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Understanding turnover of nurses employed in long-term care: A test of two models

Sharkey, Carol J., Ph.D.

Case Western Reserve University (Health Sciences), 1994
UNDERSTANDING TURNOVER OF NURSES EMPLOYED
IN LONG-TERM CARE: A TEST OF TWO MODELS

by

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Submitted in partial fulfillment of the requirements
for the degree of Doctor of Philosophy

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date Feb 14 1974

*We also certify that written approval has been obtained for any proprietary material contained therein.
UNDERSTANDING TURNOVER OF NURSES EMPLOYED
IN LONG-TERM CARE: A TEST OF TWO MODELS

Abstract

by

CAROL J. SHARKEY

Although more than 100,000 registered nurses work in long-term care facilities, little is known about turnover among these nurses; that is, why nurses decide to leave while other nurses decide to remain. Therefore, the purpose of this study was to test the theory of reasoned action for its ability to explain turnover of registered nurses employed in long-term care facilities. The reasoned action model traces the causes of turnover back to an individual’s intention, attitude toward resigning and staying, subjective norm (social pressure), and normative and behavioral beliefs. This study also tested an expanded model. Moral obligation, job satisfaction, and organizational commitment were added to the reasoned action model as determinants of intention.

A random sample of 500 registered nurses licensed in Nebraska and employed in long-term care facilities were sent two questionnaires six months apart. The first questionnaire measured components of both models, nurse demographics, and facility characteristics. The second
questionnaire measured the nurse's employment status six months later. Of the 319 RNs who returned the first questionnaire (a response rate of 68%), 215 RNs completed the second questionnaire and provided usable data.

Of the RNs in the final sample, 99% were female, 81% were married, and 47% had no children living at home. The average age was 49, but age ranged from 26 to 79 years. Fifty-six percent of the nurses were employed full-time, and 55% had been employed in their nursing facility 5 years or more. Staff nurses, supervisors, and directors of nursing comprised the sample, and approximately three-quarters of the RNs were diploma-trained. Nearly half the RNs were employed in nonprofit facilities and 93% worked in facilities which provided intermediate-skilled care.

The reasoned action model explained 27% of the variance in turnover in nurses employed in long-term care facilities, with most of the variance accounted for by intention. The significant predictors of intention were attitude toward behavior and subjective norm, accounting for 50% of the variance in intention. Behavioral beliefs indirectly influenced intention through attitude toward behavior, and normative beliefs through subjective norm. Moral obligation contributed 3% to the variance in intention, but job satisfaction and organizational commitment were not significant predictors of intention.
To my family:

*TIM, KEVIN, MAUREEN, RYAN, T.J., and KATIE*
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CHAPTER 1
INTRODUCTION

The purpose of this study was to test two models developed to explain turnover in registered nurses employed in long-term care facilities. Although turnover, or the voluntary resignation of nurses, can be investigated as a characteristic of an organization, the present research examined turnover as an individual nurse decision. This study was designed to identify the attitudes, beliefs, and intentions underlying long-term care nurses' decisions to resign or remain employed in their nursing facilities.

Registered nurse turnover in long-term care facilities continues to be a chronic and costly problem. Turnover can exceed an annual rate of 100% in long-term care facilities (Cohen-Mansfield, 1989; Phillips, 1987), in contrast to 25-30% in hospitals (Jones, 1990b; Prescott & Bowen, 1987). While some turnover is perceived as positive by the organization, high staff turnover can have negative consequences for patients and nurses, as well as for the healthcare organization. Excessive turnover has been shown to increase financial costs associated with recruitment, selection, orientation, and training of new nurses (Jones, 1990a, 1990b). For nurses who stay, high turnover can decrease morale and unit stability as experienced nurses increase their workload and orient new staff (Mann &
Jefferson, 1988). And, for patients, high nurse turnover can reduce the quantity and quality of nursing care, and increase a patient's length of stay (Cavanagh, 1989; Phillips, 1987). Since long-term care facilities typically employ smaller registered nurse staffs, high turnover has the potential to be disastrous because there are limited resources available to respond to turnover as quickly as other employers of nurses.

The major component of services provided in long-term care facilities is nursing care (Jones, Bonito, Gower, & Williams, 1987). At present, 6.6% of all employed registered nurses (RN) work in long-term care settings (McKibbin, 1990). This represents more than 100,000 RNS, but this number is increasing as the Omnibus Budget Reconciliation Act of 1987 has mandated RN coverage in all long-term care facilities. Furthermore, because the demand for long-term care shows no signs of abating, the demand for long-term care nurses is increasing. With the population aging and the number of persons with chronic illnesses growing, Jones et al. (1987) warn that an additional one million nursing home or long-term care beds will be needed by the year 2000. This situation aggravates recruitment problems already associated with long-term care facilities.
Increased demand for long-term care coupled with high turnover and the current nursing shortage have heightened the need to focus attention on retaining those nurses administrators have spent money and effort recruiting. Nurse administrators, responsible for obtaining, allocating, and managing resources necessary for patient care delivery (Orem, 1989), are developing and implementing retention activities in an effort to reduce turnover and retain a stable nursing staff (Marquis, 1988). Since retention efforts also add costs to nursing budgets (Marquis, 1988), it is important to base retention policies and practices on an understanding of the attitudes and beliefs underlying nurses decisions to leave as well as those underlying decisions to stay. As noted by Prescott (1986), many researchers focus on leaving, assuming that staying is the inverse of leaving. However, the process of leaving may be influenced by different factors than the process of staying. For this reason, the present research examined staying as a related but different measure of turnover than leaving.

Although there have been numerous studies investigating registered nurse turnover in hospitals, little is known about RNs employed in long-term care facilities. With the increasing demand for long-term care, it is important to study the turnover decisions of nurses
employed in these facilities. Therefore, this study will investigate registered nurse turnover in long-term care facilities.

Perspective

A major aim of turnover research and theory development has been to explain and/or predict employee turnover within work organizations (Dalton, Krackhardt, & Porter, 1981). Turnover has been studied from economic, sociologic, psychologic, organizational, and nursing perspectives (e.g., Alexander, 1988; Arnold & Feldman, 1982; Curry, Wakefield, Price, Mueller, & McCloskey, 1985; Mobley, Griffeth, Hand, & Meglino, 1979; Parasuraman, 1989; Prestholdt, Lane, & Mathews, 1987; Price & Mueller, 1981). Theories of turnover vary in their level of analysis and selection of determinants. Some theories treat the organization as the unit of analysis, while others focus on the individual. Similarly, some theories assume the determinants of turnover operate in the environment, others assume they operate in the individual, and other theories incorporate both sets of determinants. Although none of the models have been able to fully explain or predict turnover, the theory of reasoned action (Ajzen & Fishbein, 1980) has accounted for more variance in nurse turnover (Prestholdt et al., 1987) than other models.
The theory of reasoned action is concerned with understanding and predicting human behavior, and is well suited for the study of nurse turnover at the individual level of analysis. The theory of reasoned action rests on the assumption that the determinants of behavior are factors found within the individual nurse. This theory originated in psychology and perceives behavior as rational, purposeful, and goal-directed, assumptions congruent with the nursing perspective of "person". Nursing focuses on individuality and the belief that a person's actions are in some sense free and self-determined (Munhall, 1986). As applied to the behavior of turnover, i.e., the act of resigning or staying, the theory of reasoned action looks for attitudes and beliefs within the nurse as determinants of turnover behavior. This perspective contrasts with turnover models that view turnover as an organizational outcome, and assume environmental factors are the predictors (Alexander, 1988; Cavanagh, 1990; Prescott, 1986; Price & Mueller, 1981; Wakefield, Curry, Price, Mueller, & McCloskey, 1988).

Models developed from an environmental perspective seek predictors of turnover within the organizational environment of the nurse because behavior is assumed to be externally constrained or environmentally determined. For example, Alexander (1988) studied organizational variables
such as centralization, shift rotation, RN ratio, communication, and evaluation as determinants of nurse turnover. However, organizational variables have not explained as much variance in turnover as the reasoned action model. Therefore, the theory of reasoned action was chosen to examine the turnover of nurses in long-term care. For turnover, numerous descriptive and correlational studies have led researchers to develop causal models to explain turnover behavior. The reasoned action model has explained the most variance in nurse turnover and is a good starting point for this study.

The Theory of Reasoned Action

Ajzen and Fishbein’s theory of reasoned action (1980) is concerned with predicting and understanding individual behavior. The theory is based on the assumption that people consider the implications of actions before engaging in a particular behavior. The reasoned action model was designed to explain any human behavior, and has been applied to the study of turnover in which the behavior of interest is an employee’s act of resigning or staying (Hom, Katerberg, & Hulin, 1979; Newman, 1974; Prestholdt et al., 1987). Figure 1 depicts the reasoned action model as applied to turnover.

According to the theory, the nurse’s intention to resign or stay is the immediate determinant of turnover
Figure 1. Model components of Ajzen and Fishbein's Theory of Reasoned Action (1980) as applied to turnover.
behavior. Ajzen and Fishbein (1980) acknowledge that there may not always be a perfect correspondence between intention and behavior, because various events can occur between the measurement of intention and the observation of behavior. However, a person usually acts in accordance with his/her intention.

Knowing that intention predicts behavior is important but it does not contribute much to understanding why a nurse chooses to resign or stay. To understand a behavior, the determinants of intention must be identified. Intention is believed to be a function of two constructs: the nurse's attitude toward resigning or staying, referred to as attitude toward behavior; and his/her perception of the social pressures to resign or stay, called the subjective norm. Generally speaking, a person will intend to perform a behavior if he/she evaluates it as positive and believes that important others think the behavior should be performed.

Attitude toward behavior is unique to the individual and refers to the nurse's judgment that performing the behavior is good or bad. Nurses can be expected to differ in their evaluation of resigning, some having a favorable or positive attitude and others an unfavorable or negative attitude. Subjective norm is the nurse's perception of the social pressures to resign or stay. In general, people are
expected to hold favorable attitudes toward behaviors important others think they should perform, and negative attitudes toward behaviors important others think they should not perform. The relative importance of attitude toward behavior and subjective norm as predictors of intention is expected to vary from one behavior to another and from person to person. Knowing the importance of these two determinants of intention for nurses employed in long-term care facilities is the first step toward understanding why nurses resign or stay.

A deeper understanding of a behavior requires identification of the sets of beliefs underlying attitude toward behavior and subjective norm. According to the theory, an individual’s attitude toward behavior is based on the person’s beliefs about that behavior and his/her evaluation of those beliefs. For the behavior of resigning, nurses hold behavioral beliefs about the consequences of resigning and staying weighted by the value those consequences have for the individual. A nurse can be expected to hold both positive and negative beliefs about the consequences of resigning; but it is the total set of beliefs that predicts attitude toward behavior. If a nurse believes that resigning will lead to mostly positive outcomes, a favorable attitude toward resigning is expected.
Likewise, an individual's subjective norm is based on a set of beliefs, called normative beliefs, about what important others think he/she should do weighted by the motivation to comply with those others. A nurse who believes important referents think he/she should resign, and who is motivated to comply with those referents, will perceive social pressure to resign.

Identifying the beliefs underlying attitude toward behavior and subjective norm gives a more complete understanding of why nurses hold certain attitudes and subjective norms. Examination of the beliefs for nurses who stay and for nurses who leave should provide insight into the reasons for staying versus resigning.

Figure 1 depicts the relations among beliefs, attitude toward behavior, subjective norm, intention, and turnover behavior. The theory of reasoned action consists essentially of a series of propositions linking behavior to beliefs. The model considers behavior the endpoint and traces the causes of behavior back to beliefs. Therefore, starting with behavior and working backwards, the propositions of the reasoned action model as applied to turnover are:

1. Turnover behavior is related to a nurse's intention to resign or stay.
2. A nurse’s intention to resign or stay is related to his/her attitude toward resigning versus staying.
3. A nurse’s intention to resign or stay is related to his/her subjective norm.
4. A nurse’s attitude toward resigning versus staying is related to his/her behavioral beliefs.
5. A nurse’s subjective norm is related to his/her normative beliefs.

The reasoned action model as applied to turnover attempts to understand and predict turnover as an individual choice behavior, and traces the causes of turnover back to the individual’s beliefs.

Purpose of the Study

A single test of the reasoned action model (Ajzen & Fishbein, 1980), as applied to nurse turnover, was found in the literature. The model was tested with registered nurses employed by hospitals (Prestholtet et al., 1987), and was moderately successful in predicting turnover, explaining 32% of the variance. This research provided initial evidence of the value of applying the theory of reasoned action to the study of nurse turnover, but the generalizability of this model to nurses employed in other health care organizations is unknown. Results based on hospital nurses cannot automatically be applied to nurses in other settings, because the demographic characteristics
of hospital nurses are different than the characteristics of nurses who work in other healthcare settings (Cotler & Kane, 1988; Jones et al., 1987). Therefore, the major purpose of this study was to evaluate the reasoned action model for its ability to explain turnover in registered nurses employed in long-term care facilities.

The second purpose of this study was to test an expanded model for its ability to significantly enhance our understanding of nurse turnover, over and above the reasoned action model. Although the reasoned action model has shown more success in explaining and predicting nurse turnover than other models, not all the variance in intention was explained by the model predictors. It is plausible that other variables are needed in the model to increase the prediction of intention.

There are other factors which appear to have a major influence on turnover intention. Several investigators have identified job satisfaction (Arnold & Feldman, 1982; Mobley et al., 1979; Price & Mueller, 1981), organizational commitment (Arnold & Feldman, 1982; Curry et al., 1985; Shore, Newton, & Thornton, 1990), and moral obligation (Prestholdt et al., 1987; Schwartz & Tessler, 1972) as important determinants of intention. These three variables may be important attitudes in explaining turnover behavior of nurses in long-term care facilities.
Moral obligation is a feeling of personal responsibility and is an attitude that reflects an individual’s belief about whether a particular behavior is something they ought to do or something they should not do (Schwartz & Tessler, 1972). This belief differs from behavioral beliefs which are beliefs about the consequences of staying and resigning. Moral obligation is a personal moral norm or a sense of personal obligation to perform or not perform a behavior. Not all behavior will be preceded by a sense of moral obligation, but it has been shown to be a significant predictor of intention to resign or stay in nurses employed in hospitals (Pretholdt et al., 1987).

Whether RNs in long-term care facilities feel a moral obligation to remain employed is unknown. However, because of the enduring nature of the nurse/resident relationship, many nurses become attached to residents; and thus, may feel a personal obligation to the residents to continue employment.

It is plausible that RNs develop a personal attitude of obligation to remain that is different from the subjective norm, which reflects social pressure from important others. A resident may be an important referent for a nurse, and if motivated to comply with the resident’s wishes, the nurse would feel social pressure to remain. However, a nurse may not feel social pressure from
residents, and yet feel a moral obligation to remain employed. The addition of moral obligation to the reasoned action model is hypothesized to improve the prediction of intention and add explanatory power to the model.

Job satisfaction is "the degree to which individuals like their work" (Price & Mueller, 1981, p. 12); and organizational commitment is "the strength of an individual's identification with and involvement in a particular organization" (Porter, Steers, Mowday, & Boulian, 1974, p. 604). Job satisfaction is an attitude that reflects the degree to which an employee likes or dislikes the job; whereas, organizational commitment is an attitude that reflects an employee's attachment or loyalty to the organization as a whole (Williams & Hazer, 1986). The importance of job satisfaction as an intervening variable influencing intention to resign or stay is well documented in the literature (e.g., Arnold & Feldman, 1982; Curry et al., 1985; Mobley et al., 1979; Parasuraman, 1989); and, a number of studies support the role of organizational commitment as another important variable influencing turnover intention (Curry et al., 1985; Parasuraman, 1989; Shore et al., 1990; Williams & Hazer, 1986).

Although job satisfaction and organizational commitment are related to each other, Shore et al. (1990)
provide evidence these two attitudes are conceptually distinct enough to be treated independently. Furthermore, both attitudes have been found to influence intention directly, rather than job satisfaction contributing to intention through organizational commitment (Arnold & Feldman, 1982; Curry et al., 1985). These findings suggest that moral obligation, job satisfaction and organizational commitment should be included in turnover models as predictors of intention.

This study tested the addition of these three variables to the reasoned action model. These three concepts are attitudes and as such are congruent with the theory of reasoned action which predicts intention from attitudes. The expanded model proposes that moral obligation, job satisfaction, and organizational commitment are predictors of turnover intention, along with attitude toward behavior and subjective norm. Figure 2 depicts this expanded model of turnover.

Summary of the Models

Two models of turnover were examined in this study. The reasoned action model was tested for its effectiveness in explaining turnover of RNs employed in long-term care facilities. The reasoned action model proposed that the immediate determinant of turnover is a nurse’s intention to resign or stay, with behavioral beliefs, normative beliefs,
Figure 2. The Expanded Model of Turnover.
attitude toward turnover, and subjective norm influencing turnover through intention. The second model tested was an expansion of the reasoned action model proposing that moral obligation, job satisfaction, and organizational commitment add to the explanation of intention to resign or stay. The expanded model was compared with the reasoned action model for its ability to significantly increase the explanation of intention, thus adding explanatory power to the model. The two research hypotheses were:

Hypothesis 1: The reasoned action model (behavioral beliefs, attitude toward behavior, normative beliefs, subjective norm, and intention) explains turnover in nurses employed in long-term care facilities.

Hypothesis 2: Moral obligation, job satisfaction, and organizational commitment increase explanation of intention over and above attitude toward behavior and subjective norm.

Significance

The significance of this study lies in its contribution to theory development for nursing science and nursing administration. Turnover has been identified as an important concept in The Iowa Model for Nursing Administration (Johnson, Gardner, Kelly, Maas, & McCloskey, 1991). The Iowa Model describes the scope of knowledge necessary for the nurse administrator in managing the
delivery of nursing services. One particular responsibility of the nurse administrator is managing nursing resources, and knowledge about turnover provides a basis for developing policies and practices designed to solve turnover problems.

This study examined turnover from a theoretical perspective and provided knowledge about why nurses stay or leave employment in long-term care facilities. Research on turnover in this population of nurses is critical because the quality of care and the quality of life for geriatric patients has been shown to be dependent in part on the number and quality of nursing staff (Lang, Kraegel, Rantz, & Krejci, 1990). With small RN staffs, the resignation of even one or two nurses can seriously alter the number of available nursing staff. Managing nurse turnover is clearly an important responsibility within the domain of nursing administrative practice.

This study also contributed to theory development by testing the ability of the reasoned action model and expanded model to explain turnover of nurses employed in long-term care. By building on the work of Prestholdt et al. (1987), evidence for the usefulness of the theory in explaining nurse turnover and for the generalizability of the findings to nurses employed outside the hospital setting was begun.
CHAPTER 2

REVIEW OF THE LITERATURE

There is a vast literature associated with the concept of turnover. Interest in turnover began in the early 1900s and over a thousand studies have been reported in a wide variety of journals, along with publication of numerous literature review articles and books (Mowday, Porter, & Steers, 1982). Turnover has been the subject of numerous investigations in nursing because of the problems associated with recruiting and retaining a skilled nursing staff necessary for the provision of quality patient care. The consequences of turnover have been viewed from a negative perspective in terms of increased administrative costs (Jones, 1990a, 1990b) and disruption of nursing care (Cavanagh, 1989; Hinshaw & Atwood, 1983).

