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Staff nurse perceptions of physical comfort in the work setting

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Staff nurse perceptions of physical comfort in the work setting

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STAFF NURSE PERCEPTIONS
OF PHYSICAL COMFORT IN THE WORK SETTING

A Thesis
Presented to
The Faculty of the Department of Nursing
San Jose State University

In Partial Fulfillment
of the Requirements for the Degree
Master of Science

By
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December, 1992

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ABSTRACT

STAFF NURSE PERCEPTIONS
OF PHYSICAL COMFORT IN THE WORK SETTING

by Bethany Jo Schroeder

This thesis examines the perceptions of physical comfort of RNs employed at a local county hospital. It asks whether there is a relationship between the nurses' perceived level of physical comfort and specific background characteristics. Using a cross-sectional, descriptive design, data were collected from participants (N=207) who had responded to both a demographic tool and the Work Environment Scale (WES) during the study period.

Data indicate a wide range of perceptions among the nurses regarding their physical comfort. Seventy-four (35.7%) RNs rated their comfort "considerably below average" and 51 (24.7%) RNs rated theirs "considerably above average," yielding a bimodal distribution of scores. Pearson product-moment correlation analysis suggests that nurses with more children tended to rate their surroundings higher than those nurses with fewer children. Based on the findings, recommendations for future research are made, along with recommendations to the administrative staff at the study setting.

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To Jon Bosak and
Clara Rae Marie Bosak-Schroeder
for their loving patience
and to the memory of
Mary Jo Carmody

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Chapter 1

INTRODUCTION

Periodic shortages of nursing personnel have beleaguered the health care industry since World War II (Aiken, 1987). Reactions to these disruptions have centered on increasing the supply of professional registered nurses (RNs) through a variety of mechanisms. For example, shortages since the 1950s have led to the development of two-year nursing programs, the RN unit manager, and the spread of nursing registries that provide temporary personnel to facilities (Buerhaus, 1987; McCormick, 1986). Yet despite successful efforts to increase the supply of nurses, efforts that have doubled the yield of RNs in the past 30 years, shortages persist and are predicted to continue or worsen (Aiken & Mullinix, 1987; Marquis, 1988; Moses, 1992; "RN Population Seen Declining," 1990).

At the same time, attrition, or turnover, of qualified nurses has been and is expected to remain a complicating factor affecting this problem (Mann & Knukan, 1988; Marquis, 1988). It has been asserted that attrition costs between \$1,280 and more than \$10,000, depending on the area of practice, for each nurse who either leaves the employment of a particular facility or transfers from one

department to another within a given setting (Jones, 1990a; Penny, 1989). Furthermore, in the latter part of the 1980s, turnover in hospitals ranged from 25% to 30% nationwide (Helmer & McKnight, 1988), adding to the already perplexing problem of nurse shortages in the industry.

Problem Area

Although difficult to accurately assess due to the paucity of relevant research, it has been agreed that the costs of attrition add to the costs of health care (Jones, 1990a). Reasons accounting for high rates of attrition among nurses are widely varied, including inadequate wages, benefits, and status; frustrating working relationships with other health care professionals; lack of opportunity for advancement; and poor working conditions (Helmer & McKnight, 1988; Mann & Knukan, 1988).

Compounding the effects of attrition is the possibility that the industry has not only failed to keep pace with the demand for care by recruiting and retaining nurses, but will also feel the consequences of reduced numbers of RNs in the work force, should projections prove true. It has been reported that vacancy rates could be as high as 40% by the year 2020, translating into a shortage of nearly 900,000 RNs by that time ("R.N. Population Seen Declining," 1990). Furthermore, research has revealed that the average age of RNs rose from 41 in 1984 to 42 in 1988, a fact that is expected to adversely effect the supply of nurses

following retirements and other departures from the industry (Moses, 1992). In an effort to reverse the trend, health care planners will need to assess the costs of attrition, as well as address the various components of its causes (Jones, 1990b; Marquis, 1988).

Attempts during the past decade to stop the flow of RNs away from patient care have focused on recruitment combined with retention, endeavors that have required nursing leaders to explore reasons for the cycles of shortage prior to crafting and implementing programs in response to the phenomenon (Mann & Knukan, 1988; Parasuraman, 1989; Prestholdt, Lane, & Mathews, 1987). Reports indicate that improved management strategies and enhanced practice models may contribute to effective retention of nurses (Aiken, 1987; Fagin, 1990; Ginzberg, 1987; Marquis, 1988). The answer to relieving the dilemma of shortage cycles, however, lies in an understanding of and respect for the perceptions, needs, and working conditions of RNs (Aydelotte, 1987; Jones, 1990a; Koran, R. Moos, B. Moos, & Zasslow, 1983; Prestholdt et al., 1987). One aspect of such an assessment is that of the physical working environment.

Rarely researched in the industrial or nursing literature, the physical environment is a basic aspect of working conditions, specifically of the environmental

milieu, that can be appraised and altered as circumstances and the well-being of workers warrant. In weighing the importance of physical comfort to nurses, one might also consider that research into the manifestations of and disclosures about dissatisfaction among nurses indicates that hospitals offering their employees the opportunity for job-related expression of criticisms experience lower rates of nursing turnover (Spencer, 1986). Moreover, physical comfort is an element of the conditions of work that can be amended without necessarily altering the whole organizational culture; doing so is a tangible change, one that can demonstrate administrative concern for both the individual and the work group.

Purpose

The intent of the present study was to evaluate the perceptions of nurses with regard to their working conditions, termed here as physical comfort and defined as "the extent to which the physical surroundings contribute to a pleasant working environment" (Moos & Schaefer, 1987, p. 102), during the delivery of direct patient care at a local county hospital in a south San Francisco Bay community. Requisite to this appraisal was the application of a method of both measuring and describing elements of the system, its structure, and its work routines. Along with demographic information, the Work Environment Scale (WES), a tool that measures and describes dimensions of

relationships, personal growth, and system maintenance and system change, was used in the evaluatory process (Moos, 1981; Moos, 1987).

Impinging on the long-range implications of this study is the current economic climate of the study area. The hospital in question is situated in Silicon Valley, the semiconductor and software hub of the state. A recent downturn in this industry coupled with hiring freezes and lay-offs among high-tech firms has adversely affected many sectors of the economy. Nurses who once held part-time or per diem positions have returned to full-time employment, resulting in lower than anticipated vacancy rates in hospitals (Guthrie, 1992; Hammers, 1992). Experts nonetheless insist that the nursing shortage will remain a problem over time, and they expect that a healthier economy coupled with an expanded and aging population and greater access to health care by people previously underserved will soon create an increased demand for nurses (Hammers, 1992; Moses, 1992).

Research Questions

1. How do the acute care staff nurses at a local county hospital perceive their physical surroundings?
2. Is there a relationship between the nurses' perceived level of physical comfort and their background characteristics?

