TIME SPENT PERFORMING NON-NURSING TASKS AND JOB SATISFACTION OF CERTIFIED NEPHROLOGY NURSES

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To the Dean for Graduate Studies and Research:

I am submitting herewith a thesis written by

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I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Nursing.

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DEDICATION

To the one person in my life who gave me the support and encouragement to make my dream a reality:

My husband and my best friend, Wade T. Jordan.

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TIME SPENT PERFORMING NON-NURSING TASKS AND JOB SATISFACTION OF CERTIFIED NEPHROLOGY NURSES

ABSTRACT

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A study was conducted to determine if there was a significant relationship between the time spent performing non-nursing tasks and the level of job satisfaction of Certified Nephrology Nurses (CNNs). Herzberg's motivation-hygiene theory was used as the theoretical framework for the study. The Non-nursing Task Survey was developed by the researcher and utilized to measure the amount of time spend performing 23 non-nursing tasks. The instrument utilized to measure job satisfaction was the Index of Work Satisfaction (Stamps & Piedmonte, 1986) which examined task requirements, autonomy, pay, organizational policies, professional status and interaction as factors related to nurses' perceived job satisfaction.

Returned questionnaires from a nationwide sample of 147 CNNs were analyzed using descriptive and inferential statistics. The hypothesis for the study was supported, indicating an inverse relationship between the time spent

performing non-nursing tasks and the level of job satisfaction among CNNS.

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CHAPTER I

INTRODUCTION

Job satisfaction is a very complex phenomenon that is, in many situations, the determinant of whether nurses remain in or leave a given position in health care. Turnover of nursing staff can prove costly to organizations and creates an environment of instability for the delivery of patient care. A high rate of turnover among nurses results in a constant influx of inexperienced staff which can reduce the possibility of providing quality nursing care (Nichols, 1971). There are many factors which contribute to job satisfaction and dissatisfaction of nurses. Nurses enter the profession for the satisfaction of providing quality patient care, however, factors which hinder their work have been reported to contribute to job dissatisfaction (Godfrey, 1978a; Wandelt, Pierce, & Widdowson, 1981). The performance of non-nursing tasks by nurses diminishes the time that nurses have to perform the patient care for which they have been prepared. As nurse managers and administrators consider the design of patient care delivery systems, information concerning factors affecting nurse job satisfaction will facilitate the

implementation of effective strategies that promote satisfaction in the delivery system.

Today, the issue of job satisfaction has become paramount as a nationwide nursing shortage has resulted in a diminished registered nurse (RN) pool. Hendrickson, Doddato, and Kover (1989) reported that the cost of replacing an RN in hospitals is about $20,000 in recruitment and training. Competition for available RNs is fierce, warranting the development of strategies to promote retention rather than expensive recruitment measures of professional nursing staff.

In any attempt to improve the satisfaction of nurses, there are factors over which administration has some control and factors which cannot be influenced by the health care organization (Likert, 1979). Strategies to promote job satisfaction must encompass those areas over which the organization has some control and influence. The nature of the work which RNs perform has been directly related to job satisfaction and is an area over which the organization can exert change (Everly & Falcione, 1976).

In a survey of 6,939 nurses, Davis (1982) reported that 92% of the respondents said that job satisfaction was affected by the number of non-nursing functions they were required to perform. Hendrickson et al. (1989) found that

hospital nurses spent an average of only 31% of their time with patients in the study which involved work sampling techniques. Hendrickson et al. (1989) stated that although there is no acceptable standard for the safe or optimal amount of time nurses should spend on direct patient care, nurses report that only the essential aspects of care can be provided in the time provided. This can be a source of frustration for nurses and may result in compromised patient care.

Vestal (1989) contended that the jobs of RNs should be redesigned so that the expensive and rare time of RNs is not wasted on non-patient care activities. This strategy may be applicable to the situation which exists in the specialty of nephrology nursing today. Due to the technological emphasis of the care of end-stage renal disease (ESRD) patients, it seems that many nephrology nurses are being utilized for non-patient care activities. This specialty has also suffered from the nationwide nursing shortage at a time when the demand for professional nursing care has increased (Jordan, 1988). Strategies for improving the retention of nephrology nurses should include an examination of their job satisfaction level and the amount of their time which is spent performing non-nursing tasks.

Problem of Study

The problem for this study was: Does a relationship exist between the amount of time spent performing non-nursing tasks and the level of job satisfaction of Certified Nephrology Nurses (CNNs)?

Justification of Problem

The current nationwide nursing shortage has led to many studies to determine the cause of the diminished availability of registered nurses and means to alleviate the shortage. The Final Report of the Health and Human Services Secretary's Commission on Nursing (1988) stated that, "The current shortage of RNs is primarily a result of increased demand as opposed to a contraction in supply" (p. 4). The Commission reports several causes for this increased demand: (a) patients in hospitals are sicker, requiring more nursing care at a more sophisticated level; (b) reductions in non-nursing support; (c) the increased use of technology; (d) the increased number of patients with AIDS; and (e) the aging of the population. A recommendation of the commission relates to the utilization of nursing resources. This recommendation states that, "Health care delivery organizations should preserve the time of the nurse for the direct care of patients and

families by providing adequate staffing levels for clinical and non-clinical support services" (p. 19).

The magnitude of the nursing shortage has resulted in a plentitude of possible strategies to relieve the pressures it presents to health care facilities. This presents a challenge for administrators to choose strategies which are effective in dealing with the shortage of RNs. Astute assessment of staffing needs and implementation of effective strategies to meet patient care demands require information that will enable administrators to make sound decisions. To make these decisions, more research related to job satisfaction is necessary. Specifically, studies which relate to the retention of nurses and the needs of specialty nurses have been cited as important (Butler & Parsons, 1989; Jacobson, 1988).

The specialty of nephrology nursing has witnessed an increased demand for the services of registered nurses, increased vacancy rates for RNs, and the substitution of RN positions by LVNs and technicians (Jordan, 1988). At the same time, the patient population, individuals with end-stage renal disease (ESRD), has become more complex and older. The situation in this clinical specialty parallels that which is occurring nationwide.

Technology has enabled persons suffering from ESRD to live who would have died 30 years ago. Due to the technological nature of dialysis, the use of LVNs and unlicensed technicians has become widespread in dialysis facilities. The very technical nature of procedures such as hemodialysis and peritoneal dialysis has perpetuated a focus of the nephrology nurse's role toward management of the dialysis treatment and not the patient in many facilities. Many non-nursing tasks such as dialysis machine maintenance and disinfection, stocking and ordering of supplies, transporting patients, and clerical duties are the responsibility of the nurse. Thus, the nature of the work may not utilize the knowledge and expertise of the RN in a manner that is satisfying to the individual nurse.

Nurses perform a number of non-nursing tasks, which may or may not serve as a source of good feelings about their job. The nature of job satisfaction of nephrology nurses is not reported in the literature. It is not known how the time spent on non-nursing tasks may affect their level of job satisfaction. There is a crucial need to study the job satisfaction of nurses in an effort to identify factors that contribute to their longevity in the profession. The services of specialty nurses like CNNs are not easily substituted, and should be valued and retained.

Theoretical Framework

Frederick Herzberg's motivation-hygiene theory provided the framework for this study. Herzberg's (1966) theory, also referred to as the dual-factor theory, distinguishes between two classes of factors involved in job satisfaction: motivators and hygiene factors. The motivation factors are related to job satisfaction and the hygiene factors are related to dissatisfaction (Herzberg, 1966). He proposed that job satisfaction and dissatisfaction are two continuums of separate factors and not opposite ends of a bipolar continuum. He goes on to suggest that the motivators relate to the job a person does and the hygiene factors describe the person's relationship to the context or environment in which the job is done.

Herzberg (1966) identified five factors or motivators which are strong determinants of job satisfaction:

1. Achievement--successful completion of a job, solutions to problems, vindication, and seeing the results of one's work.

2. Recognition--an act of notice, praise, or blame by a supervisor, management, a client, peer, professional colleague, or general public.

3. Work itself--the actual doing of the job or the tasks of the job, the duties of the job. The substance of a task.

4. Responsibility--responsibility for one's own work or the work of others, or new responsibility.

5. Advancement--an actual change in a person's status or position in the organization.

The theory suggests that motivation factors describe a person's relationship to what work is done: the job content, achievement of a task, recognition for task achievement, the nature of the task, responsibility for a task, and professional advancement or growth in task capability. The motivators are believed to be task factors and thus are necessary for growth. They provide the psychological stimulation by which individuals can be activated toward self-realization needs.

The hygiene factors describe the environment in which the work is done. Herzberg (1966) describes five hygienic factors as:

1. Company policy and administration--the organization of work and personnel policies.

2. Supervision-technical--competence or incompetence of the supervisor.

3. Salary--compensation for work performed.

4. Interpersonal relations-supervisor--interaction between workers and superiors, subordinates, and peers.

5. Working conditions--the physical conditions of work, the amount of work or the facilities available for doing the work.

The hygienic factors describe the environment and serve primarily to prevent job dissatisfaction; they have little effect in influencing positive job attitudes. Herzberg (1966) described the hygienic factors (dissatisfiers) as being analogous to the medical use of the term meaning preventative and environmental. He also referred to them as maintenance factors.

The principal result of the analysis of Herzberg's original data of the study of 200 accountants and engineers explains the basic concepts of the motivation-hygiene theory. The results suggest that the hygiene or maintenance factors lead to job dissatisfaction because of the need to avoid unpleasantness. The motivators lead to job satisfaction because of a need for growth or self-actualization. At the psychological level, the two dimensions of job attitudes reflect a two-dimensional need structure: one need system for the avoidance of unpleasantness and a parallel need system for personal growth.

Herzberg (1966) stated that,

> A hygienic environment prevents discontent with a job, but such an environment cannot lead the individual beyond a minimal adjustment consisting of the absence of dissatisfaction. A positive happiness seems to require some attainment of psychological growth. (p. 98)

Herzberg contended that an individual must believe that he has grown if he is to experience satisfaction. This growth "depends on the achievement of tasks that have meaning to the individual, and since hygienic factors do not relate to the task, they are powerless to give such meaning to the individual" (p. 98).

Herzberg's theory supports the strength of the motivator factors in improving job satisfaction among workers. The hygienic factors warrant attention because they serve to prevent dissatisfaction. But he warns that it is an error to assume that prevention of dissatisfaction will "unleash positive feelings and the return of increased creativity, productivity, lowered absenteeism and turnover, and all the other indices of manpower efficiency" (Herzberg, 1966, p. 188). He also warns that the effects of improving the hygienic factors are only short-term. Addressing the motivators will produce more long-term effects.

Herzberg's theory suggests that workers have the need to avoid physical pain and deprivation and they need to

achieve psychological growth. The theory proposes two distinct sets of factors based on these needs which determine job satisfaction (motivators) and dissatisfaction (hygiene factors). By assessing the motivators and hygiene factors, the determination of worker needs can be made. Methods to improve job satisfaction can then be directed toward those areas. According to the motivation-hygiene theory, job satisfaction is strongly associated with the motivation factor of the work itself (Herzberg, 1966). This proposition of Herzberg's theory formed the basis for this study.

Assumptions

For the purpose of this study, the following assumptions were made:

1. Achievement, recognition, work itself, responsibility, and advancement are factors that determine job satisfaction.

2. Company policy and administration, supervision-technical salary, interpersonal relations, and working conditions are factors which prevent job dissatisfaction.

3. Factors producing job satisfaction are separate and distinct from the factors leading to job dissatisfaction.

Hypothesis

The following hypothesis was investigated for this study:

There is an inverse relationship between the amount of time certified nephrology nurses spend performing non-nursing tasks and their level of job satisfaction.

Definition of Terms

For the purpose of this study, the following terms were defined:

1. Job satisfaction--according to the motivation-hygiene theory, "job satisfaction is produced by the job itself, allowing the individual to grow psychologically, that is achieve a worthwhile aim, and to achieve recognition for his efforts" (Gruneberg, 1976, p. 12). In this study, job satisfaction was measured by scores on the Index of Work Satisfaction (IWS).

2. Non-nursing task--any function which does not have to be performed by a registered professional nurse. For this study, these functions were measured by the Non-nursing Task Survey (NTS).

3. Certified Nephrology Nurse (CNN)--a registered nurse who holds a current, valid certification by the Nephrology Nursing Certification Board (NNCB).

4. Time spent performing non-nursing tasks--time was measured in minutes spent during an average workday performing non-nursing tasks, as delineated in the Non-nursing Task Survey.