Nurse turnover has been studied from both the individual and aggregate levels of analysis. At the individual level, turnover is frequently operationalized as a dichotomous variable, and a nurse is classified as either a leaver or a stayer. At the aggregate level, turnover indices are frequently used to provide information on the rate and pattern of turnover within and across organizations (Duxbury & Armstrong, 1982). While turnover rates and other aggregate measures are important for studying nurse turnover, they add little to our
understanding of the turnover decision process.

In the following review of the literature, the perspective of turnover as an individual choice behavior is used to organize the review. This chapter discusses the concept of turnover, and reviews both the nursing and non-nursing literature as it relates to individual nurse turnover. In particular, research related to the theory of reasoned action (Ajzen & Fishbein, 1980) as applied to the study of turnover will be presented, followed by a discussion of research specific to moral obligation, job satisfaction, and organizational commitment. Studies of turnover of nurses employed in long-term care facilities will be reviewed; and finally, some of the methodological issues associated with turnover research will be addressed.

Turnover

Turnover is "the degree of individual movement across the membership boundary of a social system" (Price, 1977, p. 4). Researchers focusing on the individual as an employee, more narrowly define turnover as the voluntary separation of an individual from an organization (Mobley et al., 1979; Parasuraman, 1989; Prestholdt et al., 1987; Price & Mueller, 1981). This definition of turnover focuses on individuals who leave an organization; but members who stay are equally important in turnover research. A criticism stemming from the early work on
turnover was the lack of control groups in study designs, and a call for more appropriate designs which included "leavers" and "stayers" (Phillips, 1987).

Traditionally, turnover has been categorized as voluntary or involuntary, based on the assumption that people leave an organization for voluntary or involuntary reasons (Abelson, 1987). The individual initiates voluntary separation; whereas, involuntary turnover is often, but not always, initiated by the organization. Dismissals and layoffs are examples of organizationally induced separation; whereas, separation due to medical disability and death are not. Nursing has primarily studied voluntary resignations since this type of turnover has been viewed as potentially manageable by the organization.

Early Research

Early research on turnover used bivariate correlation techniques to examine numerous variables thought to be related to turnover. More than forty different factors considered potentially relevant to turnover were investigated, and many studies lacked a clear conceptual framework. Two important comprehensive reviews of the literature were published in 1977 and 1979 in an attempt to codify the turnover literature from several disciplines. Price (1977) and Mobley, Griffeth, Hand, and Meglino (1979)
examined research relating turnover to **personal factors** such as age, tenure, sex, marital status, number of children, educational level, and personality; **job and organizational factors** such as salary, promotional opportunity, workload, supervision, and autonomy; and **attitudes** such as felt stress, job satisfaction, and organizational commitment.

Price (1977) looked at turnover from an organizational perspective and defined turnover as the "voluntary separation of an individual from an organization" (p. 4). Mobley et al. (1979) looked at turnover from a psychological perspective and defined turnover as a form of "employee withdrawal" (p. 493) and an "individual choice behavior" (p. 493). Price (1977) reviewed research at both the individual and aggregate levels of analysis; while, Mobley et al. (1979) included Price's review but focused on the individual as the unit of analysis. Both Price (1977) and Mobley et al. (1979) concluded that bivariate studies produced conflicting results and few generalizations were possible. It was clear that turnover needed to be conceptualized as a complex phenomenon requiring a multivariate approach.

**Multivariate Studies**

In the nursing literature, many investigators have employed multivariate analysis to examine groups of
independent variables thought to influence turnover. For example, Alexander (1988) used a multivariate framework to examine the effects of patient care unit characteristics such as integration, communication, centralization, and evaluation on turnover. In another study, Wakefield et al. (1988) investigated the influence of patient care unit specialty and labor intensity on job satisfaction, organizational commitment, and turnover. Multivariate analysis offered an approach that could sort out the independent effects of numerous variables thought to be related to turnover.

A few researchers have developed process models of turnover which are intended to explain nurses' turnover behavior (Curry et al., 1985; Parasuraman, 1989; Price & Mueller, 1981). In general, the more comprehensive models propose a sequential process whereby personal and job-related factors influence nurses' attitudes about the job and organization which in turn, influence turnover intentions and behavior. For example, Price and Mueller (1981) proposed a model where routinization, integration, participation, instrumental communication, pay, distributive justice, and promotional opportunity would impact turnover through job satisfaction; professionalism, general training, and kinship responsibility would influence turnover through intent to stay; and job
opportunity would directly affect turnover. Testing this model with data from 1091 nurses working in seven hospitals, they found that the strongest predictor of turnover was intent to stay. Job satisfaction was the most important determinant of intention and was an intervening variable mediating the effects of many personal and job-related variables with intention.

Parasuraman (1989) developed a model of turnover hypothesizing relationships among four sets of variables: personal/demographic, organizational/job-related, attitudinal, and behavioral intentions. Personal/demographic and organizational/job-related variables were posited to have direct effects on felt stress, job satisfaction, and organizational commitment. Felt stress was expected to directly affect job satisfaction and organizational commitment, which in turn, were expected to indirectly affect turnover though intention to leave. Testing the model with 307 nurses from one hospital, Parasuraman (1989) found that intention to leave was the immediate determinant of turnover with both job satisfaction and organizational commitment having equal direct effects on intention to leave. None of the personal/demographic, organizational/job-related variables, or the attitudinal variable of felt stress had a direct effect on intention or turnover. Rather, their effects
were mediated through job satisfaction and organizational commitment.

The turnover models proposed by Price and Mueller (1981) and Parasuraman (1989) are two examples of the more comprehensive models of turnover found in the nursing literature. These models were developed from an organizational perspective and are grounded in early bivariate studies. These two studies are particularly notable because they employed both a multivariate analysis and a prospective design, measuring individual nurse turnover six months following the collection of survey data. Longitudinal studies can overcome some of the difficulties encountered with retrospective designs which rely on nurses' past perceptions of their work environment and reasons for resigning.

The major weakness in the two studies was the low explained variances of the models. Price and Mueller (1981) reported an $R^2$ of .06 for their model of turnover; and Parasuraman (1989) reported an $R^2$ of .17. Other models of nurse turnover developed from an organizational perspective have met with similar degrees of success. For example, Curry et al. (1985), extended Price and Mueller's work (1981), but the model only accounted for 13% of the variance in nurse turnover.
The Theory of Reasoned Action

A major departure from the organizational perspective of turnover and the theoretical framework chosen for this investigation is Prestholdt, Lane, and Mathews (1987) application of the theory of reasoned action (Ajzen & Fishbein, 1980) to the study of turnover. The theory of reasoned action is social-psychological in nature and considers nurses' beliefs, attitudes, and intentions as the determinants of individual turnover.

The reasoned action model was tested by Prestholdt et al. (1987) with registered nurses employed by 21 hospitals in Louisiana. Turnover was defined as the nurse’s decision to remain in the present job or resign. These investigators were interested in testing the theory in a turnover situation and in evaluating the addition of moral obligation to the model as a predictor of intention. Citing the altruistic history of nursing, these investigators hypothesized that a sense of moral obligation might influence nurses’ intentions to resign or stay. Using a prospective survey design, Prestholdt et al. measured nurses’ behavioral beliefs, normative beliefs, attitude toward behavior, subjective norm, moral obligation, and turnover intention at Time 1. Six months later, the employment status of each nurse was obtained through hospital records.
The final sample included 867 nurses of which 450 were randomly selected for initial analyses and the remainder assigned to a holdback sample for replication purposes. Hierarchical regression analysis was employed with turnover regressed first on intention, followed by attitude toward behavior, subjective norm, moral obligation, behavioral beliefs, normative beliefs, and 7 other variables related to demographic and hospital characteristics. In a separate regression run, intention was regressed in a sequential fashion in the same manner.

For the initial sample, intention was the only significant predictor of turnover (beta = -.38, p < .001), explaining 29% of the variance in turnover. The combination of all predictors explained 32% of the variance in turnover. For intention, both attitude toward behavior (beta = .72, p < .001) and subjective norm (beta = .10, p < .01) significantly predicted intention. Moral obligation received a significant regression weight (beta = .10, p < .01) after attitude toward behavior and subjective norm had been added to the equation. Attitude toward behavior explained 65% of the variance in intention, subjective norm added an additional 2%, and moral obligation added an additional 1% to intention variance. The combination of all predictors explained 68% of the variance in intention. For beliefs, attitude toward behavior was significantly
correlated with behavioral beliefs \( (r = .57, \ p < .001) \); and
subjective norm was significantly correlated with normative
beliefs \( (r = -.54, \ p < .001) \). These results were similar
for the holdback sample and for the sample as a whole.

Results from Prestholdt et al.'s study (1987) were
broadly consistent with Ajzen and Fishbein's theory;
however, there was an important departure from what was
anticipated by the theory. Moral obligation exerted a
separate and independent effect on intention; that is, the
measure of moral obligation explained a significant amount
of variance in intention, beyond that accounted for by
attitude toward behavior and subjective norm. Ajzen and
Fishbein (1980) argue that attitude toward behavior and
subjective norm are sufficient in predicting intention, and
all other factors are considered external to the model.
Thus, once the model's predictors are measured, inclusion
of other variables are not expected to improve the
prediction of intention or behavior. Although the addition
of moral obligation to the reasoned action model accounted
for only 1% of the variance in intention, results from this
study question the sufficiency of attitude toward behavior
and subjective norm in predicting nurses' turnover
intentions.

Prestholdt et al.'s (1987) research has several
strengths. A well-developed theoretical framework guided
the study, sample size was large, and the model performed well with both initial and holdback samples. Prestholdt et al.'s (1987) study provided strong evidence that attitude toward behavior, subjective norm and intention may be key variables in predicting turnover.

There are two major weaknesses with Prestholdt et al.'s (1987) study. The researchers stated purpose was to test the reasoned action model, but a pure test of the model was not conducted. Rather, a modified version which included moral obligation as a predictor of intention was tested. Second, the statistical analysis did not fit the conceptual model. Prestholdt et al. (1987) built a regression equation for intention using all the components of the reasoned action model; but conceptually, only attitude toward behavior and subjective norm were hypothesized to predict intention. A similar regression equation was built for turnover, but only intention was hypothesized to predict turnover. As a result, one of the purposes of the present study was to conduct a pure test of the reasoned action model and to change the statistical model to more closely fit the conceptual model.

Two other studies have applied the theory of reasoned action to the turnover situation. Newman (1974) conducted the first field test of an early version of the reasoned action model, using two model components to predict
intention and turnover: attitude toward behavior and normative beliefs. Turnover was defined as the voluntary resignation of the employee within two months following administration of the questionnaire. Attitude toward behavior and normative beliefs accounted for 49% of the variance in intention, and 13% of the variance in turnover of 108 nursing and non-nursing employees from one nursing home. Newman's research provided the initial support for the theory as applied to turnover, but since other variables have been added to the model, Newman's study is an inadequate test of the current model.

Hom, Katerberg, and Hulin (1979) tested the reasoned action model's effectiveness in predicting turnover in 484 Army National Guardsmen whose terms of enlistment expired within six months. In this study, turnover was defined as reenlistment into the Guard. Attitude toward behavior and subjective norm explained 65% of the variance in intention and 42% of the variance in turnover; and normative beliefs was strongly correlated with subjective norm. The results of this study are difficult to apply to turnover of nurses because the model was tested with guardsmen whose term of enlistment expired during the study period. This situation resulted in a mandatory reenlistment decision by all subjects, a situation not comparable to the voluntary turnover decision of nurses. Nurses do not have expiration
dates of service, and can intend to resign for a long period of time without actually resigning. Also, the decision made by the guardsmen did not involve their primary source of income nor a decision to change employers.

In summary, the theory of reasoned action has shown moderate success in predicting and explaining turnover in nurses employed in hospitals. Given that Prestholdt et al.'s (1987) study is the sole test of the theory of reasoned action as applied to nurse turnover, replication of the study with other groups of nurses is warranted. Testing the model in different samples of nurses can strengthen the theory base if the relationships hold. The present study tested the theory of reasoned action with a slightly different sample of nurses - those employed in long-term care facilities.

Expanding the Reasoned Action Model

Results of Prestholdt et al.'s (1987) study suggest that attitude toward behavior and subjective norm are not sufficient in themselves to mediate the effects of all antecedents of intention. In particular, Prestholdt et al.'s (1987) findings support the addition of moral obligation to the reasoned action model in predicting nurses' turnover intentions.
Moral Obligation

The relevance of moral obligation in predicting intention appears to depend on the type of behavior and the group being investigated. An early version of the reasoned action model included a personal normative component as a predictor of intention, but was later dropped from the model due to lack of empirical support (Ajzen & Fishbein, 1980). However, Schwartz and Tessler (1972) argued that the type of behavior would determine whether or not a person felt a sense of moral obligation. They believed that altruistic or helping behaviors would be influenced by a personal moral norm. Schwartz and Tessler (1972) tested this proposition with a behavioral intention expected to arouse a sense of moral obligation—intention to serve as a transplant donor. As hypothesized, the inclusion of moral obligation in the reasoned action model significantly enhanced the prediction of intention to donate, over and above attitude toward behavior and subjective norm.

For the behavior of turnover, the inclusion of moral obligation in the reasoned action model has met with mixed results. Results from Prestholdt et al.'s study (1987) suggest that moral obligation is a predictor of nurses' intentions to resign or stay. However, in a study of national guardsmen's reenlistment decisions, moral obligation did not add to the theory's prediction of
intention (Hom et al., 1979). It appears that whether or not a person feels a sense of moral obligation to remain employed in an organization depends on the profession being investigated.

Although the addition of moral obligation to the reasoned action model accounted for only 1% of the variance in intention, the sufficiency of the model in mediating the influence of all other variables must be questioned. Even with the addition of moral obligation, the variance in intention is not fully explained by the model. It is possible that relevant predictors still need to be identified.

**Job Satisfaction and Organizational Commitment**

The most compelling factors suggested by turnover research to be predictors of intention are job satisfaction and organizational commitment. These two variables have been consistently and negatively associated with turnover, and are considered to be the primary variables affecting intentions and mediating many antecedents of turnover (Arnold & Feldman, 1982; Curry et al., 1985; Mobley et al., 1979; Mowday, Steers, & Porter, 1979; Parasuraman, 1989; Price & Mueller, 1981).

Job satisfaction is "the degree to which individuals like their work" (Price & Mueller, 1981, p. 12). Job satisfaction has been the subject of numerous
investigations and can be measured either globally or dimensionally. Global measures focus on an employee's overall attitude toward the job; whereas, dimensional measures obtain separate reactions to different aspects of the job such as pay, work, supervision, promotion, and coworkers (Price & Mueller, 1986). In this study, job satisfaction refers to the degree to which a nurse likes the job overall.

Whereas, job satisfaction is an attitude toward one's job; commitment is considered an attitude toward the organization (Williams & Hazer, 1986). Organizational commitment is "the strength of an individual's identification with and involvement in a particular organization" (Porter et al., 1974, p. 604). Porter and his colleagues identify three dimensions of commitment: "(a) a strong belief in and acceptance of the organization's goals and values; (b) a willingness to exert considerable effort on behalf of the organization; and (c) a definite desire to maintain organizational membership" (p. 604). Commitment, then, reflects an overall attitude of attachment toward the organization as a whole. Thus, nurses who indicate an attitude of attachment toward the organization are said to be committed to the organization. Nurses who indicate an attitude of favorableness toward their job are said to be satisfied with their job. Both
job satisfaction and organizational commitment are social psychological concepts.

Based on bivariate correlational studies, job satisfaction has long been considered a direct determinant of turnover (Price, 1977; Mobley et al., 1979). But when researchers moved toward developing models which posited the way in which many variables influence turnover, job satisfaction was found to be an intermediary variable (Price & Mueller, 1981; Curry et al., 1985; Parasuraman, 1989). For example, in Price and Mueller's (1981) research, job satisfaction was the most important determinant of intention and was an intervening variable mediating the effects of many personal and organizational variables with intention.

The inclusion of organizational commitment in models of turnover is a more recent development. The work of Mowday and colleagues suggested that organizational commitment was predictive of turnover and under certain circumstances, a more effective predictor than job satisfaction (Mowday, Porter, & Steers, 1982; Mowday, Steers, & Porter, 1979; Porter, Steers, Mowday, & Boulian, 1974). While many investigators have studied the job satisfaction-turnover relationship, few have included both job satisfaction and organizational commitment in their work. Both variables must be tested together in order to
adequately investigate the unique role of each variable in the turnover process.

Two notable exceptions were the work of Curry et al. (1985) and Parasuraman (1989). These investigators developed and tested models of nurse turnover which included both job satisfaction and organizational commitment in their research. In both studies, turnover was defined as the voluntary resignation of the nurse. Prospective designs were employed and large samples were obtained. The same measures of organizational commitment and similar scales measuring overall job satisfaction allow for comparison of results.

Curry et al. (1985) used path analysis to test an adapted version of the Price and Mueller model (1981) in a sample of 841 nursing department employees (nurses and others) from five hospitals. Job satisfaction was posited to influence intent to leave indirectly through organizational commitment. Contrary to expectations, job satisfaction had a strong direct effect on intent to leave (beta = -.34, p < .001), as well as on organizational commitment (beta = .36, p < .001). For organizational commitment, there was a statistically significant, but weak effect on turnover (beta = .09, p < .05), and a slightly stronger influence on intent to leave (beta = -.13, p < .01). The other personal and organizational variables
influenced turnover indirectly through job satisfaction, organizational commitment, and/or intent to leave. The strongest predictor of turnover in both studies was intent to leave.

In Parasuraman’s (1989) study of nurses presented earlier, none of the personal/demographic, organizational/job-related variables, or the attitudinal variable of felt stress had a direct effect on intention. Rather, their effects were mediated through job satisfaction and organizational commitment. Both job satisfaction (beta = -.27, p < .001) and organizational commitment (beta = -.26, p < .001) had equally direct effects on intention to leave.

Results from both studies affirm the importance of job satisfaction as an indirect determinant of turnover. The extent to which nurses are satisfied with their work does appear to influence their intention to leave the hospital, and their eventual turnover behavior. Parasuraman’s (1989) study provided stronger support than Curry et al.’s (1985) research for including organizational commitment as a predictor of intention. However, organizational commitment did play a role in mediating the effects of several personal and organizational variables on intention in both studies. These results suggest that nurses’ attitudes toward their jobs as well as toward the organization as a
whole do influence the decision to leave the hospital.

In summary, current turnover research provides strong support for Ajzen and Fishbein's (1980) proposition (as applied to the behavior of turnover) that intention is the immediate predictor of turnover. While it is evident that intention is a significant variable in the turnover process, without examination of the antecedents of intention, little knowledge of the psychology of turnover behavior is generated. Prestholdt et al.'s (1987) application of the reasoned action model to turnover provided strong evidence that attitude toward behavior and subjective norm were key variables in predicting intention. But the sufficiency of these two variables in mediating the effects of all other variables on intention has been challenged. Our knowledge of the turnover process could be expanded, at least in part, by investigating other variables thought to be relevant predictors of intention. Findings from Prestholdt et al.'s (1987) study support the inclusion of moral obligation as a predictor of intention. And empirical evidence from other studies of turnover support the inclusion of job satisfaction and organizational commitment as predictors of intention. It is proposed that the addition of moral obligation, job satisfaction, and organizational commitment to the reasoned action model will increase the prediction of intention,
adding explanatory power to the model. Further research is required to test the influence of these three variables on intention. The present study was designed to accomplish this objective.

