FACTORS THAT INFLUENCE THE CAREER DECISIONS OF PERIOPERATIVE NURSES

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ABSTRACT

JULIA A. THOMPSON

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The purpose of this research was to explore factors that influence nurses of different age groups to choose to work and stay in perioperative nursing. A second goal of the study was to determine if there was a difference in the perception of the work environment among perioperative nurses by age groups.

A methodologic triangulated research design employing both qualitative (participant interviews) and quantitative (Moos Work Environment Scale [WES]) data collection methods was used for this study. A purposive sample of 247 perioperative registered nurses, 162 veteran nurses born from 1938-1960 and 85 newer nurses born from 1961-1982, working in 11 large, urban operating rooms in the southwest United States, were surveyed using the WES to determine nurses' perceptions of their work environment. A sub-sample of 14 RNs from the survey participants, 7 veteran nurses and 7 newer nurses, contributed data collected from semi-structured interviews using a phenomenological approach.

Descriptive statistics were used to analyze the sample demographics. Data obtained from the WES were analyzed using the WES template. A *t*-test evaluated the difference in perception of the perioperative work environment between nurses of different age groups. Content analysis was used to gain a more in-depth and specific view of the factors that influence the career decisions of perioperative nurses and to provide validation for the results of the WES. Lastly, using the across-methods triangulation design, all data obtained were analyzed to identify findings common to all methods.

The study found that perioperative nurses, of various age groups, are more alike than different in their decision to choose and remain in perioperative nursing and in their perceptions of the work environment. Results of the quantitative portion of the study found that entrenched workforce nurses gave higher ratings than emerging workforce nurses for involvement--the extent to which employees are concerned about and committed to their jobs. Content analysis from the qualitative study revealed themes related to factors that influence nurses of different age groups decisions to become and remain perioperative nurses: Exposure, attractive attributes, getting there, good relationships with team members, making a difference, and learning/challenging environment. No differences were found in the quantitative reports of perception of the work environment versus response to the qualitative interviews. No differences were found in the quantitative reports of perception of the work environment versus response to the qualitative interviews.

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CHAPTER 1

INTRODUCTION

The growing concern about the nursing shortage necessitates more attention to recruitment and retention issues. The challenges of recruiting a younger generation of nursing staff and meeting retention demands of cross generational needs will be a challenge like no other seen in healthcare (Bradford & Raines, 1992; Cordeniz, 2002; Izzo & Withers, 2002; Kupperschmidt, 1998; Wieck, 2000). The perioperative sector, facing the same challenges to recruit and retain registered nurses (RN) as other specialty areas, must seek creative solutions to the problems of recruiting new nurses and retaining them once they arrive.

There is currently a severe nursing shortage in the specialty of perioperative nursing (Beyea, 2002; Buerhaus, 2000). Recommendations to solve the shortage have been based on data that fail to consider the basis of nurses' specialty career choice within the nursing profession or nurses' perception of work, which is influenced by the generation in which they were born. The workforce today is composed of two distinct generational cohorts, the "baby boomers" or the "entrenched workforce" (persons born between 1943 and 1960) and the "emerging workforce" (born between 1961 and 1977) also known as Generation X (Coupland, 1992). The term generational cohort refers to people born in the same general time span who share key life experiences, which include

demographic trends, historical events, public heroes, entertainment pastimes, and early work experiences (Kupperschmidt, 1998). These common life experiences create cohesiveness in perspectives and attitudes and define the unspoken assumptions of the generation. As a result, employees of different age groups do not share the same work ethic or expectations (Dunn-Cane, Gonzalez, & Stewart, 1999; Zemke, Raines, & Filipczak, 1999). Certainly, each human being is individual. However, understanding generational experiences and perspectives from different age groups is essential to recruitment and retention.

Problem of the Study

Without understanding grounded in the perceptions of registered nurses who have chosen a perioperative nursing career and are willing to describe the various outcomes, there is no basis for practice interventions that may ultimately result in recruiting and retaining registered nurses to perioperative nursing. An understanding of nurses' process for career decision making is necessary to develop successful strategies to sustain and encourage the choice of perioperative nursing careers. The purpose of this study was to explore the career decision-making process of perioperative nurses' from different age groups including the effect of work environment perceptions.

Rationale for the Study

According to the National Sample Survey of Registered Nurses, the estimated population of licensed RNs in March 2000 was 2,696,540 (United States Department of Health and Human Services, 2000). Of this total, approximately 58% were employed

full-time, 23% were employed part-time, and 18.3% were not employed presently in nursing. The average age of nurses was 45.2 years, and only 31% of the working nurse population was less than 40 years. During the next decade, it is anticipated that the increase in the number of RNs retiring will collide with an aging United States population to result in an even greater demand for nurses to meet the needs of a rising number of patients.

The nursing shortage is having a direct impact on patient care. Shortages of nurses are causing ambulance diversions and emergency room overcrowding, units closings, canceled elective surgeries, scaled back or discontinued patient care programs and delayed discharges (American Hospital Association [AHA], 2001; Robert Wood Johnson Foundation, 2002). In August 2002, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) issued a report on the nursing shortage, concluding that insufficient nursing staff ratios were a contributing factor in nearly 25 percent of unanticipated problems resulting in injury or death to hospitalized patients (Joint Commission on Accreditation of Healthcare Organizations [JCAHO], 2002).

Shortages in specialty care units are recognized and particularly significant for perioperative nursing. In a recent survey of 1,500 perioperative leaders, 57% reported vacant positions and an average of five to nine months to fill vacancies (Voluntary Hospitals of America, Inc., 2000). In another survey done by the Gallup Organization (2001), researchers reported that participating hospitals averaged 1.4 unfilled full-time perioperative nurse positions. These results confirm anecdotal reports of vacancies,

cancellations of elective procedures, and closures of operating rooms. The average age of perioperative nurses is 47 years (Briggs, 2000), so it is anticipated that the shortage in the perioperative specialty will continue to worsen due to the declining number of nurses available to replace retiring nurses. Additionally, over the past 30 years there has been a continuous decline in the number of basic nursing programs offering educational perioperative clinical experiences (Beitz & Houck, 1997; Bonar, 1997; Wagner, Kee, & Gray, 1995). This decline has had a negative impact on perioperative nursing because it is difficult to recruit nurses to an area of practice in which they have little knowledge or skill.

The developing nursing shortage has focused attention on the emerging workforce, the smallest pool of entry-level workers in modern times and the most sought after labor pool in United States history (Bradford & Raines, 1992). The success of every enterprise lies with the ability to attract, retain, and fully utilize their talents.

This new generation of nurses is in demand to fill vital gaps as baby boomers enter peek career years and prepare to retire, but they are unwilling to pay the same price for success that previous generations paid and are challenging traditional work attitudes (Dunn-Cane, Gonzalez, & Stewart, 1999; Santos & Cox, 2000; Wieck, Prydun, & Walsh, 2002). The emerging workforce has a different orientation to work, life fulfillment, technology, and service (Bradford & Raines, 1992; Tulgan, 2000). Understanding emerging workforce nurses, tapping into their value set, and aligning it with new work environments is a key to building a sustainable nursing workforce.

Considerable research has been directed at determining why people select nursing as an occupation *per se*, but little has been done to explain their preferences for specialties within that broad area. No research studies were found that specifically identified what motivates individuals to choose perioperative nursing as a career choice. Additionally, no research was found that investigated factors related to potential nurse applicants' ages and perioperative nursing's attractiveness as a career. Thus, there is limited empirical evidence to guide the perioperative nursing profession in attracting applicants and retaining the current workforce, regardless of their age.

Theoretical Framework

Leininger's Theory of Culture Care Diversity and Universality (Leininger & McFarland, 2002; Leininger, 2000) provided the theoretical framework for this research. Leininger emphasizes the meaning and importance of culture in explaining an individual's health and caring behavior, and her Culture Care Theory is the only theory that focuses specifically on transcultural nursing (Leininger & McFarland, 2002). The theory is based on the premise that care, or caring, as the essence of nursing, is a universal phenomenon defined by one's culture. Further, the goal of nursing is to provide care that corresponds with one's cultural views (Leininger, 2000; Leininger & McFarland, 2002). The theory was developed to be used in any culture or subculture to discover emic (inside the culture) or etic (outside the culture) inductively based, grounded data that provide the epistemic and ontologic dimensions of nursing knowledge. Among the strengths of Leininger's theory is its flexibility for use with

individuals, families, groups, communities, and institutions in diverse health systems.

According to Leininger, culture is defined as the "learned, shared and transmitted knowledge of values, beliefs, and lifeways of a particular group that are generally transmitted intergenerationally and influence thinking, decisions, and actions in patterned or certain ways" (Leininger & McFarland, 2000, p. 47). This view of culture is not geographically bound nor confined to any race or ethnicity but speaks broadly of an identified group. Leininger defines nursing culture as the "learned and transmitted lifeways, values, symbols, patterns, and normative practices of members of the nursing profession of a particular society" (Leininger & McFarland, 2002, p. 183). Leininger defines a subculture as "closely related to culture, but refers to subgroups who deviate in certain ways from a dominant culture in values, beliefs, moral codes, and ways of living with some distinctive features that characterized their unique lifeways" (Leininger & McFarland, 2002, p. 47). A subculture of nursing, according to Leininger, refers to "a subgroup of nurses who show distinctive values and lifeways that differ from the dominant or mainstream culture of nursing" (Leininger & McFarland, 2002, p. 183). Leininger's theory suggests that care diversities and commonalities exist in all cultures. Leininger postulates that there are generic and professional care meaning, symbols, patterns, processes, and practices transculturally, but they might not be the same everywhere. It is essential that nurses, educators, practitioners, as well as nursing administrators consider alternative worldviews, social and cultural structures, languages, and ethnic histories with patients, staff, and colleagues.

Additionally, Leininger suggests that for nurses to assist people of diverse or similar cultures, three dominant actions and decisions modes are essential. These three modes include cultural preservation and maintenance, culture care accommodation, and culture care restructuring (Leininger, 2000). Culture care and maintenance refers to those assistive, supportive, and facilitative activities that enable professions to help people retain and preserve cultural values. Such preservation assists in the maintenance of optimal well-being. Cultural care accommodation refers to the professional actions and decisions that help individuals of a designated culture adapt to others for a beneficial outcome, whereas cultural repatterning refers to those activities that assist in reordering, changing, or greatly modifying patterns, cultural beliefs, and cultural values to improve health status.

Leininger's Sunrise Model (see Figure 1) depicts the components of the Culture Care theory, and provides a visual schematic representation of the key components of the theory and the interrelationships among the parts of the theory. Leininger's sunrise model symbolizes the rising of the sun (care), the upper half depicts the social and worldview factors, while the middle and bottom halves are represented by the environmental and ethnohistory components (Leininger, 2000). All the factors are interrelated inside the model. The cultural and social structure dimensions include technological, religious, philosophic, kinship, social, values, and lifeways, political, legal, economic, and educational factors. These factors influence the patterns and expressions of caring in relation to the health of individuals, families, groups, and communities. The

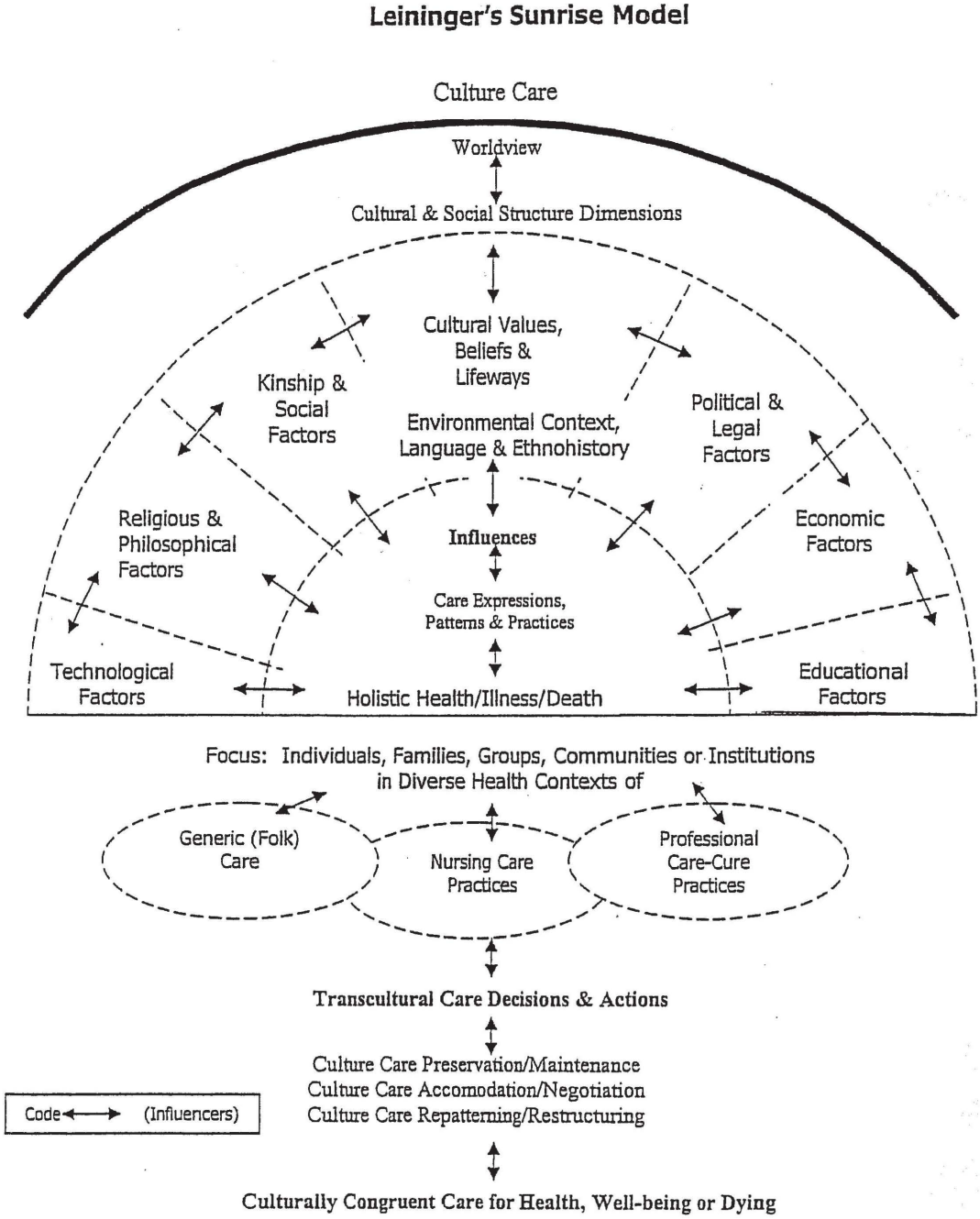

Figure 1. Leininger's Sunrise Model to depicit the Theory of Cultural Care Diversity and Universality. From *Cultural Care Diversity and Universality: A Theory for Nursing* by M. Leininger, 1991 New York: National League for Nursing. Reprinted by permission.

involved health systems include folk systems, nursing, and other professional systems. To achieve culture congruent care, nursing actions are to be planned in one of three modes, culture care preservation/maintenance, culture care accommodation/negotiation, or culture care repatterning/restructuring.

Leininger's culture care theory provides nursing leadership with an excellent framework for administrative practice. Leininger defines transcultural nursing administration as "the creative and knowledgeable process of assessing, planning, and making decisions and policies that will facilitate educational and clinical service goals that take into account cultural caring values, beliefs, symbols, and lifeways of people of diverse and similar cultures for beneficial outcomes (Leininger & McFarland, 2002, p. 563). Transcultural nursing administrative perspectives are essential for survival, growth, satisfaction, and achievement of goals in the multicultural workplace.

The Culture Care Theory was an appropriate framework to study the culture of perioperative nursing (see Figure 2). The theory was used to discover perioperative culture care administrative patterns, practices, and needs for decision making or planning related to recruitment and retention. The Sunrise Model highlighted areas for seeking cultural knowledge through identifying different factors and interactions contributing to a culture's worldview. The theory framed the perspective for approaching this research study and provided a useful cognitive map for exploring culture in the perioperative nursing work environment. By focusing on the worldview and diverse social structures and environmental factors, features were identified. Social structure factors such as generational cultural values, beliefs, and practices, operating room unit.

Leininger's Sunrise Model to Depict the Factors that Influence the Career Decisions of Perioperative Nurses

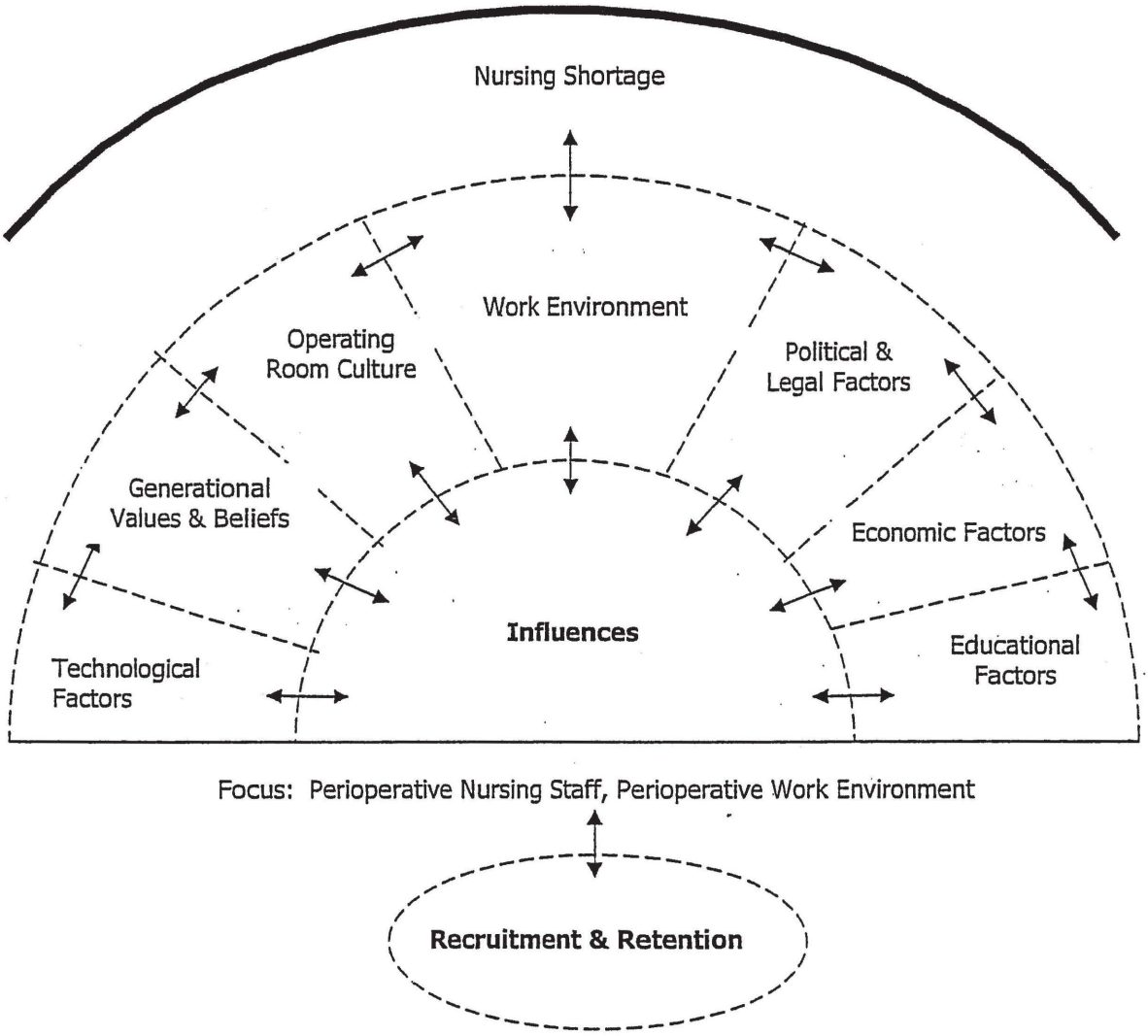

Figure 2. Leininger's Sunrise Model to depict the factors that influence the career decisions of perioperative nurses.

culture, work environment, education factors, gender and ethnicity factors, and other related factors need to become known and used by nursing leadership to increase recruitment and retention. If nursing leadership does not examine social structure functions, they may miss critical indicators that influence staff recruitment and retention.

The Culture Care Theory has three theoretical modalities to assess, plan, and develop decisions or actions for culturally congruent outcomes. The first modality is "culture care preservation and maintenance." This method works by identifying what factors need to be preserved and maintained within perioperative nursing leadership for optimal recruitment and retention. The second method, "culture care accommodation or negotiation" identifies what factors need to be accommodated or negotiated within perioperative nursing leadership for optimal recruitment and retention. Lastly, "culture care repatterning or restructuring" assists in identifying what factors need to be reorganized, repatterned, or restructured to make changes in perioperative nursing leadership for optimal recruitment and retention. The three modalities of the Culture Care Theory provided guidelines for culturally congruent recruitment and retention practices for perioperative nursing leadership.

A transcultural framework helped identify subcultures within the larger community of perioperative nursing. Leininger (2000) believes that each professional culture has different values, beliefs, and norms that guide their decisions and actions. A cultural focus allowed this variety and facilitates data collection about specific groups such as the emerging workforce and baby boomer nurses. A cultural framework

facilitates a view of the perioperative nursing community as a complex collective yet allows for diversity within the whole as well.

A transcultural framework was essential to the identification of the values and cultural norms of a nursing community. Although values are universal features of all cultures, the types and expressions vary widely even within the same nursing community. Leininger (2000) identified several reasons why nurses should learn about the culture of nursing. One reason is that acquiring knowledge of the culture of nursing can assist professional nurses to understand some of the dominant, recurrent, and patterned features of nursing which can then help nurses reflect on their nursing behaviors and gain new perspectives about the beliefs and practices of the nursing profession. Another reason for nurses to understand the culture of nursing is to appreciate the differences and similarities among nursing cultures.

