nursing leadership is primarily responsible for establishing, maintaining, and altering culture and climate, and a positive climate has been directly linked to staff productivity, retention, job satisfaction and commitment. While there has been increased recognition of the critical role of the first-line nurse manager as a “chief retention officer”, interest in studying the nurse manager has diminished in recent years and attempts to develop an instrument to measure nurse manager competencies have been limited.

Competencies are the building blocks of work performance and competency models are increasingly being used as the foundation of human resource management systems. Dubois and Rothwell (2004) identified two schools of competency modeling: the *outputs-driven methodology*, which describes *the work* that people do; and the *process-driven methodology*, which focuses on the unique qualities held by individuals that lead to successful work results. The Society for Industrial and Organizational Psychology acknowledged the value of *both* approaches to competency modeling (“*blended approach*”) and suggested that the next generation of competency modeling might result in a blending of best practices to identify and describe the important work-related aspects of a job and the associated worker requirements.

Hospitals and their nursing staff would benefit from new work models based on nurse manager competencies identified through the blended approach to competency modeling. Within a framework for effective job performance and using secondary data derived from a Customized Occupational Profile (job analysis) and Behavioral Event Interviews conducted with a 7-member panel of exemplary first-line nurse managers, and triangulated with a

review of the literature, this study sought to construct the Nurse Manager Competency Inventory (NMCI) and test its psychometric properties.

Chapter 3

Methodology

This chapter contains a description of the methodology used in developing and validating the Nurse Manager Competency Inventory. In Phase 1, the competencies of the first-line nurse manager were identified. Phase 2 details the methodology used to identify activities that measured each competency and to construct the Nurse Manager Competency Inventory (NMCI). This included: development of the initial catalog of competencies, expert panel selection, data collection, and data analysis. Phase 3 details the methodology in estimating the psychometric properties of the NMCI and includes: human subjects considerations, access to study sample, data collection and data analysis.

Introduction

The purpose of this study was to construct and test the psychometric properties of the Nurse Manager Competency Inventory (NMCI), a self-assessment tool for measuring perceived competencies of first-line nurse managers employed in the hospital setting. Due to the more recent recognition of the first-line nurse manager as a “chief retention officer”, this study also sought to isolate perceived competencies of first-line nurse managers related to staff nurse retention. According to The Advisory Board Company (2001), the nurse manager role is ill-defined, and retention is most often obscured among numerous responsibilities and not afforded enough emphasis and focus. The research questions in this study were:

1. What perceived competencies of first-line nurse managers are needed for effective job performance in the hospital setting?

2. What perceived competencies of first-line nurse managers are specific to effective staff retention in the hospital setting?
3. Is there empirical support for a measure of first-line nurse manager competencies using the NMCI?

As with Boyatzis's study (1982), this study sought to determine the competencies that were common among managers working for various hospitals that might differ in their overall organizational effectiveness and performance. The study results were not expected to ensure that a first-line nurse manager with such competencies would be effective in a particular job in a specific organization, but sought to provide clarification about the competencies we would expect to find in effective first-line nurse managers, regardless of the organization or specific work unit. In keeping with recommendations of Dubois and Rothwell (2004), however, the study sought to develop an instrument based upon the highest standards in all three phases of the study.

The three project phases were as shown in Figure 3.1:

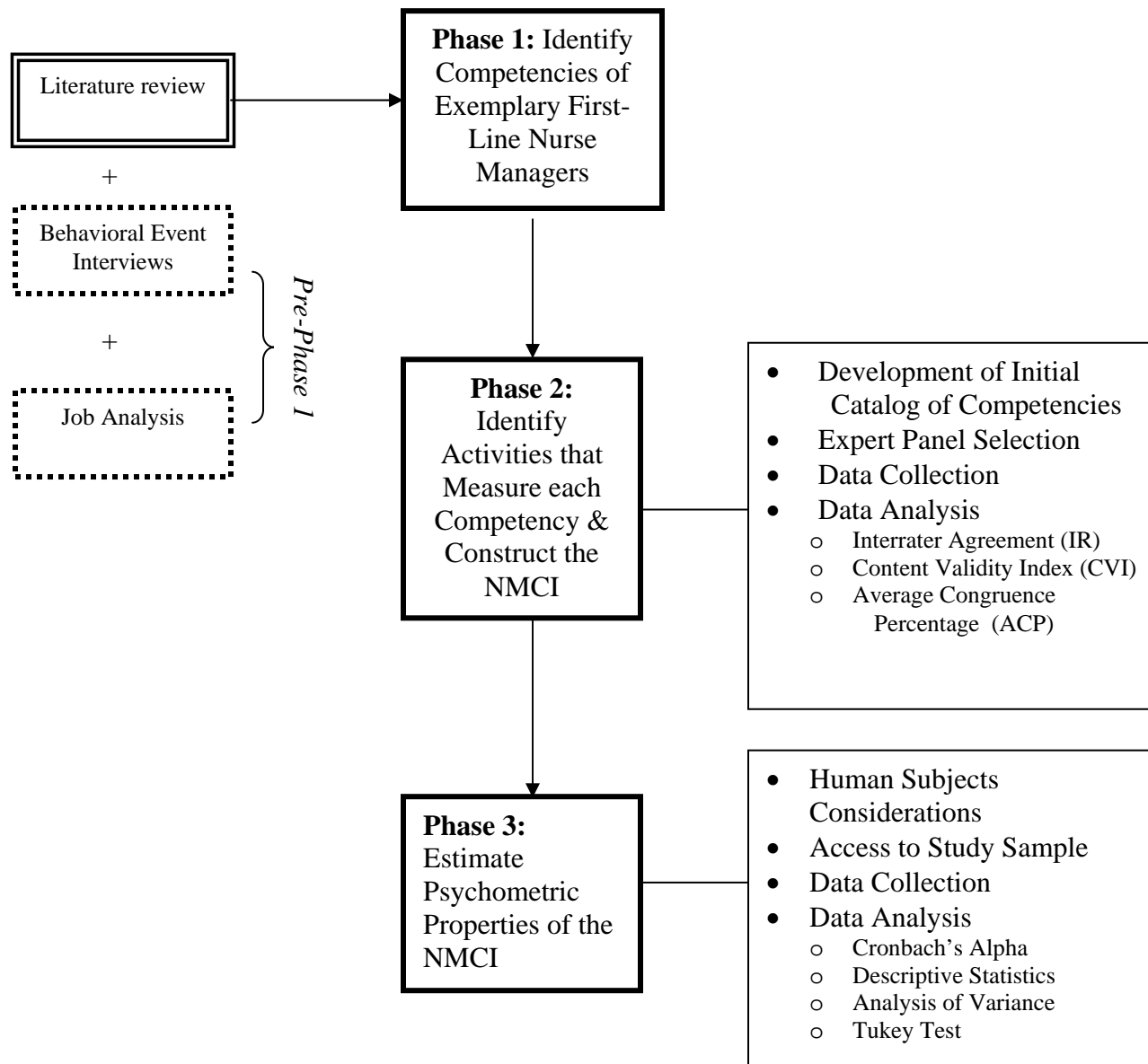


Figure 3.1. DeOnna's Methodology for Developing the NMCI

Phase 1: Identify Competencies of Exemplary First-Line Nurse Managers

In Phase 1, a set of indicators for effective job performance was derived from three sources of data: Behavioral Event Interviews, a job analysis of the first-line nurse manager,

and a literature review. Content validity is a crucial factor in the development of new instruments because it represents a first step in linking abstract concepts with observable and measurable indicators (Grant & Davis, 1997; Wynd, Schmidt & Schaefer, 2003). It answers the question, “How well does the content of the test sample the kinds of things about which conclusions are to be drawn?” (Isaac & Michael, 1997, p. 125). In this study, criterion-referenced measures were developed in order to design an instrument that would determine whether or not an individual had acquired a predetermined set of target behaviors (Waltz, Strickland & Lenz, 2005) or possessed underlying personal characteristics identified for effective job performance (Boyatzis, 1982). “[Thus,] content validity of a criterion-referenced measure is the first type of validity that should be established and is a prerequisite for all other types of validity” (Waltz, Strickland & Lenz, 2005, p. 176).

Content validity can be obtained from three sources (review of the literature, representatives of the relevant population and subject matter experts) and can be established in two stages: development and judgment stage (Burns & Grove, 1993). The first step in developing an instrument (development stage) is to identify the domain of construct that should be measured; qualitative methods can be useful in determining both domains and concepts (Burns & Grove, 1993). In Phase 1 of this study, secondary data derived from Behavioral Event Interviews (BEIs) and a job analysis of exemplary first-line nurse managers employed in the hospital setting were combined with results of the literature review to develop the initial catalog of one hundred fifty-one activities (Appendix B). The rationale for including the additional two sources of data in this study was to ground the competencies in the real world and to expand the interpretation of “competence” beyond the skills-based approach used by Donaher (2004), who defined competencies as “self-assessed judgments of

an individual's ability to perform a skills-based activity that can be developed through education practice" (Donaher, 2004, p. 35). Marrelli, Tondora and Hoge (2005) recommend that at least two different methods of data collection be used because every method has relative strengths and weaknesses. As discussed in chapter 2, there are two schools of thought concerning the interpretation of competency. "One school of thought maintains that competency implies knowledge or skills. The second interprets competency as any characteristic that supports performance...and can include knowledge or skill as well as any number of other characteristics such as levels of motivation and personality traits" (Dubois & Rothwell, 2004, p. 19). This study sought to strengthen the methodology in developing the initial list of activities from which the instrument would be derived. Therefore, triangulation of data collection included specific data on the exemplary first-line nurse manager, the job itself, and previous research on nurse manager competencies.

At the conclusion of Phase 1, an initial catalog of one hundred fifty-one activities was generated and organized under 12 competency domains that served as the expert panel's content review guide (Appendix B).

Phase 2: Identify Activities That Measure Each Competency & Construct NMCI

Development of Initial Catalog of Competencies

In examining content validity during the judgment stage (Phase 2), professional subjective judgment was required to determine the extent to which the scale was designed to measure the trait of interest (Nunnally, 1978). This study expanded upon the methodology used by Donaher (2004) to develop the Human Capital Competency Inventory (HCCI), adjusting the protocol to compensate for the expanded interpretation of the term

“competency”. Like Donaher’s study, this research considered competencies to be latent variables, or the “underlying constructs that are the cause of item scores” (Donaher, 2004, p. 34). Citing Devillis (1991), Donaher stated that the strength or quantity of a latent variable is presumed to cause an item (set of items) to take on certain values. Donaher (2004) defined activity statements as “context specific judgments of an individual’s ability to perform a particular skills-based activity” (p. 35), but for reasons previously discussed, the definition required modification in order to capture the expanded definition of the term “competency” to include “*any characteristic that supports performance*” (Dubois & Rothwell, 2004, p. 19). Therefore, for the purpose of this study, an activity statement was defined as *an individual’s ability to perform a particular skills-based activity or demonstrate characteristics that support effective performance.*

Expert Panel Selection

An expert panel was convened to identify activities that measure each competency and to construct the NMCI. “The soundness of the validation process is greatly influenced by how content experts are chosen and utilized for instrument development” (Grant & Davis, 1997, p. 271). Authorities differ on the number of content experts necessary to comprise an expert panel; panel selection is predicated on the desired expertise and range of representation of the panel (Grant & Davis, 1997). Burns and Grove (1993) recommend the inclusion of at least five experts in the field. Within the expanded framework of this study, special consideration was given to the dynamic relationship of how work roles, job requirements and organizational context are intertwined (Boyatzis, 1982; Shippman, Ash, Battista et al., 2000). Therefore, in this study, another consideration in identifying an expert panel was the environmental context in which potential panel members were employed, as

the demonstration of a competency is tied to the organizational values (Dubois & Rothwell, 2004). As reviewed in chapter 2, Magnet hospitals have demonstrated the ability to reduce staff turnover, enhance nurse recruitment and retention, and improve both job satisfaction and patient care quality. Dubois and Rothwell (2004) suggested that employers train toward building individual competence relative to a competency model of exemplary performance. Therefore, the expert panel size was expanded to include representatives from four Magnet hospitals in Pennsylvania and an outside subject matter expert from the Pennsylvania State Nurses Association.

The approval process for expert panel review was waived by the Institutional Review Board of The Pennsylvania State University. Six content experts were personally invited to serve on the expert panel: four were recruited from Magnet-designated hospitals in Pennsylvania; a fifth expert panel member was recruited from a major health system in western Pennsylvania; and the sixth panel member served in an executive administrative role of the Pennsylvania State Nurses Association. Selection of panel members was in accordance with the criteria suggested by Marrelli, Tondora and Hoge (2005): “The ideal subject matter expert is a superior performer who previously functioned in the job, but has been promoted to a higher level” (p. 544). All selected panel members met this standard.

Data Collection Methods

Grant and Davis (1997) suggested that an attempt to elicit content information from an expert must be conducted in a systematic manner while minimizing bias, recommending that “...an explanatory cover letter, reviewer instructions, definitions of terms, and a content review questionnaire should be the standardizing methods for soliciting information on the

content validity of the items and total instrument” (p. 271). In order to reduce the burden of participation, panel members were asked to state their preference regarding whether they wanted to review the materials in printed copy (via postal service) or in digital copy (via email service). One panel member preferred postal delivery and the remaining five panel members preferred email delivery of the materials. Experts were asked to read the Expert Panel Review Guide that contained the cover letter, reviewer instructions and definition of terms (Appendix A) and the content review instrument (Appendix B). All research materials were distributed on or about January 29, 2006, and collected by mail during a two-week data collection period. It was estimated that completion of the data collection instrument required about one hour.