Turnover of Nurses Employed in Long-Term Care

From the nursing literature it is evident that the emphasis has been on research concerning nurses employed in hospital settings. In contrast, very little is known about turnover of nurses employed in long-term care facilities. As noted by Phillips (1987), much of the literature dealing specifically with turnover in long-term care facilities refers to exploratory surveys of nursing homes. These surveys, conducted in the 1970s and 1980s, documented the high turnover rates of nursing personnel occurring in many nursing homes throughout the United States. Turnover exceeded an annual rate of 100% in many facilities (Cohen-Mansfield, 1989; Phillips, 1987), in contrast to 25-30% in hospitals (Jones, 1990b; Prescott & Bowen, 1987).

Excessive turnover of nurses creates three major problems. First, high turnover can result in a reduction in quality of care and quality of life for geriatric patients (Lang et al., 1990). Second, high turnover decreases nurse productivity and lowers morale among those who remain (Mann & Jefferson, 1988). Third, turnover increases financial costs associated with recruitment and
training of new nurses (Jones, 1990a, 1990b). These problems highlight the need to investigate why nurses resign employment in long-term care facilities.

Several investigators attempted to identify factors which attracted and kept nurses in long-term care, and those which drove nurses away. Factors rated as important by nurses to their staying employed in long-term care were more competitive wages and benefits (Jones et al., 1987; Robertson & Cummings, 1991; Rajecki, 1991); favorable work schedules, challenging work, recognition from patients, positive interactions with other nurses, autonomy and authority in providing patient care (Robertson & Cummings, 1991); reduced state and federal regulated paperwork, more inservice training, lower staff-patient ratios, and sufficient and qualified staff (Rajecki, 1991). For nurses who resigned, factors contributing to their reasons for leaving long-term care were non-competitive wages and benefits, work overload, better opportunities elsewhere, inadequate participation in decision making, lack of flexible scheduling, job dissatisfaction, and burden of complying with state and federal regulations (Rajęcki, 1991).

It is difficult to interpret the results of these studies since factors causing some nurses to resign are also acknowledged as problems by nurses who stayed. In a
comparison of long-term care RNs with RNs employed in hospitals and other settings, Cotler and Kane (1988) found that despite lower salaries and benefits, less inservice training, less perceived opportunity for advancement, and higher reported levels of job frustration, RNs employed in long-term care facilities were not more likely to quit their jobs than RNs employed in hospitals and other settings.

The diversity of factors contributing to nurses' decisions to resign or stay employed in long-term care facilities point to the complex, multivariate nature of the turnover decision process. Yet research on the turnover of nurses employed in long-term care has lagged far behind the current level of knowledge about turnover in general. While multivariate and multistaged models of turnover have been developed to explain turnover of nurses employed in hospitals (Price & Mueller, 1981; Curry et al., 1985; Parasuraman, 1989; Prestholdt et al., 1987), research on turnover of nurses employed in long-term care remains primarily descriptive. Studies of hospital nurse turnover are important, but these findings may not be generalizable to nurses employed in other health care settings. It would be useful to test models of turnover with other groups of nurses to determine whether the models can explain turnover in these nurses. As a result, the present research tested
the reasoned action model as applied to turnover with nurses employed in long-term care facilities.

Methodological Considerations

There are several methodological issues which surround turnover research. The following four limitations of previous research on nurse turnover were addressed in this study:

1. Many types of research designs have been used to study turnover. Retrospective designs have been criticized because they rely on an employee's past perceptions of their work environment and the reasons for resigning (Cavanagh, 1989). When independent variables are measured after termination of employment, employee attitudes may be distorted (Phillips, 1987). Cross-sectional designs are frequently employed in turnover research, but when all variables are measured at the same point in time, a causal relationship cannot be established (Grady & Wallston, 1988). When a causal relationship between variables is sought, Grady and Wallston (1988) recommend a prospective design. A prospective design measures the independent variables (or predictors) prior to the dependent variables (or criteria), a condition that must be met before a causal argument can be made.

2. A limitation of many turnover studies is the use of behavioral intention as the criterion variable rather
than actual turnover behavior. Although intention has strong empirical support for being the most immediate determinant of turnover behavior (Steel & Ovalle, 1984), the strength of the intention-turnover relationship varies considerably from one study to the next. Therefore, it is important to test the capacity of turnover models to predict actual turnover behavior, not just turnover intention.

3. The low explained variance in turnover in some studies may be partly attributed to the long length of time between data collection points. Many changes can occur between administration of the questionnaire and collection of turnover data. Parasuraman (1989) studied the effects of time lag in determining the strength of the relationship between intention to leave and actual turnover. As the time between intention and actual resignation increased from 6 months to 12 months, the strength of the intention-turnover relationship decreased. Price and Mueller (1981) recommend 6 months between measurement of predictor variables and turnover behavior to avoid factors that may effect the intention-turnover relationship.

4. Price and Mueller (1986) discussed the many problems associated with collecting data about voluntary turnover. Data is most often collected from organizations by using personnel or payroll records and interviewing key
employees. Records are used to determine leaving or staying by comparing names at the start of the study with names at the conclusion of the study. Employees whose names appear both times are considered stayers, and those whose names appear only the first time are considered leavers. Problems can occur in using these records when names of directors, trustees, and board members are on the list, as these members are not usually considered employees. Other problems include identifying women who marry and change their name, persons who go on leaves of absence, temporary employees, and employees who resign and are rehired during the data collection period. Identification of these employees usually requires interviews with key individuals in the organization. In many cases, sufficient rapport must be established before this information is provided. Once these employees have been identified, a decision must be made as to whether the employee should be considered a leaver or a stayer.

After the leavers have been identified, the voluntary leavers must be separated from the list. Dismissals are considered involuntary; however, some employees resign under pressure and in reality were dismissed. Interviews are usually required to obtain this information, but in large organizations personnel managers rely more on forms than informal knowledge about the circumstances surrounding
the employee’s leaving. Other employees who resign for pregnancy, retirement, or health reasons must be evaluated and classified as voluntary or involuntary leavers.

In other studies, the individual rather than the organization provides turnover information. There are problems in using self-reports to obtain turnover information, because when individuals are asked their reasons for resigning, there is often no way to determine whether the answers are true. Some persons respond to questions in a socially desireable way, and respond with an answer that leaves a favorable impression. A nurse may not want it known that he/she was dismissed and therefore report they voluntarily resigned. With self-reports, the researcher is forced to assume that what the respondents say is true (LoBiondo-Wood & Haber, 1990).

Summary

Although nurse turnover has been the subject of numerous investigations, it remains poorly understood. Early research on turnover examined small subsets of variables using simple correlation techniques. These studies produced conflicting results and underscored the need to conceptualize turnover as a complex phenomenon. Multivariate techniques are now being used to examine groups of variables to explain turnover.

A few researchers have developed process models of
turnover which describe the way variables influencing turnover may be related. Price & Mueller (1981), Curry et al. (1985), and Parasuraman (1989) developed turnover models from an organizational perspective. Despite the large sample sizes and rigorously controlled investigations, low values for explained variance have been obtained using multivariate measures. Prestholdt et al. (1987) tested the reasoned action model, developed from a psychological perspective, in a nurse turnover situation. The reasoned action model explained more variance in hospital nurse turnover than any of the organizational models. Since Prestholdt et al.'s (1987) study is the sole test of the theory as applied to nurse turnover, replication of the study with other groups of nurses is important. One particular group of nurses who warrant study is the group employed in long-term care facilities. While hospital nurses have been the subject of numerous investigations, little is known about turnover of nurses in long-term care.

The reasoned action model views intention as the immediate determinant of turnover, but the variance in intention is not fully explained by the model predictors. Prestholdt et al. (1987) included moral obligation as a predictor of intention and it did account for more variance in intention. Two other variables have emerged as
important antecedents of turnover. Job satisfaction and organizational commitment have been consistently and negatively associated with turnover, and have been shown to be important mediators of many antecedents of turnover. The addition of job satisfaction and organizational commitment to the reasoned action model may improve the prediction of intention, adding explanatory power to the model. Research is needed to test whether the addition of moral obligation, job satisfaction, and organizational commitment to the reasoned action model would significantly increase the prediction and explanation of intention.
CHAPTER 3

METHODOLOGY

This study used a prospective survey design to evaluate two models of turnover. The reasoned action model as applied to turnover and an expanded version of the reasoned action model were evaluated for their ability to explain turnover in registered nurses (RNs) employed in long-term care facilities. RNs employed in long-term care facilities in Nebraska were asked to complete a questionnaire developed to measure the model components. Six months later, the criterion variable of turnover was measured through self-report of employment status. The research hypotheses proposed that the reasoned action model would significantly explain turnover, with the expanded model adding explanatory power. The research hypotheses were:

1. The reasoned action model of turnover explains turnover in RNs employed in long-term care facilities.

2. Moral obligation, job satisfaction, and organizational commitment increase explanation of intention over and above attitude toward behavior and subjective norm.

Sample

Data were collected from a sample of registered nurses who were licensed in the state of Nebraska and who had
indicated they were currently employed in long-term care in response to a questionnaire enclosed with their license renewal notices. A list of names and addresses of 500 RNs, randomly selected by computer, was obtained by the Nebraska State Board of Nursing in August, 1992. These nurses were mailed the study materials in September, 1992 and March, 1993.

To determine sample size, power analysis was done according to guidelines by Cohen and Cohen (1983). Since multiple regression would be used to test the increase in explained variance of intention by the expanded model over the reasoned action model, the significance criterion alpha, desired power, and population effect size were specified, and then \( n \) was computed by:

\[
n = \frac{L}{f^2} + k_A + k_B + 1
\]

- \( L \) = the constant from the power table,
- \( f^2 \) = the population effect size,
- \( k_A \) = number of independent variables in set A,
- \( k_B \) = number of independent variables in set B.

The resulting sample size was the number of cases necessary to reject the null hypothesis at the 0.05 alpha level of significance when the effect size is as predicted.

The effect size was based on a ratio of variances, that is, the proportion of \( Y \) variance accounted for by set A (reasoned action model); and the variance of set B
(expanded model), over and above that accounted for by set A. Based on the literature, the addition of moral obligation, job satisfaction, and organizational commitment to the reasoned action model is expected to explain an additional 10% of the variance in intention, over and above that accounted for by attitude toward behavior and subjective norm.

Using the above formula with significance set at alpha = .05 and power at .99, a sample size of 100 subjects was needed. If power was decreased to .80, a sample size of 50 was needed. Since poor response rates are associated with survey designs, the larger sample size was chosen. Then if a significant drop in the number of subjects in the final sample occurred, the resulting decrease in power would remain above .80. Since a smaller sample size was needed to test the hypothesis for the reasoned action model than for the expanded model, 100 subjects was adequate for testing both hypotheses.

It was important that the final sample have 100 subjects who returned two questionnaires mailed six months apart, and for whom complete data were available. To err on the conservative side, a response rate of 50% was expected for both data collection periods. In addition, it was anticipated some addresses would not be current, some questionnaires would fail to be delivered, some nurses on
the State Board list would no longer be employed in a long-
term care facility, and some respondents would return
incomplete questionnaires. Therefore, the initial sample
was enlarged to 500 RNs.

Study Instruments

Two questionnaires were sent to subjects six months
apart. The first questionnaire consisted of nine scales
which measured the five reasoned action model components,
the three expanded model components, and demographic
information and long-term care facility characteristics.
The second questionnaire measured turnover.

The instrument developed by Prestholdt et al. (1987)
to measure hospital staff nurse turnover provided six of
the scales used to measure moral obligation and the five
reasoned action model components (intention, attitude
toward behavior, subjective norm, behavioral beliefs, and
normative beliefs). Prestholdt et al.’s scales measuring
intention to leave the nursing profession and perception of
job opportunities available in the community were omitted
for this study.

A seventh scale in the first questionnaire measured
overall job satisfaction adapted from the Brayfield and
Rothe Scale (1951), and an eighth scale measured
organizational commitment adapted from the Organizational
Commitment Questionnaire developed by Porter et al. (1974).
The ninth scale, developed by the investigator, measured RN demographic information and long-term care facility characteristics.

The second questionnaire measured turnover and was developed by the investigator.

The measurement strategy and its reliability and validity will be presented for each of the reasoned action model components first, followed by discussion of the expanded model components. Then measurement of demographic information and long-term care facility characteristics will be described. Finally, the measurement of turnover will be presented. Operational definitions of the model components, instrument sources, and time of data collection are summarized in Table 1. Questionnaire items are presented in Appendices A and B.

**Measurement of Reasoned Action Model**

Each component of the reasoned action model was measured according to the guidelines specified by Ajzen and Fishbein (1980). They emphasize that measures of beliefs, attitude toward behavior, subjective norm, intention, and behavior must correspond with each other in regard to action, target, context, and time. To meet this correspondence, questions included qualifying phrases such as "my resigning from the staff of this nursing facility within the next six months." The action is resigning, the
target is nursing facility, the context is my resigning from the staff of this nursing facility, and the time element is within the next six months.

Since the turnover decision involves two alternatives - the option to stay or the option to resign - both turnover behaviors were measured for each of the reasoned action model components. For example, intention was measured for the two different behaviors: "remaining on the staff of this nursing facility," and "resigning from this nursing facility." Nurses were asked to state their intentions on a likely-unlikely scale. Then an intention score was obtained by subtracting the score for resigning from the score for remaining. Prestholdt et al. (1987) demonstrated the statistically significant benefit of using differential measures (the difference between remaining and resigning) over measures of only one alternative, such as resigning.

Most of the model components being measured in this study are social attitudes - constructs which cannot be observed or directly measured. Attitudes are inferred from people’s verbal expressions of opinions and beliefs (Mueller, 1986). There is a lack of consensus among scientists in regards to defining the word "attitude," but Mueller (1986) states that the common component of virtually all definitions of attitude is "(1) affect for or
against, (2) evaluation of, (3) like or dislike of, or (4) positiveness or negativeness toward a psychological object" (p. 3). This is a one-dimensional definition that excludes a reference to a behavior or a tendency to respond a certain way, which is present in more elaborate definitions of attitude. Ajzen and Fishbein (1980) view attitude, tendency to respond, and behavior as separate constructs. They define attitude as "a person's general feeling of favorableness or unfavorableness" (p. 54) toward a specified target; and recommend attitudes be measured by obtaining a score which identifies the person's position on a bipolar affective scale.

**Measurement of Intention, Attitude Toward Behavior, and Subjective Norm**

The three scales for intention, attitude toward behavior, and subjective norm are similar in that each is measured by two items. The items, responses, and scoring developed by Prestholdt et al. (1987) are consistent with the measurement procedures outlined by Ajzen and Fishbein (1980).

**Intention.** Intention was measured for the two different behaviors: "remaining on the staff of this nursing facility" and "resigning from this nursing facility." Both of the items asked the nurse to state his/her intention on a likely-unlikely scale with the
following responses and scoring: "extremely likely" (+3), "quite likely" (+2), "slightly likely" (+1), "neither likely nor unlikely" (0), "slightly unlikely" (-1), "quite unlikely" (-2), and "extremely unlikely" (-3). An intention score was obtained by subtracting the score for resigning from the score for remaining. Scores could range from +6 to -6. Positive scores indicated an intentional preference for remaining, and negative scores indicated an intentional preference for resigning. Cronbach's alpha for the intention scale in the present sample was .93.

**Attitude Toward Behavior.** To measure attitude toward behavior, the nurse's attitude toward his/her own performance of the behavior was obtained. Attitude toward behavior was measured by having the nurse rate two items on a 7-point bipolar evaluative scale with the following responses and scoring: "extremely good" (+3), "quite good" (+2), "slightly good" (+1), "neither good nor bad" (0), "slightly bad" (-1), "quite bad" (-2), and "extremely bad" (-3). The first item asked the nurse to rate his/her attitude toward "remaining on the staff of this nursing facility," and the second asked the nurse to rate his/her attitude toward "resigning from this nursing facility." An attitude toward behavior score was obtained by subtracting the score for resigning from the score for remaining. Scores could range from +6 to -6. A positive attitude
toward behavior score indicated the nurse has a more favorable attitude toward remaining, whereas a negative score indicated the nurse has a more favorable attitude toward resigning. Cronbach’s alpha for the attitude toward behavior scale in the present sample was .82.

Subjective Norm. Subjective norm was measured by asking the nurse the extent to which he/she feels that people who are most important to them think they should or should not remain on the staff of the nursing facility. Subjective norm was measured on a 7-point bipolar scale with the following responses and scoring: "definitely should" (+3), "probably should" (+2), "possibly should" (+1), neither should or should not" (0), "possible should not" (-1), "probably should not" (-2), and "definitely should not" (-3). A similar question was used to obtain the nurse’s rating of the social pressure to resign from the nursing facility. A subjective norm score was obtained by subtracting the score for resigning from the score for remaining. Scores could range from +6 to -6. A positive subjective norm indicated the nurse believes important others have a more favorable attitude toward his/her remaining, and a negative score indicated important others have a more favorable attitude toward his/her resigning. Cronbach’s alpha for the subjective norm scale in the present sample was .83.
Table 1  Conceptual and Operational Definitions of Model Components

<table>
<thead>
<tr>
<th>Conceptual Definition</th>
<th>Operational Definition</th>
<th>Instrument Source</th>
<th>Time Measured</th>
</tr>
</thead>
</table>
| **T urnover**                                 | 1 = voluntarily resigned
| Staying or voluntarily resigning employment. | 0 = stayed                | Author        | 2             |
| **Intention**                                 | Difference between two items on a 7-point bipolar scale. | Prestholdt, Lane, & Mathews (1987) | 1             |
| The nurse’s intention to stay versus resign.  |                        |                                          |               |
| **Attitude Toward Behavior**                  | Difference between two items on a 7-point bipolar scale. | Prestholdt, Lane, & Mathews (1987) | 1             |
| Attitude toward staying versus attitude toward resigning. | | | |
| **Subjective Norm**                           | Difference between two items on a 7-point bipolar scale. | Prestholdt, Lane, & Mathews (1987) | 1             |
| Perceived social pressure to stay versus perceived social pressure to resign. | | | |
| **Behavior Beliefs**                          | Sum of 30 behavioral belief scores. For each belief: difference between two items on a 7-point bipolar scale multiplied by evaluation score. | Prestholdt, Lane, & Mathews (1987) | 1             |
| Beliefs about the consequences of staying versus resigning and evaluation of these consequences. | | | |
| **Normative Beliefs**                         | Sum of six normative belief scores. For each belief: score on a 7-point bipolar scale multiplied by evaluation score. | Prestholdt, Lane, & Mathews (1987) | 1             |
| Beliefs about what important referents want the nurse to do (stay or resign) and motivation to comply. | | | |
| **Moral Obligation**                          | Difference between two items on a 7-point bipolar scale. | Prestholdt, Lane, & Mathews (1987) | 1             |
| A nurse’s perception of personal obligation to stay versus resign. | | | |
| **Job Satisfaction**                          | Sum of seven items each measured on a 7-point bipolar scale. | Brayfield & Rothe (1951) | 1             |
| The degree to which a nurse likes her job overall. | | | |
| **Organizational Commitment**                 | Sum of nine items each measured on a 7-point bipolar scale. | Porter, Steers, Mowday, & Boulian (1974) | 1             |
| The extent of the nurse’s attachment to the long-term care facility. | | | |
The validity and reliability of the measures for intention, attitude toward behavior, and subjective norm were not reported by Prestholdt et al. (1987). Although statistical evidence is lacking to evaluate construct validity of these measures, a few comments can be made. Usually, an attitude is measured using multiple measures to achieve high reliability (Mueller, 1986). However, Nunnally (1978) states that when the domain of related variables is small, even one measure can suffice to measure the construct. Mueller (1986) agrees but cautions that if a single item is used to measure a concept, the "item must come right to the point" (p. 82). Therefore, the two-item measures for intention, attitude toward behavior, and subjective norm are assumed to be adequate for three reasons. First, the measures are based on Ajzen and Fishbein’s (1980) highly developed procedures for measuring these three components. Second, the items come right to the point. And third, there is evidence from Prestholdt et al.’s research (1987) for predictive validity of the measures (see Table 2), which in turn provides some evidence of construct validity since each type of validity provides circumstantial evidence for the other (Nunnally, 1978, p. 110). Evidence to support predictive validity of the measures can be determined by the correlation between each hypothesized predictor variable and its criterion
variable (Nunnally, 1978). As can be seen from Table 2, the correlations are greater than .30, meeting Nunnally's criteria (1978, p. 91).

