

THE RELATIONSHIP OF SELECTED PERSONAL  
AND JOB CHARACTERISTICS TO  
HARDINESS AMONG  
REGISTERED  
NURSES

By

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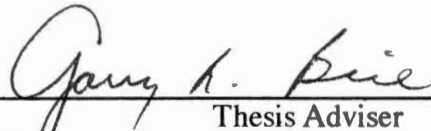
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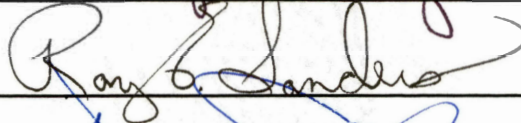
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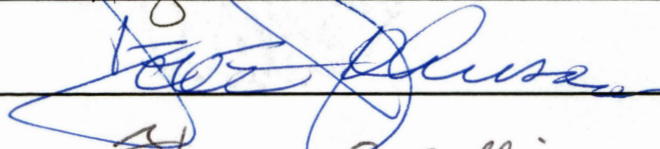
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## CHAPTER I

### INTRODUCTION

The national health care crisis and the recent well-documented national nursing shortage have created an environment for scrutiny of health care, nursing, and nurses (Harrington, 1988; Jones, 1988; Hendrickson and Doddato, 1989; Castro, 1991; Neubs, 1991). Many questions have been raised about rising health care costs and quality of health care (Castro, 1991; Jones, 1991; Starck, 1991).

One documented outcome of increasing health care costs is the reduction of quality care available to patients (Quinn and Smith, 1987). Since a major factor contributing to increased costs within health care is nursing turnover, administrators are actively seeking creative study of the problem (Kron and Gray, 1987). Nursing has ". . .one of the highest turnover rates in the United States" (Sullivan and Decker, 1988, p. 397).

While it is difficult to actually determine the cost incurred by nursing turnover, it is estimated that the cost is at least \$3,000 per nurse (Kron and Gray, 1987). That includes direct costs of recruitment, training, and development. That does not include the cost of increased stress to other nurses who have to "fill in" or work "short-staffed" until a replacement is hired (Sullivan and Decker, 1988). Nor does it factor in the cost to patients in reduced quality of care. Therefore, answers to the nursing turnover problem are being sought.

Hardiness is a personality characteristic composed of component parts - challenge, commitment, and control (Creasia and Parker, 1991). Research in nursing and other disciplines has linked hardiness to mediation of stress in the workplace (Holt, Fine, and Tollefson, 1987; Rich and Rich, 1987; Schiavo, 1990). Hardiness has also been linked to workplace concerns such as coping, absenteeism, burnout, and job performance (Rich

and Rich, 1987; Shapiro, 1987; Neubauer, 1988; Topf, 1989; Boyle, Grap, Younger, and Thornby, 1991; Creasia and Parker, 1991).

Knowledge of a concept such as hardiness would prove helpful in the recruitment and hiring of nurses for different positions within the workplace. Turnover and health care costs would potentially be reduced in addition to quality health care being enhanced. Costs of training and orienting a never-ending stream of new nurses to nursing units could be controlled. One potential approach to better understanding the turnover problem in nursing is to study the concept of hardiness among nurses.

### Rationale

The 1980's and early 1990's have proven to be a change-oriented, tumultuous environment for health care delivery and nursing care delivery in the United States. The November 25, 1991 issue of Time attested to the fact that the condition of the health care system has become critical (Castro, 1991). Politicians, health care providers, the general public, and other groups have called for health care reform (Harrington, 1990; Modern Healthcare, 1990a; Modern Healthcare, 1991a; Modern Healthcare, 1991c; Modern Healthcare, 1992b). Consensus for reform has been woefully lacking, however. "After 2 1/2 years of meetings, hearing and studies, a federal advisory panel on healthcare reform couldn't reach a concensus on its final report" (Modern Healthcare, 1991c, p. 3). A study of 2600 executives of hospitals, physicians, and purchasers as reported in Journal of Nursing Administration, reported that no relief for the health care crisis was in the near future (Journal of Nursing Administration, 1991e).

Rapidly escalating health care costs vs. quality of health care have remained at the heart of the health care crisis (Jones, 1991). Indicators of astronomical health care costs affecting quality of care in the United States have included:

1. Almost 12% of the average U.S. family income has been consumed by health care-related costs (Modern Healthcare, 1991b).

2. As of a January 1992 report, almost 40% of U.S. children lived in families not covered by employer-based health care insurance (Modern Healthcare, 1992a).

3. Uninsured and underinsured Americans have been estimated at 32-37 million and 17-50 million, respectively (Shannon, 1991).

4. Six hundred seventy-one billion dollars was spent on health care per year in the U.S. as reported by Shannon (1991).

5. Labor costs in U.S. hospitals have increased dramatically (Journal of Nursing Administration, 1991b).

6. U.S. health care spending has increased more than twice the rate of the U.S. economy as indicated by the gross national product (Journal of Nursing Administration, 1991f).

7. The U.S. Government in 1990 paid 42.4% of the U.S. health care bill (RN, 1991).

Variables that have impacted health care costs and quality of health care have included: ever-growing numbers of poor Americans and homeless Americans; the introduction of prospective payment and other limited reimbursement strategies; HIV testing for both consumers and providers of health care; fraud and abuse; high physician compensation; unnecessary care many times borne out of fear of malpractice suits with multimillion dollar judgments; ethical dilemmas such as rationing of care, lack of accessibility to care by some populations, and patient dumping; biotechnologic drugs costing up to \$3750 per dose; and, health care technologic explosion (Popp, 1988; Lindsey, 1989; Medical Economics, 1990; Modern Healthcare, 1990b; Pillar, Jacox, and Redman, 1990; Castro, 1991; Jones, 1991; Journal of Nursing Administration, 1991a; Journal of Nursing Administration, 1991c; Starck, 1991; Strasen, 1991; Modern Healthcare, 1992b; Wagner, 1992).

The American consumer has high expectations of its health care system. Americans have been reported as having the second highest level of satisfaction with their personal

health care among adults asked in a six country study reported in the Journal of Nursing Administration (1991c). Yet, health care costs ". . . threaten the economic security of most American families" (Modern Healthcare, 1991b, p. 15).

Despite recent figures portraying growth in the number of registered nurses (RNs) nationwide, shortages and high turnover have been recurrent problems in the nursing profession over the last several decades (Lerner, 1991, p. 165).

Kramer and Schmalenberg (1988a) reported that the nursing shortage will only worsen. While there were approximately 1.7 million registered nurses of whom 80% were actively working in the mid to late 1980's, the projected need for nurses in the 1990's was a 33% increase (Smith and Falter, 1988). The American Hospital Association has reported that 77% of hospitals reported shortages (Smith and Falter, 1988). The Journal of Nursing Administration (1991d) has reported an average registered nurse vacancy rate across the nation of 11%.

Reasons for continued shortages have been many. Ever-growing numbers of elderly requiring varying degrees of nursing care, increased patient acuity levels, and increased health care technology have been cited by Smith and Falter (1988) as reasons for continuing registered nurse shortages. Low wages, increased career choices for women, poor image, and changing values of American youth have been cited by Neubs (1991) as reasons for increases in demand and continued shortages. The health care environment itself has been blamed:

The environment, the organization, the system needs to be changed so that nurses can be retained and be satisfied with their jobs. . . nursing leaders have a moral obligation to halt nursing genocide, to stop the system from killing nurses softly. . . (Journal of Nursing Administration, 1988, p. 4).

Neubs (1991) stated that the shortage itself has caused nurses to leave the field of nursing due to increased work loads, stress, and dissatisfaction.

High turnover, constant orientation of new personnel, lack of commitment and identification with institutional values and goals, high percentages of inexperienced staff, large numbers of per diem nurses, high use of agency personnel, nursing staff that does not consistently work together - all of these factors. . . create and/or magnify nursing shortages (Kramer and

Schmalenberg, 1988a, p.13).

In a 1990 report by Jones (1990a):

A major concern. . .in dealing with the nursing shortage is turnover. . . Turnover not only impacts the costs associated with hiring and orienting new staff members, but can also lead to staff instability and a decrease in the quality of patient care (p. 18).

Since the vast majority of nurses work in hospitals and since approximately 90% of patient care, the hospital's product, is produced by nurses, high turnover of registered nurses has been a significant problem (Kramer and Schmalenberg, 1988a; Smith and Falter, 1988; Jones 1990a). Nursing has received tremendous pressures to control its costs (Strasen, 1988).

Nursing turnover has been a costly problem. Nursing's annual job turnover rate has fluctuated from 18-30% (Sullivan and Decker, 1988; Pooyan, Eberhardt and Szigeti, 1990). In some hospitals, as many as 59% of new employees have left within the first twelve months employment (Smeltzer, 1990). Direct and indirect costs of nurse turnover have ranged from approximately \$1300 to \$50,000 per turnover if advertising costs, recruitment fees, travel, public relations, costs of unfilled positions, orientation and training, and decreased productivity are calculated (Jones, 1990a). Increased workloads and stress on nurses left behind then increases their likelihood of quitting (Mann and Jefferson, 1988). Thus, turnover problems have begun to take on a cyclical nature further intensifying the problem (Mann and Jefferson, 1988).

Rich and Rich (1987) advocated nurses being taught hardiness in order to better tolerate stress in their job. Lambert and Lambert (1987) recommended that perhaps the time had come for nurse executives to begin to screen nurses for hardiness levels, especially if assignment to high stress areas was entertained. The relationship between stress, job dissatisfaction, and turnover has been examined by Harris (1989). She noted inadequacies in research in nursing relative to stress, burnout (development of negative attitudes about job, clients, and self as a result of physical and emotional exhaustion from high levels of stress necessitating prolonged coping), and turnover. In examination of a

causal model for nurse stress, burnout, and turnover, she advocated further analysis of personality factors such as hardiness.

Little is known to date, however, about who the hardy nurse is. There is no large-scale picture of personal and job characteristics that describe the nurse with high hardiness. In order for hardiness to be taught effectively, specific personal and job characteristics associated with hardiness must be identified. Therefore, research to build a database characterizing nurses with differing levels of hardiness is necessary so that future research, training, and development can take place addressing turnover, quality health care, and cost containment issues.

### Statement of the Problem

It is well-documented that the quality and cost of health care in the United States suffer because of a nursing shortage and high turnover rates among nurses. It has been suggested that the turnover may be related to hardiness of nurses. The problem addressed by the study was the cost and quality of health care in the United States as affected by the job turnover rate of registered nurses. Therefore, if personal and job characteristics of registered nurses can be related to hardiness, it may be possible to improve hiring and job assignment practices which would reduce turnover, thereby improving quality of health care and reducing costs.

### Purpose of the Study

The purpose of the study was to determine what effect selected personal and job characteristics had on hardiness levels in registered nurses. Data provided by the study has the potential to be used in helping to solve high turnover rates among nurses thus helping to reduce health care costs and enhance quality of health care.

## Research Hypothesis

There is no difference in hardiness scores of registered nurses with varying selected personal and job characteristics.

## Research Questions

The major questions that provided direction for the study were:

1. Are there selected personal demographic factors that are characteristic of registered nurses with higher hardiness levels?
2. Are there selected job characteristics common to registered nurses with higher hardiness levels?
3. Do key factors associated with nursing turnover like increased absenteeism, recent experience with turnover, work transfers, and intent to turnover or voluntarily leave have an effect on levels of hardiness in registered nurses?
4. Is there a difference in hardiness levels of registered nurses in different geographical licensure areas of the United States?

## Variables

The numerous personal and job characteristics comprised the independent variables. Independent variables were both quantitative and qualitative. Quantitative variables included: age, total number of children, number of years worked as a registered nurse, number of years in current nursing position, average number of hours worked per week as a registered nurse, turnover experience in the past five (5) years, absenteeism in the past six (6) months, number of work unit transfers in past twelve months, and individual and family income. Qualitative variables included: geographic area in which licensed as a registered nurse in the United States, gender, marital status, basic education in nursing, highest educational level attained, employment status, type of nursing position, type of hours worked in nursing position, major nursing practice area, field of employment, intent



to voluntarily leave employment situation, number of work unit transfers in past twelve months, and practice in critical care/intensive care area. The dependent variable was the hardiness score for each nurse.

### Assumptions

The assumption from which the study was conducted was that the registered nurse who was sent the instrument was actually the person who completed the instrument.

### Limitations

Limitations of the study included:

1. The study was restricted to randomly selected, currently licensed, active status registered nurses in the states of Kansas, Oklahoma, and Kentucky.
2. Purposive sampling was used to select states for sampling of nurses for the study. Generalizations of the results of the study to nurses in other states in the United States should be made with caution.
3. Personal and job characteristics and hardiness were measured by a paper and pencil self-report instrument.
4. Since instruments were mailed to residences, the conditions under which each registered nurse completed the instrument varied.

### Definition of Terms

Personal and Job Characteristics: For purposes of the study, personal and job characteristics meant: gender; age; marital status; total number of children; basic education in nursing; geographic area in which licensed as a registered nurse in the United States; highest educational level attained; number of years worked as a registered nurse; number of years in current nursing position; employment status; type of nursing position held; area of nursing practice; current employment setting in nursing; type of hours worked; average

number of hours worked per week; turnover experience in the past five (5) years; number of transfers between work units in the employment setting in the past twelve months; intent to voluntarily leave present employment situation in the near future; absenteeism during the past six (6) months; personal income; family income; and, practice in critical care/intensive care area.

Voluntary Turnover: For purposes of the study, voluntary turnover meant:

. . . a process of behavior within a work organization since it refers to individual movement into and out of the organization. Transfer and promotions, although a form of movement, are not generally viewed as turnover because changes of membership in the work organization are not produced by these movements. . . . Turnover . . . means quits, or voluntary separation. . . . Layoffs, dismissals, and deaths are instances of involuntary separation. Depending on the circumstances, retirements can be either voluntary or involuntary. Early retirement is probably voluntary, whereas mandatory retirement at any age would be involuntary (Price and Mueller, 1986, pp. 2 and 3).

Hardiness: For purposes of the study, hardiness meant "a constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events. The personality dispositions of hardiness are commitment, control, and challenge" (Kobasa, Maddi, and Kahn, 1982, p. 169).

### Organization of the Study

The dissertation consists of five (5) chapters. Chapter I contains an introduction to the study, the rationale for the study, the statement of the problem, the purpose of the study, the research hypothesis, the research questions, the description of the variables, the assumptions of the study, the limitations of the study, and the definition of terms. Chapter II is the review of related research. Chapter III consists of a description of the methodology, the selection of subjects, the instrumentation used in the research, the collection of data procedures, and the analysis of data. Chapter IV presents the results of the research study. Chapter V summarizes the research study, presents results, discusses conclusions, and makes recommendations.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### Nursing Turnover

"The nursing shortage in the health care system has become critical" (Harrington, 1988, p. 118). During the mid to late 1980's, a more than 100% increase in vacancies of registered nurses in American hospitals has been reported (Taunton, Krampitz, and Woods, 1989b). Approximately 85% of hospitals surveyed in 1987 revealed shortages, and the nursing shortage is expected to continue (Harrington, 1988; Kramer and Schmalenberg, 1988a). Demand for nurses is increasing at the very time that enrollments in schools of nursing have declined. Vacancy rates for registered nurse positions in some settings has been as high as 14% (Harrington, 1988). Those factors have lent themselves to an external nursing shortage problem.

An internal reason for the nursing shortage problem exists as well, thus exacerbating the external shortage of nurses. Internal shortage has been created by factors within nursing itself (Kramer and Schmalenberg, 1988b). Examples of factors having helped create an internal shortage of nurses are: inadequate support of nurses and their services, large numbers of agency and floater nurses in the workplace, lack of clearly defined institutional values, insufficient education of nurses, and more (Kramer and Schmalenberg, 1988b).

A major factor associated with the nursing shortage is turnover (Jones 1990a). That was further corroborated by Kramer and Schmalenberg (1988a) when they wrote:

High turnover, constant orientation of new personnel, lack of commitment and identification with institutional values and goals, high percentage of inexperienced staff, large numbers of per diem nurses, high use of agency personnel, nursing staff that does not consistently work together -

all of these factors. . .create and/or magnify nursing shortages (p. 13).

### Turnover Defined

Among employers in the United States, the turnover rate in institutions providing health care has been one of the highest turnover rates (Sullivan and Decker, 1988). Turnover in nursing has been estimated at 30%, one of the highest of all professional/occupational groups (Pooyan, Eberhardt, and Szigeti, 1990). Individual institutions have reported registered nurse turnover rates as high as 60-70% per year (The American Journal of Nursing, 1990). In 1990, Smeltzer cited a statistic in one hospital - "59% of new hires left employment at our institution within one year of hire" (p. 3).