Definitions of Terms

The following definitions were used in the process of this study:

1. Attrition is the loss of RNs, either from the area of their original practice to another area within the same facility or from the facility itself.

2. Background characteristics include demographic data and personal information used in this study to develop a profile of participants.

3. Census is the number of patients in the hospital setting who require nursing care.

4. Organizational culture is "the shared beliefs and values guiding the thinking and behavioral styles of members" (Cooke & Rousseau, 1988, p. 245). In this instance, the members referred to are the RNs of the study hospital.

5. A registered nurse is a person who has successfully completed the course of instruction required by the California Board of Registered Nursing and is currently a fully licensed practitioner in accordance with state regulations (Nursing practice act with rules and regulations, 1988, Article 2, 27.28.5).

6. Vacancy rate is the number of RN positions unfilled in a hospital.

7. Work environment is "the attitudes of employees

toward the work tasks and their communication with each other and with their supervisors" (Moos & Billings, 1991).

Summary

Cycles of nursing shortage combined with high levels of attrition have the potential for disrupting health care service. Previous efforts to influence these trends, chiefly centered on increasing the supply of RNs, have proven less than satisfactory. Future attempts to meet the demands of our population for nursing care must begin with an understanding of the causes of shortage and attrition, without which the nursing profession and the industry it provides with workers will continue to develop inadequate solutions to a compelling problem.

Chapter 2

CONCEPTUAL FRAMEWORK AND REVIEW OF THE LITERATURE

Conceptual Framework

The organizing principle for this study is Moos' Holistic Conceptual Framework. Developed during two decades of research, the framework is a response to what Moos saw as inadequacies in the theories that have tried to explain, predict, and guide behaviors in work settings (Moos, 1986). For example, Taylorism, a theory responsible in the 1920s for the scientific school of management, strove to optimize work place efficiency by identifying ways of boosting the productivity of employees. The human relations approach to management evolved thereafter, and its adherents asserted that the theory would help to resolve the alienation resulting from management's concentration on products rather than people. The sociotechnical school sought to combine technological and interpersonal factors in its management approach but failed, according to Moos, to consider the differences between individuals (Moos, 1986). Moos offers what he calls a social-ecological or systems perspective that examines various job-related and personal components with the potential of affecting outcomes in work environments. In addition, the framework assesses the choices people make

to influence or change their work environments, while examining how work affects the interactions people have with one another on and off the job, as well as with family members. Fundamental to the conceptual framework is Moos' model, depicted in Figure 1. The model demonstrates the interplay of physical and social factors and the ways in which their influence is felt in the work place. (See Appendix A for permission to reproduce Figure 1.)

Panel I is comprised of organizational and work-related elements; stressors outside of work, such as interactions with family and neighbors; and the level of personal resources available to individuals. Panel II contains the job and its characteristics, in addition to demographic and personal features, such as level of intellect, individual ability to solve problems, and needs and values.

Panel II influences the relationship between Panel I and the elements of Panel V, which encompasses work-related morale and work performance. Panel II also affects Panels III and IV, understanding or analysis of the work environment and general coping responses, respectively. According to Moos, cognitive appraisal (Panel III) and the environmental and personal systems (Panels I and II) have the potential to define coping responses (Panel IV), as well as effectiveness, depicted in Panel V. Further analysis of the model shows that in an effort to regulate their work environment(s), individuals choose coping

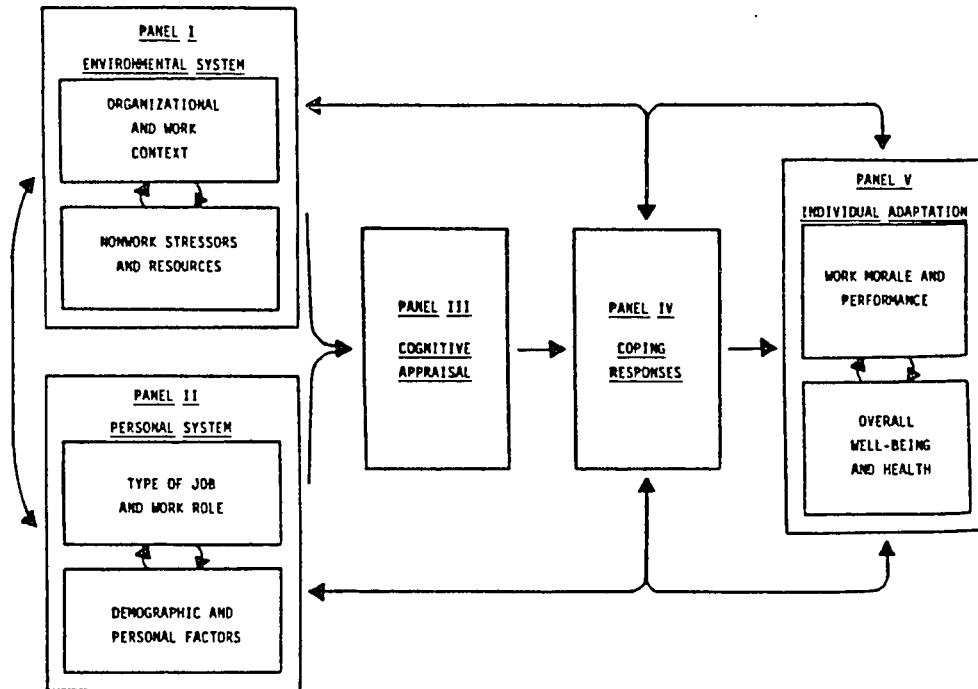


Figure 1. A model depicting the connections between physical and social factors and their impact on the work place.

Note. Work as a human context by R. H. Moos (1986).
 From M. S. Pallack & R. O. Perloff (Eds.),
Productivity, change, and employment (pp. 9-52).
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responses generated by both environmental and personal systems. Acted upon, such choices have the capacity to alter these systems (Moos, 1986).

Similarly, coping responses affect job morale and job performance, which also have the potential to impact personal factors, for example self-respect, and environmental features, such as the work group's willingness to develop consensus about decisions. The intersection of factors comprising the systems and attributes within the panels is an example of the holistic perspective, wherein major aspects of individuals' lives are considered in relationship to one another rather than in isolation. Significant to the model is what Moos refers to as the "transactional" nature of the interactions between its components and the feedback potential at each of the stages in it (Moos, 1986).

To extrapolate from general work environments to health care settings, one must consider the influences of the organization on the delivery of health care, the various categories of jobs within the industry, and the actions and reactions of health care workers. Use of the holistic framework guides analysis of the setting, its work force, and the outcomes of care as documented in quality assurance programs, after which improvements can be devised (Moos & Schaefer, 1987).

Moos' framework relies on an understanding of social climate, which can help individuals to describe the work place and arrange information into perceptions and patterns that have the capacity to guide their behaviors and subsequent practices. Actual events in conjunction with the qualities that comprise an organization and the codes of behavior and personal beliefs of individuals contribute to an awareness of an organization's social climate. Moos used three domains of social climate in developing the WES, the survey tool that measures them.