Table 2
Predictor Variables, Criterion Variables, and Their Correlation Coefficients

<table>
<thead>
<tr>
<th>Predictor Variable</th>
<th>Criterion Variable</th>
<th>Correlation Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>Turnover</td>
<td>.82</td>
</tr>
<tr>
<td>Attitude</td>
<td>Intention</td>
<td>.81</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>Intention</td>
<td>.57</td>
</tr>
</tbody>
</table>

Measurement of Behavioral Beliefs

Measurement and scoring of behavioral beliefs were based on Prestholdt et al.'s (1987) procedures. In addition to the 29 beliefs from Prestholdt et al.'s instrument, a belief about becoming attached to patients was developed for this study. Based on descriptive studies of nurses in long-term care, many nurses become attached to residents in their facility. Nurses identified their relationships with residents as satisfying and important in continuing their employment in long-term care (Cotler & Kane, 1988; Robertson & Cummings, 1991). Table 3 lists the 30 behavioral beliefs.
Table 3

List of Behavioral Beliefs

**Nursing Practice:**
- Can use my nursing skills and keep them up to date
- Work with the kind of patients I prefer
- Have opportunities for a variety of patient care experiences
- Job provides a sense of worth and feeling of accomplishment
- Feel that I am helping people
- Have a challenging, stimulating, and interesting job
- Can provide my patients with more than just physical care (e.g., teaching, emotional and family support, follow-up)
- Can provide the quality of care patients deserve

**Work Environment:**
- Can rely on the support of nursing administration
- Goals and concerns shared by the facility’s administration
- Work in an environment where there is a spirit of cooperation and teamwork
- Have authority to use my judgment and make decisions about patient care
- Work in an environment where doctors treat me as a professional - with courtesy and respect
- Provides educational and learning experiences which enhance my professional growth
- Like and respect my co-workers
- Have a considerate and responsive supervisor - one who listens, understands my problems, and appreciates my work

**Economics**
- Receive an acceptable salary
- Have job security
- Work on a schedule and/or shift I prefer
- Receive fringe benefits (e.g., insurance, retirement, sick leave)

**Personal Opportunities:**
- Have time for myself - to do things I enjoy
- Have time for my family
- Can meet and be with people
- Advance my career

**Physical-Emotional Costs:**
- Feel overworked and have too much to do
- Have a job which is stressful and fatiguing

**Negative Job Characteristics:**
- Work in a setting where I am unfamiliar with the routine, equipment, and personnel
- Work is affected by poor communication and coordination between units or departments
- Feel bored and restless

**Attachment:**
- Have a job where I become attached to patients
For each of the 30 beliefs about the consequences of resigning and staying, nurses were asked to make three judgments. First, nurses were asked to rate the likelihood that a particular consequence would result if they remained on the staff of the nursing facility; second, nurses were asked to rate the likelihood that the consequence would result if they resigned; and third, nurses were asked to evaluate each of the consequences on a good-bad scale.

More specifically, for each of the 30 beliefs nurses were first asked to rate the likelihood that a particular consequence would result if they remained on the staff of the nursing facility. A 7-point bipolar scale was used with the following responses and scoring: "extremely likely" (+3), "quite likely" (+2), "slightly likely" (+1), "neither likely nor unlikely" (0), "slightly unlikely" (-1), "quite unlikely" (-2), and "extremely unlikely" (-3). A bipolar scale was used to assess the strength of beliefs, because one nurse may agree that remaining will lead to a particular consequence while another nurse may disagree and believe the statement is false. A parallel set of 30 belief statements and likely-unlikely scales assessed the nurse's beliefs about the consequences of resigning from the nursing facility. To evaluate the 30 consequences, nurses were asked to rate each consequence using a 7-point bipolar scale with "good" and "bad" anchors.
set and scoring were as follows: "extremely good" (+3), "quite good" (+2), "slightly good" (+1), "neither good nor bad" (0), "slightly bad" (-1), "quite bad" (-2), and "extremely bad" (-3).

A belief score was obtained for each consequence by subtracting the belief score for resigning from the belief score for remaining, and multiplying this difference by the evaluation score for that consequence. The sum of these belief scores was obtained and is referred to as the behavioral beliefs score. Each belief score could range from +18 to -18. The sum of the 30 belief scores could range from +540 to -540. Positive scores reflected a pattern of beliefs favorable to remaining, whereas negative scores reflected a pattern of beliefs favorable to resigning.

Prenstholdt et al. (1987) did not explicitly discuss the validity and reliability of their indexes. However, some inferences about validity can be made based on the research reported in the literature by these authors and the results of this study.

Nunnally (1978) states that content validity rests on a representative collection of items and sensible methods of test construction. In this author's opinion, these two standards have been met, as Prenstholdt et al.'s questionnaire was based on specific recommendations by
Ajzen and Fishbein (1980) for measuring behavioral beliefs. For example, to ensure content validity of the behavioral beliefs, Prestholdt et al. (1987) interviewed 109 hospital staff nurses for their beliefs about the positive and negative consequences of resigning and staying. This data plus information obtained from a search of the nurse turnover and psychological literature, was used to construct the behavioral beliefs items. To determine whether these beliefs would be appropriate for this study, these beliefs were discussed in separate interviews with ten nurses currently employed or recently resigned from a long-term care facility. There was overwhelming agreement that these beliefs were relevant for nurses employed in long-term care facilities.

Some evidence for construct validity of the behavioral beliefs measures is supported by Prestholdt et al.'s report (1987) of their results from factor analysis. A principal components analysis with varimax rotation was used to summarize the 29 behavioral beliefs. The factor solution indicated there were six factors underlying the data. According to Carmines and Zeller (1979), construct validity can be assessed by examining the factor loadings of the items forming these factors. Based on Carmines and Zeller's criteria (1979, p. 60), the items forming these
factors show fairly strong loadings, ranging from .44 to .86.

Further evidence for construct validity can be found in Prestholdt et al.'s report (1987) comparing the behavioral beliefs of nurses who stayed with those who resigned. According to the theory of reasoned action, it was expected that stayers and leavers would have different beliefs about the consequences of resigning and staying. Results indicated there were significant differences for five of the six factors, lending further support for construct validity of behavioral beliefs.

**Measurement of Normative Beliefs**

Based on Prestholdt et al.'s (1987) procedures, normative beliefs were measured by asking nurses two questions about each of 6 referents. Eight referents were listed in Prestholdt et al.'s study (1987): spouse, parents, children, friends, co-workers, supervisor, administration, and patients. But when this author pilot tested the instrument with nurses employed in long-term care facilities, some nurses commented they did not have a spouse, parents, and/or children and could not answer the questions properly. Therefore, these three referents were replaced by one referent using the term "family."

To measure normative beliefs, the nurse was asked to indicate the extent to which they believed each of six
specific referents (family, friends, co-workers, supervisor, administration, and patients) thought they should or should not resign from the nursing facility. Each belief was measured on a 7-point bipolar scale with the following responses and scoring: "definitely should" (-3), "probably should" (-2), "possibly should" (-1), neither should or should not" (0), "possible should not" (+1), "probably should not" (+2), and "definitely should not" (+3) resign. A positive score indicates the nurse believes a referent thinks he/she should not resign, whereas a negative score favors resigning.

Motivation to comply was assessed by asking the nurse to indicate "how much do you want to do" what each of these specific referents think you should do. Motivation to comply was measured on a unipolar scale with the following responses and scoring: "not at all" (0), "very little" (1), "slightly" (2), "moderately" (3), "a lot" (4), "a great deal" (5), and "very much" (6). The product of normative belief and motivation to comply was obtained for each referent and summed across all referents. This sum is referred to as the normative beliefs score. The score for each normative belief could range from +18 to -18. The sum of the normative belief scores could range from +108 to -108. A positive score indicates that the nurse believes referents do not want him/her to resign, whereas a negative
score indicates perceived pressure from referents to resign. Cronbach’s alpha for the normative beliefs scale in the present sample was .83.

Measurement of Expanded Model Components

To measure the expanded model components, the questionnaire included measures for moral obligation, job satisfaction, and organizational commitment. Table 1 summarizes the operational definitions of these components.

Measurement of Moral Obligation

As in Preshodt et al.‘s (1987) study, moral obligation was measured by means of two items. The nurse was asked to indicate on a 7-point bipolar scale with "Yes" and "No" anchors, the extent to which they felt they "have a moral obligation to remain on the staff of this nursing home." The responses and scoring were as follows: "extremely yes" (+3), "quite yes" (+2), "slightly yes" (+1), "neither yes or no" (0), "slightly no" (-1), "quite no" (-2), and "extremely no" (-3). Similarly, the nurse was asked if they felt a moral obligation to resign from this nursing home. A moral obligation score was obtained by subtracting the score for resigning from the score for remaining. Scores could range from +6 to -6. A positive score indicated the nurse perceives a moral obligation to remain, and a negative score indicated a moral obligation to resign. Cronbach’s alpha for the moral obligation scale
in the present sample was .45, indicating poor internal consistency.

**Measurement of Job Satisfaction**

Although numerous job satisfaction scales can be found in the literature, a scale for overall job satisfaction rather than satisfaction with specific job dimensions was needed to measure the concept for this study. Job satisfaction was measured by an abbreviated version of the Brayfield and Rothe (1951) scale, which measures overall satisfaction with the job. Price and Mueller (1981) used 7 of the 18 items to create an abbreviated version for their study of hospital staff nurse turnover.

There are three reasons the abbreviated scale was chosen for this study. First, this version has been tested with hospital staff nurses in at least two other studies (Curry et al., 1985; Wakefield et al., 1988) besides Price and Mueller's (1981). Second, based on the generality of statements comprising the scale, the scale is an appropriate measure of overall job satisfaction for nurses employed in long-term care facilities, as well as hospitals. And third, due to the extensive number of items needed to measure the reasoned action model, the abbreviated version of the job satisfaction scale helped to limit the length of the questionnaire.
Each of the seven items was measured with a 7-point bipolar scale, using the following anchors: "strongly agree," "moderately agree," "slightly agree," "neither agree nor disagree," "slightly disagree," "moderately disagree," and "strongly disagree." Strong agreements with favorable items were given a score of 7, and strong disagreements with these items were given a score of 1. Scoring is reversed for the four unfavorable items so that disagreement results in a high score. A total score is obtained by summing the responses, and scores could range from 7 to 49. Nurses who have high scores are highly satisfied with their jobs, whereas low scores reflect low job satisfaction. Cronbach’s alpha for the job satisfaction scale in the present sample was .86.

Construct validity of the 7-item job satisfaction scale was assessed on a sample of 1091 registered nurses employed in seven hospitals using factor analysis (Price & Mueller, 1981). A single factor solution was obtained supporting the assumption that all seven questions measure one underlying construct. Support for discriminant validity was obtained by examining the correlations between job satisfaction and the following variables: opportunity, routinization, participation, instrumental communication, integration, distributive justice, promotional opportunity, and professionalism. Correlations ranged from .0 to .37,
supporting the discriminant validity of the job satisfaction scale.

**Measurement of Organizational Commitment**

Organizational commitment was measured by an abbreviated version of the Organizational Commitment Questionnaire (OCQ) developed by Porter et al. (1974). The original 15 item scale was constructed to tap three dimensions of commitment: "(1) a strong belief in and acceptance of the organization’s goals and values; (2) a willingness to exert considerable effort on behalf of the organization; and (3) a strong desire to maintain membership in the organization" (Mowday et al., 1979, p. 226). The OCQ has been used in turnover studies to measure organizational commitment of hospital staff nurses (Curry et al., 1985; Parasuraman, 1989; Wakefield et al., 1988), and should measure the level of commitment of nurses employed in other healthcare organizations as well. The statements in the OCQ represent feelings that individuals might have about the organization for which they work and can be applied to the situation of nurses employed by long-term care facilities.

The OCQ is primarily used as a unidimensional scale, but Curry et al. (1985), Parasuraman (1989), and Wakefield et al., (1988) eliminated the commitment-to-stay items to avoid overlap with their measure of turnover intention.
Factor analyses of the OCQ by Angle and Perry (1981) support differentiation of the items into two subscales: value commitment and commitment to stay. To follow the recommendation made by Williams and Hazer (1986) to exclude the commitment-to-stay items from the scale to better determine if both job satisfaction and organizational commitment impact turnover intention, only the value commitment subscale was used in this study. It is recognized that inclusion of the entire scale could be beneficial in examining the relation between the OCQ’s commitment-to-stay items and the two items used to measure the concept of intention in the reasoned action model. However, the questionnaire for this study was very long and omitting these items would shorten the questionnaire, an important consideration in mail surveys.

Respondents rated the nine items of the OCQ value commitment subscale on a 7-point bipolar scale with the following anchors and scoring: "strongly agree" (7), "moderately agree" (6), "slightly agree" (5), "neither agree nor disagree" (4), "slightly disagree" (3), "moderately disagree" (2), and "strongly disagree" (1). An organizational commitment score was obtained by summing the items. Organizational commitment scores can range from 9 to 63. Nurses who scored high are committed to the organization, whereas low scores reflect low organizational
commitment. Cronbach’s alpha for the organizational commitment scale in the present sample was .92.

Evidence to support convergent validity was obtained by comparing the OCQ to five instruments designed to measure similar attitudes (Mowday et al., 1979). Support for discriminant validity was found by comparing the OCQ against measures of job involvement, career satisfaction, and job satisfaction (Mowday et al., 1979).

Measurement of Demographic Variables and Long-Term Care Facility Characteristics

To determine how well the final sample represented the population, items asking for demographic information and long-term care facility characteristics were included in the questionnaire. Demographic items included year of birth, gender, marital status, children at home, basic nursing education, highest nursing-related education, years employed at the nursing facility, part-time or full-time status, and nursing position held. Agency characteristics included type of ownership, hospital and chain affiliation, number of beds, and type of nursing care provided.

Measurement of Turnover

Six months after the first questionnaire was distributed, a short questionnaire developed by the investigator was sent to all nurses in the study. The second questionnaire was coded so that both questionnaires
from the same respondent could be identified. To determine employment status, nurses were asked to check either "Yes" or "No" to the question: "Are you still employed in the same nursing facility as you were six months ago?" The second question asked each nurse to check one of five items which best described their situation: 1) were still employed in the same nursing facility, 2) had voluntarily resigned, 3) were laid off or discharged, 4) had retired, or 5) other. Employment status was coded 1 for leavers, and 0 for stayers. Leavers were those individuals who indicated they had voluntarily resigned from the nursing facility during the 6-month period between administration of the two questionnaires. Nurses who indicated they had retired were considered voluntary leavers, as several RNs were over 65 and still working. Nurses who indicated they had been laid off or discharged were not included in the final sample as they were considered involuntary leavers. Nurses who did not respond to the first questionnaire were still sent the second questionnaire. These nurses provided employment information that was used to assess response bias. The turnover rate in the final sample was compared to the rate in the group of nonrespondents to the first questionnaire.
Data Collection

Name and home address labels of 500 registered nurses employed in long-term care facilities in Nebraska were obtained from the Nebraska State Board of Nursing. The first questionnaire, along with an explanatory cover letter (see Appendix C), a stamped return envelope, and a pencil engraved with the words "Nurses in Long-Term Care Study" was mailed by the researcher to each nurse in the sample in September, 1992. The questionnaire was constructed in the form of a 12-page booklet and included 141 questions. The nurse was asked to complete the questionnaire and return it by mail to the researcher in the envelope provided. Questionnaires were coded with an identification number so that respondents and nonrespondents could be identified.

Following procedures recommended by Dillman (1978) for implementing mail surveys, a postcard (see Appendix D) was sent to all nurses in the sample one week after the first mailing. The postcard thanked those who had already returned their questionnaires, and encouraged those who had not, to complete the questionnaire and return it.

Four months following the original mailing, a postcard (see Appendix E) was sent to respondents of the first questionnaire, thanking them for their participation in the study, and reminding them that a second questionnaire would be sent in two months. A major purpose
of this postcard was to maintain contact between the investigator and the respondents, and to encourage their continued interest and participation in the study.

In March, 1993, six months following the original mailing, a short questionnaire requesting information about the nurse’s current employment status with the long-term care facility was mailed by the researcher to all nurses in the study. The questionnaire was developed as a one-page form which could be folded for mailing without an envelope. The nurse was asked to complete the questionnaire, refold it, and return it by mail to the researcher (see Appendix F). Nurses who did not respond to the first questionnaire were still sent the second questionnaire. The second questionnaire was coded with an identification number so that the sample of nurses responding to both questionnaires could be identified.

Two weeks later, a postcard was sent to all nurses in the sample, thanking those who had already returned their questionnaires, and encouraging those who had not, to complete the questionnaire and return it.

Four weeks after the original mailing, a second follow-up questionnaire was sent to the nonrespondents.

Protection of Human Subjects

Approval to conduct this study was obtained from the Research Review Committee of the Frances Payne Bolton
School of Nursing, Case Western Reserve University. Each subject was sent a cover letter explaining the study's purpose and that participation in the study was strictly voluntary. Each nurse was assured that their data would be kept confidential and reported in a manner such that individual identity would be unknown. Because a follow-up questionnaire had to be sent, subjects could not be promised anonymity. However, privacy of the subjects was protected by the assignment of a code number which was placed on the questionnaires and used for data entry purposes. A stamped envelope attached to the questionnaire allowed return of the survey directly to the investigator. A consent form was not included, as returning the questionnaire assumed subject consent.

Data Analysis

Following data preparation, descriptive statistics were obtained for each question and variable to examine the shape of the distribution, central tendency, and dispersion of the scores. An intercorrelation matrix for all the variables was obtained and examined for multicollinearity. The first hypothesis, that the reasoned action model explains turnover in nurses employed in long-term care facilities, was tested using linear and logistic regression analyses. The second hypothesis, that moral obligation, job satisfaction, and organizational commitment increase
explanation of intention over and above attitude toward behavior and subjective norm, was tested using multiple regression. Finally, behavioral and normative beliefs were examined using descriptive statistics.

Limitations

The prospective design chosen for this study had several limitations. First, internal validity is threatened by the accuracy of data obtained from questionnaires because the accuracy of information from paper and pencil tests is limited by the individual completing the questionnaire. Second, the six-month time interval between data collection points may be a problem. Attitudes and intentions obtained during the first data collection may not be the cause of turnover measured six months later. Rather an event may have occurred during the six months that changed attitudes and intentions, and thus turnover. This situation will weaken the strength of the relationship between the model predictors and turnover.