The relevance of Leininger's theory and underlying premises can be seen clearly when the cultural dimensions are considered when recruiting and retaining nurses to perioperative nursing. In order to attract and retain nurses effectively, perioperative nursing leaders must know what nurses want in the workplace and take steps to actualize workplace development strategies. If the perioperative nursing work environment is not culturally congruent, it will be rejected by nurses (e.g. they will not apply for perioperative nursing positions or they will leave perioperative nursing) because the work environment does not reasonably fit their cultural values, beliefs, and lifeways.

Assumptions

Leininger has formulated several theoretical assumptions to guide nurses in their discovery of culture care phenomena (Leininger & McFarland, 2002; Leininger, 2000). The assumptions are derived from the theoretical conceptualizations and philosophical positions of the Culture Care Theory, and are used as guides to systematic study of the theory. Framework assumptions for this research study included:

1. Culture-care values, beliefs, and practices are influenced by and tend to be embedded in the worldview, language, philosophy, religion (and spirituality), kinship, social, political, legal, educational, economic, technological, ethnohistorical, and environmental context of cultures.
2. The qualitative research method provides an important means to accurately discover and interpret emic and etic embedded, complex, and diverse culture-care data.
3. Nursing is a culture with its own cultural care values.

Research Questions

1. Is there a difference in the perception of the work environment among perioperative nurses by age groups?
2. What factors influence nurses of different age groups to choose perioperative nursing as a specialty?
3. What factors influence nurses of different age groups to remain in perioperative nursing?

Definition of Terms

The following definitions are offered to add clarity and guidance to the study:

1. Nurses of Different Age Groups: Any set of nurses born at different times in a limited span of consecutive years. For this study, nurses of different age groups will be two groups, Emerging Workforce and Entrenched Workforce.
    a. Emerging Workforce: Persons born between the years of 1961 and 1977. This group of individuals is also known as "twenty-somethings" or "Generation X" (Coupland, 1992; Bradford & Raines, 1992).
    b. Entrenched Workforce: Persons over the age of 35 (Wieck, Prydun, and Walsh, 2002). This group of individuals, born between 1943 and 1960, is also known as "Baby Boomers" (Strauss & Howe, 1991).
2. Influencing Factors: To have an effect on any of the circumstances, conditions, behavior, development or action that bring about a result (Neufeldt & Guralnik, 1997). For this study, influencing factors will be the reoccurring themes identified by perioperative nurses interviewed.
3. Perceptions of Work Environment: How a person views the work setting and his or her place in it (Moos, 1995). For the purpose of this study, perceptions of the work environment will be the scores obtained on the three dimensions of the Work Environment Scale (WES) Form R (Moos, 1995).
    a. Perioperative Work Environment: The place in which perioperative nurses work. For this study, the perioperative work environment will be the intraoperative setting.
4. Perioperative Nursing Practice: Those nursing activities performed by the professional nurse in the preoperative, intraoperative, and postoperative phases of the

patient's surgical experience (Association of periOperative Registered Nurses [AORN], 2001b).

Limitations

A number of limitations were identified that restrict the generalizability of this study. They include the following:

1. A convenience sample was utilized for the study. This self-selection could bias the research (Polit & Hungler, 1999).
2. The use of self-report data. Survey research has limitations when one relies only on self-report with measurement error always a concern (Knapp, 1998; Polit & Hungler, 1999).
3. Although the Work Environment Scale (WES) has been used in a number of investigations into health care settings the scale was originally designed for industrial settings, as is reflected by the wording of the items. Therefore, it does not specifically address the health care context, with the result that certain items may be found ambiguous for health care workers.
4. The sample size was limited to perioperative nurses practicing in an urban area of the southwestern United States and may not be representative of the entire population of perioperative nurses (Knapp, 1998).
5. The description of the phenomenon was limited to the respondents' abilities and willingness to verbally articulate personal experiences.

6. In qualitative research, the researcher is the primary instrument for data collection (Creswell, 1998; Lofland & Lofland, 1995). Thus, data analysis, which is filtered through the researcher's perception and perspectives, may risk subjectivity.

Summary

Solutions to the nursing crisis are elusive. Today's nurse leaders are hard-pressed to provide new answers to questions about recruitment and retention. The tried-and-true solutions of the past, foreign recruitment and increasing enrollments in nursing schools, are not working. The shortage is global and young people are not finding nursing an attractive career choice (Wieck, Prydun, & Walsh, 2002). Leadership in this environment calls for a clear understanding of why nurses make career choices and an identification of factors, which will increase the likelihood of recruitment and retention success. To attract registered nurses into specific specialties, managers need basic information about how young nurses make their choices on where they decide to work. This exploration of a highly specialized area of healthcare, perioperative nursing, may offer a model for nurse administrators and managers in other specialty areas to improve their recruitment and retention efforts. Leadership is enhanced when knowledge is increased. This study provides insights into decisions of young and more senior nurses to work in a specialized area so that time, effort, and resources can be channeled into those activities, which are most likely to succeed.

CHAPTER 2

REVIEW OF THE LITERATURE

Nursing is an essential part of the health care system, and the growing nursing shortage is straining an already burdened health care system. Nurses interact with patients throughout the health continuum. The viability and success of our health systems are directly connected to the stability, skills and knowledge of nursing professionals. It is imperative to develop and implement strategies that will foster the recruitment and retention of qualified registered nurses (RN).

Considerable research has been directed at determining why people select nursing as an occupation per se, but little has been done to explain their preferences for specialties within that broad area. No research studies were found that specifically identified what motivates individuals to choose perioperative nursing as a career choice.

This review focuses on literature pertaining to the structure and process of Leininger's Sunrise Model as it depicts the factors that influence the career decisions of perioperative nurses. The review begins with the factors impacting the nursing shortage, age groups and generations, work environment and special concerns of perioperative nursing.

Nursing Shortage

The demand by health care entities for nurses has begun to outstrip the supply in many areas of the county, resulting in concerns about ensuring an adequate nursing

workforce in the future. The causes of this shortage are complex and different from nursing shortages in the past. The aging workforce, declining nursing school enrollment for new nurses (with an older nursing student), school faculty shortages, increased career opportunities, nursing's image as an unattractive career choice, and the increased demand for nursing services due to the aging baby boom population's growing need for management of chronic illnesses and conditions, are all contributing to the nursing shortage. This is the greatest workforce challenge to nursing in twenty years.

Demographics

The United States is now facing one of the most severe nursing shortages in its history. The American Hospital Association (AHA) (2001) reports that there are currently 126,000 vacant, full-time positions for registered nurses (RNs) in hospitals and healthcare facilities throughout the county. Hospitals have been forced to curtail services as demand for such services is increasing (AHA 2001; American Organization of Nurse Executives [AONE], 2002; Robert Wood Johnson Foundation, 2002). Administrators in key specialty areas, such as critical care and emergency and operating rooms, are reporting difficulty in filling nursing roles (AONE, 2002; Surgical Information Systems, Inc., 2001; Voluntary Hospitals of America, Inc., 2000).

While hospitals have experienced cyclical nursing shortages in the past, this shortage has more significant implications and is less easily addressed than previous undersupplies. Demographics are implicated as a primary driver, with a steady decline in nursing school enrollments as the current nursing workforce ages and prepares for

retirement (American Association of Colleges of Nursing [AACN], 2003b; United States General Accounting Office, 2001; United States Department of Health and Human Services [DHHS], 2000).

Registered nurses compose the largest health care occupation in the Unites States (U.S.) (U.S. Department of Labor – Bureau of Labor Statistics, 2002). As of March 2000, the total number of RNs in the U.S. was estimated at 2.7 million (DHHS, 2000). Of those, an estimated 81% report being employed in nursing, 58% were employed full-time and 23% were employed part-time. The average age of nurses was 45.2 years, with the lowest percentage of nurses being under the age of 35. The most significant drop in numbers was also seen among nurses less than 35 years, with only 18.3 % under 35 in 2000, as compared to 40.5% under 35 years in 1980 (DHHS, 2000). As the older nurses begin to retire within the next two decades, the RN workforce is expected to be 20% below projected requirements by 2020 (Buerhaus, Staiger, & Auerbach, 2000).

Demographics aside, other issues are also thought to contribute to the nursing shortage: decreased nursing school enrollment, increased career opportunities for women, rising wages for women relative to men, higher hospital census/greater acuity, and changes in the work environment (Aiken, Clarke, Sloane, Sochalski, & Silber, 2002; AORN, 2002; Murray, 2002; Nevidjon & Erickson, 2001). Additionally, an increasing perception of nursing as a less than desirable career choice because of stressful working conditions such as night and weekend shifts, exposure to contagious elements, reduced

time for patient care, and employer policies that push individuals to do more with less is believed to seriously affect recruitment of nurses (Murray, 2002).

Nursing School Enrollment

Enrollment in schools of nursing is one of the predictors that determine whether the supply of nurses meets the demand. Schools of nursing are reporting a decline in student enrollment, which translates into fewer nurses in the educational pipeline. In fall 2002, the American Association of Colleges of Nursing (AACN) found that enrollment in entry-level baccalaureate programs in nursing increased by 8% nationwide since fall 2001. Despite this increase, enrollment is still down by almost 10% from 1995 (AACN, 2003a). McKibbin (1990) argued the decline in enrollment in nursing colleges was a precipitating factor influencing the severity and length of the nursing shortage in the 1990s. McKibbin also predicted that "without more fundamental changes in the perceived attractiveness of nursing as a career choice, the numbers of new nurses prepared in the United States may be not be adequate to meet future requirements" (p.72). Mendez and Louis (1991) affirmed this in their findings and have concluded the combined situation of declining enrollment into nursing schools and an increasing demand for nursing services has made the impending shortage of 2010 different from and more acute than previous nursing shortages in the U.S.

School Faculty Shortage

The nursing shortage is not confined solely to care providers; there is also a growing, significant shortage of nursing school faculty (AACN, 2003a). The lack of

faculty will keep educational programs from producing more nursing graduates. In turn, fewer nurses will be available to choose an academic career, further increasing the faculty shortage. Nurses with graduate degrees have multiple opportunities in health care including administrative, entrepreneurial, and clinical research positions that provide more financial rewards than faculty positions (AACN, 2003a).

The shortage of nursing faculty will also affect the expansion of the knowledge base for nursing practice. As the number of faculty conducting research decreases, the knowledge base behind nursing practice threatens to stagnate.

Increased Career Opportunities for Women

Females largely dominate the nursing profession – 92.9% of RNs are women (U.S. Department of Labor – Bureau of Labor Statistics, 2002). Today women have many more career opportunities than they did just a few decades ago. Women are now pursing many competitive, attractive, and lucrative careers that were virtually closed to them in the 1960s when "baby boomers" made their career choices. Women are entering law schools and medical schools in record numbers (American Bar Association, 2002; Barzansky & Etzel, 2003). They are assuming leadership posts in the corporate sector and government.

Staiger, Auerbach, and Beurhaus (2000) analyzed data obtained from information on career plans of college freshman reported in the Cooperative Institutional Research Program (CIRP) freshman surveys, conducted each fall since 1966 by Higher Education Research Institute at the University of California, Los Angeles. The CIRP annually

surveys between 250,000 and 350,000 first-year students attending a nationally representative sample of between 300 and 700 2-year and 4-year colleges and universities. The survey provides annual data on backgrounds, characteristics, attitudes, education, and future goals of new students entering college in the United States from 1966 to the present. Staiger, Auerbach, and Beurhaus (2000) found that in 1999, five percent of female college freshman and less than .05 percent of men identified nursing as being among their top career choices. This represented a decline of 40 percent for women since 1973.

Image

A career in nursing may be looked upon as undesirable because of societal stereotypes. Although the nursing profession ranks highly as a trusted profession in the U.S. (Gallop, 2001; Sigma Theta Tau International & NurseWeek/HealthWeek, 1999), the public often devalues the role of a nurse as simply an assistant or a handmaiden to physicians. The duties of a nurse may be seen as no more than a caretaker and a career in nursing may be perceived as unfulfilling or lacking prestige. Several studies (Blasdell & Hudgins-Bewer, 1999; Grossman & Northrop, 1993; Kohler & Edwards, 1990; Marriner-Tomey, Scwier, Maricke, & Austin, 1996; May, Champion, & Austin, 1991; McKibbin, 1990; Mendez & Louis, 1991; Reiskin & Haussler, 1994; Stevens & Walker, 1993; Wilson & Mitchell, 1999) indicate that students have a negative perception of nursing and nursing education, and that they do not understand the full dimensions of a career in nursing.

Nurses may negatively shape the impression that others have about their profession. More than 54% of nurses surveyed by the American Nurses Association (ANA) (2001) said they would not recommend the nursing profession as a career for their children or friends. Alarmingly, 23% of the nurse respondents expressed that they would "actively discourage" someone close to them from entering the nursing profession (ANA, 2001).

In addition to the increase in alternative careers is the increasing perception of nursing as a less desirable career choice. Stressful working condition – night and weekend shifts, exposure to contagious elements, reduced time for patient care, and employer policies that push individuals to do more with less – do not project the profession of nursing as an attractive career choice, as it once was. In the ANA (2001) national staffing survey, 7,299 nurses commented on their working conditions and provided their assessment of health care in the U.S. Seventy percent of the respondents cited inadequate staffing as the primary reason for the decline in quality of nursing care, followed by decreased nursing satisfaction and delays in providing basic care. The Jobs Rated Almanac (Krantz, 2002) rated nursing as the 120th most desirable job out of 250 professions based on the work environment, income, future prospects, physical demands, job security, job stress, wages, length of work day, and hiring trends.

Impact

Registered nurses are essential in ensuring access to and quality of care. The nursing shortage poses a significant threat to society's most vulnerable populations and has adverse implications for the quality of health care.

Several recent research studies identify the relationship between adequate levels of registered nurse staffing and safe patient care. Blendon, et al. (2002) found that 53% of physicians and 65% of the public cited the shortage of nurses as a leading cause of medical errors. Overall, 42% of the public and more than a third of U.S. physicians reported that they or their family members have experienced medical errors in the course of receiving health care. Aiken, Clarke, Sloane, Sochalski, and Silber (2002) determined that patients who have common surgeries in hospitals with high nurse-to-patient ratios have up to a 31% chance of dying. The study also found that every additional patient in an average hospital nurse's workload of four patients increased the risk of death in surgical patients by 7%. Further, nurses with higher workloads were more likely to report feeling stressed and more likely to report symptoms of burnout. This study indicates that having too few nurses may actually cost more money given the high costs of replacing burnt-out nurses and caring for patients with poor outcomes. In August 2002, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) issued a report on the nursing shortage, concluding that insufficient nursing staff ratios were a contributing factor in nearly 25 percent of unanticipated problems resulting in injury or death to hospitalized patients (JCAHO, 2002). Needleman, Beurhaus, Mattke,

Stewart, and Zelevinsky (2002) found that a higher proportion of nursing care provided by RNs and a greater number of hours of care by RNs per day are associated with better outcomes for hospitalized patients. The recent Institute of Medicine study, *Keeping Patients Safe: Transforming the Work Environment of Nurses* (2004), recommends that nurses work no more than 12 hours out of every 24 hours and no more than 60 hours in any seven-day period. The nursing community is divided over the limitation of hours with much of the controversy falling along generational lines.

Mandatory overtime is becoming more prevalent as the nursing shortage worsens. In nursing, mandatory overtime has historically been used to provide nursing staff in a facility when an emergency has occurred and nursing staff is not available for work on upcoming shifts. With this most recent nursing shortage, facilities are now using mandatory overtime as a routine method for nurse staffing, but this method of staffing is dangerous for both patients and nurses. In 2001, ANA's national staffing survey of nurses found that more than 67 percent of the respondents are working unplanned overtime every month. The Safe Nursing and Patient Care Act of 2003 bill was introduced into the U. S. House of Representatives and companion legislation was introduced in the U.S. Senate (ANA, 2003). This legislation limits the ability of hospitals and other health care providers to require mandatory overtime from nurses. It would be enforced through Medicare's provider agreements. This bill will improve working conditions for nurses and quality of care for patients.

Identified Strategies to Increase the Supply

Experts across the country are discussing long and short-term strategies to reverse the accelerating trend of an inadequate supply of nurses in the face of an increasing demand. Proposed strategies to address the nursing shortage have included, but are not limited to, adapting to the needs of an older RN work force, developing ways to better use scarce RNs by enhancing the application of labor-saving technology, improving the training and competence of unlicensed personnel who appropriately assist nurses in the care of patients, targeting under-represented and nontraditional groups for recruitment, increasing wages and non-wage benefits, forgiving loans and establishing nursing scholarships, targeting youth in junior high and high school for recruitment, launching national media campaigns to help polish the image of nursing, and enforcing better staffing ratios (AACN, 2003a; Clark, 2002; Johnson & Johnson, 2002; Nevidjon & Erickson, 2001).

The 2002 report of the Joint Commission on Accreditation of Healthcare Organizations (JCAHO), *Health Care at the Crossroads: Strategies for Addressing the Evolving Nurses Crisis,* data was examined that related to the nursing supply. The report concluded that the nursing shortage was having a negative effect on patient care. Three strategies were identified to address the problem: create organizational cultures of retention, bolster the nursing educational infrastructure, and establish financial incentives for investing in nursing.

Buerhaus, Staiger, and Auerbach (2000) state that it is imperative to prepare now for an older workforce by making improvements in ergonomics into the nursing profession in order to assure nurses' health. Ignoring the ergonomic needs of an aging RN workforce, one that is more likely to have foot, back and neck injuries, may cause nurses to look for employment in other agencies or leave the profession altogether. The profession and employers must find new ways to organize the delivery of care using scarce, and older, RNs.

In 1982, the American Academy of Nursing identified magnet hospitals as those that attract and retain nurses, are good places to work, and deliver quality nursing care (McClure, Poulin, Sovie, & Wandelt, 1983). These organizations have been able to endure national nursing shortages because of the favorable reputations they have for attracting and retaining nurses (Sullivan-Havens & Aiken, 1999). Magnet hospitals report lower turnover and vacancy rates and higher job satisfaction levels (Scott, Sochaliski, & Aiken, 1999; Upenieks, 2003). The American Academy of Nursing's groundbreaking "Magnet Hospital" study outlined recommended solutions to the nursing shortage of the day that included: A philosophy of caring from top management that pervades the patient care environment; leaders that are visible and accessible; participatory management with practicing nursing engaged in decision making at the unit, departmental, and hospital levels; facilities that contribute to better care for patients; directors that interact frequently with nursing staff one-to-one; extensive involvement of nursing in planning for new services and technology selection; quality assurance

programs that identify and resolve problem situations; nursing administration that recognizes the autonomy of the professional nurse; and leadership that encourages the nurses in their continuing self-development.

More complex steps will need to be taken to ensure stability in the nursing workforce over time and to prevent shortages from happening again. Failure to address the nursing shortage now will result in lower quality patient care. Nursing leadership needs to devise dramatic, creative mechanisms to increase the number of well-educated, properly trained nurses throughout the health care industry nationwide.

Age Groups and Generations

Recommendations to solve the nursing shortage have been based on data that fail to consider the basis of nurses' specialty career choice within the nursing profession or nurses' perception of work, which is influenced by the generation in which they were born. A generation is a group of people or cohorts who share birth years and experiences as they move through time together, influencing and being influenced by a variety of factors (Strauss & Howe, 1991). These factors include shifts in society-wide attitudes; changes in social, economic, and public policy; and major events, such as the Vietnam, Persian Gulf, and Iraq Wars, the Great Depression, the Challenger space shuttle disintegration, the terrorist attack in New York City on September 11, 2001, and recent corporate downsizings. Cohorts develop a peer personality or general characteristics as a result of these shared experiences (Strauss & Howe, 1991). All people are individuals, however, the things that members of cohorts have in common are specific events and

societal trends that shaped their behavior, their perceptions of the world, and their values including their attitude toward authority and organizations; what they want and need from work; how they expect to meet these work-related needs and wants; and their attitude toward marriage and family responsibilities.

Each generation has a unique perspective on the world of work. Its members tend to hold similar views about what is an attractive work environment. Understanding the philosophical and attitudinal differences between the generations is critical to the future of nursing to develop insight and recruitment and retention strategies.

Entrenched Workforce

The nursing workforce is aging as evidenced by the mean age being 45.2 years (U.S. Department of Health and Human Services, 2000). In generational terms, this means that the aging nursing workforce is mostly baby boomers or "entrenched workforce." While there is no official definition of when a baby boomer must have been born, it is generally accepted that it is someone born between the years 1943 – 1960, after World War II (Strauss & Howe, 1991).

The entrenched workforce experienced all the gains from a thriving economy and educational expansion (Kupperschmidt, 2000). They embraced the attitude of "only the best." Many members of this generation were raised in a two-parent family, where the mother's responsibilities were related to caring for the children and the home. The father was viewed as the authority figure and was rarely questioned (Weston, 2001).

As a generation, they experienced firsthand many social reforms in the United States. The entrenched workforce is the group that spoke out against traditional norms of society at the time (e.g., civil rights, antiwar protests) and spoke against the values of their parents and government authorities (Kupperschmidt, 2000). The cultural experiences of this cohort have taught them to challenge authority and ask questions.

Because of the events that molded their collective characteristics, the baby boomers entered the workforce driven and dedicated. This group equates work with self-worth, contribution, and personal fulfillment (Zemke, Raines, & Filipczak, 2000). The entrenched workforce desires to make the world a better place and they often are driven to work 12 and 14 hour days on multiple projects, which is related to their idealism. In addition, their competitive nature drives them to aspire for higher monetary compensation and titles as they value promotions and recognitions (Kupperschmidt, 2000). This cohort entered the workforce and made long-term commitments, and later, they experienced the shock of downsizing, reorganizing, and often, job loss (Kupperschmidt, 2000). The entrenched workforce is frequently referred to as the "sandwich" generation because many of them take care of aging parents while their children still are living at home (Walsh, 2002).