To reduce respondent burden, activities were pre-classified by competency domains and content experts were asked to independently rate each item according to its level of relevance to and representativeness of each domain, and to rate each item according to the extent to which it described the competency. Panel members were asked to judge whether they believed the items on the tool adequately represented the content or behaviors in the domain of interest (Waltz, Strickland & Lenz, 2005) based on a 4-point scale (4= activity *very representative* of the competency; 3= activity *quite representative* of the competency; 2= activity *somewhat representative* of the competency; and 1= activity *not representative* of the competency) (Grant & Davis, 1997, p. 273). In addition, panel members were asked to rate the instrument using a 4-point ordinal relevance rating scale (4= activity *very relevant* to competency; 3= activity *quite relevant* to competency; 2= activity *somewhat relevant* to competency; and 1= activity *not relevant* to competency (Ward, Schmidt & Schaefer, 2003, p. 510). As in Donaher’s study (2004), expert panel members were also asked to also rate the

Human Capital Competencies Inventory (HCCI) using a Likert-type scale with *three* possibilities as follows (p. 80):

YES-Activity definitely describes competency

UNDECIDED-Undecided

NO-Activity definitely does not describe competency

Data Analysis

The purpose of investigating content validity was to identify the extent to which the content of the measure represented the content domain. All panel members returned usable data collection instruments by email and postal mail for a response rate of 100%. Interrater Reliability (IR) agreement for the 151-item instrument was calculated prior to assessing content validity using the content validity index (CVI) and average congruency percentage (ACP).

Interrater Reliability (IR)

Interrater agreement is described by Grant and Davis (1997) as the number of agreements among content experts divided by the total number of items on the instrument (p. 272). Acceptable levels of interrater agreement range from .70 to .80 (p. 37). If interrater agreement is unacceptable, the investigator should work with the expert panel through an iterative process until interrater agreement is acceptable (Grant & Davis, 1997).

Interrater agreement for the entire 151-item instrument was calculated as the number of agreements among content experts divided by the total number of items on the instrument (Grant & Davis, 1997). After the first iteration, the interrater agreement was .550 for *Representativeness* (IR = 83/151), .576 for *Relevance* (IR = 87/151) and .543 for *Describes Competency* (IR = 82/151). The scales *Representativeness* and *Describes Competency* were

removed from the second iteration to reduce confusion; suggestions were incorporated, during which time one competency domain (*Perform Community Outreach Activities*) was removed to reduce the number of competency domains to 11. Double-barrel items were reworded, and the items were then redistributed to the panel. After the second iteration, interrater agreement for the instrument was calculated as $IR = .973$.

Content Validity Index (CVI)

Once interrater agreement for the instrument was established as acceptable ($IR=.973$), the content validity index was calculated. A Likert-type ordinal scale with four, rather than three, possibilities was recommended by several researchers when assessing content validity using the CVI (Grant & Davis, 1997; Walz, Strickland & Lenz, 2005) and cited by Huck (2000). The CVI was calculated across expert scores using a 4-point ordinal relevance rating scale (4= activity *very relevant* to competency; 3= activity *quite relevant* to competency; 2= activity *somewhat relevant* to competency; and 1= activity *not relevant* to competency; (Ward, Schmidt & Schaefer, 2003, p. 510). CVI uses proportion agreement to establish content validity, determined by the proportion of experts who score items as relevant with either a 3 or 4, and items not relevant as a 1 or 2 (Grant & Davis, 1997; Wynd, Schmidt & Schaefer, 2003). The four ordinal response rankings were collapsed into two dichotomous categories of responses to become a two-category nominal scale (Wynd, Schmidt & Schaefer, 2003, p. 510). Interrater agreement is perfect if the CVI value is 1.0 on an item (Grant & Davis, 1997). A new content valid instrument should have a minimum content validity index of .80 (Davis, 1992).

Collapsing the four rating levels into dichotomous categories increases the possibility that the judges will agree by chance alone 50% of the time (Wynd, Schmidt & Schaefer, 2003). Therefore, some researchers suggest additional tests of content validity to decrease the likelihood that findings have occurred by chance (Wynd, Schmidt & Schaefer, 2003). Content validity was also estimated by calculating an average congruence percentage (ACP). The ACP was determined by calculating the proportion of items rated as being congruent by each rater, converting the proportion to a percentage, and calculating the mean percentage for all raters (Waltz, Strickland & Lenz, 2005). “An average congruency percentage of 90 percent or higher can be safely considered acceptable” (Waltz, Strickland & Lenz, 2005, p. 178). Estimates and evaluations are reported as separate tests for each competency domain (Waltz, Strickland & Lenz, 1991).

Promote Staff Retention. CVI was estimated at 1.00 (IR=15/15) for 11 items. An ACP of .986 (ACP = 11.83/12) was estimated for the 12-item measure of the competency.

Recruit Staff. CVI was estimated at 1.00 (IR=9/9) for 9 items. An ACP of .983 (ACP=9.83/10) was estimated for the 10-item measure of the competency.

Facilitate Staff Development. CVI and ACP were estimated at 1.00 for the 11-item measure of the competency.

Perform Supervisory Responsibilities, CVI was estimated at 1.00 (IR=12/12) for 12 items. An ACP of .976 (ACP = 13.66/14) was estimated for the 14-item competency.

Ensure Patient Safety & Quality Care. CVI was estimated at 1.00 (IR = 4/4) for 4 items. An ACP of .967 (ACP = 4.83/5) was estimated for the 5-item competency.

Conduct Daily Operations. CVI was estimated at 1.00 (IR = 5/5) for 5 items. An ACP of .936 (ACP = 7.49/8) was estimated for the 8-item competency.

Manager Fiscal Planning. CVI and ACP were estimated at 1.00 for the 6-item competency.

Facilitate Interpersonal, Group & Organizational Communication. CVI and ACP were estimated at 1.00 for the 7-item competency.

Lead Quality Improvement Initiatives. CVI and ACP were estimated at 1.00 for the 7-item competency.

Promote Professional Practice Model. CVI and ACP were estimated at 1.00 for the 5-item competency.

Develop Self. CVI was estimated at 1.00 (IR=5/5) for 5 items. An ACP of .936 (7.49/8) was estimated for the 8-item competency.

The final draft of the instrument contained 93 items organized under 11 competency domains. Table 3.1 provides a summary of competency domains and the corresponding items as found on the NMCI. A detailed breakout of the competency domains and corresponding items as found on the NMCI is located in Appendix C.

Table 3.1.

Summary of Competency Domains and Corresponding Items as Represented on the NMCI

Competency Domain	# of Items	Item Number on NMCI
Promote Staff Retention	12	12, 19, 39, 41, 51, 55, 58, 76, 78, 82, 83, 92
Recruit Staff	10	11, 22, 23, 33, 34, 48, 67, 72, 84, 89
Facilitate Staff Development	11	4, 17, 21, 27, 31, 37, 45, 57, 59, 85, 90
Perform Supervisory Responsibilities	14	14, 20, 24, 25, 30, 42, 53, 56, 60, 61, 63, 75, 87, 83
Ensure Patient Safety & Quality Care	5	6, 32, 43, 70, 71
Conduct Daily Unit Operations	8	2, 16, 26, 28, 47, 50, 69, 74
Manage Fiscal Planning	6	1, 10, 44, 62, 73, 91
Facilitate Interpersonal, Group and Organizational Communication	7	5, 7, 9, 64, 65, 79, 88
Lead Quality Improvement	7	18, 29, 35, 40, 44, 49, 86

The NMCI was developed as a 93-item, criterion-referenced instrument for measuring the perceived competencies of first-line nurse managers required for effective performance in the hospital setting. In this study, an activity statement was defined as “an individual’s ability to perform a particular skills-based activity or demonstrate characteristics that support effective performance”. Consequently, the final step required adaptations to the narrative response categories used by Donaher (*Not Done, Done, Done Often, and Done A Lot*) in order to reflect the expanded framework of the study for a more appropriate fit. For example, the characteristic “motivated” is not performance- or skill-based, but is an innate observable characteristic. Therefore, the narrative response categories were changed to

accommodate this expanded framework to read “*None of the time*”; “*Occasionally*”; “*Fairly many times*”; “*Very often*”; and “*Always*” (Isaac & Michael, 1997, p. 151). “A person’s set of competencies reflects his or her capability... possession of the characteristic precedes and leads to effective and/or superior performance in that job” (Boyatzis, 1982, p. 23). Response categories were assigned numbers to construct the 5-point Likert scale accordingly. “A *scale*, essentially, is a measuring device allowing the assignment of symbols or numbers to individuals, or their behaviors, by rule. Such an assignment indicates the individual’s possession of a corresponding amount of whatever the scale is claimed to measure” (Isaac & Michael, 1997, p. 148). The paper-based version of the NMCI is presented in Appendix D.

Phase 3: Estimate Psychometric Properties of the NMCI

Human Subjects Considerations

This research involved less than minimal risk to human participants and received exemption status from the Pennsylvania State University’s Office of Research Protections (Appendix E). Participants were asked to read an Informed Consent (Appendix F) that explained the purpose of the study, and the Informed Consent document was positioned so that it would be the first item participants saw upon locating the web page. After reading the information, participants could click “I Agree” to be taken to the first page of the survey.

Access to Study Sample

The sample was composed of nurse managers who were employed in Pennsylvania hospitals during April and May 2006. The Pennsylvania Organization of Nurse Leaders (PONL) and the Hospital and Healthsystem Association of Pennsylvania (HAP) membership lists were used to access the population under investigation. The PONL is a professional

membership organization that promotes advocacy in shaping health care policy and provides linkages between nursing leaders to promote the highest quality delivery of care. The HAP is a statewide membership services organization that serves approximately 250 acute and specialty care, primary care, sub-acute care, long-term care, home health, and hospice providers, as well as their patients and their respective communities in Pennsylvania. Since the instrument was web-based and the organizations' email directories were proprietary, the organizations agreed to distribute the pre-notice letter (Appendix G), the invitation letter (Appendix H) that contained the link to the web-based instrument, and the reminder letter (Appendix I) for the researcher, and expressed support for the study. The sample size could not be determined because the HAP membership was limited to nurse executives who were being asked to forward the information to the nurse managers within their respective organizations. According to Froman (2001), a minimum of 20 subjects per latent factor is sufficient for meaningful analysis. Therefore, the number of useable responses needed to analyze the 11 competency domains was estimated to be a minimum of 220.

Data Collection

Research materials were distributed via email by the Hospital and Healthsystem of Pennsylvania and the Pennsylvania Organization of Nurse Leaders to their members. The pre-notice letter was distributed on April 24, 2006; the invitation letter was distributed on April 26, 2006; and the reminder letter was distributed on May 8, 2006. Data were collected over a 2-week period. It was estimated that completion of the data collection instrument took approximately 15 minutes. Respondents were asked to enter their email address if they wished to be entered into a drawing and/or to receive a copy of the research findings upon

project completion. Respondents were asked to read each activity and check the column that best represented how often they had performed each activity in their management practice. In doing so, they used a 5-point Likert scale of “None of the time”, “Occasionally”, “Fairly many times”; “Very often”; and Always” (Isaac & Michael, 1997, p. 151).

Data Analysis

A total of 527 responses were received between April 26, 2006 and May 12, 2006. All analysis used SPSS software. Descriptive statistics were used to analyze the professional characteristics of respondents that included the respondent’s role (first-line, mid-level or executive-level nurse manager); number of employees supervised; manager experience; hospital type and hospital size. Descriptive statistics were also used to analyze the personal characteristics of respondents that included age, gender and education. Non-responses were automatically eliminated on a case-by-case basis.

Cronbach’s Alpha

Internal consistency reliability for the first generation instrument was calculated using Cronbach’s alpha coefficient. Table 3.2 shows the overall reliability coefficients and coefficients across the eleven competency domains. All competency domains fell within acceptable limits; the lower limit generally accepted is .70 although it may decrease to .60 in exploratory research (Hair, Anderson, Tatham & Black, 1998, p. 118).

Table 3.2.

Reliability Coefficients across the NMCI and the 11 Competency Domains

Competency Domain	Cronbach's Alpha
Total of 11 Competency Domains (93 items)	.96
Promote Staff Retention (12 items)	.89
Recruit Staff (10 items)	.85
Facilitate Staff Development (11 items)	.81
Perform Supervisory Responsibilities (14 items)	.83
Ensure Patient Safety & Quality Care (5 items)	.66
Conduct Daily Unit Operations (8 items)	.76
Manage Fiscal Planning (6 items)	.76
Facilitate Interpersonal, Group & Organizational Communication (7 items)	.68
Lead Quality Improvement Initiatives (7 items)	.80
Promote Professional Practice Model (5 items)	.74
Develop Self (8 items)	.72

Factor Analysis

The analysis was conducted using analysis of variance (ANOVA) in order to test the null hypothesis of no difference in the summated competency domain scores estimated using the NMCI and the level of management. Confirmatory analysis, a multivariate technique used to confirm relationships that were specified prior to the analysis (Hair, Anderson, Tatham & Black, 1998) was used, predicated on the assumption that industry experts are qualified to organize the competency items under competency domains and that keeping the information organized according to the expert opinion of industry professionals contributes

to the results being more meaningful to the larger population of nurse managers. “The final product must have immediate, practical application and the commitment and buy-in of those who will be expected to implement or change their behavior based on it” (Lucia & Lepsinger, 1999, p.19). The researcher believed that the credibility of the results was greatly enhanced by the use of an exemplary panel of experts.