Turnover has been defined in various ways. "Turnover is movement across the membership boundary of a work organization" (Price and Mueller, 1986, p. 2). This definition has not encompassed transfers and promotions within an organization. Jones (1990a) defined turnover in such a way that transfers have been included in turnover statistics. Turnover has also been defined as voluntary or involuntary. "The exercise of choice is critical" (Price and Mueller, 1986, p. 2). Quits are voluntary whereas ". . .layoffs, dismissals, and deaths are instances of involuntary separation" (Price and Mueller, 1986, p. 3). Mandatory retirements have been classified by Price and Mueller (1986) as involuntary turnover and early retirements as voluntary turnover. Most research on turnover to date has focused on quits and the reasons for them (Price and Mueller, 1986).

### The Cost of Nursing Turnover

In analyzing costs associated with nursing turnover, Sullivan and Decker (1988) wrote:

In discussing the consequences of turnover, writers have traditionally focused on the costs to the organization (e.g. hiring expenses). Although turnover obviously often does involve real costs to the organization, this traditional perspective is too narrow. Turnover not only can have a negative

effect on the hospital, it also can have an undesirable effect on patients, co-workers, etc. (p. 400).

Since nurses have traditionally provided most of the direct care to patients in the United States and have comprised the largest group of hospital employees, turnover of nurses has begun to receive attention (Curry, Wakefield, Price, Mueller, and McCloskey, 1985). Approximately 90% of patient care, a hospital's product, in the United States has been produced by nurses. And today's health care product must be "quality, accessible, cost-effective patient care" (Kramer and Schmalenberg, 1988a, p. 13). Therefore, the high costs of nursing turnover have begun to be researched. Jones (1990b) reported in the Journal of Nursing Administration that many hospitals have not done an accurate costing of nursing turnover thus complicating study of the problem. Sullivan and Decker (1988) have offered a model for measurement of the costs of human resource replacement. The model recognized both direct and indirect costs of turnover as acquisition of new personnel, learning costs (including formal training and orientation, on-the-job training, and trainer time), and separation costs. Direct costs are those costs more easily identified in the employment function. Indirect costs are those not so easily identified (Jones, 1990a). Jones (1990b) studied nursing staff turnover costs in hospitals in a southeastern metropolitan area. She found the total cost of nursing turnover to be approximately 11% of the mean of all annual registered nurse salaries in the institutions studied. She provided the following mean costs per registered nurse turnover:

advertising and recruitment costs	\$1887
costs of unfilled positions	4101
hiring costs	655
termination costs	163
orientation and training costs	2117
costs of decreased productivity	
in new registered nurses	<u>1276</u>

Total 10199 (Jones, 1990b, pp. 29 and 30)

Sixty-one percent of the calculated costs were direct. The indirect costs amounted to 39% of the total. Jones (1990b) concluded that the estimates were less than other research had indicated.

Costs per registered nurse turnover have been cited as high as \$50,000 (Jones, 1990a). One intensive care unit in one hospital study of turnover spent almost \$400,000 on orientation of replacement registered nurses for 43 positions and lost approximately \$1,000,000 in reduced revenue because beds had to be closed due to lack of qualified staff (Mann and Jefferson, 1988).

Nursing turnover has had human costs as well as fiscal costs. Turnover results in negative job attitudes in those left behind and a re-examination of potentially better opportunities elsewhere. The registered nurses left in the workplace, after turnover, have to work longer hours and cover for those who have departed. Temporary and/or float nurses often have been hired further disrupting the workplace. Communication patterns have been altered. Stress has occurred. And often others quit, making turnover a cyclical and contagious problem (Mann and Jefferson, 1988; Sullivan and Decker, 1988).

Sullivan and Decker (1988) offered potential benefits from nursing turnover especially if concentrated among poor performers - opportunity for overtime pay, provision of forum for policy change, and decreased conflict within the workforce. Jones (1990a) saw decreased benefits paid by the institution and introduction of new ideas into the workplace as positives.

### Causes of Nursing Turnover

In 1989, Andersen stated that:

Dissatisfaction with the lack of intra- and interpersonal respect and collaboration, inadequate opportunities for growth and promotion, and a lack of autonomy in patient care are factors which contribute to turnover among RNs in hospital settings (p. 22).

A 1985 research report by Curry, Wakefield, Price, Mueller, and McCloskey found that job satisfaction was the most important factor in a nurse's intent to leave an

employment setting. Younger age and frequent past job change were highly correlated with intent to leave according to the same research. That same study found three variables with significant effects on turnover - intent to leave the job, commitment, and professionalism. The authors extended the suggestion that administrators in health care workplaces make strong commitments to high performance standards and generous offering of continuing education to promote the commitment to high quality care (Curry, Wakefield, Price, Mueller, and McCloskey, 1985).

Prestholdt, Lane, and Mathews (1988) studied registered nurse turnover among Louisiana nurses. They found intent to leave as the best predictor of voluntary nurse turnover. Strong moral commitment to the institution was correlated with lessened turnover. Nurses who decided to leave felt they could easily obtain another job and felt lack of support and disparity of goals with their administration. Sixty percent of those resigning cited another more attractive job in the same community as a reason for leaving. "They also saw their departure as an opportunity to develop new social contacts" (Prestholdt, Lane, and Mathews, 1988, p. 147).

The top ten (10) reasons nurses resigned as reported by The American Journal of Nursing, in September 1989, were: desire to move, dislike for shift work, heavy workload, poor salaries, maternity leave, burnout, decision to not work outside the home, retirement, physical necessity, and inadequate advancement. "Almost all who quit hospital jobs were headed for similar jobs in other health care settings" (The American Journal of Nursing, 1989, p. 1223). Further, nursing turnover was reported as highest in the first two years in a job with 31% of registered nurses quitting before the end of one year on the job.

Mann and Jefferson (1988) studied turnover in an intensive care unit in a California hospital and found understaffing, stress on the job, poor scheduling, non-supportive supervisors, and change in career goals as the five most often cited reasons for quitting. Nurses who quit, when asked what they would have changed about the intensive care unit,

cited more adequate staffing patterns, less job stress, and more adequate orientation. Those nurses staying on the job, when asked what they would have changed, cited better and longer orientations, enhanced communication, better scheduling, higher pay, and increase in competence of other staff.

In a review of literature by Pooyan, Eberhardt, and Szigeti (1990), major predictors of nursing turnover in one study were ". . .age, marital status, spouse's income, length of employment, and type of nursing education" (p. 255). In their own research on intent to turnover with a sample of registered nurses in the upper midwest, it was found that ". . .demographic variables such as age, occupational tenure, education, and marital status do not contribute to nursing job changes in ways not accounted for by work-related variables" (Pooyan, Eberhardt, and Szigeti, 1990, p. 258). Variables in the study predictive of nurse turnover were decreased satisfaction with promotion opportunities, performance constraints in the workplace, and satisfaction with supervision. High absenteeism was found to correlate with nurse turnover in Taunton, Krampitz, and Wood's (1989a) work.

Price and Mueller (1986) in their study of absenteeism and turnover among hospital employees found that:

. . .employees who intend to leave can obtain jobs outside the hospital, belong to friendly work units, exhibit less loyalty, are relatively dissatisfied, receive little information about their jobs, have low individual incomes, and are members of few local kinship groups (p. 99).

For turnover, they found intent to leave, availability of other jobs, repetitive work, little participation in decision-making on the job, unfriendly work units, low pay, poor opportunity to advance, and lack of belonging to local kinship groups as characteristic.

Further correlates of turnover in Price and Mueller's (1986) research were recent turnover experience, low seniority, part-time work, young age, and evening/night shift work assignment.

The American Academy of Nursing Task Force on Nursing Practice in Hospitals studied hospitals that "magnetized" or retained nurses thus eliminating internal shortages of



nurses better than other hospitals. The findings of the Magnet Study further compared with the characteristics of best run companies in the corporate world by Kramer and Schmalenberg (1988a and b) revealed numerous themes:

1. a general willingness to experiment - a bias toward action
2. chunking - nurse work groups who moved together to solve problems
3. fostering of individual and collective risk-taking
4. pervasive value of quality care
5. ample reward for quality but not necessarily higher salaries than other nurses in the geographic area
6. pursuit of educational excellence - degrees and continuing education
7. autonomy and entrepreneurship
8. visionary and enthusiastic leadership
9. people-orientation and caring attitudes for staff and clients
10. decentralized decision making, and
11. nichemanship - careful selection of individual nurses for specific work units.

In elaborating on nichemanship, Kramer and Schmalenberg (1988b) stated:

The magnet hospitals protect their value system through selective hiring practices. Once employed, all of the hospitals had orientation programs to ensure a proper fit with the organization. If there wasn't a good fit then the individual was counseled to seek other employment (p. 15).

### Summary of Nursing Turnover

High rates of nursing turnover are increasing the costs of health care and negatively affecting quality of patient care in the United States (Jones, 1990a; Jones, 1990b; Sullivan and Decker, 1988). Nurse turnover has been defined in numerous ways but nursing literature has tended to focus on voluntary quits or resignations as turnover (Price and Mueller, 1986). Costs of nurse turnover are both direct and indirect and have been reported as high as \$50,000 per registered nurse turnover (Jones 1990a; Sullivan and

Decker, 1988). "Quality patient care is potentially compromised when severe staff shortages force high patient-nurse ratios" (Jones, 1990b, p. 31). And, the stress from understaffing and increased workload on staff left behind tends to increase the likelihood of more turnovers (Mann and Jefferson, 1988). Causes of turnover are varied. Continued study of the problem has been recommended (Curry, Wakefield, Price, Mueller, and McCloskey, 1985; Price and Mueller, 1986; Taunton, Krampitz, and Woods, 1989b; Jones, 1990b; Pooyan, Eberhardt, and Szigeti, 1990).

### Hardiness

Research with plants, animals, and insects often addressed hardiness (Debbage, 1985; Le, 1985; Knight, 1987; Czajka, 1990; Popham 1990). Hardiness, in humans, began to be studied in the late 1970's. Kobasa, a psychologist, first researched hardiness in humans (Bigbee, 1985). The premise of hardiness was drawn from existentialism. Dr. Maddi, Kobasa's dissertation adviser, was one of the foremost exponents of existential psychology in the United States. After working together on the dissertation, Kobasa and Maddi began researching hardiness as a team (Pines, 1980). As of early 1992, approximately 200 bibliographic citations existed relative to hardiness in humans.

### Hardiness Defined

Hardiness, as defined by Kobasa, Maddi, and Kahn (1982):

... is a constellation of personality characteristics that function as a resistance resource in the encounter with stressful life events. The personality dispositions of hardiness are commitment, control, and challenge (p. 169).

Kobasa, in her initial work, researched hardiness from the premise that it might very well be the significant factor that enabled individuals faced with high stress levels to remain healthy as opposed to becoming ill. She went on to elaborate that high hardy individuals possessed three characteristics:

- a) the belief that they can control or influence the events of their experience,
- b) an ability to feel deeply involved in or committed to the activities of their lives, and
- c) the anticipation of change as an exciting challenge to further development (Kobasa, 1979, p. 3).

In 1981, Kobasa, Maddi, and Courington conceptualized hardiness more completely as a mediating variable along with other potential mediators of stress such as social support, physical constitution, health care practices, and coping mechanisms. Hardy individuals were seen as those able to utilize transformational coping, i.e. ". . . cognition, emotion, and action aimed at not only survival but also the enrichment of life through development" (Kobasa, Maddi, and Courington, 1981, p. 368). High hardy persons were characterized by the authors as being curious about life experiences finding them both meaningful and interesting. Hardy individuals exerted considerable influence through their imagination and what they said and did. Change was the expected norm, and it was believed to be important to growth and development. Those beliefs enabled them to cope with stress in their lives. Change was perceived from an optimistic stance as natural, meaningful, and interesting, and was kept in perspective. Action was decisive in dealing with change so that it was incorporated into the life plan. Change was seen as a learning opportunity to be incorporated into the future. "In these ways, hardy persons transform stressful events into less stressful forms" (Kobasa, Maddi, and Courington, 1981, p. 369).

Low hardy persons were characterized by the authors as having a different perspective. They tended to find themselves and their surroundings boring, meaningless, and threatening. They liked life best when there was no change and often felt powerless to deal with change. They did not see growth and development in their lives as important and were often passive when interacting with the environment. When stress was encountered, the individual was not decisive in dealing with it and saw little room for optimism. Their personality structure did little to buffer them against stress thus taking a toll on personal health (Kobasa, Maddi, and Courington, 1981).

An excerpt from Bigbee's 1985 article entitled, Hardiness: A New Perspective in

Health Promotion, offered the following hypothetical situation contrasting the high and low hardy individual:

Consider. . .the adult faced with divorce. The hardy person might try to avert the divorce through problem-solving with the spouse (control). In addition, the hardy person would seek more information through reading, talking with friends, and professionals (commitment). Faced with the possibility of this major life change, the hardy person would consider how this decision might affect future life goals and directions in a positive way (challenge). In contrast, the person low in hardiness would react to this situation with inaction and indecisiveness (powerlessness) and attempt to avoid or ignore the realities of the situation (alienation). This person would see this stressful situation as a total threat, and not recognize potential advantages (challenges) that might result (p. 55).

### Measures of Hardiness

Measurement of hardiness by Kobasa and Maddi has been refined with time (Dane, 1991). The most recent instrument for measurement of hardiness, according to Kobasa and Maddi, is the third generation Personal Views Survey (Dane, 1991). "As with any instrument, much research and much time must pass to prove its worth and to discover the impact..." (Dane, 1992, p. 1).

In Kobasa's (1979) original study, a composite of all or parts of four (4) standardized questionnaires as well as two (2) newly devised instruments was used to test hardiness. A 1983 Kobasa and Puccetti study used five (5) scales to measure hardiness including the Alienation Test's Alienation From Work, Alienation from Self, and Powerlessness Scales; the California Life Goals Evaluation's Security Scale, and the External vs. Internal Locus of Control Scale. That second generation hardiness tool has been the most cited in hardiness literature (Wiebe, 1991). The third generation tool has been recommended as the newly refined measure of hardiness by Kobasa and Maddi (Dane, 1991 and 1992). That version has been used in numerous recent studies (Okun, Zautra, and Robinson, 1988; Parkes and Rendall, 1988; Drory and Florian, 1991).

In literature, hardiness has been measured by tools other than those cited. A Health Related Hardiness Scale was developed by Pollock (1986) in an effort to better measure

hardiness in chronically ill individuals. A Family Hardiness Index was used by Oberst, Hughes, Chang, and McCubbin (1991) to measure hardiness within families. Nowack (1990) incorporated hardiness into his own 123 point questionnaire to assess stress and health risk. Nagy and Nix (1989) modified Kobasa and Maddi's hardiness instrument in their research. Hull, Van Treuren, and Virmelli (1987) stated ". . . Unfortunately, there now exist nearly as many ways to measure hardiness and its subcomponents as there are people conducting research on the topic" (p. 521).

Several questions have arisen about the Kobasa/Maddi hardiness instrument. The second generation instrument, in particular, has been open to philosophic and scoring criticism (Dane, 1992). One question raised by Hull, Van Treuren, and Virmelli (1987) was whether hardiness was a unitary measure or three separate constructs. Their contention was that hardiness should not be measured as a unitary construct citing the literature and the belief that the challenge subscale had little ability to explain health outcomes. Dane (1991), Director of the Hardiness Research Institute, stated that the subscales of hardiness are curvilinear in their relationship to hardiness. Scoring must be completely interactive. "One does not simply add up two oxygens and a hydrogen and then lament that the concentration of this latent variable, water, demeans understanding of the parts" (Dane, 1991, p. 5). Parkes and Rendall (1988) of England found their data "to support Kobasa's claim that the three components of hardiness are sufficiently closely related to form a single scale. . ." (p. 788).

A second question regarding the measure of hardiness was brought forward by Contrada (1989). He reported that hardiness promoted health independently of stress rather than acting as a buffer or moderator of stress by reducing illness among persons under high stress. Roth, Wiebe, Fillingim, and Shay (1989) concluded from their research that hardiness didn't act as a mediator in the stress-illness relationship but actually changed the interpretation of the stress event. Wiebe (1991) cited inconsistent research results in the literature as a problem. Hannah (1988) cited the possibility that hardiness worked

indirectly on the stress-illness relationship and that another moderator variable could be potentially involved in addition to hardiness. Lambert and Lambert (1987) cited the predominance of male subjects as a problem in the study of hardiness. Bigbee (1985) cited the need for hardiness research in varied populations.

One further question about hardiness and its measure was highlighted by Wagnild and Young (1991). They discussed whether hardiness was being measured or whether maladjustment was being measured by hardiness instruments.

Kobasa studied stressful life events, personality, and health in the first study of hardiness, a retrospective design (1979). A questionnaire was sent to 837 upper and middle level executives of a large utility company addressing stress events and illness in the previous three years. From that group, samples of high stress/low illness and high stress/high illness individuals were surveyed for hardiness. The high stress/low illness group of male executives exhibited more hardiness than the high stress/high illness group of male executives thus showing that personality potentially helped the executives stay healthy.