Beyond demographic and anecdotal reports, there has been little empirical research on older nurses, and even less is known about older perioperative nurses. Letvak's (2003) qualitative study describes the experience of being an older perioperative nurse. This study used a purposive sample of 14 perioperative nurses from the

southeastern United States, aged 50 to 62 (M=56.1) who were employed at least part time in staff level positions in the operating room (OR). The three central organizing themes that emerged from the voices of the 14 perioperative nurses were growing old in the OR, interpersonal and organizational concerns, and worries about the future. The participants, thirteen women and one man, had a mean of 20.1 years worked in the OR, ranging from nine to 32 years. Thirteen of the nurses were Caucasian and one was Asian. The voice-centered, relational method was used to guide data analysis. To ensure reliability and validity, Letvak adhered to the following strategies: An active analytical stance, investigator responsiveness, methodological coherence, saturation of the data, and theoretical sampling and sampling adequacy. The entrenched workforce in this study expressed frustration and concern regarding call and scheduling, as well as with cultural changes in the OR that have occurred with the introduction of the surgical technologist. The nursing shortage and recruitment of high-quality nurses into the OR was a serious concern of the older perioperative nurses. These nurses are also very worried about the future of nursing, specifically perioperative nursing. One nurse aptly asked, "What's going to happen when the older nurses are gone and no one is here to train the new ones?" (Letvak, 2003, p. 648).

Emerging Workforce

The emerging workforce are the children of baby boomers, defined in this study as someone born between 1961 and 1977 (Bradford & Raines, 1992; Coupland, 1992). While the birth dates of the emerging workforce may not be consistent in the literature, it

is the common life experiences that give the emerging workforce their identity, not the year of their birth. The emerging workforce are defined at more global, culturally diverse, and technology orientated than the generations before them (Bradford & Raines, 1992; Kupperschmidt, 1998). This group is the first generation to grow up with videocassette recorders (VCR) and video games. The emerging workforce are very technologically savvy, having experienced the integration of the personal computers in the school systems, the advent of home computing and the growth of interactive media (Dunn-Cane, Gonzalez, & Stewart, 1999; Kupperschmidt, 1998; Weston, 2001). The most influential aspect of this generation has been the process of being raised in homes of divorced parents or homes in which both parents worked (Strauss & Howe, 1991). The emerging workforce learned independence at day-care so they are used to being on their own. This generation was often left to fend for themselves as children, and they learned to take of themselves at an early age, of necessity finding novel solutions to difficult problems (Tulgan, 2000). This generation is more comfortable with women and minorities in leadership roles since most of their mothers worked outside the home and they themselves are more diverse than their baby boomer predecessors. U.S. Census Bureau (2001) figures show that the number of non-Hispanic whites is now less than 75% of the U.S. population. The emerging workforce includes more African-Americans, Hispanics, and Asians than previous generations. They were also the first generation to mature in an "instant gratification" society of microwave, ATM, and remote control users. Although this is the best-educated generation in United States history (Bradford &

Raines, 1992), the emerging workforce believes that education is a tool for getting ahead, not an end in itself (Dunn-Cane, Gonzalez, & Stewart, 1999; Tulgan, 2000). Finally, this generation wants to derive some fun from every activity in which they are involved (Bradford & Raines, 1992).

As the smallest entry pool of employees in modern times, the emerging workforce has been in demand in the job market for nearly their entire working lives (Bradford & Raines, 1992, Wieck, 2003). It has been said that the entrenched workforce are a group that lives to work, while the emerging workforce work to live (Tulgan, 2000). The emerging workforce has grown up in diverse settings and expects diversity in the workplace. This generation tends to self-reliant and think globally when confronting problems or conflicts. They look to the workplace to be a balance of technology, information, policy and informality. They look at the bottom line ("just teach me what I need to know") and look for a workplace to use their technoliteracy to accomplish their work. They want to be comfortable at work, and avoid some or most of the "politics." They are accustomed to challenging others, as well as being challenged by others. Since they witnessed the downsizing and right sizing of agencies in the 1980s, they believe their ideas and abilities should be evaluated on the basis of merit. Loyalty and dues paying mean nothing to this generation of workers. The emerging workforce has focused on building their own skill sets and avoided long-term commitments to employers because of their parents' bad experiences with employers (Kupperschmidt, 1998; Tulgan, 2000; Zimmerman, 2000).

Much popular literature exits about the diversity and characteristics of different generations including the works of Coupland (1991), Tulgan (2000), Bradford and Raines (1992) and Strauss and Howe (1991). Most of this is based on marketing research. A review of the literature shows that very little research has been done, particularly within nursing, examining intergenerational management and potential strategies to recruit and retain registered nurses within the nursing workforce.

Santos and Cox (2000) identified three generational differences in one hospital in the Midwest: (a) orientation toward work, (b) length of service, and (c) workplace behavior. To explore the factors influencing occupational adjustment related to workplace stress, the Occupational Stress Inventory (OSI), which measures three components of occupational adjustment (stress, strain, and coping), was administered to 413 nurses at staff meetings. Follow up focus groups were also used in data collection. Sixty-eight percent of the RN population completed the instrument (n=413). Ten focus groups were held to clarify these findings associated with problematic scales (n=44). Of the 413 nurses, 43 percent were baby boomers and 41% were from the emerging workforce. Results revealed significant differences in the perceptions of occupations stress between the generations. Boomers had significantly higher mean scores on the stress scales of role overload, when resources exceed demand (p=.018) and role boundary, conflicting demands and loyalities (p=.041). Significant differences were also seen on role insufficiency, training and skills exceed job demands (p=.000), and physical environment, where the workplace itself provides extremes conditions (p=.040). The

Generation Xers had the highest mean scores for physical environment (M=23.26, SD=4.81). Boomers, the largest group in this study, and the largest working in all industries today were angry at what they interpreted as lack of commitment and slacker attitudes of the emerging workforce. In contrast, the emerging workforce did not convey negative perceptions of boomers with whom they worked. They voiced commitment to the profession and their organization. Few indicated they would move from the profession entirely during the course of their work life to provide themselves with a more diversified skill set.

Thompson, Wieck, and Warner's (2003) descriptive, comparative study explored perioperative nurses and emerging workforce nursing students perceptions of the top ten characteristics desired in a manager. Using a survey that contained a list of desirable leadership characteristics, the two groups of convenience sample respondents were compared. The perioperative nurse group (n=35) had an average age of 46.4 (standard deviation [SD] = 7.2). The emerging workforce student nurse group was comprised of junior and senior baccalaureate nursing students (n=57) who had no direct operating room experience except some observational exposure to perioperative nursing. The average age of the students was 25.2 (SD = 4.1). Study findings indicated that although both nurses and students ranked seven of the same traits in the top ten most desirable traits in a manager, there were significant differences in the rankings between the two groups. The seven traits cited by both groups as being important in a manager were receptive to people and ideas, good communicator, honest, good people skills,

approachable, clinical competence, and team player. A Spearman rank correlation revealed a significant relationship ($r = 0.4147$, $P = .001$), indicating that students ranked these seven traits much differently than did the nurses. Being a team player was the most important trait to students, however, nurses ranked it ninth. The number one trait valued by nurses, receptive to people, was ranked ninth by students. The greatest difference between the two groups appeared in the attitude subscale. Nurses ranked supportive and fair in the top ten attitude traits, students did not. The two attitude characteristics valued by students and not nurses were respectful of subordinates and positive attitude. Both groups ranked approachable as an attitude trait in the top ten. Both groups valued honesty and nurses valued integrity. Congruency was found between groups regarding the traits of good communicator and good people skills, and students selected professional as a trait they admire in a manager. Personal characteristics that were congruent across both groups were receptive to people and ideas and team player. The authors note that 70% of the traits that students desired in a manager either were acquired skills or attitudinal, both of which are amenable to education and behavior changes on the part of managers.

Leadership traits desired by emerging workforce nurses and older nurses were found to be similar in a study by Wieck, Prydun, and Walsh (2002). A national convenience sample of nursing students (n=108) and a convince sample of hospital managers (n=126), from the Midwest region of the United States, were categorized by age and asked to rank the traits desired in their leaders via a survey. The mean age of the

emerging workforce was 25.7 years (*SD*=4.8) and 45.7 years (*SD*=6.5) for the entrenched workforce. Participants ranked the most desired and least desired traits of leaders. Rankings were compared between groups as well as with desired traits from leadership studies in the 1990s. The highest ranked characteristic of both emerging and entrenched groups was "honest." The emerging workforce group valued leaders who motivated others, were receptive to people, had a positive outlook, and used good communication skills. This group also favored a leader who was a team player with good people skills, who was approachable, knowledgeable, and supportive. There was congruence with the entrenched workforce with most of these traits. The older group selected the characteristics of high integrity, fair and empowering as more important than motivating, team player, and knowledgeable. The two groups were similar in least desired characteristics with eight of the characteristics appearing on both lists. The emerging workforce said vision, risk-taking, and humor were among the least important traits their leaders. The older group did not believe that being friendly or available were important in their leaders. The traits identified in this study as desirable differ from the traits identified in previous studies of personnel at magnet hospitals (Scott, Sochalski, & Aiken, 1999). The top descriptor of a leader in the initial studies was "visionary" which appears as a least important trait in this emerging workforce sample. Preferred traits in the magnet studies were supportive and knowledgeable. These traits were found at the bottom of the top ten traits desired in leaders by the emerging workforce. Being a good

communicator and honesty were important for both the magnet-hospital group and today's workforce.

Work Environment

Organizational culture shapes the environment stimuli and experiences to which a person is exposed and to which a person will react. Organizational culture directly and indirectly influences quality of work life for employees and influences individual attitudes concerning outcomes such as commitment, motivation, satisfaction, morale and power (Harris & Mossholder, 1996).

The concept of organizational culture has its roots in cultural anthropology and was alluded to as early as the Hawthorne studies in the 1930s which examined the relationship between productivity and the physical work environment at Western Electronic Company in Chicago (Trice & Beyer, 1993). Many definitions of organizational culture have been proposed in the literature, but the common underlying theme of these definitions is based on an organization's underlying values, beliefs, and their shared philosophy (Deal & Kennedy, 1982; Del Bueno & Vincent, 1986; Schein, 1996).

Schein (1985) described organizational culture as the pattern of basic assumptions and shared meaning (values) that a group develops to survive their tasks that work well enough to be taught to new members. Leininger and McFarland (2002) described culture as the learned, shared, and transmitted values, beliefs, norms, and lifeways of a particular group that guides their thinking, decisions, and actions in a patterned way. More simply

stated by Deal and Kennedy (1982, p. 4), culture is "the way we do things around here." Although culture is based on values, it manifests itself in behavior—in the ways people communicate and interact with each other.

McDaniel and Stumpf (1993) studied the relationship between organizational culture and features of nursing service and found that organizational culture is positively related to leadership, work satisfaction, retention, recommending the organization as a good place to work, job knowledge, work support, and "fitting in." Registered nurses (n=209), from seven acute care hospitals were randomly surveyed using the Organization Culture Inventory to measured organizational culture.

Organizational culture and structure was examined along with the differences and relationships among the job satisfaction of registered nurses, patient satisfaction with nursing care, and nursing care delivery models in a study by Kangas, Kee and McKee-Waddle (1999). A supportive work environment was most important to job satisfaction of nurses. Registered nurses (N=92) from three hospitals representing three different nursing care delivery models, including team nursing, case management, and primary nursing, completed a job satisfaction scale and a measure of organizational culture using the Organizational Culture Index. The higher the score on the organizational culture subscale, the more that characteristic was present in the environment. Degrees of bureaucratic, innovative, and supportive subcultures were about equal for all hospitals. Chronbach alpha for the bureaucratic subscale was 0.73; for the innovative subscale, the coefficient was 0.78; and for the supportive scale, Chronbach's alpha was 0.90.

Research also supports the existence of differing cultures at the work group level. Coeling and Wilcox (1988) described different nursing unit cultures within the same hospital. This qualitative study compared the day shift cultures of two medical-surgical units in the same hospital. The researcher observed personnel on each unit as they interacted in the nursing station, utility areas, and break rooms for 122 hours. Semi-structured taped interviews were conducted with the participants (N=35). Specific questions were categorized under the following themes: rules for working together, rules for telling others what to do, rules for following established standards, rules for organizing and using time, rules for taking the patient's perspective and rules for change.

The researcher met with the participants at the end of the study in small groups to share findings and solicit feedback to determine whether participants felt the findings accurately reflected the behavior of their unit. Unit A preferred to work more as a team whereas Unit B worked more independently. On Unit A, staff nurses did not try to tell each other what to do as participants' felt that was the role of nursing management. Unit B had an unwritten rule that nurses were free to tell others what to do. Attitudes toward following policies and procedures demonstrated Unit A's greater desire to follow established standards. Unit B, in contrast, described themselves as being freer than other units to deviate from traditional procedures. Work organization and use of time rules also reflected different work group cultures. It was mandatory to be well organized on Unit A. Organizational skill was not valued as highly on Unit B. Psychosocial concerns also revealed cultural differences between the two work groups. Unit A attended to

psychosocial concerns but not to the extent that Unit B did. Differences were found regarding attitudes toward learning experiences and changing. Unit B were more interested in changed their nursing practice to conform with the latest thinking in nursing than Unit A. The researchers concluded that different nursing unit cultures necessitate different management strategies in areas including personnel, orienting newcomers, facilitating organizational change, and promoting new learning experiences.

Coeling and Simms (1993) found larger differences between nursing work group cultures within the same health care agency than between overall nursing department cultures between hospitals. Specific differences between nursing work group cultures can include differences in important sources of directives for nursing care (Coeling, 1997) and differences in accountability, authority, and autonomy (Webb, Price, & Coeling, 1996). Cultural differences between shifts on nursing units have also been observed and reported by a variety of staff nurses (Byers, 1997).

It is important to differentiate organizational culture from social climate of the work environment. Social climate reflects individuals' perceptions or feelings about an organization; measurements are aimed at enabling the management to create an environment, which will increase worker satisfaction and productivity (Coeling & Simms, 1993; Moos, 1994; Snow, 2002; Sleutal, 2000; Thomas, Ward, Chorba, & Kumiega, 1990). Whereas culture consists of common beliefs and behaviors, and measurement is focused on understanding and predicting how an organization will behave under different circumstances. Thomas et al. (1990) provides an example to

relate the two concepts of organizational culture and organizational (social) climate. Thomas states that when an employee's personal beliefs and values are consistent with the prevalent culture, the employee perceives the climate as "good." However, the employee perceives a "poor" climate when his beliefs and values are in conflict.

Different professions frequently use a variety of other terms rather than using the phrases organizational culture or climate. Nursing authors use the phrases nursing practice environment, clinical practice environment, environment of practice, professional nurse practice environment and other expressions (Adamson, Kenny, & Wilson-Barnett, 1995; Aiken & Patrician, 2000; Grindel, Peterson, Kinneman, & Turner, 1996; Hoffman & Martin, 1994; Leveck & Jones, 1996; Maguire, Carr, & Beal, 1995; Tumulty, Jurgen, & Kohut, 1994). Attention to how nurses perceive their environments and how this contributes to retention, and ultimately recruitment, is warranted.

The social climate of the work setting may affect a nurse's perception of the environment. Social climate is defined by Moos (1994) as the personality of a setting or environment. Moos (1995) developed the 90-item Work Environment Scale (WES) which assesses dimensions of the social environment of work settings by providing a numerical score on the three dimensions of relationships, personal growth, and system maintenance and change. Although there are many reports of studies conducted with the WES, few of these studies have focused specifically on nursing.

Nurses' perceptions of the their hospital work environment according to demographic variables of age and ethnic background were examined by Staten,

Mangalindan, Saylor, and Stuenkel (2003) to identify factors related to job satisfaction and retention. This descriptive, correlational study used Moos' Work Environment Scale to explore staff nurse perception of the work environment related to role clarity, managerial control, and innovation. The sample (N=248) were volunteer staff RNs working in a large acute care hospital in Northern California. Demographic factors revealed that a majority of the respondents were female (n=236, 95%) with 73.1% (n=181) of the total sample being 40 years or older. Caucasians (n=107, 43%), Filipino (n=60, 43%) and Asian-Non-Filipino (n=53, 21%) were the top ethnics group respondents. An analysis of variance (ANOVA) was performed to compare work environment perceptions among ethic groups. For the control dimension, which measures the extent to which management uses rules and pressures to keep employees under control, Hispanic nurses reported the highest mean (M=7.45, SD=1.92) and the lowest mean was reported by the Caucasian nurses (M=6.32, SD=1.98). These scores were compared to the norms set by Moos (1995) for a General Work Group (n=3,267; M=4.79; SD=1.94) and a Health Care Work Group (n=4,879, M=5.57, SD=1.89). The analysis revealed that the Hispanic group had higher perception of managerial control when compared with other ethnic populations in the sample. Of interest is the finding of the means all ethnic groups in this study were higher than Moos' norms.

A statistically significant difference was not found among any of the ethnic groups for their mean perceptions of control (F=1.3; p=.24). There was no significant difference reported comparing the Filipino/Asian groups to all others using t tests (2-

tailed). A statistical significance difference (t=2.15; p=.03) was found for the Control dimension comparing the Caucasian group to all other groups. The Caucasian group (M=6.32) perceived less managerial control over their work environment than the non-Caucasian participants (M=6.79). No statistical significances were found among the ethnic groups for the dimensions of Clarity and Innovation.

An ANOVA analyses was done to determine if there were differences in the perceptions of the work environment among nurses in different age groups. No statistically significant differences were found in how younger or older nurses perceived the workplace environment for Clarity, Control, and Innovation. The results of this study indicate the importance of leadership to be aware of the needs of diverse ethics groups to possess a perception of control in their work environment.

Koran, Moos, Moos, and Zaslow (1983) conducted a study of the work environment of a burn unit in a 425-bed general hospital. The Work Environment Scale (WES) was administered to 18 nurses as well as ancillary and technical personnel. Results of the survey revealed above average scores on autonomy, involvement, and supervisory support. Peer cohesion and all four system maintenance and change dimensions were well below the average mean scores. The findings of the WES survey were discussed openly with the staff by a liaison psychiatrist. After receiving the results, the staff agreed that their primary problem was a lack of communication and cooperation with each other. The staff developed plans to address all subscales in the work environment that were significantly different from the norm. The staff repeated the WES

survey six months later. The findings after implementation of interventions showed a positive change in 7 of the 10 subscales. Involvement and peer cohesion were increased significantly. In evaluating overall satisfaction, the staff reported general increases in employee morale, better communication between the nursing and medical staff members, greater skills in dealing with pain and death, and an overall increase in the quality of patient care. The findings indicate that systematic assessment and feedback procedures may help liaison programs improve the quality of hospital work environments and thereby enhance staff performance and morale.

Turnipseed (1990) used WES Form R to assessment and planned change in a small rural hospital that employed 41 RNs and licensed practical nurses. The organizational problems of declining employee morale, high levels of stress, and a lack of organizational loyalty were identified. The assessment revealed high scores, greater than the mean of 50, for control, work pressure, and task orientation. Low scores were evident in the assessment of involvement, supervisor support, autonomy, clarity, innovation, and physical comfort. All of the hospital subscale results, except peer cohesions, were significantly different from the normative scores at or beyond the .05 level of significance.

There marked differences in the cores among the three shifts in the study. The 11 p.m. – 7 a.m. shift had low involvement, peer cohesion, supervisor support, autonomy, task orientation, clarity, and innovation subscales scores, with work pressure and control perceived as high. The control subscale was the highest for the three shifts. The

involvement, peer cohesion, work pressure, task orientation, clarity, and innovation scores were the lowest of the three shifts. Scores for the 7 a.m. – 3 p.m. shift were among normal values, except for low involvement, innovation, and physical comfort scores and high work pressure and control scores. The 3 p.m. – 11 p.m. shift expressed low involvement, supervisor support, autonomy, innovation, and physical comfort and high task orientation, work pressure and control. Task orientation and work pressure were the highest of the three shifts. The supervisor support subscale of the 3 p.m. – 11 p.m. shift was the lowest of all three shifts. A plan for change was introduced specifically for the shifts based on the survey findings.

A British descriptive study examined nurses' perceptions of their work environment in three nursing development units (NDU) (Avallone & Gibbon, 1998). A nursing development unit was defined as a setting within the care organization, which is specifically and explicitly committed to the development of nurses and nursing practice. The WES survey was returned from 53 nurses, which represented a 76% response rate. The respondents included 47 females and six males. The findings indicated above average scores in the NDU work environment. Although the respondents reported higher than average levels of work pressure, they perceived lower levels of control. A significant finding of the study was the marked difference in the satisfaction between the three units surveyed. The nurses in unit B reported greater involvement, peer cohesion, supervisor support, task orientation, clarity and innovation. Unit C nurses showed below average rating in supervisor support and clarity. Autonomy was similar on all three units.

There were no differences in scores for age groups; however, gender differences were found in different subscales. Male nurses perceived more peer cohesion, clarity, control and physical comfort; less supervisor support, autonomy, task orientation, work pressure and innovation than their female counterparts. The aggregate scores from the WES indicate that the nurses surveyed were satisfied with their work environment.