CHAPTER 4

FINDINGS

The purpose of this study was to develop and test the psychometric properties of the Nurse Manager Competency Inventory (NMCI), an instrument developed for the purpose of identifying the competencies of first-line nurse managers employed in the hospital setting. Given that there has been increased interest in the relationship between the first-line nurse manager and staff nurse retention, there was interest in a more detailed analysis of this particular competency domain.

Three research questions formed the framework of this study:

1. What are the perceived competencies of first-line nurse managers needed for effective job performance in the hospital setting?
2. What are the perceived competencies of first-line nurse managers specifically related to staff retention in the hospital setting?
3. Is there empirical support for a measure of first-line nurse manager competencies using the NMCI?

This chapter presents the results of the research and includes information related to the personal and professional characteristics of respondents, their responses to the eleven competency domains of the NMCI, an in-depth review of their responses to the competency domain *Promote Staff Retention*, and analysis of the psychometric properties of the NMCI. Descriptive statistics and analysis of variance (ANOVA) were used to assess group differences across first-line, mid-and executive-level roles as well as across categories of number of employees supervised. Tukey post hoc tests were used to test for significant differences among the summated competency domain means of respondent role and number

of employees supervised. A .05 alpha level was established a priori for statistical significance. Tukey's test was performed to compare pairs of group means for the different competency domains.

Estimate of the Psychometric Properties of the NMCI

Content Validity and Reliability

As presented in Chapter 3, the instrument was tested for reliability using the Cronbach's correlation coefficient alpha to determine the internal consistency, as recommended by Babbie (2004). Reliability ($\alpha = .96$; $n = 527$) for the 11 Competency Domains of the 93-item NMCI and alpha coefficients were presented in Table 3.2 (p.63). Coefficient alpha values between $\pm .70$ to $\pm .90$ are considered to have high reliability (Hinkle, Wiersma, & Jurs, 1988). *Ensure Patient Safety & Quality Care* ($\alpha = .66$) and *Facilitate Interpersonal, Group & Organizational Communication* ($\alpha = .68$) were slightly below the generally accepted limits. However, the lower acceptable limit may decrease to .60 in exploratory research (Hair, Anderson, Tatham & Black, 1988).

Profile of Participants

Univariate descriptive statistics were reported for the personal characteristics of respondents categorized by age, gender, and education level. Close to one half of the respondents (47%) were between the ages of 45-54 years, primarily female (94%), and about one third (34%) held a bachelor degree in nursing. Table 4.1 presents this information in greater detail.

Table 4.1.

Summary of Respondents' Personal Characteristics

Characteristic	<i>f</i>	Valid Percent
Age		
25-34	25	4.8
35-44	131	25.2
45-54	246	47.3
55-64	115	22.1
65 & over	3	.6
Total	520	100.0
Gender		
Male	30	5.7
Female	489	94.2
Total	519	100.0
Highest Level of Education		
Diploma, Nursing	97	18.7
Assoc. Degree, Nursing	39	7.5
Bachelor Degree, Nursing	179	34.4
Bachelor Degree, Other	53	10.2
Masters Degree, Nursing	83	16.0
Masters Degree, Other	65	12.5
Doctorate	4	.8
Total	520	100.0

Univariate descriptive statistics were also reported for the professional characteristics of respondents categorized by hospital type, hospital size, years of management experience, number of employees supervised, and current role. The majority of respondents (86%) were employed in urban teaching hospitals (45.4%) and rural hospitals (40.6%). Respondents were about equally divided with regard to hospital size, with over two-thirds of respondents (64.2%) employed in hospitals with capacity of 300 beds or less. About one-third of respondents (32.8%) had five or fewer years of experience as a manager. Close to one-half of the respondents (49.2%) were responsible for supervising between 11- 50 employees and

over half (59.9%) of respondents were first-line managers. Table 4.2 presents this information in greater detail.

Table 4.2.

Summary of Respondents' Professional Characteristics

Characteristic	<i>f</i>	Valid Percent
Current Hospital Type		
Rural	209	40.6
Urban, non-teaching	72	14.0
Urban, teaching	234	45.4
Total	515	100.0
Hospital Size (beds)		
1-100	102	19.7
101-200	126	24.3
201-300	105	20.2
301-400	55	10.6
401+	128	24.7
Total	519	100.0
Years Experience as a Manager		
1 yr or less	31	6.0
2-5 yrs	139	26.8
6-10 yrs	130	25.0
11-15 yrs	56	10.8
16-20 yrs	70	13.5
21-25 yrs	51	9.8
26 yrs or more	42	8.1
Total	519	100.0
Number of Employees Supervised		
10 or less	37	7.1
11-30	123	23.7
31-50	132	25.5
51-70	86	16.6
71-90	60	11.6
91 & over	80	15.4
Total	518	100.0
Current Role		
First-Line Manager	309	59.9
Mid-Level Manager	159	30.8
Executive-Level Manager	48	9.3
Total	516	100.0

Q1: What are the perceived competencies of first-line nurse managers needed for effective job performance in the hospital setting?

Nurse managers were asked to respond to each item on the NMCI according to the frequency with which they performed the activity or demonstrated the behavior according to the following 5-point Likert response scale (Isaac & Michael, 1997, p.151):

- 1 = *None of the time*
- 2 = *Occasionally*
- 3 = *Fairly many times*
- 4 = *Very Often*
- 5 = *Always*

Responses to all 93 items of the NMCI were calculated to determine the frequency, standard deviations and 95% CI for the mean for each of the 11 competency domains. Kerlinger and Lee (2000, p.712) indicate a summated Likert type rating scale may be considered as approximately equal intervals. This, the use of means and standard deviations and 95% CI is appropriate. The results presented in Table 4.3 indicate that, with regard to the frequency of first-line nurse manager competencies, the highest competency domain mean frequency value of performance reported was for *Perform Supervisory Responsibilities* ($M=4.29$; $SD=0.47$) followed by *Promote Staff Retention* ($M= 4.21$; $SD= 0.48$). The lowest frequency of performance value reported was the competency domain *Recruit Staff* ($M=3.51$; $SD=0.82$) followed by *Develop Self* ($M=3.54$; $SD= 0.63$)

Table 4.3.

*Summary of Perceived Job Competencies for First-Line Nurse Managers in the Hospital**Setting by Competency Domain*

Job Competency Domain	n	M	SD	95% CI	
				Lower	Upper
Promote Staff Retention	475	4.21	0.48	4.15	4.26
Recruit Staff	477	3.51	0.82	3.41	3.60
Facilitate Staff Development	483	4.17	0.52	4.10	4.23
Perform Supervisory Responsibilities	478	4.29	0.47	4.23	4.34
Ensure Patient Safety & Quality Care	497	3.75	0.68	3.66	3.82
Conduct Daily Unit Operations	474	4.19	0.56	4.12	4.26
Manage Fiscal Planning	499	3.87	0.82	3.77	3.96
Facilitate Interpersonal, Group and Organizational Communication	505	4.14	0.51	4.08	4.19
Lead Quality Improvement Initiatives	492	4.17	0.58	4.10	4.23
Promote Professional Practice Model	501	3.80	0.81	3.71	3.89
Develop Self	492	3.54	0.63	3.46	3.61

Staff Retention Domain Competencies (Research Question Two)

Q2: What are the perceived competencies of first-line nurse managers specifically related to staff retention in the hospital setting?

There were 12 items that comprised the competency domain *Promote Staff Retention*. Responses to the 12 items were calculated to determine the frequency, standard deviation and 95% CI for the mean. Table 4.4 identifies the rank order of the items reported by first-line, mid-, and executive-level nurse managers, with 1= highest mean and 12 = lowest mean. The highest mean responses were reported for the same two items across all levels of nurse manager: *Maintain “open door” policy* and *Serve as advocate for staff*. The lowest mean responses were reported for the same two items across all levels of nurse managers: *Create programs to reduce mandatory overtime* and *Develop staff satisfaction action plans*. Table 4.5 provides a detailed summary of the descriptive statistics for all 12 items related to the competency domain of *Promote Staff Retention* that includes frequency, standard deviations and 95% CI for the mean by first-line, mid-, and executive-level manager role.

Table 4.4.

*Rank Order of Items Measuring Competency Domain Promote Staff Retention by**Respondent Role*

Item	First-Line Nurse Manager	Mid-Level Nurse Manager	Executive- Level Nurse Manager
Create programs to reduce mandatory overtime	12	12	12
Develop staff satisfaction action plans	11	11	11
Identify staff dis-satisfiers	9	10	8
Identify staff member strengths and capitalize on those strengths	5	6	9
Maintain an “open door” policy	1	1	1
Measure staff satisfaction	10	9	10
Model egalitarian management style	**7	7	7
Recognize and reward staff	6	5	6
Serve as advocate for staff	*2	3	2
Support staff attendance at educational opportunities	4	4	3
Support flexible staff schedule	**8	8	5
Value importance of work-family balance	*3	2	4

Note. Scale: 1= Highest Mean; 12= Lowest Mean

* Items values are approximately equal

** Items values are approximately equal

Table 4.5.

Summary Descriptive Statistics for Items in the Competency Domain Promote Staff

Retention

		n	M	SD	95% CI	
					Lower Bound	Upper Bound
Create programs to reduce mandatory overtime.	First Line Manager	300	2.88	1.52	2.71	3.06
	Mid Level Manager	156	2.90	1.47	2.67	3.13
	Exec. Level Manager	46	3.46	1.43	3.03	3.88
	Total	502	2.94	1.50	2.81	3.07
Develop staff satisfaction action plans.	First Line Manager	307	3.70	1.05	3.58	3.81
	Mid Level Manager	159	3.69	0.98	3.54	3.85
	Exec. Level Manager	46	3.70	0.79	3.46	3.93
	Total	512	3.70	1.00	3.61	3.78
Identify staff dis-satisfiers.	First Line Manager	303	4.08	0.77	3.99	4.17
	Mid Level Manager	159	4.03	0.73	3.91	4.14
	Exec. Level Manager	47	4.06	0.70	3.86	4.27
	Total	509	4.06	0.75	4.00	4.13
Identify strengths of staff members & capitalize on those strengths.	First Line Manager	306	4.36	0.72	4.28	4.44
	Mid Level Manager	159	4.24	0.71	4.13	4.35
	Exec. Level Manager	47	4.04	0.72	3.83	4.25
	Total	512	4.29	0.72	4.23	4.35
Maintain "open door" policy.	First Line Manager	303	4.87	0.47	4.81	4.92
	Mid Level Manager	158	4.90	0.34	4.85	4.95
	Exec. Level Manager	47	4.83	0.48	4.69	4.97
	Total	508	4.87	0.44	4.84	4.91
Measure staff satisfaction.	First Line Manager	306	4.07	0.94	3.96	4.17
	Mid Level Manager	159	4.05	0.93	3.90	4.20
	Exec. Level Manager	47	3.89	0.89	3.63	4.16
	Total	512	4.04	0.93	3.96	4.13
Model egalitarian mgmt style.	First Line Manager	302	4.26	0.80	4.17	4.36
	Mid Level Manager	158	4.23	0.79	4.10	4.35
	Exec. Level Manager	47	4.13	0.74	3.91	4.35
	Total	507	4.24	0.79	4.17	4.31
Recognize and reward staff.	First Line Manager	305	4.34	0.73	4.26	4.42
	Mid Level Manager	159	4.26	0.93	3.90	4.20
	Exec. Level Manager	47	4.36	0.89	3.63	4.16
	Total	512	4.32	0.93	3.96	4.13
Serve as advocate for staff.	First Line Manager	304	4.62	0.56	4.56	4.69
	Mid Level Manager	159	4.46	0.56	4.37	4.55
	Exec. Level Manager	47	4.72	0.61	4.54	4.90
	Total	510	4.58	0.57	4.53	4.63
Support staff attendance at educational opportunities.	First Line Manager	303	4.50	0.64	4.43	4.57
	Mid Level Manager	158	4.43	0.67	4.32	4.54
	Exec. Level Manager	47	4.57	0.74	4.36	4.79
	Total	508	4.49	0.66	4.43	4.54
Support flexible staff schedule.	First Line Manager	306	4.26	1.06	4.14	4.38
	Mid Level Manager	156	4.17	1.06	4.00	4.33
	Exec. Level Manager	46	4.43	0.78	4.20	4.67
	Total	508	4.25	1.04	4.16	4.34
Value work family balance.	First Line Manager	306	4.62	0.61	4.55	4.69
	Mid Level Manager	158	4.55	0.60	4.46	4.65
	Exec. Level Manager	47	4.55	0.58	4.38	4.72
	Total	511	4.59	0.61	4.54	4.64

Competency Domain Differences by Role or Employees Supervised

(Research Question Three)

Q3: Is there empirical support for a measure of first-line nurse manager competencies using the NMCI?

Analysis of variance was used to analyze the 11 competency domains by role that included first-line, mid-level, and executive-level nurse manager and by number of employees supervised.

Role Differences

The NMCI indicated significant differences ($p < .01$) in the responses of first-line nurse managers and the other nurse manager roles (mid-level and/or executive-level nurse manager) in five of the eleven competency domains:

1. *Perform Supervisory Responsibilities* ($F=8.217, p=.001$).
2. *Ensure Patient Safety and Quality Care* ($F=4.896, p=.008$).
3. *Conduct Daily Unit Operations* ($F=6.339, p=.002$).
4. *Promote Professional Practice Model* ($F=4.919, p=.008$).
5. *Develop Self* ($F=6.086, p=.002$).

While ANOVA showed that the means were significantly different in each of the five domains, the effect size was small to modest. The partial Eta squared value ranged from .020-.034, indicating that the respondent's role by itself accounted for only 2-3.4% of the overall variance. Table 4.6 displays the summary statistics and analysis of variance results for all 11 competency domains by respondent role.