Selection bias presents a threat to both internal and external validity. Although nurses were randomly selected for participation in the study, only those who volunteered to complete both questionnaires comprised the final sample. To encourage participation in the study, mail survey procedures recommended by Dillman (1978) were followed.
Economic constraints confined the study to one state rather than nationwide. The generalizability of the findings to nurses employed in long-term care facilities outside Nebraska will be limited.
CHAPTER 4

RESULTS

The purpose of this study was to evaluate two models of turnover. The reasoned action model as applied to turnover and an expanded version of the reasoned action model were evaluated for their ability to explain turnover in registered nurses (RNs) employed in long-term care facilities. Descriptive statistics, logistic regression, and multiple regression analyses were employed to analyse the data.

Response to the Survey

The first questionnaire was mailed to a random sample of 500 registered nurses licensed in the state of Nebraska and employed in long-term care facilities. A total of 319 questionnaires (68%) were returned of which 268 met the sample criteria. There were 51 RNs who responded to the survey but were eliminated from further data analyses because they were no longer employed in long-term care.

Six months later, the second questionnaire was sent to all eligible respondents and nonrespondents of the first survey. Of the 268 eligible respondents, 237 (88%) returned the second questionnaire. Of the 153 nonrespondents to the first questionnaire, 52 (34%) RNs returned the second questionnaire (see Table 4).
Table 4

Response to Mailed Questionnaires

<table>
<thead>
<tr>
<th>Type of Responses</th>
<th>Number of RNs</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Mailing September, 1992</td>
<td></td>
</tr>
<tr>
<td>Eligible Respondents</td>
<td>268</td>
</tr>
<tr>
<td>Ineligible Respondents</td>
<td>51</td>
</tr>
<tr>
<td>Undeliverable:</td>
<td>28</td>
</tr>
<tr>
<td>Nonrespondents:</td>
<td>153</td>
</tr>
<tr>
<td>Total:</td>
<td>500</td>
</tr>
<tr>
<td>Second Mailing March, 1993</td>
<td></td>
</tr>
<tr>
<td>Respondents to Both Mailings:</td>
<td>237</td>
</tr>
<tr>
<td>Respondents to First Mailing Only:</td>
<td>31</td>
</tr>
<tr>
<td>Respondents to Second Mailing Only:</td>
<td>52</td>
</tr>
<tr>
<td>Nonrespondents to Both Mailings:</td>
<td>101</td>
</tr>
<tr>
<td>Total:</td>
<td>421*</td>
</tr>
</tbody>
</table>

* The 51 ineligible RNs and 28 undeliverables were not included in the second mailing.

Missing Data

A total of 237 RNs responded to both questionnaires. However, 22 cases were omitted from analysis for the following reasons: 15 cases had several behavioral belief responses missing; 3 cases had all 7 job satisfaction responses missing; 1 case had all 9 organizational commitment responses missing; 1 case had 3 referent responses out of 6 missing; 1 case had several responses missing due to a severely damaged questionnaire; and 1 case had involuntarily left employment (was laid off or discharged).
There were 28 cases with incomplete data that were retained in the sample. Eighteen of these cases were missing 1 to 4 responses which were recoded using the modal response of the subject. The other 10 cases were missing demographic or facility characteristic information, but were retained in the sample because no responses were missing for the independent variables. In conclusion, 215 RNs comprised the final sample used for data analysis. Of these, 23 RNs (11%) resigned during the 6-month study period.

To assess response bias for the second data collection which measured turnover, the turnover rate for participants in the study was compared with the rate for the 52 nurses who responded only to the second questionnaire. Of the 52 nurses, 5 indicated they had not been employed in long-term care during the six-month period, and 1 nurse was discharged. Of the 46 nurses remaining who indicated they were still employed in long-term care, 6 had resigned during the six months, yielding a turnover rate of 13%. The similar turnover rates for both groups indicate that the turnover behavior of participants in the final sample was representative of the population of nurses employed in long-term care.
Nonrespondents to Second Questionnaire

As previously indicated, 31 nurses completed the first questionnaire but did not return the second questionnaire which measured turnover. To assess whether these nurses differed in their intentions, attitudes, subjective norms, behavioral beliefs, normative beliefs, moral obligation, organizational commitment, and job satisfaction from the 215 nurses in the final sample, the vector of means for the two groups were compared using multivariate analysis of variance. Wilk’s lambda proved to be nonsignificant (lambda = .954, multivariate F (1, 242) = 1.42, p = .19), indicating the means of these two groups did not differ significantly on any of the measures.

Description of the Sample

Registered Nurse Demographics

The sample consisted of 215 registered nurses, representing 20% of the approximately 1,094 RNs employed in long-term care facilities in Nebraska (see Table 5). Based on the data obtained at the first data collection period, the RNs who made up the study sample were predominately female (99%), married (81%), and had no children living at home (47%) (see Table 6). The mean age for the nurses was 49 years; but age ranged from 28 to 79 years old, and 13 of the RNs were 66 years old or more. The age characteristics of the sample do not differ greatly from the age
characteristics reported by the Nebraska Department of Health (1989) on registered nurses employed in nursing homes (see Table 5).

Table 5

Comparison of RNs in Sample with Nebraska RNs Employed in Nursing Homes by Age Groups

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Sample (N = 215)</th>
<th>Nebraska* (N = 1,094)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Under 26 years</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>26 - 30 years</td>
<td>7</td>
<td>3.3</td>
</tr>
<tr>
<td>31 - 35 years</td>
<td>21</td>
<td>9.8</td>
</tr>
<tr>
<td>36 - 40 years</td>
<td>23</td>
<td>10.7</td>
</tr>
<tr>
<td>41 - 45 years</td>
<td>38</td>
<td>17.7</td>
</tr>
<tr>
<td>46 - 50 years</td>
<td>28</td>
<td>13.0</td>
</tr>
<tr>
<td>51 - 55 years</td>
<td>33</td>
<td>15.3</td>
</tr>
<tr>
<td>56 - 60 years</td>
<td>34</td>
<td>15.8</td>
</tr>
<tr>
<td>61 - 65 years</td>
<td>15</td>
<td>7.0</td>
</tr>
<tr>
<td>Over 65 years</td>
<td>13</td>
<td>6.0</td>
</tr>
<tr>
<td>No Response</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* The data are from Nebraska Health Manpower Reports: Registered Nurses, 1989 (p. 43) by Nebraska Department of Health, 1989.

The majority of RNs (56%) were working full-time and had been employed in their nursing facility for 5 years or more (55%) (see Table 7). Only 10 RNs had been employed
Table 6

Demographic Characteristics of RNs in the Sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>213</td>
<td>99.1</td>
</tr>
<tr>
<td>Male</td>
<td>2</td>
<td>.9</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td>Marital Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married</td>
<td>174</td>
<td>80.9</td>
</tr>
<tr>
<td>Divorced, Separated, Widowed</td>
<td>36</td>
<td>16.7</td>
</tr>
<tr>
<td>Never Married</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td>Children at Home</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Children at Home</td>
<td>102</td>
<td>47.4</td>
</tr>
<tr>
<td>All &lt;6 Years Old</td>
<td>16</td>
<td>7.4</td>
</tr>
<tr>
<td>All 6 Years or Older</td>
<td>80</td>
<td>37.2</td>
</tr>
<tr>
<td>Some &lt;6 and Some &gt;6 Years</td>
<td>17</td>
<td>7.9</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 7

Tenure and Employment Status of RNs in the Sample

<table>
<thead>
<tr>
<th>Work Characteristic</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years Employed in Nursing Facility</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less Than One Year</td>
<td>10</td>
<td>4.7</td>
</tr>
<tr>
<td>1 Up To 2 Years</td>
<td>18</td>
<td>8.4</td>
</tr>
<tr>
<td>2 Up To 3 Years</td>
<td>34</td>
<td>15.8</td>
</tr>
<tr>
<td>3 Up to 5 Years</td>
<td>35</td>
<td>16.3</td>
</tr>
<tr>
<td>5 Year Or More</td>
<td>117</td>
<td>54.4</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td>Employment Status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-Time</td>
<td>121</td>
<td>56.3</td>
</tr>
<tr>
<td>Part-Time</td>
<td>83</td>
<td>38.6</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
<td>4.7</td>
</tr>
<tr>
<td>No Response</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Table 8

Educational Preparation of RNs in the Sample

<table>
<thead>
<tr>
<th>Educational Preparation</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic Nursing Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>167</td>
<td>77.7</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>21</td>
<td>9.8</td>
</tr>
<tr>
<td>Baccalaureate Degree or Higher</td>
<td>27</td>
<td>12.6</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td>Highest Nursing-Related Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diploma</td>
<td>156</td>
<td>72.6</td>
</tr>
<tr>
<td>Associate Degree</td>
<td>16</td>
<td>7.4</td>
</tr>
<tr>
<td>Baccalaureate in Nursing</td>
<td>32</td>
<td>14.9</td>
</tr>
<tr>
<td>Baccalaureate in Other Field</td>
<td>5</td>
<td>2.3</td>
</tr>
<tr>
<td>Masters in Nursing</td>
<td>2</td>
<td>.9</td>
</tr>
<tr>
<td>Masters in Other Field</td>
<td>4</td>
<td>1.9</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Table 9

Comparison of RNs in the Sample with Nebraska RNs Employed in Nursing Homes by Type of Position

<table>
<thead>
<tr>
<th>Type of Position</th>
<th>Sample (N = 215)</th>
<th>Nebraska* (N = 1,094)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>Staff Nurse</td>
<td>66</td>
<td>30.7</td>
</tr>
<tr>
<td>Head Nurse/Assistant</td>
<td>35</td>
<td>16.3</td>
</tr>
<tr>
<td>Supervisor/Assistant</td>
<td>52</td>
<td>24.2</td>
</tr>
<tr>
<td>Administrator/Assistant</td>
<td>37</td>
<td>17.2</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>10.7</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
<td>.9</td>
</tr>
<tr>
<td>Total</td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* The data are from Nebraska Health Manpower Reports: Registered Nurses, 1989 (p. 45) by Nebraska Department of Health, 1989.
less than one year. More than three quarters of the RNs (78%) were initially trained in diploma programs and 73% indicated a diploma was their highest nursing-related education. Sixteen of the nurses (7.4%) had an associate degree; 37 (17%) had a baccalaureate in nursing or other degree; and 6 (3%) had a masters degree in nursing or other field (see Table 8).

Staff nurses made up 31% of the total sample, followed by supervisors or assistants (24%) and directors of nursing or administrators (17%). These percentages do not differ greatly from the percentages reported by the Nebraska Department of Health (1989) on registered nurses employed in nursing homes (see Table 9). Based on age and type of position, the sample of nurses appears to be representative of the population of nurses employed in long-term care facilities in Nebraska.

Nursing Facility Characteristics

Nearly half of the RNs (43%) were employed in nonprofit long-term care facilities, while 35% were employed in for-profit facilities and 19% in government-owned facilities. Over three-quarters of the facilities (77%) were not affiliated with a hospital and over half (53%) were employed by independent nursing facilities rather than by a nursing home chain. Slightly more than half (52%) of the nursing facilities had 100 beds or more.
More than half of the RNs (69%) were employed in skilled nursing facilities while nearly a fourth indicated their facilities provided multiple types of care (see Table 10).

Turnover Model Components

Univariate statistics for each independent variable were calculated and distributions were examined for skewness and kurtosis. Table 11 displays the mean, standard deviation, median, mode, and range of the model components.

Reasoned Action Model Components

Intention

An intention score was obtained by subtracting the score for resigning from the score for remaining. Intention scores for the sample ranged from -6 to +6 with a mean of 4.43 and a standard deviation of 2.97. Positive scores indicate an intention to stay and negative scores an intention to resign. Over 68% of the RNs were above the mean. Both the mode and median were 6, indicating a high intentional preference for staying employed in their long-term care facilities. Skewness was -2.21 indicating that the distribution is not symmetric but has more cases with positive values than a normal distribution. Kurtosis was 4.13 indicating that a larger proportion of cases fell into the tails than in a normal distribution.
Table 10

Nursing Facility Characteristics of RNs in the Sample

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>#</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ownership</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nonprofit Organization</td>
<td>93</td>
<td>43.3</td>
</tr>
<tr>
<td>For Profit Organization</td>
<td>75</td>
<td>34.9</td>
</tr>
<tr>
<td>Government Owned</td>
<td>41</td>
<td>19.1</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td>No Response</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Number of Beds</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50 Or Less</td>
<td>26</td>
<td>12.1</td>
</tr>
<tr>
<td>51 - 99</td>
<td>76</td>
<td>35.3</td>
</tr>
<tr>
<td>100 - 149</td>
<td>49</td>
<td>22.8</td>
</tr>
<tr>
<td>150 - 199</td>
<td>20</td>
<td>9.3</td>
</tr>
<tr>
<td>200 Or More</td>
<td>42</td>
<td>19.5</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
<td>.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Type of Nursing Care</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health Clinic</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Independent Living</td>
<td>1</td>
<td>.5</td>
</tr>
<tr>
<td>Residential Care</td>
<td>6</td>
<td>2.8</td>
</tr>
<tr>
<td>Intermediate/Skilled</td>
<td>149</td>
<td>69.3</td>
</tr>
<tr>
<td>Multiple Types of Care</td>
<td>50</td>
<td>23.3</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>2.8</td>
</tr>
<tr>
<td>No Response</td>
<td>2</td>
<td>.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Affiliation with a Hospital</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>166</td>
<td>77.2</td>
</tr>
<tr>
<td>Yes</td>
<td>46</td>
<td>21.4</td>
</tr>
<tr>
<td>No Response</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>215</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>Part of a Chain</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>114</td>
<td>53.0</td>
</tr>
<tr>
<td>Yes</td>
<td>98</td>
<td>45.6</td>
</tr>
<tr>
<td>No Response</td>
<td>3</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>215</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Attitude Toward Behavior

An attitude toward behavior score was obtained by subtracting the score for resigning from the score for remaining. Attitude toward behavior scores for the sample ranged from -5 to +6 on a scale of -6 to +6. Positive scores indicate a favorable attitude toward staying and negative scores a favorable attitude toward resigning. The mean was 3.47 with a standard deviation of 2.62. Over 65% of the RNs were above the mean, indicating a very favorable attitude toward staying. Skewness was -1.31 and kurtosis was 1.20, indicating the cases were not normally distributed.

Subjective Norm

A subjective norm score was obtained by subtracting the score for resigning from the score for remaining. Subjective norm scores ranged from -6 to +6 with positive scores representing a subjective norm for staying and negative scores a subjective norm for resigning. The mean was 3.95 with a standard deviation of 2.72. The median was 5 and the mode 6, with 74% of RNs scoring at or above the mean. Thus the majority of nurses perceived that important others thought they should remain employed in their long-term care facility. Skewness was -1.50 and kurtosis was 1.87, indicating the distribution was not normal.
Behavioral Beliefs

A behavioral beliefs score was obtained by summing the scores of the 30 beliefs about the consequences of resigning and staying. A belief score was obtained for each consequence by subtracting the belief score for resigning from the belief score for remaining, and multiplying this difference by the evaluation score for that consequence. Behavioral belief scores (sum of 30 beliefs) ranged from -228 to +334 on a scale of -540 to +540. Positive scores indicate beliefs are more favorable toward staying; and negative scores indicate beliefs are more favorable toward resigning. The mean was 41.54 with a standard deviation of 86.62. Nearly half (48%) the RNs were above the mean. Skewness was -.06 and kurtosis was 1.64. The histogram indicated a symmetrical distribution but there were more cases in the tails than in a normal distribution.

Attachment. The added behavioral belief about becoming attached to patients was also analyzed separately. Attachment scores ranged from -6 to +15 on a scale of -18 to +18. The mean was 1.42 with a standard deviation of 3.01. Positive scores indicate a belief that attachment to patients would likely occur if the nurse stayed; negative scores indicate a belief that the consequence would result if the nurse resigned. Although 44% (N = 95) believed
attachment to patients was a likely consequence of staying, 46% (N = 100) did not believe that attachment to patients was a consequence of either resigning or staying. Skewness was 1.63 and kurtosis was 3.78, indicating the distribution was not normal.

Normative Beliefs

A normative beliefs score was obtained by summing the scores across six referents. A belief score for each referent was obtained by multiplying the normative belief score by the motivation to comply score. Normative beliefs scores (sum of six beliefs) ranged from -60 to +108 on a scale of -108 to +108. Positive scores indicate perceived social pressure toward staying; and negative scores indicate perceived social pressure toward resigning. The mean was 31.78 with a standard deviation of 26.66. Approximately half (49%) of the RNs were above the mean. Skewness was .04 and kurtosis was .56, indicating a near normal distribution.

Expanded Model Components

Moral Obligation

A moral obligation score was obtained by subtracting the score for resigning from the score for remaining. Moral obligation scores ranged from -5 to +6 on a scale of -6 to +6, with positive scores indicating a moral obligation for staying, and negative scores for resigning.
The mean was 2.69 with a standard deviation of 2.74. While over 56% of RNs scored above the mean, the mode was 0 with 29% (N = 62) of the RNs feeling neither a moral obligation to stay nor to resign. Only 7% (N = 14) felt any moral obligation to resign. Skewness was -0.37 and kurtosis was -0.97. The histogram indicated the cases were not normally distributed.

**Organization Commitment**

An organizational commitment score was obtained by summing nine items. Organizational commitment scores for the sample ranged from 9 to 63 with a mean of 48.34 and a standard deviation of 10.68. Higher scores represent greater organizational commitment. Fifty-nine percent (N = 127) of the RNs were above the mean, indicating a high level of organizational commitment. Skewness was -1.19 and kurtosis was 1.44, indicating the distribution was near normal.

**Job Satisfaction**

A job satisfaction score was obtained by summing seven items. Job satisfaction scores for the sample ranged from 15 to 49 on a scale of 7 to 49. Higher scores represent greater job satisfaction. The mean was 41.10 with a standard deviation of 6.81. Fifty-four percent were above the mean, indicating a high level of job satisfaction.
Skewness was -1.35 and kurtosis was 2.08, indicating the distribution was not normal.

In summary, the data indicated that for the sample as a whole, nurses held behavioral and normative beliefs toward staying employed, felt social pressure to stay, held favorable attitudes toward remaining, and intended to remain employed in their long-term care facilities. Nurses in general felt a moral obligation to stay, were committed to the organization, and were satisfied with their jobs.

Table 11

Descriptive Statistics of the Independent Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>SD</th>
<th>Median</th>
<th>Mode</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>4.43</td>
<td>2.97</td>
<td>6.00</td>
<td>6.00</td>
<td>-6 to +6</td>
</tr>
<tr>
<td>Attitude</td>
<td>3.47</td>
<td>2.62</td>
<td>4.00</td>
<td>6.00</td>
<td>-5 to +6</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>3.95</td>
<td>2.72</td>
<td>5.00</td>
<td>6.00</td>
<td>-6 to +6</td>
</tr>
<tr>
<td>Behavioral Beliefs</td>
<td>41.54</td>
<td>86.62</td>
<td>40.00</td>
<td>52.00</td>
<td>-228 to +334</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>31.78</td>
<td>26.66</td>
<td>31.00</td>
<td>24.00</td>
<td>-60 to +108</td>
</tr>
<tr>
<td>Moral Obligation</td>
<td>2.69</td>
<td>2.74</td>
<td>3.00</td>
<td>0.00</td>
<td>-5 to +6</td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>48.34</td>
<td>10.68</td>
<td>50.00</td>
<td>46.00</td>
<td>9 to 63</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>41.10</td>
<td>6.81</td>
<td>43.00</td>
<td>49.00</td>
<td>15 to 49</td>
</tr>
</tbody>
</table>
Turnover

For the dependent variable, turnover, employment status was coded 1 for leavers, and 0 for stayers. There were 192 (89%) RNs who remained employed in their nursing facility, and 23 (11%) who had voluntarily resigned employment during the six-month study period.