Schaefer and Moos (1996) examined the relationship of work stressors and work climate to long-term care staffs' job morale and functioning. Initial and eight month follow-up data were obtained from 405 staff in 14 long-term care facilities. Among the staff, there were 97 registered nurses; 74 licensed vocational nurses', 179 nursing assistants; and 55 non-nursing staff such as physicians, social workers, and physical and occupational therapists. Staff provided information about their sociodemographic characteristics, professional role, and experience. Mean age was 42 ($SD = 11.7$). The majority (62%) had held their current job for more than two years. They also completed the Work Stressors Inventory, the Work Environment Scale (WES), and measures of job morale and functioning at both initial and follow-up assessments. Follow-up measures were obtained at eight months. Three WES subscales were used to assess relationship dimensions, goal orientation dimensions, and system maintenance dimensions. The results concluded that staff members' work stressors, work climate, and job morale and functioning were fairly stable. Staff members who experienced more problems in their relationships with supervisors and physicians had lower job morale and more job-related

distress. The findings show that relationship stressors affect concurrent proximal outcomes (job satisfaction, intent to stay, and job-related distress).

The effect of the hospital work environment on burnout nurses was studied by Constable and Russell (1986). The data were collected from a sample of nurses (N = 310) employed at a military medical center in the western United States. Burnout was measured by the Maslach Burnout Inventory. The Work Environment Scale was used to assess how nurses perceived the hospital environment. The WES subscales of autonomy; task orientation, clarity, innovation, and physical comfort were summed to form a composite variable labeled *job enhancement*. Social support was also assessed by an unnamed tool. The major determinants of burnout were found to be low job enhancement; work pressure; and lack of supervisor support, along with the interaction term involving the combined effects of job enhancement and supervisor support. These results indicate that nurses are more susceptible to burnout when working in areas where there is a lack of encouragement to be self-sufficient, tasks are not clearly understood, rules and policies are not explicitly communicated, there is a lack of variety and new approaches and the work environment is less than attractive and comfortable.

Baker, Carlisle, Riley, Tapper, and Dewey (1992) used the WES to examine the work environment of 209 British registered nurses employed in health provider units in a regional health authority. The means and standard deviations were calculated for each dimension of the work environment and the British sample was compared to the original United States norms. The British sample reported higher levels of involvement (P =

0.000), higher levels of cohesion (P = 0.000), lower levels of support (P = 0.000), greater autonomy (P = 0.000), higher task orientation (P = 0.000), increased work pressure (P = 0.000), more control (P = 0.003), greater levels of innovation (P = 0.000) and less physical comfort. The authors state that it is difficult to understand why such difference exist between the British and U.S. nurses, but hypothesize that the differences could be attributed to continuous changes in the structures of the British health care systems, combination of improved technology and a greater turnover of acutely ill patients, and recent changes in nursing education.

The relationship of the work environment and nurses' job satisfaction was explored by Tumulty, Jernigan, and Kohut (1994). The study was conducted in a multisite medium sized private hospital located in a southeastern metropolitan area. The WES and Index of Work Satisfaction were administered to 159 nurses. This study found that nurses who perceive the work environment to be relatively positive also were more satisfied with their jobs. Respondents' perceptions of the degree to which the work environment addresses important work relationship issues (involvement, peer cohesion, and supervisor support) accounted for significant differences in all aspects of perceived job satisfaction. Work environment components associated with systems maintenance and systems change (task clarity, control, innovation, and physical comfort) accounted for significant differences in overall job satisfaction in addition to satisfaction with interaction, tasks, organizational policies, and autonomy. The results of this study

indicate the importance of relationships in the work setting and that a cohesive peer group may compensate for other frustrations from the work environment.

Perioperative Nursing

While the nursing shortage affects all areas of nursing practice, perioperative nursing has a greater supply shortage (AORN, 2001a) because fewer nurses opt to enter the perioperative setting. Additionally, nurses and those currently in the perioperative arena are getting older with an average age of 47 (AORN, 1997a), which is greater than the average age of 44.3 for nurses in general (Buerhaus, Staiger, & Auerbach, 2000).

Although many reasons exist for the shortage, a prominent one is a lack of student education and exposure to perioperative nursing because of overcrowded curricula (AORN, 2001a). Limited exposure is believed to decrease students' interest in pursuing perioperative nursing careers after graduation.

Much of the research on perioperative nursing recruitment and retention occurred in the 1980's when the last nursing shortage occurred. However, the education and practice environments do not appear to have changed very much in the past fifteen years. Most contemporary nursing curricula provide only a 1-day or 2-day "observation" experience in specialty care areas. Therefore, students get very little exposure to the realities of specialty nursing practice. In the perioperative area, for example, there traditionally has been only one operating room follow-through experience with only one patient (Reynolds & Sizemore, 1986). In a study of 1,118 nursing programs, a majority did not even teach OR techniques (Fletcher, Tighe, & Vorderstrasse, 1985). This limited

involvement with the perioperative setting makes it difficult for students to perceive the challenges of perioperative nursing practice (Brazen, 1992; Jones & Sorrell, 1989). As a result, students often lack perioperative nursing skills and are reluctant and unlikely to choose careers in perioperative nursing.

In 1995, Wagner, Kee, and Gray conducted a historical study identifying the sociocultural and economic influences that have contributed to the decline of educational perioperative clinical experiences. Three themes emerged: professional versus technical role of OR nurses, generalist versus specialist, and the apparent lack of control nursing has over its professional future. To increase the demand among students for opportunities in perioperative nursing, the authors recommend promoting stronger affiliations between nursing academia and practice settings.

Project Alpha was introduced in 1981 by AORN in response to the decline of OR education in nursing curricula. The goal of this initiative was to promote perioperative nursing and to introduce a perioperative-nursing component into formal nursing curricula (AORN, 1992). AORN's National Committee on Education (NCE) directed Project Alpha activities from 1986 to 1996. Meager Project Alpha survey responses from chapter presidents in October 1996 caused the NCE to reassess the effectiveness of Project Alpha (AORN, 1997b). The NCE recommended to the AORN Board of Directors that Project Alpha be disbanded in June 1996. The NCE continues to encourage AORN chapters to include "Project Alpha" type activities into other chapter committees such as OR Nurse Week and education (AORN, 1997b). However, the fact

remains that a decade of dedicated effort toward improving the appeal of perioperative nursing has culminated in a continuing critical shortage of perioperative nurses.

Summary

The literature review for this study revealed that in order for nursing to survive and thrive, the nursing shortage must be addressed, taking into account that every generation of nurses perceives life differently and that it is important to consider the effects of the environment in practice settings. One of the most significant factors that contribute to the difficulty in both recruiting and retaining registered nurses is the work environment. The work environment is a primary motivator for individual registered nurse's making employment choices. The purpose of this study was to examine the relationship between age and perioperative nurses' perception of the work environment to identify factors related to recruitment and retention.

CHAPTER 3

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

An across-method triangulation research design was used to identify the factors that influence the process perioperative nurses, from different age groups, used to make career decisions, including the effect of work environment perceptions. Across-methods triangulation combines quantitative and qualitative approaches in a single study to get the most accurate and comprehensive picture of a phenomenon (Polit & Hungler, 1999). Methodologic triangulation has the potential of exposing unique differences or meaningful information that may have remained undiscovered with the use of only one approach or data collection in the study. The combination of these strategies also assisted in validating the interpretations of findings (Polit & Hungler, 1999). A more holistic, credible, and convincing picture of the research problem is achieved when both types of data are used (Thurmond, 2001).

The dependent variable for the quantitative portion of the study was perception of work environment, as measured by the Work Environment Scale (WES). The WES Form R (real), a 90-item, true/false survey, was used to quantify how nurses perceived their actual work environment (Moos, 1995). The independent variable was age: subjects were divided into two groups consisting of operating room staff nurses born from 1938 through 1960 and from 1961 through 1982.

A phenomenological approach was used to obtain a better understanding of the factors that influence nurses of different age groups decisions to become and remain perioperative nurses. Phenomenology was chosen as the framework to guide the qualitative portion of this study because of its usefulness uncovering the taken-for-granted knowledge. It focuses on everyday experiences and the meaning found within those experiences (Creswell, 1998). The factors influencing nurses to become and remain perioperative nurses were conceptualized to be embedded in the everyday activities of the perioperative nurse. In addition, staff nurses currently employed in perioperative nursing were conceptualized to be the most knowledgeable of the perceptions of registered nurses who have chosen a perioperative nursing career.

Setting

Eleven large, urban hospitals in the southwestern United States were utilized in the study. Hospital institution sizes ranged from reported bed capacities of 332 to large medical center specialty hospitals with over 700 bed capacities. Inpatient and outpatient operative services were represented as well as all surgical specialties. The survey portion of the study was conducted in hospital conference rooms for the majority of the sample and in self-selected location for those who completed the survey on their own time.

The interviews were conducted in a private location convenient for the participant and sites included the work setting, local library, investigator's office, and Texas Woman's University conference rooms. To protect the participant's privacy and to provide confidentiality, interviews were conducted only with the investigator and participant present.

Population and Sample

A purposive sample was drawn from staff nurses, of various ages, who worked in participating hospital operating rooms. All intraoperative staff nurses at each site had an equal opportunity to participate in the quantitative portion of the study. There were no restrictions with regard to gender, race, or ethnicity. All study participants were able to read and write in English.

A sample size of 174 subjects for each age group, persons born from 1938 through 1960 and persons born from 1961 through 1982 was utilized for the quantitative portion of the study. The sample size of 174 for each age group was based on power analysis for a two-group test of mean differences with an alpha of .05, a power of .80, and an effect size of .30 (Pedhazur & Schmelkin, 1991; Polit & Hungler, 1999). Information regarding effect size was determined through use of a standardized effect size because the review of the literature failed to provide relevant data from which to calculate effect size. The average effect size for *t*-test situations was found to be .35 in an analysis of effect sizes for research studies in nursing research journals conducted by Polit and Sherman in 1989 (Polit & Hungler, 1999). In new areas of research, Cohen (1988) states that effect sizes are likely to be small. Therefore an effect size of .30 was established.

A total of 256 surveys and demographic forms were returned. Nine subjects did not respond to the question regarding birth year and were not included in data analysis. The final sample was composed of 247 perioperative nurses. The decision was made to stop and analyze and interpret the data that had been collected because all available area

facilities had been used or declined participation. This decision was made knowing the power to discern differences would be decreased. A summary of the quantitative portion of the study is shown in Table 1.

Table 1

Summary of Quantitative Portion of Study: The Perception of the Work Environment Among Perioperative Nurses

Quantitative Portion of Study
Specific Aim
• Determine if there is a difference in the perception of the work environment among perioperative nurses by age groups.
Research Question
• Is there a difference in the perception of the work environment among perioperative nurses by age groups?
Data Sources
• Demographic Data Form
• Moos Work Environment Scale Questionnaire
Design
• Retrospective, comparative design
Sample
• 247 purposively selected perioperative hospital staff nurses; subgroup comparison with Entrenched Workforce (n = 130) and Emerging Workforce (n = 117)

From the survey sample, a sub sample of 14 participants, seven from each age group, were recruited for in-depth interviews. The nurses were interviewed one time. In a qualitative study it is not always possible to determine the needed sample size until data collection is underway (Morse & Field, 1996). Sampling continued until no new themes emerged. The final sample size of 12 was on the based on information redundancy and saturation (Polit & Hungler, 1999). When saturation occurred, two additional interviews, one from each age group, were conducted for verification purposes. A summary of the qualitative portion of the study is shown in Table 2.

Protection of Human Subjects

To insure protection of study participants, approval for the study was obtained from the Texas Woman's University Institutional Review Board and by the Institutional Review Board at all participating sites prior to data collection (Appendix A). Participants were informed regarding the extent to which confidentiality would be maintained and that confidentiality would be protected to the extent allowed by law. Participation was voluntary. Potential risks were discussed with all study participants, and they were told that they could withdraw from the study at any time. Study participants were assured that they would not be identified in written reports.

For the quantitative portion of the study, completion of the survey was taken as implied consent to participate. Participants were also asked to complete a demographic data form. Potential risks for the quantitative portion of the study included loss of confidentiality and loss of time. Completion time for the survey tool and the demographic data form was approximately twenty minutes. Participants were instructed that they

could refuse to participant in the study or withdraw at any time with no adverse effects. All data were secured in a locked file when not in use in the office of the researcher.

For the qualitative portion of the study, informed written consent (Appendix B) and consent to audiotape the interview (Appendix C) was obtained. Potential risks for the qualitative portion of the study included loss of confidentiality and loss of time. Interviews were conducted in private settings of participants' choice. Confidentiality of audiotapes and transcripts of the interviews was established by identifying data with code numbers. Completion time for the interview was approximately one hour. Participants were instructed that they could refuse to participant in the study or withdraw at any time with no adverse effects. All data were secured in a locked file when not in use in the office of the researcher. Audiotapes of interviews were destroyed after the conclusion of the study. Upon agreeing to participate, respondents were given a copy of the written consent containing the researcher's name and telephone number in case there was a need for contact. An honorarium of $25 per person was given to the qualitative respondents at the completion of the interview for their time commitment.

Instruments

Three instruments were used in this study for data collection. They were the Demographic Data Form, Work Environment Scale (WES), and the semi-structured Interview Guide.

Table 2

Summary of Qualitative Portion of Study: The Perception of the Work Environment Among Perioperative Nurses

Qualitative Portion of Study
Specific Aim
• Explore the career decision-making process of perioperative nurses' from different age groups.
Research Questions
• What factors influence nurses of different age groups to choose perioperative nursing as a specialty?
• What factors influence nurses of difference age groups to remain in perioperative nursing?
Data Sources
• Demographic Data Form
• Face-to-Face Interviews
• Field notes of observations
Design
• Phenomenological Approach
Sample
• 14 OR hospital staff nurses using open purposive sampling technique; subgroup comparison with Entrenched Workforce (n = 7) and Emerging Workforce (n = 7)

Demographic Data Form

The Demographic Data Form (Appendix D) was used to collect information from participants, prior to survey completion and interview, which was used to describe the sample. Polit and Hungler (1999) recommend gathering the major demographic characteristics of the sample, as it is critical in interpreting the results and understanding the population to whom the findings can be generalized. Polit and Hungler (1999) suggest collection of the following participant characteristics: age, gender, ethnicity, educational background, marital status, and income level or type of occupation. The demographic information collected for this study included: generational age, gender, ethnicity, employment status, years of nursing experience, years employed at current job, educational level, perioperative nursing certification status, and yearly gross salary.

Knowledge of generational age was necessary to distinguish between the two groups under study. Obtainment of gender information was used for comparison of relevant data. Age and gender have been collected as demographic data in several work environment studies (Baker, Carlisle, Riley, Trapper, & Dewey, 1992; Constable & Russell, 1986; Schaefer & Moos, 1996; Tumulty, Jernigan, & Kohut, 1994).

Ethnic background was also elicited as it has been found that cultures can show small or great variabilities between and within cultures with respect to values, symbols, beliefs, and rituals (Leininger & McFarland, 2002). Ethnicity data was obtained in one healthcare work environment study (Schaefer & Moos, 1996).

Employment status and years of nursing experience were used to compare relevant data. Employment status data was collected in three studies on healthcare work environments (Baker, Carlisle, Riley, Trapper, & Dewey, 1992; Schaefer & Moos, 1996). Nursing experience data was collected in two studies on healthcare work environments (Constable & Russell, 1986; Tumulty, Jernigan, & Kohurt, 1994).

Years employed at current job and educational level was used for data comparison. Data on time in present position was collected in two studies on healthcare work environments (Schaefer & Moos, 1996; Tumulty, Jernigan, & Kohut, 1994). Education demographics were collected in four studies on healthcare work environments (Baker, Carlisle, Riley, Trapper, & Dewey, 1992; Constable & Russell, 1986; Schaefer & Moos, 1996; Tumulty, Jernigan, & Kohut, 1994).

Data on perioperative nursing certification was obtained as the literature reports that nurse certification can have a positive influence on job satisfaction, recruitment, and retention (American Association of Critical Care Nurses, 2002; Cary, 2001; Coleman, et al., 1999). Lastly, yearly gross salary was obtained to determine if income is relevant to recruitment and retainment in perioperative nursing.

Work Environment Scale (WES)

The Work Environment Scale (WES) developed by Moos (1995) was used to determine nurses' perceptions of their work environment (Appendix E). The WES is composed of 90 true/false items representing 10 subscales that measure the social environments of work settings. The ten WES subscales assessed three broad aspects of the environment: relationship dimensions; personal growth or goal orientation

dimensions; and system maintenance and change dimensions (Moos, 1995). The relationship dimensions (involvement, peer cohesion, supervisor support) assessed the extent to which workers were concerned and committed to their jobs; the extent to which workers were friendly to and supportive of one another; and the extent to which management was supportive of workers and encourages workers to be supportive of one another. The personal growth, or goal orientation dimensions (autonomy, task orientation, work pressure), measured the extent to which workers are encouraged to be self-sufficient and to make their own decisions; the degree of emphasis on good planning, efficiency, and getting the job done; and the degree to which the press of work and time urgency dominate the milieu. The system maintenance and change dimensions (clarity, control, innovation, physical comfort) evaluated the extent to which workers know what to expect in their daily routines and how explicitly rules and policies are communicated; the extent to which management uses rules and pressures to keep workers under control; the degree of emphasis on variety, change, and new approaches; and the extent to which the physical surroundings contribute to a pleasant work environment (Moos, 1995).

The WES has three forms that can be used to evaluate the work environment. The Real Form (Form R) measures respondents' perceptions of their current work environment and will be used in this study. The other two forms are the Ideal Form (Form I), which measures respondents' conceptions of an ideal work environment and the Expectations Form (Form E) which measures respondents' expectations about work settings. To quantify their perceptions of the current work environment, participants will complete the Real Form (Form R).

The survey uses a two-point answer format (true-false or yes-no). The WES Form R items are in reusable booklets. A separate one-page answer sheet is used to record the answers. Survey time usually requires about 15-20 minutes (Moos, 1994).

The WES is scored using the template provided by Moos (1994). The raw score in each subscale is calculated with the number of marked items that the template points out. Individual raw scores or grouped average scores in subscales can be converted to standard scores with the conversion table. Scores can be compared among participants in the same work setting and to another work setting.

The WES has been applied to a total of 8,146 employees with over 4,800 employees in health care settings (Moos, 1995). Although the WES has been used in a variety of health care settings, few of these studies have focused specifically on nursing. No studies were found that utilized the WES to examine the perioperative nursing environment.

Moos (1995) reported reliability internal consistency coefficients for data from 1,045 general and healthcare employees. These ranged from .69 for coworker cohesion to .86 for innovation with a mean of .78. A one-month test-retest for reliability ranged from .69 for clarity to .83 for involvement with a mean of .76. Subscale intercorrelations ($r = .25$) indicate that the subscales measure distinct though somewhat related aspects of the work environment. The subscales can therefore be analyzed and described independently.

Moos (1995) found moderate long-term stability after conducting two major longitudinal projects on psychiatric patients and case controls. The subscale stabilities

were obtained on samples of individuals who worked in the same setting for 1 year, 3-4 years, 6 years, and 9-10 years. The coefficients are moderately high for the 1-year interval ranging from .64 for physical comfort to .55 for autonomy. Moos found that stability decreases somewhat over longer time intervals, especially 9 to 10 years. Two of the system maintenance dimensions (managerial control and physical comfort) were the most stable, which Moos attributed to the relative consistency of management policies and the physical work environment.

Moos (1994) built content and face validity into the scales by defining constructs, such as involvement, autonomy, and organization; preparing items to fit the construct definitions; and be selecting items that were conceptually related to a dimension, as agreed upon by independent raters, and that belonged to that dimension, according to empirical criteria such as item intercorrelations, and internal consistency analyses. Criterion validity of the scales is acceptable as the dimensions are related to external criteria in both concurrent and predictive studies (Moos, 1994).

Interview Guide

A semi-structured interview guide (Appendix F) was used to conduct interviews for the qualitative portion of the study. Interviews were tape recorded and transcribed verbatim as soon as possible following each interview to maintain data integrity and to minimize interviewer biases. The interviews were guided by a series of open-ended questions. Probe questions were used throughout the interviews to elicit greater information. Insights from one interview were presented to the next participant interview for further consensus and clarification thereby establishing conformability. As the study

progressed, the interview guide was modified, in accordance with previous responses obtained from the questions.

Along with each interview, the primary investigator also recorded field notes. Field notes described the unstructured observations made in the field (Lofland & Lofland, 1995). These field notes were written on paper or tape-recorded by the primary investigator as soon as possible after the interview. These field notes included a description of the setting and the participant, the emotional tone of the interview, any particular difficulties, methodological or personal, that were encountered, insights and reflections and the primary investigators own feelings during and about the experience (Lofland & Lofland, 1995). The descriptive information recorded allowed the primary investigator to recall the observations during subsequent data analysis.

In qualitative research the concepts of reliability and validity are represented by the term *trustworthiness*. Polit and Hungler (1999) define trustworthiness as a term used in the evaluation of qualitative data, assessed using the criteria of credibility, transferability, dependability, and confirmability as outlined by Lincoln and Guba (1985).

Credibility is concerned with truth value or accuracy of a study's findings (Polit & Hungler, 1999). Qualitative findings are considered credible when descriptions or interpretations are so faithful that subjects recognize their experiences from the researcher's description (Lincoln & Guba, 1985). Triangulation, the use of different data sources and methods and consultation with reviewers, was used to determine the credibility of this study and to confirm freedom from bias (Creswell, 1998; Stiles, 1993).

Additional procedures were used in the study to enhance credibility and included purposive sampling and continuing data collection until saturation has been achieved.

Transferability is the criterion that will be used to determine whether the findings can be applied in other contexts or settings or with other groups (Polit & Hungler, 1999). One means of establishing transferability is to use triangulation, the process of involving corroborating evidence from different sources to shed light on a theme or perspective (Creswell, 1998). The information obtained from the WES was used to check for similarities identified in the interviews.