Table 4.6.

*Summary Descriptive Statistics and Analysis of Variance for Competency Domains by
Respondent Role*

Competency Domain		n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
Promote Staff Retention	<i>First-Line</i>	276	4.21	0.48	1.140	.321	2.67	5.00
	<i>Mid-Level</i>	151	4.16	0.47		Eta squared=	2.92	5.00
	<i>Executive</i>	44	4.27	0.44		.005	3.00	5.00
	Total	471	4.20	0.47			2.67	5.00
Recruit Staff	<i>First-Line</i>	285	3.51	0.82	1.807	.16	1.10	5.00
	<i>Mid-Level</i>	148	3.48	0.76		Eta squared=	1.70	5.00
	<i>Executive</i>	40	3.75	0.73		.008	1.60	5.00
	Total	473	3.52	0.79			1.10	5.00
Facilitate Staff Development	<i>First-Line</i>	284	4.17	0.52	.364	.695	2.00	5.00
	<i>Mid-Level</i>	149	4.17	0.50		Eta squared=	2.82	5.00
	<i>Executive</i>	46	4.24	0.37		.002	3.27	5.00
	Total	479	4.18	0.50			2.00	5.00
Perform Supervisory Responsibilities	<i>First-Line</i>	281	4.29	0.47	8.217	.001**	2.21	5.00
	<i>Mid-Level</i>	150	4.18	0.46		Eta squared=	3.07	5.00
	<i>Executive</i>	42	3.99	0.54		.034	2.86	5.00
	Total	473	4.23	0.48			2.21	5.00
Ensure Patient Safety & Quality Care	<i>First-Line</i>	294	3.74	0.68	4.896	.008*	1.60	5.00
	<i>Mid-Level</i>	151	3.53	0.73		Eta squared=	1.40	5.00
	<i>Executive</i>	47	3.48	0.62		.020	2.20	5.00
	Total	492	3.67	0.70			1.40	5.00
Conduct Daily Unit Operations	<i>First-Line</i>	275	4.20	0.56	6.339	.002*	1.88	5.00
	<i>Mid-Level</i>	150	4.06	0.60		Eta squared=	2.13	5.00
	<i>Executive</i>	45	3.91	0.57		.026	2.75	4.88
	Total	470	4.12	0.58			1.88	5.00
Manage Fiscal Planning	<i>First-Line</i>	296	3.87	0.82	1.042	.354	1.00	5.00

Competency Domain		n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
	<i>Mid-Level</i>	152	3.98	0.71		Eta squared=	1.00	5.00
	<i>Executive</i>	46	3.95	0.65		.004	2.00	4.83
	Total	494	3.91	0.78			1.00	5.00
Facilitate Interpersonal, Group & Organizational Communication	<i>First-Line</i>	298	4.14	0.51	.901	.407	2.71	5.00
	<i>Mid-Level</i>	156	4.12	0.42		Eta squared=	3.14	5.00
	<i>Executive</i>	45	4.23	0.46		.004	3.29	4.86
	Total	499	4.14	0.48			2.71	5.00
Lead Quality Improvement Initiatives	<i>First-Line</i>	290	4.17	0.58	2.209	.111	1.86	5.00
	<i>Mid-Level</i>	152	4.10	0.60		Eta squared=	1.57	5.00
	<i>Executive</i>	45	4.30	0.42		.009	3.14	5.00
	Total	487	4.16	0.58			1.57	5.00
Promote Professional Practice Model	<i>First-Line</i>	298	3.80	0.81	4.919	.008*	1.25	5.00
	<i>Mid-Level</i>	153	3.84	0.75		Eta squared=	1.25	5.00
	<i>Executive</i>	45	4.19	0.63		.020	2.75	5.00
	Total	496	3.85	0.79			1.25	5.00
Develop Self	<i>First-Line</i>	290	3.54	0.63	6.086	.002*	1.63	5.00
	<i>Mid-Level</i>	153	3.56	0.70		Eta squared=	1.88	5.00
	<i>Executive</i>	46	3.89	0.59		.024	2.38	4.88
	Total	489	3.58	0.66			1.63	5.00

Note. $p < .01$ *

Secondly, a post hoc analysis was performed. A Tukey multiple comparison test was used to examine differences among the three roles of respondents. First-line nurse managers reported a significantly higher frequency of *Perform Supervisory Responsibilities* than executive-level nurse managers ($p < .05$). Mean responses for first-line nurse managers for *Ensure Patient Safety & Quality Care, and Conduct Daily Unit Operations* were significantly higher than those reported by both mid- and executive-level nurse managers ($p < .05$). Mean responses for first-line nurse managers for *Promote Professional Practice Model* and *Develop Self* were significantly lower than for executive-level nurse managers ($p < .05$) but responses did not differ significantly from mid-level nurse managers. Table 4.7 summarizes the significant differences by role for the respective competency domains.

Table 4.7.

Summary of Tukey Post Hoc Comparisons in Competency Domain Values by Role

	Role of Respondent			Total
	First-Line Manager	Mid-Level Manager	Executive-Level Manager	
Competency Domain	M	M	M	M
Promote Staff Retention	4.21	4.16	4.27	4.20
Recruit Staff	3.52	3.48	3.75	3.52
Facilitate Staff Development	4.17	4.17	4.24	4.18
Perform Supervisory Responsibilities	4.29	4.18	3.99	4.23
Ensure Patient Safety & Quality Care	3.74	3.58	3.48	3.67
Conduct Daily Unit Operations	4.19	4.06	3.91	4.12
Manage Fiscal Planning	3.87	3.98	3.94	3.91
Facilitate Interpersonal, Group & Organizational Communication	4.14	4.12	4.23	4.14
Lead Quality Improvement Initiatives	4.17	4.10	4.30	4.16
Promote Professional Practice Model	3.80	3.84	4.19	3.85
Develop Self	3.54	3.56	3.89	3.56

Note. Values presented in **bold** represent significant differences at $p < .05$. Values presented in *italics* indicate no significant differences between each other.

Employees Supervised

Analysis of variance was used to analyze the 11 competency domains by the number of employees supervised. Nurse managers were asked to indicate the number of staff they supervised according to the following categories: (10 or less; 11-30; 31-50; 51-70; 71-90; 91&over). The data revealed significantly lower mean responses ($p < .05$) between nurse managers who supervise 10 or fewer staff and those who supervise 11 or more staff across 10 of 11 competency domains. Table 4.8 shows the summary descriptive statistics and analysis of variance results for the 11 competency domains by number of employees supervised.

Table 4.8.

Summary Descriptive Statistics and Analysis of Variance Results for Eleven Competency Domains by Number of Employees Supervised

Competency Domain	# Staff Supervised	n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
Promote Staff Retention	10 or less	35	3.85	0.58	4.665	.001***	2.83	5.00
	11-30	113	4.17	0.43		Eta squared =	3.00	5.00
	31-50	121	4.24	0.50		.048	2.67	5.00
	51-70	78	4.26	0.41		3.08	5.00	
	71-90	50	4.2	0.49		2.92	5.00	
	91 and over	75	4.27	0.43		3.17	5.00	
	Total:	472	4.20	0.47		2.67	5.00	
Recruit Staff	10 or less	34	2.74	0.82	20.431	.001***	1.30	4.70
	11-30	111	3.17	0.77		Eta squared =	1.60	5.00
	31-50	124	3.55	0.72		.179	1.10	5.00
	51-70	82	3.82	0.69		1.80	5.00	
	71-90	53	3.80	0.70		1.90	4.90	
	91 and over	71	3.85	0.63		2.10	5.00	
	Total:	475	3.52	0.79		1.10	5.00	

Competency Domain	# Staff Supervised	n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
Facilitate Staff Development	10 or less	36	3.84	0.66	4.124	.001***	2.45	5.00
	11-30	115	4.15	0.43		Eta squared -	2.91	5.00
	31-50	123	4.20	0.54		.042	2.00	5.00
	51-70	76	4.20	0.49		2.91	5.00	
	71-90	51	4.22	0.48		2.64	5.00	
	91 and over	78	4.27	0.43		2.91	5.00	
	Total:	479	4.17	0.50		2.00	5.00	
Perform Supervisory Responsibilities	10 or less	35	3.88	0.55	5.734	.001***	2.21	4.93
	11-30	114	4.22	0.43		Eta squared =	3.14	5.00
	31-50	120	4.32	0.46		.058	2.86	5.00
	51-70	83	4.30	0.49		2.865	5.00	
	71-90	50	4.27	0.45		3.07	5.00	
	91 and over	72	4.26	0.48		3.07	5.00	
	Total:	474	4.23	0.48		2.21	5.00	
Ensure Patient Safety & Quality Care	10 or less	35	3.22	0.80	4.902	.001***	1.60	4.60
	11-30	116	3.67	0.71		Eta squared -	2.00	5.00
	31-50	126	3.83	0.65		.048	2.20	5.00

Competency Domain	# Staff Supervised	n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
	51-70	81	3.74	0.64			2.20	5.00
	71-90	55	3.62	0.65			2.40	5.00
	91 and over	80	3.59	0.69			1.40	5.00
	Total:	493	3.67	0.70			1.40	5.00
Conduct Daily Unit Operations	10 or less	31	3.65	0.76	5.519	.001***	1.88	5.00
	11-30	111	4.11	0.55		Eta squared =	2.13	5.00
	31-50	122	4.19	0.56		.056	2.13	5.00
	51-70	80	4.23	0.53			2.88	5.00
	71-90	50	4.16	0.53			2.38	4.88
	91 and over	77	4.11	0.53			2.50	5.00
	Total:	471	4.13	0.57			1.88	5.00
Manage Fiscal Planning	10 or less	36	3.45	0.86	3.657	.003**	1.33	5.00
	11-30	116	3.89	0.79		Eta squared =	1.50	5.00
	31-50	129	3.92	0.82		.036	1.00	5.00
	51-70	83	4.10	0.66			1.33	5.00
	71-90	55	3.95	0.70			1.67	5.00
	91 and over	76	3.96	0.73			1.67	5.00

Competency Domain	# Staff Supervised	n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
	Total:	495	3.92	0.77			1.00	5.00
Facilitate Interpersonal, Group & Organizational Communication	10 or less	37	3.89	0.47	4.005	.001*** Eta squared = .039	3.14	5.00
	11-30	119	4.06	0.49			2.86	5.00
	31-50	129	4.20	0.43			2.86	5.00
	51-70	85	4.14	0.51			3.14	5.00
	71-90	54	4.17	0.55			2.71	5.00
	91 and over	77	4.25	0.42			3.14	5.00
	Total:	501	4.14	0.48			2.71	5.00
Lead Quality Improvement Initiatives	10 or less	35	3.86	0.68	2.528	.028* Eta squared = .026	1.86	5.00
	11-30	116	4.16	0.53			2.71	5.00
	31-50	125	4.19	0.61			1.57	5.00
	51-70	80	4.18	0.56			2.71	5.00
	71-90	55	4.17	0.57			2.29	5.00
	91 and over	77	4.26	0.50			2.57	5.00
	Total:	488	4.16	0.57			1.57	5.00
Promote Professional Practice Model	10 or less	36	3.50	0.94	3.536	.004** Eta squared -	1.25	5.00
	11-30	116	3.78	0.81			1.50	5.00

Competency Domain	# Staff Supervised	n	Mean	Standard Deviation	Oneway Anova F Value	Significance (p) and Eta Squared	Low Mean Value	High Mean Value
	31-50	127	3.81	0.80		.035	1.25	5.00
	51-70	83	3.90	0.48			1.50	5.00
	71-90	57	3.96	0.67			2.25	5.00
	91 and over	78	4.09	0.67			2.00	5.00
	Total:	497	3.86	0.79			1.25	5.00
Develop Self	10 or less	35	3.55	0.70	1.021	.405	2.38	4.63
	11-30	113	3.57	0.62		Eta squared =	1.88	5.00
	31-50	124	3.54	0.70		.010	1.75	5.00
	51-70	85	3.52	0.63			1.63	4.75
	71-90	55	3.57	0.67			2.25	4.88
	91 and over	76	3.73	0.63			1.88	5.00
	Total:	488	3.58	0.65			1.63	5.00

Note. *p<.05 **p<.01 ***p<.001

Tukey's post hoc test was performed to compare pairs of group means across the 10 competency domains by number of employees supervised. Those supervising 10 or fewer employees had significantly lower scores ($p < .05$) than those supervising larger numbers of staff across all other categories for the competency domains of *Facilitate Staff Development*, *Perform Supervisory Responsibilities*, *Conduct Daily Unit Operations*, and *Manage Fiscal Planning*. Significantly lower scores ($p < .05$) were also observed for first-line nurse managers when compared to nurse managers who supervise a larger number of employees for *Ensure Patient Safety & Quality Care* (11-30 & 31-50 employees), *Facilitate Interpersonal, Group & Organizational Communication* (31-50 & 91 > employees), *Lead Quality Improvement Initiatives* (31-50 & 91 > employees), and *Promote Professional Practice Model* (91 > employees). Results reflected no significant differences between number of staff supervised and the competency domains *Recruit Staff* and *Develop Self*. Table 4.9 displays Tukey post hoc comparisons of competency domains by number of employees supervised.

Table 4.9.