Limitations

The limitations for this study were:

1. The CNNs, as a sample for the study, may have represented a more motivated segment of the population by virtue of the fact that they took the initiative to sit for and pass the certification examination.

2. Time spent performing non-nursing tasks was reflected the perception of individual nurses completing the NTS.

3. Other variables may have affected job satisfaction.

Summary

Diminished job satisfaction among nurses has been shown to contribute to the turnover rate of nurses in the health care industry. A high turnover rate coupled with the current nursing shortage challenges administrative staff to develop strategies to promote safe and effective nursing care. This challenge has extended into specialty nursing such as nephrology nursing as RN vacancies abound

and patient acuity climbs (Jordan, 1988). Butler and Parsons (1989) advocated that strategies for decreasing turnover rates should focus on retention and job satisfaction.

Researchers have called for more studies to determine the satisfiers and dissatisfiers which nurses experience in their job settings. The nature of the work performed by nurses has been related to their job satisfaction (Everly & Falcione, 1976) and more specifically, the non-nursing tasks performed in the content of the job adversely affected job satisfaction (Davis, 1982).

Herzberg (1966) presented the motivation hygiene theory which suggests factors that influence job satisfaction in the work setting. Included are factors related to job content (motivators) and job context (hygiene). Applicable to the job content, the amount of time which CNNs spend performing non-nursing tasks may relate to their level of job satisfaction. By detecting the existence of this relationship within the population of nursing, knowledge could be gained that could be used by nursing and facility administrators to improve the retention of CNNs in nephrology settings.

CHAPTER II

REVIEW OF THE LITERATURE

The literature abounds with information concerning job satisfaction. Most of the research related to job satisfaction in nursing has been based on studies first conducted in industry and business. The review of the literature presented here is organized in three sections. First, the literature on research related to the historical development of job satisfaction research will be presented. Second, the literature related to the job satisfaction of nurses will be summarized. Due to the volume of the studies published on these first two areas, an attempt has been made to present only the major research studies available. Lastly, a review of material related to non-nursing tasks will be presented. The chapter closes with a summary.

Historical Development of Job Satisfaction

Interest in workers' level of job satisfaction began after the industrial revolution. Systematic study of job satisfaction originated within the business community. Initial research in this area focused on improving satisfaction to increase the productivity of workers.

Frederick Taylor (1911) led this movement with studies of actual work experiences which eventually evolved into scientific management theory. Taylor's ideas came from his famous study at the Bethlehem Company which involved redesigning equipment and selecting the right men for a specific job. This change in the physical environment increased productivity, and in turn, the monetary reward to the workers involved. Taylor's studies demonstrated that these increases in productivity could maximize the earnings of workers and employers. This led to the assumption that the increased monetary reward which workers would enjoy as the result of improved productivity would serve as a motivator to the workers.

Hoppock (1935) published a landmark study which investigated the satisfaction of industrial employees with their occupational role. His work described job satisfaction as consisting of variables including interpersonal factors, individual factors, and the nature of the work itself. His studies led him to conclude that if a variable which led to job satisfaction was absent in the work situation, then its absence would lead to job dissatisfaction.

The next significant research which contributed to the understanding of job satisfaction was the Hawthorne studies

conducted at the Hawthorne plant of the Western Electric Company. These studies began in the 1920s under the direction of Elton Mayo (1945). The studies were similar to the work of Taylor (1911) in that it examined ways in which physical conditions would affect production. The studies involved collaboration between managers and workers to determine sources in the work environment which contributed to low morale and poor job performance. Both groups believed that better lighting would be an improvement. Based on this assumption, the studies examined productivity related to changes in levels of illumination in the workplace. The studies revealed that increases in productivity occurred whatever the direction of change in illumination. The finding of increased productivity was attributed to the fact that workers were given the opportunity to initiate changes in their work environment (Mayo, 1945). The Hawthorne researchers conducted further studies which considered human associations at work such as friendly supervision and co-workers. Although the experiments were inconclusive in this area, they are considered to be important because they led to a more humanistic view of organizational psychology. This school of thought presented the assumption that "job satisfaction leads to increased productivity and that human

relationships in organizations are the key to job satisfaction" (Gruneberg, 1979, p. 6).

This humanistic view continued during the 1950s and 1960s as interest in productivity and worker satisfaction was studied. Bell (1960) and Blauner (1964) criticized the bureaucratic system which maximized efficiency and profits by fragmenting and depersonalizing work for the harm it inflicts on workers. They suggested that work which is not intrinsically rewarding is a source of alienation and dissatisfaction, even when extrinsic factors such as high salary and security of employment are present. This school of thought was similar to Herzberg, Mausner, and Snyderman's (1959) view that in order to increase job satisfaction, the actual job being performed would need to be changed.

Herzberg's two-factor theory of motivation is in part based on Maslow's needs hierarchy theory. Maslow (1943) divided human needs into lower order needs and higher order needs. The needs are: (a) basic physiological needs, (b) safety and security needs, (c) social needs, (d) esteem needs, and (e) self-actualization needs. The first three are lower order needs and the fourth and fifth are higher order needs. Maslow asserts that only when the lower order needs are satisfied is man capable of fulfilling the higher

order needs of self-fulfillment. Although Maslow's theory was not developed to account for job satisfaction, a number of theorists have utilized it as a framework to understand job satisfaction. Gruneberg (1979) stated that "in the job situation, the theory would predict that only after the lower order needs for security and pay have been satisfied will the employee seek satisfaction and achievement with the work itself" (p. 10).

Herzberg et al. (1959) examined the study of work attitudes of accountants and engineers from which Herzberg's two-factor theory originated. Using an interview method. Herzberg et al. (1959) asked each participant to describe work incidents perceived as positive and negative by the individual. Additionally, the participants were asked to describe preceding events and feelings associated with the work incidents. The analysis of each participant's work experience led the researchers to propose six subcomponents of the job and work environment: task requirements, pay, interaction, organizational requirements, job prestige, and autonomy.

Job Enrichment and Job Satisfaction

Herzberg's motivation-hygiene theory is considered by many (Gruneberg, 1979; Stamps & Piedmonte, 1986) to be a major contribution to understanding job satisfaction

through its emphasis on the importance of the job itself. The importance of the job itself on job satisfaction resulted in an interest in job enrichment, an outgrowth of the motivation-hygiene theory. In 1973 the American Telephone and Telegraph Company (AT&T) conducted studies on job enrichment. Ford (1973) showed that employees were more satisfied when their abilities were recognized, when duties commensurate with employees' capabilities were assigned, and when duties were combined into modules with added responsibilities. Capable employees were given additional duties with control to execute those responsibilities. Supervision was decentralized so that, for example, service representatives decided when customers needed to be contacted and made the contact without supervisory intervention. Job enrichment decreased employee turnover, decreased job duplication and fragmentation, improved morale, and increased production. These improvements were made by using increased responsibility (motivator) and increased financial compensation (hygiene factor).

Herzberg and Zantra (1976) expanded previous studies on the motivation-hygiene theory to include job enrichment strategies in the Ogden project. Middle managers at Ogden Air Logistics Center were taught to redesign jobs according

to the motivation hygiene principles and to implement these changes for job enrichment for employees. The job satisfaction of 138 employees was measured before and after implementation of the program and compared the job satisfaction of employees who did not participate in the enrichment program. Participants of the enrichment program experienced markedly higher job satisfaction than other employees. Herzberg and Zantra (1976) reported that five of the six motivators were affected by the job enrichment program: achievement, work itself, responsibility, advancement, and growth. Employees in the enrichment program reported the greater satisfaction with efforts directed toward designing a more complete job, decentralizing supervisory tasks, and increasing responsibility.

While Herzberg is credited with beginning the development of job enrichment theory, it was expanded by Lawler's (1973) expectancy theory and later by Oldham, Hackman, and Pearce (1976). Hackman and Lawler's (1971) original theory was also based on a study of 208 AT&T employees conducted to better understand employee reactions to job characteristics. The original job enrichment theory was based on five core job characteristics, critical psychological states, and personal and work outcomes. The

core job dimensions were described as skill variety, task identity, task significance, autonomy, and feedback. The psychological states responsible for workers' motivation and satisfaction were experienced meaningfulness, experienced responsibility, and knowledge of results or feedback of job performance. The personal and work outcomes described are high internal work motivation, high quality work performance, high satisfaction with the work, and low absenteeism and turnover (Hackman, 1977).

According to the theory, the five job characteristics combine to form the Motivating Potential Score (MPS) to reflect the motivating power of a particular job. To be high in motivating potential, a job must be high on feedback, autonomy, and at least one job dimension that contributes to a job's meaningfulness such as skill, variety, task, identity, or task significance. Hackman and Oldman (1974) developed the Job Diagnostic Survey (JDS), a tool to measure the core job characteristics.

Extensive research has been done in the field of job enrichment theory and its relationship to job satisfaction. Most of the research supports the theory and supports the concept of job redesign to improve workers' satisfaction. Umstot, Bell, and Mitchell (1976) examined the effect of job enrichment and goal setting on employee productivity

and satisfaction. The study supported the job enrichment--satisfaction relationship, but found little relationship between job enrichment and productivity.

Sims and Szilagyi (1976) studied the relationship of perceptions of job characteristics and employee expectancies, satisfaction, and performance. They concluded that satisfaction with work was directly related to variety, relationships with co-workers, and performance. Feedback was found to be important in determining workers' satisfaction with supervision and promotion. Salary was not supported as an important factor. Steers and Spencer (1977) examined the effects of job scope and the need for achievement among workers. They found that enriched jobs contributed to reduced turnover and absenteeism and concluded that changes in job design had practical application for the management of organizations.

The job characteristic model of the enrichment theory has been supported through research as a useful tool for job redesign (Nadler, Hackman, & Lawler, 1979). This allows for the practical application or organizational strategies to improve job satisfaction through the redesigning of jobs performed by employees. Kraft and Williams (1975) contended that job redesign is necessary when there is a weak link in task combination, natural

units of work, client information, feedback, and vertical loading. Through job enrichment, tasks can be combined to give jobs clearer outcomes, greater variety, and tasks which are related. According to Kraft and Williams (1975), workers seem more satisfied when they are responsible for a whole piece of work rather than fragmented jobs. Job enrichment attempts to increase the employees' understanding of the organization's operations through client information. Providing information about the company's services, clients, and the purpose of the services is a goal of job enrichment. Feedback regarding job performance facilitates internal satisfaction and is encouraged through job enrichment. Vertical loading to give the worker more control and responsibility is a strategy of job redesign and enrichment which serves to increase the autonomy of workers.

Interpersonal Aspects of Job Satisfaction

The complexity of understanding job satisfaction is further demonstrated by studies which not only consider the job and the environment in which it is performed, but also the needs and expectations that individuals have in relation to their jobs. Work satisfaction from the need fulfillment perspective is positively related to the degree

to which personal needs are met in the work situation. The greater the need, the more satisfied the individual will be if the need is fulfilled by the job. Conversely, the more dissatisfied the person will be if an important need is not fulfilled (Korman, 1971). Vroom (1964) examined two forms of the need fulfillment theory. First, the subtractive model argues that job satisfaction is negatively related to the degree of discrepancy between what an individual needs and the extent to which the job fulfills those needs. The greater the total discrepancy between individual needs and the ability of the job to meet those needs, the greater the level of dissatisfaction. The greater the congruence between individual needs and the ability of a job to meet those needs, the higher the degree of work satisfaction. Secondly, the multiplicative model of need fulfillment suggests that individual job satisfaction is a product of the relative importance of various work-related and personal needs. The products for each need can be summed to give a total measure of job satisfaction. Vroom (1964) found support for the multiplicative model from studies in which only individuals who liked to take part in decision-making were affected in their job satisfaction by whether or not their supervisor was participative.

Locke (1976) criticized need fulfillment theory and suggested that in measuring discrepancy, individuals may be influenced by the values they place on needs. This concern may be merely semantics, as most theorists use the terms "need" and "value" synonymously (Gruneberg, 1979). The need fulfillment theory, regardless of its critics, is important to the understanding of job satisfaction in that it emphasizes the personal factors which may contribute to work satisfaction or dissatisfaction (Stamps & Piedmonte, 1986).

Building on the inadequacies of need fulfillment theory, social reference group theory, also known as equity theory, suggests the importance of reference groups to understanding work satisfaction. Social reference theory holds that job satisfaction is a function of the characteristics of the job that meet the desires of those groups of workers to which workers look for guidance in evaluating their own reality (Korman, 1977). Theorists such as Hulin and Blood (1968) argued that an understanding of the groups to whom the individual relates is critical to understanding of job satisfaction. Klein and Maher (1966) examined the relationship of educational level and pay and emphasized the importance of reference groups. They found that college-educated managers were less satisfied with

their pay than non-college educated managers. They suggested that the college-educated managers had higher expectations of their pay because of their education and that they related their salary to a different reference group, namely a highly educated. highly paid group. On the other hand, the non-college educated managers compared their salaries to other non-college educated and lower paid individuals.