Dependability refers to the stability of data over time and over conditions (Polit & Hungler, 1999). Auditability is the criterion of merit related to the dependability of qualitative findings (Morse & Field, 1996). A study is considered auditable when another researcher can follow the qualitative researcher's decision trail and arrive at comparable conclusions, given the researcher's data, perspective, and situation (Lincoln & Guba, 1985). The qualitative research report provided evidence of auditability.

Confirmability or neutrality refers to freedom from bias in the research procedure and results (Polit & Hungler, 1999). One technique that was used in this study to assist in the removal of interviewer bias was the process of bracketing which refers to the conscious effort of the researcher to identify personal theoretical biases and placing those aside (Creswell, 1998; Lincoln & Guba, 1985; Polit & Hungler, 1999). To further ensure confirmability, an independent nurse researcher, skilled in interpretative research, reviewed the interpretation and evaluated whether the themes seemed appropriate and whether sufficient data was present to represent the themes.

Data Collection

After obtaining approval from Texas Woman's University Institutional Review Board and the Institutional Review Boards at the participating sites, the operating room nursing directors were contacted, by letter and/or telephone, for permission to conduct the study at a regularly scheduled meeting. The survey data was collected at staff meetings of perioperative nurses and at designated pick up times for self-administered surveys at the request of management staff. At a pre-scheduled time, the principal investigator introduced self and the study to gathered nurses. Nurses were informed that they would receive no direct benefit from participating in the study. However, their participation may help the principal investigator better understand nurses' process of career decision making and assist in the development of successful strategies to sustain and encourage the choice of perioperative nursing careers. Nurses were instructed that they could refuse to participant in the study or withdraw at any time with no adverse effects. The principal investigator acknowledged and thanked the nurses for participating. An explanation of the study was given and participants were assured of confidentiality by the primary investigator. Participants were instructed that the completion time for the WES and the demographic data form would be approximately twenty minutes. Completion of the survey was taken as implied consent to participate. Directions were given for participants to not include names on any materials. Prior to survey administration, participants were given a demographic data form to complete. The principal investigator administered the WES in a standardized manner through the use of a script. The participants then completed the WES, which consisted of 90 test items in a multi-use booklet. A separate

one-page answer sheet was used to record the answers. Participants submitted the completed demographic form, WES booklet, and answer sheet to the principal investigator. The principal investigator thanked the nurses for participating.

Interviews

Data were also collected by taped interviews. The investigator solicited interview volunteers from the survey participants. Those interested in participating scheduled an interview with the investigator at the convenience of the participant. The investigator assumed that all participants were able to speak freely and express their thoughts in response to the research questions. At the pre-scheduled time, in a quiet, private location, the investigator set up equipment, welcomed the participant and obtained permission of the nurse to participate in the study and permission to audiotape the session. Participants were given a copy of the consent forms. They were instructed that they could refuse to participate in the study or withdraw at any time with no adverse effects. The participants were informed that the time commitment for the interview would be approximately one hour.

Additionally, the participant was asked to complete a demographic data form indicating brief demographic data to be used by the investigator to describe the sample of participants. The investigator introduced self and the study and thanked the nurses for participating. The interview was designed to be a semi-structured open-ended format for the participants, which generated a discussion of their experiences. At the beginning of the interview, the participants were asked broad questions and encouraged to respond in narrative form. Gentle probes were asked in order to enrich the description of the

experience and to focus the interview. Subsequent interview questions evolved based upon information obtained in previous interviews. At closure, the principal investigator asked participant if there was anything more she/he would like to ask or add. The principal investigator then acknowledged and thanked the nurse for participating. An honorarium of $25 was given to interview participants for their time commitment.

After each interview, the investigator generated an interview note, which described the interview and the reactions to the interview by the investigator. These notes contained observations of facial expressions, non-verbal behaviors, postures and other nuances that the investigator made a mental note of during the interview. In addition, the investigator generated additional thoughts and questions to consider during the next interview from each participant's responses to the questions that assisted in illuminating aspects of factors that influence nurses of different age groups decisions to become and remain perioperative nurses.

The interview process continued until saturation of themes occurred (Polit & Hungler, 1999). When saturation occurred, two additional interviews, one from each age group, was conducted for verification purposes.

Pilot Study

A small pilot study (N=3) was conducted for the qualitative portion of this study. A semi-structured interview guide was used to explore the lived experience of emerging workforce nurse graduates in the perioperative setting. Three female Caucasian perioperative nurses were interviewed. Their ages were 29, 33, and 35 years, and they had varying degrees of nursing experience ranging from 6 to 11 years. Two of the

participants were single and one was married. The participants reported employment in their current position as three years, 18 months employment, and four weeks. The educational backgrounds of the participants were diverse. One nurse had an Associate' Degree, one had a Diploma, and the other had a Bachelor's Degree in Nursing. None of the participants were currently enrolled in school or certified in perioperative nursing. All participants voluntarily sought employment in perioperative nursing as staff nurses. Two participants were employed full-time and one was part-time. The yearly gross salary range for the participants ranged from $40,000 to $60,000. All three participants attended didactic operating room (OR) training courses, sponsored by their employer, upon hire into the perioperative setting.

Two themes emerged from the pilot study were quality patient care and perioperative education. Two of the three nurses interviewed stated that one of the attractors to the operating room was "one-on-one patient care." They declared that this patient ratio allowed them to give better care to the patient. "I like that you only have one patient at a time. And I feel that you can give better patient care and spend more time with the patient as opposed to working on the floor which I had done prior to this where we had any where up to 7 to 10 patients on a shift." "What I like about it is that it's a one on one patient care."

All three nurses expressed a desire to have more scrubbing experience. "I would like to have a lot more experience in scrubbing so that I can get familiar with a lot of the instruments. I feel that is a drawback for me right now because I really am only familiar with one or two sets that we use." "I haven't scrubbed in probably 2 to 3 years on a

regular basis. When I first started operating room nursing there were no, hardly any OR techs both at XX hospital and XX hospital where I worked. And now, gradually over the years, there are now almost a 50 to 50 ratio, so you can only expect daily that you will not be scrubbing. And that is one of the reasons that I no longer like what I do. Because I think when you scrub you have a good variety and it is a little more challenging when you get to do both jobs. Now I think they just see us as paper pushers."

Continuing on the theme of perioperative education, two participants mentioned the importance of preceptors and consistent specialty service orientation. "Preceptors are very important. The right kind of nurse to walk that brand new nurse is vital." "We did not work in one area long enough to feel like you got a good grasp. I think being in one service for a good while helps strongly." "I think it would be nice if they did it (orientation) in stages where you either had two weeks in one service or something like that, but bouncing from one case of GYN to an orthopedic to an ENT is very frustrating at first when you are really totally unfamiliar with the routine and the environment. I find that difficult."

Following the pilot, the interview process and quality of data were evaluated. The amount of data obtained during the interviews was inadequate and it was determined that the interviewer should have probed further to gain additional information. It was also established, that by virtue of their training in the perioperative setting, perioperative nurses interviewed were very concrete in their responses. Perioperative nurses are trained to see things as black or white. There is no "in between" or gray area. For example, basic aseptic technique education teaches the concept of "surgical conscience"

which allows for no compromise in the principles of aseptic technique, since anything less could increase the potential risk of infection, resulting in harm to the patient (AORN, 2001b). Any item used within the sterile field must be sterile and all items of doubtful sterility are considered contaminated.

Therefore, the semi-structured interview guide was revised to incorporate more open-ended questions to facilitate elaboration on concepts from the respondent.

Treatment of Data

Demographic data was analyzed using Statistical Package for the Social Sciences 11.5 (SPSS). The data were analyzed using descriptive statistics of frequencies and percentages with means and standard deviations being calculated for all interval and ratio data.

Data obtained from the Work Environment Scale was analyzed using the WES template. A *t*-test was used to answer research question 1; whether there is a difference in perception of the perioperative work environment between nurses of different age groups. The *t*-test is a statistical method for comparing differences between two groups (Munro, 1997; Polit & Hungler, 1999). A two-tailed *t*-test was conducted to evaluate the statistical significance of the differences between the perioperative nurses' scores and the "Health Care Work Group" norms (Moos, 1995).

Research questions 2 and 3 utilized the data obtained from the qualitative interviews. To gain an understanding of factors that influence nurses of different age groups decisions to become and remain perioperative nurses, newer nurses in their 20s and 30s were interviewed with more experienced nurses 40 to 50 years old. A

phenomenological design was select for data collection. Demographic data were collected prior to conduction of a semi-structured interview. For the qualitative portion of the study, 14 perioperative nurses were interviewed one time. Interviews continued until saturation was reached, and no new information was generated. The interviews were conducted at the convenience of each participant, with as much privacy as the participant chose. The interview enabled participants to articulate their experiences from their own point of view, allowing the researcher to examine the phenomenon in context as well as understanding human behavior from the participants' own framework of reference. Probe questions were used throughout the interview to elicit greater information. Insights from one interview were presented to the next participant interview for further consensus and clarification thereby establishing conformability. The interviews were audio taped in a conference room at TWU, principal investigator's office, library, or at another place selected by the participant. The researcher asked each participant questions from the interview guide. Data generated consisted of audio taped interviews and limited field notes the researcher took when clarification, affect, and nonverbal communication were important to remember. Confidentiality was assured during and after the audio taped interview session through the use of assigned numbers to each participant, the code for which was only known by the researcher.

Data obtained were analyzed using a constant comparative approach. The audio taped interviews were transcribed verbatim by a registered nurse experienced in doing transcription and then reviewed by the researcher in its entirety to determine the overall sense of meaning. The researcher bracketed presuppositions, biases, and personal

influences during the analysis. Trustworthiness of the data was ensured via the use of techniques that demonstrate credibility and confirmability. For example, member checking was carried out informally and continuously as data were collected. According to Polit and Hungler (1999), member checking is a method of validating the credibility of qualitative data through debriefing and discussion with informants. At the conclusion of each interview, the researcher summarized the critical points shared by the participant and ask him or her to verify or clarify all aspects of the summary. Confirmability was also established by an expert qualitative faculty research advisor who reviewed the interview data independently to provide increased accuracy of the data analysis.

In an effort to analyze the open-ended questions, the researcher carefully read and re-read through all of the data and concurrently listened to the taped interviews several times, and then subsequently extracted major statements or phrases. This extraction included pulling out all comments related specifically to factors related to the subjects choosing and remaining in perioperative nursing. After this was completed, meaning was assigned to the statements or phrases while being particularly mindful of the participants' initial remarks. The identified significant statements were then carefully examined and then clustered the statements into themes.

The process of analysis used in this study included a combination of the work of Diekelmann, Allen, and Tanner (1989), Diekelmann (1992), and that of Moustakas (1994). These qualitative researchers suggested that analysis of narratives involves the researcher moving from the parts of the transcribed interviews, to the whole, and back to the parts again. Although there is no single correct interpretation, continuous

examination of the whole and parts of the document with constant reference to the interview ensures that interpretations are grounded and focused for validation.

Moustakas (1994) contributed a heuristic process of phenomenological inquiry to this research that provided a means of clarifying comparisons of the emerging patterns and themes. The process consisted of confinement (the examination of each narrative from start to finish, limiting the scope of focus to the specific narrative being reviewed), consolidation (the identification of similar statements, concerns, discussions, and responses from narratives), saturation (the inability of the researcher to recall individual responses from narratives and becoming immersed with thoughts pertaining to the generalities of responses and relationships), oscillation (the movement of ideas from one category, theme, or pattern to another), and solidification (the expression of findings in an organized format).

Lastly, using the across-methods triangulation design, all data obtained were analyzed to identify findings common to all methods. Statistical findings from the quantitative method validated themes arising from the qualitative data.

Summary

The first purpose of this study was to explore factors that influence nurses of different age groups decisions to become and remain perioperative nurses. The second purpose was to determine the effect of work environment perceptions on those factors. A methodologic triangulated research design was used employing both qualitative (participant interviews) and quantitative (Work Environment Scale questionnaire) data collection methods. Content analysis was used to analyze the qualitative data to

determine themes or patterns. The quantitative data were analyzed to determine the relationship between the subscales of the WES and the demographic variables. All data obtained was then further analyzed to identify findings common to all methods.

CHAPTER 4

ANALYSIS OF DATA

The purpose of this descriptive retrospective study was to explore the career decision-making process of perioperative nurses from different age groups, including the effect of work environment perceptions. An across-method triangulation research design was used employing both quantitative and qualitative data collection methods.

Data were collected using a demographic data form to identify characteristics of participating nurses and the Moos Work Environment Scale (WES) to determine nurses' perceptions of their work environment. Interviews were conducted with a sub-sample of the survey participants. The purpose of these interviews was to gain a more in-depth and specific view of the factors that influence the career decisions of perioperative nurses and to provide validation for the results of the WES. Descriptive statistics were used in summarizing the demographic data to derive a profile of the nurse sample. Data obtained from the WES were analyzed using the WES template. A *t*-test evaluated the differences in perception of the perioperative work environment between nurses of different age groups. A one-sample *t*-test evaluated the statistical significance of the differences between the perioperative nurses' scores and the "Health Care Work Group" norms (Moos, 1995). Lastly, using the across-methods triangulation design, all data obtained were analyzed to identify findings common to all methods. A description of the sample

and the findings, by methodology and then by research questions, are presented in this chapter.

Description of the Quantitative Sample

Descriptive statistics were used to examine generational age, gender, ethnicity, employment status, years of nursing experience, years employed at current job, educational level, perioperative nursing certification status, and yearly gross salary. The purposive sample consisted of English-speaking RNs currently practicing as perioperative staff nurses in large, urban area hospitals in the southwestern United States. Nurses were employed at 11 hospitals (see Table 3) with both entrenched and emerging workforce nurses represented. Hospital institution sizes ranged from reported bed capacities of 332 to large medical center specialty hospitals with over 700 bed capacities. The desired sample size for the quantitative portion of the study was 174 subjects for each age group, persons born from 1938 through 1960 and persons born from 1961 through 1982 in order to provide sufficient number for reliability measures. A total of 256 WES questionnaires and demographic forms were returned. Nine subjects did not respond to the question regarding birth year and were not included in data analysis. The final sample was composed of 247 perioperative nurses. The decision was made to stop and analyze and interpret the data that had been collected because all available area facilities had been used or declined participation. This decision was made knowing the power to discern differences would be decreased.

Table 3

Characteristics of Data Collection Sites

Hospital	Beds	ORs	Magnet
A	1352	52	√
B	888	44	√
C	814	39	
D	758	27	√
E	647	14	
F	639	22	√
G	531	26	
H	520	36	
I	482	12	
J	328	11	
K	319	15	√

Note. Hospitals D and K achieved magnet status after completion of data collection.

The mean age for the quantitative sample was 45 years (*SD* = 10.55), range 23 – 68 years. Eighty-five nurses were born in the years from 1961 to 1982 and 162 nurse participants were born in the years from 1938 to 1960. While the preponderance of the sample were female (*n* = 218; 88.3%), 28 males (11.3%) completed the WES. One subject did not respond to the question regarding gender. Subjects identified themselves as White (*n* = 129, 52.2%), Asian (*n* = 49, 19.8%), Black/African American (*n* = 29, 11.7%), Hispanic/Latino (*n* = 17, 6.9%), Mixed Race/Ethnicity (*n* = 7, 2.8%), Native

Hawaii or Pacific Islander (n = 7, 2.8%), American Indian/Alaskan Native (n = 2, 0.8%), and No Response (n = 7 missing, 2.8%) (see Table 4). The majority of participants identified themselves as full time employees (n = 224, 90.7%), while 15 nurses (6.1%) reported they were employed part time. Eight subjects did not respond to the employment status question.

Table 4

Ethnicity of Quantitative Sample (N = 247)

Variable	Entrenched (n = 130)	Emerging (n = 117)
Ethnicity		
American Indian/Alaskan	1 (0.8%)	1 (0.9%)
Asian	27 (20.8%)	22 (18.8%)
Black/African American	11 (8.5%)	18 (15.4%)
Hispanic/Latino	6 (4.6%)	11 (9.4%)
Native Hawaiian/Pacific Islander	5 (3.8%)	2 (1.7%)
White	73 (56.2%)	56 (47.9%)
Mixed Race/Ethnicity	2 (1.4%)	5 (4.3%)
Missing	5 (3.8%)	2 (1.7%)

Education ranged from diploma graduate to master's preparation (see Table 5). The sample population included 114 (46.2%) baccalaureate degree, 88 (35.6%) associate degree, 38 (15.4%) diploma graduate, and 4 (1.6%) master's degree nurses. Three

subjects did not respond to the question inquiring about highest level of nursing education. Eighty-two respondents (33.2%) held CNOR certification. Nursing experience ranged from 1 to 42 years as an RN, median 13 years. Of the 247 participants, 128 (51.8%) were employed in facilities which had obtained magnet status, and 119 (48.2%) were from non-magnet facilities. Salary level reported ranged from less than $40,000 to over $90,000 for both part time and full time nurses, and 80.2% of the total sample reported an income from their nursing positions at $50,000 or more annually.

Table 5

Educational Level and Certification Status of Quantitative Sample (N = 247)

Variable	Entrenched (n = 130)	Emerging (n = 117)
Education		
Diploma	32 (24.6%)	6 (5.1%)
ADN	45 (34.6%)	43 (36.8%)
BSN	49 (37.7%)	65 (55.6%)
Masters degree in nursing	3 (2.3%)	1 (0.9%)
CNOR Certification		
Yes	61 (46.9%)	21 (17.9%)
No	67 (51.5%)	93 (79.5%)

Findings of the Quantitative Study

The quantitative portion of the study tested one research question. The research question was: Is there a difference in the perception of the work environment among perioperative nurses by age groups?

Statistical data were analyzed using SPSS 11.5 (Statistical Package for the Social Sciences). The perception of work environment, as measured by the Work Environment Scale (WES), was the unit of interest in the quantitative portion of the study. The sample's scores for the WES were obtained by first totaling the items for each sub-scale for each individual. The aggregate means were then calculated. The standard deviations and 95% confidence intervals for the means were calculated for each subscale of the work environment.

The mean scores were converted to standard scores using the stated conversion values. The scores for health care work groups are standardized to a mean of 50 with a standard deviation of 10 (Moos, 1994). A high score on any scale, greater than the mean of 50, indicates a greater presence of that characteristic.

Independent sample *t* tests were used to compare the entrenched workforce and the emerging workforce nurses on the ten sub-scales of the Work Environment Scale: involvement, coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, innovation, and physical comfort. The three assumptions for *t* tests were checked and met. The assumption for independence was met as the emerging nurses and the entrenched nurses define two mutually exclusive groups based on age. The dependent variable (perception of work environment) was normally

distributed within each of the two populations. The homogeneity assumption was met, as the variances of the two populations were equal. Because multiple *t* tests were performed for subscale comparison, a Bonferroni correction was done. The alpha of 0.05 was divided by the number of independent comparisons (10) to give an alpha of 0.005 for each comparison to achieve significance. Means for the WES subscales for the entrenched and emerging workforce groups of nurses are displayed in Table 6. Entrenched workforce nurses gave higher ratings than emerging workforce nurses for involvement ($p = .000$). The nurses did not differ significantly for the remaining nine subscales (coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, innovation, and physical comfort).

A one-sample *t* test was used to compare the means for the WES subscales between the perioperative nurse sample and the "Health Care Work Group" norms on the ten sub-scales of the Work Environment Scale: involvement, coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, innovation, and physical comfort (see Table 7). For the investigation of significant global effects, alpha was adjusted to 0.005 (.05/10) to control for inflated error. Perioperative nurses and the Health Care Work Group differed significantly on physical comfort ($p = .000$). Perioperative nurses and the Health Care Work Group did not differ significantly in involvement, coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, and innovation.

Table 6

Perceived Work Environment Subscale Means for Entrenched and Emerging Workforce Nurses and t-test Results

	Mean			
WES Subscales	Entrenched Nurses ($n = 130$)	Emerging Nurses ($n = 117$)	$t(df = 245)$	p
Involvement	6.03	4.96	-3.96	.000*
Coworker Cohesion	5.50	5.29	-.804	.422
Supervisor Support	4.82	4.20	-2.107	.036
Autonomy	5.45	5.31	-.577	.565
Task Orientation	5.88	5.59	-1.029	.305
Work Pressure	5.90	5.94	.155	.877
Clarity	4.90	4.23	-2.566	.011
Managerial Control	5.84	5.85	.068	.946
Innovation	3.84	3.30	-1.903	.058
Physical Comfort	5.06	4.43	-2.260	.025

Note. * = significant difference in ratings.

Table 7

Perceived Work Environment Subscale Means for Perioperative Nurses and Health Care Work Group and t-test Results

	Mean			
WES Subscales	OR Nurses ($n = 247$)	Health Care Work Group ($n = 4,879$)	$t(df = 246)$	p
Involvement	5.52	5.43	.663	.508
Coworker Cohesion	5.40	5.24	1.238	.217
Supervisor Support	4.53	4.82	-1.965	.051
Autonomy	5.38	5.20	1.509	.133
Task Orientation	5.74	5.70	.314	.754
Work Pressure	5.92	5.65	2.080	.039
Clarity	4.58	4.50	.630	.529
Managerial Control	5.85	5.57	2.316	.021
Innovation	3.58	3.90	-2.228	.027
Physical Comfort	4.76	3.77	7.015	.000*

Note. * = significant difference in ratings.

Description of the Qualitative Sample

From the survey sample, a sub sample of 14 RN participants was recruited to respond to the qualitative phenomenological portion of the study. Nurses from this group were employed at six different hospitals with both emerging and entrenched nurses

represented. Of the 14 nurses interviewed, 7 (50%) were employed by a Magnet-designated health-care facility.