*Tukey Post Hoc Comparisons of Competency Domains by Number of Employees**Supervised*

	Number of Employees Supervised						Total
	10 or less	11-30	31-50	51-70	71-90	91 & over	
Promote Staff Retention	3.85	<u>4.17</u>	<u>4.24</u>	<u>4.26</u>	<u>4.20</u>	<u>4.27</u>	4.20
Recruit Staff	2.74	3.17	3.55	3.82	3.79	3.85	3.52
Facilitate Staff Development	3.84	<u>4.15</u>	<u>4.20</u>	<u>4.20</u>	<u>4.22</u>	<u>4.27</u>	4.17
Perform Supervisory Responsibilities	3.88	<u>4.22</u>	<u>4.32</u>	<u>4.30</u>	<u>4.27</u>	<u>4.16</u>	4.23
Ensure Patient Safety & Quality Care	3.22	<u>3.67</u>	<u>3.83</u>	3.74	3.62	3.59	3.67
Conduct Daily Unit Operations	3.65	<u>4.11</u>	<u>4.19</u>	<u>4.23</u>	<u>4.16</u>	<u>4.11</u>	4.12
Manage Fiscal Planning	3.45	<u>3.89</u>	<u>3.92</u>	<u>4.10</u>	<u>3.95</u>	<u>3.96</u>	3.92
Facilitate Interpersonal, Group & Organizational Communication	3.89	4.06	<u>4.20</u>	4.14	4.17	<u>4.25</u>	4.14
Lead Quality Improvement Initiatives	3.86	4.16	<u>4.19</u>	4.18	4.17	<u>4.26</u>	4.16
Promote Professional Practice Model	3.50	3.78	3.81	3.90	3.96	4.09	3.86
Develop Self	3.55	3.57	3.54	3.52	3.57	3.73	3.58

Note. Values presented in **bold** indicate significant differences ($p < .05$) between responses of those who supervise 10 or fewer employees and those in other categories. Values presented in *italics* indicate no significant differences between each other. Values presented with underline indicate no significant differences among one another.

Summary

This chapter presented the research findings regarding the job competencies associated with effective performance and staff retention of first-line nurse managers, and tested the psychometric properties of the Nurse Manager Competency Inventory (NMCI). Univariate descriptive statistics were used to assess personal and professional characteristics of respondents, perceived job competencies of first-line nurse managers in the hospital setting, and the 12 items that corresponded to the competency domain *Promote Staff Retention*. Descriptive statistics and analysis of variance were used to assess group differences among first-line, mid- and executive-level nurse managers for the 11 competency domains. Descriptive statistics and analysis of variance were used to assess group differences among the 6 categories related to the number of employees that respondents supervised. Post hoc tests were performed using Tukey's test to test for significant differences among the means for both respondent role and number of employees supervised.

Findings revealed limited support for the NMCI. First line nurse managers performed 6 of the 11 competencies *very often* and 5 of the 11 competencies *fairly many times*. The three highest means reported among first-line nurse managers were *Perform Supervisory Responsibilities* ($M=4.29$) *Promote Staff Retention* ($M=4.21$) and *Conduct Daily Unit Operations* ($M=4.19$). Competency items *Maintain an "open door" policy*, *Serve as an advocate for staff*, and *Value the importance of work-family balance* reflected the three highest mean values among both first-line and mid-level nurse managers with regard to behaviors and skills associated with the competency domain *Promoting Staff Retention*. There were significant differences between first-line nurse managers and the other two nurse manager roles ($p<.01$) in 5 of the 11 competency domains: *Perform Supervisory*

Responsibilities; Ensure Patient Safety & Quality Care; Conduct Daily Unit Operations; Promote Professional Practice Model; and Develop Self. Nurse managers who supervise 10 or fewer employees reported significantly lower mean scores ($p < .05$) than those respondents supervising a larger number of employees in 9 of the 11 competency domains, with no significant differences noted for competency domains *Recruit Staff* and *Develop Self*.

Chapter 5

Summary, Conclusions and Recommendations

The purpose of this study was to develop and validate an instrument to measure the perceived job competencies linked to effective job performance and staff retention of first-line nurse managers employed in the hospital setting. The purpose of this chapter is to summarize the study, provide conclusions and discussion, and suggest recommendations regarding applicability of the NMCI and implications for future research.

Study Summary

There is little consistency in the literature regarding preparation needed for the nurse manager role and the scope of responsibilities associated with the role. This study sought to develop a competency framework to serve as the basis for developing, constructing and testing an instrument referred to as the Nurse Manager Competency Inventory (NMCI). The purpose of this study was threefold: (1) Identify the perceived competencies of first-line nurse managers needed for effective job performance in the hospital setting; (2) Identify the perceived competencies of first-line nurse managers specifically related to staff retention in the hospital setting; and (3) Determine whether there was empirical support for a measure of first-line nurse manager competencies using the NMCI.

The initial framework for the NMCI was developed through a blended approach to competency modeling within the theoretical framework of Boyatzis's Model of Effective Job Performance. The initial catalog of 151 items was extrapolated and organized from a review of the literature review and secondary data, which included a job analysis and interview data drawn from a panel of seven exemplary first-line, hospital-based nurse managers. Through two iterations of review with six expert panel members, the initial catalog was reduced to a

93-item inventory organized under 11 competency domains: (1) *Promote Staff Retention*; (2) *Recruit Staff*; (3) *Facilitate Staff Development*; (4) *Perform Supervisory Responsibilities*; (5) *Ensure Patient Safety & Quality Care*; (6) *Conduct Daily Unit Operations*; (7) *Manage Fiscal Planning*; (8) *Facilitate Interpersonal, Group & Organizational Communication*; (9) *Lead Quality Improvement Initiatives*; (10) *Promote Professional Practice Model*, and (11) *Develop Self*. The instrument was tested for reliability using the Cronbach's correlation coefficient alpha to determine internal consistency (Babbie, 2004). Reliability for the 11 competency domains of the instrument was reported as $\alpha = .96$. The web-based inventory was distributed to nurse managers employed in Pennsylvania hospitals through membership directories of the Hospital and Healthsystem Association of Pennsylvania and the Pennsylvania Organization of Nurse Leaders professional organizations. A total of 527 responses were received; the number of useable responses needed to test the 11 competency domains of the NMCI was estimated to be approximately 220 (Froman, 2001). The research findings are organized by the 3 research questions that guided the study.

Summary of Findings Related to Research Question One

RQ1: What are the perceived competencies of first-line nurse managers needed for effective job performance in the hospital setting?

Responses to all 93 items of the NMCI were calculated to determine the frequency, standard deviations and 95% CI for the mean for each of the 11 competency domains. There was a high level of agreement among first-line nurse managers regarding the frequency with which they performed the activities or demonstrated the behaviors associated with the 11 competency domains of the NMCI. Mean values indicated that 6 of the 11 competency

domains were performed “very often” and the remaining five were performed “fairly many times”. Table 5.1 summarizes first-line nurse manager mean frequency of performance for each competency domain.

Table 5.1

First-Line Nurse Manager Mean Frequency of Performance by Competency Domain

Competency Domain	Mean Frequency of Performance
Perform Supervisory Responsibilities	4.29
Promote Staff Retention	4.21
Conduct Daily Unit Operations	4.19
Lead Quality Improvement Initiatives	4.17
Facilitate Staff Development	4.17
Facilitate Interpersonal, Group & Organizational Communication	4.14
Manage Fiscal Planning	3.87
Promote Professional Practice Model	3.8
Ensure Patient Safety & Quality Care	3.75
Develop Self	3.54
Recruit Staff	3.51

Note. Based on 5-point Likert scale: 1 = *None of the time*, 2 = *Occasionally*,

3 = *Fairly many times*, 4 = *Very Often*, 5 = *Always*

Summary of Findings Related to Research Question Two

RQ2: What are the perceived competencies of first-line nurse managers specifically related to staff retention in the hospital setting?

There were 12 items that comprised the competency domain *Promote Staff Retention*. Responses to the 12 items were calculated to determine the frequency, standard deviation and 95% CI for the mean. Ten of the 12 competency items associated with the competency domain *Promote Staff Retention* were performed “very often”. Table 5.2 reflects the mean frequency of performance based on a 5-point Likert scale: 1 = *None of the time*, 2 = *Occasionally*, 3 = *Fairly many times*, 4 = *Very Often*, 5 = *Always*

Table 5.2.

First-line Nurse Manager Mean Frequency of Performance for NMCI Competency Items Associated with Promote Staff Retention

Competency Item	Frequency of Performance
Maintain an “open door” policy.	4.87
Value work-family balance.	4.62
Serve as advocate for staff.	4.62
Support staff attendance at educational opportunities.	4.5
Identify strengths of staff members & capitalize on those strengths.	4.36
Recognize & reward staff.	4.34
Support flexible staff schedule.	4.26
Model egalitarian management style.	4.26
Identify staff dis-satisfiers.	4.08
Measure staff satisfaction.	4.07
Develop staff satisfaction action plans.	3.7
Create programs to reduce mandatory overtime.	2.88

Summary of Findings Related to Research Question Three

RQ3: Is there empirical support for a measure of first-line nurse manager competencies using the NMCI?

The use of descriptive statistics, analysis of variance and Tukey post hoc testing revealed significant differences ($p < .01$) between first-line and middle/executive-level nurse managers in 5 of the 11 competency domains. Those domains were:

Perform Supervisory Responsibilities ($F=8.27$; $p=.001$)

Ensure Patient Safety & Quality Care ($F=4.896$; $p=.008$)

Conduct Daily Unit Operations ($F=6.339$; $p=.002$)

Promote Professional Practice Model ($F=4.919$; $p=.008$)

Develop Self ($F=6.086$; $p=.002$).

A Tukey post hoc analysis was conducted to analyze differences among the three respondent roles. There were significant differences ($p < .05$) between responses of first-line and mid-level managers in 2 of the 5 competency domains: *Ensure Patient Safety & Quality* and *Conduct Daily Unit Operations*. Significant differences ($p < .05$) were found between first-line and executive-level manager responses for 5 of the 11 competency domains. Table 5.1 depicts the significant differences among first-line, mid- and executive-level nurse manager mean frequency of performance for the five competency domains.

Table 5.3.

Summary of Significant Differences of Mean Frequency of Performance Among First-Line, Mid- and Executive-Level Nurse Managers by Competency Domains

	First-line	Mid-level	Exec-level
Perform Supervisory Responsibilities	4.21	4.18	3.99
Ensure Patient Safety & Quality Care	3.74	3.58	3.48
Conduct Daily Unit Operations	4.19	4.06	3.91
Promote Professional Practice Model	3.80	3.84	4.19
Develop Self	3.54	3.56	3.89

Note. Values presented in **bold** represent significant differences at $p < .05$. Values presented in *italics* indicate no significant differences between each other.

There was no role differentiation found for the following 6 competency domains:

Promote Staff Retention ($p = .321$)

Recruit Staff ($p = .16$)

Facilitate Staff Development ($p = .695$)

Manage Fiscal Planning ($p = .354$)

Facilitate Interpersonal, Group and Organizational Communication ($p = .407$)

Lead Quality Improvement Initiatives ($p = .111$)

Conclusions

The NMCI appears to be a reliable and valid instrument, with reliability ($\alpha = .96$; $n = 527$) considered to be high (Hinkle, Wiersma & Jurs, 1988). There was consistency in

response values through all competency domains. Nine of the 11 competency domains demonstrated reliability of $p > .70$. No competency domain, if deleted, would have improved the reliability of the instrument.

Secondly, there was general support for all of the 11 competency domains. The findings lend support to the body of knowledge that recognizes the wide range of fiscal, operational, clinical, and human resource responsibilities of the first-line nurse manager. The instrument was developed based, in part, on the expertise of exemplary first-line nurse managers but tested in the general hospital public domain. One may not expect to find emulation of the high performers' competencies to the same extent in the average performer. Nevertheless, the instrument was tested in the general public domain and results indicated that, generally speaking, these competencies are performed or demonstrated with high frequency.

The fact that significant differences were noted between first-line and mid-level nurse managers for 2 of the 11 competency domains may, in part, speak to the complexity and lack of role clarity for this position. For example, as the size of the hospital increases, so does the workload of the nurse manager (Andrews & Dziegielewski, 2005). The work environment must be taken into account, as work roles, job requirements and organizations do not exist independently (Shippman, Ash, Battista et al., 2000). Nonetheless, the management practice activities of first-line and mid-level nurse managers are believed to closely approximate the activities needed by aspiring or new nurse managers (Donaher, 2004). When responses were examined by role, first-line nurse managers reported higher incidence of performing activities in the 2 domains *Ensure Patient Safety and Quality Care* and *Conduct Daily Unit Operations* than either mid- or executive-level nurse managers. These 2 domains are

comprised of 13 items may serve as a good starting point for establishing core competencies for an aspiring first-line nurse manager.

Most poignantly, there have been limited attempts to develop instruments to assess nurse manager competencies (Chase, 1994; Care & Udod, 2003; Donaher, 2004). No instruments have been located in the literature using a blended approach to competency modeling for the nurse manager role. The role is ill-defined, and first-line and mid-level nurse managers may share common job competencies that vary by degree or level of work. This study serves as a framework from which to build a competency model of the first-line nurse manager.

Recommendations

Human Resource Applications of the NMCI

The value of a competency model lies in its application and is maximized if it is applied in all aspects of human resource management (Marrelli, Tondora & Hoge, 2005, p.557). A competency-driven human resource system differs from the traditional approach in that it is weighted toward competencies that can be documented, discussed during formal interviews, and demonstrated on the job (Dubois & Rothwell, 2004). The NMCI provides a framework for managing the human capital of hospitals and health systems related to staff training and development; recruitment and selection; performance management; succession planning; and retention.