In 1982, Kobasa, Maddi, and Kahn undertook a prospective study of hardiness and health. The population in the study was 670 middle and upper level executives in a large utility company. Stressful life events and illness over the past three and one-half years were assessed via questionnaire. A random sample of 400 was then selected. Hardiness was assessed. Two other questionnaires at one year intervals were sent to those individuals assessing stressful life events and illness symptoms. The final sample over time was 259 executives, all male. "Results support the hypothesis by showing main effects on illness for both stressful life events and an interaction effect for these independent variables" (Kobasa, Maddi, and Kahn, 1982, p. 168). The authors concluded that hardiness functioned as a buffer for the effects of stressful events on illness (Kobasa, Maddi, and Kahn, 1982).

A 1983 research report in the Journal of Personality and Social Psychology outlined a study of 170 middle and upper level executives when studied for personality, social

assets, and perceived social support as moderators of stress-illness.

Personality hardiness and stressful life events consistently influenced illness scores, the former serving to lower symptomatology, the latter to increase it. Executives under high stress who perceived support from their supervisors had lower illness scores than those without support. Perceived family support. . . showed a negative effect on health when reported by those low in hardiness. Finally, social assets made no significant impact on health status (Kobasa and Puccetti, 1983, p. 839).

To the authors, the results indicated transformational coping as influences on social support.

In 1983, Kobasa, Maddi, and Zola studied Type A behavior and hardiness. They found that the two (2) interacted to influence onset of illness. High Type A behavior coupled with low hardiness showed the greatest deleterious effect on health in highly stressful life events. They concluded health-illness was a phenomenon of multiple determinations.

Effectiveness of Hardiness, Exercise, and Social Support as Resources Against Illness was authored by Kobasa, Maddi, Puccetti, and Zola and published in 1985.

Seventy male executives completed the study. Conclusions reached were:

1. With one (1), two (2), or three (3) stress resistance resources, level and probability of con-current illness and prospective illness decreased markedly and regularly, thus highlighting multiple resistance resources.
2. Hardiness was the most important of the resistance resources.

#### Hardiness and Chronic Health Conditions

Hardiness has been studied relative to a number of chronic health conditions largely utilizing Kobasa and Maddi's multi-generational hardiness measures and Pollock's Health Related Hardiness Scale. Chronic health conditions studied have included coronary artery disease, arthritis, cancer, radiotherapy, diabetes, end stage renal disease, multiple sclerosis, hypertension, autoimmune deficiency, developmental disabilities, and autism (Pollock, 1986; Goodwin, 1988; Okun, Zautra, and Robinson, 1988; Lambert, Lambert, Klipple,

and Mewshaw, 1989; Pollock, Christian, and Sands, 1990; Blaney, Goodkin, Morgan, Feaster, Millon, Szapocznik, and Eisdorfer, 1991; Blaney, Morgan, Feaster, Millon, Szapocznik, and Eisdorfer, 1991; Drory and Florian, 1991; Failla and Jones, 1991; Gill and Harris, 1991; Oberst, Hughes, Chang, and McCubbin, 1991).

Pollock (1986) studied physiologic and psychologic adaptation to diabetes, hypertension, and rheumatoid arthritis. Sixty adults comprised the sample. Hardiness in adults with diabetes was significantly correlated with both physiologic and psychosocial adaptation but not in those with hypertension or arthritis. Small sample size was cited as a potential problem in the study. Pollock, Christian, and Sands conducted a similar study with subjects with arthritis, hypertension, or multiple sclerosis in 1990. Hardiness was found to be the only variable related to physiologic and psychosocial adaptation. The study findings supported hardiness as directly effecting adaptation and indirectly effecting activities of health promotion. Health promotion activities were more often utilized by hardy individuals. Patient education programs, when available, were more often utilized by hardy persons.

In 1988, Goodwin studied hardiness and psychosocial adjustment in hemodialysis clients with end stage renal disease. One finding was that individuals with more years on dialysis were less hardy leading Goodwin (1988) to conclude that hardiness may not have been an asset to the individuals in the study. The possibility that hardiness buffered adjustment to dialysis in early treatment but that effects waned with time was explored as was the effect of the individual's high creatinine levels on "energy for hardiness". The study showed no correlation between hardiness and psychosocial adjustment.

Hardiness and satisfaction with social supports available to the individual were found to be significant predictors of psychologic well-being in the 122 arthritic women studied by Lambert, Lambert, Klipple, and Mewshaw (1989). The conclusion was made that the two (2) variables had potential for facilitating effective coping with arthritis irrespective of severity of the condition. Hardiness training was recommended for those



individuals low in hardiness. The long-term psychosocial adjustment to coronary artery disease was studied relative to the hardy personality by Drory and Florian (1991). They concluded:

The multiple correlation analyses made it evident that hardiness was the most salient correlate of the various psychosocial adjustment domains. The consistency of the findings demonstrates that the basic hypothesis of our study is a valid one, and therefore, in this regard, Kobasa's elucidation of hardiness as a major internal resource for coping with stressful life circumstances has been substantiated (Drory and Florian, 1991, p. 329).

Hardiness as a buffer against stress was evidenced by the findings of Gill and Harris' (1991) study of hardiness and social support as predictors of psychological discomfort in mothers of children with autism. Positive appraisal of stressors was found by Failla and Jones (1991) in their study of hardiness in families of children with developmental disabilities. Higher levels of family hardiness were tied to positive coping which enhanced family relationships, family life, and family functioning.

The finding that family hardiness was related to positive appraisal of stressors, rather than the actual stressors supports previous research that individuals with a high level of hardiness perceived stressful life events as a challenge, not a burden (Failla and Jones, 1991, p. 47).

### Hardiness and Physiologic Parameters

Various physiologic parameters and hardiness have been assessed in five different research studies. In each of the studies, a challenging task had been given to participants while key vital signs were assessed. Hardiness had a significant and positive impact on blood pressure when Type A behavior, age, and history of hypertension in parents were held constant in Becknell's (1989) study. Systolic blood pressure was increased for hardy subjects during the task condition in Allred and Smith's (1989) research. Active coping was theorized to be an explanation for this finding by the authors. Contrada (1989) found hardiness to be associated with significantly lowered diastolic blood pressures in a sample of 68 male undergraduate students. Heart rate increases during experimental conditions were not as high for high hardy men as low hardy men in Wiebe's (1991) research.

Hardiness and heart rate were not correlated for women. Greater finger pulse amplitude was found in high hardy college students under conditions indicating diminished arousal state in Frohm's (1987) study of hardiness, Type A behavior, and autonomic reactivity. Finger pulse amplitude recovery was greater in hardy subjects following task conditions.

### Hardiness and Type A Behavior Pattern

Hardiness was found to have a strong buffering effect on psychological distress in Type A subjects in a study of 193 human service employees at the University of California, Los Angeles (Nowack, 1986). The relationship between Type A behavior and hardiness was not evidenced in a sample of Japanese males nor was it evidenced in a sample of Japanese females (Nakano, 1990 a and b). In a study of Type A behavior, hardiness, and coping with conflict in roles by Fund (1989), Type A, low hardy subjects were found to cope less effectively than Type B, high hardy subjects. Additionally, Type A, high hardy subjects as opposed to Type A, low hardy subjects reported fewer role conflicts. Vogel in a 1988 research abstract reported results suggesting

. . .that TABP (Type A behavior pattern) is significantly different for hardy and non-hardy subjects and that TABP (Type A behavior pattern) and hardiness together form a more complete picture of the Type A "personality" than either measure alone. Furthermore, these results suggest that treatment of Type A behavior may be best directed toward the non-hardy Type A individual (Vogel, 1988, Abstract).

### Hardiness and Grief

Hardiness and its role in grief resolution was studied by Campbell, Swank, and Vincent (1991) of the University of Houston. In their sample of 70 widows, it was determined that hardiness may have been a critical element in the ability to resolve grief as level of grieving decreased as hardiness increased. The authors felt that Kobasa and Maddi's tenet of hardiness as a buffer in the stress-illness relationship was supported by their data.

### Hardiness and Humor

Humor as a coping mechanism and higher hardiness level were found to be significant at the .05 level in a study of breastfeeding mothers and their infants (Dillon and Totten, 1989). The breastfeeding mother's hardiness level was linked to incidence of upper respiratory infections in their infants. Mothers with higher hardiness levels had infants with fewer upper respiratory infections.

### Hardiness and Older Adults

Hardiness has recently been studied in populations of a much different age range than Kobasa's original work (1979). Hardiness and its relationship to aspects of older adult's lives has been studied. In 1986, Magnani studied the relationship of hardiness and self-perceived health to level of activity in independently functioning older adults. Findings included: a) high hardy older adults were more active and b) the combination of level of hardiness and self-perceived health explained more of the variance in level of activity than either variable analyzed singly. Thus, Magnani (1990) concluded that hardiness was "an antecedent variable of successful aging" (p. 171).

Statistical analysis of a Boston University study supported the hypothesis that older adults with higher hardiness levels and self-care practices would have a higher perceived health status (Nicholas, 1989). And, hardiness was the most important predictor of life satisfaction in Smith's (1990) study of 129 noninstitutionalized rural older adults.

### Hardiness and Other Personality Characteristics

Hardiness has been studied and/or discussed relative to a number of personality characteristics. Holahan and Moos (1985) discussed hardy individuals as sharing many of the same characteristics as self-confident individuals. In 1987, Scheier and Carver stated, "we think that a sense of optimism may in fact underlie some of the health-related outcomes to which hardiness has been linked" (p. 184).

Low hardiness was associated with low extraversion and high neuroticism in Parkes and Rendall's (1988) research. Campbell, Amerikaner, Swank, and Vincent (1989) drew a parallel between self-actualized persons and hardy persons. Rhodewalt and Zone (1989) believed lack of hardiness to be a correlate of negative affectivity as opposed to a buffer of stress.

### Hardiness and Job Satisfaction

Two major studies related job satisfaction and hardiness in first, athletic trainers, and second, law enforcement officers. The first study focused upon a random sample of 197 male and female athletic trainers. A hardy personality was found to correlate with overall job satisfaction. The findings were suggested to be important to the education and hiring of trainers (Shapiro, 1987). Kennedy (1988), in her dissertation, studied the relationship of hardiness, stress, and job satisfaction in law enforcement officers. A stratified random sampling procedure was used. Five hundred questionnaires were sent with 173 responses. Hardiness predicted job satisfaction in the officers. Hardiness as a buffer to stress was not corroborated by data analysis. The authors remarked in summary that since law enforcement was so stressful, more knowledge about hardiness was needed so those able to cope with the stress could be identified.

### Hardiness and Time Management

Ability to manage time was studied relative to hardiness in a mixed sample of male and female executives by Cloutier (1989). The relationship between hardiness and time management was significant. It was recommended that trainers incorporate personality into time management education. The significant time management-hardiness relationship was found in Ruocco's (1990) work as well. Ruocco (1990) studied female school administrators in the state of Connecticut. Hardiness was a significant predictor of time management utilization after controlling for level of job, age, and experience.

### Hardiness and Noise Sensitivity

Topf (1989) studied noise sensitivity, hardiness, and noise-induced stress in nurses working critical care units. A convenience sample consisting of 100 nurses from two West Coast hospitals was surveyed. Topf (1989) postulated that ". . .less sensitivity to noise and greater personality hardiness may act as noise induced stress resistance resources" (p. 717).

### Hardiness and Burnout

A significant relationship between hardiness and burnout was found in 12 different research studies. No study was found that did not find a significant relationship between hardiness and burnout. The samples in the studies consisted of various occupational groups. One study focused on student resident assistants, six (6) on nurses, one (1) on school psychologists, one (1) on teachers, one (1) on ministers, one (1) on college deans, and one (1) on medical record department directors (Berger, 1983; Nowack and Hanson, 1983; Jama, 1986; McCranie, Lambert, and Lambert, 1987; Rich and Rich, 1987; Simoni, 1987; Topf, 1989; Payne, 1990; Pierce and Molloy, 1990; Schiavo, 1990; Boyle, Grap, Younger and Thornby, 1991; Brodник 1991).

In Berger's (1983) dissertation, an investigation of the relationship among burnout, hardiness, job and demographic characteristics, life event change, and physical health in school psychologists was conducted. The degree of burnout in the 625 subjects was significantly related to psychological hardiness, physical health, life event changes, and selected job and personal demographics. A .05 level of significance was used in the study.

A study of the relationship between stress, job performance, and burnout was conducted with college student resident assistants. "Cognitive hardiness was found to be positively and significantly associated with both severity and frequency of the depersonalization and personal accomplishment dimensions of burnout" (Nowack and Hanson, 1983, p. 548). The authors suggested screening resident assistants for hardiness and burnout

before renewing contracts for a second year.

Jama (1986) researched the relationship between burnout and hardiness in nurses specialized in anesthesia. Hardiness was predictive of burnout in the study. Young age and low hardiness were the best predictors of burnout in an investigation of hardiness and burnout in female staff nurses. One hundred fifty-three staff nurses with at least one (1) year of experience constituted the sample. The nurses had a mean age of 36.61 years, a mean of 12.51 years experience, 70% held full-time jobs, and 75% were married. All hospital units and work shifts were included in the study (Rich and Rich, 1987).

Less hardy nurses reported a higher incidence of job-related stress and more burnout in research by McCranie, Lambert, and Lambert (1987). Screening for hardiness was recommended as part of the job interview for staff nurses by the authors.

Hardiness predicted burnout and occupational stress in 100 critical care nurses studied by Topf (1989). The stress buffering effect of hardiness was not confirmed by the research. "The present findings thus provide support for future studies on the causal links and relative strength of influence of stress, hardiness, and burnout in nurses" (Topf, 1989, p. 184).

A 1990 dissertation by Schiavo of stress, hardiness, and burnout in 348 college deans found that hardy subjects showed less burnout than less hardy subjects. Education deans who were most stressed but less hardy showed the highest degree of burnout. The converse was shown as well.

Hardiness, coping, social support, and burnout in critical care nurses was researched in 1991 by Boyle, Grap, Younger, and Thornby. "Work-related and nonwork-related social support and hardiness were negatively related to burnout" (p. 850). The authors highlighted the stressful nature of nursing and stated, ". . .it is important to prevent those who are brightly burning from becoming burned out" (p. 857).

### Hardiness and Absenteeism

Lowered absenteeism related to higher hardiness was found in one (1) of three (3) study groups in comparative research by Conrad, Riedel, and Gibbs (1990). Dissertations by Neubauer (1988) and Williams (1988) found low absenteeism to be both related to hardy personality (Neubauer, 1988) and not related to hardy personality (Williams, 1988).

### Hardiness and Personal and Job Characteristics

While the original hardiness studies found little relationship between demographics and hardiness in the all male executive samples, other researchers have found significant relationships. Hardiness in subjects was related to being married in Rummel's (1991) dissertation and Daly-Barnes (1989) dissertation. Marital status and hardiness were significantly correlated in Schmied and Lawler's (1986) research. Subjects never married were harder than those divorced in Goodwin's (1988) research. Gender was correlated with hardiness in works by Parkes and Rendall (1988), Stephenson (1988), Cloutier (1989), and Wiebe (1991).

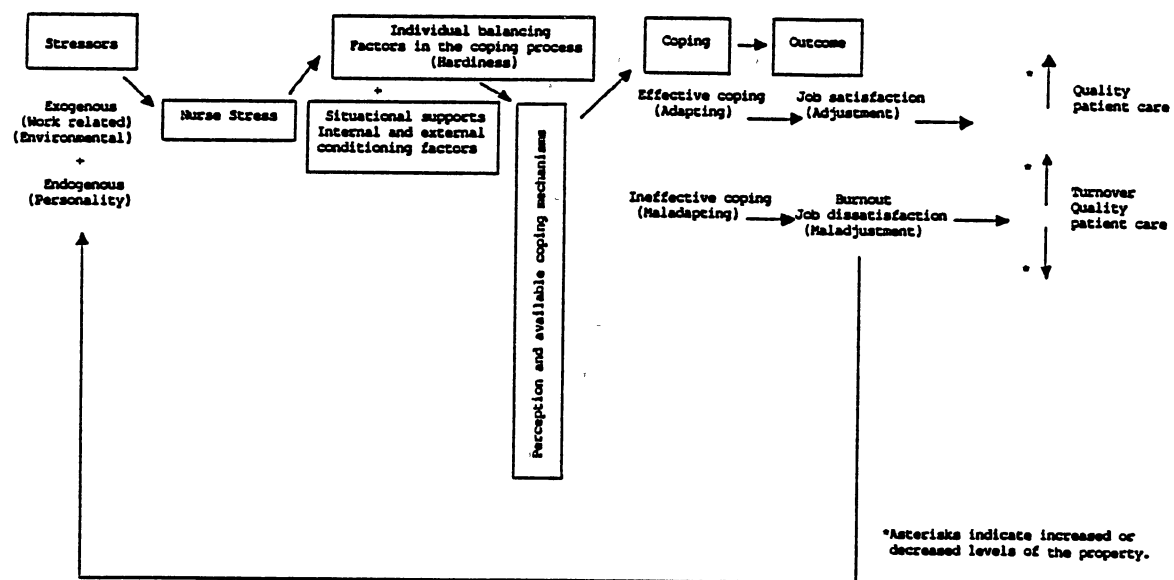
Older breastfeeding mothers exhibited higher levels of hardiness in one (1) study (Dillon and Totten, 1989). Age and hardiness were correlated in at least four (4) other studies as well (Schmied and Lawler, 1986; Macewen and Barling, 1988; Okun, Zautra, and Robinson, 1988; Parkes and Rendall, 1988).