Researchers such as Korman (1977) and Locke (1976) question the contribution reference group theory makes to the understanding of job satisfaction. Both argue that individuals differ in the reference group they choose because of their own personalities. Korman (1977) suggested that individuals most influenced by their reference groups are those with low self-esteem. Locke (1976) argued that expectations based on reference groups must be supplemented by a knowledge of personality factors and of individual needs and values in any determination of what a person considers equitable in terms of job satisfaction. He emphasized the importance of the value a person places on their reward(s) as a determinate of satisfaction or dissatisfaction.

Viewing job satisfaction in relation to individual expectations, needs, and values is complex. The role of

expectations in determining job satisfaction or dissatisfaction is unclear and controversial, further revealing the complexity of the phenomenon. But what is clear is that a knowledge of the expectations of individuals in relation to their job is of considerable significance in understanding how people behave in their jobs (Gruneberg, 1979).

Researchers continue to examine the role of individual needs, expectations, and individual traits in determining job satisfaction (Rice, Bennett, & McFarlin, 1989; Roberson, 1990; Stow & Ross, 1985). Stow and Ross (1985) studied the impact of individual traits on job satisfaction. They concluded that worker attitudes are a function of stable individual traits and not situational factors. Based on this finding, they cautioned proponents of work environment redesign and suggested that redesign may not be effective because of the impact of traits on job satisfaction. Gerhardt (1987), in direct opposition to the Stow and Ross (1985) study, investigated the impact of situational and trait factors on job satisfaction. His longitudinal study of 809 subjects found that changes in situational factors such as job complexity, pay, and status were important predictors of job satisfaction. The job complexity factor was the strongest predictor. In contrast

to Stow and Ross (1985), Gerhardt (1987) suggested that the overall level of job satisfaction may be increased by well designed personnel programs.

The recent studies of job satisfaction serve as evidence of the lack of consensus about the nature of this complex phenomenon. According to Stamps and Piedmonte (1986), occupational sociologists have raised more issues than they have resolved in studies of job satisfaction. However, the issues raised by the studies conducted in business and industry have been beneficial to the understanding of job satisfaction in other disciplines such as nursing.

Job Satisfaction in Nursing

In order to better facilitate retention and recruitment in the field of nursing, there has been a resurgence of interest in factors which contribute to job satisfaction of nurses. Nahm (1940) published the first reported study of job satisfaction in nursing. Based on Maslow's hierarchy of needs, the study attempted to identify the social and psychological needs of staff nurses which related to job satisfaction. The study involved interviewing 275 graduate nurses about their adjustment from school to work and what work attitudes influenced a satisfactory transition. The nurses in the study

identified interpersonal relations, work itself, and supervisor-technical interaction as factors influencing the level of job satisfaction.

Pickens and Tayback (1957) published the results of a survey conducted to analyze problems responsible for high turnover rates and vacant positions in public health agencies. A total of 139 public health nurses employed by the Baltimore City Health Department were the subjects surveyed. The findings revealed that the majority of nurses were dissatisfied with salary, number of non-nursing tasks, and lack of opportunity for advancement. One year later, Diamond and Fox (1958) summarized the results of five studies conducted to determine the causes of turnover among hospital staff nurses. The five studies were conducted between 1948 and 1955 and utilized either the interview or survey method. The nurses in the studies cited two categories of factors which contributed to resignations: individual and job-related factors. Individual factors including personal reasons such as home and family plans, leaving the area, and educational plans accounted for 66% of resignations. Job-related factors including aspects of job satisfaction and accepting another position were reported as the reason for resignation in the remaining 34% of the respondents. The authors concluded

that resignations related to individual factors were probably unavoidable, but that at least one-third of the turnover might be alleviated if conditions of employment were made more satisfying.

Dissatisfaction with performing nonprofessional tasks was reported by Maryo and Lasky (1959) in the results of a job satisfaction survey. A sample of 57 staff nurses working in a 500-bed midwestern hospital was surveyed in an effort to determine reasons for a severe shortage of nursing personnel. Specifically, nurses complained about performing non-professional tasks such as clerical work, transporting equipment, and housekeeping duties.

Smith (1959) investigated tasks which interrupt delivery of nursing care by hospital staff nurses. They recorded interruptions experienced on four nursing units with a total of 252 patients. The greatest number of interruptions related to obtaining and maintaining equipment. Obtaining additional information about patients because of inadequate communication by co-workers and physicians and searching for assistance for patient care were also noted as time-consuming interruptions.

In a study to assess the validity of Herzberg's motivation-hygiene theory, White and Maguire (1973) identified factors which contributed to the satisfaction

and dissatisfaction of nursing supervisors. Data were collected from a sample of 34 hospital supervisors using Herzberg's semi-structured interview method. The motivators of work itself, possibility for growth, and recognition were reported more often in relation to satisfying work experiences. The supervision-technical factor was associated most often with events causing dissatisfaction. The researchers concluded that "feelings of job satisfaction were promoted by having the opportunity for creative, challenging, and role-appropriate work; by acts of recognition; and by a chance to advance in the supervisors' own skills and profession" (White & Maguire, 1973, p. 28). They also suggested that the supervisors were more concerned with job content, or the substance of the work performed, than with the job context, or the work environment. They advocated structuring the work environment and the work itself to provide opportunities for nurses to realize their full potential. To accomplish this they recommended manipulating the motivating components of the work content, such as limiting the time spent on non-nursing activities and vertically loading the job to promote psychological growth. Although the researchers suggested focusing efforts on the motivators to improve job satisfaction, they cautioned that the hygiene

factors not be overlooked. Hygiene measures do not produce long-term job satisfaction like motivators do, but they may decrease the amount of dissatisfaction experienced in a job.

McCloskey (1974) studied the importance of rewards and incentives in a group of 94 staff nurses. The most important rewards involved psychological needs, such as educational opportunities, job responsibility, recognition for work done, participation, possibility for advancement, and research opportunities. Second in importance were safety rewards including salary, benefits, time off, and scheduling issues. Lastly, nurses in the study ranked the social rewards and incentives such as relationships with co-workers and supervisors and the opportunity to share opinions, as well as maternity leave and child-care facilities. Other researchers (Godfrey, 1978b; Kramer, 1969) during this time period also found psychological and professional growth to be of importance to nurses' job satisfaction. Kramer (1969) found professional growth to be related to a positive perception of the work situation in a study of graduate nurses. In a survey of 17,000 respondents, Godfrey (1978b) reported professional growth to be the highest ranked need of nurses. Other factors in this survey which were highly correlated with work

satisfaction were feelings of accomplishment at the end of the day, adequate staffing, authority to do the work the way it should be done, and appropriate scheduling.

In a continued effort to understand the factors which contribute to the satisfaction of nurses with their jobs, Everly and Falcione (1976) investigated the perceived dimensions of job satisfaction among 144 staff registered nurses. The results of their study revealed four independent factors related to the nurses' job satisfaction. Factor one, relationship orientation, accounted for the greatest variance. According to the authors, this factor "suggests that nurses' relationships with their co-workers, immediate supervisor and general supervisory personnel are of the utmost importance" (p. 347). The second factor, work rewards, "suggests that intrinsic satisfactions gained from the work itself through the development and use of new skills and abilities are extremely important to nurses" (p. 347). The environment or working conditions were included in this factor by the researchers. The third factor, work rewards, included tangible rewards such as pay, benefits, and opportunities for advancement. The fourth significant factor was identified as administrative policies, including hospital policies and recognition for past service.

In the late 1970s and into the 1980s, studies to determine factors which contributed to the turnover of nursing staff proliferated. Job satisfaction, considered to be a factor in turnover, was studied intensely as health care institutions competed for nurses. Seybolt, Pavett, and Walker (1978) conducted a study in a 310-bed university hospital with a record of high turnover of nursing staff to determine if voluntary turnover could be predicted. The study sample included 242 nurses of which 80% were registered nurses (RNs) and 20% were licensed practical nurses (LPNs). The findings of the study revealed that there was a significant difference in the attitudes of the nurses who remained at the hospital (stayers) and those who resigned (leavers). The leavers expressed significantly lower levels of satisfaction in four categories: overall satisfaction, satisfaction with supervision, satisfaction with the chance to use one's abilities, and satisfaction with the freedom from tension and pressure. The researchers indicated that the motivation to leave in this group was "dominated by a frustration of their needs for growth and development on the job" (p. 9). They suggested that changes which could prevent this turnover might involve job and responsibility redesign, which are well

within the scope and responsibility of nursing administration.

In another attempt to predict turnover, Hinshaw, Smeltzer, and Atwood (1987) tested a five-stage theoretical model which specified organizational and individual factors predicted to influence job satisfaction, plus anticipated and actual turnover of nursing staff. The organizational factors investigated were group cohesion, control over practice, and autonomy. The concepts of job stress, organizational work satisfaction, and professional job satisfaction were also studied. Results of the study indicated that anticipated turnover was moderately predicted by organizational and professional job satisfaction, group cohesion, and initial expectation of tenure. "A major finding was that job satisfaction buffered job stress while job stress had no direct effect on anticipated turnover, but only influenced job satisfaction" (p. 11). Job stress was found to be the strongest predictor of professional job satisfaction, while control over practice and group cohesion influenced organizational job satisfaction.

Based on the overall results of the study that emphasize the buffering affect of satisfaction on job stress, Hinshaw et al. (1987) proposed organizational

strategies for retaining nurses. Orientation and cross-training were suggested that would increase feelings of competency and group cohesiveness. Strategies to increase unit identity and also group cohesiveness included teaching principles of group dynamic to nurse managers, promoting group communication and leadership abilities of nurse managers. Professional growth activities of continuing education, research projects, recognition of achievements, committee responsibility, and career mobility were also proposed.

In response to the nursing shortage in the state of Texas in 1980, the Texas Senate Special Committee on Delivery of Human Services requested that a study be conducted to determine factors associated with nurse unemployment and to suggest ways to attract non-working nurses back into the workforce. Wandelt et al. (1981) published the findings of the study which revealed that nurses leave nursing and do not return because of working conditions which interfere with their practice of nursing. Quantitative data for the study were first collected from questionnaires of 3,500 respondents. Then qualitative information was gathered during interviews of 30 hospital nurses and from a day-long conference of interested

persons. The sample included employed as well as unemployed nurses.

This study ranked 10 job conditions with which the largest number of employed nurses were dissatisfied:

1. Availability of adequate salaries.
2. The amount of paperwork.
3. Support given by administration of the facility.
4. Opportunity for continuing education.
5. Adequacy of laws regulating the practice of nursing in Texas.
6. Support given by nursing administration.
7. Availability of acceptable childcare facilities.
8. Availability of inservice education.
9. Availability of fringe benefits.
10. Competence of non-registered nursing staff.

A high percentage of non-employed nurses listed the same items as reasons for leaving nursing. In addition, they ranked other items high on the list: family responsibilities, unavailability of desired work schedule, environment that does not provide a sense of worth as a member of the health care team, lack of positive professional interaction with physicians, and no emphasis placed on individualized patient care (Wandelt et al., 1981).

Studies continued throughout the 1980s as the nursing shortage worsened and health care facilities struggled to retain and recruit nurses. The results of hospital employee opinion surveys since 1980 were summarized by Baird (1987). Approximately 100 hospitals and 125,000 employees were surveyed annually. Responses from nursing personnel were analyzed at time periods before the implementation of diagnostic related groups (DRGs), post DRGs, and at the present time. Job satisfaction was one of the issues which emerged as central to the study. A 7-point scale unnamed by the researcher was used to measure the satisfaction with work life of staff nurses and nurse managers. Both groups reported a decrease in job satisfaction over all points in time measured. The nurse managers expressed a level of job satisfaction below that of their staff.

Based on these findings, Baird (1987) emphasized strategies to increase the satisfaction of nurse managers. Suggested strategies were: increased pay for managers to reduce salary compression between supervisory staff and subordinates, management training focused on problem resolution, employee assistance programs to provide support to nurse managers, and open concern for improving morale. The researcher believes that the major finding of the study

suggests that by improving the morale of nurse manager, changes in the attitudes of staff nurses will occur, thus increasing organizational effectiveness.