Education, Training and Development

One of the most pressing issues among executives is how to establish a link between learning and organizational performance (Sugrue & DeViney, 2005). Organizations can use the NMCI to focus on the skills, knowledge, and characteristics that they perceive would have the most impact on their organization's effectiveness, and leverage resources to improve training efficiency and maximize their training dollars. Job incumbents and their supervisors can also identify those behavioral indicators in a separate process to illustrate how the competencies are actually demonstrated in their organization.

“Changes in technology, the care delivery system, nursing practice, and nursing education demand thoughtful and comprehensive evaluation of employer expectations from nurse managers, new curriculum and approaches to preparing nurse managers, and more input from current nurse managers in both system design and curriculum” (Russell & Scoble, 2004, p.404). There is an emerging trend within healthcare to use a competency-based approach in the training, assessment, and development of the workforce (Marrelli, Tondora & Hoge, 2005; Kelly-Thomas, 1998). The first step in designing a competency-based training program is to articulate and reach consensus on the competencies required for success in the work force (Foss, Janken, Langford & Patton, 2004). The NMCI serves as a basis from which competencies required for work success can be further defined and refined. Competencies can be aligned with teaching and learning processes; customized, prioritized and aligned with organizational values; and metrics can be developed for measuring whether competency has been attained according to organization-specific or industry-specific standards (Lucia & Lepsinger, 1999). It can also serve as a guide for revising existing curricula, certificate programs, and nurse manager credentialing standards, and bring

healthcare providers and educational institutions together to design nurse manager continuing education, certificate and graduate programs.

Recruitment and Selection

“Too often, staff nurses are promoted to nurse manager positions based on their clinical skills and seniority and are left to develop their management styles through haphazard, on-the-job training and trial and error learning” (Maguire, M., Spencer, K. & Sabatier, K., 2004, p.134). The NMCI provides a general picture of the job requirements of the nurse manager role, and can be used as guidelines in developing criteria for screening and evaluating resumes. The NMCI can ensure a more systematic interview process because interview questions can be written that will elicit examples of how the candidate for the nurse manager position has demonstrated the competencies, and interview guides and rating scales can be prepared in advance. This should minimize the organization’s investment in poor candidates. “If a model will be used to make employment decisions, the process of identifying the competencies must adhere to rigorous standards” (Marrelli, Tondora & Hoge, 2005, p. 538). Organizations must be able to defend employment decisions, which depends on their ability to demonstrate validity and reliability of a competency model.

Performance Management

The NMCI provides a framework by which to guide the development of performance and professional development plans. Nurse managers need clear expectations and feedback and effective resource management systems (Parsons & Stonestreet, 2003). The NMCI can provide shared understanding of performance measures by focusing and facilitating performance appraisal discussion. It provides a means by which to align rewards with desired

behaviors that are most relevant to successful performance (Lucia & Lepsinger, 1999). These competencies can be used to guide feedback and provide a framework for: coaching nurse managers; providing ratings; ensuring accountability; enhancing role clarity; prioritizing goals and expectations; and contributing to the alignment of learning and performance goals with organizational and departmental objectives.

Succession Planning

The Joint Commission for Accreditation of Healthcare Organizations recommends that hospitals “create nursing career ladders commensurate with educational level, training and experience” (2002, p.33). The NMCI provide a broad overview of the first-line nurse manager role that can be used to assess candidates’ readiness for transitioning from the staff nurse to the nurse manager role and focus efforts to address missing competencies. Hospitals need to identify their high potential performers because finding good front-line managers is one of the largest challenges facing health care (AHA, 2002). With the average age of the working registered nurse estimated to reach fifty by 2010, the trajectory for the retirement of large numbers of very experienced nurse managers may have begun (Joint Commission on Accreditation of Healthcare Organizations, 2002). The persistent trend to place good clinical staff nurses into leadership roles with no preparation or management training can be moderated by using a competency-based assessment tool to gauge proficiency, provide role clarity, define self-development goals, and identify job shadowing opportunities to expand the novice’s knowledge base. This approach can prepare the organization for the future by moving people who are in more operational roles into more strategic roles in a planned methodological manner.

Staff Retention

There is clearly a business case for creating a culture of nursing staff retention based on lower turnover, lower costs, higher profitability, and better patient outcomes (JCAHO, 2002). The latest projections related to the nursing shortage forecast a deficiency of 800,000 nurses by the year 2020, with current staff vacancies highest in medical and surgical care (16.3%), critical care (15.5%) and emergency care (15.2%) (Andrews & Dziegielewski, 2005). The Joint Commission on the Accreditation of Healthcare Organizations has recommended that hospitals focus attention on providing nurse executives with the management training and resources needed to attain and maintain a culture of retention (JCAHO, 2002, p.26). The transition from clinician to manager requires a competency framework so that the manager position can evolve as a formal role within the healthcare system and serve as a career path that will contribute to overall retention of clinical nurses. The NMCI can serve as a tool to guide nurse executives in assessing the extent to which staff perceive a culture of retention and assist in defining the first-line nurse manager's role in staff retention within their organizations.

Furthermore, turnover rates for nurse managers are comparable with those experienced by staff nurses, and therefore "the individual upon whom the organization relies to address critical retention issues may be ill equipped to meet that challenge" (Andrews & Dziegielewski, 2005, p.292). Some of the factors that contribute to the successful retention of nurse managers include the need to receive clear expectations and feedback; the ability to participate in planning and decision-making and empowerment; effective resource management systems; meaningful orientation to the nurse manager role and continued professional development; and life/work balance (Parsons & Stonestreet, 2003). The NMCI

can help to clarify the nurse manager role and responsibilities and contribute to the successful transition and orientation to the role.

Recommendations for Future Research

Based on the findings of this study, several recommendations are proposed to future researchers.

1. Competencies are demonstrated in various ways; therefore there is opportunity to prioritize the desirability of the NMCI competencies and develop behavioral anchors for each competency at three levels of proficiency to correspond with the first-line, mid- and executive-level positions, as suggested by Russell & Scoble's Mastery Path (2003). "Although two levels may require the same competency, the manner in which it is demonstrated may vary with each level" (Marrelli, Tondora & Hoge, 2005, p.556). In addition, it would be valuable to expand upon this research to gain an etic perspective of the nurse manager role. Identification of the competencies needed for the nurse manager role could include feedback from multiple sources such as patients, staff, executive leaders, physicians, and other persons who interact with the nurse manager. Behavioral examples, gleaned from videotapes, observation and other anthropologic data collected during the course of performing daily activities, would be useful in further defining the competencies of exemplary performers and contribute to a better understanding of the role.
2. Research is needed to determine whether there is a desirable sequence of how people should be oriented to the nurse manager position. The NMCI could serve as a

- foundation from which competencies can be sequenced to help develop a nurse manager orientation and career path program.
3. It would be interesting to link the roles identified during the literature review with the competencies of the NMCI. Roles are broad areas of responsibility that require a certain combination of competencies and expertise to perform effectively. It is important to understand which competencies are most important for particular roles.
 4. Further investigation is needed to assess which competencies are essential for job performance and those that are non-essential, in order to be used in employment selection decisions (Marrelli, Tondora & Hoge, 2005). In addition, investigation of the organizational factors that impede or support the nurse manager in effective job performance and staff retention, as identified in the NMCI, would be a valuable contribution to hospitals and healthsystems by providing a framework that supports the development of a retention culture.
 5. The highly dynamic nature of healthcare requires that the NMCI be continually updated, refined and tested. An expert panel of exemplary first-line nurse managers would provide the most cost-effective means of refining and validating the NMCI on a routine basis.
 6. Future research is needed to examine the role of the first-line nurse manager with regard to organizational cultural competence. The U.S. Department of Health and Human Services' Office of Minority Health has developed recommendations for national standards for culturally and linguistically appropriate services (CLAS). The Joint Commission, the primary accreditation organization for hospitals and healthsystems, enforces several standards that support the provision of care, treatment

and services conducive to the cultural, language, literacy and learning needs of patients and staff (JCAHO, 2006).

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APPENDIX A

Expert Panel Review Guide

DATE: January 29, 2006
TO: Expert Panel Members
FROM: Janetta DeOnna, RN, Ph.D. candidate,
Penn State Workforce Education & Development Program
RE: Development of the Nurse Manager Competency Inventory

Thank you very much for agreeing to participate in this research to develop and test an instrument to assess the competencies of First-line Nurse Managers employed in the acute care setting.

The research questions for this study are:

1. What are the perceived competencies of first-line nurse managers needed for effective job performance in the hospital setting?
2. What are the perceived competences of first-line nurse managers specific to effective staff retention in the hospital setting?
3. Is there empirical support for a measure of first-line nurse manager competences using the Nurse Manager Competency Inventory?

The first step in developing this instrument (Phase I) was to develop a set of indicators for effective job performance. These indicators were generated through secondary data analysis (job analysis and interviews of exemplary first-line nurse managers conducted Pre-Phase I, as well as a literature review). The information collected from these sources has been organized into a framework for your review and consists of 151 items within twelve competency areas.

In the Phase II of instrument development, an expert panel has been assembled to establish the content validity of the draft instrument. The need for Human Subjects approval was waived for Phase II of the study by the Penn State Office of Research Protections. Once the completed instruments have been returned to the researcher, various tests of content validity will be calculated. If necessary, you may be asked to re-evaluate the instrument after these tests have been conducted in order for the instrument to meet the necessary criteria.

In Phase III of this research, the instrument will be tested with a group of nurse managers to assess its reliability and validity. Upon completion of Phase III, you will receive a complementary copy of the instrument for use within your institution.

It is estimated that this activity will take approximately one hour to complete.

Reviewer instructions, definitions and instructions for returning the instrument are provided for your convenience.

REVIEWER INSTRUCTIONS

Attached you will find the draft document which contains 151 activity statements organized under 12 competency areas. You are asked to rate each activity statement according to:

- a) The extent to which it is representative of the competency on the following scale:

- 1 = Not Representative
- 2 = Somewhat Representative
- 3 = Quite Representative
- 4 = Very Representative

- b) The extent to which it is relevant to the competency according to the following scale:

- 1 = Not Relevant
- 2 = Somewhat Relevant
- 3 = Quite Relevant
- 4 = Very Relevant

- c) The extent to which it describes the competency according to the following scale:

- Y = Yes, Definitely describes the competency
- U = Undecided
- N = Definitely does NOT describe the competency

If you requested to receive the information via email, the document is being sent to you as an excel spreadsheet. You may complete the digital version of the document by entering the number (1-4) or letter (Y,U, N) in the appropriate columns where indicated.

If you requested to receive the information via postal service, you may complete the paper copy of the document by circling the number (1-4) or letter (Y,U, N) in the appropriate columns where indicated.

A column is provided for you to add comments and/or suggestions you may have for revisions to an activity or to add activities.

DEFINITIONS:

For the purpose of this study, competency is defined as *any characteristic that supports performance...and can include knowledge or skill as well as any number of other characteristics such as levels of motivation and personality traits.*

An activity statement is defined as *an individual's ability to perform a particular skills-based activity or demonstrate characteristics that support effective performance.*

RETURNING THE DOCUMENT:

If you are returning the document via email, please return it to the researcher via email by February 13, 2006 (contact information below).

If you are returning the document via postal service, please return it to the researcher via postal service by February 13, 2006 in the self-addressed stamped envelope (contact information below).

Please feel free to contact the researcher for more information:

Janetta DeOnna
118B Keller Bldg.
The Penn State University
University Park, PA 16802