Being employed full-time as opposed to part-time contributed to higher hardiness in Kelly's (1990) dissertation. Employment status and hardiness were directly related in research by Okun, Zautra, and Robinson (1988). Socioeconomic status and hardiness were positively correlated in Macewen and Barling's (1988) research on interrole conflict, family support, and marital adjustment of employed mothers. Ethnicity and hardiness were related in a 1990 study (Smith). Hardiness and shift worked interacted to produce a significant amount of variance in stress induced by noise in Topf's (1989) study of sensitivity to noise, hardiness, and noise-induced stress in critical care nurses.

Amount of education and hardiness were related in research by Daniel (1986), Schmied and Lawler (1986), Daly-Barnes (1989).

### Hardiness and Turnover

While no research studies were found studying hardiness and turnover, a 1989 Advances in Nursing Science article written by Harris theorized a potential stress, coping, burnout, and turnover linkage. A paradigm for the analysis of stress-coping effects in nurses was set forth by the author as follows:



Source: Harris R. (1989). Reviewing Nursing Stress According to a Proposed Coping-Adaptation Framework. Advances in Nursing Science, 11 (2), 12-28.

Figure 1. Paradigm for the Analysis of Stress-Coping Effects in Nursing

Harris (1989) summarized literature on burnout, stress, coping, hardiness, and turnover in nursing:

. . .nurses who are burned out have less hardiness; have higher stress, anxiety, and turnover, are younger, less experienced, more hassled,



less educated, less involved with working conditions, and less able to anticipate problems at work; and have feelings of alienation, powerlessness, and a lack of control as well as somatic complaints (pp. 24 and 25).

Harris (1989) noted a dearth of research answering the question of how to decrease the nursing problems of stress, burnout, and turnover. "It is time to move forward in investigating this topic if for no other reason than to rationalize nursing activities" (Harris, 1989, p. 26).

Rich and Rich (1987) addressed the need for future research in nursing burnout and hardiness as well.

If the hardy personality is a buffer against burnout, and the hardy personality can be determined by measurement, nurse administrators might use this to aid in the selection and placement of staff nurses (p. 66).

Jama (1986) further recommended hardiness testing as part of interviewing and hiring nursing personnel. "Good fit" between nurses and their workplaces was advocated by Langemo (1990) to aid positive mental health, optimum physical health, and positive self-esteem. Her research found hardy nurses perceiving "good fit" with their work environment. Kerfoot, Stonestreet, and Denning (1989) saw "good fit" as a cost containment issue in their Nursing Economics article and recommended assessing for "fit" in the interview process.

Rich and Rich (1987) addressed Kobasa and Maddi's contention that hardiness could be learned at any point in life and suggested training for hardiness in the workplace. Hardiness testing for identification of those nurses in need of hardiness training was advocated by Lambert and Lambert (1987).

No research was found describing who the hardy nurse is, where the hardy nurse works, or personal and job demographics characterizing hardy nurses. That type of research could potentially build a foundation for the study of turnover in nursing. If the hardy nurse could be characterized by personal and job characteristics, "good fit" between nurse and workplace could more likely be achieved and education for hardiness could begin. With those measures, stress, burnout, and turnover could be reduced, quality of

care enhanced, and costs in health care diminished.

### Summary of Hardiness

The study of hardiness in humans began in the late 1970's with the research of Kobasa and Maddi. Hardiness, a personality construct, is composed of three (3) components - control, commitment, and challenge. Kobasa and Maddi have purported hardiness to be a buffer in the stress-illness relationship. Others do not agree. Hardiness, as measured by Kobasa and Maddi, has been reported to be in the third generation of development. The most refined measure of hardiness (third generation) to date has been the Personal Views Survey. For the most part, studies reviewed in this section utilized Kobasa and Maddi's multi-generational measures of hardiness. However, numerous studies have utilized other measures of hardiness including Pollock's Health Related Hardiness Scale, the Family Hardiness Index, and numerous adaptations of Kobasa and Maddi's measures of hardiness. The inconsistent approach to the measure of hardiness in research has been a criticism cited in the literature. Criticisms of hardiness as a personality construct have been made as well.

Relationships between hardiness and numerous variables have been researched including chronic health conditions, Type A behavior, physiologic parameters, grief, humor, other personality characteristics, job satisfaction, time management, noise sensitivity, burnout, and absenteeism. A potential link between hardiness and turnover has been purported.

### Chapter Summary

Chapter II has presented a review of the literature in nursing turnover and hardiness. Nursing turnover was defined. Nursing turnover to date has focused on quits and the reasons for them. Fiscal and human costs of nursing turnover were delineated. Fiscal costs per registered nurse turnover have been reported as high as \$50,000

(Jones, 1990a). Nursing turnover has resulted in the closing of hospital units, negative job attitudes, increased stress within the workplace, and an increased tendency for those left behind to voluntarily leave as well. Causes of nursing turnover were reviewed.

Hardiness as control, commitment, and challenge was defined and measures of hardiness were considered. Hardiness, as originally measured by Kobasa and Maddi, has evolved into the third generation of measurement, the Personal Views Survey. However, various researchers have either adopted Kobasa and Maddi's measures of hardiness or have developed other measures of hardiness such as the Health Related Hardiness Scale by Pollock. Numerous and inconsistent approaches to the measure of hardiness have received criticism in the literature.

The original hardiness studies focused on hardiness, stress, and health in male executive populations. Hardiness has since been studied relative to a number of variables including various chronic health conditions, behaviors, physiologic parameters, grief, humor, personality, job satisfaction, management of time, sensitivity to noise, and absenteeism. Studies of hardiness in nurses have focused primarily on the relationship between hardiness and burnout. A dearth of literature has existed relative to nursing turnover and hardiness although a potential relationship has been identified. Study of hardiness and various personal and job characteristics revealed inconsistent results. Correlations have been found between hardiness and marital status, gender, age, employment status, socioeconomic status, ethnicity, shift worked, and amount of education.

Chapter III will consist of the description of methodology, the selection of subjects, the instrumentation used in the research, the procedures for collection of data, and the analysis of data.

## CHAPTER III

### METHODOLOGY

The study could be considered as applied research. Applied research, according to Bloom (1986) . . ."enables people to resolve problems or to obtain desired objectives" (p. 54). The study was designed to address the problems of high turnover in nursing thus affecting quality health care and cost containment issues.

The research design utilized in the study was pseudoexperimental, according to Huck, Cormier, and Bounds (1974). In particular, the one-shot case study was utilized. The one-shot case study can be diagrammed as follows:

X	O
(Independent Variables)	(Dependent Variable)
Personal and Job Characteristics	Level of Hardiness

In the words of Huck, Cormier, and Bounds (1974):

These designs are called psuedoexperimental because they do not have built-in controls. In addition to the independent or treatment variable, there may be several other plausible explanations for the dependent variable changing or remaining the same. This design. . .perhaps should be more appropriately referred to as a descriptive study. The most obvious weakness of this design is the absence of control. . .the researcher who uses this design knows little about the cause-and-effect relationship between the independent and dependent variable (pp. 226-231).

When little is known about a particular area, it is important to "know something about the characteristics of our subjects before trying to study more complex research questions" (Borg, 1981, p. 129). Therefore, the research design used in the study is important in the field of education (Borg, 1981).

This chapter is divided into four (4) main sections:

1. Selection of Subjects
2. Instrumentation
3. Collection of Data Procedures
4. Analysis of Data

### Selection of Subjects

The population included in the study was currently licensed, active status registered nurses in the states of Kansas, Oklahoma, and Kentucky. The State Board of Nursing of each state was contacted for names and addresses of nurses registered in the states. The population represented by this study included approximately 25,000 registered nurses from Kansas, approximately 21,500 registered nurses from Oklahoma, and approximately 25,000 registered nurses from Kentucky. The states from which registered nurses were sampled were selected utilizing a purposive sampling procedure. The states were selected with different geographical areas of licensure in the United States and total registered nurse population from that state as considerations. The states selected represented the Midwest and the South in the United States. As researchers must pay the respective State Boards of Nursing for the current registered nurse registries, total population of registered nurses in a state was a key factor in selection of states from which to sample registered nurses.

After selection of states, registered nurses who met the criteria of being both active status and currently licensed were sampled. The sample consisted of 900 active, current registered nurses, 300 from each of the three (3) states. The sample was randomly obtained. Both Kansas and Kentucky randomly selected the sample for the researcher per computer. The sample from Oklahoma was randomly selected by the researcher. The oversample of 900 was used to obtain a desired return of at least 375 so results could be generalized with a 95% confidence level.

## Instrumentation

The research instrument was composed of two (2) parts - The Personal and Job Characteristics Questionnaire and The Personal Views Survey, the measure of hardiness (Appendix C).

The Personal and Job Characteristics Questionnaire was structured around some of those characteristics that describe the uniqueness of the individual and his/her work characteristics. Five (5) major sources were used for construction of the tool by the author: Price and Mueller's (1986) questionnaire used in their research of absenteeism and turnover of hospital employees; Simoni's personal and demographic questions in a 1987 dissertation on hardiness and burnout; Lerner's study of occupational behavior and attitudes among new registered nurses (1991); The American Nurses' Association's 1992 American Nurse Readership Survey and The Demographics Section of the Kansas State Board of Nursing's Renewal Application (1992). Most items were modified by the researcher. The instrument was reviewed by six (6) registered nurses in active practice for content and face validity. Appropriate suggestions were incorporated in the final version of the instrument.

The Personal Views Survey served as the measure of hardiness. It was developed by Kobasa and Maddi and reflects the third generation hardiness scale. The hardiness measure has been refined in the approximate 15 years since it was first developed. The Personal Views Survey consisted of 50 items. The instrument had adequate reliability and validity as reported by Dane (1992), Director of The Hardiness Research Institute and the literature (Kobasa, Maddi, Zola, 1983). In Dane's (1992) words:

The alpha coefficients for the Hardiness Scale are based on 21,000 subjects.

These people come from all walks of life and a multitude of circumstances.

Alpha .92

Mean Hardiness Score 74.02

SD 9.60

Our reliability study based on test/retest of over 400 subjects shows an item-to-item correlation of about .960 for the individual items (p. 2).

Basic statistics and performance information on the full survey showed:

Item	Mean	SD	Alpha
Commitment	38	5.08	.917
Control	39	4.33	.902
Challenge	34	5.26	.894
Hardiness	74.02	9.60	.924
Test/Re-test	.934		

The author paid for the use of the Personal Views Survey as it was a copyrighted research instrument. The Hardiness Institute scored the hardiness instrument to protect its copyright.

#### Collection of Data

Collection of data for the study occurred in May, 1992. The personal and job characteristics and hardiness profiles were sent by first class mail to the randomly selected registered nurses in the three (3) selected states - Kansas, Oklahoma, and Kentucky. A cover letter (Appendix A) was sent with each instrument providing an overview of the research. The cover letter delineated that permission to be included in the study was given automatically with return of the instrument. The instrument was not personally identifiable to the researcher upon its return. There was no coding and places for names were not included on the instruments. Each participant was assured anonymity and was given an opportunity to call the researcher, collect, if questions arose. A self-addressed, stamped envelope was included for return of the instrument. Those participants desirous of results of the study were urged to declare their interest via a separate mailing or a collect call to the researcher. A postcard reminder to return the survey was sent to all registered nurses in the sample, ten (10) days after the instrument was sent (Appendix B).

#### Analysis of Data

The Hardiness Research Institute derived the hardiness score for each registered nurse. The hardiness score and the personal and job demographic data were coded and

entered into the computerized data file. The statistical program SAS was used to provide descriptive statistics and to perform analysis of variance (ANOVA).

Descriptive data included all personal and job characteristics used to describe the sample. Twenty-three ANOVAs were completed - one (1) for each of the different independent variables. A t-test was utilized to determine differences between respondents and nonrespondents for five (5) personal and job characteristics including age, number of years worked as a registered nurse, type of nursing position, practice in critical/intensive care area, and recent experience with turnover - number of different places worked in the past five (5) years.



## CHAPTER IV

### FINDINGS

#### Introduction

This chapter presents the analysis of data from the study of the relationship of selected personal and job factors and hardiness scores among registered nurses. Registered nurses from three (3) states in the United States participated in the study. Selected personal and job factors and hardiness scores were determined by survey questionnaire.

In this chapter, a description of the sample, the statistical analyses, and findings are presented.

#### Description of the Sample

The population from which the random sample was obtained included currently licensed, active status registered nurses from the states of Kansas, Oklahoma, and Kentucky. The population was comprised of approximately 25,000 registered nurses from Kansas, approximately 21,500 registered nurses from Oklahoma, and approximately 25,000 registered nurses from Kentucky. The random sample consisted of 300 active, current registered nurses in each of the three (3) states. Of the 900 research instruments sent, 456 were returned. Four hundred thirty-eight instruments were included in the study. Three (3) were returned after analysis of data had begun. Three (3) respondents were no longer currently licensed in any of the three (3) sampled states. Eight (8) respondents did not have an active status license. And, four (4) instruments were returned with major sections missing. The overall return rate was 50.7%.

A t-test was utilized to determine differences between respondents and nonrespondents for five (5) personal and job characteristics including age, number of years worked as a registered nurse, type of nursing position, practice in critical/intensive care area, and recent experience with turnover - number of different places worked in the past five (5) years. Table I outlines the findings with the only significant difference between respondents and nonrespondents being in the variable type of nursing position. Fewer staff nurses were included in the nonrespondent group.

TABLE I  
T-TEST BETWEEN RESPONDENTS AND NONRESPONDENTS  
FOR FIVE PERSONAL AND JOB CHARACTERISTICS

Characteristic	t-Value	Significance
Age	1.21	0.8140
No. of Years Worked as R.N.	2.36	0.1549
Type of Nursing Position	2.63	0.0115*
Practice in Intensive Care Area	1.32	0.6872
No. of Different Places Worked in Past Five Years	1.16	0.6326

\*Significant beyond .05

Tables II through IX present descriptive statistics describing the subjects included in the study sample. Numbers as well as percentages are included for selected independent variables (personal and job characteristics).

Table II shows that participants returning questionnaires included 418 females (95.9%) and 18 males (4.1%). There were 166 females and nine (9) males totaling 175

TABLE II  
GENDER, AGE, AND MARITAL STATUS OF RESPONDENTS  
BY STATE OF LICENSURE, BY NUMBER  
AND PERCENT

Characteristic	State of Licensure									
	No.	<u>KS</u> %	No.	<u>OK</u> %	No.	<u>KY</u> %	No.	<u>Multiple</u> %	No.	<u>Total</u> %
<u>Gender</u>										
Female	166	94.9	117	96.7	131	96.3	4	100.0	418	95.9
Male	9	5.1	4	3.3	5	3.7	0	0.0	18	4.1
Total	<u>175</u>	<u>100.0</u>	<u>121</u>	<u>100.0</u>	<u>136</u>	<u>100.0</u>	<u>4</u>	<u>100.0</u>	<u>436</u>	<u>100.0</u>
<u>Age</u>										
Less than 25	39	22.2	1	0.8	2	1.5	0	0.0	42	9.6
25-34	71	40.3	18	14.8	48	35.3	1	25.0	138	31.5
35-44	45	25.6	38	31.2	50	36.8	2	50.0	135	30.8
45-54	18	10.2	39	32.0	26	19.1	0	0.0	83	19.0
55-64	3	1.7	17	13.9	10	7.4	1	25.0	31	7.1
65+	0	0.0	9	7.4	0	0.0	0	0.0	9	2.1
Total	<u>176</u>	<u>100.0</u>	<u>122</u>	<u>100.1*</u>	<u>136</u>	<u>100.1*</u>	<u>4</u>	<u>100.0</u>	<u>438</u>	<u>100.1*</u>
<u>Marital Status</u>										
Single	27	15.4	7	5.7	14	10.3	0	0.0	48	11.0
Married	126	72.0	92	75.4	103	75.7	3	75.0	324	74.1
Divorced/Separated	20	11.4	18	14.8	17	12.5	1	25.0	56	12.8
Widowed	2	1.1	5	4.1	2	1.5	0	0.0	9	2.1
Total	<u>175</u>	<u>99.9*</u>	<u>122</u>	<u>100.0</u>	<u>136</u>	<u>100.0</u>	<u>4</u>	<u>100.0</u>	<u>437</u>	<u>100.0</u>

\*Totals may not equal 100% due to rounding.

participants representing Kansas licensure; 117 females and four (4) males totaling 121 participants representing Oklahoma licensure; 131 females and five (5) males totaling 136 participants representing Kentucky licensure; and four (4) females and zero (0) males with licensure in a combination of the study states Kansas, Oklahoma, and Kentucky. These figures represented 40.1% of the total sample from Kansas licensure, 27.8% from Oklahoma licensure, 31.2% from Kentucky licensure, and 0.9% from a combination of the three (3) states.