Of the nurses interviewed, 13 identified themselves as full time employees and one nurse stated that she was employed part-time. Age range in this sample was from 25 to 58 years, with a mean age of 44 years. Seven nurses were in the emerging workforce age range (1961-1982) and 7 nurse participants were in the entrenched workforce age range (1938-1960). While the majority of the participants were female (n = 11; 79%), three males (21%) were interviewed for the study. Subjects identified themselves as White (n = 10, 71.4%), Hispanic/Latino (n = 2, 14.3%), Black/African American (n = 1, 7.1%), and Mixed Race/Ethnicity (n = 1, 7.1%).

Education ranged from diploma graduate to master's preparation. The sample population included associate degree (n = 8, 57.1%), baccalaureate degree (n = 4, 28.6%), master's degree (n = 1, 7.1%), and diploma school graduate (n = 1, 7.1%). Nursing experience ranged from 2 to 33 years as an RN. Years of employment with the present employer included a range from 2 years to 28 years. Six (43%) of the respondents reported obtainment of CNOR certification and 8 (57%) nurses were not certified. Salary level reported ranged from $45,000 to over $90,000 for both part time and full time nurses, and 86% of the total sample reported an income from their nursing positions at $55,000 or more annually.

Findings of the Qualitative Study

The qualitative portion of the study explored two research questions. The first research question was: What factors influence nurses of different age groups to choose

perioperative nursing as a specialty? The second research question was: What factors influence nurses of different age groups to remain in perioperative nursing?

To gain an understanding of factors that influence nurses of different age groups decisions to become and remain perioperative nurses, newer nurses in their 20s and 30s and more experienced nurses 40 to 50 years old were interviewed individually. A phenomenological design was selected for data collection. Demographic data were collected prior to conducting a semi-structured interview. For the qualitative portion of the study, 14 perioperative nurses were interviewed one time. Interviews continued until saturation was reached, and no new information was generated. Interviews were conducted at the convenience of each participant, with as much privacy as the participant chose. The interview enabled participants to articulate their experiences from their own point of view, allowing the researcher to examine the phenomenon in context as well as understanding human behavior from the participants' own framework of reference.

The researcher first listened to participants' oral descriptions of the phenomenon under investigation. Each interview then was transcribed verbatim from the audiotapes by a transcriptionist. The researcher carefully read and re-read through all of the data, including handwritten notes, and concurrently listened to the taped interviews several times, and then subsequently extracted major statements or phrases. This extraction included pulling out all comments related specifically to factors related to the subjects choosing and remaining in perioperative nursing. After this was completed, meaning was assigned to the statements or phrases while being particularly mindful of the participants'

initial remarks. The identified significant statements were then carefully examined and then clustered the statements into themes.

The researcher sought assistance and input from an expert qualitative faculty research advisor. They each reviewed the transcripts independently then compared results, and resolved any discrepancies in data interpretation, which increased the accuracy of the data analysis. Demographic data were analyzed using descriptive statistics.

The first qualitative research question asked, "What factors influence nurses of different age groups to choose perioperative nursing as a specialty?" Participants' responses were categorized into three themes: Exposure, attractive attributes, and getting there.

Exposure

Exposure, in various forms, to perioperative nursing was a significant influencing factor of the majority of respondents, from both age groups, to select perioperative nursing as a career choice. The nurses' interest was generated during time spent in the OR as students; previous employment in the operating room as surgical technologists and anesthesia technician, and one respondent's mother was an operating room nurse.

The respondents' student exposure to the perioperative nursing was varied. Nursing school experienced ranged from a one- or two-day opportunity to observe surgery, others had an OR follow-through experience, and one had a six week OR education course. A 25 year old nurse with 2 years RN experience was determined to be an OR nurse after her first exposure to the OR resulting from a requirement for an

anatomy class that she was taking as a pre-requisite for entry into nursing school. She stated:

> Before I even went to nursing school, I was taking my prerequisites at [college] and I was in an A&P class, and we had the chance to go to [hospital] and observe an OR. So we were at the top and it was open heart surgery and I looked down and it was like 'Who are those people in there?' And someone told me, 'Oh, that's an OR nurse.' I said that's what I want to be. So every since then I went to nursing school and made up my mind I wanted to go to the OR.

A younger nurse with 10 years experience described her first exposure to perioperative nursing:

> In nursing school, during our med-surg portion of our academic preparation for our nursing degree, we had on or two days in the operating room where you actually went and observed to see what went on in the operating room. We got to talk to the circulating nurse, who was an RN, and at the hospital I visited, the nurses did not scrub-they had scrub techs, so I was kind of impressed by what I saw. It peaked my interest.

An entrenched nurse, with 26 years experience, stated that during nursing school he followed a patient through the entire perioperative experience and actually worked in the OR:

> We followed patients through but then we also were assigned to a room and we second scrubbed and if they liked you or thought you had any ability, you may get a chance to first scrub on a case, which I did get a chance to first scrub myself.

An emerging workforce RN describes how nursing jobs were scarce when she was a graduate nurse 20 years and how the OR experience she received in nursing school facilitated her obtaining a position in the OR. She explained:

> Brand new grad and I had a little bit of ICU and they asked me at this hospital, 'Have you had any OR?' and I said yeah. I had an OR class at my school that lasted six weeks that you scrubbed and circulated. Other schools didn't have that. I had my break in the OR.

An entrenched workforce respondent with 12 years of experience, who entered nursing school in her thirties, described her exposure to the operating room during nursing school:

> We had one day. It wasn't like a semester. It wasn't a class you could take. During one of our med-surg courses everybody got one day they could spend in the OR. There were a lot of people who had no desire to do that. They didn't want to do that so I would take theirs and let them go do the floor.

When asked how many times she traded her clinical floor experience for time in the OR, the respondent said, "Probably three or four times."

Several respondents had exposure to the operating room through prior jobs including surgical technologist and anesthesia technician. A younger nurse with three years RN experience reflected on his decision to become an OR nurse:

> I became an operating room nurse – I was a surgical tech before and had always wanted to be a nurse but I never really had a direction until I picked one and became a surgical technologist and began scrubbing cases and seen the nurses

doing the paperwork, what seemed to be paperwork, and admission. I figured that I could do that and went back to school.

Another young respondent with 3 years of experience described her exposure to perioperative nursing:

> I had worked in an operating room previously for two years at a smaller hospital as an anesthesia tech and a nursing assistant, and I just knew that was were I wanted to work, in the operating room, so I looked for an internship. I knew I didn't want to do floor nursing.

Lastly, one younger respondent with 15 years of experience, whose mother had been an operating room nurse stated, "I always knew what operating room nurses did. From the time I was small, I was always washing my hands."

Attractive Attributes

The attractive attributes of perioperative nursing that were raised spontaneously across the two groups of nurses included technical aspects, excitement, hours, and portability. The technical aspects were a widely held key positive attribute of perioperative nursing. Technical aspects including working with the latest surgical instrumentation and equipment, interest in the anatomy of the human body, and being able to see disease processes first hand. The challenge of working with technology was mentioned by a number of the respondents. As scientific and medical research advances, so does the use of new technologies in the operating room such as lasers, robotics, computers, video equipment, and microscopes. Perioperative nurses must adapt to the new systems and become familiar with the driving forces behind the technology and how

it will affect their daily work. When describing her first perioperative nursing experience, a young nurse with 3 years of experience responded, "I liked the technical aspect of it and I could actually see what was going on instead of just giving medications, changing bed sheets, and stuff like that."

Perioperative nursing was seen to have the advantage of being exciting, for example participating in big cases such craniotomies and emergencies. One young male nurse said, "I guess the technical, along with the medicine, and the disease process, and the "f" words, the yelling and seeing a guy cut open or the adrenaline of a stat case, you know seemed really inviting."

The operating room environment was appreciated for having more "normal" hours, particularly day surgery. Two respondents, one veteran nurse with 22 years experience and one younger nurse with 10 years experience, described their "need for a day job."

Portability was also identified as an attractive attribute of perioperative nursing. It is perceived one has the ability to travel within the United States as well as worldwide and work will always be available for those with perioperative nursing skills. A younger nurse explains, "I knew I wanted to be in a profession where I could go anywhere in the country and get a job and not have a problem." An entrenched nurse said, "You can work basically anywhere in the world, and it is regular pay, and it is physical so you don't have to worry about so much exercise after work."

Getting There

The majority of entrenched and emerging nurses had actively chosen to work in perioperative nursing. For some, being in the specialty was more by accident than design. Participants' responses were categorized as direct and indirect avenues to a perioperative nursing career. Upon nursing school graduation, seven participants (five younger nurses and two veteran nurses) went directly to the operating room for their first nursing position. One young participant's comments mirrored the statements of several interviewed:

> I went to nursing school and soon as I got out I wanted to find a job in the OR. I said to myself that it didn't matter if it was night or day, as long as I could get my foot in the OR. I didn't want pedi. I didn't want to do med-surg or anything else.

A veteran nurse responded, "I knew that I wanted to be an OR nurse. I didn't want to be a floor nurse. I liked L&D, but I only liked the D part, didn't like the L."

The respondents from both age groups also talked about the indirect routes taken to reach a perioperative nursing career. Several respondents discussed nursing school instructors who advised them to obtain medical-surgical experience prior to seeking a position in the operating room.

One emerging workforce nurse with 10 years of RN experience said:

> I had always been interested in going into the operating room since I was in school, but in my last year of nursing school, one of my instructors told me that in order to do that you had to have a year of med-surg, so after finishing nursing school, I went immediately into med-surg.

The experienced nurses who took an indirect route to perioperative nursing sometimes chose the specialty to get out of what they were doing. Several nurses had nursing experience, including intensive care, post anesthesia care, neonatal care and day surgery, but needed a work environment change. An entrenched nurse with 33 years of experience said, "I had been in the ICU and RR for 12 years. I became so burnt out that I knew I needed to make a change."

For one neonatal nurse who was working nights, getting a position in perioperative nursing was more by accident than design. The former neonatal nurse said:

> I cried, and the director of nurses knew that I was struggling [on the night shift in the neonatal unit]. I had been there about a year and a half. She was walking down the hall one day and she said, 'I have a job for you.' I said, 'Good, I'll be down.' About halfway down the hall, I said 'where is it?' and she said 'in the OR' and I said 'Ok' and that is how I go to be in the OR.

The entrenched and emerging workforce nurses did not differ significantly in factors that influenced them to choose perioperative nursing as a specialty.

The second qualitative research question asked was, "What factors influence nurses of different age groups to remain in perioperative nursing?" Three themes emerged from this analysis: Good relationships with team members, making a difference, and learning/exciting environment.

Good Relationships with Team Members

Getting along with team members and enjoying their companying was an important source of reward within perioperative nursing with many nurses, from both age

groups, describing a sense of community and being part of a cohesive group. This theme included teamwork/camaraderie, fit and comfort, and management support.

Teamwork/camaraderie. As an illustration of this emergent theme, perioperative nurses commented that "being part of the operative team" played a major role in their decision to remain in perioperative nursing. Respondents felt a great sense of camaraderie among the surgical team, bound by a common interest, the surgical patient, and a "membership" to a skill set. Teamwork was also mentioned as pulling together to help one another out.

The respondents were passionate about the role of the perioperative nurse as an essential and significant part of the surgical team as stated from a respondent with 22 years of nursing experience:

> We always talk about what it takes to have a team. The team has to have an anesthesiologist, a surgeon, a scrub technician, and a circulator. There's four people to a team. If one of those members is missing, then you can't start. You can have 50 people in the room, but you have to have the four basic people.

Participants' described finding a "work family" and enjoying their company made a difference to staying on the job as did working together as a nursing team and as a multidisciplinary team.

Fit and comfort. Having comfort with level of knowledge and skills that are needed to work in an operating room also emerged as an important factor in determining whether an individual remained in operating room nursing. For example, several nurses responded that "felt comfortable with what I am doing and enjoy it." An entrenched

nurse with 12 years of experience stated, "That's my type of nursing. I can't imagine going anywhere else. I don't know-you know it is just me." For nurses who have practiced in the operating room, transferring to a new specialty area of nursing and starting out at the bottom was not seen as an attractive option for an expert practitioner. A respondent with 33 years experience described her thoughts on her perioperative skill set and an opportunity for a new nursing position in the anesthesia department, "it takes so long to develop them [skill set], to nurture them, and maintain them, that I have just not been ready to give them up."

Management support. They were many statements that suggested that management support played an important factor in retention. An entrenched workforce nurse from a magnet facility describes how "management listened to the concerns of people in the rooms" in regards to making a real effort to get staff off on time. Another veteran nurse with 26 years of experience asserted that he "died and went to heaven" when describing his current magnet facility employer. He further stated, "they care about staff." An emerging workforce nurse from a magnet facility declared:

> I have worked other places. This is a very good place to work. I think it all boils down that you can work in surgery anywhere, but anywhere isn't as nice as where I am now because like if I have a problem, I go to someone and talk to them about it and they will solve it for me.

Making a Difference

This theme included feeling like you have achieved something and one patient at a time.

Feeling like you have achieved something. Feeling that you've achieved something, knowledge that one is making a difference to patient outcomes, also included being able to spend time with the patient, visible patient improvement, and being able to make sure all the patient and operative team needs were met. All nurses described "making a difference" in the lives of their patients as they discussed their careers in perioperative nursing. "There is a sense that you get some reward that you have accomplished something, at the end of the day, at the end of your case. I think it is really the patients that make me stay in the operating room." An emerging workforce respondent, with experience from a variety of nursing specialties, described what she liked about scrubbing, "You feel like you're doing something important. You're helping the doctor do surgery. You feel like you are fixing somebody. Somebody is broke. You go in there and fix it. I don't know, it is just satisfying." Another young nurse stated, "it is gratifying to know you can make a difference. In some patients you can see almost an immediate change post-surgery." Further, a 27 year old RN with 3 years experience declared, "In the OR, you start a case, you do good, you accomplish something and it ends right there."

One patient at a time. A major motivator for working in perioperative nursing was described as "one-on-one patient care" and being able to focus more on patient care. A veteran respondent with 26 years of OR experience stated:

> One big advantage of the OR is you have one patient at a time to take care of and no matter how short they are, they are never going to give you more than one patient to take care of.

This theme crossed the age range of the respondents. An emerging workforce nurse reflected, "In the OR, I enjoy that it is just one patient at a time." When asked how would she would recruit someone to perioperative nursing, the response from an emerging workforce nurse was "I would tell them it's one patient at a time and you're with a team, the whole load is not on you." An entrenched workforce respondent spoke of the advantage of being in the operating room "because it's always one-to-one RN" where nurses are not going to get more than one patient if staffing is short and that an OR nurse is not pulled to work in a different unit.

Learning/Exciting Environment

This theme included learning and education, exciting environment, and technical aspects.

Learning and education. The operating room was seen to have the advantage an exciting learning environment where nurses actual get to experience human anatomy and disease processes and have the opportunity to work with technology. The dimensions of this theme, learning and education, exciting environment, and technology merged together. One young nurse with 10 years of RN experience expressed the thoughts of many, "I really think I will be here for the rest of my career because there is so much to learn. It is something new everyday." The OR provides an opportunity for interesting and varied work with the diversity of specialties within perioperative nursing, such as general surgery or orthopedics. The nature of each patient encounter challenges existing knowledge that allows the nurse to design individual care as no two "total hip replacements" are same. An emerging workforce respondent with nursing experience

outside the OR environment describes the challenge of perioperative nursing, "Always learning something new. Something new everyday. The case I had today was—I have done the case over the last year probably hundred times and it was totally different today."

Exciting environment. The excitement and ever changing environment that drew many into perioperative nursing was also a factor for remaining in perioperative nursing. One emerging workforce nurse described a change in a surgical procedure, "I had never done any of that stuff-never! It was kind of exciting, but scary." Another respondent describes an early operating room experience, "The doctor came along and said, 'Come feel the aneurysm,' so I got to feel the aneurysm. You actually get to see it. So it was kind of exciting, getting to see the needles and everything."

Technical aspect. The respondents from both age groups identified the technical aspect of the operating room environment as an important feature for retention in perioperative nursing. An emerging nurse with 10 years of experience stated that the patients are really what makes her stay in the OR and the technology, she stated "I really liked to see what was happening and actually see something that happened to a patient, the technology and that stuff that I really like." An entrenched workforce nurse with 26 years of experience responded that comfort with his knowledge and skill in the perioperative environment, patient contact, instrumentation and equipment were reasons for his tenure in the operating room:

> Comfort. It is what I have been doing the majority of my years and what I am comfortable with. I have my patient contact, but then I have my specialty with

> the OR, instrumentation, the equipment, which I have also, which gives me a bit more.

A veteran nurse with 30 years experience spoke about the technical aspects of setting up new programs, such as bowel and liver transplants, as medical knowledge advances that keeps him in perioperative nursing: "Program development is bringing a whole new set of technology. That's exciting."

Overall, the nurses were very engaged with their work in the operating room, however two entrenched workforce respondents voices contrasted with the sample. When asked what made her stay in the operating room, a veteran respondent with 28 years of nursing experience in the same facility said, "Right now it's the retirement." When asked why she stays with her current employer, the nurse stated:

> I guess a number of things. Number one, it is very close to where I live. I live in XX so it's very close. I used to ride my bike to work everyday. It was only recently when I hurt my back trying to play tennis that I stopped doing that, and by that time I was giving free parking. So that was very helpful. That's something they do, little perks that I really like.

Another respondent with 30 years of nursing experience stated, "They have me tied up so pretty. Every year at AORN [Congress], I go out and look for a new job. I just bring my W-2 form and go 'Can you match it?' This last year I made $144,000."

A veteran respondent with 33 years of nursing experience and over 20 years of perioperative nursing experience describes her rationale for remaining in perioperative nursing although she had considered a specialty change:

> The challenge of the operating room. It has taken me so long to learn the OR that to just walk away from it, I can't do it. I tried and I had an opportunity about 5-6 years ago to go into an area for the anesthesia department who were creating an area for preop assessments. I had that job but could not leave the OR, could not.

When asked to further clarify why she was unable to leave the OR, the veteran respondent stated:

> I think one of the anesthesiologists identified it at the time. It was very emotional like being peeled away from something you're not-I just didn't envision that. I thought I was ready to get away from that, like in the ICU and the recovery room. I thought I was ready for a radical change, but apparently I was not. He [anesthesiologist] said, 'Well it's probably because you are not ready to give up those skills.' And that was exactly right because it would be, I think, a big mistake to give up those skills. It takes so long to develop them, to nurture them and maintain them, that I have just not been ready to give them up.

The entrenched and emerging workforce nurses did not differ significantly in factors that influenced them to remain in perioperative nursing.

It is striking to note that the entrenched and emerging workforce respondents presented similar information in describing the factors that influence them to become and remain perioperative nurses.

Study Findings Across Methods

After the qualitative study was completed, the findings were compared with the results of the Work Environment Scale. Each of the major qualitative themes, exposure,

attractive attributes, getting there, good relationships with team members, making a difference, and learning/challenging environment, were compared to the ten WES subscales within the three sets of dimensions: relationship dimensions, personal growth (or goal orientation) dimensions, and system maintenance and change dimensions.

WES Subscales

Relationship Dimensions

The theme "good relationships with team members," corresponded with the WES relationship dimension subscales of "coworker cohesion," and "supervisor support." The Coworker cohesion subscale measured how friendly and supportive the perioperative nurses are to each other. The supervisor support subscale determined the extent to which management is supportive of the nurses and encourages nurses to be supportive of one another. Involvement and coworker cohesions are two important influences for remaining in a perioperative nursing career. The nurses were generally satisfied with the help from their colleagues, including managerial staff.

The "making a difference" theme corresponded with the relationship dimension subscale of "involvement." Involvement evaluated the extent to which the perioperative nurses are concerned about and committed to their jobs. The nurses showed a high degree of commitment to their perioperative career.

Personal Growth Dimension

The personal growth dimension, which included autonomy, task orientation, and work pressure, did not have any corresponding themes derived from the qualitative

interviews. These subscales questions were addressed specifically by the semi-structured interview questions.

System Maintenance and Change Dimensions

The system maintenance and change dimensions, which included clarity, managerial control, innovation, and physical comfort, did not have any corresponding themes derived from the qualitative interviews. These subscales questions were addressed specifically by the semi-structured interview questions.

Several of the qualitative themes and the WES subscales were similar. The theme "good relationships with team members," corresponded with the WES relationship dimension subscales of "coworker cohesion," and "supervisor support." The "making a difference" theme corresponded with the relationship dimension subscale of "involvement." In addition, the analysis showed quantitative variables with no corresponding qualitative themes and qualitative themes with no corresponding quantitative variables. For validity of across methods findings, it is noted that participants for both studies were recruited from the same population. No differences were found in the quantitative reports of perception of the work environment versus response to the qualitative interviews.

Summary of the Findings

In this chapter, the sample demographics and data analysis were reported. Descriptive statistics were used to describe the sample. The quantitative sample consisted of 247 perioperative nurses aged 23 to 67 with an average age of 45. The qualitative sample consisted of 14 perioperative nurses aged 25 to 58 with an average age

of 44. Results of the quantitative portion of the study found that entrenched workforce nurses gave higher ratings than emerging workforce nurses for involvement--the extent to which employees are concerned about and committed to their jobs. Perioperative nurses and the Health Care Work Group differed significantly on physical comfort--how much the physical surroundings add to a pleasant work environment. Content analysis from the qualitative study revealed themes related to factors that influence nurses of different age groups decisions to become and remain perioperative nurses: Exposure, attractive attributes, getting there, good relationships with team members, making a difference, and learning/challenging environment. No differences were found in the quantitative reports of perception of the work environment versus response to the qualitative interviews. No differences were found in the quantitative reports of perception of the work environment versus response to the qualitative interviews. Entrenched and emerging workforce respondents presented similar information in describing the factors that influence them to become and remain perioperative nurses.