Phone: 814.863.6717
Email: jxg141@psu.edu

APPENDIX B

Content Review Guide

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely does not</u> describe competency	Please TYPE comments & suggestions below
PROMOTE STAFF RETENTION				
1. Measure staff satisfaction				
2. Identify and respond to staff dissatisfiers				
3. Develop staff satisfaction action plans				
4. Anticipate and communicate change to staff using multiple media				
5. Serve as Advocate on behalf of staff				
6. Recognize & reward staff for positive performance				
7. Identify strengths of staff members and capitalize on those strengths				
8. Educate staff on cultural diversity				
9. Provide opportunities for staff involvement in group activities				
10. Value the importance of work-family balance				
11. Support flexible self scheduling				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely</u> <u>does not</u> describe competency	Please TYPE comments & suggestions below
12. Support attendance to educational opportunities				
13. Create programs to reduce mandatory overtime				
14. Reward seniority				
15. Facilitate shared decision-making				
16. Maintain an "open door" policy for staff				
17. Model an egalitarian (democratic) management style				
RECRUIT STAFF				
1. Develop a recruitment committee				
2. Plan recruitment strategies				
3. Utilize behavioral surveys to assess new applicants' fit				
4. Create team interviewing process				
5. Empower staff to play a role in recruitment				
6. Interview potential staff				
7. Utilize behavioral surveys to assess new applicants' fit				
8. Encourage potential candidates to have shadow experiences				
9. Conduct personal follow-up with potential candidates				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely</u> <u>does not</u> describe competency	Please TYPE comments & suggestions below
10. Hire staff				
11. Participate in open house opportunities				
12. Enforce treatment of student nurses as professionals				
13. Offer internships for new graduates				
14. Support nursing extern programs				
15. Reward staff for referrals of viable candidates				
16. Hire nursing students into ancillary positions				
17. Conduct personal follow-up with potential candidates				
FACILITATE STAFF DEVELOPMENT				
1. Evaluate employees' training & education needs				
2. Coach staff				
3. Mentor peers (other first line managers)				
4. Mentor staff				
5. Schedule staff to attend in-services				
6. Coordinate in-services				
7. Present at in-services				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely</u> <u>does not</u> describe competency	Please TYPE comments & suggestions below
8. Evaluate in-service effectiveness				
9. Counsel staff on career planning				
10. Facilitate staff problem solving skill building				
11. Facilitate staff critical thinking skill building				
12. Model conflict management skills				
13. Develop effective teams				
14. Empower staff to make decisions				
15. Provide formal preparation to preceptors				
16. Relieve staff to focus solely on new hire orientation and mentoring				
17. Utilize preceptor model for staff orientation				
18. Include staff in decision-making processes				
19. Advertise available educational opportunities to staff				
20. Create opportunity for staff to lead groups				
21. Schedule indirect time for staff to meet committee obligations				
22. Support staff in developing their presentation skills				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely</u> <u>does not</u> describe competency	Please TYPE comments & suggestions below
23. Develop educational programs to support staff competencies				
24. Support orientation internship program				
PERFORM SUPERVISORY RESPONSIBILITIES				
1. Evaluate staff				
2. Monitor staff				
3. Discipline employees				
4. Terminate employees				
5. Verify compliance with regulatory requirements				
6. Enforce compliance with regulatory requirements				
7. Monitor compliance with regulatory requirements				
8. Enforce compliance with hospital policies				
9. Assign student nurses to clinical experiences				
10. Coordinate with clinical nurse specialists for student experiences				
11. Manage material resources				
12. Develop emergency disaster plans				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely does not</u> describe competency	Please TYPE comments & suggestions below
13. Implement emergency disaster plans				
14. Deliver performance reviews				
15. Mediate staff conflicts				
16. Establish high standards and hold staff accountable for their actions/inactions				
17. Provide positive feedback and feedback for improvement				
18. Reward staff for high performance				
19. Monitor time and attendance				
ENSURE PATIENT SAFETY & QUALITY CARE				
1. Receive patient report				
2. Meet family members				
3. Perform daily patient care rounds				
4. Perform inter-disciplinary-clinical rounds				
5. Collaborate with medical staff				
6. Provide direct patient care				
7. Develop patient education tools				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely does not</u> describe competency	Please TYPE comments & suggestions below
8. Follow up on daily patient care issues				
9. Participate in discharge planning				
10. Implement evidence-based protocol				
CONDUCT DAILY UNIT OPERATIONS				
1. Determine staffing for patient care				
2. Schedule staff to insure safe staffing pattern for each shift				
3. Oversee bed management				
4. Develop policies & procedures				
5. Develop unit structure standards				
6. Provide customer service to patients and families				
7. Evaluate patient satisfaction				
8. Serve as administrator on call				
9. Coordinate hospital staffing				
10. Integrate technology into nursing models				
11. Analyze workflow				
12. Establish goals				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely does not</u> describe competency	Please TYPE comments & suggestions below
13. Lead service recovery activities				
14. Perform chart reviews				
MANAGE FISCAL PLANNING				
1. Create the budget				
2. Monitor the budget				
3. Manage the payroll				
4. Analyze expense reports				
5. Review patient charges				
6. Analyze budget variance				
7. Procure material resources				
8. Analyze benchmarking reports				
9. Utilize technology to manage financial responsibilities				
FACILITATE INTERPERSONAL, GROUP & ORGANIZATIONAL COMMUNICATION				
1. Collaborate individually with staff nurses on a regular basis				
2. Manage information with the use of technology				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely</u> does <u>not</u> describe competency	Please TYPE comments & suggestions below
3. Serve as facilitator during meetings				
4. Network with other managers				
5. Collaborate with medical staff				
6. Collaborate with supervisor				
7. Conduct staff meetings				
8. Use multiple media to convey information to staff				
9. Deliver presentations				
10. Network with other inter-disciplinary teams				
LEAD QUALITY IMPROVEMENT INITIATIVES				
1. Develop performance improvement projects				
2. Implement performance improvement activities				
3. Evaluate performance improvement activities				
4. Investigate risk management issues				
5. Facilitate patient safety initiatives				
6. Identify performance				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely does not</u> describe competency	Please TYPE comments & suggestions below
management issues				
7. Support peer review process				
PROMOTE PROFESSIONAL PRACTICE MODEL				
1. Facilitate unit-based professional practice activities				
2. Mentor Staff Nurse Council Chairs				
3. Develop nurse-driven protocols				
4. Facilitate professional practice model activities				
5. Facilitate shared governance process				
6. Set standards for nursing excellence				
7. Create the nursing vision				
8. Support staff in conducting nursing research				
9. Provide autonomy in staffing decisions				
10. Integrate evidenced-based practice into nursing standards				
PERFORM COMMUNITY OUTREACH ACTIVITIES				
1. Perform community education				

INSTRUCTIONS:	REPRESENTATIVE	RELEVANT	DESCRIBES	<i>Comments</i>
Please judge the extent to which each item <u>represents</u> and is <u>relevant</u> to each competency category by TYPING the appropriate number (1-4) for each item. TYPE Y ("Yes"), U ("Undecided") or N ("No") according to whether the item <u>describes</u> the competency category.	1= Not Representative 2= Somewhat Representative 3= Quite Representative 4= Very Representative	1= Not Relevant 2= Somewhat Relevant 3= Quite Relevant 4= Very Relevant	(Y) YES= <u>Definitely</u> describes competency (U) UNDECIDED= Undecided (N) NO= Activity <u>definitely</u> <u>does not</u> describe competency	Please TYPE comments & suggestions below
2. Develop marketing brochures				
3. Support public relation activities				
4. Participate in fund raising activities				
DEVELOP SELF				
1. Review the literature to remain current in area of expertise				
2. Serve in leadership role in professional organizations				
3. Deliver presentations to professional groups				
4. Maintain current membership in professional organizations				
5. Balance work and personal schedule				
6. Publish articles in area of expertise				
7. Accrue continuing education units				
8. Seek advanced degree				
9. Participate in nursing management research				
10. Obtain professional certifications				

APPENDIX C

NMCI Item Correspondence to Competency Domains

NMCI Item	Competency Domain										
	Promote Staff Retention	Recruit Staff	Facilitate Staff Development	Perform Supervisory Responsibilities	Ensure Patient Safety & Quality Care	Conduct Daily Unit Operations	Manage Fiscal Planning	Facilitate Interpersonal, Group & Organizational Communication	Lead Quality Improvement Initiatives	Promote Professional Practice Model	Develop Self
1. Analyze various financial reports							X				
2. Analyze workflow of unit						X					
3. Balance work and personal schedule											X
4. Coach staff			X								
5. Collaborate individually with staff nurses on a regular basis								X			
6. Collaborate with medical staff					X						
7. Collaborate with supervisor								X			
8. Demonstrate commitment to continuous learning											X
9. Conduct staff meetings								X			
10. Create the budget							X				
11. Create team interviewing process		X									
12. Create programs to reduce mandatory overtime	X										
13. Create the nursing vision for the unit										X	
14. Deliver staff performance reviews				X							
15. Deliver presentations to professional groups											X
16. Determine staffing for patient care						X					
17. Develop effective work teams			X								
18. Develop performance improvement projects								X			
19. Develop staff satisfaction action plans	X										
20. Discipline employees				X							

NMCI Item	Competency Domain										
	Promote Staff Retention	Recruit Staff	Facilitate Staff Development	Perform Supervisory Responsibilities	Ensure Patient Safety & Quality Care	Conduct Daily Unit Operations	Manage Fiscal Planning	Facilitate Interpersonal, Group & Organizational Communication	Lead Quality Improvement Initiatives	Promote Professional Practice Model	Develop Self
42. Implement emergency disaster plans				X							
43. Implement evidence-based protocol					X						
44. Implement performance improvement activities								X			
45. Include staff in decision-making processes			X								
46. Integrate evidenced-based practice into nursing standards										X	
47. Integrate technology into nursing models						X					
48. Interview potential staff		X									
49. Investigate risk management issues								X			
50. Lead service recovery activities						X					
51. Maintain an "open door" policy for staff	X										
52. Maintain current membership in professional organizations											X
53. Manage material resources				X							
54. Manage the payroll							X				
55. Measure staff satisfaction	X										
56. Mediate staff conflicts				X							
57. Mentor staff			X								
58. Model an egalitarian (democratic) management style	X										
59. Model conflict management skills			X								
60. Monitor compliance with regulatory requirements				X							
61. Monitor staff				X							
62. Monitor the budget							X				
63. Monitor staff attendance				X							
64. Network with other inter-disciplinary teams								X			

NMCI Item	Competency Domain										
	Promote Staff Retention	Recruit Staff	Facilitate Staff Development	Perform Supervisory Responsibilities	Ensure Patient Safety & Quality Care	Conduct Daily Unit Operations	Manage Fiscal Planning	Facilitate Interpersonal, Group & Organizational Communication	Lead Quality Improvement Initiatives	Promote Professional Practice Model	Develop Self
65. Network with other managers								X			
66. Obtain professional certifications											X
67. Offer internships for new graduates		X									
68. Participate in nursing management research											X
69. Perform chart reviews						X					
70. Perform daily patient care rounds					X						
71. Perform inter-disciplinary-clinical rounds					X						
72. Plan recruitment strategies		X									
73. Procure material resources							X				
74. Provide customer service to patients and families						X					
75. Provide positive feedback and feedback for improvement to staff				X							
76. Recognize & reward staff for positive performance	X										
77. Seek continuing education units as part of professional development											X
78. Serve as advocate on behalf of staff	X										
79. Serve as facilitator during meetings								X			
80. Serve in leadership role in professional organizations											X
81. Set standards for nursing excellence										X	
82. Support staff attendance at educational opportunities	X										
83. Support flexible self scheduling for staff	X										
84. Support nursing extern programs		X									
85. Support orientation internship program			X								
86. Support peer review process									X		

NMCI Item	Competency Domain										
	Promote Staff Retention	Recruit Staff	Facilitate Staff Development	Perform Supervisory Responsibilities	Ensure Patient Safety & Quality Care	Conduct Daily Unit Operations	Manage Fiscal Planning	Facilitate Interpersonal, Group & Organizational Communication	Lead Quality Improvement Initiatives	Promote Professional Practice Model	Develop Self
87. Terminate employees				X							
88. Use multiple media to convey information to staff								X			
89. Utilize behavioral surveys to assess new job applicants' fit		X									
90. Utilize preceptor model for staff orientation			X								
91. Utilize technology to manage financial responsibilities							X				
92. Value the importance of work-family balance among staff	X										
93. Verify compliance with regulatory requirements				X							
Total Items per Competency Domain:	12	10	11	14	5	8	6	7	7	5	8

APPENDIX D

Nurse Manager Competency Inventory

Your email address: _____

Prize and Results

- I wish to be entered into the drawing to receive a \$25 electronic Amazon gift certificate and can be reached at the email address provided above.
- I wish to receive the results of this study via email at the address provided above.

Demographic Information**Role:**

- First Line Manager
- Mid-Level Manager
- Executive-Level Manager

Job Title: _____

Number of employees supervised:

- 10 or less
- 11 – 30
- 31 – 50
- 51 – 70
- 71 – 90
- 90 and over

Number of years experience as a manager:

- 1 yr or less
- 2 – 5 yrs
- 6 – 10 yrs
- 11 – 15 yrs
- 16 – 20 yrs
- 21 – 25 yrs
- 26 yrs or more

Age:

- >18 – 24
- 25 – 34
- 35 – 44
- 45 – 54
- 55 – 64
- 65 and over

Gender:

- Male
 Female

Highest level of education attained:

- Diploma Nursing
 Assoc Degree Nursing
 Bachelor Degree – Nursing
 Bachelor Degree – Other
 Masters Degree – Nursing
 Masters Degree – Other
 Doctorate

Hospital Type:

- Rural
 Urban, non-teaching
 Urban, teaching

Hospital Size:

- 1-100 beds
 101-200 beds
 201-300 beds
 301-400 beds
 401+ beds
 Not currently employed by a hospital [Go to End]

Instructions: Please read each activity and check the column that best represents how often you have performed each activity in your management practice using the following scale:

	Level of Activity				
	None of the Time	Once in a While	Sometimes	Quite Often	Always
1. Analyze various financial reports	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. Analyze workflow of unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. Balance work and personal schedule	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. Coach staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. Collaborate individually with staff nurses on a regular basis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. Collaborate with medical staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. Collaborate with supervisor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. Demonstrate commitment to continuous learning	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. Conduct staff meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

10. Create the budget	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. Create team interviewing process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. Create programs to reduce mandatory overtime	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Level of Activity				
	None of the Time	Once in a While	Sometimes	Quite Often	Always
13. Create the nursing vision for the unit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. Deliver staff performance reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Deliver presentations to professional groups	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. Determine staffing for patient care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. Develop effective work teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. Develop performance improvement projects	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. Develop staff satisfaction action plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. Discipline employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. Empower staff to make decisions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. Encourage potential job candidates to have shadow experiences	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
23. Enforce treatment of student nurses as professionals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. Enforce compliance with regulatory requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. Enforce compliance with hospital policies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. Establish unit goals	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Evaluate employees' training & education needs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	None of the Time	Once in a While	Sometimes	Quite Often	Always
28. Evaluate patient satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. Evaluate performance improvement activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. Evaluate staff performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. Evaluate in-service effectiveness	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. Follow up on daily patient care issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. Hire nursing students into ancillary positions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. Hire staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. Facilitate patient safety initiatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. Facilitate professional practice model activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. Facilitate shared decision-making	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. Facilitate shared governance process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. Identify staff dis-satisfiers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. Identify performance management issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. Identify strengths of staff members and capitalize on those strengths	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

42. Implement emergency disaster plans	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. Implement evidence-based protocol	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. Implement performance improvement activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Level of Activity				
	None of the Time	Once in a While	Sometimes	Quite Often	Always
45. Include staff in decision-making processes	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. Integrate evidenced-based practice into nursing standards	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. Integrate technology into nursing models	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. Interview potential staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. Investigate risk management issues	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. Lead service recovery activities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. Maintain an "open door" policy for staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. Maintain current membership in professional organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. Manage material resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. Manage the payroll	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. Measure staff satisfaction	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. Mediate staff conflicts	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. Mentor staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. Model an egalitarian (democratic) management style	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. Model conflict management skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	None of the Time	Once in a While	Sometimes	Quite Often	Always
60. Monitor compliance with regulatory requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. Monitor staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. Monitor the budget	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. Monitor staff attendance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. Network with other inter-disciplinary teams	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
65. Network with other managers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. Obtain professional certifications	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. Offer internships for new graduates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. Participate in nursing management research	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
69. Perform chart reviews	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
70. Perform daily patient care rounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
71. Perform inter-disciplinary-clinical rounds	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
72. Plan recruitment strategies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
73. Procure material resources	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

74. Provide customer service to patients and families	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
75. Provide positive feedback and feedback for improvement to staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Level of Activity				
	None of the Time	Once in a While	Sometimes	Quite Often	Always
76. Recognize & reward staff for positive performance	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
77. Seek continuing education units as part of professional development	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
78. Serve as advocate on behalf of staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
79. Serve as facilitator during meetings	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
80. Serve in leadership role in professional organizations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
81. Set standards for nursing excellence	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
82. Support staff attendance at educational opportunities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
83. Support flexible self scheduling for staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
84. Support nursing extern programs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
85. Support orientation internship program	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
86. Support peer review process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
87. Terminate employees	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
88. Use multiple media to convey information to staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
89. Utilize behavioral surveys to assess new job applicants' fit	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
90. Utilize preceptor model for staff orientation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
91. Utilize technology to manage financial responsibilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
92. Value the importance of work-family balance among staff	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
93. Verify compliance with regulatory requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Submit Survey

Thank you for your participation!