Leavers and Stayers

Table 12 presents the mean scores of the independent variables for the leavers and stayers. The causal models lead us to expect lower mean scores for the leavers for all independent variables. Nurses who resigned should indicate less intent to stay, attitudes more favorable toward resigning, perceived social pressure to resign, behavioral and normative beliefs more favorable toward resigning, less moral obligation to stay, less satisfaction with their job, and less organizational commitment. All differences are in the expected directions.

The demographic and nursing facility characteristics were examined for the two turnover groups using crosstabulations. For each category of the demographic and facility variables, the observed number of nurses who resigned (or stayed) were compared to the expected number. For the demographic variables, there were no meaningful differences between leavers and stayers in age group,
Table 12

Means and Standard Deviations of Leavers and Stayers

<table>
<thead>
<tr>
<th>Variable</th>
<th>Leavers (N=23)</th>
<th>Mean (SD)</th>
<th>Stayers (N=192)</th>
<th>Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>-.17 (4.68)</td>
<td></td>
<td>4.98 (2.12)</td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>.52 (3.51)</td>
<td></td>
<td>3.82 (2.26)</td>
<td></td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>2.35 (3.02)</td>
<td></td>
<td>4.15 (2.63)</td>
<td></td>
</tr>
<tr>
<td>Behavioral Beliefs</td>
<td>7.43 (111.67)</td>
<td></td>
<td>45.63 (82.55)</td>
<td></td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>18.83 (27.08)</td>
<td></td>
<td>33.33 (26.25)</td>
<td></td>
</tr>
<tr>
<td>Moral Obligation</td>
<td>.52 (2.97)</td>
<td></td>
<td>2.95 (2.60)</td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>36.04 (10.54)</td>
<td></td>
<td>41.71 (5.98)</td>
<td></td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>44.39 (11.92)</td>
<td></td>
<td>48.81 (10.46)</td>
<td></td>
</tr>
</tbody>
</table>

marital status, children living at home, basic nursing education, highest nursing-related education, tenure, full-time versus part-time status, and job position. Likewise, there was little difference between leavers and stayers for the facility characteristics of ownership, hospital affiliation, chain affiliation, number of beds, and type of nursing care provided. Residuals (observed minus expected frequencies) in the categories for all these variables ranged from zero to three nurses, which is no more than 2% of the entire sample.
Tests of the Hypotheses

Intercorrelation Matrix

Table 13 presents the intercorrelation matrix for all model components. Six determinants were significantly related to turnover: intention, attitude toward behavior, subjective norm, normative beliefs, moral obligation, and job satisfaction. Nurses who expressed an intentional preference for staying, who held attitudes more favorable toward staying, who perceived that important others thought they should stay, and who held normative beliefs toward staying were the nurses who were more likely to remain employed in their nursing facility. Nurses who felt a moral obligation to stay and who were more satisfied with their jobs were more likely to remain employed during the six-month study period. All of these relationships were negative and consistent with the turnover models. Behavioral beliefs and organizational commitment were negatively but not significantly correlated with turnover. Behavioral beliefs is expected to decrease turnover through attitude toward behavior, and organizational commitment is expected to decrease turnover through intention; no direct effect on turnover is expected. As expected, the correlation coefficient for intention \(r = -.54, p < .001\) was larger than the coefficient for any other determinant with turnover.
Table 13

**Intercorrelations Among Variables**

<table>
<thead>
<tr>
<th></th>
<th>Turnover *</th>
<th>Intention</th>
<th>Attitude</th>
<th>Subjective Norm</th>
<th>Behavioral Beliefs</th>
<th>Normative Beliefs</th>
<th>Moral Obligation</th>
<th>Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>- .54**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Attitude</td>
<td>- .39**</td>
<td>.70**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>- .20*</td>
<td>.36**</td>
<td>.35**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Behavioral Beliefs</td>
<td>- .14</td>
<td>.26**</td>
<td>.42**</td>
<td>.20*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>- .17*</td>
<td>.30**</td>
<td>.29**</td>
<td>.41**</td>
<td>.21**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moral Obligation</td>
<td>- .27**</td>
<td>.54**</td>
<td>.54**</td>
<td>.25**</td>
<td>.25**</td>
<td>.21*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Organizational Commitment</td>
<td>- .13</td>
<td>.33**</td>
<td>.47**</td>
<td>.37**</td>
<td>.55**</td>
<td>.32**</td>
<td>.33**</td>
<td></td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>- .26**</td>
<td>.39**</td>
<td>.47**</td>
<td>.24**</td>
<td>.50**</td>
<td>.24**</td>
<td>.28**</td>
<td>.52**</td>
</tr>
</tbody>
</table>

* Correlations are point biserial.
*p < .01. **p < .001.
All seven determinants had statistically significant correlations with intention: attitude toward behavior, subjective norm, behavioral beliefs, normative beliefs, moral obligation, organizational commitment, and job satisfaction. These findings are consistent with the relationships indicated by the models. Nurses who hold favorable attitudes toward staying, who perceive that important others think they should stay, and who hold behavioral and normative beliefs toward staying indicate that they intend to remain employed in their nursing facility. Nurses who feel a moral obligation to stay, who express higher levels of organizational commitment, and who are more satisfied with their jobs express a strong likelihood of remaining in their jobs. As expected, attitude toward behavior had the highest correlation with intention \((r = .70, p < .001)\) than the other determinants.

The reasoned action model posits that attitude toward behavior is determined by behavioral beliefs, and subjective norm by normative beliefs. Consistent with the model, attitude toward behavior was significantly correlated with behavioral beliefs \((r = .42, p < .001)\), and subjective norm with normative beliefs \((r = .41, p < .001)\).

None of the demographic and facility characteristic variables were highly correlated with model components (Table 14). Those correlations which were significant were
### Table 14

**Intercorrelations of Variables with Nurse Demographic and Nursing Facility Characteristics**

<table>
<thead>
<tr>
<th></th>
<th>Turnover</th>
<th>Intention</th>
<th>Attitude</th>
<th>Subjective Norm</th>
<th>Behavioral Beliefs</th>
<th>Normative Beliefs</th>
<th>Moral Obligation</th>
<th>Job Satisfaction</th>
<th>Organizational Commitment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Nurse Demographics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age Category</td>
<td>-.11</td>
<td>.04</td>
<td>.01</td>
<td>.02</td>
<td>.22**</td>
<td>.07</td>
<td>.13</td>
<td>.19*</td>
<td>.14</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-.13</td>
<td>.10</td>
<td>.12</td>
<td>-.00</td>
<td>.11</td>
<td>-.02</td>
<td>.06</td>
<td>-.01</td>
<td>.07</td>
</tr>
<tr>
<td>Children at Home</td>
<td>-.02</td>
<td>.01</td>
<td>.04</td>
<td>.08</td>
<td>-.02</td>
<td>.03</td>
<td>-.01</td>
<td>-.04</td>
<td>-.02</td>
</tr>
<tr>
<td>Basic Nursing</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>-.00</td>
<td>.02</td>
<td>-.03</td>
<td>.03</td>
<td>-.07</td>
<td>-.06</td>
<td>.02</td>
<td>-.03</td>
<td>-.03</td>
</tr>
<tr>
<td>Highest Education</td>
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<td>-.02</td>
<td>-.04</td>
<td>.05</td>
<td>-.07</td>
<td>-.04</td>
<td>-.01</td>
<td>.02</td>
<td></td>
</tr>
<tr>
<td>Tenure</td>
<td>-.05</td>
<td>-.01</td>
<td>.01</td>
<td>-.05</td>
<td>.02</td>
<td>.03</td>
<td>-.02</td>
<td>.07</td>
<td>-.04</td>
</tr>
<tr>
<td>Part-time/</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time Status</td>
<td>-.02</td>
<td>-.09</td>
<td>-.17</td>
<td>-.11</td>
<td>-.02</td>
<td>-.02</td>
<td>-.14</td>
<td>-.01</td>
<td>-.14</td>
</tr>
<tr>
<td>Job Position</td>
<td>-.01</td>
<td>-.05</td>
<td>-.00</td>
<td>.12</td>
<td>.04</td>
<td>.03</td>
<td>.16</td>
<td>.09</td>
<td>.19*</td>
</tr>
<tr>
<td><strong>Facility Characteristics</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ownership</td>
<td>.08</td>
<td>-.00</td>
<td>-.08</td>
<td>-.10</td>
<td>.00</td>
<td>-.17</td>
<td>.04</td>
<td>-.08</td>
<td>.05</td>
</tr>
<tr>
<td>Hospital Affiliation</td>
<td>.02</td>
<td>.03</td>
<td>.12</td>
<td>-.05</td>
<td>.10</td>
<td>.08</td>
<td>.06</td>
<td>.06</td>
<td>.08</td>
</tr>
<tr>
<td>Chain Affiliation</td>
<td>-.04</td>
<td>.07</td>
<td>.12</td>
<td>.13</td>
<td>.02</td>
<td>.16</td>
<td>.02</td>
<td>.05</td>
<td>.06</td>
</tr>
<tr>
<td>Number of Beds</td>
<td>.05</td>
<td>-.05</td>
<td>.09</td>
<td>-.10</td>
<td>.11</td>
<td>-.19*</td>
<td>-.08</td>
<td>.08</td>
<td>.12</td>
</tr>
<tr>
<td>Type of Care</td>
<td>.01</td>
<td>-.01</td>
<td>-.03</td>
<td>-.01</td>
<td>.07</td>
<td>-.03</td>
<td>.01</td>
<td>.03</td>
<td>.05</td>
</tr>
</tbody>
</table>

*p < .01.  **p < .001.*
all equal to or less than \( r = .23 \). Age was significantly and positively correlated with behavioral beliefs and job satisfaction. It was the older nurses who held more favorable behavioral beliefs toward staying and who were more satisfied with their jobs. Job position was significantly and positively related to organizational commitment. Nurses who held supervisory or administrative positions reported higher levels of organizational commitment. Number of beds in the nursing facility was significantly and negatively related to normative beliefs. As the number of beds in the facility increased, nurses held normative beliefs more favorable toward resigning.

The variable intercorrelation matrix was also examined for multicollinearity. The strongest correlations among the independent variables were between organizational commitment and behavioral beliefs \( (r = .55) \), moral obligation and attitude \( (r = .54) \), and job satisfaction and organizational commitment \( (r = .52) \). Since all correlations between independent variables were less than .99 and thus did not meet Tabachnic and Fidell’s (1983) criteria for variable redundancy, all variables were retained for the analysis.

**Reasoned Action Model**

**HYPOTHESIS 1:** The reasoned action model (behavioral beliefs, attitude toward behavior, normative beliefs,
subjective norm, and intention) explains turnover in nurses employed in long-term care facilities.

To accept the reasoned action model as a good model for explaining turnover, the following four relationships had to hold before the research hypothesis was accepted:

A. Intention explains turnover,

B. Attitude toward behavior and subjective norm explain intention,

C. Behavioral beliefs explain attitude toward behavior, and

D. Normative beliefs explain subjective norm.

Relationship A: Intention explains turnover.

Logistic regression was employed to test the relationship between intention and turnover. Since turnover is a dichotomous variable (each nurse either remained employed or resigned), logistic regression is the recommended method of analysis (Hosmer & Lemeshow, 1989). Logistic regression estimates the probability of an event occurring, given one or more independent variables.

Turnover was regressed on intention, and consistent with the theory of reasoned action, it was a significant determinant of turnover. The correlation between turnover and intention was $-0.47$ ($p < .001$), indicating that as a nurse’s intention to stay increases, the likelihood that the nurse would resign decreases.
To determine the goodness of fit of the model with intention, observed outcomes were compared to predicted outcomes. As can be seen from Table 15, 189 RNs who remained employed were correctly predicted by the model while 3 RNs were not. Of the 23 nurses who resigned, 8 were correctly predicted but 15 were incorrectly predicted based on the model. Thus, the model correctly predicted 98% of the RNs who stayed, but only 35% of the RNs who resigned.

Table 15
Comparison of Observed Outcomes with Predicted Outcomes Based on Logistic Regression of Turnover with Intention

<table>
<thead>
<tr>
<th></th>
<th>Predicted Stay</th>
<th>Predicted Resign</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observed</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stayed</td>
<td>189</td>
<td>3</td>
<td>98.4%</td>
</tr>
<tr>
<td>Resigned</td>
<td>15</td>
<td>8</td>
<td>34.7%</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td></td>
<td>91.6%</td>
</tr>
</tbody>
</table>

Table 16 shows four goodness-of-fit statistics for the logistic regression model that contains intention. The -2 Log Likelihood test in the first row of the table compared
the present model to a "perfect" model. For the model with intent, the $-2 \log \text{likelihood} (-2LL)$ value of 103.894 and the large observed significance level, indicates that this model does not differ significantly from the "perfect" model. The goodness-of-fit statistic in the second row of the table leads to a similar conclusion and compares the observed probabilities to those predicted by the model. The model chi-square and improvement statistics in the last two rows indicate the difference between $-2LL$ for the model with only a constant and $-2LL$ for the model when intention is added. The value labeled "improvement" indicates the change in $-2LL$ between successive steps in building the model. The small significance levels ($p<.001$) for these two tests indicate that the addition of intention to the model did improve prediction of turnover.

To test the sufficiency of intention in explaining turnover, turnover was regressed on intention first, followed by hierarchical regression of attitude toward behavior, subjective norm, behavioral beliefs, and normative beliefs. Consistent with the theory of reasoned action, intention was the only significant determinant of turnover. Thus the addition of attitude toward behavior, subjective norm, behavioral beliefs, and/or normative beliefs did not contribute significantly to the model over intention.
Table 16

Goodness-of-Fit Statistics for Logistic Regression Model
of Turnover Containing Intention

<table>
<thead>
<tr>
<th>Tests</th>
<th>Chi-Square</th>
<th>df</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>-2 Log Likelihood</td>
<td>103.894</td>
<td>213</td>
<td>1.000</td>
</tr>
<tr>
<td>Goodness of Fit</td>
<td>223.705</td>
<td>213</td>
<td>.294</td>
</tr>
<tr>
<td>Model Chi-Square</td>
<td>42.370</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Improvement</td>
<td>42.370</td>
<td>1</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>

Discriminant analysis was used to further examine the intention-turnover relationship and to determine which reasoned action model variables most clearly distinguished the stayers from the leavers. Because there are two groups, one discriminant function was possible. The discriminant function, derived from the data when all reasoned action variables were entered into the equation, explained 29% of between group variance (Wilks lambda = .7098, df 5, p < .001). Table 17 displays the standardized discriminant function coefficients for the sample. As can be seen, intention is responsible for most of the variance accounted for by the discriminant function. Nurses were then classified into groups based on their discriminant function scores. The classification results in Table 18 show that 92% of the stayers and 65% of the leavers were correctly classified. Overall, the correct classification
was approximately 89% for the sample. The discriminant function was a better predictor of group membership for nurses who resigned than that based on logistic regression estimates. However, the discriminant function was not a better predictor for the group of stayers.

Table 17

**Standardized Discriminant Function Coefficients**

<table>
<thead>
<tr>
<th>Function</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intention</td>
<td>.963</td>
</tr>
<tr>
<td>Attitude</td>
<td>.055</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>.023</td>
</tr>
<tr>
<td>Behavioral Beliefs</td>
<td>-.031</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>.003</td>
</tr>
</tbody>
</table>

Table 18

**Comparison of Observed Outcomes with Predicted Outcomes Based on Discriminant Analysis**

<table>
<thead>
<tr>
<th></th>
<th>Predicted Stay</th>
<th>Predicted Resign</th>
<th>Percent Correct</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Observed</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stayed</td>
<td>177</td>
<td>15</td>
<td>92.2%</td>
</tr>
<tr>
<td>Resigned</td>
<td>8</td>
<td>15</td>
<td>65.2%</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td></td>
<td></td>
<td>89.3%</td>
</tr>
</tbody>
</table>
Relationship B: Attitude toward behavior and subjective norm explain intention.

Multiple regression analysis was used to test this relationship. Regressing intention simultaneously on attitude and subjective norm resulted in a multiple correlation of .71, accounting for 50% of the variation in intention. The standardized regression coefficients when both variables were in the equation were .66 (p < .001) for attitude and .13 (p < .01) for subjective norm (see Table 19). Although both attitude and subjective norm contributed significantly to intention, attitude was a more important determinant of intention than subjective norm. Thus, the choices RNs made between resigning and remaining employed in their long-term care facility were primarily a function of their personal preferences rather than their perception of the wishes and desires of important others.

Table 19
Regression of Intention on Attitude and Subjective Norm

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adjusted R²</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attitude and Subjective</td>
<td>.66**</td>
<td>.71</td>
<td>.50**</td>
<td>2,212</td>
<td>110.02</td>
</tr>
<tr>
<td>Norm</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p = 0.01; **p = 0.001
To test the sufficiency of attitude and subjective norm in explaining intention, behavioral beliefs and normative beliefs were added to the equation. Consistent with the theory, the regression coefficients were not significant; and neither behavioral beliefs (beta = -.06, p = .28) nor normative beliefs (beta = .08, p = .13) contributed significantly to the model.

Relationship C: Behavioral beliefs explain attitude toward behavior.

Simple regression analysis was used to test the relationship between behavioral beliefs and attitude toward behavior. A moderately high correlation (R = .42 p<.001) was found between behavioral beliefs and attitude toward behavior; and behavioral beliefs explained 17.7% of the variability in attitude (see Table 20).

Table 20

Regression of Attitude toward Behavior on Behavioral Beliefs

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Adjusted R²</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Beliefs</td>
<td>.42</td>
<td>.176</td>
<td>1,213</td>
<td>46.94*</td>
</tr>
</tbody>
</table>

*p = 0.001
**Relationship D: Normative beliefs explain subjective norm.**

Simple regression was used to test the relationship between normative beliefs and subjective norm. A moderately high correlation was found (R = .41, p < .001) and normative beliefs explained 16.2% of the variability in subjective norm (see Table 21).

**Table 21**

*Regression of Subjective Norm on Normative Beliefs*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>Adjusted $R^2$</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normative Beliefs</td>
<td>.41</td>
<td>.162</td>
<td>1,213</td>
<td>42.26*</td>
</tr>
</tbody>
</table>

*p = 0.001*

**Test of the Whole Model**

Multiple regression was used to determine the amount of variation in turnover explained by the model. Even though assumptions for hypothesis testing in regression analysis are violated when used to predict a binary dependent variable, multiple regression can be used (Cohen & Cohen, 1983) and can provide additional information about the model. Additional information was needed to facilitate comparison of the reasoned action model with other models of turnover. In the turnover literature, results are
frequently reported in terms of the percentage of variance in turnover explained by the proposed model.

The five predictors were entered into a hierarchical multiple regression analysis in three steps. First, turnover was regressed on intention, followed by attitude toward behavior and subjective norm, and finally, behavioral beliefs and normative beliefs. Table 22 summarizes the results of the analysis.

Results indicate that the combination of all variables explained 27% of the variation in turnover. Consistent with the theory, intention was the only significant

<table>
<thead>
<tr>
<th>Step/Variable(s)</th>
<th>Beta</th>
<th>R²</th>
<th>R² Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Intention</td>
<td>-.54*</td>
<td>.29*</td>
<td></td>
</tr>
<tr>
<td>2. Attitude and Subjective Norm</td>
<td>-.02</td>
<td>.01</td>
<td>.00</td>
</tr>
<tr>
<td>3. Behavioral Beliefs and Normative Beliefs</td>
<td>.01</td>
<td>.00</td>
<td></td>
</tr>
</tbody>
</table>

\[ R^2 = .29 \]
\[ \text{Adjusted } R^2 = .27 \]

*p = 0.001
determinant of turnover. The addition of attitude toward behavior, subjective norm, behavioral beliefs, and normative beliefs did not directly influence turnover. Rather, these variables only have an indirect effect on turnover.