CHAPTER 5

SUMMARY OF THE STUDY

Solutions to the nursing shortage are elusive. Today's nurse leaders are hard-pressed to provide new answers to questions about recruitment and retention. The challenges of recruiting a younger generation of nursing staff and meeting retention demands of cross generational needs are a challenge like no other seen in healthcare. Recommendations to solve the nursing shortage have been based on data that fail to consider the basis of nurses' specialty career choice within the nursing profession or nurses' perception of work, which is influenced by the generation in which they were born. Each generation has a unique perspective on the world of work. Understanding the philosophical and attitudinal differences between the generations is critical to the future of nursing to develop insight and recruitment and retention strategies.

The purpose of this methodologic triangulated research study was to explore factors that influence nurses of different age groups, persons born from 1938 through 1960 and persons born from 1961 through 1982, to choose to work and stay in perioperative nursing. A secondary goal of the study was to determine if there was a difference in the perception of the work environment among perioperative nurses by age groups.

This chapter will discuss a summary of the study. Following the summary is the discussion of the findings. Conclusions, implications for nursing, and recommendations for future studies will also be included in this chapter.

Summary

The Leininger Sunrise Model was utilized to guide this study. An across-method triangulation research design was used employing both quantitative (survey) and qualitative (interviews) data collection methods. Data obtained from the surveys were analyzed using the WES template and SPSS 11.5 program was utilized for data analysis. Semi-structured interviews were conducted with a sub-sample of the survey participants. A phenomenological approach guided the qualitative analysis design. Descriptive statistics were used to explore generational age, gender, ethnicity, employment status, years of nursing experience, years employed at current job, educational level, perioperative nursing certification status, and yearly gross salary of the entire sample.

The survey sample consisted of 247 perioperative nurses who were between 23 – 68 years of age and able to read and write English. Eighty-five nurses were born in the years from 1961 to 1982 and 162 nurse participants were born in the years from 1938 to 1960. The mean age for the quantitative sample was 45 years. The survey sample was predominantly female consisting of 218 (88.3%) and 28 (11.3%) males. One subject did not respond to the question regarding gender. The ethnicity of the survey sample was White (n = 129, 52.2%), Asian (n = 49, 19.8%), Black/African American (n = 29, 11.7%), Hispanic/Latino (n = 17, 6.9%), Mixed Race/Ethnicity (n = 7, 2.8%), Native Hawaii or Pacific Islander (n = 7, 2.8%), American Indian/Alaskan Native (n = 2, 0.8%),

and No Response (n = 7 missing, 2.8%). The majority of participants identified themselves as full time employees (n = 224, 90.7%), while 15 nurses (6.1%) reported they were employed part time. Eight subjects did not respond to the employment status question.

The survey sample population included 114 (46.2%) baccalaureate degree, 88 (35.6%) associate degree, 38 (15.4%) diploma graduate, and 4 (1.6%) master's degree nurses. Three subjects did not respond to the question inquiring about highest level of nursing education. Eighty-two respondents (33.2%) held CNOR certification. Nursing experience ranged from 1 to 42 years as an RN, median 13 years. Of the 247 participants, 128 (51.8%) were employed in facilities which had obtained magnet status, and 119 (48.2%) were from non-magnet facilities. Salary level reported ranged from less than $40,000 to over $90,000 for both part time and full time nurses, and 80.2% of the total sample reported an income from their nursing positions at $50,000 or more annually.

From the survey sample, a sub sample of 14 RN participants, from both age groups, were recruited to respond to the qualitative portion of the study. Of the nurses interviewed, 13 identified themselves as full time employees and one nurse stated that she was employed part-time. Age range in this sample was from 25 to 58 years, with a mean age of 44 years. Seven nurses were in the emerging workforce age range (1961-1982) and 7 nurse participants were in the entrenched workforce age range (1938-1960). While the majority of the participants were female (n = 11; 79%), three males (21%) were interviewed for the study. Subjects identified themselves as White (n = 10, 71.4%),

Hispanic/Latino (n = 2, 14.3%), Black/African American (n = 1, 7.1%), and Mixed Race/Ethnicity (n = 1, 7.1%).

The qualitative sample population education varied and included associate degree (n = 8, 57.1%), baccalaureate degree (n = 4, 28.6%), master's degree (n = 1, 7.1%), and diploma school graduate (n = 1, 7.1%). Nursing experience ranged from 2 to 33 years as an RN. Years of employment with the present employer included a range from 2 years to 28 years. Six (43%) of the respondents reported obtainment of CNOR certification and 8 (57%) nurses were not certified. Salary level reported ranged from $45,000 to over $90,000 for both part time and full time nurses, and 86% of the total qualitative sample reported an income from their nursing positions at $55,000 or more annually.

A methodologic triangulated research design was used employing both qualitative (participant interviews) and quantitative (Work Environment Scale questionnaire) data collection methods. Content analysis was used to analyze the qualitative data to determine themes or patterns. The quantitative data were analyzed to determine the relationship between the subscales of the WES and the demographic variables. All data obtained were then further analyzed to identify findings common to all methods.

Three research questions were explored in this study:

Research question 1 explored differences in the perception of the work environment among perioperative nurses of by age groups. Entrenched workforce nurses gave higher ratings than emerging workforce nurses for involvement. The nurses did not differ significantly for the remaining nine subscales (coworker cohesion, supervisor

support, autonomy, task orientation, work pressure, clarity, managerial control, innovation, and physical comfort).

The second research question explored factors influencing nurses of different age groups to choose perioperative nursing as a specialty. The most common mentioned factors were categorized into three themes: Exposure, attractive attributes, and getting there.

The third research question explored factors influencing nurses of different age groups to remain in perioperative nursing. The most common mentioned factors were categorized into three themes: Good relationships with team members, making a difference, and learning/exciting environment.

Entrenched and emerging workforce respondents presented similar information in describing the factors that influence them to become and remain perioperative nurses.

Discussion of the Findings

A more homogeneous pattern of what perioperative nurses want in their work environment, across generational cohorts, emerged, contrary to the literature and stereotypes on generational differences. Surprising levels of similarity were found between the emerging and entrenched perioperative nurses, with the one significant area of difference found in the perception of involvement. Entrenched workforce nurses, born in the years from 1938 to 1960, perceive themselves as being much more committed to their jobs than the emerging workforce nurses, born in the years 1961 to 1982. This finding of differences in the generation cohorts in relationship to work commitment is consistent with what has been reported in the literature. The literature on the entrenched

workforce report that this group equates work with self-worth, contribution, and personal fulfillment (Kupperschmidt, 2000; Zemke, Raines, & Filipczak, 2000). The results of this study found similar views among the entrenched workforce.

The literature on the emerging workforce reports that this generational cohort avoids long-term commitments to employers because of their parents' bad experiences with employers and the downsizing and right sizing of companies in the 1980s (Bradford & Raines, 1992; Dunn-Cane, Gonzalez, & Stewart, 1999; Kupperschmidt, 1998; Tulgan, 2000; Zemke, Raines, & Filipczak, 2000; Zimmerman, 2000). It has been said that the entrenched workforce are a group that lives to work, while the emerging workforce work to live (Tulgan, 2000).

The absence of significant differences in work environment perception, between the entrenched and emerging workforces, support a belief that the major difference between these generations is experience (Smola & Sutton, 2002). As the emerging workforce nurses gain more work experience they may become similar to the entrenched workforce in work values.

The literature tells us that there are major perceptual and personality differences between the older, more seasoned nurse and the nurse with less experience (Dunn-Cane, Gonzalez, & Stewart, 1999; Kupperschmidt, 1998; Weston, 2001). The results of this study are counter to this view and provide evidence that, at least on perceptions of coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, innovation, and physical comfort, older and younger nurses have similar views of their work environment.

The analysis of factors influencing nurses of different age groups to choose perioperative nursing as a specialty discovered that exposure to perioperative nursing and attractive attributes of the profession were catalysts for preferring a perioperative nursing career. To date, this is the only reported study that specifically identified what motivates individuals to choose perioperative nursing as a career choice.

Exposure

The exposure to perioperative nursing as a factor that influenced nurses' decisions to enter perioperative nursing is consistent with what has been reported in the literature. The literature on undergraduate OR experience frequently reports that a consequence of eliminating or decreasing exposure to the OR over the last 30 years may be that fewer nursing graduates chose perioperative nursing as a career as it is difficult to recruit nurses to an area of practice in which they have little knowledge or skill (Beitz & Houck, 1997; Bonar, 1997; Wagner, Kee, & Gray, 1995). However, in this study, nurses who had any type of exposure to the OR, ultimately made a career selection to perioperative nursing.

Attractive Attributes

The attractive attributes of perioperative nursing that were raised spontaneously across the two age groups of nurses included technical aspects, excitement, hours, and portability. The literature on the emerging workforce work/life values substantiated the findings of this study (Kupperschmidt, 1998; Bradford & Raines, 1992; Tulgan, 2000). The emerging workforce have been described as techno-literate, are comfortable with change, like to create "portable careers" by acquiring a portfolio of skills and experiences that they can take with them to the next opportunity.

Factors influencing nurses of different age groups to remain in perioperative nursing included good relationships with team members, making a difference, and learning/exciting environment and were vital components for remaining in perioperative nursing. In this study, no significant differences were found between the generational groups in the decision to remain in perioperative nursing. One possible explanation for this finding is that perioperative nursing is a unique subculture of nursing, as described by Leininger's Culture Care Theory (Leininger & McFarland, 2002; Leininger, 2000), and that those nurses who choose and remain in perioperative nursing have distinctive values and lifeways that differ from the mainstream culture of nursing and the perioperative work environment fits their cultural values, beliefs, and lifeways regardless of age.

Personal characteristics may play a part in determining choice of nursing specialty. OR nurses may be a distinct and homogeneous group based on temperament and personality and these factors may play a role in the choice of specialty as well as the success and satisfaction in that specialty.

The relevance of Leininger's theory and underlying premises can be seen clearly when the cultural dimensions are considered when recruiting and retaining nurses to perioperative nursing. In order to attract and retain nurses effectively, perioperative nursing leaders must know what nurses want in the workplace and take steps to actualize workplace development strategies.

Conclusions

Within the limitations of the study and based on the results, the following conclusions apply:

1. Perioperative nurses, of various age groups, are more alike than different in their perceptions of the work environment and the factors that influence them to become and remain perioperative nurses.
2. The emerging workforce perioperative nurses place less emphasis on job commitment than the older nurses.
3. Factors that influence nurses to choose perioperative nursing include exposure and attractive attributes such as technical aspects, excitement, hours, and portability.
4. Factors that influence nurses of different age groups to remain in perioperative nursing include good relationships with team members, making a difference in people's lives, and learning/exciting environment.

Implications

The conclusions of the study have the following implications for nursing practice.

1. Developing initiatives that speak to life stages, similar to all perioperative nurses, may well serve to fulfill the recruiting and retention purposes better than those trying to speak to a generational language.
2. Perioperative nursing does meet some of the demands of the members of the emerging workforce, including building marketable skills, technology, seeing results from work done, and learning/exciting environment. How nursing markets

these opportunities to young people will determine the future of perioperative nursing.

3. The theme of exposure to the operating room as a factor that influences a career choice to perioperative nursing suggests that perioperative nurses should seek ways to increase their visibility to nursing students, other nonperioperative nurses, and the public.
4. The importance of nurses' original commitment to perioperative nursing as it relates to the work environment and retention must be considered in developing retention strategies. The opportunities in the perioperative arena which brings nurses to this specialty, high tech atmosphere, making a difference in people's lives, stimulating learning environment, and working with other health professionals as a team, is also what keeps them in perioperative nursing regardless of their age.
5. The pool of available workers, the emerging workforce, with their value of less job commitment than older workers, necessitates a change in perioperative nursing culture to accommodate the shift in generational views and attract people to the profession.
6. More research is needed to gain a greater understanding of why student nurses choose specific practice areas after graduation.

Recommendations for Further Study

Based on the study findings and conclusions, the following recommendations were developed:

1. This study should be replicated over time, since changing societal values and trends affect career choice.
2. More research is needed to determine if the commonality of the work environment perceptions between emerging and entrenched perioperative nurses is present in other geographic regions of the United States.
3. Examining students and nurses' perceptions of their "ideal nursing job" and then comparing their ideal job to the perceived attributes of perioperative nursing could provide insights into what specifically leads nurses to pursue or avoid perioperative nursing.
4. Culture, and a more representative gender mix, and specific rather than global data about career preferences should be collected to enable examination of nursing attributes that encourage nurses from particular cultures to choose or reject perioperative nursing. This strategy should provide further clues as to how perioperative nursing can be better promoted.
5. Research on the interaction of social climate and personality to investigate if individuals with certain personality characteristics "fit" better into the social climate of perioperative nursing. This research would have great practical utility in the selection and socialization of new hires.
6. More research, using additional measures of culture and climate might clarify the findings that older and younger perioperative nurses have similar views of their work environment.

7. More study is required to understand the finding that the emerging workforce place less emphasis on job commitment and how this work value fits into their perspective of work/life balance and organizational success.

Summary

This across-method triangulation study examined the relationship between age and perioperative nurses' perception of the work environment to identify factors related to recruitment and retention. Significant differences were found between the scores for the involvement subscale which reflects the connections employees have to the organization and the level of job commitment. The entrenched workforce nurses perceived a higher level of involvement than did the emerging workforce nurses. The nurses did not differ significantly for the remaining nine subscales (coworker cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, managerial control, innovation, and physical comfort). Content analysis from the qualitative study revealed themes related to factors that influence nurses of different age groups decisions to become and remain perioperative nurses were similar: Exposure, attractive attributes getting there, good relationships with team members, making a difference, and learning/challenging environment. These results infer that perioperative nurses, of various age groups, are more alike than different in their decision to choose and remain in perioperative nursing and in their perceptions of the work environment.

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APPENDIX A

Human Subjects Review Committee Permission to Conduct Study
and
Graduate School Permission to Conduct Study

TEXAS WOMAN'S
UNIVERSITY
DENTON/DALLAS/HOUSTON

THE GRADUATE SCHOOL
P.O. Box 425649
Denton, TX 76204-5649
Phone: 940/898-3400
Fax: 940/898-3412

July 12, 2004

Ms. Julia Ann Thompson
11913 White Water Bay Drive
Pearland TX 77594

Dear Ms. Thompson:

I have received and approved the prospectus entitled **"Factors that Influence the Career Decisions of Perioperative Nurses"** for your Dissertation research project.

Best wishes to you in the research and writing of your project.

Sincerely yours,

Jennifer L. Martin, Ph.D.
Dean of the Graduate School

ekd

cc: Dr. Rebecca Krepper, Interim Associate Dean, College of Nursing-Houston
Dr. Carolyn Gunning, Dean, College of Nursing

TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON
Institutional Review Board
1130 John Freeman Blvd., Houston, Texas 77030 713/794-2074

MEMORANDUM

TO: Rebecca Krepper
Julia A. Thompson

FROM: IRB

DATE: June 7, 2004

SUBJECT: IRB Application

Proposal Title Factors thart influence the carer decisions of perioperative nurses

Your application to the IRB has been reviewed and **approved.**

This approval lasts for 1 year. The study may not continue after the approval period without additional IRB review and approval for continuation. It is your responsibility to assure that this study is not conducted beyond the expiration date.

Any changes in the study or informed consent procedure must receive review and approval prior to implementation unless the change is necessary for the safety of subjects. In addition, you must inform the IRB of adverse events encountered during the study or of any new and significant information that may impact a research participant's safety or willingness to continue in your study.

REMEMBER TO PROVIDE COPIES OF THE SIGNED INFORMED CONSENT TO THE OFFICE OF RESEARCH, MGJ 913 WHEN THE STUDY HAS BEEN COMPLETED. INCLUDE A LETTER PROVIDING THE NAME(S) OF THE RESEARCHER(S), THE FACULTY ADVISOR, AND THE TITLE OF THE STUDY. GRADUATION MAY BE BLOCKED UNLESS CONSENTS ARE RETURNED.

William P. Hanten
Chairperson

Human Approval Letter

September 14, 2004

CARA L SIMON
BAYLOR COLLEGE OF MEDICINE
PEDIATRICS: HEMA & ONCOLOGY

Baylor College of Medicine
Office of Research
Phone: (713) 798-6970
Fax: (713) 798-6990
Email: irb@bcm.tmc.edu

H-16237 - FACTORS THAT INFLUENCE THE CAREER DECISIONS OF PERIOPERATIVE NURSES

APPROVAL VALID FROM 9/14/2004 TO 9/14/2005

Dear Dr. SIMON

The Institutional Review Board for Human Subject Research for Baylor College of Medicine and Affiliated Hospitals (BCM IRB) is pleased to inform you that the research protocol and consent form(s) named above were approved.

The study may not continue after the approval period without additional IRB review and approval for continuation. You will receive an email renewal reminder notice prior to study expiration; however, it is your responsibility to assure that this study is not conducted beyond the expiration date.

Please be aware that only IRB-approved informed consent forms may be used when written informed consent is required.

Any changes in study or informed consent procedure must receive review and approval prior to implementation unless the change is necessary for the safety of subjects. In addition, you must inform the IRB of adverse events encountered during the study or of any new and significant information that may impact a research participants' safety or willingness to continue in your study.

The BCM IRB is organized and operated according to guidelines of the International Council on Harmonization , the United States Office for Human Research Protections and the United States Code of Federal Regulations and operates under Federal Wide Assurance No. 00000286, issued April 30, 2001. Affiliated hospitals include: the Veterans Affairs Medical Center, The Methodist Hospital, Texas Childrens Hospital, Texas Institute for Rehabilitation and Research, and the Harris County Hospital District.

Sincerely yours,

LAUREN MARANGELL, M.D.
Institutional Review Board for Baylor College of Medicine and Affiliated Hospitals

THE UNIVERSITY of TEXAS
HEALTH SCIENCE CENTER AT HOUSTON

THE COMMITTEE for the PROTECTION of HUMAN SUBJECTS

7000 Fannin, Suite 750
PO Box 20036
Houston, TX. 77225

713 500 3985
713 500 0319 fax

Julia A. Thompson, RN
College of Nursing/Graduate School
Texas Woman's University
11913 White Water Bay Drive
Pearland, Texas 77584

NOTICE OF APPROVAL TO BEGIN RESEARCH October 22, 2004

HSC-MH-04-031 "Factors that Influence the Career Decisions of Perioperative Nurses"
PI: Julia A. Thompson, RN

PROVISIONS: This approval relates to the research to be conducted under the above referenced title and/or to any associated materials considered by the Committee for the Protection of Human Subjects, e.g. study documents, informed consents, etc. For personnel who have not submitted proof this required education, education proof is required or we cannot approve these individuals to work with any human subjects or human derived data involved in this study.

APPROVED: By Expedited Review and Approval

APPROVAL DATE: October 22, 2004 **EXPIRATION DATE:** September 30, 2005

CHAIRPERSON: Anne H. Dougherty, MD 2/4/15

Subject to any provisions noted above, you may now begin this research.

CHANGES: The principal investigator (PI) must receive approval from the CPHS before initiating any changes, including those required by the sponsor, which would affect human subjects, e.g. changes in methods or procedures, numbers or kinds of human subjects, or revisions to the informed consent document or procedures. The addition of co-investigators must also receive approval from the CPHS. ALL PROTOCOL REVISIONS MUST BE SUBMITTED TO THE SPONSOR OF THE RESEARCH.

INFORMED CONSENT: When Informed consent is required, it must be obtained by the PI or designee(s), using the format and procedures approved by the CPHS. The PI is responsible to instruct the designee in the methods approved by the CPHS for the consent process. The individual obtaining informed consent must also sign the consent document. **Please note that only copies of the stamped approved informed consent form can be used when obtaining consent.**

HEALTH INSURANCE PORTABILITY and ACCOUNTABILITY ACT (HIPAA):
The study must meet all HIPAA research requirements. For compliance guidelines see details on the Committee for the Protection of Human Subjects website at:
http://www.uth.tmc.edu/ut_general/research_acad_aff/orsc/cphs/guidelines/hipaa.htm

UNANTICIPATED RISK OR HARM, OR ADVERSE DRUG REACTIONS: The PI will immediately inform the CPHS of any unanticipated problems involving risks to subjects or others, of any serious harm to subjects, and of any adverse drug reactions.

Memorial Hermann Hospital

FOR YOUR WHOLE LIFE.™

November 9, 2004

NOTICE OF APPROVAL TO BEGIN RESEARCH

CPHS NUMBER:	HSC-MH-04-031	NOTICE OF CPHS APPROVAL: October 22, 2004
STUDY TITLE:	Factors that Influence the Career Decisions of Perioperative Nurses	
PRINCIPAL INVESTIGATOR:	Julie Thompson, RN, MSN, CNOR	
TYPE OF STUDY:	Other-Survey	
STUDY INITIATION DATE:	November 2004	
ESTIMATED NUMBER OF SUBJECTS:	110	
CPHS & MHH EXPIRATION DATE:	September 30, 2005	

Thank you for choosing Memorial Hermann Hospital/Memorial Hermann Children's Hospital as your service providers for this research study. Approval is hereby granted by Hospital Administration to initiate this research study involving the Hospitals' patients, staff or facilities. This approval is subject to the principal investigator's acceptance of the following stipulations:

SUBJECT SCREENING/ENROLLMENT
The Operating Room director will be contacted for permission to introduce the study to perioperative nurses at a staff meeting. The prospective participants will be informed that completion of the survey form will be taken as implied consent to participate in the study and that they can refuse to participate or withdraw at any time with no adverse effects. A subset of participants will be recruited to respond to the qualitative portion of the study.

INFORMED CONSENT
The investigator will assume implied consent if the subjects complete the survey forms. Written informed consent will be obtained from those who agree to participate in the qualitative portion of the study.

ADVERSE EVENTS
Investigator must immediately report all serious adverse events to the MH Research Office and the UT Committee for the Protection of Human Subjects.