APPENDIX E

Internal Review Board Exemption

Subject: IRB# 22987 - "Developing and Validating an Instrument to Measure the Perceived Job Competencies Linked to Performances and Staff Retention of First-Line Nurse Managers Employed in a Hospital Setting"

Date: Fri, 7 Apr 2006 11:30:34 -0400

**From: "Mathieu, Jodi" <zjc2@psu.edu>
To: "Janetta DeOnna" <jxg141@psu.edu>
Cc: <wj9@psu.edu>**

Hi Janetta,

The Office for Research Protections (ORP) has reviewed the above-referenced study and determined it to be exempt from IRB review. You may begin your research. This study qualifies under the following category(ies):

Category 2: Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior unless: (i) information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; **and** (ii) any disclosure of the human participants' responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation. [45 CFR 46.101(b)(2)]

PLEASE NOTE THE FOLLOWING:

Include your IRB number in any correspondence to the ORP.

The principal investigator is responsible for determining and adhering to additional requirements established by any outside sponsors/funding sources.

Record Keeping

The principal investigator is expected to maintain the original signed informed consent forms, if applicable, along with the research records for at least three (3) years after termination of the study.

This will be the only correspondence you will receive from our office regarding this modification determination.

MAINTAIN A COPY OF THIS EMAIL FOR YOUR RECORDS.

Consent Document(s)

The exempt consent form(s) will no longer be stamped with the approval/expiration dates.
The attached informed consent form(s) is the one that you are expected to use.

Follow-Up

The Office for Research Protections will contact you in three (3) years to inquire if this study will be on-going. If the study is completed within the three year period, the principal investigator may complete and submit a **Project Close-Out Report**.

(<<http://www.research.psu.edu/orp/areas/humans/applications/closeout.rtf>><http://www.research.psu.edu/orp/areas/humans/applications/closeout.rtf>)

Revisions/Modifications

Any changes or modifications to the study must be submitted to the Office for Research Protections on the Exempt Modification Request Form available on our website:

<<http://www.research.psu.edu/orp/areas/humans/applications/exemptmod.rtf>><http://www.research.psu.edu/orp/areas/humans/applications/exemptmod.rtf>

Please do not hesitate to contact me if you have any questions or concerns.

Thank you,

Jodi

Jodi L. Mathieu, BS, CIP
Research Compliance Coordinator
Office for Research Protections
The Pennsylvania State University
201 Kern Graduate Building
University Park, PA 16802
Phone: (814) 865-1775
Fax: (814) 863-8699

<<http://www.research.psu.edu/orp/>><http://www.research.psu.edu/orp/>

APPENDIX F

Informed Consent Form for Social Science Research

The Pennsylvania State University

Title of Project: Developing and Validating an Instrument to Measure the Perceived Job Competencies Linked to Performance and Staff Retention of First-Line Nurse Managers Employed in a Hospital Setting

Principal Investigator: *Janetta DeOnna, RN, Ph.D. candidate*
Office of Economic & Workforce Development
The Pennsylvania State University
118B Keller Bldg.
University Park, PA 16802
Phone: 814.863.6717 Fax: 814.865.3589
Email: jxg141@psu.edu

Advisor: *Dr. William Rothwell, Professor-In-Charge,*
Workforce Education & Development Program
The Penn State University
304 Keller Bldg.
University Park, PA 16802
Phone: 814.863.2581 Email: wjr9@psu.edu

1. **Purpose of the Study:** *The purpose of this study is to develop and validate a self-assessment tool to measure the job competencies of first line nurse managers employed in the hospital setting.*
2. **Procedures to be followed:** *You will be asked to provide some brief general background information and answer 93 questions on a survey with regard to how frequently you perform/demonstrate an activity.*
3. **Benefits:** *You may have the opportunity to participate in research that will help define the role of the first line nurse manager employed in the hospital setting. This information will be used to develop a self assessment tool that first line nurse managers can use to guide their self-development plan. Staff nurses can use the tool to assess their own skill sets and develop a professional development plan for transitioning to management..*

This research can benefit society in that educators in both hospitals and educational institutions can use this information to develop better nurse manager training programs. Successful managers are associated with higher staff satisfaction and retention, which research has shown to be correlated with patient satisfaction.

4. **Duration/Time:** *It will take about 15 minutes to complete the survey.*
5. **Statement of Confidentiality:** *Your participation in this research is confidential. Your*

confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties. The person in charge and her assistants, will see your email address. No other personal identifiers will be collected. The data will be stored and secured at *118B Keller Bldg* in a *locked/password protected* file. In the event of a publication or presentation resulting from the research, no personally identifiable information will be shared.

6. Right to Ask Questions: You can ask questions about this research. Contact Janetta DeOnna at her office at (814) 863.6717 with questions. You can also call this number if you have complaints or concerns about this research. If you have questions about your rights as a research participant, or you have concerns or general questions about the research, contact Penn State University's Office for Research Protections at (814) 865-1775. You may also contact the researcher via email or cell phone:

Janetta DeOnna
Email: jxg141@psu.edu
Cell: 814.777.3898

7. Payment for participation: By participating in this study you are eligible to be entered into a drawing to a \$25 gift certificate to Amazon.com. You will only be eligible to be entered once in the drawing to receive this prize (located on the survey). You will also receive a complementary copy of the final results of this study by indicating (on the survey) that you would like to receive these results. You will be contacted via email.

8 Voluntary Participation: Your decision to be in this research is voluntary. You can stop at any time. You do not have to answer any questions you do not want to answer. Refusal to take part in or withdrawing from this study will involve no penalty or loss of benefits you would receive otherwise. Completion and submission of the survey implies your consent to participate in this research.

9. Please print off this form to keep for your records.

You must be 18 years of age or older to consent to take part in this research study. If you agree to take part in this research study and the information outlined above, please continue to the next section.

APPENDIX G
PRENOTICE LETTER

April 24, 2006

Greetings!

I am a Registered Nurse completing my doctoral degree in the Workforce Development program at The Pennsylvania State University and I need your help. I have developed a self-assessment tool to measure the competencies of first-line nurse managers employed in the hospital setting, and I need nurse managers from **various** levels of your institution to test this instrument. Why should you invest your time in this study?

This research is extremely important because the role of the first-line nurse manager has changed so drastically over the past 20 years and research about this role has recently waned. Interestingly, the first-line nurse manager is often referred to as the “Chief Retention Officer” in the hospital and yet, often times, staff nurses are moved into this position with little or no preparation for the role. Turnover among nurse managers is sometimes as high as that of the staff nurses, and numerous studies document the correlation between nurse manager competency, staff satisfaction and staff retention. Staff satisfaction and retention have been consistently correlated with patient satisfaction and patient outcomes. We hope that this research will contribute to better defining the role and provide a framework for developing education/certificate programs, training programs and career mapping for the first-line nurse manager and for nursing staff interested in transitioning into a manager role.

Within the next couple of days you will receive an email from me that contains a link to an online survey. Please plan to take less than 15 minutes to complete the survey. At that time you will be eligible to enter a drawing to receive a **\$25 electronic Amazon gift certificate** and will also receive the results of this research, if you so desire, upon completion of this project.

Thank you in advance for your help and your willingness to contribute to the profession of nursing.

Regards,

Janetta DeOnna, RN, Ph.D. Candidate
Workforce Education & Development Program
The Pennsylvania State University
118B Keller Bldg.
University Park, PA 16802
Phone: 814.863.6717
Email: jxg141@psu.edu

APPENDIX H
INVITATION LETTER

April 26, 2006

Greetings once again from The Pennsylvania State University.

A few days ago, I sent you a letter explaining that I am conducting research to develop and test a self-assessment tool called the Nurse Manager Competency Inventory (NMCI). This instrument is being tested by nurse managers in your institution to determine the competencies linked to performance and staff retention.

This research is so important because the role of the nurse manager has changed so drastically and is such an important position-sometimes referred to as a “Chief Retention Officer” in the hospital. Research is needed to explore the role and provide a methodologically sound foundation for developing education, certification, and training programs for first-line nurse managers and for staff aspiring to transition into the manager role.

You are being asked to complete a survey that asks you to indicate how frequently you perform each activity or task that is listed, and it will take you less than 15 minutes to complete the survey. If you wish, you will be entered in a drawing to win a **\$25 electronic Amazon gift certificate** and will receive the results of this research (upon completion of the study) if you so desire.

Please click on this link to go directly to the survey:

<http://146.186.106.7/Surveys/deonna2.htm>

If you have any questions, please contact me directly at 814.863.6717 or via email at jxg141@psu.edu. Thank you in advance for your willingness to serve the nursing profession in this capacity.

Best regards,

Janetta DeOnna, RN, Ph.D. candidate
Workforce Education & Development Program
The Pennsylvania State University
118B Keller Bldg.
University Park, PA 16802

Phone: 814.863.6717
Email: jxg141@psu.edu

APPENDIX I

REMINDER LETTER

May 3, 2006

Dear Nurse Manager,

A few days ago I sent you information about the Nurse Manager Competency Inventory and asked you to complete the online survey. If you have already completed the survey, thank you very much.

The instrument will help provide a research-based foundation for developing education, certification, and training programs for first-line nurse managers and career planning for nursing staff aspiring to transition into the manager role. Your expertise is invaluable in order to test the instrument.

If you have not yet had time to complete the instrument, please do so at your earliest convenience. You may access the survey by clicking on this link:

<http://146.186.106.7/Surveys/deonna2.htm>

If you wish, you will be entered in a drawing to win a \$25 electronic Amazon gift certificate and receive a copy of the research findings. If you have any questions about the study or the instrument, please contact me at 814.863.6717 between 9:00 am – 5:00 pm (Monday-Friday) or via email anytime at jxg141@psu.edu.

Again, thank you.

Best regards,

Janetta DeOnna, RN, Ph.D. candidate
Workforce Education & Development Program
The Pennsylvania State University
118B Keller Bldg
University Park, PA 16802

Phone: 814.863.6717

Email: jxg141@psu.edu

VITA

Janetta DeOnna, RN, B.A., M.Ed., Ph.D.

The Penn State Office of Economic & Workforce Development

118B Keller Bldg.
University Park, PA 16802
Phone: 814.863.6717
Email: jxq141@psu.edu

PROFESSIONAL PROFILE

- Experienced in program and project management, coordination, development and evaluation; skill gap analysis; training & development; job analyses, instrument design and data collection.
- Demonstrated success in securing funding and directing multiple projects with various government agencies and professional organizations.
- Established track record of bringing educational and industry partners together to meet incumbent worker training needs and capitalize on funding opportunities.
- Licensed Registered Nurse with professional training and experience in medical services, health education and health promotion.

INTERPERSONAL QUALITIES

- Innovative, service-oriented, effective facilitator with collaborative style
- Able to identify trends and seek opportunities to bring stakeholders together
- Strong organizational skills, able to multi-task
- Highly flexible; eager and willing to learn new skills as needed to accomplish goals
- Positive affect and sense of humor
- Lifelong learner

EDUCATION

- Ph.D. Workforce Education & Development**
The Penn State University 2006
- M.Ed. Health Education** (emphasis in *Worksite Health Promotion*)
The Penn State University 1997
- B.A. Psychology**
West Virginia University—Magna Cum Laude 1990
- A. D. Nursing**
Salem College, Salem, WV 1977

CURRENT LICENSURE

Registered Nurse, Pennsylvania licensure

CERTIFICATES

- Facilitator, DDI (Development Dimensions International Learning Systems, Penn State University, 3/00
Certification, SCID (Systematic Curriculum & Instructional Development), Ohio State University, 6/00
- Facilitator, DACUM (Develop A Curriculum), Ohio State University, 2/99