The largest number of registered nurses in the sample were from the 25 to 34 and 35 to 44 age ranges (Table II). The 45 to 54, less than 25 years, 55 to 64, and 65 years plus ranges followed in the order of numbers represented in the sample. The registered nurse sample from Kansas was younger than the sample from the other two (2) states or from the combination of states group. For example, the less than 25 years age group comprised 9.6% of the total sample with 8.9% of the total sample less than 25 years coming from Kansas licensure. Only 11.9% of nurses with Kansas licensure were 45 or older as compared to 53.3% with Oklahoma licensure, 26.5% with Kentucky licensure, and 25% with combination state licensure.

The vast majority of all registered nurses in the sample were married - 324 of 437 answering the marital status question (Table II). That represented 74.1% of the study sample. Kansas had more single (never married) individuals than did Oklahoma or Kentucky - 27 (15.4%), as compared to Oklahoma's 7 (5.7%), Kentucky's 14 (10.3%) and the multiple state group's 0 (0.0%).

Registered nurses sampled from Kansas had the largest percentage of no children respondents - 36.4% (Table III). Oklahoma reflected 13.1% with no children, Kentucky reflected 16.2% with no children, and 25% of the combination group reflected no children. A total of 103 (23.5%) of the 438 respondents in the study had no children. Seventy-eight (17.8%) had one (1) child; 125 (28.5%) had two (2) children; 82 (18.7%) had three (3) children; 31 (7.1%) had four (4) children; and, 19 (4.3%) had five (5) or more children.

TABLE III  
TOTAL NUMBER OF CHILDREN, BASIC EDUCATION IN NURSING,  
AND HIGHEST EDUCATIONAL LEVEL OF RESPONDENTS  
BY STATE OF LICENSURE, BY NUMBER  
AND PERCENT

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Number of Children</u>										
None	64	36.4	16	13.1	22	16.2	1	25.0	103	23.5
One	27	15.3	17	13.9	34	25.0	0	0.0	78	17.8
Two	44	25.0	37	30.3	43	31.6	1	25.0	125	28.5
Three	30	17.1	31	25.4	20	14.7	1	25.0	82	18.7
Four	7	4.0	13	10.7	10	7.4	1	25.0	31	7.1
Five or more	4	2.3	8	6.6	7	5.2	0	0.0	19	4.3
Total	176	100.1*	122	100.0	136	100.1*	4	100.0	438	99.9*
<u>Basic Nursing Education</u>										
Diploma	6	3.4	47	38.8	25	18.5	1	25.0	79	18.2
Associate Degree	90	51.4	39	32.2	70	51.9	0	0.0	199	45.8
Baccalaureate Degree	79	45.1	35	28.9	40	29.6	3	75.0	157	36.1
Total	175	99.9*	121	99.9*	135	100.0	4	100.0	435	100.1*
<u>Highest Educational Level</u>										
Associate Degree (Nursing)	83	47.2	33	27.1	56	41.5	0	0.0	172	39.4
Diploma	2	1.1	39	32.0	20	14.8	0	0.0	61	14.0
Baccalaureate Degree (Other)	8	4.6	7	5.7	9	6.7	0	0.0	24	5.5
Baccalaureate Degree (Nursing)	79	44.9	31	25.4	38	28.2	3	75.0	151	34.6
Masters Degree (Other)	4	2.3	5	4.1	1	0.7	1	25.0	11	2.5
Masters Degree (Nursing)	0	0.0	5	4.1	10	7.4	0	0.0	15	3.4
Education Specialist	0	0.0	1	0.8	0	0.0	0	0.0	1	0.2
Doctorate (Other)	0	0.0	1	0.8	0	0.0	0	0.0	1	0.2
Doctorate (Nursing)	0	0.0	0	0.0	1	0.7	0	0.0	1	0.2
Total	176	100.1*	122	100.0	135	100.0	4	100.0	437	100.0

\*Totals may not equal 100% due to rounding.

Forty-five and eight-tenths percent of the total sample or 199 respondents' basic education in nursing was at the associate degree level (Table III). The next largest group of respondents held baccalaureate degrees as their basic education in nursing. Diploma level registered nurses was the smallest group in the sample. Of 175 registered nurses from Kansas answering the basic education questions, 6 (3.4%) held diplomas, 90 (51.4%) associate degrees, and 79 (45.1%) baccalaureate degrees as their basic education in nursing. Of 121 registered nurses from Oklahoma, 47 (38.8%) held diplomas, 39 (32.2%) associate degrees, and 35 (28.9%) baccalaureate degrees. Of 135 registered nurses from Kentucky, 25 (18.5%) held diplomas, 70 (51.9%) associate degrees, and 40 (29.6%) baccalaureate degrees. In the combination or multiple state licensure category, 1 (25%) registered nurse held a diploma as their basic education in nursing, none (0%) held associate degrees, and 3 (75%) held baccalaureate degrees. Therefore, the largest percentage of diploma registered nurses held Oklahoma licensure, the largest percentage of associate degree registered nurses held Kentucky licensure, and the largest percentage of baccalaureate degree nurses held Kansas or multiple state licensure. In fact, Kansas had over half (50.3%) of all registered nurses in the total sample with baccalaureate degrees in nursing as their basic education in nursing.

The highest educational level attained for the total sample by state licensed as a registered nurse revealed that Kansas had 83 respondents with associate degrees as highest educational level (Table III). Kansas also had two (2) respondents with diplomas in nursing, eight (8) respondents with baccalaureate degrees in other fields, 79 respondents with baccalaureate degrees in nursing, four (4) respondents with masters degrees in other fields, and no masters in nursing degrees or higher level degrees. Oklahoma licensed registered nurses were composed as follows: 33 respondents with associate degrees in nursing as highest educational level attained, 39 respondents with diplomas in nursing, seven (7) respondents with baccalaureate degrees in other fields, 31 respondents with baccalaureate degrees in nursing, five (5) respondents with masters degrees in other fields,

five (5) respondents with masters degrees in nursing, one (1) respondent with an education specialist degree, one (1) respondent with a Ph.D., other field, and no respondents with Ph.D. in nursing degrees. Kentucky licensed registered nurses held 56 associate degrees in nursing as highest educational level, 20 diplomas, nine (9) baccalaureate degrees, other fields, 38 baccalaureate degrees, nursing, one (1) masters, other field, and ten (10) masters in nursing degrees. The only other higher level degree reflected by Kentucky nurses was one (1) Ph.D. in nursing degree. The combination or multiple state group held three (3) baccalaureate degrees in nursing as the highest educational level attained and one (1) masters degree, other field.

Number of years worked as a registered nurse detailed in Table IV revealed the largest number of respondents, 30.3%, as having worked one (1) to two (2) years as a registered nurse.

Table IV reveals that the largest number and percentage of registered nurses sampled worked full-time in nursing - 330 (75.5%). One hundred fifty-one of the 330 (85.8%) registered nurses working full-time in nursing held Kansas licensure as compared to 77 (63.6%) in Oklahoma, 99 (72.8%) in Kentucky, and 3 (75%) in the multiple state licensure category. Part-time work in nursing was the next largest group with 76 or 17.4% of the sampled registered nurses fitting in that group. Eight (1.8%) respondents were retired in the total sample, 11 (2.5%) were not employed outside the home, 9 (2.1%) were employed but not in nursing, and 3 (0.7%) worked in a combination of employment in nursing and in another field concurrently or full-time and part-time in two (2) different nursing positions.

In Table IV, type of nursing position currently held, the vast majority of all respondents were staff nurses - 272 (62.8%). This was true for all three (3) states and the multiple state licensure group as well. Over half of all staff nurse positions, 144 out of 272, were held by Kansas registered nurses. Oklahoma and Kentucky held the largest percent of supervisors, 13.3% each. Oklahoma had six (6) of the 12 administrators in the

TABLE IV  
NUMBER OF YEARS WORKED AS A REGISTERED NURSE, EMPLOYMENT  
STATUS, AND TYPE OF NURSING POSITION OF RESPONDENTS  
BY STATE OF LICENSURE, BY NUMBER  
AND PERCENT

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Number of Years Worked as R.N.</u>										
Less than 1 year	47	26.7	0	0.0	4	2.9	0	0.0	51	11.7
1-2 years	111	63.1	11	9.2	9	6.6	1	25.0	132	30.3
3-5 years	6	3.4	11	9.2	20	14.7	0	0.0	37	8.5
6-10 years	3	1.7	18	15.0	31	22.8	0	0.0	52	11.9
11-15 years	3	1.7	27	22.5	25	18.4	2	50.0	57	13.1
16-20 years	3	1.7	17	14.2	27	19.9	0	0.0	47	10.8
21-25 years	0	0.0	7	5.8	10	7.4	0	0.0	17	3.9
More than 25 years	3	1.7	28	23.3	9	6.6	1	25.0	41	9.4
Not applicable	0	0.0	1	0.8	1	0.7	0	0.0	2	0.5
Total	176	100.0	120	100.0	136	100.0	4	100.0	436	100.1*
<u>Employment Status</u>										
Full-time as nurse	151	85.8	77	63.6	99	72.8	3	75.0	330	75.5
Part-time as nurse	19	10.8	30	24.8	26	19.1	1	25.0	76	17.4
Retired	0	0.0	6	5.0	2	1.5	0	0.0	8	1.8
Not employed outside home	4	2.3	3	2.5	4	2.9	0	0.0	11	2.5
Employed, but not in nursing	0	0.0	4	3.3	5	3.7	0	0.0	9	2.1
Combination status	2	1.1	1	0.8	0	0.0	0	0.0	3	0.7
Total	176	100.0	121	100.0	136	100.0	4	100.0	437	100.0
<u>Type of Nursing Position</u>										
Administrator	1	0.6	6	5.0	5	3.7	0	0.0	12	2.8
Consultant	0	0.0	2	1.7	2	1.5	1	25.0	5	1.2
Supervisor	12	6.9	16	13.3	18	13.3	0	0.0	46	10.6
Educator	0	0.0	4	3.3	6	4.4	0	0.0	10	2.3
Anesthetist	0	0.0	1	0.8	1	0.7	1	25.0	3	0.7
Staff Nurse	144	82.8	58	48.3	68	50.4	2	50.0	272	62.8
Nurse Practitioner	0	0.0	4	3.3	1	0.7	0	0.0	5	1.2
Clinical Specialist	0	0.0	1	0.8	4	3.0	0	0.0	5	1.2
Other	8	4.6	13	10.8	13	9.6	0	0.0	34	7.9
Not Applicable	3	1.7	8	6.7	8	5.9	0	0.0	19	4.4
Combination	6	3.5	7	5.8	9	6.7	0	0.0	22	5.1
Total	174	100.1*	120	99.8*	135	99.9*	4	100.0	433	100.2*

\*Totals may not equal 100% due to rounding.



study. Kentucky had 60% of all educators. Oklahoma had four (4) of the five (5) nurse practitioners, and Kentucky had four (4) of the five (5) clinical nurse specialists.

Oklahoma and Kentucky both had the largest numbers of registered nurses not working in nursing, eight (8) each. Forty-one percent of total study registered nurses working a combination of positions held Kentucky licensure and Oklahoma, Kentucky, and the multiple state licensure group each had one-third of the nurse anesthetists. Seventy-five (17.3%) respondents held other types of positions in nursing, combinations of types of positions, or did not work in nursing at all.

Question #13 of the questionnaire was divided into two (2) parts for statistical description and analysis. The question was divided to reflect type of hours worked and shift worked. The division was necessary as many respondents answered the question in a multiple fashion. The question concerning type of hours worked revealed that 189 or 48.8% of all registered nurses in the study sample worked predominantly daytime hours (Table V). However, 38 or 63.3% of all sampled nurses working evenings and 42 or 68.9% of all sampled nurses working nights held licensure in Kansas. Twenty-four or 54.5% of all nurses working combinations of hours were from Kansas. Predominant shift worked revealed 147 respondents not indicating eight (8) hour, 12 hour, weekend, on call, combination of the above, other, or not applicable as their answer. There was no response for these 147 respondents. Of those who did respond, 107 (36.8%) worked eight (8) hour shifts and 83 (28.5%) worked 12 hour shifts.

Number of years in current nursing position revealed that large numbers of nurses from Kansas had worked less than 1 year or 1-2 years (Table V). Seventy-five of the 105 nurses in the study sample with less than 1 year in their current nursing position held licensure in Kansas. Eight-eight of the 162 nurses in the study sample with 1-2 years in their current nursing position held licensure in Kansas. Oklahoma nurses held more years in current nursing position with 28 of 65 nurses with 3-5 years holding Oklahoma licensure. Twenty-two of 39 nurses with 6-10 years in their present nursing position, 11

TABLE V

PREDOMINANT HOURS WORKED IN NURSING POSITION, PREDOMINANT SHIFT WORKED IN NURSING POSITION, AND NUMBER OF YEARS IN CURRENT NURSING POSITION OF RESPONDENTS BY STATE OF LICENSURE, BY NUMBER AND PERCENT

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Hours Worked</u>										
Day	52	32.1	69	67.0	67	56.3	1	33.3	189	48.8
Evening	38	23.5	11	10.7	10	8.4	1	33.3	60	15.5
Night	42	25.9	5	4.9	14	11.8	0	0.0	61	15.8
Rotating Shifts	4	2.5	2	1.9	4	3.4	1	33.3	11	2.8
Combination	24	14.8	6	5.8	14	11.8	0	0.0	44	11.4
Not Applicable	2	1.2	10	9.7	10	8.4	0	0.0	22	5.7
Total	162	100.0	103	100.0	119	100.1*	3	99.9*	387	100.0
<u>Shift Worked</u>										
8 Hour	56	42.1	29	40.9	21	25.0	1	33.3	107	36.8
12 Hour	46	34.6	11	15.5	25	29.8	1	33.3	83	28.5
Weekends	0	0.0	0	0.0	3	3.6	0	0.0	3	1.0
On Call	4	3.0	6	8.5	3	3.6	0	0.0	13	4.5
Other	4	3.0	7	9.9	7	8.3	1	33.3	19	6.5
Not Applicable	2	1.5	10	14.1	10	11.9	0	0.0	22	7.6
Combination	21	15.8	8	11.3	15	17.9	0	0.0	44	15.1
Total	133	100.0	71	100.2*	84	100.1*	3	99.9*	291	100.0
<u>Number of Years in Position</u>										
Less than 1 year	75	43.4	14	11.8	15	11.3	1	25.0	105	24.5
1-2 years	88	50.9	26	21.9	46	34.6	2	50.0	162	37.8
3-5 years	4	2.3	28	23.5	33	24.8	0	0.0	65	15.2
6-10 years	2	1.2	22	18.5	15	11.3	0	0.0	39	9.1
11-15 years	0	0.0	11	9.2	6	4.5	1	25.0	18	4.2
More than 15 years	2	1.2	9	7.6	7	5.3	0	0.0	18	4.2
Not Applicable	2	1.2	9	7.6	11	8.3	0	0.0	22	5.1
Total	173	100.2*	119	100.1*	133	100.1*	4	100.0	429	100.1*

\*Totals may not equal 100% due to rounding.

of 18 nurses with 11-15 years in their present nursing position, and nine (9) of 18 nurses with more than 15 years in their present nursing position held Oklahoma licenses.

Kentucky had 33 of the 65 nurses with 3-5 years in their present nursing position; 15 of the 39 with 6-10 years; six (6) of the 18 with 11-15 years in their present nursing position; and seven (7) of the 18 nurses with more than 15 years in their present nursing position. The respondents indicating not applicable on this question were primarily from Oklahoma and Kentucky - 20 of the 22 respondents for this category combined.