CHANGE REQUESTS/CONTINUING REVIEWS
Investigator must provide the MH Research Office with copies of all change requests and continuing reviews, including the CPHS approval letters and all documentation associated with the change requests and continuing reviews.

ADDITIONAL STIPULATIONS
The investigator must instruct the potential participants that the survey forms may not be completed during working hours. The qualitative portion of the study, including videotaped interviews, will not be conducted on hospital property. Each subject who participates in the interview will receive a $25 gift certificate from the investigator.

REGULATORY COMPLIANCE
The Hospital requires that this study be conducted according to Good Clinical Practice guidelines. In addition, the MH Research Office must be notified, immediately and in advance, of any regulatory agency visit or review.

PUBLICATIONS
Please remember to acknowledge Memorial Hermann Hospital and/or Memorial Hermann Children's Hospital in any publications resulting from this study and provide a copy of the publication to the Memorial Hermann Research Office.

Please sign and return a copy of this letter to the MH Research Office, c/o Memorial Hermann Hospital, Mailbox 90 or send via facsimile to (713) 704-5124 to indicate your acceptance of our terms and policies. Enrollment of subjects prior to the MH Research Office's receipt of your signed acceptance will qualify as acceptance of the terms of this letter. If you have questions or need additional information, please contact the MH Research Office at (713) 704-4256.

Memorial Hermann
Memorial City Hospital

FOR YOUR WHOLE LIFE.

November 9, 2004

NOTICE OF APPROVAL TO BEGIN RESEARCH

CPHS NUMBER:	HSC-MH-04-031	NOTICE OF CPHS APPROVAL: October 22, 2004
STUDY TITLE:	Factors that Influence the Career Decisions of Perioperative Nurses	
PRINCIPAL INVESTIGATOR:	Julie Thompson, RN, MSN, CNOR	
TYPE OF STUDY:	Other-Survey	
STUDY INITIATION DATE:	November 2004	
ESTIMATED NUMBER OF SUBJECTS:	110	
CPHS & MHH EXPIRATION DATE:	September 30, 2005	

Thank you for choosing Memorial Hermann Memorial City Hospital as your service provider for this research study. Approval is hereby granted by Hospital Administration to initiate this research study involving the Hospital's patients, staff or facilities. This approval is subject to the principal investigator's acceptance of the following stipulations:

SUBJECT SCREENING/ENROLLMENT
The Operating Room director will be contacted for permission to introduce the study to perioperative nurses at a staff meeting. The prospective participants will be informed that completion of the survey form will be taken as implied consent to participate in the study and that they can refuse to participate or withdraw at any time with no adverse effects. A subset of participants will be recruited to respond to the qualitative portion of the study.

INFORMED CONSENT
The investigator will assume implied consent if the subjects complete the survey forms. Written informed consent will be obtained from those who agree to participate in the qualitative portion of the study.

ADVERSE EVENTS
Investigator must immediately report all serious adverse events to the MH Research Office and the UT Committee for the Protection of Human Subjects.

CHANGE REQUESTS/CONTINUING REVIEWS
Investigator must provide the MH Research Office with copies of all change requests and continuing reviews, including the CPHS approval letters and all documentation associated with the change requests and continuing reviews.

ADDITIONAL STIPULATIONS
The investigator must instruct the potential participants that the survey forms may not be completed during working hours. The qualitative portion of the study, including videotaped interviews, will not be conducted on hospital property. Each subject who participates in the interview will receive a $25 gift certificate from the investigator.

REGULATORY COMPLIANCE
The Hospital requires that this study be conducted according to Good Clinical Practice guidelines. In addition, the MH Research Office must be notified, immediately and in advance, of any regulatory agency visit or review.

PUBLICATIONS
Please remember to acknowledge Memorial Hermann Hospital and/or Memorial Hermann Children's Hospital in any publications resulting from this study and provide a copy of the publication to the Memorial Hermann Research Office.

Please sign and return a copy of this letter to the MH Research Office, c/o Memorial Hermann Hospital, Mailbox 90 or send via facsimile to (713) 704-5124 to indicate your acceptance of our terms and policies. Enrollment of subjects prior to the MH Research Office's receipt of your signed acceptance will qualify as acceptance of the terms of this letter. If you have questions or need additional information, please contact the MH Research Office at (713) 704-4256.

Memorial Hermann Southwest Hospital

FOR YOUR WHOLE LIFE.

November 9, 2004

NOTICE OF APPROVAL TO BEGIN RESEARCH

CPHS NUMBER:	HSC-MH-04-031	NOTICE OF CPHS APPROVAL: October 22, 2004
STUDY TITLE:	Factors that Influence the Career Decisions of Perioperative Nurses	
PRINCIPAL INVESTIGATOR:	Julie Thompson, RN, MSN, CNOR	
TYPE OF STUDY:	Other-Survey	
STUDY INITIATION DATE:	November 2004	
ESTIMATED NUMBER OF SUBJECTS:	110	
CPHS & MHH EXPIRATION DATE:	September 30, 2005	

Thank you for choosing Memorial Hermann Southwest Hospital as your service provider for this research study. Approval is hereby granted by Hospital Administration to initiate this research study involving the Hospital's patients, staff or facilities. This approval is subject to the principal investigator's acceptance of the following stipulations:

SUBJECT SCREENING/ENROLLMENT
The Operating Room director will be contacted for permission to introduce the study to perioperative nurses at a staff meeting. The prospective participants will be informed that completion of the survey form will be taken as implied consent to participate in the study and that they can refuse to participate or withdraw at any time with no adverse effects. A subset of participants will be recruited to respond to the qualitative portion of the study.

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ADVERSE EVENTS
Investigator must immediately report all serious adverse events to the MH Research Office and the UT Committee for the Protection of Human Subjects.

CHANGE REQUESTS/CONTINUING REVIEWS
Investigator must provide the MH Research Office with copies of all change requests and continuing reviews, including the CPHS approval letters and all documentation associated with the change requests and continuing reviews.

ADDITIONAL STIPULATIONS
The investigator must instruct the potential participants that the survey forms may not be completed during working hours. The qualitative portion of the study, including videotaped interviews, will not be conducted on hospital property. Each subject who participates in the interview will receive a $25 gift certificate from the investigator.

REGULATORY COMPLIANCE
The Hospital requires that this study be conducted according to Good Clinical Practice guidelines. In addition, the MH Research Office must be notified, immediately and in advance, of any regulatory agency visit or review.

PUBLICATIONS
Please remember to acknowledge Memorial Hermann Hospital and/or Memorial Hermann Children's Hospital in any publications resulting from this study and provide a copy of the publication to the Memorial Hermann Research Office.

Please sign and return a copy of this letter to the MH Research Office, c/o Memorial Hermann Hospital, Mailbox 90 or send via facsimile to (713) 704-5124 to indicate your acceptance of our terms and policies. Enrollment of subjects prior to the MH Research Office's receipt of your signed acceptance will qualify as acceptance of the terms of this letter. If you have questions or need additional information, please contact the MH Research Office at (713) 704-4258.

UTMB
The University of Texas Medical Branch

OFFICE OF RESEARCH SUBJECT PROTECTIONS
Institutional Review Board

August 20, 2004

MEMORANDUM

TO: David Marshall, RN, JD, MSN
Nursing Services 0518

FROM: Wayne R. Patterson, PhD
Senior Assistant Vice President for Research
Office of Research Subject Protections
Institutional Review Board 0673

SUBJECT: Expedited Review, Human Subjects

Project Director: David Marshall, RN, JD, MSN IRB #04-282
Project Title: Factors that Influence the Career Decisions of Perioperative Nurses

Under the Institutional Review Board's policies and procedures for reviewing protocols by an expedited review process, your project referenced above was **approved** on August 20, 2004. I am, therefore, pleased to inform you that you may proceed with this project immediately.

This project will require annual review by the IRB and will be due by **July 31, 2005.**

Project Directors of approved projects are responsible for reporting to the Institutional Review Board any unanticipated adverse reactions observed during the conduct of the project as well as any severe or serious side effects whether anticipated or unanticipated.

Should your project require modification which alters the risk to the subject or the method of obtaining informed consent (if applicable), the project must be reevaluated by the Institutional Review Board before the modification is initiated.

If applicable to the study, completed subject consents should be maintained in the designated place for at least three years after the termination of the project. In order to be in compliance with the requirements of the FDA regulations, 21 CFR 56.27a, a copy of the completed consent document must be provided to the subject.

Comments: This project is limited to the use of an anonymous questionnaire at UTMB and the return of the completed questionnaire implies consent. It is our understanding that IRB approval has been obtained at Texas Woman's University and written informed consent will be obtained from subjects agreeing to participate at the Texas Woman's University.

ST. LUKE'S Episcopal Hospital

AGENCY PERMISSION FOR CONDUCTING STUDY

The: *St. Luke's Episcopal Hospital Nursing Research Committee*

GRANTS TO: *Julia A. Thompson, MSN, RN, CNOR* the privilege of its facilities in order to study the following problem:

Name of Study: *Factors that Influence the Career Decisions of Perioperative Nurses*

The conditions mutually agreed upon are as follows:

1. The agency (**may**) (may not) (will determine at a later time if it may) be identified in the final report.
2. The names of consultative or administrative personnel in the agency (**may**) (may not) be identified in the final report.
3. The agency is (**willing**) (unwilling) to allow the completed report to be circulated through inter-library loan.
4. The agency (**wants**) (does not want) a copy of the final report. Send to: St. Luke's Episcopal Hospital, Nursing Research Committee, MC 4-278, Box 112, Attn: Mercy Garcia
5. You are required to present the results of your study to the Nursing Research Committee and the Executive Nurse Council. Please contact Mercy Garcia at 832-355-8768 for assistance.

Julia Thompson
Investigator

Date

Date

Rosemary Luquire
Rosemary Luquire, PhD, RN, CNAA
Senior Vice-President for
Patient Care and Chief Quality Officer

Dorothy Kite-Powell
Dorothy Kite-Powell, MSN, RN, CNS
Co-Chair, Nursing Research Committee

Pamela Windle
Pamela Windle, MS, RN, CNA, CPAN, CAPA
Co-Chair, Nursing Research Committee

APPENDIX B

Written Consent Form

Consent to Participate in Research

Factors That Influence The Career Decisions Of Perioperative Nurses

Principal Investigator: Julia A. Thompson, 281.217.6911

Explanation and Purpose of the Research

You are being asked to participate in a research study for Ms. Julia A. Thompson's dissertation at Texas Woman's University. The purpose of this research study is to explore the career decision-making process of perioperative nurses' from different age groups including the effect of work environment perceptions.

Research Procedures

For this study, the investigator will conduct face-to-face interviews with perioperative nurses. This interview will be done at a private location agreed upon by you and the investigator. You will be audiotaped during the face-to-face interview. The purpose of the audiotaping is to provide a transcription of the information discussed in the interview and to assure the accuracy of the reporting information. Your maximum total time commitment in the study is estimated to be approximately one hour.

Potential Risks

One potential risk related to your participation in the study is release of confidential information. Confidentiality will be protected to the extent that is allowed by law. The interview will take place in a private location agreed upon by you and the researchers. A code number, rather than your real name, will be used on the audiotape and transcription. Only the investigator, her advisor, and the transcriber will have access to the tapes. The tapes, hard copies of the transcriptions, and the computer diskettes containing the transcription text files will be stored in a locked filing cabinet in the investigator's office. The tapes and transcription diskettes will be erased and the hard copies of the transcriptions will be shredded within 5 years. It is anticipated that the results of this study will be published in the investigator's dissertation as well as in other research publications. However, no names or other identifying information will be included in any publication.

The researcher will try to prevent any problem that could happen because of this research. You should let the researchers know at once if there is a problem and they will help you. However, TWU does not provide medical services or financial assistance for injuries that might happen because you are taking part in this research.

Participation and Benefits

Your involvement in this research study is completely voluntary, and you may discontinue your participation the study at any time without penalty. You will receive no direct benefit from your participation in this study. However, your participation may help the investigator better understand why nurses choose perioperative nursing as a career choice.

Subject Costs and Payments

There are no costs to you subsequent to your participation in this research study. You will be paid a $25 honorarium upon completion of the interview.

Questions Regarding the Study

If you have any questions about the research study you may ask the researcher; her phone number is at the top of this form. If you have questions about your rights as a participant in this research or the way this study was conducted, you may contact the Texas Woman's University Office of Research at 713.794.2480. You will be given a copy of this signed and dated consent form to keep.

_____ _____

Subject's Signature Date

The above consent was read, discussed, and signed in my presence. In my opinion, the person signing said consent form did so freely and with full knowledge and understanding of its contents.

_____ _____

Signature of Investigator Date

APPENDIX C

Consent to Audiotape Interview

CONSENT TO RECORD

Texas Woman's University

"Factors that Influence the Career Decisions of Perioperative Nurses"

The undersigned consents to the recording of his/her voice by Julia A. Thompson, acting under the authority of the Texas Woman's University, for the purposes of the research project entitled "Factors that Influence the Career Decisions of Perioperative Nurses." The undersigned understands that the material recorded for this research may be made available for educational, informational, and/or research purposes and consents to such use.

_____ _____

Participant **Date**

The above consent form was read, discussed, and signed in my presence. In my opinion, the person signing this consent form did so freely and with full knowledge and understanding of its contents.

_____ _____

Representative of the Texas Woman's University **Date**

APPENDIX D

Demographic Data Form

Demographic Data Form

Participant # _____ Date _____

To assist in the data analysis and interpretation, I would appreciate if you would provide me with the following information. All information will be held strictly confidential.

1. What year were you born?

   _____

2. What is your sex?

   ___Female (1) ___Male (2)

3. What is your employment status?

   ___Full-time (1) ___Part-time (2)

4. How many years of RN experience do you have?

   _____

5. What is your ethnicity?

   ___American Indian or Alaskan Native (1)
   ___Asian (2)
   ___Black or African American(3)
   ___Hispanic or Latino (4)
   ___Native Hawaiian or Pacific Islander (5)
   ___White (6)
   ___Mixed Race or Ethnicity (7)

6. Years with present employer?

   _____

7. What is your highest level of nursing education?

   ___Diploma (1) ___ADN (2) ___BSN (3)

   ___Masters degree in nursing (4)

   ___Doctoral degree in nursing (5)

8. Are you currently certified as a CNOR?

   ___Yes (1) ___No (2)

9. What is your current annual **BASE** wage?
   (Please exclude overtime, call pay, etc.)

   _____Less than $40,000 (1)
   _____$40,000-$44,999 (2)
   _____$45,000-$49,999 (3)
   _____$50,000-$54,999 (4)
   _____$55,000-$59,999 (5)
   _____$60,000-$64,999 (6)
   _____$65,000-$69,999 (7)
   _____$70,000-$74,999 (8)
   _____$75,000-$79,999 (9)
   _____$80,000-$84,999 (10)
   _____$85,000-$89,999 (11)
   _____More than $90,000 (12)

APPENDIX E

Work Environment Scale (WES)

Completion of this survey is taken as consent to participate in this study

A SOCIAL CLIMATE SCALE

WORK ENVIRONMENT SCALE

FORM R

Rudolf H. Moos and Paul N. Insel

Instructions

There are 90 statements in this booklet. They are statements about the place in which you work. The statements are intended to apply to all work environments. However, some words may not be quite suitable for your work environment. For example, the term supervisor is meant to refer to the boss, manager, department head, or the person or persons to whom an employee reports.

You are to decide which statements are true of your work environment and which are false. Make all your marks on the separate answer sheet.

If you think the statement is *true* or mostly *true* of your work environment, make an X in the box labeled T (true).

If you think the statement is *false* or mostly *false* of your work environment, make an X in the box labeled F (false).

Please be sure to answer every statement.

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1. The work is really challenging.
2. People go out of their way to help a new employee feel comfortable.
3. Supervisors tend to talk down to employees.
4. Few employees have any important responsibilities.
5. People pay a lot of attention to getting work done.
6. There is constant pressure to keep working.
7. Things are sometimes pretty disorganized.
8. There's a strict emphasis on following policies and regulations.
9. Doing things in a different way is valued.
10. It sometimes gets too hot.
11. There's not much group spirit.
12. The atmosphere is somewhat impersonal.
13. Supervisors usually compliment an employee who does something well.
14. Employees have a great deal of freedom to do as they like.
15. There's a lot of time wasted because of inefficiencies.
16. There always seems to be an urgency about everything.
17. Activities are well-planned.
18. People can wear wild looking clothing while on the job if they want.
19. New and different ideas are always being tried out.
20. The lighting is extremely good.
21. A lot of people seem to be just putting in time.
22. People take a personal interest in each other.
23. Supervisors tend to discourage criticisms from employees.
24. Employees are encouraged to make their own decisions.
25. Things rarely get "put off till tomorrow."
26. People cannot afford to relax.
27. Rules and regulations are somewhat vague and ambiguous.
28. People are expected to follow set rules in doing their work.
29. This place would be one of the first to try out a new idea.
30. Work space is awfully crowded.
31. People seem to take pride in the organization.
32. Employees rarely do things together after work.
33. Supervisors usually give full credit to ideas contributed by employees.
34. People can use their own initiative to do things.
35. This is a highly efficient, work-oriented place.
36. Nobody works too hard.
37. The responsibilities of supervisors are clearly defined.
38. Supervisors keep a rather close watch on employees.
39. Variety and change are not particularly important.

40. This place has a stylish and modern appearance.
41. People put quite a lot of effort into what they do.
42. People are generally frank about how they feel.
43. Supervisors often criticize employees over minor things.
44. Supervisors encourage employees to rely on themselves when a problem arises.
45. Getting a lot of work done is important to people.
46. There is no time pressure.
47. The details of assigned jobs are generally explained to employees.
48. Rules and regulations are pretty well enforced.
49. The same methods have been used for quite a long time.
50. The place could stand some new interior decorations.
51. Few people ever volunteer.
52. Employees often eat lunch together.
53. Employees generally feel free to ask for a raise.
54. Employees generally do not try to be unique and different.
55. There's an emphasis on "work before play."
56. It is very hard to keep up with your work load.
57. Employees are often confused about exactly what they are supposed to do.
58. Supervisors are always checking on employees and supervise them very closely.
59. New approaches to things are rarely tried.
60. The colors and decorations make the place warm and cheerful to work in.
61. It is quite a lively place.
62. Employees who differ greatly from the others in the organization don't get on well.
63. Supervisors expect far too much from employees.
64. Employees are encouraged to learn things even if they are not directly related to the job.
65. Employees work very hard.
66. You can take it easy and still get your work done.
67. Fringe benefits are fully explained to employees.
68. Supervisors do not often give in to employee pressure.
69. Things tend to stay just about the same.
70. It is rather drafty at times.
71. It's hard to get people to do any extra work.
72. Employees often talk to each other about their personal problems.
73. Employees discuss their personal problems with supervisors.

74. Employees function fairly independently of supervisors.
75. People seem to be quite inefficient.
76. There are always deadlines to be met.
77. Rules and policies are constantly changing.
78. Employees are expected to conform rather strictly to the rules and customs.
79. There is a fresh, novel atmosphere about the place.
80. The furniture is usually well-arranged
81. The work is usually very interesting.
82. Often people make trouble by talking behind others' backs.
83. Supervisors really stand up for their people.
84. Supervisors meet with employees regularly to discuss their future work goals.
85. There's a tendency for people to come to work late.
86. People often have to work overtime to get their work done.
87. Supervisors encourage employees to be neat and orderly.
88. If an employee comes in late, he can make it up by staying late.
89. Things always seem to be changing.
90. The rooms are well ventilated.

Number: __ _____

Now, please read each statement in your booklet and then, in the boxes on the other side of this sheet, mark T (true) if you think the statement is true of your work environment, and F (false) if the statement is not true of your work environment.

Use a heavy X, as in the example: Please use a pencil with an eraser, not a pen. Be sure to match each number in the booklet with each one on this sheet.

EXAMPLE ONLY

T	X	
F	-1-	-2- X

START HERE

T / F	-1-	-2-	-3-	-4-	-5-	-6-	-7-	-8-	-9-	-10-	T / F
T / F	-11-	-12-	-13-	-14-	-15-	-16-	-17-	-18-	-19-	-20-	T / F
T / F	-21-	-22-	-23-	-24-	-25-	-26-	-27-	-28-	-29-	-30-	T / F
T / F	-31-	-32-	-33-	-34-	-35-	-36-	-37-	-38-	-39-	-40-	T / F
T / F	-41-	-42-	-43-	-44-	-45-	-46-	-47-	-48-	-49-	-50-	T / F
T / F	-51-	-52-	-53-	-54-	-55-	-56-	-57-	-58-	-59-	-60-	T / F
T / F	-61-	-62-	-63-	-64-	-65-	-66-	-67-	-68-	-69-	-70-	T / F
T / F	-71-	-72-	-73-	-74-	-75-	-76-	-77-	-78-	-79-	-80-	T / F
T / F	-81-	-82-	-83-	-84-	-85-	-86-	-87-	-88-	-89-	-90-	T / F

do not mark below this line

	I	PC	SS	A	TO	WP	C	Cll	Inn	Com
R/S										
S/S										

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APPENDIX F

Semi-Structured Interview Guide

FACTORS THAT INFLUENCE THE CAREER DECISIONS OF PERIOPERATIVE NURSES

SEMI-STRUCTURED INTERVIEW GUIDE

- Tell me how you became an operating room nurse?
- Tell me about your career in operating room nursing?
- What do you do in your role as an operating room nurse?
- What makes you stay in the operating room nursing?
- How would you recruit someone to operating room nursing?

Probe question will be used through the interview to elicit greater information.

These may include questions such as:

1. Could you give me a specific example of what you are talking about?
2. Tell me more about that.
3. How did you know about that?
4. How did that happen?
5. What would you change about that?

It is anticipated that, while the basic interview questions will be used, the interview protocol may vary over the course of the study based on information uncovered by participant responses.