The first domain consists of relationship dimensions, including the subscales of involvement, the cohesion of peers, and the support of supervising personnel. The second domain, broadly organized as personal growth dimensions, contains subscales of autonomy, task orientation, and work pressure within the work setting. Finally, system change and system maintenance dimensions comprise the third domain, which encompasses the organizational factors of clarity, control, innovation, and physical comfort.

Review of Literature

A review of the literature reveals that several categories of consideration affect issues of shortage, attrition and, ultimately, the manifestations of physical comfort pertinent to the present study. These categories include historical and predictive perspectives, discussions

of the nursing shortage, studies of attrition, and related WES research.

Historical and Predictive Perspectives

In the process of analyzing the cost of nursing care, McCormick (1986) interviewed directors of nursing school programs and vice-presidents of nursing in hospital settings. They addressed the nursing shortage as it was developing at the time; the state of nursing school enrollments; rising demands for nursing care; and the dichotomy, in the face of economic principles, of heightened demand accompanied by essentially unchanged levels of compensation.

Reviewing the history of nursing trends from 1946 to 1986, Buerhaus (1987) pointed out that spousal employment, the level of nursing education, the number of children in the home, and other monetary considerations such as inheritance affected the numbers of RNs typically active in the work force. He called for a restructuring of the relationship between hospitals and nurses, as well as a variety of educational opportunities to be made available, including classes in finance, business, and marketing, along with a resolution to the question of the basic preparation of RNs. According to his findings, these measures along with "innovation in the organization and delivery of hospital nursing care" (p. 279) had the

potential of relieving the most recent shortage of RNs while also preventing it from continuing into the 1990s.

In both an assessment of the five years preceding 1987 and a prediction of outcomes expected to follow in the wake of developments up to that point, Ginzberg (1987) noted that altered surroundings for patient care from predominantly inpatient to ambulatory settings could help relieve turnover by offering RNs regular 8-hour shifts. He found the prospects for nursing to be uncertain and called for "constructive interventions" on the part of nursing leaders if shortages were to be averted. Similarly, while outlining the course of the future of nursing, Aydelotte (1987) enumerated changes yielding an advanced practice scenario, with increased autonomy, professionalism, and commitment among constituents. At the same time, she observed the need to focus less on the numbers of RNs in the work force than on the quality and degree of their collective education.

In an evaluation of costs versus benefits, Fagin (1990) asserted, "What is absolutely clear is that nursing is a bargain, in or out of the hospital" (p. 26). She cited studies that demonstrate significant savings in overall costs in a variety of settings, including hospitals, long-term care facilities, and private residences. Other wide-ranging considerations were reviewed, such as percentage of rehospitalization, level of distress over

illness, and incidence of child abuse among single, teenaged mothers, all of which showed marked reductions as a direct result of nursing intervention. Findings also showed that advanced or sophisticated practice models along with autonomy and a high degree of professionalism increased job satisfaction and thus lowered turnover.

Finally, a column in a leading nursing journal reported that the demand for nurses in 1990 was exceeded by nearly 200,000 more caregivers than were available to render service ("RN Population Seen Declining," 1990). The shortage was expected to continue, especially because the Department of Health and Human Services (DHHS) had, some years prior to the report, recommended an end to federal support for nursing education. The agency believed then that two decades of federal funding had balanced demand and supply. DHHS recanted, however, after reassessing such factors as the graying of our population, the median age of RNs, which was expected to rise, and the potential pool of nursing students over time.

The Nursing Shortage

In an interview, Aiken (1987) reviewed the shortage of the previous decade and its aftermath, pointing out that by 1984 vacancy rates were very low but had reached higher levels again by 1986. She noted that salaries had not kept pace with expectations, which in previous times had

contributed to a cycle of shortage. In addition, the nurse-to-patient ratio was 90 per 100 or better, and more nurses than ever before were employed in hospitals--not, as she maintained had been suggested by other observers, in alternative settings, such as ambulatory surgery centers or home health care agencies. The combination of low pay in the context of expectations and high nurse-to-patient ratios led Aiken to suggest that a smaller force of better compensated nurses in hospitals would yield maximum efficiency and that premium pay at whatever levels were necessary to properly staff unpopular shifts, such as nights and weekends, would also be required.

Aiken and Mullinix (1987) reported jointly on the shortage, suggesting many of the solutions Aiken spoke of in the interview of the same year, with the important addition of increased collaborative efforts between nurses and physicians. The authors wrote that highly qualified bedside nurses leave patient care for administrative duties in an effort to realize greater status, an option that might seem less attractive if cooperation between nurses and physicians were to become more satisfying.

Further developments in Aiken's (1990) analysis of the problem include research into nurse-to-population ratios in various places across the country and around the world, revealing that even those countries with the highest numbers of nurses available to care for patients continue

to experience cycles of shortage. Studies indicate that increasing the supply without controlling for the demand of nursing services can only fail to prevent future shortages. Aiken proposed adding specific clinical career paths to the profession's profile in order to fulfill the goals of nurses, the industry, and patients in need of care.

Writing in response to the shortage, Gunn (1988) proposed an educational and credentialing model that, she theorized, would help the industry respond quickly to changes affecting patient care demands. Her example begins with a registered nursing assistant and includes four different levels of licensing for the RN with an Associate Degree in Nursing (ADN), subsuming the LVN into the most preliminary of these, as well as a final level to cover the baccalaureate-or-higher prepared nurse. She maintains that the model allows schools to scale programs up or down, depending on the dictates of the marketplace.

Fagin (1988) suggested a restructuring of the hospital order, with nurses placed closer to the apex rather than the base of the hierarchical triangle. On the one hand, she wrote, nursing needs to take more control of its direction, the parameters of its practice, and the resources that make the work of nursing possible while, on the other, she called for greater collaboration between nurses and the various members of the health care team.

Noting the obvious paradox in having called for both control and collaboration, she nonetheless contended that control is the power to influence decisions rather than the outright supervision of a process and implied that the entire team would vie for the same influence and would need to learn to cooperate by sharing it.

Attrition Studies

Spencer's two studies of the relationship between the sanctioned chances of nurses to voice dissatisfaction and rates of turnover supported one another in their findings (1986). In study one, results demonstrated that organizations can retain employees by offering workers the chance to express criticism of the work environment, while study two suggested that organizations with such mechanisms of expression create expectations among staff members of eventual resolutions to problems.

In their replication study, Prestholdt et al. (1987) developed a process model based on the theory of "reasoned action" to address nursing turnover. Intended to explain the way a person makes decisions, the theory postulates that one uses the information one has in "reasonable and rational" ways to make decisions, in this case the decision to depart employment. According to the theory, motivating factors include attitudes toward completing the act or not and the social pressures one perceives with respect to the act. Study results based on survey responses known as

"belief statements" administered to participants along with an analysis of their decisions following the survey demonstrate that the model is capable of significant prediction of turnover. The authors called for further refinements of both theory and method but pointed to the usefulness to hospital administration of reducing turnover with the help of the model.