Recognizing the complexity of measuring job satisfaction in nurses and the serious consequences of turnover to health care organizations, Mottaz (1988) examined the work attitudes of 312 registered nurses working in four large hospitals. His research was part of a larger project measuring work attitudes of 1,615 employees representing eight occupational groups. This allowed the investigator to compare the work satisfaction of the nurses to several other occupational groups. The study indicated that the level of job satisfaction increased from blue-collar to professional occupations. Overall, the workers in the sample reported a moderate to high level of job satisfaction.

The results of the study specific to nurses were:

> (1) nurses report a moderate level of work satisfaction, (2) the level of satisfaction among nurses tends to be somewhat lower than in other professional occupations included in the study, and (3) the major determinants of work satisfaction are supervisory assistance, task significance, task involvement, task autonomy, and salary. (p. 64)

Other recent studies have focused on a variety of factors which influence job satisfaction, Larson, Lee, Brown, and Shorr (1984) found that job satisfaction could

be predicted by nurses' job expectations and the importance they placed on various components of the work situation. Zantra, Eblen, and Reynolds (1986) studied the relationship of stressful job events, task interest, and quality of work life. They found that turnover was predicted by both the number of stressors on the job and a lack of interest in tasks. Job characteristics as determinants of job satisfaction, performance, absenteeism, and turnover were examined by Roedel and Nystrom (1988). Significant relationships were found between job satisfaction and task identity, autonomy, and feedback from the job.

Interest in the job satisfaction of nurses is evident from this review of the literature as is its complex nature. No definitive solutions for improving the job satisfaction of nurses can be derived from the studies which have been done, but several provocative strategies have been proposed. A common theme throughout the literature is the nature of the work which nurses perform and how their time is spent. This will be further addressed in the next section as literature related to non-nursing tasks is presented.

Non-nursing Tasks

The nursing shortage experienced in the late 1980s and continuing today has forced health services administration,

and particularly nursing administration, to implement strategies to recruit, retain, and effectively utilize the services of professional nurses. Literature reviewed in the previous section serves to challenge nursing administrators to design jobs which will be satisfying to nurses and at the same time meet the array of patient care needs. Research reports (Everly & Falcione, 1976; Ford, 1973; Hackman, 1977; Herzberg, 1966) have called for the redesign or enrichment of jobs to increase worker satisfaction. This section will review literature related to the nature of the job which nurses perform, focusing on non-nursing tasks which nurses frequently are required to carry out.

Early studies of job satisfaction in nursing (Maryo & Lasky, 1959; Pickens & Tayback, 1957; Smith, 1959) described the dissatisfaction nurses experienced as the result of performing non-nursing tasks. White and Maguire (1973) recommended limiting the time spent on non-nursing tasks to allow nurses to realize their full potential and increase their psychological growth.

A series of articles appearing in the American Journal of Nursing in 1982 further defined the relationship of non-nursing tasks to job satisfaction of nurse and outlined strategies for decreasing nursing's role in these

functions. Byrnes (1982) reported the results of a survey performed at the author's hospital which identified non-nursing functions regularly performed by the nursing staff. The tasks fell into five categories: housekeeping, clerical, transportation, dietary, and miscellaneous.

Byrnes (1982) reported recommendations for decreasing nurses' time spent in each category. The strategies involved a renewed reinforcement of roles and responsibilities of the ancillary staff already in place to support nursing personnel. The author suggested that the nursing staff performed many non-nursing functions simply because at times it was easier for them to do it themselves. A system was also devised to improve interdepartmental communication to improve the functioning of each ancillary department to better support nursing units.

As a follow-up to Byrnes' (1982) suggestions, the vice-president of nursing and the hospital chief operating officer reported the role of administration in support of decreasing the number of non-nursing tasks performed by nurses. Sweeney and Hoffman (1982) emphasized the importance of support from top level hospital administration to successfully implement a change to decrease non-nursing functions performed by nurses. The

vice-president of nursing developed a plan to eliminate 40% of the non-nursing previously performed.

Davis (1982) presented the results of a survey conducted by the American Journal of Nursing to determine which tasks routinely performed by nurses were considered non-nursing and how performance of these tasks related to their job satisfaction. The results of the survey included information from 6,939 respondents. Readers were asked to evaluate 51 tasks by reporting how often each task was performed and whether it was considered to be a nursing function. Respondents were also asked to rate their job satisfaction and indicate whether or not it was affected by the performance of non-nursing tasks. Ninety to ninety-eight percent of the respondents designated such tasks as cleaning the refrigerator, transporting lab specimens, ordering laundry, filling out reports that do not require nursing knowledge, and cleaning sinks as non-nursing functions. Eighty percent to 87% of the respondents listed tasks such as stamping charts, moving equipment, and scheduling clinic appointments as non-nursing. Ninety-two percent of those surveyed stated that their job satisfaction was affected to some extent by the number of non-nursing functions performed on the job. The survey

also indicated that respondents on average were carrying out 90% of the non-nursing tasks identified by the survey.

Vestal (1989) contended that during the current nursing shortage, the valuable time of registered nurses (RNs) is being consumed by non-nursing activities. She suggested that RN roles be redesigned to eliminate what they do not need to do and that delivery systems be established to support the new roles. Eastaugh and Regan-Donovan (1990) provided evidence to support this charge. They reported that registered nurses working in a metropolitan hospital spent 41% of their workday performing non-nursing tasks such as delivering meal trays, housekeeping, obtaining supplies and equipment, and clerical work. One year after implementing a nurse-extender program, the time nurses spent in these activities decreased to only 13% of their time. The nurse extenders, who are supervised by registered nurses, assume the responsibility for performing the non-nursing tasks. The benefits of this program were reported to improve the morale of the RNs as well as the fiscal situation. One nursing budget was reduced by 9.3% even though a salary increase of 12.5% was given to registered nurses.

Hendrickson, Doddato, and Kovner (1990) supported the contention that nurses spent a substantial amount of time

performing non-nursing tasks with their work sampling study done to determine how nurses spent their time. They found that nurses on six different services in a metropolitan hospital spent an average of 31% (2.5 hours) of their 8-hour shift with patients. The study revealed that 45% of their time was spent on indirect patient care activities such as charting (11%), preparing therapies such as medications (10%), participating in shift report (9%), interacting with other professionals (8%), checking physician's orders (3%), and miscellaneous clinical activities such as checking the emergency cart or counting narcotics (4%). Non-clinical activities such as paperwork, phone communications, and obtaining supplies accounted for 10% of their time. An additional 13% was spent in activities such as meals, breaks, and personal conversation. Based on these findings, the researchers proposed three strategies to increase nurses' time for patient care activities. "These are increased use of support personnel, increased support from the pharmacy department, and use of computers for clinical and communication tasks" (p. 35).

Following a staff nurse survey in a community hospital which identified non-nursing duties as the least satisfying aspects of the nurses' job, Hamm-Vida (1990) examined the

amount of time spent on non-nursing activities. The study focused on the hospital's Resource Person (RP), a position which evolved from the house supervisor and functions as a designee of the Chief Nurse Executive. The pilot study, conducted on the night shift, determined that the RPs were spending from 1 to 5 hours on non-nursing functions, most of which were related to delivering unit dose medications after the pharmacy closed. During the 28-day pilot, the cost to the nursing division to perform these duties was $1,137. The author reported this to be an annual cost of $14,830.14.

The study was replicated on the day and evening shifts. Secretarial activities accounted for the majority of the non-nursing tasks performed on these shifts. Medical record activities, transportation, and electrocardiogram services were also performed by the RP. The author reported a range of nursing salary expenditures for non-nursing activities performed from $100,000 to $200,000 per year. Projected annual savings to the hospital for "reallocation of non-nursing activities to their respective departments are between $73,087 and $178,102" (p. 51). In response to this study, the job descriptions of all hospital RNs were redefined and studies continued to monitor the non-nursing activities which

consumed nurses' time. The study promoted the expansion of the pharmacy hours to 24 hours a day and a renewed emphasis on placing departmental tasks back into the appropriate area of responsibility.

Hendrickson and Doddato (1989) contended that nurses choose among the tasks they are required to perform in a given time period because there simply is not enough time to complete all of them. Their study of 206 hospital nurses assessed nurses' perceptions of appropriate nursing functions, choices made among competing tasks when the day gets busy, and tasks nurses would like to spend more time on. The study demonstrated a discrepancy between the higher order tasks, which the nurses considered essential to their role as professional nurses, and the activities they actually performed. The nurses in this study reported that the two activities they would most like to spend more time on were patient education and psychosocial care for patients and families. The researchers suggested that nursing administration take steps to reduce the number of non-nursing functions performed by nurses by providing support services to allow professional nurses to perform the tasks they consider important to quality patient care.

To improve jobs for nurses, Vestal (1989) warned that nursing administration not repeat the mistakes made in the

past regarding changes in the RN's role. She emphasized a methodological approach to job redesign including a method to determine what nurses want and do not want as components of their jobs. This will also help to identify the non-nursing tasks that consume valuable time. In considering redesigning of nurses' jobs, Vestal contended that nursing organizations want the RN job to: "Improve patient care, both in quality and effectiveness, increase the professionalism of nurses, and upgrade overall worklife, performance and satisfaction of the organization" (p. 26).

In conclusion, studies related to the work which nurses perform, specifically related to non-nursing tasks, have been reviewed. With the current nursing shortage, there is evidence of growing interest in changing nurses' jobs so that their skills are used more effectively. It is the goal of many such efforts to increase the satisfaction of nurses by allowing them to perform to their maximum capability. In so doing, the quality of patient care will increase as will organizational effectiveness.

Summary

This chapter has summarized the research related to the historical development of job satisfaction in nursing and non-nursing tasks. From the early studies of satisfaction among workers in industry, several theories

have evolved which have been applied to the understanding of this complex concept. Herzberg's (1966) motivation hygiene theory, job characteristic theory (Lawler & Hackman, 1971; Oldman, 1976), and need fulfillment theory (Locke, 1971; Vroom, 1964) are among the major ones.

Job satisfaction studies related to nursing have built upon these early studies and theories in an attempt to understand the factors important to the work satisfaction of nurses. In recent years, the number of studies has grown to include a varied and extensive range of factors affecting nurses' job satisfaction. The strategies suggested to improve the satisfaction of nurses to retain their interest in their work and in the profession has also proliferated. A renewed interest has been placed on the design and redesign of nursing jobs to better utilize the skills which nurses have been educated to apply to patient care settings.

CHAPTER III

PROCEDURE FOR COLLECTION AND TREATMENT OF DATA

A correlational study was conducted using surveys as the data collection method. This type of design is appropriate when the researcher: (a) has no control over and cannot manipulate the independent variable, (b) cannot randomly assign subjects to groups, and (c) must describe a relationship between variables and not infer a cause-and-effect relationship (Polit & Hungler, 1987).

This design was selected for this study because the independent variable, amount of time spent performing non-nursing tasks, was not manipulable by the investigator. Nurses in the study were working in various settings with pre-existing roles and functions that may not be altered. They could not be randomly assigned to any group for this study. Establishing a correlation between the amount of time spent performing non-nursing tasks and job satisfaction was done only to describe a relationship between these two variables because other variables may have contributed to the level of job satisfaction.

Setting

The questionnaire packets were sent to the homes of CNNs selected for the study. Participants completed the questionnaires in the setting of their choice. The Nephrology Nursing Certification Board mailing list of CNNs included all nurses who hold a current certification in all regions of the United States.

Population and Sample

The target population for this study was all registered nurses who work or have worked in nephrology nursing. The total number of nurses in the universe of this specialty is unknown. The American Nephrology Nurses Association (ANNA), the professional organization for nephrology nurses, has a membership approaching 6,000. Requirements for membership are simply that an individual must be an RN who works or is interested in nephrology nursing and pays an annual membership fee.

The accessible population for this sample consisted of approximately 1,500 registered nurses who had passed the NNCB examination and held a current certification at the time of the study. This group was selected because they represented all areas of nephrology nursing, have met similar eligibility criteria to sit for the NNCB exam, and have demonstrated that they have a common knowledge base in

the specialty as demonstrated by a passing score on the exam. To be eligible to sit for the NNCB exam, a nurse must possess a current, valid RN license, and must have documented at least 2 years of experience in nephrology nursing. No educational requirement was specified. Using this population, as opposed to the ANNA membership, helped establish common characteristics among the subjects and identifies the extent of their knowledge in the specialty.

The sample for this study was selected by first obtaining the list of CNNs from the Nephrology Nursing Certification Board. From this list of approximately 1,500 CNNs, 300 names were randomly selected by the investigator. The 300 individuals selected were sent the questionnaire packet. The sample consisted of 147 CNNs who completed and returned the questionnaires.