Kentucky nurses had the highest number of nurses working less than ten (10) hours per week when asked average number of hours worked per week as a nurse (Table VI). Five respondents from the Kentucky registry or 45.5% of all nurses working less than ten (10) hours per week in the study fell into this category. The largest number of nurses working an average of 11-20 hours per week were from the Oklahoma registry, eight (8) respondents out of 17 in the study. The largest number of nurses working an average of 21-30 hours per week were from the Kentucky registry, 15 respondents out of 37 in the study. The Kansas registry yielded the largest number of respondents working 31-40 hours per week (81). Oklahoma had 44 respondents working 31-40 hours per week, Kentucky has 54, and the multiple state group had one (1). Those registered nurses working an average of 41-45 hours per week were largely from Kansas - 61 as opposed to 30 from Oklahoma, 28 from Kentucky, or one (1) from multiple or combined states. Kentucky nurses were the group that worked an average of 46-50 hours per week most often - 14 respondents out of 31 total. Kansas nurses worked almost half of all the 51 plus hours per week in the study sample, seven (7) of 15 total respondents. Oklahoma and Kentucky were evenly represented in the not applicable group - ten (10) respondents each.

When sampled registered nurses were asked whether they practiced in an intensive care/critical care area or not, 32.5% (140 respondents) answered yes and 62.0% (267 respondents) answered no (Table VI). Five and six-tenths (24 respondents) answered not applicable on the question. Kansas nurses yielded 36.8% working intensive care/critical

TABLE VI

AVERAGE NUMBER OF HOURS WORKED PER WEEK AS A NURSE, PRACTICE  
IN INTENSIVE CARE AREA, AND MAJOR TEACHING OR PRACTICE  
AREA OF RESPONDENTS BY STATE OF LICENSURE  
BY NUMBER AND PERCENT

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Average Number of Hours/Week</u>										
Less than 10 hours	2	1.2	4	3.3	5	3.7	0	0.0	11	2.5
11-20	4	2.3	8	6.6	4	3.0	1	25.0	17	3.9
21-30	9	5.2	13	10.7	15	11.2	0	0.0	37	8.6
31-40	81	46.6	44	36.4	54	40.3	1	25.0	180	41.6
41-45	61	35.1	30	24.8	28	20.9	1	25.0	120	27.7
46-50	8	4.6	8	6.6	14	10.5	1	25.0	31	7.2
51+	7	4.0	4	3.3	4	3.0	0	0.0	15	3.5
Not Applicable	2	1.2	10	8.3	10	7.5	0	0.0	22	5.1
Total	174	100.2*	121	100.0	134	100.1*	4	100.0	433	100.1*
<u>Practice in Intensive Care Area</u>										
Yes	64	36.8	36	30.0	39	29.3	1	25.0	140	32.5
No	106	60.9	75	62.5	84	63.2	2	50.0	267	62.0
Not Applicable	4	2.3	9	7.5	10	7.5	1	25.0	24	5.6
Total	174	100.0	120	100.0	133	100.0	4	100.0	431	100.1*
<u>Major Teaching Area/Practice Area</u>										
Anesthesia	1	0.6	5	4.2	1	0.8	1	25.0	8	1.9
Community/Public Health	8	4.6	13	11.0	7	5.2	1	25.0	29	6.7
General Practice	8	4.6	4	3.4	4	3.0	0	0.0	16	3.7
Geriatrics	9	5.1	7	5.9	7	5.2	0	0.0	23	5.3
Gynecologic/Obstetric	10	5.7	7	5.9	7	5.2	0	0.0	24	5.6
Medical/Surgical	79	45.1	34	28.8	48	35.8	1	25.0	162	37.6
Pediatrics	7	4.0	8	6.8	8	6.0	1	25.0	24	5.6
Psychiatric/Mental Health	9	5.1	7	5.9	6	4.5	0	0.0	22	5.1
Other	22	12.6	21	17.8	24	17.9	0	0.0	67	15.6
Not Applicable	4	2.3	8	6.8	12	9.0	0	0.0	24	5.6
Combination	18	10.3	4	3.4	10	7.5	0	0.0	32	7.4
Total	175	100.0	118	99.9*	134	100.1*	4	100.0	431	100.1*

\*Totals may not equal 100% due to rounding.

care areas. Oklahoma nurses yielded 30.0% working intensive care/critical care areas. Twenty-nine and three tenths percent of Kentucky nurses worked intensive care/critical care areas and 25% of the multiple state licensure group worked intensive care/critical care areas.

Major teaching or practice area revealed a preponderance of medical-surgical nurses - 162 respondents out of 431 or 37.6% of the total sample (Table VI). Almost half of this number (79) was from Kansas. Oklahoma had the largest groups of anesthesia nurses (5) and community public health nurses (13). Kentucky had the largest groups of not applicable (12) and others (24). Kansas yielded the largest number of nurses in general practice (8), geriatrics (9), gynecologic/obstetric (10), psychiatric/mental health (9), and nurses with combination major practice/teaching areas in addition to greatest number of medical-surgical nurses (79).

The field of employment question found 65.5% (283 respondents) of the total number of respondents practicing in hospitals (Table VII). Community/public health/home health had the next largest number of respondents with 8.3% of the total (36 respondents). Nursing homes and physician offices/clinics were next in total number of respondents with 5.8% (25 respondents) and 5.1% (22 respondents) of the total sample each. One hundred thirty-two (76.3%) registered nurses from Kansas worked in hospitals versus 65 (54.2%) from Oklahoma, 83 (61.5%) from Kentucky, and 3 (75%) from multiple or combination states - Kansas, Oklahoma, and Kentucky.

When asked about intent to leave present nursing position voluntarily in the near future, 11.2% of the total study group answered will definitely leave, 16.3% answered chances are quite good, 23.1% answered uncertain, 29.6% answered chances are slight, 13.5% answered definitely will not leave, and 6.3% answered not applicable. Differences among groups by state are detailed in Table VII.

TABLE VII

FIELD OF EMPLOYMENT AND INTENT TO LEAVE OR TURNOVER  
NURSING POSITION OF RESPONDENTS BY STATE  
OF LICENSURE, BY NUMBER AND PERCENT

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Field of Employment</u>										
Hospital	132	76.3	65	54.2	83	61.5	3	75.0	283	65.5
Nursing Home	12	6.9	6	5.0	7	5.2	0	0.0	25	5.8
Private Practice	0	0.0	2	1.7	2	1.5	0	0.0	4	0.9
School of Nursing	0	0.0	2	1.7	3	2.2	0	0.0	5	1.2
School Nurse	1	0.6	5	4.2	0	0.0	0	0.0	6	1.4
Community/Public or Home Health	10	5.8	14	11.7	12	8.9	0	0.0	36	8.3
Occupational Health	0	0.0	1	0.8	1	0.7	1	25.0	3	0.7
Physician Office/Clinic	5	2.9	6	5.0	11	8.2	0	0.0	22	5.1
Employed, Not Nursing	1	0.6	2	1.7	3	2.2	0	0.0	6	1.4
Not Employed Outside Home	1	0.6	5	4.2	4	3.0	0	0.0	10	2.3
Other	3	1.7	6	5.0	5	3.7	0	0.0	14	3.2
Combination	8	4.6	6	5.0	4	3.0	0	0.0	18	4.2
Total	173	100.0	120	100.2*	135	100.1*	4	100.0	432	100.0
<u>Intent to Leave</u>										
Will definitely leave	21	12.1	15	12.8	12	9.0	0	0.0	48	11.2
Chances quite good	29	16.7	19	16.2	22	16.4	0	0.0	70	16.3
Uncertain	39	22.4	24	20.5	35	26.1	1	25.0	99	23.1
Chances slight	57	32.8	29	24.8	39	29.1	2	50.0	127	29.6
Will definitely not leave	24	13.8	20	17.1	13	9.7	1	25.0	58	13.5
Not Applicable	4	2.3	10	8.6	13	9.7	0	0.0	27	6.3
Total	174	100.1*	117	100.0	134	100.0	4	100.0	429	100.0

\*Totals may not equal 100% due to rounding.

Experience with turnover as evidenced by number of different places worked as a registered nurse in the past five (5) years revealed 49.9% of the total sample having worked only one (1) place (Table VIII). Two (2) different places comprised 25.9% of the total sample with three (3) places, not applicable, five (5) or more places, and four (4) places following in order of number of respondents. The breakdown of respondents by state working only one (1) place in the past five (5) years was 96 from Kansas, 58 from Oklahoma, 59 from Kentucky, and one (1) from a combination of sampled states. The largest percentage of respondents working two (2) places in the past five (5) years were licensed in Oklahoma. Kentucky and the multiple state group had the largest percentages of respondents working three (3) places in the past five (5) years. Oklahoma had the largest percentage of respondents working four (4) places. Kentucky had the largest percentage of respondents working five (5) or more places and the largest number of respondents indicating not applicable on the question.

Three hundred five (70.6%) of the total number of study respondents answered no when asked if they had transferred between work units in the last 12 months (Table VIII). Eighty-eight (20.4%) of the total number of study respondents answered yes. Thirty-nine (9.0%) answered not applicable. The largest number of respondents for any year or group when analyzed by states was the Kansas no transfer group with 127 respondents in that group total.

Absenteeism as measured by number of different times missed during the past six (6) months yielded 132 respondents (30.8% of the total) with no misses, 97 (22.7%) with one (1) miss, 78 (18.2%) with two (2) misses, 38 (8.9%) with three (3) misses, 25 (5.8%) with four (4) misses, 24 (5.6%) with five (5) to ten (10) misses, 8 (1.9%) with 11 or more misses, and 26 (6.1%) not applicable (Table VIII).

Kentucky nurses had the largest number (10) of nurses with individual incomes of \$50,000 or more (Table IX). Kansas had the lowest number (1) of nurses with individual

**TABLE VIII**  
**RECENT TURNOVER EXPERIENCE, TRANSFERS BETWEEN WORK UNITS IN**  
**PAST TWELVE MONTHS, AND ABSENTEEISM DURING LAST SIX**  
**MONTHS OF RESPONDENTS BY STATE OF LICENSURE,**  
**BY NUMBER AND PERCENT**

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Turnover Experience - Number of Places Worked as Nurse in Past Five Years</u>										
One	96	55.8	58	47.9	59	44.7	1	25.0	214	49.9
Two	45	26.2	34	28.1	31	23.5	1	25.0	111	25.9
Three	15	8.7	10	8.3	19	14.4	2	50.0	46	10.7
Four	3	1.7	5	4.1	4	3.0	0	0.0	12	2.8
Five or More	4	2.3	5	4.1	9	6.8	0	0.0	18	4.2
Not Applicable	9	5.2	9	7.4	10	7.6	0	0.0	28	6.5
Total	172	99.9*	121	99.9*	132	100.0	4	100.0	429	100.0
<u>Transfers</u>										
Yes	38	22.0	19	15.8	30	22.2	1	25.0	88	20.4
No	127	73.4	84	70.0	91	67.4	3	75.0	305	70.6
Not Applicable	8	4.6	17	14.2	14	10.4	0	0.0	39	9.0
Total	173	100.0	120	100.0	135	100.0	4	100.0	432	100.0
<u>Absenteeism</u>										
No times missed	46	26.9	43	35.8	40	30.1	3	75.0	132	30.8
1 time missed	47	27.5	20	16.7	29	21.8	1	25.0	97	22.7
2 times missed	32	18.7	16	13.3	30	22.6	0	0.0	78	18.2
3 times missed	14	8.2	14	11.7	10	7.5	0	0.0	38	8.9
4 times missed	9	5.3	7	5.8	9	6.8	0	0.0	25	5.8
5-10 times missed	15	8.8	6	5.0	3	2.3	0	0.0	24	5.6
11 or more times missed	6	3.5	1	0.8	1	0.8	0	0.0	8	1.9
Not Applicable	2	1.2	13	10.8	11	8.3	0	0.0	26	6.1
Total	171	100.1*	120	99.9*	133	100.7*	4	100.0	428	100.0

\*Totals may not equal 100% due to rounding.



TABLE IX  
 INDIVIDUAL INCOME AND TOTAL FAMILY INCOME  
 OF RESPONDENTS BY STATE OF LICENSURE,  
 BY NUMBER AND PERCENT

Characteristic	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
<u>Individual Income</u>										
Under \$15,000	10	6.3	13	11.7	12	9.3	1	33.3	36	9.0
\$15,000-24,999	59	37.1	15	13.5	19	14.7	0	0.0	93	23.1
\$25,000-34,999	75	47.2	46	41.4	46	35.7	0	0.0	167	41.5
\$35,000-49,999	14	8.8	31	27.9	42	32.6	1	33.3	88	21.9
\$50,000-74,999	1	0.6	4	3.6	7	5.4	0	0.0	12	3.0
\$75,000-99,999	0	0.0	1	0.9	2	1.6	1	33.3	4	1.0
\$100,000+	0	0.0	1	0.9	1	0.8	0	0.0	2	0.5
Total	159	100.0	111	99.9*	129	100.1*	3	99.9*	402	100.0
<u>Total Family Income</u>										
Under \$15,000	1	0.8	1	1.3	1	1.0	0	0.0	3	1.0
\$15,000-24,999	12	10.0	1	1.3	0	0.0	0	0.0	13	4.4
\$25,000-34,999	22	18.3	6	7.5	6	6.3	0	0.0	34	11.4
\$35,000-49,999	36	30.0	20	25.0	27	28.1	0	0.0	83	27.9
\$50,000-74,999	40	33.3	31	38.8	39	40.6	1	50.0	111	37.3
\$75,000-99,999	6	5.0	11	13.8	14	14.6	0	0.0	31	10.4
\$100,000+	3	2.5	10	12.5	9	9.4	1	50.0	23	7.7
Total	120	99.9*	80	100.2*	96	100.0	2	100.0*	298	100.1*

\*Totals may not equal 100% due to rounding.

incomes of \$50,000 or more. Kansas had the smallest percentage of nurses with individual incomes of \$35,000 to \$49,999 when compared to Oklahoma and Kentucky - Kansas 8.8%, Oklahoma 27.9%, and Kentucky 32.6%. Oklahoma had the largest number of respondents with individual incomes of less than \$15,000. Kansas had the largest number and percentage of respondents with individual incomes of \$15,000 to \$24,999 - 59 (37.1%). Oklahoma and Kentucky had 15 (13.5%) and 19 (14.7%) respectively. The largest percentage of all respondents with individual incomes of \$25,000 to \$34,999 was from Kansas with 47.2%.

Family income revealed one-third of the total respondents with incomes less than \$15,000 were from each of the three (3) sampled states - Kansas, Oklahoma, and Kentucky (Table IX). Twelve of 13 respondents with family incomes of \$15,000 to \$24,999 were from Kansas. Twenty-two of the 34 respondents with family incomes of \$25,000 to \$34,999 were from Kansas. The \$35,000 to \$49,999 family income group was broken down by percent into Kansas - 30.0%, Oklahoma - 25.0%, Kentucky - 28.1%, and multiple states - 0%. Thirty-seven and six-tenths of all study respondents with reported family incomes of \$50,000 or more were from Kentucky alone. Kansas had 29.7% of all study respondents with reported family incomes of \$50,000 or more and Oklahoma had 31.5%.

Table X contains mean hardiness levels of the sample as a whole as well as each state's mean hardiness levels. Hardiness scores were further described according to category of hardiness. Hardiness scores, as indicated by Dr. Dane of The Hardiness Research Institute, can be broken into three (3) categories - high hardiness (79.00 or above), medium hardiness (70.00 to 78.99), and low hardiness (69.99 and below). The total mean hardiness score for the study sample is 74.11. The mean hardiness score for the entire hardiness data base held by The Hardiness Research Institute is 74.02.

TABLE X  
 LEVEL OF HARDINESS BY STATE OF LICENSURE,  
 BY NUMBER AND PERCENT (N = 438)

Level	State of Licensure									
	KS		OK		KY		Multiple		Total	
	No.	%	No.	%	No.	%	No.	%	No.	%
High Hardiness	63	35.8	37	30.3	26	19.1	2	50.0	128	29.2
Medium Hardiness	74	42.0	58	47.6	54	39.7	1	25.0	187	42.7
Low Hardiness	<u>39</u>	<u>22.2</u>	<u>27</u>	<u>22.1</u>	<u>56</u>	<u>41.1</u>	<u>1</u>	<u>25.0</u>	<u>123</u>	<u>28.1</u>
Total	176	100.0	122	100.0	136	99.9*	4	100.0	438	100.0
MEAN HARDINESS	75.84		74.32		71.59		78.7		74.11	

\*Totals may not equal 100% due to rounding.