In a retrospective analysis of a critical care unit in a California hospital with high turnover rates, Mann and Knukan (1988) showed that hospital administration could have used a proactive systems approach to understand and avert attrition. After interviewing administrators and using a questionnaire to survey the nursing staff, it was determined that the hospital had concentrated on recruitment activities rather than devising retention strategies to solve what had become a chronically cyclical problem. The authors suggested longer orientation periods for newly hired and newly graduated nurses, increased financial incentives for experienced nurses in the unit, and periodic evaluation of staffing patterns and needs in order to avoid a similar dilemma.

In a redistribution of a survey originally administered in the 1970s (Marquis, 1988), five considerations for nursing administrators were suggested: (a) establish in advance reasonable rates of attrition; (b) maintain records

on RN retention programs; (c) learn the rewards and benefits nurses want and use the information as a retention tool; (d) assemble a data base and nursing profile to track variables contributing to retention and attrition; and (e) evaluate and improve the RN selection process. Similarly, Kramer & Hafner (1989), in one of a series of studies about the attributes that confer "magnet" or excellent status on certain hospitals, concluded that discovering the characteristics of a satisfying work environment from the staff nurse's perspective contributed to work fulfillment and, thus, longevity.

Building on the variables of demographics, attitudes, behaviors, and experience with the organization in question as well as the job, Parasuraman (1989) found that the time between the intended decision to leave employment and the actual point of separation was an important factor in predicting turnover. In this study, the turnover of nurses was tracked at 6-month intervals up to a year following the collection of data. The study confirmed the findings of previous research wherein "felt stress," the individual's perception of work place demands and pressures, was shown to influence feelings of job satisfaction and contribute to attrition.

Penny (1989) described the effects of the "module concept" model in retaining intensive care nurses. Characteristics of the model include the recruitment of the

experienced nurse, protracted periods of unit-specific orientation and education, an agreement from the nurse to remain at the hospital for 18 months, and on-going rotation of the RN between the specialized areas of critical care so that she or he can practice and maintain skills and decision-making processes. Turnover was reported at less than 1% with use of the model.

Jones (1990a) developed a conceptual model to describe nursing turnover as well as a method for assessing its costs. Applying concepts from nursing and business literature such as the effects of regulatory, political, economic, and social factors, she demonstrated the inter-relatedness of environments and practices in each sphere that determine turnover decisions. Understanding the costs of attrition was predominant in the findings, along with evaluating the consequences of those costs on the health care industry. In a follow-up article (Jones, 1990b), the investigator reported the aspects discovered within the categories of contributing attrition costs, including advertising and recruiting costs, the costs of unfilled positions, hiring and termination costs, orientation and training costs, the costs of reduced productivity (as a result of turnover during periods of orientation and training for new workers), and direct and indirect costs. Conservative estimates indicated that mean

turnover costs for each RN were \$10,198, with the range reported between \$6,886 and \$15,152.

Related WES Research

While it does not specifically address problems of the nursing shortage or nurse retention, research using the WES has demonstrated that a detailed understanding of the sources of dissatisfaction among nurses can help staff and administrators anticipate difficulties in the work place, resolve inadequacies in a number of perceptual spheres, and develop solutions to identified problems. The configuration of the several subscales within each of the three dimensions has the capacity to allow for analysis of interrelated manifestations of the work environment. As the following discussion will demonstrate, using the tool to its fullest potential and conveying all the available information is another matter.

In two articles, Parkes (1980a,1980b) reported use of the WES in a study of the effects of occupational stress among 101 first-year student nurses. The investigator asked whether female students entering nurses training had characteristics different from the general female population. She also compared levels of stress, a sense of fulfillment, and absence as a result of short-term illness between nurses stationed on medical wards and those assigned to surgical wards. Finally, she observed the

impact on nurses following assignments to male as opposed to female wards.

Using data from psychometric tests, including the Eysenik Personality Questionnaire, the Spielberger state-trait anxiety inventory, and the Rotter locus of control scale, Parkes (1980a) characterized 43% of the nurses as "stable extroverts," both less vulnerable to psychological ailments and more sociable than the general population. Assignment to a medical ward produced greater anxiety among participants. Staff support, clarity of work, and innovation were generally scored low on both types of wards, but where psychological distress, work satisfaction, or short-term sickness/absence were shown to be markedly different between the two settings, nurses reported more work satisfaction, along with increased levels of support from the staff and higher levels of autonomy, task orientation, and innovation on the surgical as opposed to the medical wards. The amount of absence related to short-term illness did not differ between the wards. Cohesion among workers was found to be higher among nurses assigned to male rather than female wards. The element of physical comfort was not specifically reported in Parkes' study findings (1980a,1980b). The investigator focused research energies on the social climate of the hospitals in question, including the system maintenance subscales of clarity, control, and innovation.

Koran et al. (1983) reported that application of the WES in a burn unit with performance problems and low morale helped staff and administration to identify areas of need and weakness. Two forms of the tool were used, the first measuring the real setting (WES, Form R) and the second measuring the ideal setting (WES, Form I). After implementing changes based on survey data, the WES, Form R was re-administered, at which time improvements were noted and quantified. Involvement, peer cohesion, supervisor support, autonomy, task orientation, work pressure, clarity, control, and innovation improved following the period of assessment and intervention; however, the subscale of physical comfort within the system maintenance dimension was not altered, and no reason for the omission was cited. Worth noting is that physical comfort was ideally measured highest, whereas it was realistically ranked at the third lowest level among the 10 subscales.

In their comparison study of three units in a state psychiatric hospital, Drude and Lourie (1984) found variances between the units in the subscales of involvement, peer cohesion, autonomy, task orientation, clarity, and physical comfort. In comparison to Units B and C, Unit A reported reduced staff involvement in work, less support from other staff members, less approval to make or act on autonomous decisions, less emphasis on

overall planning in doing the work and less efficiency in the work completed, less clarity about expectations, and less satisfaction regarding the physical surroundings. Pearson product-moment correlations were calculated on patient-to-staff ratios and scores on the WES. The investigators found that increased patient-to-staff ratios negatively affected workers' sense of involvement, commitment, support, and autonomy.

Pertinent to the present study was the observation that such increases led staff to perceive the physical environment as more oppressive. In fact, Unit A was situated in an older building with narrow corridors. In response to this finding, investigators recommended reduced patient census and new furniture and paint, suggestions that the administration acted on. Although no formal follow-up was completed, reports indicated "noticeable improvements" (p. 267).

Summary

A review of the literature reveals that cycles of nursing shortage have impeded the hospital industry's ability to attract and retain qualified RNs. Researchers agree that the primary method of managing shortages, the recruitment of new nurses, has been inadequate to counter the effects of shortages. Administrators and scholars alike have called for long-term remedies to what promises to be a continuing threat to patient care services into the

next century. Devising ways of decreasing the attrition of RNs by attending to factors such as the impact on nurses of their work environment along with developing successful retention programs may combine to provide such solutions. Moos' holistic conceptual framework provides a method to analyze both the physical and social features of the work place, a fundamental step in developing satisfying environments that promote the tenure of valued employees.