Protection of Human Subjects

To protect the rights of human subjects involved in this study, the following measures were taken:

1. The research proposal was reviewed by the research committee. This study fell within Category I because it used an anonymous questionnaire (Appendix A).

2. Permission to conduct the study was obtained from the graduate school of Texas Woman's University (Appendix B).

3. Participation in this study was voluntary. A cover letter attached to the questionnaires stated the purpose of the investigation and that participation in the study was voluntary (Appendix C).

4. The information was reported as group data to assure confidentiality. If participants wished to receive results of the study, they wrote to the researcher at the address provided in the letter.

Instruments

Three instruments were utilized in this study. The dependent variable, the level of job satisfaction, was measured using the Index of Work Satisfaction (IWS) (Appendix D). The independent variable, the amount of time spent performing non-nursing tasks, was measured by the Non-nursing Task Survey (NTS), developed by the researcher (Appendix E). A demographic data sheet (Appendix F) was also included to describe characteristics of the nurses participating in the study.

The IWS was selected to measure job satisfaction because it incorporates components of job satisfaction based on Herzberg's satisfiers and dissatisfiers: pay, autonomy, task requirements, organizational requirements, interaction, job prestige/status, and physician-nurse relationship. The instrument was developed by Slavitt,

Stamps, Piedmonte, and Haase (1978) to measure the level of job satisfaction among health professionals. The IWS is a published tool which required permission from the publisher to use for this study (Appendix G).

The IWS consists of two parts. Part A is a paired comparisons scale that measures the relative importance of each of the components of job satisfaction to the individual. Part A consists of 15 items and allows the researcher to rank the order of importance of each component to job satisfaction. Part B is a 48-item attitude questionnaire which measures the level of satisfaction for each of the components. It is designed as a 7-point Likert-type scale with choices ranging from disagree to agree and includes a neutral midpoint. The items are randomly arranged and half of the items in each category are positively phrased and half are phrased negatively. The scale allows a separate satisfaction score for each subpart to be determined and then summed to obtain the overall Index of Work Satisfaction score (Stamps & Piedmonte, 1986).

The IWS has been subject to extensive empirical validation and subsequent revision since 1978 and has been published as a tool that measures the job satisfaction of nurses (Stamps & Piedmonte, 1986). These authors state

that "the IWS is designed to be translated into some type of organizational action based upon the understanding gained from the questionnaire" (p. 54).

Internal reliability of the IWS was measured by Cronbach's alpha and Kendall's tau. Validity was measured by factor analysis. Kendall's tau measures the strength of correlation between the weighted score (the IWS) and the unweighted summed score of the attitude part of the questionnaire. The result on the final study of the index was .9213. Cronbach's alpha, a split-half reliability technique, had a value of .82. Factor analysis using the method of principle component analysis with varimax rotation produced 12 factors that accounted for 62% of the variance (Stamps & Piedmonte, 1986).

The IWS was scored according to the directions given by Stamps and Piedmonte (1986). There are three basic steps involved in the computation of the IWS:

1. Scoring Part A (Paired Comparisons) requires three steps:

    a. Developing a frequency matrix which shows the frequency with which the respondents choose one component of each pair over the other. This was represented in table form.

b. Creating a proportion matrix uses the information in the frequency matrix to take the reciprocal of the total number of individuals doing the judgments (1/n). Each of the cell values from the frequency matrix is multiplied by the value of 1/n to obtain the cell values in the proportion matrix.

c. The Component Weighting Coefficient or scale value for each component is a z matrix of normal deviates. The z values are obtained by using Edwards' table of Normal Deviates z Corresponding to Proportions p of a Dichotomized Unit Normal Distribution. The component weighting coefficient represents scale value for each component in terms of its deviation from the mean of all the scale values. Statements with negative scale values are judged to be less favorable than the average of the scale values of all statements. Those with positive scale values are judged to be more favorable than the average. The component weighting coefficient is the summary number for Part A. It is used to rank the components in order of importance, and this value is then used in computing the IWS.

2. Step 2: Scoring Part B (Attitude Scale).

a. Each item is scored from 1 to 7 points on a scale from strongly disagree (1) to strongly agree (7). The scale is constructed according to the Likert format so half of the items are worded negatively and half are worded positively. The scoring must be reversed on the negatively worded items.

b. The Total Scale Score is a summation of all 44 attitude items and gives an overall score to use as a rough comparison. The range of possible total scores is from 44 to 308.

c. The Total Scale Mean is derived by dividing the total scale score by the number of items (44).

d. The Component Total Score is a summation of the scores of responses to those items measuring a specific component.

e. Component Mean Score for each component is calculated by dividing the total component score by the number of items contained within that component.

3. Calculating the IWS.

a. To calculate the final weighted value, the component weighting coefficient from Step 1 is multiplied by the mean score in Step 2. This

gives a weighted value for each of the components that considers both the level of importance and the current level of satisfaction.

b. In order to calculate one value for an overall IWS, the weighted values for each component are summed up and divided by 6 (the number of components). This will give each respondent one total summary figure.

A second questionnaire, the Non-nursing Task Survey (NTS) was used to measure the amount of time spent performing non-nursing tasks. This questionnaire was developed by the researcher with the assistance of a panel of nephrology nursing experts. The first step in the development of the questionnaire was the identification of non-nursing tasks which nephrology nurses commonly perform. This was accomplished by first identifying non-nursing tasks from the literature and from job descriptions of nephrology nurses.

The non-nursing tasks from the literature and job descriptions for nephrology nurses were compiled into a draft questionnaire which the researcher asked five expert nephrology nurses to review. The five experts represented all areas of nephrology nursing: hemodialysis, peritoneal dialysis, and transplantation. They were managers,

educators, and clinicians with at least 10 years of experience in the specialty.

The experts were asked to rate whether the tasks were (a) definitely nursing; (b) definitely nursing, but may be delegated to another worker; (c) undecided; (d) not nursing, but not unrealistic to expect nursing to perform; (e) definitely not nursing. Reviewers were also asked to add tasks which they considered to be non-nursing (Appendix H).

Comments received from this group were used to revise the list of non-nursing tasks. The revised survey was sent once again to the panel of experts. The results from this group were used to compile a final list of tasks which were considered to be non-nursing. This list was used to develop the final tool (the NTS survey) to measure the amount of time spent performing non-nursing tasks.

A demographic survey was also included with the questionnaire packet. The questions on this survey related to age, marital status, education, years in nephrology nursing, area of employment in nephrology nursing (hemodialysis, peritoneal dialysis, transplantation), type of facility (free-standing or hospital-based), and position (staff nurse, educator, head nurse, etc.). Stamps and Piedmonte (1986) contended that the variables of age,

marital status, and education are regularly identified as being important when examining the level of job satisfaction. Herzberg (cited in Stamps & Piedmonte, 1986) noted that high levels of satisfaction seemed to be related to age, job tenure, and job level.

Data Collection

After approval by the Texas Woman's University for this study, the investigator wrote the Nephrology Nursing Certification Board (NNCB) for permission to obtain the list of CNNs. The researcher then completed preparation of the questionnaire packets for mailing. The questionnaire packets contained the IWS, the NTS, a demographic data sheet, the cover letter, and a pre-addressed and stamped envelope for return to the researcher. Prepared questionnaire packets were sent to all names on the list of CNNs with a request to return the forms in 2 weeks. Returned questionnaires were sent to the researcher's home and anonymity of subjects was maintained. The researcher reviewed all questionnaires to assure usability.

Treatment of Data

The demographic data were summarized using descriptive statistics such as measures of central tendency and frequency distributions. The IWS was computed for each

participant and a mean IWS was computed as described previously.

Next, the amount of time spent performing non-nursing tasks was calculated for each returned, usable questionnaire. This was measured in time and was treated as ratio level data. The total amount of time calculated in minutes per day was determined for each subject. This total of time which each individual spent performing non-nursing tasks was correlated with the level of job satisfaction as measured by the IWS for each subject in the study. The Pearson product moment correlation coefficient was used to establish whether a relationship existed between the two variables. Polit and Hungler (1987) stated that "this coefficient is computed when the variables being correlated have been measured on either an interval or ratio scale" (p. 386). Data were analyzed to accept or reject the hypothesis using the .05 level of significance.

CHAPTER IV

ANALYSIS OF DATA

This chapter presents the findings of the study related to the analysis of data. Information obtained from the 147 questionnaires returned included the Index of Work Satisfaction, the Non-nursing Task Survey (NTS), and demographic data. The findings are reported as structured by the hypothesis established for the study. A summary of the findings concludes the chapter.

Description of the Sample

Certified Nephrology Nurses (CNNs) who completed the mailed questionnaire packet comprised the sample for this study. Of the 162 (54%) questionnaires returned, 147 (49%) contained sufficiently complete information for use in data analysis. The demographic variables for this sample (N = 147) are summarized in Table 1.

Characteristics of this sample evident from the demographic data indicate that this group of nurses was a mature group, experienced in the specialty of nephrology nursing. The age group demographics reveal that 63% of the group were over 36 years of age, with the largest number (49%) indicating that they were over 40 years old. The

Table 1

Demographic Data of Sample

Variable	Number	Percentage
Age group:		
18-23 years	0	0
24-29 years	6	4
30-35 years	49	33
36-40 years	20	14
over 40 years	71	49
Marital status:		
Single	22	15
Married	108	74
Divorced	11	8
Separated	2	1
Widowed	3	2
Education:		
ADN/ASN	34	23
Diploma	22	15
BSN	57	39
BS, other	12	8
MSN	14	10
MS, other	7	5
Ph.D.	0	0
Years in Nephrology Nursing:		
1 year	0	0
2 years	0	0
3 years	2	1
4 years	5	3
5-9 years	40	27
10-14 years	66	45
15-20 years	27	18
20+ years	6	4

(table continues)

Variable	Number	Percentage
Primary Modality:		
Conservative management	4	3
Transplantation	10	7
Hemodialysis	106	73
Peritoneal dialysis	20	14
Pediatric nephrology	4	3
All modalities	2	1
Position:		
Staff/clinical	48	33
Head nurse/nurse manager	41	28
Educator	14	10
Administrator	9	6
Clinical specialist	14	10
Coordinator/supervisor	19	13
Nurse practitioner	1	1
Place of employment:		
Hospital	85	58
Free-standing unit	53	36
School of nursing/university	2	1
Industry	1	1
Self-employed	0	0
Not employed	0	0
Other	5	3

N = 146.

Note. One subject failed to complete the demographic data sheet.

number of years in nephrology nursing indicates that the majority (66%) of this sample have had greater than 10 years experience in the specialty. Over 90% of the sample had over 5 years of experience in the specialty.

Review of the settings where the nurses in this sample work, indicated that the majority of the sample (73%) reported that hemodialysis was their primary modality, followed by peritoneal dialysis reported by 14% of the sample. Most of the nurses (58%) were employed in hospital settings and free-standing units (36%). Staff/clinical positions (33%) and head nurse/nurse manager positions (28%) were reported as the largest categories of positions held by this group of nurses. Demographic data regarding the educational preparation revealed that the BSN was the highest degree earned by 39% of the group, with diploma and associate degrees combined to yield 38% of the sample.

Findings

The research hypothesis investigated stated that there is an inverse relationship between the amount of time certified nephrology nurses spend performing non-nursing tasks and their level of job satisfaction. The independent variable, time spent performing non-nursing tasks, was determined by responses to the Non-Nursing Task Survey (NTS). The dependent variable, the level of job satisfaction, was measured using the Index of Work Satisfaction (IWS).

Time during the average work day (9.3 hours for this sample) spent on 23 non-nursing tasks was measured by the

Non-nursing Task Survey (NTS). Originally, the data related to time spent performing non-nursing tasks were calculated using the central tendency measure of the mean. This resulted in a mean time of 275 minutes (4.6 hours) or 50% of a 9.3 hour work day spent, on the average, performing non-nursing tasks. Further analysis of these data revealed a mean standard deviation of 199.24 for this measure of central tendency, probably resulting from the large number of zero, or low numbers reported as time spent on certain tasks. Therefore, it was decided to use the median as a measure of central tendency to provide a more accurate representation of time spent performing non-nursing tasks.