In conclusion, hypothesis 1 was supported by the findings. Based on tests of the four relationships specified in the model, the reasoned action model is a good model for explaining turnover in nurses employed in long-term care facilities. The model explained 27% of the variance in turnover and 50% of the variance in intention. Consistent with the theory, intention was the only significant predictor of turnover; and, attitude toward behavior and subjective norm were the only significant predictors of intention. Thus attitude toward behavior and subjective norm influenced turnover indirectly through intention. Behavioral beliefs influenced intention and turnover indirectly through attitude toward behavior. Normative beliefs influenced intention and turnover indirectly through subjective norm.

**Expanded Model**

HYPOTHESES 2: Moral obligation, job satisfaction, and organizational commitment increase explanation of intention over and above attitude toward behavior and subjective norm.
Path analysis was first employed to compare the fit of the reasoned action model with the fit of the expanded model to the data. Path coefficients were estimated by first considering all possible paths for each model, and then again by considering only those paths theoretically specified by the models. Fit Statistics for the expanded model ($W = 17.44, 4\, \text{df}, p < .005$) and for the reasoned action model ($W = 17.31, 4\, \text{df}, p > .005$) indicated that both models fit the data well. Since the two models are not nested, the Fit Statistic values cannot be directly compared. However, evaluation of path coefficients and the amount of explained variance in the intention can be used to decide if the expanded model adds to our understanding beyond the reasoned action model.

The path coefficients for the reasoned action model and the expanded model are depicted in Figures 3 and 4. The adjusted $R^2$ when all five independent variables were in the equation was .54 ($p = .001$). Although the $R^2$ change was significant, the proportion of variance in intention explained by the addition of the expanded model components beyond that already accounted for by the reasoned action variables was only 4%. Attitude toward behavior, subjective norm, and moral obligation contributed significantly to the equation for intention, but the
Figure 3. Path Coefficients for the Reasoned Action Model of Turnover.
*p<.01; **p<.001
Figure 4: Path Coefficients for the Expanded Model of Turnover.
*p<.01; **p<.001
regression coefficients for organizational commitment and job satisfaction were not significant. Thus only the addition of moral obligation increased explained variance in intention.

Attitude toward behavior, subjective norm, and moral obligation were the only variables which had a significant direct effect on intention. Behavioral beliefs and normative beliefs had only indirect effects on intention. The direct, indirect, and total causal effect of each variable is listed in Table 23. Examination of the total effects shows that attitude toward behavior had the greatest impact on intention.

In conclusion, hypothesis 2 was not supported by the data. While the addition of moral obligation, organizational commitment, and job satisfaction did increase the explanation of intention, only moral obligation contributed significantly to the model. The combination of attitude toward behavior, subjective norm, and moral obligation explained 53% of the variation in intention, compared to 50% explained by attitude toward behavior and subjective norm alone. Further, behavioral beliefs and normative beliefs had indirect effects on intention.
Table 23

**Direct, Indirect, and Total Effects of Each Variable on Intention for the Expanded Model**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Direct Effects</th>
<th>Indirect Effects</th>
<th>Total Effects</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavioral Beliefs</td>
<td>ns'</td>
<td>.23</td>
<td>.23</td>
</tr>
<tr>
<td>Normative Beliefs</td>
<td>ns</td>
<td>.05</td>
<td>.05</td>
</tr>
<tr>
<td>Attitude</td>
<td>.54</td>
<td>---</td>
<td>.54</td>
</tr>
<tr>
<td>Subjective Norm</td>
<td>.13</td>
<td>---</td>
<td>.13</td>
</tr>
<tr>
<td>Moral Obligation</td>
<td>.21</td>
<td>---</td>
<td>.21</td>
</tr>
<tr>
<td>Organizational</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Commitment</td>
<td>ns</td>
<td>---</td>
<td>ns</td>
</tr>
<tr>
<td>Job Satisfaction</td>
<td>ns</td>
<td>---</td>
<td>ns</td>
</tr>
</tbody>
</table>

' Not statistically significant

**Residual Analysis**

Residual analysis was conducted to look for violation of regression assumptions. Residual plots for all multiple regression runs showed problems with heteroscedasticity in that, the dispersion of residuals at higher values of predicted intention was much smaller than that at lower values. Lack of variance equality suggests the omission of a relevant variable from the equation (Verran & Ferketich, 1984). Three variables considered important correlates of turnover from the literature, were included in separate regression runs for intention: age, tenure, and part-time status. A fourth regression run included marital status,
the variable with the highest correlation with intention compared to the other demographic and facility characteristic variables. None of the four variables corrected the heteroscedasticity. There appears to other influences on intention not accounted for by the model variables or demographic and facility characteristics. The model was a better fit for nurses who intended to remain employed in their long-term care facility compared to those who intended to resign. This suggests that nurses’ intentions to resign were influenced by other variables not measured in this study. Perhaps nurses’ intended to resign not because of their attitudes, but because of personal life circumstances such as spouse transfer, pregnancy, or illness.

Three outliers were apparent on a plot of residuals for the regression equation for intention regressed on attitude and subjective norm. Further analysis based on Mahalanobis’ Distance indicated that three cases had a value far from the mean, but Cook’s Distance identified only one case as an influential case. The regression coefficients with and without this case in the regression equation were examined as was the change in slope and intercept. No real change occurred and the case was kept in the analysis. In analyzing this case, the RN’s attitude was toward staying employed but intention was to resign.
The theory states that a positive attitude toward staying should predict an intention to stay. However, this RN commented that she planned to retire within the next six months which would account for her intention to resign.

Residual statistics were obtained for the logistic regression of turnover on intention. Eight cases were considered outliers; that is, the model did not fit these cases well. However, the change in the logistic coefficients when each case was deleted from the model was small. Therefore, no cases were dropped from analysis.

Post Hoc Analysis

**Job Satisfaction and Organizational Commitment**

Exploratory multiple regression analysis was performed to determine the direct effects of job satisfaction and organizational commitment on behavioral beliefs. Regressing behavioral beliefs simultaneously on job satisfaction and organizational commitment resulted in a multiple correlation of .60, accounting for 36% of the variation in behavioral beliefs (see Table 24). The standardized regression coefficients when both variables were in the equation were .39 (p < .001) for organizational commitment and .29 (p < .001) for job satisfaction. Thus, both variables did contribute significantly to behavioral beliefs.
Table 24

Regression of Behavioral Beliefs on Job Satisfaction and Organizational Commitment

<table>
<thead>
<tr>
<th>Variable</th>
<th>Beta</th>
<th>R</th>
<th>Adjusted R²</th>
<th>df</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Satisfaction and Organizational Commitment</td>
<td>.29*</td>
<td>.60</td>
<td>.36*</td>
<td>2,212</td>
<td>60.03</td>
</tr>
</tbody>
</table>

*p = 0.001

Behavioral and Normative Beliefs

Having verified the reasoned action theory's assumptions about the relations among beliefs, attitudes, subjective norms, intentions, and turnover behavior, a more detailed analysis of the beliefs was performed to understand RNs decisions to remain or resign employment in long-term care facilities.

According to the theory, behavioral beliefs are presumed to provide the basis for the nurse's attitude, whereas normative beliefs underlie the subjective norm. Results indicated that behavioral beliefs were significantly correlated with attitude toward behavior (R = .42 p<.001), with behavioral beliefs explaining 17.7% of the variability in attitude toward behavior. Similarly,
normative beliefs were significantly correlated with subjective norm (R = .41, p<.001), with normative beliefs explaining 16.2% of the variability in subjective norm. Thus, both behavioral and normative beliefs had a significant indirect effect on intention and turnover.

**Behavioral Beliefs**

Behavioral beliefs were examined for the sample as a whole. Table 25 shows the means and standard deviations for each of three judgments nurses made about the 30 consequences or outcomes of resigning and staying. The first set of values represents the mean evaluation of each outcome as good or bad. The second set of values represents the mean likelihood that the outcome would result if nurses stayed; and the third set of values represents the mean likelihood that the outcome would result if they resigned.

The mean scores for the evaluation of beliefs related to nursing practice, work environment, and economics were high (> 2.00 on a scale of -3 to +3) for the sample as a whole indicating that nurses evaluated these features of work as quite good. For example, nurses felt that having a job where they can use their nursing skills and keep them up to date, work with the patients they prefer, and provide the quality of care patients deserve were features of nursing practice that were quite good.
Table 25

**Mean Ratings of Behavioral Beliefs of Nurses Employed in Long-Term Care Facilities (N = 215)**

<table>
<thead>
<tr>
<th>Behavioral Beliefs</th>
<th>Outcome Evaluation</th>
<th>If Stay Mean (SD)</th>
<th>If Resign Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Practice:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can use my nursing skills and keep them up to date</td>
<td>2.21 (.79)</td>
<td>1.07 (1.36)</td>
<td>.94 (1.41)</td>
</tr>
<tr>
<td>Work with the kind of patients I prefer</td>
<td>2.28 (.75)</td>
<td>1.63 (1.19)</td>
<td>.77 (1.46)</td>
</tr>
<tr>
<td>Have opportunities for a variety of patient care experiences</td>
<td>2.06 (.91)</td>
<td>1.24 (1.38)</td>
<td>1.08 (1.32)</td>
</tr>
<tr>
<td>Job provides a sense of worth and feeling of accomplishment</td>
<td>2.60 (.59)</td>
<td>1.92 (.94)</td>
<td>.91 (1.52)</td>
</tr>
<tr>
<td>Feel that I am helping people</td>
<td>2.54 (.60)</td>
<td>2.27 (.71)</td>
<td>.94 (1.54)</td>
</tr>
<tr>
<td>Have a challenging, stimulating, and interesting job</td>
<td>2.47 (.60)</td>
<td>1.76 (.99)</td>
<td>.33 (1.76)</td>
</tr>
<tr>
<td>Can provide my patients with more than just physical care</td>
<td>2.47 (.68)</td>
<td>1.72 (1.13)</td>
<td>1.18 (1.38)</td>
</tr>
<tr>
<td>(e.g., teaching, emotional and family support, follow-up)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can provide the quality of care patients deserve</td>
<td>2.65 (.55)</td>
<td>1.49 (1.17)</td>
<td>1.17 (1.34)</td>
</tr>
<tr>
<td>Work Environment:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Can rely on the support of nursing administration</td>
<td>2.57 (.67)</td>
<td>1.43 (1.54)</td>
<td>.80 (1.45)</td>
</tr>
<tr>
<td>Goals and concerns shared by the facility’s administration</td>
<td>2.45 (.72)</td>
<td>1.21 (1.59)</td>
<td>.71 (1.44)</td>
</tr>
<tr>
<td>Work in an environment where there is a spirit of cooperation and teamwork</td>
<td>2.64 (.53)</td>
<td>1.26 (1.38)</td>
<td>.74 (1.42)</td>
</tr>
<tr>
<td>Have authority to use my judgment and make decisions about patient care</td>
<td>2.46 (.64)</td>
<td>1.89 (1.30)</td>
<td>.84 (1.47)</td>
</tr>
<tr>
<td>Work in an environment where doctors treat me as a professional-with courtesy and respect</td>
<td>2.44 (.62)</td>
<td>1.50 (1.24)</td>
<td>.91 (1.40)</td>
</tr>
<tr>
<td>Provides educational and learning experiences which enhance my professional growth</td>
<td>2.40 (.65)</td>
<td>1.34 (1.30)</td>
<td>.98 (1.37)</td>
</tr>
<tr>
<td>Like and respect my co-workers</td>
<td>2.61 (.52)</td>
<td>1.88 (.92)</td>
<td>1.08 (1.29)</td>
</tr>
<tr>
<td>Have a considerate and responsive supervisor- one who listens, understands my problems, and appreciates my work</td>
<td>2.64 (.59)</td>
<td>1.42 (1.58)</td>
<td>.57 (1.54)</td>
</tr>
<tr>
<td>Economics:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receive an acceptable salary</td>
<td>2.42 (.68)</td>
<td>1.33 (1.37)</td>
<td>.67 (1.73)</td>
</tr>
<tr>
<td>Have job security</td>
<td>2.43 (.70)</td>
<td>1.72 (1.27)</td>
<td>.55 (1.69)</td>
</tr>
<tr>
<td>Work on a schedule and/or shift I prefer</td>
<td>2.61 (.58)</td>
<td>2.18 (1.04)</td>
<td>.15 (1.95)</td>
</tr>
<tr>
<td>Receive fringe benefits (e.g., insurance, retirement, sick leave)</td>
<td>2.39 (.84)</td>
<td>.81 (1.90)</td>
<td>.92 (1.67)*</td>
</tr>
<tr>
<td>Personal Opportunities:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Have time for myself - to do things I enjoy</td>
<td>2.34 (.92)</td>
<td>.95 (1.60)</td>
<td>.99 (1.70)*</td>
</tr>
<tr>
<td>Have time for my family</td>
<td>2.48 (.85)</td>
<td>1.30 (1.50)</td>
<td>.92 (1.69)</td>
</tr>
<tr>
<td>Can meet and be with people</td>
<td>2.13 (.81)</td>
<td>1.68 (1.24)</td>
<td>.81 (1.50)</td>
</tr>
<tr>
<td>Advance my career</td>
<td>1.28 (1.21)</td>
<td>-.23 (1.72)</td>
<td>-.06 (1.75)*</td>
</tr>
<tr>
<td>Physical-Emotional Costs:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Feel overworked and have too much to do</td>
<td>-1.62 (1.23)</td>
<td>.99 (1.50)</td>
<td>.27 (1.65)</td>
</tr>
<tr>
<td>Feel fatigued and fatiguing</td>
<td>-1.37 (1.43)</td>
<td>1.28 (1.47)</td>
<td>.49 (1.76)</td>
</tr>
<tr>
<td>Negative Job Characteristics:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work in a setting where I am unfamiliar with the routine, equipment, and personnel</td>
<td>-1.49 (1.73)</td>
<td>-1.86 (1.65)</td>
<td>.34 (1.93)*</td>
</tr>
<tr>
<td>Work is affected by poor communication and coordination between units or departments</td>
<td>-2.06 (1.30)</td>
<td>-.02 (1.73)</td>
<td>-.06 (1.53)</td>
</tr>
<tr>
<td>Feel bored and restless</td>
<td>-1.95 (1.18)</td>
<td>-1.42 (1.56)</td>
<td>-.38 (1.89)*</td>
</tr>
<tr>
<td>Attachment:</td>
<td>1.37 (.15)</td>
<td>1.84 (1.07)</td>
<td>.83 (1.49)</td>
</tr>
</tbody>
</table>

* Positive values indicate that the outcome is evaluated as good; negative values indicate the outcome is bad.

* Positive values indicate that outcome is more likely to occur; negative values the opposite.

* Indicates mean for belief is higher for resign than for stay.
For work environment, nurses felt it was good if their goals and concerns were shared by the facility’s administration, there was a spirit of cooperation and teamwork, they could use their judgment and make decisions about patient care, and they were treated by doctors with courtesy and respect. Receiving an acceptable salary and fringe benefits, having job security, and working on a shift they preferred were economic factors rated quite good by nurses. Having time for self and family were evaluated as quite good while advancing their career was slightly good. Nurses evaluated their having a job where they become attached to patients as slightly good.

Nurses evaluated several job characteristics as bad. Feeling overworked, having a job which is stressful and fatiguing, being bored and restless, working in an unfamiliar setting, and working where there is poor communication and coordination between units were evaluated as slightly to quite bad.

The second set of values in Table 25 represents the measures of how confident the nurses are or how likely they believe that staying would lead to each of the outcomes previously evaluated. The third set of values represents how confident the nurses are or how likely they believed each outcome would occur if they resigned. Overall, the mean scores for outcomes if nurses stayed were slightly
higher than the mean scores for the same outcomes if nurses resigned.

For beliefs with the highest mean scores, nurses believed that if they stayed in their present long-term care facility, they would quite likely have a job where they felt they were really helping people and which provided a sense of worth and feeling of accomplishment. Nurses also believed that staying would quite likely result in working in an environment where they would have the authority to use their judgment and make decisions about patient care, where they liked and respected their co-workers, and where they could work on a schedule or shift they preferred.

For the highest rated beliefs about resigning, nurses believed resigning would slightly likely result in a job where they could provide patients with more than just physical care, and where they could provide the quality of care patients deserved. Nurses also believed that resigning would slightly likely result in a job where they would have opportunities for a variety of patient care experiences, and where they would like and respect their co-workers.

For attachment, nurses believed it quite likely they would become attached to patients if they stayed and slightly likely if they resigned.
While nurses evaluated many of these outcomes as quite to extremely good if they occurred, they did not believe that any of these outcomes were extremely likely to occur whether they stayed or resigned.

**Normative Beliefs**

Normative beliefs were examined for the sample as a whole. Table 26 shows the means and standard deviations for beliefs about referents and motivation to comply for each of the six referents. The first set of values represents the mean beliefs about referents, that is the nurses' perception that a particular referent thinks she/he should resign or stay. The second set of values represents the mean motivation to comply with each of the referents.

For the sample as a whole, the mean scores for the beliefs about referents ranged from 1.30 to 2.17 on a scale of -3 to +3. As a group, nurses believed all referents felt they should probably remain employed in their long-term care facility. The mean scores for motivation to comply ranged from 1.71 to 3.60 on a scale of 0 (not at all) to 6 (very much). Nurses were more motivated to comply with family than the other referents. Overall, nurses were slightly to moderately motivated to comply with close friends, co-workers, supervisor, administration, and patients.
Table 26
Mean Ratings of Normative Beliefs of Nurses Employed in Long-Term Care Facilities (N=215)

<table>
<thead>
<tr>
<th>Referents</th>
<th>Referent Belief Mean (SD)</th>
<th>Motivation to Comply Mean (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close Friends</td>
<td>1.40 (1.77)</td>
<td>1.71 (1.53)</td>
</tr>
<tr>
<td>Family</td>
<td>1.30 (1.84)</td>
<td>3.60 (1.71)</td>
</tr>
<tr>
<td>Co-workers</td>
<td>2.13 (1.41)</td>
<td>2.40 (1.58)</td>
</tr>
<tr>
<td>Supervisor</td>
<td>2.17 (1.43)</td>
<td>2.70 (1.64)</td>
</tr>
<tr>
<td>Administration</td>
<td>2.00 (1.49)</td>
<td>2.51 (1.63)</td>
</tr>
<tr>
<td>Patients</td>
<td>2.09 (1.25)</td>
<td>2.91 (1.80)</td>
</tr>
</tbody>
</table>

* Higher means indicate stronger perceived norms favoring remaining employed in nursing facility.
* Higher means indicate stronger motivation to comply with referent.

Summary

Nurses' decisions to remain employed in their long-term care facility or resign depend on the difference between their intentions to perform each of the two choice behaviors. The stronger their intentions were to stay (in comparison to the alternative to resign), the more likely the nurses remained employed in their long-term care facility during the six-month study period. Intentions, in turn, were determined by attitudes toward behavior, subjective norms, and feelings of moral obligation. Of the three determinants of intention, attitude toward behavior was the most important. While the addition of moral
obligation to the reasoned action model increased explanation of intention, job satisfaction and organizational commitment did not. Finally, the nurses' behavioral beliefs concerning the consequences of staying and resigning explained attitudes. Similarly, normative beliefs concerning the nurses' important referents explained subjective norms.
CHAPTER 5

SUMMARY, DISCUSSION, AND RECOMMENDATIONS

This chapter includes a summary of the study, discussion of findings and conclusions, implications for nursing practice, and recommendations for future research.