Chapter 3

RESEARCH DESIGN AND METHODOLOGY

The design of this study was cross-sectional and descriptive in nature. According to Burns and Grove (1987), the purpose of descriptive studies is to acquire additional information about characteristics in a specific field of study. Descriptive studies can be used to develop theory, recognize problems, and determine or justify current trends. Variables are not manipulated and, while causality cannot be established in descriptive studies, the design serves to clarify phenomena preliminary to more complex research efforts.

Study Objectives

The objectives of this study were to discover (a) how the acute care staff nurses at a local county hospital perceived their physical surroundings, and (b) whether or not there was a relationship between the nurses' perceived level of physical comfort and their background characteristics. The study measures both demographic and work environment components. While the current study includes all regularly scheduled RNs employed in the acute care units of a south San Francisco Bay county hospital, it is also part of a longitudinal, descriptive study in progress, the purpose of which is to discover the factors

in the work environment that have the potential to hamper or improve professional, registered nurse retention. Professors Jayne Cohen and Coleen Saylor are the principal investigators. Results of the larger study will be reported in future works.

It was thought that nurses in the setting might benefit from the study if methods to improve the work environment were identified and then used by nurse administrators to develop strategies to attract and retain bedside RNs. In the first phase of the study described here, a tool was administered to gather demographic data, and the WES was employed to collect data about RNs' perceptions of the work place. Findings are reported in the aggregate and will be made available to the study participants.

Study Variables

The demographic variables in this study include sex, age, ethnic background, marital status, number of children, level of nursing education, where nursing education was obtained, number of years as an RN, number of years in the present position, clinical level, shift worked, amount of time worked each week, anticipation of leaving the assigned unit, and anticipation of leaving the study hospital. The work environment variable included in the current work is that of physical comfort.

Study Sample and Setting

Study materials were delivered to 597 RNs employed at a south San Francisco Bay county hospital; the study sample was composed of 207 nurses. The RNs were regularly scheduled to perform their professional duties on acute care units within the hospital. The group consisted of bedside nurses at clinical levels I through VI. Nurses at levels I and II were recently graduated and experienced nurses who had not at the time of the study progressed up the clinical ladder at the hospital. RNs at clinical level III were acknowledged as competent, whereas RNs at clinical levels IV and V had been recognized as experts in their areas of clinical specialty. RNs falling within the Clinical VI level were categorized by the hospital as assistant head nurses; their duties included supervision of other nurses, coordination of patient and staff activities, and continued expert management of acute care patients. All RNs included in the study volunteered to participate without remuneration or any other form of compensation beyond the potential benefits derived from the research findings.

Participants were recruited at various informational meetings, with nurse managers in attendance. The nurse managers agreed to deliver the questionnaires to their staff members. The purpose of the study was described, use of the survey instrument and the demographic tool were

explained, and methods for maintaining participant confidentiality were detailed. Administrative staff supplied data sheets containing staff members' names and other information necessary to code questionnaires. Permission was obtained from the hospital administration for investigators' access to the units so that they might become familiar with floor plans and the general milieu. Formal permission from the Institutional Review Board at the study setting was also obtained. San Jose State University's Human Subjects Institutional Review Board granted its approval of tools and forms to be used in the research process.

Data Instruments and Collection

Questionnaires were coded and matched to the list of names supplied by the hospital. Included in each participant's packet were a survey instrument, a scoring grid, demographic tool, a letter describing the study, a consent form, and a pre-paid return envelope. An example of the demographic tool can be found in Appendix B, and an example of the consent letter, which also provides introductory comments about the study, can be found in Appendix C. Nurse managers at the study setting distributed questionnaires in July, 1991 and data were collected through October, 1991. Flyers were posted on the units at intervals during the period of data collection to

remind RNs of the study, its purpose, and the need for return of the questionnaires.

The data collection instruments included the WES, Form R, and a demographic tool. Three social climate domains provide the overarching structure for the WES. The first domain consists of relationship dimensions, including the subscales of involvement, the cohesion of peers, and the support of supervising personnel. The second domain, broadly organized as personal growth dimensions, contains subscales of autonomy, task orientation, and work pressure within the work setting. Finally, system change and system maintenance dimensions comprise the third domain, which encompasses the organizational factors of clarity, control, innovation, and physical comfort. Table 1 summarizes the dimensions of the WES and the subscales that fall under them. (See Appendix A for permission to reproduce WES subscales.)

Three forms of the WES exist, the Ideal, the Real, and the Expectations Forms. The Ideal Form (Form I) allows individuals to answer the items on the questionnaire with respect to the work setting they would most like. The Expectations Form (Form E) elicits responses about the work setting individuals expect to find as well as the expectations they anticipate will be applied to them. The Real Form (Form R) asks questions about the work milieu as it exists at the time under consideration.

Table 1

WES Subscales and Dimensions Descriptions

	Relationship Dimensions
1. Involvement	The extent to which employees are concerned about and committed to their jobs
2. Peer Cohesion	The extent to which employees are friendly and supportive of one another
3. Supervisor Support	The extent to which management is supportive of employees and encourages employees to be supportive of one another
	Personal Growth Dimensions
4. Autonomy	The extent to which employees are encouraged to be self-sufficient and to make their own decisions
5. Task Orientation	The degree of emphasis on good planning, efficiency, and getting the job done
6. Work Pressure	The degree to which the press of work and time urgency dominate the job milieu
	System Maintenance and Change Dimensions
7. Clarity	The extent to which employees know what to expect in their daily routine and how explicitly rules and policies are communicated

Table 1 (continued)

WES Subscales and Dimensions Descriptions

8. Control	The extent to which management uses rules and pressures to keep employees under control
9. Innovation	The degree of emphasis on variety, change, and new approaches
10. Physical Comfort	The extent to which the physical surroundings contribute to a pleasant work environment

Note. From The social climate scales: A user's guide by R. H. Moos (1987). Palo Alto, CA: Consulting Psychologists Press. Adapted by permission.

The WES is a 90-item questionnaire, answers to which are true or false. Participants were instructed to answer true if the response was true or mostly true, whereas the scoring grid was to be marked false if the answer was false or mostly false. It was estimated that the questionnaire would require 20 to 30 minutes to complete, time which was anticipated would be spent during an off-duty period in a location of each individual's choice.

WES questions specific to physical comfort included information about the following: (a) the relative temperature of the work place, (b) the quality of lighting, (c) whether or not the surroundings were crowded, (d) the modernity of the work place's appearance, (e) the quality of interior decorations, (f) the effects of color schemes and decorations on the environment, (g) whether or not the setting was drafty, (h) the arrangement of furniture, and (i) the adequacy of ventilation.