The time spent performing non-nursing tasks in an average work day as measured by median time on each task is represented in Table 2 for this sample. The average time spent on non-nursing tasks based on the median was 28% of the total work day for the entire sample. This value is further explained by the data summarized in Tables 3 and 4. The wide variations in the time reported as spent performing non-nursing tasks is evident when the lowest time reported and the highest time reported are analyzed by modality and position. These two tables demonstrate the mean times, the standard deviation of the mean and the

Table 2

Median Time Spent Performing Non-nursing Tasks

	Median time (minutes)	Median time (hours)	Percent of total work day
Length of work day	555.00	9.25	100.00
Stock/order supplies	10.93	0.17	1.97
Machine maintenance	0.73	0.01	0.13
Transport patients	0.74	0.03	0.31
Transport lab specimens	1.74	0.03	0.31
Complete records/non-nursing	21.50	0.36	3.87
Clean equipment	19.29	0.32	3.48
Answer phone	37.22	0.62	6.71
Locate wheelchairs/stretchers	0.86	0.01	0.15
Transport meds to/from pharmacy	0.72	0.01	0.13
Clean refrigerator	0.58	0.01	0.10
Clean sinks	0.41	0.01	0.07
Fill soap dispensers	0.56	0.01	0.10
Fill paper towel dispensers	0.58	0.01	0.10
Collect/distribute meals	0.67	0.01	0.12
Complete x-ray and lab requests	12.88	0.21	2.32
Clean-up after MD	0.86	0.01	0.15

(table continues)

	Median time (minutes)	Median time (hours)	Percent of total work day
Chart lab data	13.1	0.22	2.36
Enforce visiting rules	0.8	0.01	0.14
Machine set-up	15.75	0.26	2.84
Machine tear-down	15.2	0.25	2.74
Empty trash	0.69	0.01	0.12
Bag dirty linen	0.85	0.01	0.15
Spin hematocrits	0.67	0.01	0.12
Total percentage			28.49%

median score which was determined to be more accurate because of the wide variations in time reported.

Table 5 depicts the percentage of time spent performing non-nursing tasks for each position and modality based on the median scores in Tables 3 and 4 and the 9.25 hour median work day. The positions of staff/clinical nurses, administrators, and coordinators/supervisors spent over 50% of their work day performing non-nursing tasks. Nurses who worked in hemodialysis, peritoneal dialysis and pediatric nephrology reported the greatest amount of time.

Table 3

Time Spent (Total Minutes) Performing Non-nursing Tasks: Modality

Modality	n	%	Primary Modality Lowest score	Highest score	Mean	SD	Median
Conservative management	4	3	0	420	192.5	190.8	175.0
Transplantation	10	7	41	480	165.1	178.2	67.5
Hemodialysis	106	73	0	1425	305.3	212.6	277.5
Peritoneal dialysis	20	14	30	410	226.2	99.9	235.5
Pediatric nephrology	4	3	0	270	172.5	125.7	210.0
All	2	1	4	270	137.0	188.0	137.0

Table 4

Time Spent (Total Minutes) Performing Non-nursing Tasks: Position

Position	n	%	Positions		Mean	SD	Median
			Lowest score	Highest score			
Staff/clinical	48	33	65	1425	350.2	226.8	305
Head nurse/manager	41	28	0	750	231.9	167.4	190
Educator	14	10	0	690	208.5	207.6	140
Administrator	9	6	0	450	255.6	162.0	300
Clinical specialist	14	10	0	635	185.4	207.8	65
Coordinator/ supervisor	19	13	41	600	309.2	143.5	290
Nurse practitioner	1	1	270	270	270.0	0.0	270

Table 5

Percentage of 9.25 Hour Workday Spent Performing Non-nursing Tasks

Position	Median time	Percentage
Staff/clinical	305 minutes	55
Head nurse/manager	190 minutes	34
Educator	140 minutes	25
Administrator	300 minutes	54
Clinical specialist	65 minutes	12
Coordinator/supervisor	290 minutes	52
Nurse practitioner	270 minutes	49

Modality	Median time	Percentage
Conservative management	175 minutes	31
Transplantation	68 minutes	12
Hemodialysis	278 minutes	50
Peritoneal dialysis	236 minutes	43
Pediatric nephrology	210 minutes	38
All	137 minutes	25

The non-nursing tasks which nurses in this study spent the most time on were answering the phone, completing records not requiring nursing knowledge, cleaning equipment, machine set-up and tear-down, and stocking and ordering supplies. Again, this varied with modality and position worked as shown in Table 6.

Part A and Part B of the IWS were scored separately, to achieve a total satisfaction score according to the scoring method presented by Stamps and Piedmonte (1986). Part A measured the importance of six job components to the subjects by compared comparisons. The frequency matrix of responses of nurses to paired comparisons (Table 7) indicates the importance placed on each job component when compared to other components by subjects in this study. To facilitate interpretation of the data, the raw scores were reduced to a proportion value as summarized in Table 8. The final ranking of paired comparisons was derived by determining the component weighting coefficient from Part A of the questionnaire. This ranking of paired comparisons, presented in Table 9 along with the z values was used to determine the component weighting coefficient. The job components are ranked in Table 10 from the least important to most important. This rank order indicates that the nephrology nurses in this study ranked autonomy as the most

Table 6

Summary of Tasks by Major Modality

Task	Modality/Median Time		
	Hemodialysis	Peritoneal dialysis	Transplantation
Complete x-ray and lab requests	16 minutes	14 minutes	15 minutes
Answer phone	34 minutes	60 minutes	17 minutes
Complete records not requiring nursing knowledge	23 minutes	25 minutes	0 minutes
Chart lab data	9 minutes	18 minutes	25 minutes
Stock order supplies	10 minutes	15 minutes	0 minutes
Clean equipment	39 minutes	8 minutes	0 minutes
Machine set-up	48 minutes	--	--
Machine tear-down	26 minutes	--	--

Table 7

Frequency Matrix

	Pay	Autonomy	Task requirement	Organizational policies	Professional status	Interaction
Pay	0	113	48	31	78	45
Autonomy	34	0	18	17	32	33
Task requirement	98	131	0	66	112	104
Organizational policies	116	129	82	0	130	109
Professional status	70	114	33	17	0	61
Interaction	100	114	45	38	87	0

Table 8

Proportion Matrix

	Pay	Autonomy	Task requirement	Organizational policies	Professional status	Interaction
Pay	0	.769	.327	.211	.531	.306
Autonomy	.231	.000	.122	.166	.218	.224
Task requirement	.667	.891	.000	.449	.762	.707
Organizational policies	.789	.878	.558	.000	.884	.741
Professional status	.476	.776	.224	.116	.000	.415
Interaction	.680	.776	.306	.259	.592	.000

N = 147.

Table 9

Z-Matrix

	Organizational policies	Interaction	Task requirements	Professional status	Pay	Autonomy
Organizational policies	0.000	0.646	0.128	1.195	0.803	1.195
Interaction	-0.646	0.000	0.507	0.233	0.468	0.759
Task requirements	-0.128	-0.545	0.000	0.713	0.432	1.232
Professional status	-1.195	-0.215	-0.759	0.000	0.060	0.759
Pay	-0.803	-0.507	-0.448	-0.078	0.000	0.736
Autonomy	-1.195	-0.759	-1.165	-0.779	-0.736	0.000
SUM	-3.967	-1.380	-1.737	1.284	1.027	4.681
Mean	-0.661	-0.230	-0.290	0.214	0.171	0.780
Component weighting coefficient (+3.100)	2.439	2.870	2.811	3.314	3.271	3.880

Table 10

Rank Order of Importance of Components

Component	Component weighting coefficient
Organizational policies	2.439
Task requirements	2.811
Interactions	2.870
Pay	3.271
Professional status	3.314
Autonomy	3.880

important job component and organizational policies as the least important component.

The level of satisfaction with each job component was determined in Part B, consisting of 44 items on a 7-point Likert scale. The total scale score was calculated as a summation of all 44 attitude items with a range of possible scores being 44 to 308. A score below 155 indicates an overall warning about lower levels of satisfaction according to Stamps and Piedmonte (1986). For this sample, the range of scores was 108 to 272. The average total score was 205, indicating a moderate level of satisfaction among this group of nurses.

The total scale mean was then derived by dividing the total scale score by the number of items (44). The total scale score and total scale mean are summarized in Table 11. The total score for each of the six components was calculated as a summation of responses to items measuring each specific component. The score for each component and the mean component scores, the last step in scoring Part B of the questionnaire, are summarized in Table 11.

To calculate the final weighted value, the component weighting coefficient from Part A was multiplied by the component mean score in Part B. This gives a weighted value (adjusted component score) that represents the current level of satisfaction weighted by the level of importance of each component for this sample. This calculation and the results are presented in Table 12. The components are rank ordered from highest to lowest in importance and level of satisfaction based on the adjusted score. Autonomy and professional status were ranked the highest by the nurses in this study, and organizational policies and task requirements ranked lowest. The IWS for this sample was calculated to be 14.23.

To test the hypothesis, the Pearson product-moment correlation coefficient for the two variables, time spent performing non-nursing tasks and level of job satisfaction

Table 11

Part B, IWS Component and Total Scores

Component	Component scale score	Possible range of scores	Component mean score
Pay	23.44	6-42	3.9
Professional status	39.36	7-49	5.6
Interaction	50.70	10-70	5.0
Task requirements	22.24	6-42	3.7
Organizational policies	27.44	7-49	3.9
Autonomy	41.44	8-56	5.1
Total scale score	205	44-308	
Sample score range	108-272		
Total scale mean	4.6		

Table 12

Adjusted Component Score

Component	Component weighting coefficient (Part A)	Component mean score (Part B)	Adjusted score
Autonomy	3.880	5.1	19.8
Professional status	3.314	5.6	18.6
Interaction	2.870	5.0	14.3
Pay	3.271	3.9	12.8
Task requirements	2.811	3.7	10.4
Organizational policies	2.439	3.9	9.5

IWS = 14.23

was computed. The correlation coefficient was determined to be -.25 (t = -3.11, df = 145) which was significant at $p < .01$. Therefore, the hypothesis for this study was supported.

Summary of Findings

In this chapter, the demographic characteristics of the study sample of 147 CNNs were presented. The NTS indicated that the non-nursing tasks requiring the most time by the nurses in this study were answering the phone, completing records not requiring nursing knowledge, cleaning equipment, machine set-up and tear-down, and stocking and ordering supplies. The IWS indicated that, overall, this group of nurses was moderately satisfied with their jobs. It also revealed that autonomy was the most important job component for this group and organizational policies were the least important.

The Pearson product-moment correlation coefficient used to test the hypothesis revealed that there was an inverse relationship between the time spent performing non-nursing tasks and the level of job satisfaction of CNNs. The hypothesis for the study was supported.

CHAPTER V

SUMMARY OF THE STUDY

This research study was conducted to determine if there was an inverse relationship between the time spent performing non-nursing tasks and the job satisfaction of nephrology nurses. This chapter begins with an overview of the research study followed by a discussion of the findings of the study. Conclusions based on the findings and implications for the outcome of the study are presented. The chapter concludes with recommendations for further study.

Summary

The purpose of this study was to determine if a relationship existed between the amount of time spent performing non-nursing tasks and the level of job satisfaction of CNNs. Herzberg's (1966) motivation-hygiene theory provided the theoretical framework for the study. According to the motivation-hygiene theory, job satisfaction is strongly associated with the motivation of the work itself. Specifically, the theory suggests that motivators such as achievement, recognition, the work itself, responsibility, and advancement are strong

determinants of job satisfaction. An attempt was made in this study to explore one aspect of the work itself, time spent performing non-nursing tasks, as it related to job satisfaction.

This was a correlational study that used surveys mailed to the subjects' homes as the data collection instruments. The independent variable, time spent performing non-nursing tasks, was measured in minutes per average work day by the Non-nursing Task Survey (NTS) developed by the researcher. The dependent variable, job satisfaction, was measured by the Index of Work Satisfaction developed by Stamps and Piedmonte (1986).

Data were collected by mailing questionnaire packets to the homes of 300 Certified Nephrology Nurses (CNNs) selected for the study by random sample from a list of approximately 1,500 CNNs who lived throughout the United States. Participants completed the questionnaires in the setting of their choice. The sample consisted of 147 CNNs who completed and returned the questionnaires.

To test the hypothesis, the Pearson product-moment correlation coefficient for the two variables was computed. The correlation coefficient was determined to be -.25 which was significant at $p < .01$. The hypothesis for the study was supported.