## Statistical Analysis

Twenty-three different analysis of variance procedures were conducted, one (1) for each of the independent variables. Results of these tests yielded six (6) with significant  $f$  values beyond the .05 alpha level. Table XI includes each independent variable,  $f$  value, and level of significance included in the study. The six (6) independent variables yielding significant effects on hardiness scores of registered nurses were state of licensure, basic education in nursing, highest level of education attained, number of years in current nursing position, intent to leave present nursing position, and number of years worked as a registered nurse. The follow-up test, Tukey, was utilized to determine where the differences in levels of each independent variable occurred. The following was revealed:

1. For the independent variable state of licensure, the significant difference occurred between Kansas and Kentucky nurses with nurses from Kansas having higher mean hardiness scores, 75.84 vs. 71.59.
2. For the independent variable basic education in nursing, the significant difference occurred between the bachelor degree in nursing and associate degree in nursing groups and the bachelor degree in nursing and diploma nurses. Nurses with bachelor degrees in nursing as their basic education in nursing had mean hardiness levels of 76.06. Associate degree nurses had mean hardiness levels of 73.09 and diploma nurses had mean hardiness levels of 73.06.
3. For the independent variable highest level of education attained, the significant difference occurred between the masters, other field and bachelor, other field groups. The masters, other field group had a mean hardiness level of 81.45 and the bachelor, other group had a mean hardiness level of 70.31. Due to small numbers in cells for some advanced degrees, all masters or higher level degree respondents were grouped together. When analyzed in this fashion, the significant difference occurred between the advanced

TABLE XI  
EFFECTS OF SELECTED PERSONAL AND JOB  
CHARACTERISTICS ON HARDINESS  
AMONG REGISTERED NURSES

Characteristic	f-Value	Significance
State of Licensure	6.45	0.0003*
Gender	1.83	0.1766
Age	0.70	0.6205
Marital Status	0.40	0.7503
No. of Children	1.17	0.3226
Basic Education in Nursing	5.75	0.0034*
Highest Educational Level	2.60	0.0087*
No. of Years Worked as R.N.	1.96	0.0498*
Employment Status	0.90	0.4817
Type of Nursing Position	1.38	0.1872
Type of Hours	0.11	0.9907
Type of Shift	1.00	0.4233
No. of Years in Current Nursing Position	2.19	0.0434*
Average No. of Hours Worked/Week	1.02	0.4153
Practice in Intensive Care	0.17	0.8439
Teaching/Practice Area	0.93	0.5047
Field of Employment	0.74	0.7020
Intent to Leave	5.30	0.0001*
No. of Places Worked Past 5 Years	2.20	0.0537
Transfer in Past 12 Months	0.03	0.9749
Absenteeism	1.59	0.1358
Individual Income	1.82	0.0944
Family Income	1.98	0.0687

\*Significant beyond .05

degree group and the associate degree in nursing group and the advanced degree group and the bachelor degree, other field group. The advanced degree group had a mean hardiness level of 78.38. The associate degree in nursing group had a mean hardiness level of 73.11, and the bachelor degree, other field group had a mean hardiness level of 70.31.

4. For the independent variable number of years in current nursing position, the significant difference occurred between those registered nurses having worked less than 1 year in their current position and those having worked 6-10 years in their current position. The mean hardiness score of registered nurses with less than 1 year in their current position was 76.27 and 71.02 was the mean hardiness level for those with 6-10 years in their position.

5. For the independent variable intent to leave current nursing position, the significant difference occurred between registered nurses in the groups definitely will not leave and uncertain about leaving; definitely will not leave and chances are good will leave; chances slight and uncertain about leaving; and, chances slight and chances quite good will leave. Mean hardiness levels for the groups involved are: definitely will not leave - 77.0; chances are slight - 76.11; uncertain - 72.37; and, chances quite good will leave - 71.28, and

6. For the independent variable, number of years worked as a registered nurse, the significant difference could not be determined with the Tukey test due to its conservative nature. Utilizing t-tests, Duncan's Multiple Range Test, and the Student Newman-Keuls a significant difference was found between the not applicable group composed of two (2) respondents and all other groups - the less than 1 year, 1-2 years, 3-5 years, 6-10 years, 11-15 years, 16-20 years, 21-25 years, and 26 years plus groups. The Bonferroni (Dunn) t-tests showed the difference to lie between the not applicable group and the 3-5 years, 6-10 years, 16-20 years, 21-25 years, and 26 years plus groups. The Scheffe test, like the Tukey test, was not able to discern where the significant difference was due to its

conservative nature. Mean hardiness levels for the groups was: 1 year - 76.39; 1-2 years - 75.01; 3-5 years - 73.78; 6-10 years - 71.60; 11-15 years - 74.76; 16-20 years - 72.22; 21-25 years - 72.59; 26 years plus - 73.02; not applicable - 85.13.

### Analysis of Results

Four (4) research questions and one (1) null hypothesis guided the direction of the study. Major findings of the study summarized relative to the research questions are as follows:

1. Are there selected personal demographic factors that are characteristic of registered nurses with higher hardiness levels?

Of the eight (8) different personal demographic factors selected for inclusion in the research, two (2) effected higher hardiness levels among registered nurses. Those two (2) personal demographic factors are basic education in nursing and highest educational level attained.

a. Basic education in nursing - Registered nurses with baccalaureate degrees in nursing as their basic education in nursing have significantly higher hardiness scores than nurses with either diplomas in nursing or associate degrees in nursing.

b. Highest educational level attained - Registered nurses with advanced degrees had significantly higher hardiness scores than registered nurses with baccalaureate degrees in other fields or associate degrees in nursing as highest level of education attained.

Personal demographic factors producing no significant effect on hardiness levels in registered nurses were gender, age, marital status, number of children, individual income, and family income.

2. Are there selected job characteristics common to registered nurses with higher hardiness levels?

Of the numerous different job characteristics selected for inclusion in the study,

two (2) effected higher hardiness levels in registered nurses. Those job characteristics are number of years worked as a registered nurse and number of years in current nursing position.

a. Number of years worked as a registered nurse - Registered nurses answering not applicable for years worked as a registered nurse were significantly more hardy than registered nurses with 3-5 years, 6-10 years, 16-20 years, 21-25 years, and 26 years plus worked as a registered nurse when the Bonferonni (Dunn) t-tests were utilized for followup.

b. Number of years in current nursing position - Registered nurses with less than one year in their current nursing position had significantly higher hardiness scores than registered nurses with 6-10 years in their current nursing position.

Employment status, type of nursing position, predominant type of hours and shifts worked, average number of hours worked per week as a nurse, practice in intensive/critical care areas, major teaching or practice area, and field of employment produced no major effect on hardiness scores in registered nurses.

3. Do key factors associated with nursing turnover like increased absenteeism, recent experience with turnover, work transfers, and intent to turnover or voluntary leave have an effect on levels of hardiness in registered nurses?

Of the four (4) job factors linked to turnover in the literature and included in the study, only one (1) had a significant effect on hardiness scores of registered nurses. That key job factor producing the effect was intent to turnover or voluntarily leave the present nursing position in the near future. Registered nurses who answered that they would definitely not leave their current nursing position in the near future had significantly higher hardiness scores than the uncertain about leaving group or the chances are quite good group. Registered nurses who answered that chances are slight that they would leave their current nursing position in the near future had significantly higher hardiness scores than the



uncertain group or the chances are quite good group. Absenteeism, recent experience with turnover, and work transfers in the past 12 months produced no effect on hardiness scores.

4. Is there a difference in hardiness levels of registered nurses in different geographical licensure areas of the United States?

Nurses with Kansas licensure as a registered nurse were significantly more hardy than nurses with Kentucky licensure. Kansas is a midwestern state in the United States and Kentucky is a southern state.

The null hypothesis tested was  $H_0$ : there is no difference in hardiness scores of registered nurses with varying selected personal and job characteristics. Based on the analysis of the data compiled in the study, the researcher partially rejected the null hypothesis as only six (6) of 23 personal and job characteristics effected significant differences in hardiness scores of registered nurses.

### Summary

In summary, Chapter IV presented a description of the subjects in the study sample according to the 23 different personal and job characteristics, by state of licensure. Modal responses of the study sample found respondents most often characterized as: female, age 25 to 34; married; the parent of two (2) children; basic education in nursing - associate degree; highest educational level attained - associate degree in nursing; one (1) to two (2) years worked as a registered nurse; full-time employment status; staff nurse position; predominantly work days; predominantly work 8 hour shifts; worked in current nursing position one (1) to two (2) years; work 31 to 40 hours per week on the average; do not practice in an intensive/critical care area; major teaching or practice area - medical-surgical nursing; work in a hospital; chances are slight that they will voluntarily leave their present nursing position in the near future; have worked one (1) place in the past five (5) years; have not transferred between work units in the past 12 months; have missed no times

in the past six (6) months; personal income - \$25,000 to \$34,999; and, family income - \$50,000 to \$74,999.

Analysis of data was presented highlighting the six (6) different personal and job characteristics producing significantly higher hardiness scores among registered nurses. The six (6) characteristics included basic education in nursing, highest educational level attained, number of years worked as a registered nurse, number of years in current nursing position, intent to turnover, and geographical area of licensure.

Research findings were summarized relative to the directional research questions. The null hypothesis was partially rejected.

## CHAPTER V

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Summary

This study was conducted to determine what effect selected personal and job characteristics had on hardiness levels in registered nurses. It has been suggested that high turnover among registered nurses may be related to hardiness of nurses. Therefore, if personal and job characteristics of registered nurses could be related to hardiness, the improvement of hiring and job assignment practices could potentially effect reduced costs and enhancement of quality health care.

A review of the literature produced no multi-state determination of job and personal characteristics related to high hardiness levels in registered nurses. No literature was found directly linking hardiness to turnover although hardiness had been studied relative to absenteeism, job satisfaction, stress, burnout, and other selected factors. The preponderance of research studying nurses and hardiness was focused on job stress and burnout. Consequently, little could be utilized to describe who hardy nurses were in terms of their personal and job characteristics. This study provided the first exploration into the description of factors in nurses related to high levels of hardiness. Twenty-three selected personal and job characteristics served as the independent variables in the study. The dependent variable was the individual nurse's hardiness score.

One (1) null hypothesis and four (4) research questions guided the study. The null hypothesis was stated: there is no difference in hardiness scores of registered nurses with varying selected personal and job characteristics. The four (4) research questions follow:

1. Are there selected personal demographic factors that are characteristic of registered nurses with higher hardiness levels?

2. Are there selected job characteristics common to registered nurses with higher hardiness levels?

3. Do key factors associated with nursing turnover like increased absenteeism, recent experience with turnover, work transfers, and intent to turnover have an effect on levels of hardiness in registered nurses?

4. Is there a difference in hardiness levels of registered nurses in different geographical licensure areas of the United States?

Data for the study were collected using a research instrument composed of two (2) parts - the Personal and Job Characteristics Questionnaire constructed by the author from five (5) major sources and the Personal Views Survey, the measure of hardiness developed by Kobasa and Maddi, copyrighted by The Hardiness Research Institute.

The random sample for the study consisted of 300 nurses from each of three (3) states - Kansas and Oklahoma from the Midwest and Kentucky from the South. The research instrument was sent to each nurse at their home address during May of 1992. Self-addressed, stamped envelopes were included in the mailing along with a letter of explanation for the study. Participants were assured anonymity for responses. A postcard reminder was sent to all 900 registered nurses ten (10) days after the sending of the research instrument. The overall return rate was 50.7%. Hardiness scores were derived by The Hardiness Research Institute. Descriptive statistics, ANOVAs, follow-up tests, and t-tests were utilized in analysis of the data.

The results of the study are summarized by the following major findings:

1. Registered nurses with baccalaureate degrees in nursing as their basic education in nursing had higher hardiness scores than did registered nurses with diplomas in nursing or associate degrees in nursing as their basic education in nursing.

2. Registered nurses with advanced degrees as highest educational level attained had higher hardiness scores than registered nurses with baccalaureate degrees in other fields or associate degrees in nursing as highest educational level attained.

3. Registered nurses answering Not Applicable for number of years worked as a registered nurse had higher hardiness scores than registered nurses with 3-5 years, 6-10 years, 21-25 years, and 26 years plus worked as a registered nurse.

4. Registered nurses with less than 1 year in their current nursing position had higher hardiness scores than registered nurses with 6-10 years in their current nursing position.

5. When questioned about intent to turnover or voluntarily leave the current nursing position in the near future, registered nurses indicating that they would definitely not leave had higher hardiness scores than registered nurses indicating that they were either uncertain about leaving or chances were quite good that they would leave. Registered nurses indicating that chances were slight that they would leave their nursing position had higher hardiness scores than registered nurses who were uncertain or indicated chances were quite good that they would leave, and

6. Registered nurses with Kansas licensure had higher hardiness scores than registered nurses with Kentucky licensure.

### Conclusions

Although the results of the study identified statistical differences in hardiness scores of registered nurses with varying selected personal and job characteristics, conclusions must be made with the exploratory nature of the psuedoexperimental study in mind. This study represents a first attempt at describing personal and job characteristics of hardy nurses utilizing a multi-state population. Therefore, inferences should be made with caution outside the study population. Additional research is necessary. Based on the findings, the researcher concluded:

1. Nurses become more hardy as their formal education increases, particularly up through the baccalaureate in nursing degree.

2. There are job related factors associated with the nursing profession that cause nurses to become less hardy as the length of tenure in a position increases.

3. Hardiness level of registered nurses has a direct impact on their job turnover intent.

The null hypothesis  $H_0$ : there is no difference in hardiness scores of registered nurses with varying selected personal and job characteristics was partially rejected because six (6) of 23 personal and job characteristics included in the study effected differences in hardiness scores of registered nurses.

An overall conclusion based on the findings of this study can be made as follows: since selected personal and job characteristics do have an effect on hardiness levels in registered nurses, administrators and others responsible for the hiring and placement of nurses should seek those with higher hardiness levels in an effort to reduce turnover, reduce health care costs, and enhance quality of patient care.

### Discussion

The findings of this study support the notion that selected personal and job characteristics effect a difference in hardiness scores of registered nurses. In particular, holding a baccalaureate degree in nursing as basic nursing preparation and holding an advanced degree as highest educational level attained effects a difference in hardiness scores. While the original hardiness studies found little relationship between demographics and hardiness in the all male executive samples, other researchers have found significant relationships. In particular, Daniel (1986), Schmied and Lawler (1986), and Daly-Barnes (1989) found relationships between amount of education and hardiness.

Relative to the finding that nurses with baccalaureate degrees in nursing have higher hardiness levels than registered nurses with either associate degrees in nursing or diplomas in nursing, one of the outstanding differences among the three (3) educational programs is the National League for Nursing mandate that baccalaureate nursing programs teach the

research process and a formal research in nursing course. Research in nursing, as a critical thinking or problem-solving process, is addressed throughout the curriculum. Perhaps hardiness in nurses is enhanced by the concentrated experience with the solving of complex problems. Perhaps this is the process being referred to as transformational coping by Kobasa, Maddi, and Courington (1981). They characterized high hardy persons as being curious about life experiences, exerting influence, expecting change as the norm for growth and development, acting decisively in dealing with change, and seeing change as learning opportunity. In these ways, the high hardy person was able to transform life events of a stressful nature into less stressful and manageable events. In Bigbee's (1985) report of a hypothetical person faced with divorce, the hardy individual problem-solved with the mate to avert the divorce (control), sought valuable information from the literature and others (commitment), and explored the possible positives in terms of life goals and directions (challenge).

The finding that registered nurses with advanced degrees have higher hardiness scores than those with associate degrees in nursing or baccalaureate degrees, other fields on the surface seems to be a bit inconsistent with the previous finding. The presence of the research process and intense experience with problem-solving and critical thinking activities could explain the difference in hardiness scores between nurses with advanced degrees and associate degree nurses and the lack of significant difference between the hardiness scores of registered nurses with advanced degrees and baccalaureate degrees in nursing. The difference detected between hardiness scores of registered nurses with advanced degrees and those with baccalaureate degrees in other fields may be explained by the potential lack of research as a requirement for the undergraduate degree. The lack of significant difference between the hardiness scores of registered nurses with diplomas in nursing and advanced degrees is more difficult to explain. Perhaps the change in the number of diploma nurses from the basic education question to the highest educational level question made a difference. The number changed from 79 to 61. Perhaps those 18 registered nurses

were low in hardiness and sought more education.

The finding that registered nurses with less than 1 year in their current nursing position had higher hardiness scores than registered nurses with 6-10 years poses a number of possibilities. With the growing emphasis on baccalaureate degrees in nursing for advancement in the occupation, perhaps large numbers of those with less than one (1) year in the present nursing position held baccalaureate degrees in nursing. When it is noted that 79 of the 151 registered nurses in the total sample with baccalaureate degrees in nursing are licensed in Kansas and when it is further noted that Kansas nurses had higher hardiness scores than Kentucky nurses, it follows that there may be a connection. Another possibility is that hardiness may be at a peak when one first enters the nursing workforce or a new position and then dips at the 6-10 year mark. Perhaps commitment to the position, control, and challenge are tested maximally at that point.