Confidentiality was secured by number coding names, and the information was maintained in secure files away from the study setting. Individuals were advised that no known risks were associated with participation, and they were encouraged to contact the principal investigators with any questions or concerns they might have had during the study period (Appendix C).

Analysis Procedures

Descriptive statistical procedures were used to compute frequencies, percentages, and variances where applicable for demographic variables as well as the work environment variable of physical comfort. Pearson product-moment correlation coefficient analysis was used to investigate the relationship between physical comfort and specific demographic variables. A complete analysis and interpretation of the data are presented in Chapter 4.

Chapter 4

ANALYSIS AND INTERPRETATION OF DATA

Participants in this study included 207 full- or part-time nurses working in the acute care units of a local county hospital. The mean age of the nurses was 38.5, with a range of 24 to 65 years. RNs volunteered their time to the study and were assured that the results of the findings would be kept confidential. The participants' nurse managers distributed demographic surveys and WES questionnaires on behalf of the researchers, who had no direct contact with the RNs during the course of the study.

Demographic Data

Findings from the demographic survey are summarized in Tables 2-4. The sample consisted of 196 women and 11 men. One hundred forty-eight (71.5%) participants reported themselves to be Caucasian, and 139 (67.1%) of the nurses were married. Among those nurses with children, 125 (60.3%) reported having between 1 and 3. Seventy-seven participants (37.2%) had been educated at the associate degree level (ADN), while 86 (41.5%) of the nurses in the sample reported having earned a bachelor's degree (BSN). Thirty-seven (18%) of the nurses had been educated outside the USA. Thirty-eight (18.4%) participants were at clinical level II, while 97 (46.9%) participants were at

clinical level III, and 32 (15.5%) were at clinical level IV. Shift representation included 99 (47.8%) participants at work during daytime hours, 62 (30.0%) participants at work during evenings, and 46 (22.2%) during nights. The majority of respondents reported either full-time employment, including 98 (47.3%) of the nurses, or 4/5ths employment, represented by 60 (29.0%) of RNs in the sample. Finally, participants reported earning between \$17 and \$29 per hour, with a mean of \$23.47. See Tables 2 through 4 for a full presentation of these findings.

Physical Comfort Data

Responses to the 9 items relating to the Physical Comfort dimension of the WES revealed a mean of 4.09, below the normed average range of 4.5 to 5.0, with a standard deviation of 2.76. Close examination of the data, however, demonstrated a bimodal distribution of answers. Seventeen (8.2%) of the participants rated their setting 0, while 33 (15.9%) and 24 (11.6%) of the participants rated their settings 1 and 2 respectively, all ratings "considerably below average." On the other hand, 18 (8.7%) rated their setting at 7, 20 (9.7%) rated theirs at 8, and 13 (6.3%) of the participants rated theirs 9 on the subscale, or "considerably above average."

Table 5 summarizes data according to the units represented in the study. Included are percentages of the total number by unit, as well as each unit's score on the

Table 2

Personal Information (N=207)

	Frequency	%
Sex		
Female	196	94.7
Male	11	5.3
Race		
African-American	4	1.9
Asian	22	10.6
Caucasian	148	71.5
Hispanic	7	3.4
Other	23	11.1
Missing	3	1.4
Marital		
Single	38	18.4
Married	139	67.1
Divorced	30	14.5

Table 3

Nursing Education (N=207)

	Frequency	%
Program		
Diploma	31	15.0
ADN	77	37.2
BSN	86	41.5
MSN	10	4.8
Other	3	1.4
Where Education Obtained		
USA	169	81.6
Not USA	37	17.9
Missing	1	0.5

Table 4

Work Place Information (N=207)

	Frequency	%
<hr/>		
Clinical Level		
I	17	8.2
II	38	18.4
III	97	46.9
IV	32	15.5
V	3	1.4
VI	18	8.7
Missing	2	1.0
<hr/>		
Shift Worked		
7-3 p.m.	99	47.8
3-11 p.m.	62	30.0
11-7 a.m.	46	22.2
<hr/>		

Physical Comfort subscale of the WES. The normed average range for this subscale is 4.5 to 5.0. It will be noted that both Unit K and Unit N scored 7.9, findings that demonstrate "considerably above average" physical comfort. Units A and L each scored 7.4, also "considerably above average," while Unit I and Unit M scored 6.9 and 6.8, respectively, or "well above average."

Unit F scored 1.0 on the Physical Comfort subscale of the WES, and Unit G scored 1.7, both of which are "considerably below average." While scoring somewhat higher than the previous two units, Units B, C, and H brought in scores of 2.3, also "considerably below average."

Nurses on Unit Q rated their physical comfort at 3.4, while RNs on Unit R rated theirs at 3.6, both scores indicating "well below average" physical comfort. Unit O scored 4.2, and Unit P scored 4.3, both "below average" ratings. Unit J staff nurses rated their surroundings at 5.5, indicating "above average" physical comfort.

Variables Associated with Physical Comfort

Specific variables, including the age of the nurses in the sample, their number of children, their years as RNs, the number of years in their position, their clinical level, and their salary were correlated with the Physical Comfort dimension of the WES, findings for which are summarized in Table 6. Results of Pearson r analyses

Table 5

Physical Comfort Score by Unit (N=207)

Normed Average Range				4.5-5.0
Unit	<u>n</u>	%	Score	
A	5	10	7.4	
B	23	32	2.3	
C	13	33	2.3	
D	14	66	5.4	
E	6	27	7.3	
F	10	30	1.0	
G	23	50	1.7	
H	8	57	2.3	
I	15	46	6.9	
J	15	41	5.5	
K	7	26	7.9	
L	7	36	7.4	
M	4	25	6.8	
N	8	32	7.9	
O	10	27	4.2	
P	9	25	4.3	
Q	20	41	3.4	
R	10	26	3.6	

show that none of these variables correlated with physical comfort at a level of $p < .05$. However, the variable of children showed the strongest correlation (.133), although it did not reach statistical significance. Respondents with more children tended to rate their surroundings at a higher level of physical comfort.

Support for Research Questions

Findings from this study suggest that the RNs in a local county hospital have differing perceptions of their work environments, specifically of their physical comfort, as reported in results from their assigned units. Unit F RNs reported the least amount of physical comfort, followed by RNs from Unit G. Nurses from Units K and N reported the highest degree of physical comfort, followed closely by nurses from Units A and L. Analysis of the data indicates that there was no support for Research Question 2. All relationships between the RNs' perceptions of physical comfort and specific background characteristics were negative, with the exception of the background characteristic of children, which was positive but did not reach statistical significance.