Discussion of Findings

The findings of this study indicated that there was an inverse relationship between the time spent performing non-nursing tasks and the level of job satisfaction of CNNs. This finding supports Herzberg's (1966) motivation-hygiene theory in that motivators, such as the work itself, as strong determinants of job satisfaction, were related to a lower level of job satisfaction among the nurses in this study. The theory suggests that motivation factors describe a person's relation to what work is done: the job content, achievement of a task, recognition for task achievement, the nature of the task, responsibility for a task, and professional advancement or growth in task capability. In this study, the time spent performing non-nursing tasks related to the job content and the nature of tasks specifically. Herzberg's theory contended that the motivators lead to job satisfaction because of a need for growth and self-actualization. "This growth depends on the achievement of tasks that have meaning to the individual" (Herzberg, 1966, p. 98). Based on this theory, the performance of non-nursing tasks by nurses in this study implies that they are not accomplishing tasks which are meaningful to them and provide for their growth and self-actualization.

The results of this study also concur with early studies of job satisfaction among nurses. Nahm (1940) identified interpersonal relations, work itself and supervisor-technical interaction, as factors influencing the level of job satisfaction among 275 graduate nurses. A study of 139 public health nurses conducted by Pickens and Tayback (1957) identified the number of non-nursing tasks performed as a source of dissatisfaction for this group of nurses. Non-professional tasks such as clerical work, transporting equipment, and housekeeping duties were reported by Maryo and Lasky (1959) as a source of dissatisfaction among staff nurses.

The conclusions made by White and Maguire (1973) from their study which replicated Herzberg's (1959) original interview technique relate to the results of this study. The motivators of work itself, possibility for growth, and recognition were reported in relation to satisfying work experiences of nursing supervisors. The researchers concluded that "feelings of job satisfaction were promoted by having the opportunity for creative, challenging, and role-appropriate work" (p. 28). They advocated structuring the work environment to provide opportunities for nurses to realize their full potential. To accomplish this, they recommended manipulating the motivating components of the

work content, such as limiting the time spent on non-nursing tasks. The findings of the present study support the conclusions of White and Maguire (1973).

Several of the non-nursing tasks which were reported to occupy most of the average work day in this study correspond to those identified in the literature. Answering the phone, completing records not requiring nursing knowledge and stocking and ordering supplies were identified by Davis (1982) from a survey of 6,939 respondents as non-nursing tasks which affected job satisfaction adversely. Hendrickson et al. (1990) also reported that paperwork, phone communications, and obtaining supplies consumed a significant proportion of nurses' time at work.

Based on the findings of this study, the reported amount of time spent answering the phone leads the researcher to reconsider the non-nursing nature of this task. Nurses working in peritoneal dialysis and hemodialysis reported spending a median time of 60 minutes and 34 minutes, respectively, on the phone in an average work day. Because the responses to the NTS were based on the perceptions of nurses in the study, this may indicate not merely answering the phone, but actual time spent communicating on the phone.

The percentage of the workday spent performing non-nursing tasks for the entire sample in this study was determined to be 28% of a 9.25-hour workday based on the central tendency measure of the median. This supports results of other studies in the literature. Hendrickson et al. (1990), using a work sampling technique, reported that hospital nurses spent an average of 31% (2.5 hrs.) of their 8 hour shift with patients, and 45% on indirect activities. Eastaugh et al. (1990) reported that registered nurses working in a hospital spent 41% of their workday performing non-nursing tasks. Both of these studies reported time as a mean or average value, it is difficult to compare to the overall median value for this sample.

Interpreting the data in this study from the perspective of time spent performing non-nursing tasks according to modality worked and position held by nephrology nurses in this study reveals information more consistent with that reported in the literature.
When examining nurses in various job positions, percentages of the workday spent performing non-nursing tasks based on median data were determined to be 55% for staff/clinical nurses and 34% for head nurse/managers. When examining the modality data, hemodialysis and peritoneal dialysis nurses spent 50% and 42%, respectively.

The level of job satisfaction of nephrology nurses has not been reported in the literature prior to this study. The average total scale score (Part B) for the sample was 205 which indicates the overall satisfaction rate is 66% of the total possible score (308). Stamps and Piedmonte (1986) indicate that satisfaction is relative, and that the numerical values available at this time to compare scores on the most recent form of IWS used for this study are not yet standardized. They suggest using their published summary figures for comparison until norms are established. According to Stamps and Piedmonte (1986) a total scale score below 155 (50% satisfaction rate) indicates an overall warning about lower levels of satisfaction.

Nephrology nurses in this study ranked autonomy as the job component that was most important to them and also the component with which they were the most satisfied. This finding indicates that autonomy was important to this group of nephrology nurses and that their jobs were satisfying the need for autonomy. This corresponds to the results reported by Stamps and Piedmonte (1986) from data analyzed from core studies of the IWS. This also lends support to Herzberg's (1966) motivation-hygiene theory which contends that for individuals to achieve job satisfaction, they must have higher order needs such as autonomy met.

Organizational policies was ranked as the least important component and ranked lowest in terms of satisfaction. This also supports the results of the core studies of the IWS, which ranked organizational policies last in importance and fifth in satisfaction. This finding also supports the motivation hygiene theory since organizational policy would be considered an extrinsic or hygiene factor related to job context, that would not contribute to job satisfaction but could lead to dissatisfaction.

The IWS for the sample was 14.23, which is 2 points higher than the summary score (12.0) reported by Stamps and Piedmonte (1986). Although the total sample score indicates a moderate level of satisfaction, it should not be assumed that there is no need to improve the nurse's level of job satisfaction. Hinshaw et al. (1987) found in their study that job satisfaction buffered job stress, and should be enhanced as a strategy for retaining nurses.

Conclusions and Implications

Based on the findings of this study, the following conclusions are presented:

1. The CNNs in this study are moderately satisfied with their work.

2. The CNNs in this study who spend more time on non-nursing tasks are less satisfied with their jobs.

3. Autonomy is the most important and most satisfying job component for CNNs.

The following implications are based on the conclusions of this study:

1. Management staff should make routine assessments of the level of job satisfaction among nursing staff members to identify factors that will maintain and increase their satisfaction with their work.

2. Management should identify non-nursing tasks performed by nephrology nurses and delegate them to ancillary personnel to allow nurses time to perform tasks appropriate for their level of expertise.

3. Strategies to improve the job satisfaction of nephrology nurses should focus on providing autonomy in order to promote the higher order needs of this group.

4. Nurse managers and researchers should continue to identify which non-nursing tasks are performed by nephrology nurses that could be delegated to other personnel.

5. Nurse managers and researchers should further clarify nursing from non-nursing tasks to promote the

design of nephrology nursing jobs which fulfill the needs of nurses and meet patient care requirements.

Identifying factors which promote job satisfaction for nurses is a challenge for nurse managers and administrators. Strategies which promote long term satisfaction will prove most beneficial to individual nurses, health care providers, and to quality patient care. Meeting the higher order needs, such as autonomy, can form the basis for strategies to improve the job satisfaction of nephrology nurses.

Recommendations for Further Study

The following recommendations are based on the findings of this study:

1. A work sampling study should be conducted to determine the non-nursing tasks performed by nephrology staff nurses.

2. A work study should be conducted to compare the job satisfaction and job content of nephrology nurses working in different facilities.

3. Research studies should be conducted to determine non-nursing tasks in other nursing specialties.

4. This study should be replicated utilizing only clinical staff nurses as the sample.

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APPENDIX A

Research Review Committee Exemption Form

TEXAS WOMAN'S UNIVERSITY
COLLEGE OF NURSING

PROSPECTUS FOR THESIS/DISSERTATION/PROFESSIONAL PAPER

This prospectus proposed by: _____

Patricia S. Jordan and entitled:

Time Spent Performing Non-nursing Tasks and Job Satisfaction of Certified Nephrology Nurses

Has been read and approved by the member of (his/hers) Research Committee.

This research is (check one):

xx Is exempt from Human Subjects Review Committee review because it is classified as Category I research

_____

_____

_____ Requires Human Subjects Review Committee review because _____

_____

Research Committee:

Chairperson, Susan Goad

Member, Rose Nesbitt Adams

Member, Suzanne Kies

Date: 4/2/91

Dallas Campus x Denton Campus ___ Houston Campus ___

APPENDIX B

Graduate School Permission to Conduct Study

TEXAS WOMAN'S UNIVERSITY
DENTON DALLAS HOUSTON
THE GRADUATE SCHOOL
P.O. Box 22479, Denton, Texas 76204-0479 817 898-3400

May 31, 1991

Ms. Patricia Jordan
P.O.Box 2126
Corsicana,TX 75151

Dear Ms. Jordan:

I have received and approved the Prospectus for your research project. Best wishes to you in the research and writing of your project.

Sincerely yours,

Leslie M. Thompson

Leslie M. Thompson
Dean for Graduate Studies
and Research

dl

cc Dr. Susan Goad
Dr. Carolyn Gunning

APPENDIX C

Cover Letter to Subjects

June 25, 1991

Dear Colleague:

I am a graduate student at Texas Woman's University in Dallas, Texas. I am interested in the subject of job satisfaction in nursing. I am trying to determine if there is a relationship between the level of job satisfaction of Certified Nephrology Nurses (CNNs) and the amount of time they spend performing non-nursing tasks.

Your name was randomly selected from the list of CNNs obtained from the Nephrology Nursing Certification Board (NNCB). I hope that you will take the time to participate in this study to aid in the understanding of factors which affect the job satisfaction of nephrology nurses. Your participation as a practicing CNN is vital to the success of such a study. The study of job satisfaction will benefit other CNNs, the nephrology nursing specialty, and the nursing profession as a whole.

Participation in this study will be voluntary. The information you complete on the enclosed questionnaires will be reported as group data. The enclosed questionnaires will require approximately 30 minutes to complete. Once you have completed the questionnaires, please return them in the enclosed, pre-addressed, stamped envelope within 2 weeks. BY COMPLETING THE QUESTIONNAIRES, YOU ARE AGREEING TO PARTICIPATE IN THE STUDY.

The information obtained from this research will be used as appropriate for publication and education. If you would like to receive information on the results of this study, please contact me in writing at P. O. Box 2126, Corsicana, TX 75151. If you have any questions concerning the study or your participation in the study, you may contact me at (903) 874-7160.

Thank you for your time and valuable assistance with my research project.

Sincerely,

Patricia S. Jordan, BSN, RN, CNN

APPENDIX D

Index of Work Satisfaction (IWS)

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS YOUR INFORMED CONSENT TO BE A SUBJECT IN THIS STUDY

INDEX OF WORK SATISFACTION

Part A

Listed and briefly defined on this sheet of paper are six terms or factors that are involved in how people feel about their work situation. Each factor has something to do with "work satisfaction." We are interested in determining which of these is most important to you in relation to the others.

Please carefully read the definitions for each factor as given below:

1. Pay--dollar remuneration and fringe benefits received for work done.
2. Autonomy--amount of job-related independence, initiative, and freedom, either permitted or required in daily work activities.
3. Task Requirements--tasks or activities that must be done as a regular part of the job.
4. Organizational Policies--management policies and procedures put forward by the facility and nursing administration of this facility/institution.
5. Interaction--opportunities presented for both formal and informal social and professional contact during working hours.
6. Professional Status--overall importance or significance felt about your job, both in your view and in the view of others.

Scoring. These factors are presented in pairs on the questionnaire that you have been given. Only 15 pairs are presented: this is every set of combinations. No pair is repeated or reversed.

For each pair of terms, decide which one is more important for your job satisfaction or morale. Please indicate your choice by a check on the line in front of it. For example: If you felt that Pay (as defined above) is more important than Autonomy (as defined above), check the line before Pay.

Pay or _____ Autonomy

We realize it will be difficult to make choices in some cases. However, please do try to select the factor which is more important to you. Please make an effort to answer every item; do not change any of your answers.

1.	____ Professional Status	or	____ Organizational Policies
2.	____ Pay	or	____ Task Requirements
3.	____ Organizational Policies	or	____ Interaction
4.	____ Task Requirements	or	____ Organizational Policies
5.	____ Professional Status	or	____ Task Requirements
6.	____ Pay	or	____ Autonomy
7.	____ Professional Status	or	____ Interaction
8.	____ Professional Status	or	____ Autonomy
9.	____ Interaction	or	____ Task Requirements
10.	____ Interaction	or	____ Pay
11.	____ Autonomy	or	____ Task Requirements
12.	____ Organizational Policies	or	____ Autonomy
13.	____ Pay	or	____ Professional Status
14.	____ Interaction	or	____ Autonomy
15.	____ Organizational Policies	or	____ Pay

Adapted with permission from Nurses and Work Satisfaction: An Index for Measurement by Paula L. Stamps and Eugine B. Piedmont (Ann Arbor, MI: Health Administration Press, 1986).