The finding that registered nurses indicating that they would definitely not voluntarily leave their nursing position in the near future had higher hardiness scores than registered nurses indicating they were either uncertain about leaving or chances were quite good that they would leave is consistent with conceptualization of hardiness. The finding that registered nurses indicating that chances were slight that they would leave their nursing position had higher hardiness scores than registered nurses indicating they were either uncertain or chances were quite good that they would leave is consistent as well. The sense of commitment, control, and challenge in one's nursing position is consistent with the intent to stay in the position. Uncertainty, the feeling that it is quite possible that one might voluntarily leave or turnover, is not consistent with the sense of commitment, control, and challenge in one's position. The findings also have implications for problem-solving, research process, and critical thinking. Uncertainty about intent to stay or turnover may be reflective of ability to make decisions readily, a factor that could potentially be linked to hardiness in registered nurses.



The finding that registered nurses with Kansas licensure have higher hardiness scores than registered nurses with Kentucky licensure may have little to do with actual geography in this sample but more to do with educational composition of the nurse respondents from each state, possibly nursing curricular differences, and number of years in current nursing position.

### Recommendations

Recommendations derived from the study include:

First, it is recommended that those administrators and others responsible for the hiring and placement of registered nurses, consider qualified nurses with baccalaureate degrees in nursing or advanced degrees first. When not feasible, nurses with other degrees/credentials should be hired with education for hardiness and close mentoring relationships for problem-solving be formed.

Second, it is recommended that fundamental research process activities be integrated into the curricula of all different types of registered nurse programs.

Third, it is recommended that further research be conducted to address questions raised by this study. Further research is recommended to include:

1. The direct study of turnover and hardiness in registered nurses - this would require a longitudinal study of nurses with varying hardiness levels and their turnover activities. This is critical because the variable, intent to turnover, significantly related to turnover in nurses and other hospital employees in Price and Mueller's (1986) study, was significantly related to hardiness in this study.

2. Replication of this study with the same population and other states' registered nurse populations.

3. Manipulation of the significant independent variables in this study to establish causal relationships.

4. Assessment of critical thinking and problem-solving skills and hardiness scores in registered nurses, and

5. Determination of the personal and job factors working together to effect hardiness scores in registered nurses.

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## APPENDIXES

**APPENDIX A**

**LETTER TO REGISTERED NURSES ACCOMPANYING  
RESEARCH INSTRUMENT**



# Oklahoma State University

SCHOOL OF OCCUPATIONAL AND ADULT EDUCATION  
COLLEGE OF EDUCATION

May 6, 1992

STILLWATER, OKLAHOMA 74078-0406  
CLASSROOM BUILDING 406  
(405) 744-6275

Dear Registered Nurse:

I am a registered nurse and a doctoral student at Oklahoma State University. I am conducting a research study to fulfill the dissertation requirement for a Doctorate in Education with a major in Occupational and Adult Education. I need your help!

I am asking you to participate in this study because you are a nurse who is experienced in dealing with both the joys and the trials and tribulations presented by the health care system. As you know, record numbers of nurses are leaving their current employment situations. This has created a high turnover rate in nursing. Therefore, I am studying personal views of registered nurses, in an effort to find linkages that may help to solve the turnover problem.

In order for the results to be truly representative of the views of nurses, it is important that your questionnaire be completed and returned. I know that you are very busy, but I would appreciate 15-20 minutes of your time to possibly help begin to solve the turnover problem.

Return of the questionnaire will constitute consent to be included in the study. You will never be identified personally in any way. Please note that there is no coding or places for names on any page of the questionnaire. If you have questions about this study, please do not hesitate to call me collect at the following number: Mary Carol Pomatto, 316-724-6586.

If you are interested in receiving a copy of the results of the study, please notify me by phone or by mail. To maintain confidentiality of responses, please send me your address in a mailing separate from the questionnaire. Results of the study will be sent when all data have been collected and analyzed.

Thank you for your time and for your assistance!

Sincerely,

Mary Carol Pomatto, R.N.  
R.R. #3  
Girard, Kansas 66743

P.S. The completed questionnaire should be returned in the enclosed stamped envelope by May 30, 1992. Thanks!



**APPENDIX B**

**POSTCARD REMINDER**

May 19, 1992

Dear R.N.:

Approximately 10 days ago, you received a questionnaire eliciting personal and job characteristics and personal views of randomly selected nurses in an effort to determine linkages that may be used to help solve the nursing turnover problem. Your input is vital. If you have already returned the questionnaire, thank you. If you have not returned the questionnaire, would you please take a few moments to complete it and return it in the stamped, addressed envelope provided in the research packet? Thank you for your assistance!

Sincerely,



Mary Carol Pomatto, R.N.  
Doctoral Student  
Oklahoma State University



**APPENDIX C**  
**RESEARCH INSTRUMENT**

**QUESTIONNAIRE  
PERSONAL AND JOB CHARACTERISTICS**

**Directions:**

1. Please answer the following questions by placing a check (✓) on the line in front of the answer chosen.
2. Please feel free to write comments on the questionnaire if desired.
3. Answers to all questions are voluntary - just leave a question blank if you choose not to answer it.
4. Remember, your questionnaire will never be identified by name. The answers that you give are anonymous.
5. Please return the completed questionnaire in the stamped, addressed envelope that has been provided. Please complete all pages of the questionnaire.
6. **THANK YOU VERY MUCH FOR YOUR ASSISTANCE!**

1. Are you currently a licensed, registered nurse?

Yes  
 No

2. If currently licensed as a registered nurse, what is the status of your license?

Active  
 Inactive

3. In what state(s) are you currently licensed as a registered nurse?

Kansas  
 Oklahoma  
 Kentucky

4. Gender:

Female  
 Male

5. Age:

Less than 25 years  
 25 to 34  
 35 to 44  
 45 to 54  
 55 to 64  
 65+

6. Marital Status:

Single (Never Married)  
 Married  
 Divorced/Separated  
 Widowed

7. What is the total no. of children that you have, whether or not they live at home?

None  
 One  
 Two  
 Three  
 Four  
 Five or more

8. Basic Education in Nursing:

Diploma  
 Associate Degree  
 Baccalaureate Degree

9. Highest Educational Level Attained:
- Associate Degree, Nursing
  - Diploma
  - Baccalaureate Degree, Other
  - Baccalaureate Degree, Nursing
  - Masters, Other
  - Masters, Nursing
  - Education Specialist
  - Doctorate, Other
  - Doctorate, Nursing
10. No. of years you have worked as a registered nurse:
- Less than 1 year
  - 1 to 2 years
  - 3 to 5 years
  - 6 to 10 years
  - 11 to 15 years
  - 16 to 20 years
  - 21 to 25 years
  - More than 25 years
  - Not Applicable
11. Employment Status:
- Full-time as a nurse
  - Part-time as a nurse
  - Retired
  - Not employed outside of home
  - Employed but not in nursing
12. Type of nursing position:
- Researcher
  - Administrator
  - Consultant
  - Supervisor (Manager)
  - Educator
  - Anesthetist
  - Nurse Midwife
  - Staff Nurse
  - Nurse Practitioner
  - Clinical Specialist (Masters or above)
  - Other, please specify \_\_\_\_\_
  - Not Applicable
13. Predominant type of hours you work in present nursing position: (May be more than 1)
- Day
  - Evening
  - Night
  - Rotating shifts
  - 8 hour shifts
  - 12 hour shifts
  - Weekends only
  - On Call only
  - Other, please specify \_\_\_\_\_
  - Not Applicable
14. No. of years in current nursing position:
- Less than 1 year
  - 1 to 2 years
  - 3 to 5 years
  - 6 to 10 years
  - 11 to 15 years
  - More than 15 years
  - Not applicable
15. Average no. of hours worked per week as a nurse:
- Less than 10 hours/week
  - 11 to 20
  - 21 to 30
  - 31 to 40
  - 41 to 45
  - 46 to 50
  - 51 or more
  - Not Applicable
16. Do you practice in an intensive care/critical care area?
- Yes
  - No
  - Not Applicable

17. Major Teaching or Practice Area:

- Anesthesia
- Community or Public Health
- General Practice
- Geriatrics
- Gynecologic/Obstetric
- Medical/Surgical
- Midwifery
- Pediatrics
- Psychiatric/Mental Health
- Other, please specify \_\_\_\_\_
- Not Applicable

18. Field of Employment:

- Hospital
- Nursing Home
- Private Practice
- School of Nursing
- School Nurse
- Community/Public Health/  
Home Health
- Research
- Occupational Health
- Physician Office/Clinic
- Employed but not in nursing
- Not employed outside of home
- Other, please specify \_\_\_\_\_

19. Do you expect to leave your present nursing position voluntarily in the near future?

- I will definitely leave
- Chances are quite good
- I am uncertain
- Chances are very slight
- I definitely will not leave
- Not Applicable

20. How many different places have you worked as a nurse in the past 5 years?

- One
- Two
- Three
- Four
- Five or more
- Not Applicable

21. During the past 12 months, have you transferred between work units within your employment setting?

- Yes
- No
- Not Applicable

22. During the past 6 months, how many different times have you been absent from your nursing position for a single day of regularly scheduled work? (Include all times whether or not you were paid. Do not count days scheduled off in advance or cancelled by your employer.)

- No times missed
- 1 time missed
- 2 times missed
- 3 times missed
- 4 times missed
- 5 to 10 times missed
- 11 or more times missed
- Not Applicable

23. Please check (✓) your appropriate total yearly gross income before taxes:

	<u>Individual</u>	<u>Total Family</u>
Under \$15,000	_____	_____
\$15,000 - 24,999	_____	_____
\$25,000 - 34,999	_____	_____
\$35,000 - 49,999	_____	_____
\$50,000 - 74,999	_____	_____
\$75,000 - 99,999	_____	_____
\$100,000 +	_____	_____

*Please go on to the Personal Views Survey*

## PERSONAL VIEWS SURVEY

Below are some items that you may agree or disagree with. Please indicate how you feel about each one by circling a number from 0 to 3 in the space provided. A *zero* indicates that you feel the statement is not at all true; circling a *three* means that you feel the item is completely true.

As you will see, many of the items are worded very strongly. This is to help you decide the extent to which you agree or disagree.

Please read all the items carefully. Be sure to answer all on the basis of the way you feel now. Don't spend too much time on any one item.

- 0 = Not at all true**  
**1 = A little true**  
**2 = Quite a bit true**  
**3 = Completely true**

- |   |   |   |   |   |
|---|---|---|---|---|
| 1. I often wake up eager to take up my life where it left off the day before . . . . .                      | 0 | 1 | 2 | 3 |
| 2. I like a lot of variety in my work. . . . .  | 0 | 1 | 2 | 3 |
| 3. Most of the time, my bosses or superiors will listen to what I have to say. . . . .                      | 0 | 1 | 2 | 3 |
| 4. Planning ahead can help avoid most future problems. . . . .  | 0 | 1 | 2 | 3 |
| 5. I usually feel that I can change what might happen tomorrow, by what I do today . .                      | 0 | 1 | 2 | 3 |
| 6. I feel uncomfortable if I have to make any changes in my everyday schedule . . . . .                     | 0 | 1 | 2 | 3 |
| 7. No matter how hard I try, my efforts will accomplish nothing . . . . .                                   | 0 | 1 | 2 | 3 |
| 8. I find it difficult to imagine getting excited about working . . . . .                                   | 0 | 1 | 2 | 3 |
| 9. No matter what you do, the "tried and true" ways are always the best . . . . .                           | 0 | 1 | 2 | 3 |
| 10. I feel that it's almost impossible to change my spouse's mind about something . . . .                   | 0 | 1 | 2 | 3 |
| 11. Most people who work for a living are just manipulated by their bosses. . . . .                         | 0 | 1 | 2 | 3 |
| 12. New laws shouldn't be made if they hurt a person's income . . . . .                                     | 0 | 1 | 2 | 3 |
| 13. When you marry and have children you have lost your freedom of choice. . . . .                          | 0 | 1 | 2 | 3 |
| 14. No matter how hard you work, you never really seem to reach your goals. . . . .                         | 0 | 1 | 2 | 3 |
| 15. A person whose mind seldom changes can usually be depended on to have<br>reliable judgment. . . . .     | 0 | 1 | 2 | 3 |
| 16. I believe most of what happens in life is just meant to happen . . . . .                                | 0 | 1 | 2 | 3 |
| 17. It doesn't matter if you work hard at your job, since only the bosses profit<br>by it anyway . . . . .  | 0 | 1 | 2 | 3 |
| 18. I don't like conversations when others are confused about what they mean to say . .                     | 0 | 1 | 2 | 3 |
| 19. Most of the time it just doesn't pay to try hard, since things never turn<br>out right anyway . . . . . | 0 | 1 | 2 | 3 |
| 20. The most exciting thing for me is my own fantasies. . . . .   | 0 | 1 | 2 | 3 |

0 = Not at all true  
 1 = A little true  
 2 = Quite a bit true  
 3 = Completely true

21. I won't answer a person's questions until I am very clear as to what he is asking. . . . 0 1 2 3
22. When I make plans I'm certain I can make them work . . . . . 0 1 2 3
23. I really look forward to my work . . . . . 0 1 2 3
24. It doesn't bother me to step aside for a while from something I'm involved in,  
 if I'm asked to do something else. . . . . 0 1 2 3
25. When performing a difficult task at work, I know when I need to ask for help . . . . 0 1 2 3
26. It's exciting for me to learn something about myself . . . . . 0 1 2 3
27. I enjoy being with people who are unpredictable . . . . . 0 1 2 3
28. I find it's usually very hard to change a friend's mind about something . . . . . 0 1 2 3
29. Thinking of yourself as a free person just makes you feel frustrated and unhappy . . 0 1 2 3
30. It bothers me when something unexpected interrupts my daily routine . . . . . 0 1 2 3
31. When I make a mistake, there's very little I can do to make things right again. . . . 0 1 2 3
32. I feel no need to try my best at work, since it makes no difference anyway . . . . . 0 1 2 3
33. I respect rules because they guide me . . . . . 0 1 2 3
34. One of the best ways to handle most problems is just not to think about them . . . . 0 1 2 3
35. I believe that most athletes are just born good at sports. . . . . 0 1 2 3
36. I don't like things to be uncertain or unpredictable . . . . . 0 1 2 3
37. People who do their best should get full financial support from society . . . . . 0 1 2 3
38. Most of my life gets wasted doing things that don't mean anything . . . . . 0 1 2 3
39. Lots of times I don't really know my own mind . . . . . 0 1 2 3
40. I have no use for theories that are not closely tied to the facts . . . . . 0 1 2 3
41. Ordinary work is just too boring to be worth doing. . . . . 0 1 2 3
42. When other people get angry at me, it's usually for no good reason . . . . . 0 1 2 3
43. Changes in routine bother me. . . . . 0 1 2 3
44. I find it hard to believe people who tell me that the work they do is  
 of value to society . . . . . 0 1 2 3
45. I feel that if someone tries to hurt me, there's usually not much I can do  
 to try and stop him . . . . . 0 1 2 3
46. Most days, life just isn't very exciting for me. . . . . 0 1 2 3
47. I think people believe in individuality only to impress others. . . . . 0 1 2 3
48. When I'm reprimanded at work, it usually seems to be unjustified. . . . . 0 1 2 3
49. I want to be sure someone will take care of me when I get old . . . . . 0 1 2 3
50. Politicians run our lives . . . . . 0 1 2 3

COMMENTS:

Thank you for completing the questionnaire. Your input is vital!

**APPENDIX D**

**PERMISSION TO USE PERSONAL VIEWS SURVEY**



**HARDINESS RESEARCH****Skip Dane, Ph.D. DIRECTOR**

P.O. BOX 2119  
CASPER, WYOMING 82602-2119  
(307) 265-5800

April 27, 1992

To Whom it may concern:

This communication is to allow Mary Carol Pomatto permission to duplicate and use the PVS -- hardiness instrument -- for her research.

Please address questions to this office.

Sincerely,

A handwritten signature in black ink, appearing to read 'Skip Dane', written in a cursive style.

**Skip Dane**

VITA

Mary Carol Galichia Pomatto

Candidate for the Degree of

Doctor of Education

Thesis: THE RELATIONSHIP OF SELECTED PERSONAL AND JOB CHARACTERISTICS TO HARDINESS AMONG REGISTERED NURSES

Major Field: Occupational and Adult Education

Biographical:

Personal Data: Born in Pittsburg, Kansas on December 22, 1951. Parents - Joe Galichia (deceased) and Natalie Huber. Husband - Robert A. Pomatto. Daughter - Jacquelyn C. Pomatto.

Education: Graduated from Northeast High School, Arma, Kansas; received Bachelor of Science in Nursing degree from Pittsburg State University in May, 1974; received Master of Science degree in Nursing from Texas Woman's University in May, 1978; received Specialist in Education degree from Pittsburg State University in May, 1983; completed requirements for Doctor of Education degree at Oklahoma State University in December, 1992.

Professional Experience: Staff Nurse, Mt. Carmel Medical Center, Pittsburg, Kansas, 1974; Instructor, Labette Community Junior College, Parsons, Kansas, 1974-1975; Associate Professor, Pittsburg State University, 1975 to present.