Table 6

Correlations Between Physical Comfort and Other Variables

	<u>n</u>	<u>r</u>	<u>p</u>
Age	200	-.022	.759
Children	204	.133	.057
RN Yrs	197	-.021	.774
Position Yrs	205	-.070	.317
Level	205	-.033	.636
Salary	207	-.077	.269

Chapter 5

CONCLUSIONS AND RECOMMENDATIONS

The recurring shortage of RNs along with persistent high rates of attrition have contributed to an unstable health care environment in the United States. This study was prompted in part by the recognition based on the available literature that increasing the supply of RNs without understanding the causes for shortage and attrition has failed to meet the demand for nurses. The effects of the work environment, most particularly the level of physical comfort, may well affect the delivery of nursing care, as well as retention of nurses. The presence or absence of ventilation, light to read by and in which to make patient assessments, and well or poorly maintained floors, walls, and utility facilities are examples of features in the work environment pertinent to physical comfort. WES data obtained during this study suggest that similar features were important to nurses in the study setting.

This study aimed to investigate how the acute care staff nurses at a local county hospital perceived their physical surroundings and whether or not a relationship existed between the nurses' perceived level of physical comfort and specific background characteristics. In order

to obtain information about the RNs' characteristics and perceptions, a demographic tool in conjunction with the WES was administered to the nurses in the study setting. Participants included all regularly scheduled acute care RNs, who volunteered their time in the process of completing study questionnaires. Appropriate statistical procedures were used to compute frequencies and percentages and to estimate relationships from the study information. The principal investigators on the study were Professors Jayne Cohen and Coleen Saylor, both of whom continue to gather data from nurses in the setting for the purpose of completing a longitudinal, descriptive study in progress.

Conclusions

The investigator obtained and analyzed information about participants' background characteristics along with perceptions of physical comfort in their work environment during this study. In addition, the existence of a relationship between their characteristics and perceptions was examined. It was learned that the nurses had a wide range of perceptions regarding their setting and that nurses with more children tended to rate their physical surroundings higher than did nurses with fewer children.

Scope and Limitations

Some of the limitations of the study include the sample size, which was approximately 30% of the population of RNs at the hospital. In addition, the study was completed in a

single setting, perhaps rendering its findings less than representative. Another limitation was the cross-sectional design, which limited the amount of information obtainable according to the perceptions of study participants in a specific moment in time. Finally, unknown factors based on personal preferences or circumstances within the hospital may have contributed to bias on the part of respondents.

Nonetheless, because physical comfort per se has rarely been examined, the data accrued in this study has the potential of providing basic information about nurses' perceptions of their work environment, information that could be enhanced through the development of pertinent qualitative questions about the details of nurses' perceptions of physical comfort and whether those perceptions bear upon the nurses' desire to remain in or leave a particular work setting. Such a conclusion is drawn in part from the fact that those nursing units that participants ranked lowest on the Physical Comfort dimension of the WES are in an old part of the hospital, where ventilation has not been upgraded and neither remodeling nor redecoration have been undertaken. On the other hand, nursing units ranked highest by RNs are in the new part of the hospital, where air-conditioning has been installed, windows have been provided, and where the

appointments on the walls and the floors make for a comfortable and attractive environment.

Recommendations

The following recommendations are made, based on the results of this cross-sectional and descriptive study:

1. The study should be replicated using a larger sample size.
2. Additional survey questions or an alternate survey tool should be developed with a view to eliciting responses pertaining to the quality of participants' physical comfort.
3. In the event that the WES is administered to study participants, both Form R and Form I should be given so that data relating to real as well as ideal perceptions can be obtained.
4. Nurse managers and hospital administrators should consider the reasons for discrepancies between nurses on specific units in their perceptions of physical comfort. For example, Units F and G, where RNs rated their physical comfort low, could be examined for inadequacies in lighting, space, furnishings, and ventilation. In addition, units where participants rated their comfort at low levels could be compared to units where nurses rated their surroundings more favorably.

Summary

As Moos and Schaefer (1987) have noted, "The WES can be used to depict the perceptions of individual employees and their stability over time, to compare employee and supervisor reports, and to identify stressors that may lead to staff demoralization" (p. 102). Compared to business and industrial surroundings, health care settings have been reported to lack autonomy and clarity, to emphasize supervisory direction and the demands of work and, significant to the present study, have been found to be less physically comfortable (Moos & Schaefer, 1987).

Historically charged with the physical comfort of others, nurses have needs in the environmental realm that cannot be ignored if the long-term well-being of this labor pool is to be promoted and safeguarded. To this end, nurses' perceptions of their surroundings along with the potential role of their background characteristics in relation to such perceptions should be investigated further.

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APPENDIX A
Permission Letters



STANFORD UNIVERSITY MEDICAL CENTER

STANFORD, CALIFORNIA 94305 • (415) 858-3996 • FAX (415) 852-3420

STANFORD UNIVERSITY SCHOOL OF MEDICINE
Department of Psychiatry TD-114
Rudolf H. Moos, Ph.D., Professor
Director, Center for Health Care Evaluation

September 10, 1992

Bethany Schroeder
916 Suntree Court
Sunnyvale CA 94086

Dear Ms. Schroeder:

I am happy to give you permission to reproduce the table listing and describing the WES subscales; the table in the Manual itself is the best one to use.

As you know, the WES is published and copyrighted by Consulting Psychologists Press (CPP) in Palo Alto. You need to obtain permission from them to reproduce Form R of the WES. Let me mention, however, that the publisher normally does not like to give permission to reproduce the entire scale (basically because this makes it too easy for someone else to reproduce it).

One idea is to use one or perhaps two item examples from each subscale. The publisher normally gives permission for such use when the source of the material is cited and the copyright statement is included.

I would prefer to limit this permission to your use and have other individuals who are using the WES in separate projects write directly to me and/or to CPP for the permission they need. I think the publisher also would prefer to provide the requested permission to each individual user.

I hope this is helpful. Please send me a copy of your master's thesis once it is ready.

Sincerely yours,

A handwritten signature in cursive script that reads "Rudolf H. Moos".

Rudolf H. Moos, Ph.D.

RHM/dd



STANFORD UNIVERSITY MEDICAL CENTER

STANFORD, CALIFORNIA 94305 • (415) 858-3996 • FAX (415) 852-3420

STANFORD UNIVERSITY SCHOOL OF MEDICINE
Department of Psychiatry TD-114
Rudolf H. Moos, Ph.D., Professor
Director, Center for Health Care Evaluation

October 15, 1992

Bethany Schroeder
916 Suntree Court
Sunnyvale CA 94086

Dear Ms. Schroeder:

I would be happy to have you use a figure describing our conceptual framework in your thesis. Any of the figures you mention in your letter are fine, but you might use either the figure in "Work as a Human Context" or the one in "Evaluating Health Care Work Settings" because they are specifically relevant to the workplace.

I look forward to seeing a copy of your thesis when it is completed.

Sincerely yours,

A handwritten signature in cursive script that reads "Rudolf H. Moos".

Rudolf H. Moos, Ph.D.