Part B

The following items represent statements about satisfaction with your occupation. Please respond to each item. It may be very difficult to fit your responses into the seven categories; in that case, select the category that comes closest to your response to the statement. It is very important that you give your honest opinion. Please do not go back and change any of your answers.

Instructions for Scoring. Please circle the number that most closely indicates how you feel about each statement. The left set of numbers indicates degrees of disagreement. The right set of numbers indicates degrees of agreement. The center number means "undecided." Please use it as little as possible. For example, if you strongly disagree with the first item, circle 1; if you moderately agree with the first statement, you would circle 6.

Remember: The more strongly you feel about the statement, the further from the center you should circle, with disagreement to the left and agreement to the right.

		Disagree				Agree		
1.	My present salary is satisfactory.	1	2	3	4	5	6	7
2.	Most people do not sufficiently appreciate the importance of nursing care to facility patients.	1	2	3	4	5	6	7
3.	The nursing personnel on my service do not hesitate to pitch in and help one another out when things get in a rush.	1	2	3	4	5	6	7
4.	There is too much clerical and "paperwork" required of nursing personnel in this facility.	1	2	3	4	5	6	7
5.	The nursing staff has sufficient control over scheduling their own work shifts in my facility.	1	2	3	4	5	6	7
6.	Physicians in general cooperate with nursing staff on my unit.	1	2	3	4	5	6	7
7.	I feel that I am supervised more closely than is necessary.	1	2	3	4	5	6	7
8.	Excluding myself, it is my impression that a lot of nursing personnel at this facility are dissatisfied with their pay.	1	2	3	4	5	6	7

		Disagree				Agree		
9.	Nursing is a long way from being recognized as a profession.	1	2	3	4	5	6	7
10.	New employees are not quickly made to "feel at home" on my unit.	1	2	3	4	5	6	7
11.	I think I could do a better job if I did not have so much to do all the time.	1	2	3	4	5	6	7
12.	There is a great gap between the administration of this facility and the daily problems of the nursing service.	1	2	3	4	5	6	7
13.	I feel I have sufficient input into the program of care for each of my patients.	1	2	3	4	5	6	7
14.	Considering what is expected of nursing service personnel at this facility, the pay we get is reasonable.	1	2	3	4	5	6	7
15.	There is no doubt whatever in my mind that what I do on my job is really important.	1	2	3	4	5	6	7
16.	There is a good deal of teamwork and cooperation between various levels of nursing personnel on my service.	1	2	3	4	5	6	7
17.	I have too much responsibility and not enough authority.	1	2	3	4	5	6	7
18.	There are not enough opportunities for advancement of nursing personnel at this facility.	1	2	3	4	5	6	7
19.	There is a lot of teamwork between nurses and doctors on my own unit.	1	2	3	4	5	6	7
20.	On my service, my supervisors make all the decisions. I have little direct control over my own work.	1	2	3	4	5	6	7
21.	The present rate of increase in pay for nursing service personnel at this facility is not satisfactory.	1	2	3	4	5	6	7

		Disagree						Agree
22.	I am satisfied with the types of activities that I do on my job.	1	2	3	4	5	6	7
23.	The nursing personnel on my service are not as friendly and outgoing as I would like.	1	2	3	4	5	6	7
24.	I have plenty of time and opportunity to discuss patient care problems with other nursing service personnel.	1	2	3	4	5	6	7
25.	There is ample opportunity for nursing staff to participate in the administrative decision-making process.	1	2	3	4	5	6	7
26.	A great deal of independence is permitted, if not required, of me.	1	2	3	4	5	6	7
27.	What I do on my job does not add up to anything really significant.	1	2	3	4	5	6	7
28.	There is a lot of "rank consciousness" on my unit. Nursing personnel seldom mingle with others of lower ranks.	1	2	3	4	5	6	7
29.	I have sufficient time for direct patient care.	1	2	3	4	5	6	7
30.	I am sometimes frustrated because all of my activities seem programed for me.	1	2	3	4	5	6	7
31.	I am sometimes required to do things on my job that are against my better professional nursing judgment.	1	2	3	4	5	6	7
32.	From what I hear from and about nursing service personnel at other facilities, we at this facility are being fairly paid.	1	2	3	4	5	6	7
33.	Administrative decisions at this facility interfere too much with patient care.	1	2	3	4	5	6	7
34.	It makes me proud to talk to other people about what I do on my job.	1	2	3	4	5	6	7

		Disagree				Agree		
35.	I wish the physicians here would show more respect for the skill and knowledge of the nursing staff.	1	2	3	4	5	6	7
36.	I could deliver much better care if I had more time with each patient.	1	2	3	4	5	6	7
37.	Physicians at this facility generally understand and appreciate what the nursing staff does.	1	2	3	4	5	6	7
38.	If I had the decision to make all over again, I would still go into nursing.	1	2	3	4	5	6	7
39.	The physicians at this facility look down too much on the nursing staff.	1	2	3	4	5	6	7
40.	I have all the voice in planning policies and procedures for this facility and my unit that I want.	1	2	3	4	5	6	7
41.	My particular job really doesn't require much skill or "know-how."	1	2	3	4	5	6	7
42.	The nursing administrators generally consult with the staff on daily problems and procedures.	1	2	3	4	5	6	7
43.	I have the freedom in my work to make important decisions as I see fit, and can count on my supervisors to back me up.	1	2	3	4	5	6	7
44.	An upgrading of pay schedules for nursing personnel is needed at this facility.	1	2	3	4	5	6	7

APPENDIX E

Non-nursing Task Survey (NTS)

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS YOUR INFORMED CONSENT TO BE A SUBJECT IN THIS STUDY

NON-NURSING TASK SURVEY

Instructions: Please estimate the amount of time in minutes that you spend performing the following tasks during an "average work day".

Please indicate the length of your "average work day".

8 hr: ___ 10 hr: ___ 12 hr: ___ Other (Specify): _____

TASK		MINUTES
1.	Stock/order supplies.	_____
2.	Routine machine maintenance.	_____
3.	Transport patients when condition does not require a nurse.	_____
4.	Transport lab specimens.	_____
5.	Complete records not requiring nursing knowledge.	_____
6.	Clean/disinfect equipment.	_____
7.	Answer the phone.	_____
8.	Locate wheelchairs and stretchers.	_____
9.	Transport meds to/from pharmacy.	_____
10.	Clean refrigerator.	_____
11.	Clean sinks.	_____
12.	Fill soap dispensers.	_____
13.	Fill paper towel dispensers.	_____
14.	Collect/distribute meals.	_____
15.	Complete x-ray and lab requests.	_____
16.	Clean up after MDs.	_____
17.	Chart lab data.	_____
18.	Enforce visiting rules.	_____
19.	Machine set-up.	_____

20. Machine tear-down. _____

21. Empty trash. _____

22. Bag dirty linen. _____

23. Spin hematocrits. _____

APPENDIX F

Demographic Data Sheet

COMPLETION AND RETURN OF THIS QUESTIONNAIRE WILL BE CONSTRUED AS YOUR INFORMED CONSENT TO BE A SUBJECT IN THIS STUDY

DEMOGRAPHIC DATA SHEET

1. Check your age category:
   - _____ 18-23 years
   - _____ 24-29 years
   - _____ 30-35 years
   - _____ over 40 years

2. Marital status:
   - _____ single
   - _____ married
   - _____ widow(er)
   - _____ separated
   - _____ divorced

3. Check your highest educational degree:
   - _____ Associate degree, nursing
   - _____ Diploma, nursing
   - _____ BSN
   - _____ BS, other
   - _____ MS, nursing
   - _____ Master's, other
   - _____ Doctorate

4. How many years have you been employed in nephrology nursing?
   - _____ 1
   - _____ 2
   - _____ 3
   - _____ 4
   - _____ 5-9
   - _____ 10-14
   - _____ 15-20
   - _____ 20+

5. What is your primary modality?
   - _____ Conservative management
   - _____ Transplantation
   - _____ Hemodialysis
   - _____ Peritoneal dialysis
   - _____ Pediatric nephrology

6. What is your position?
   - _____ Staff/clinical
   - _____ Head nurse/Nurse manager
   - _____ Educator (patient or staff)
   - _____ Administrator
   - _____ Clinical specialist
   - _____ Coordinator/Supervisor

7. Where are you employed?
   - _____ Hospital
   - _____ Free-standing unit
   - _____ School of nursing/university
   - _____ Industry
   - _____ Self-employed
   - _____ Not employed
   - _____ Other

APPENDIX G

Permission to Use IWS

Health
Administration
Press

1021 East Huron
Ann Arbor, Michigan
48104

313/764-1380
FAX 313/763-1105

February 19, 1991

Patricia S. Jordan, BSN, RN, CNN
P.O. Box 2126
Corsicana, TX 75151

Dear Ms. Jordan:

Thank you for writing for permission to use the Index of Work Satisfaction in your graduate research. Health Administration Press grants you permission to make approximately 300 copies of the Index, provided that the following credit line is included on the first page of all copies:

> Adapted with permission from Nurses and Work Satisfaction: An Index for Measurement by Paula L. Stamps and Eugene B. Piedmonte (Ann Arbor, MI: Health Administration Press, 1986).

Permission is granted for one-time use only.

Permission does not extend to publication of material from the book. For example, if you should write an article and it is accepted for publication, you would need to write again for permission if you wanted to include a copy of the Index in your article.

I want to pass along a warning from the authors about changing the wording in the Index. They say that any change in wording, no matter how small, can threaten the scale's validity. We trust that you will investigate this.

We wish you a successful research project.

Sincerely,

Tracy Flynn
Production Assistant

APPENDIX H

Survey Sent to Panel of Experts

Dear Colleague:

I am a graduate nursing student at Texas Women's University in Dallas, Texas. I am beginning work on my thesis which will determine the relationship of job satisfaction of Certified Nephrology Nurses (CNN) and the amount of time CNNs spend performing non-nursing tasks. The theoretical basis for my work will be Herzberg's motivation hygiene theory. Job satisfaction will be measured using the Index of Work Satisfaction. My task at this point is to develop a survey that will measure the amount of time CNNs spend performing non-nursing tasks.

The first step in developing this non-nursing task survey (NNTS) is to identify a list of non-nursing tasks which nephrology nurses may perform in their practice. Attached is a list which has been developed from the literature, surveys conducted by the American Nephrology Nurses Association (ANNA), and job descriptions.

I would appreciate your participation as a member of a panel of experts in identifying non-nursing tasks by completing the enclosed form. Each task listed should be identified as (a) definitely a nursing task (must be performed by a nurse; (b) definitely a nursing task, but may be delegated to another worker; (c) undecided; (d) not nursing, but not unrealistic for nurses to perform; and (e) definitely not nursing. Nurse in this case refers to a registered nurse. Place a checkmark in the category in which you believe the task belongs.

The results of this survey will be used to prepare the list of non-nursing tasks that will appear on the Non-nursing Task Survey that will be sent to CNNs. Please complete the survey and return to me at the above address by _____ Please do not hesitate to call me at 214-874-7160 with questions or comments. Thank you for your valued assistance in this project.

Sincerely,

Patricia S. Jordan

NEPHROLOGY NURSING "NON-NURSING TASK" SURVEY

TASK	DEFINITELY NURSING	DEFINITELY NURSING BUT MAY BE DELEGATED	UNDECIDED	NOT NURSING, BUT NOT UNREALISTIC FOR NURSES TO PERFORM	DEFINITELY NOT NURSING
1. Stock/order supplies					
2. Routine machine maintenance					
3. Transport pts when condition does not require a nurse					
4. Transport lab specimens					
5. Complete records not requiring nursing knowledge					
6. Clean/disinfect equipment					
7. Answer phone					
8. Locate wheelchairs & stretchers					
9. Schedule clinic appointments					
10. Transport meds to/from pharmacy					

NEPHROLOGY NURSING "NON-NURSING TASK" SURVEY

TASK	DEFINITELY NURSING	DEFINITELY NURSING BUT MAY BE DELEGATED	UNDECIDED	NOT NURSING, BUT NOT UNREALISTIC FOR NURSES TO PERFORM	DEFINITELY NOT NURSING
11. Clean refrigerator					
12. Clean sinks					
13. Fill soap dispensers					
14. Fill paper towel dispensers					
15. Collect/distribute meals					
16. Complete x-ray & lab requests					
17. Clean up after MD's					
18. Chart lab data					
19. Enforce visiting rules					
20. Machine set-up					
21. Machine tear down					
22. Empty trash					
23. Bag dirty linen					
24. Mix dialysate					
25. Spin hematocrits					