RHM/dd

APPENDIX B
Demographic Tool

Background Information

1. Gender: Female (1) Male (2)
2. Age:
3. Ethnic Background:

<input type="checkbox"/> African-American (1)	<input type="checkbox"/> Caucasian (4)
<input type="checkbox"/> American-Indian (2)	<input type="checkbox"/> Hispanic (5)
<input type="checkbox"/> Asian-American (3)	<input type="checkbox"/> Other (6)
4. Marital Status:

<input type="checkbox"/> Single	(1)
<input type="checkbox"/> Married/Living with a mate	(2)
<input type="checkbox"/> Separated/Divorced	(3)
<input type="checkbox"/> Widowed	(4)
5. Number of children:
6. How many children are in each age category?

<input type="checkbox"/> Infant (<1 yr)	(1)
<input type="checkbox"/> Preschool (1-4)	(2)
<input type="checkbox"/> Elementary	(3)
<input type="checkbox"/> Jr high/High school	(4)
<input type="checkbox"/> Older than high school	(5)
7. If you use child care services, how dependable are they?

<input type="checkbox"/> Very dependable	(1)
<input type="checkbox"/> Usually dependable	(2)
<input type="checkbox"/> Sometimes dependable	(3)
<input type="checkbox"/> Rarely dependable	(4)
8. Highest level of nursing education completed:

<input type="checkbox"/> Diploma program	(1)
<input type="checkbox"/> Associate degree	(2)
<input type="checkbox"/> Bachelor's degree	(3)
<input type="checkbox"/> Master's degree	(4)
<input type="checkbox"/> Other	(5)
9. Where was your original nursing program?

<input type="checkbox"/> in the USA (1)	<input type="checkbox"/> outside the USA (2)
---	--
10. Please indicate any nonnursing degree you have.

<input type="checkbox"/> Associate degree	(1)
<input type="checkbox"/> Bachelor's degree	(2)
<input type="checkbox"/> Master's degree	(3)
<input type="checkbox"/> Other	(4)

11. Are you currently enrolled in a nursing or nonnursing program leading to a degree?
 yes (1) no (2)
12. If you checked yes, what kind of program?
 BS nursing (1) MS nursing (2)
 BS nonnursing (3) MS nonnursing (4)
 Other, what kind? _____
13. How long have you been a registered nurse?
_____ years, _____ months
14. How long have you been in your present position?
_____ years, _____ months
15. What is your clinical level?
(I, II, III, IV, V) _____
16. Have you been or are you currently a charge nurse?
 yes (1) no (2)
17. Have you been or are you currently an assistant head nurse?
 yes (1) no (2)
18. On what unit do you work most frequently?

19. What is your usual shift?
 7-3 (1)
 3-11 (2)
 11-7 (3)
20. How much do you work?
 Full-time (1)
 4/5 (2)
 3/5 (3)
 1/2 (4)
 Other, e.g. per diem, extra help (5)
21. Are you currently anticipating leaving your unit?
 no (1) maybe (2) yes (3)
22. If you checked "maybe" or "yes," what is the reason?

23. Are you currently anticipating leaving the hospital?
 no (1) maybe (2) yes (3)

24. If you checked "maybe" or "yes," what is the reason?

Thank you for taking the time to complete this questionnaire. Your responses will contribute to a better understanding of improved work arrangements for nurses.

APPENDIX C
Consent Letter

San Jose State University
School of the Applied Arts and Sciences
Department of Nursing
One Washington Square
San Jose, California 95192-0057
408/924-3130

Enclosed is a packet of materials, including a demographic data sheet and a Work Environment Scale. You will be asked about the perceptions you have of your work environment. The purpose of this study is to understand and improve the settings in which nurses work. Your participation is important.

Our country faces an increasing shortage of RNs, whom hospitals must be able to attract and retain if we are to continue to enjoy a high standard of nursing care. Most studies focus on the nursing shortage without attending to the forces, such as the quality of the work setting, that perpetuate it. Should you choose to participate, you will be making a substantial contribution to nursing, a contribution that we believe can help nurse administrators, managers, and bedside nurses develop up-to-date decisions about work settings in acute care areas.

We estimate that the questionnaire will require 20 minutes to complete. Findings of the investigation will be made available to participants at the end of the study. Thank you for your participation in this research effort; it will enhance the understanding of nurses' work settings.

Subject's Consent

TITLE OF PROJECT _____

PRINCIPAL INVESTIGATORS: Jayne Cohen, DNSc, RN, Tel. 408/924-1325; Coleen Saylor, PhD, RN, Tel. 408/924-1321. Department of Nursing, San Jose State University, One Washington Square, San Jose, CA 95192.

PURPOSE: You are invited to participate in a study about the settings in which professional staff nurses work. The goal is to provide the most beneficial work environment for nurses who work at the bedside in acute care hospitals.

Your participation will help to gather important information regarding your perceptions about your specific work setting.

PROCEDURE: If you decide to participate, you will complete the attached questionnaires and return them in the enclosed envelope. They will take approximately 30 minutes. In addition, in the following 12-24 months any changes in your employment status will be recorded.

RISKS/DISCOMFORTS: There are no known risks associated with your participation in the study. Your responses are confidential. Should you feel uncomfortable about the questionnaires, you can contact one of the investigators.

BENEFITS: By participating in this study, you will be contributing to knowledge about nurses' work settings. This information may be useful in improving work settings. We cannot and do not guarantee or promise that you will receive any benefits from the study. A summary of the findings will be available to all participants.

ALTERNATIVES: You are under no obligation to take part in this study, and you may refuse to do so if you wish; you may withdraw from the study at any time.

COSTS: Your participation in this study is on a voluntary basis and does not involve any cost to you.

CONFIDENTIALITY: Individual responses are strictly confidential and only the investigators and graduate assistants from San Jose State University will have access to the information. The only identification is a code number that can be matched to a list of names. The list of names, code numbers, and the questionnaires are kept locked at San Jose State University and will be destroyed when the study is complete. Your responses will be combined with those of other staff nurses, and all data will be reported as group data, therefore assuring anonymity.

COMPENSATION: It is the policy of the California Institute for Medical Research and _____ not to provide reimbursement for medical care or any form of compensation in the event of physical or psychological injury sustained in the course of this research project. If injury does occur, you may contact Dr. Jayne Cohen or Dr. Coleen Saylor to determine what alternatives for care are available.

SUBJECT/PATIENT RIGHTS: I understand that I am free to withdraw my consent and discontinue participation in the

project at any time without prejudice to me or effect on this research study. My questions have been answered, and should I have additional questions I may contact Dr. Cohen (408/924-1325) or Dr. Saylor (408/924-1321). If I am not satisfied with the manner in which this study is being conducted, I may contact the Research and Human Subjects Review Committee, which is concerned with protection of volunteers in research projects. The Committee may be reached by calling the office from 8:00 a.m. to 5:00 p.m., Monday through Friday, at 408/998-4554, ext. 15, or by writing to the Research Committee, California Institute for Medical Research, 2260 Clove Drive, San Jose, California 95128.

I hereby voluntarily consent and offer to take part in the study. Returning the questionnaire constitutes my consent. This consent form is for my personal records.

IRB Approval # 1/25/91-04