Study Summary

The purpose of this study was to evaluate two models of turnover for their ability to explain turnover in registered nurses employed in long-term care facilities. Model 1 consisted of five components of the reasoned action model (Ajzen & Fishbein, 1980) as applied to turnover: behavioral beliefs, attitude toward behavior, normative beliefs, subjective norm, and turnover intention. Model 2 included the five reasoned action components plus moral obligation, job satisfaction, and organizational commitment. The expanded model was compared with the reasoned action model for its ability to significantly increase the explanation of intention. The hypotheses tested in this study were as follows:

1) The reasoned action model of turnover explains turnover in RNs employed in long-term care facilities.

2) Moral obligation, job satisfaction, and organizational commitment increase explanation of intention over and above attitude toward behavior and subjective norm.

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A random sample of 500 registered nurses licensed in the state of Nebraska and employed in long-term care facilities were sent two questionnaires six months apart. The first questionnaire measured components of both models, nurse demographics, and facility characteristics. The second questionnaire measured the nurse's employment status six months later. Of the 319 RNs who returned the first questionnaire (a response rate of 68%), 215 RNs completed the second questionnaire and provided useable data. The other subjects were eliminated from the analyses because they were not currently employed in long-term care at the first data collection point, had not returned the second questionnaire, or had excessive missing data.

The components of the reasoned action model and moral obligation were measured by adapting the questionnaire developed by Prestholdt, Lane, and Mathews (1987) to nurses employed in long-term care. Job satisfaction was measured by an abbreviated version of the Brayfield and Rothe Scale (1951), and organizational commitment by an abbreviated version of the Organizational Commitment Questionnaire (Porter, Steers, & Mowday, 1974). To determine representativeness of the sample, items related to demographic and long-term care facility characteristics were included in the first questionnaire.
Of the 215 RNs who made up the final sample, 99% were female, 81% were married, and 47% had no children living at home. The average age was 49, but age ranged from 26 to 79 years. Fifty-six percent of the nurses were employed full-time, and 55% had been employed in their nursing facility 5 years or more. Staff nurses, supervisors, and directors of nursing comprised the sample, and approximately three-quarters of the nurses were diploma-trained. Nearly half the RNs were employed in nonprofit facilities and 93% worked in facilities which provided intermediate-skilled care.

Logistic and linear regression analyses were used to test the ability of the models to explain turnover. Data from this study's sample supported the reasoned action model as a good model for explaining turnover of nurses employed in long-term care facilities. The addition of moral obligation to the reasoned action model contributed significantly to the explanatory power of the model for intention, but job satisfaction and organizational commitment did not.

Discussion of the Findings

The Reasoned Action Model

Hypothesis 1 was: The reasoned action model of turnover (behavioral beliefs, attitude toward behavior,
normative beliefs, subjective norm, and intention) explains turnover in RNs employed in long-term care facilities.

Hypothesis 1 was supported by the data. This study supported the reasoned action model’s assumptions about the relations among turnover, intention, attitude toward behavior, subjective norm, behavioral beliefs, and normative beliefs. Results of logistic regression supported intention as the only significant determinant of turnover. The stronger the nurse’s intention to stay, the more likely the nurse remained employed in their long-term care facility during the six-month study period. Consistent with the model, the other reasoned action components were found to be related to turnover only indirectly through their effects on intention. This finding is in agreement with Prestholdt, Lane, and Mathews’ (1987) application of the theory to hospital nurse turnover, as well as with a recent meta-analysis of employee turnover (Steel & Ovalle, 1984).

Findings from this study also support the key mediating role of intention demonstrated in other empirical studies of turnover among nurses. Price & Mueller (1981) found that intention mediated the effects of routinization, integration, participation, instrumental communication, pay, distributive justice, promotional opportunity, professionalism, job satisfaction, general
training and kinship responsibility on turnover. Curry et al. (1985) extended Price & Mueller’s work (1981) and reported that along with the personal and job-related variables, intention also mediated the effects of organizational commitment on turnover. Parasuraman (1989) found that several personal/demographic variables, organizational/job-related variables, felt stress, job satisfaction, and organizational commitment indirectly influenced turnover through intention.

For intention, attitude toward behavior and subjective norm were the only significant direct determinants, accounting for 50% of the variation in intention. Behavioral beliefs and normative beliefs indirectly affected intention. Attitude toward behavior was a much more important determinant of intention than subjective norm. Thus, the choices RNs made between resigning and remaining employed in their long-term care facility were primarily a function of their personal preferences rather than their perception of the wishes and desires of important others. As a group, nurses held favorable attitudes toward their staying employed in their nursing facility. These findings are in agreement with Prestholdt et al.'s (1987) study of hospital nurse turnover, although attitude toward behavior and subjective norm accounted for
a slightly higher proportion (68%) of variance in intention in their sample.

As expected, there was a moderately high correlation between behavioral beliefs and attitude toward behavior, and between normative beliefs and subjective norm. Behavior beliefs accounted for 18% of the variation in attitude; and normative beliefs explained 16% of the variation in subjective norm. These correlations were higher for Prestholdt et al.'s (1987) research, 32% and 29%, respectively.

What is the explanation for the slightly higher correlations found in Prestholdt et al.'s study of the reasoned action model as applied to hospital nurse turnover? It is possible that the differences are a result of measurement error or sample fluctuations. As a group, the mean scores for intention, attitude toward behavior, subjective norm, behavioral beliefs, and normative beliefs were higher than the mean scores for Prestholdt et al.'s sample of nurses. The higher means for these variables indicate that nurses in this sample had a stronger intention to stay, more favorable attitudes toward staying, perceived that important others wanted them to stay, and held behavioral and normative beliefs which more strongly favored staying than Prestholdt et al.'s nurses. Except for normative beliefs, the standard deviation for these
variables was smaller in this study's sample than in Prestholdt et al.'s study. When the range is restricted for either an independent variable or dependent variable, the correlation will be smaller (Cohen & Cohen, 1983).

The lower correlations found in this study compared with Prestholdt et al.'s study may also be due to demographic differences between long-term care and hospital nurses. Ajzen and Fishbein (1980) note that the relative importance of attitude toward behavior and subjective norm can be influenced by demographic variables. Prestholdt et al. (1987) did not report sample characteristics in enough detail to make a comparison of their sample with the nurses in this study. However, based on two national surveys, Jones et al. (1987) characterized RNs employed in long-term care as older, less likely to have children at home, and more likely to have never married than RNs working in hospitals. These nurses may place less emphasis on the subjective norm than nurses who are younger and married with children at home. Since subjective norm refers to the nurse's perception of what important others think they should do (resign or stay), nurses who are younger and married with children may place more weight on what the family wants them to do (resign or stay). Jones et al. (1987) also found that a greater proportion of long-term care RNs worked part-time compared to hospital RNs. It is
possible that RNs who work part-time place less importance on attitudinal considerations than nurses who work full-time. For example, nurses who work part-time may have neither a strong attitude toward resigning nor a strong attitude toward staying if their employment is considered extra money for the family. The slightly lower correlations obtained in this sample of nurses may be partly attributed to demographic characteristics.

The explained variance in turnover by the entire reasoned action model was 27%. This explained variance is low but in agreement with Prestholt et al.'s (1987) application of the theory to hospital nurses, and greater than that reported for other models of turnover. Parasuraman's (1989) integrated model of personal/demographic, organizational/job experience, attitudinal, and intentional variables explained 6% of the variance in turnover. Price and Mueller (1981) reported 17% for their comprehensive model of turnover; and Curry et al., 1985 reported 13% for an extended version of the Price and Mueller model.

The low explained variance in predicting turnover raises the following question: Is there a feasible explanation for the lack of explanatory power found in predicting turnover? It is important to note that most of the variance in turnover was accounted for by one variable,
intention. There are two main factors which influence the strength of the intention-turnover relationship. One is the degree of correspondence between the measure of intention and the behavior criterion. Ajzen and Fishbein's (1980) emphasize that measures of model components must correspond with each other in regard to action, target, context, and time. To meet this correspondence, questions in this study included qualifying phrases such as "my resigning from the staff of this nursing facility within the next six months." The action is resigning, the target is nursing facility, the context is my resigning from the staff of this nursing facility, and the time element is within the next six months. Therefore, the measures of intention and turnover appear adequate and not the reason for the low explained variance in turnover.

The second factor influencing the prediction of turnover by intention is the degree to which the intention remains stable over time. Parasuraman (1989) found that the longer the time interval between the measure of intention and turnover, the greater the likelihood that events will occur which will change the intention and weaken the intention-turnover relation. Since intentions can change over time, the measures of intention taken at the beginning of the study may have differed from the
nurse's intention six months later when employment status was assessed.

It is also possible that the low level of explained variance in turnover in this study is due to unmeasured variables. The possibility that other variables not included in the model could provide additional explanation of turnover cannot be ruled out.

In predicting turnover behavior, the reasoned action model correctly predicted turnover behavior for 92% of the sample. However, while 98% of the nurses who remained employed in their nursing facility were correctly predicted, only 35% of the nurses who resigned were correctly predicted by the model. The classification results based on discriminant analysis yielded similar data. Ninety-two percent of the stayers and 65% of the leavers were correctly classified. The discriminant function was a better predictor of group membership for nurses who resigned than that based on logistic regression estimates. But the discriminant function was not a better predictor for the group of stayers.

Why was the reasoned action model a poor predictor of nurses who resigned? The lower predictive power of the model for nurses who resigned may be partly attributed to the small number of nurses who resigned compared to the number who stayed. Only 23 out of 215 RNs resigned during
the six-month study period, making comparisons difficult. However, the lower predictive power may also be due to factors not predicted by the model. Perhaps some of the 15 resignations were due to unpredictable life circumstances. That is a nurse who intended to remain employed in their nursing facility may have resigned due to unexpected pregnancy, illness or injury, transfer of spouse to another location, death in the family, or other unexpected events. In these situations, the model cannot be expected to predict well since a measure of intention taken some time prior to resignation will differ from the intention at the time of resignation. Since intervening life events can change intentions, a measure of intention will not always be a good predictor of turnover.

The lower predictive power of the model for nurses who resigned as well as the somewhat low explanatory power of the model in predicting turnover may be due to differences between leavers and stayers in regards to demographic and nursing facility characteristics. However, the finding that turnover and intention were unrelated to any of the demographic and facility variables suggests that the plausibility of this explanation is weak.

The Expanded Model

Hypothesis 2 was: Moral obligation, job satisfaction, and organizational commitment increase explanation of
intention over and above attitude toward behavior and subjective norm.

Hypothesis 2 was not supported by the data. While the addition of moral obligation, organizational commitment, and job satisfaction did increase the explanation of turnover intention, only moral obligation contributed significantly to the model. When job satisfaction and organizational commitment were excluded, moral obligation explained 3% of the variation in intention over and above that explained by attitude and subjective norm. Thus, the combination of attitude toward behavior, subjective norm, and moral obligation explained 53% of the variation in intention, compared to 50% explained by attitude toward behavior and subjective norm alone. The findings suggest that nurses who indicate a higher moral obligation to stay will intend to stay employed in their long-term care facility.

The concept of a moral norm was included in an early version of the reasoned action model, but was dropped when empirical tests failed to support its inclusion in the model as a predictor of intention (Ajzen & Fishbein, 1980). However, as noted by Schwartz and Tessler (1972), not all behaviors will arouse a sense of moral obligation, and the inclusion of a moral norm in the reasoned action model may depend on the behavior of interest. Moral obligation was
not a significant predictor in Hov and Hulin’s (1981) study of national guardsmen’s reenlistment decisions, suggesting that the type of profession to which one belongs may influence the role of moral obligation in turnover decisions. Results of this study and Prestholdt et al.’s study (1987) indicate that moral obligation is a significant predictor of long-term care and hospital nurses’ intentions to resign or stay, and should be included in nurse turnover research.

Organizational commitment and job satisfaction were expected to increase explanation of intention, but the individual contributions of the variables were not significant. A few studies of nurses have examined the role of job satisfaction and organizational commitment as antecedents of intention and turnover, and there is strong support for these two having a direct effect on intention. Price and Mueller (1981) investigated a multivariate predictive model of turnover, and although organizational commitment was not included in the model, job satisfaction had a direct effect on intent to stay. Curry et al. (1985) included organizational commitment when they extended Price and Mueller’s (1981) work and found that both job satisfaction and organizational commitment had direct effects on intent to leave. Parasuraman (1989) found that both organizational commitment and job satisfaction had
equal direct effects on intention to leave. The importance of job satisfaction and organizational commitment as explanatory variables of intention has strong support from non-nursing empirical studies also (Angle & Perry, 1981; Shore, Newton, & Thornton, 1990; Williams & Hazer, 1986).

Why did job satisfaction and organizational commitment lack explanatory power in this study? Data from this sample of nurses found moderately high positive zero-order correlations between job satisfaction and intention, and between organizational commitment and intention; but the regression coefficients for these two variables in predicting intention were statistically nonsignificant. One possible explanation for the lack of significance is the moderately strong correlations among attitude toward behavior, job satisfaction and organizational commitment. When independent variables are highly correlated with one another, the contribution of each successive variable to the model is smaller. Thus, the addition of job satisfaction and organizational commitment did not contribute much new information in accounting for the variance in intention already explained by attitude toward behavior. In the studies discussed above, job satisfaction and/or organizational commitment were the only direct determinants of intention included in the studies. Perhaps if other variables - such as attitude toward behavior,
subjective norm, and moral obligation - had been included as a possible predictor of intention, job satisfaction and organizational commitment would not have contributed significantly to intention.

A second possible reason job satisfaction was not a significant determinant of intention in this study was the low standard deviation of the scores for both job satisfaction and intention. When the range is restricted, correlations will be smaller, and statistical significance will be more difficult to achieve (Cohen & Cohen, 1983). While the standard deviation for organizational commitment was more moderate in size, the small variance associated with intention may have contributed to the nonsignificant finding.

Another possible explanation for the low level of explained variance in intention by job satisfaction and organizational commitment in the present study is that the results were constrained by the small number of nurses who resigned. It was expected that nurses who resigned would report dissatisfaction with their job and low levels of organizational commitment. While nurses who stayed did report higher levels of job satisfaction and organizational commitment than nurses who resigned, nurses who resigned were satisfied with their jobs and committed to their nursing facilities.
Another possible reason job satisfaction and organizational commitment were not important determinants of intention may be that these attitudes exert their influence on intention through other variables. In this sample, there was a moderately high zero-order correlation between job satisfaction and behavioral beliefs, and a strong zero-order correlation between organizational commitment and behavioral beliefs. Perhaps job satisfaction and organizational commitment influence intention through their effect on other components in the reasoned action model. Ajzen and Fishbein refer to factors such as attitudes toward objects, personality traits, and demographic characteristics as external variables to their model. From their point of view, they do not constitute an integral part of their theory but may influence the beliefs a person holds or the relative importance attached to attitudinal and normative components. Perhaps job satisfaction and organizational commitment are external variables which indirectly affect intention and turnover by influencing behavioral beliefs. Perhaps specific aspects of the job and organization are evaluated by the nurse resulting in global attitudes of job satisfaction and organizational commitment, which in turn, influence a nurse's behavioral beliefs about the consequences of staying and resigning. Data from this study were used to
examine this hypothesis; and, job satisfaction and organizational commitment were found to have significant direct effects on behavioral beliefs.

The investigation of the effects of external variables on beliefs may enhance our understanding of turnover, and will not alter the validity of Ajzen and Fishbein’s theory. Since the theory attempts to account for a variety of behaviors, only a few basic constructs are desired in the model. However, in developing turnover models, we are interested in identifying all variables important to the prediction and explanation of turnover, and are not concerned with whether they will predict and explain other behaviors. Thus the addition of other variables to the model is justified. For example, moral obligation is not an important component of the reasoned action model because it does not explain all behavior. However, there is support for including moral obligation in the model for explaining turnover of nurses.

One final comment must be made. It is possible that job satisfaction and organizational commitment are not important to nurses employed in long-term care. Much of Nebraska is rural and a particular nursing facility may be the only employer of nurses in town. In areas where opportunities for employment are limited, nurses who are not satisfied with their jobs nor committed to the
organization may have no other place to work. Therefore, job dissatisfaction and low organizational commitment would not be good predictors of intention. In the cities where other nursing opportunities exist, job satisfaction and organizational commitment may influence nurses' decisions to resign or stay. For this sample of nurses, job satisfaction and organizational commitment may not be important predictors of intention to resign or stay.

Discussion of Behavioral Beliefs

According to the theory of reasoned action, behavioral and normative beliefs should provide an understanding of RNs decisions to stay or resign employment in long-term care facilities. However, the low explained variance in attitude toward behavior by behavioral beliefs was disappointing since the model included 30 beliefs. There are at least four possible reasons for the low explained variance. First, some salient beliefs may have been excluded. In testing the model, it is assumed that all of the nurses' salient beliefs have been identified and correctly measured. Only salient beliefs are expected to influence a nurse's attitude toward behavior. The procedures used to develop the list of behavioral beliefs were based on Ajzen and Fishbein's guidelines. However, it is possible that many of the 30 beliefs are not salient and have little to do with the determinants of long-term care
nurses' attitudes toward resigning and staying. In that case, salient beliefs need to be identified through empirical investigation and nonsalient beliefs removed from the instrument.

Second, the explained variance may be low because of inadequate measurement. Nurses were asked to make three judgments for each of the 30 belief statements. While some of the beliefs were not salient to all nurses, the differences in the degree of importance of each belief to a nurse was taken into account by the measures of belief strength and outcome evaluation. However, there may have been too many belief statements, making the questionnaire burdensome. Prestholdt et al. (1987) demonstrated the improvement in prediction when differential scores were used rather than resign-only scores, but using measures that related to both staying and resigning increased the number of belief questions from 60 to 90 items.

One solution is to use resign-only scores, but some nurses had difficulty answering questions about the consequences of resigning. Fifteen nurses who were eliminated from the final sample due to excessive missing data, did not complete this set of questions. Some wrote in comments such as: "I’m close to retirement - would retire."; "Consequences aren’t known until you are in the situation."; "I don’t understand this section - how do I
know until I know what the new facility will be like?"; "Since at this time I do not plan to resign and any answers would be pure conjecture, guessing, or wishing, I do not see where these answers would be helpful to you unless someone were planning to resign and had another job lined up already." These comments suggest that nurses may not analyze the consequences of resigning unless they intend to resign, and even then they may not know what the consequences might be. The theory assumes that a nurse will give thoughtful consideration to both choices of resigning and staying before making a decision. However, nurses may not give equal consideration to both choices. The decision to resign may carry a greater significance than the decision to stay. It is also possible that nurses do not make an explicit decision to stay where they might to resign. Thus when nurses were asked to respond to the consequences of resigning and staying, these questions may have been difficult to answer. A better solution would be to use fewer beliefs.

Third, the low explained variance may reflect failure of the theory to explain turnover in this group of nurses. A set of beliefs is of explanatory value only if it can be shown to be the determinant of attitude. Since behavioral beliefs was not a strong determinant of attitude toward behavior, it is possible that nurses in long-term care do
not give much thought about the consequences of resigning and staying. It is possible that many belief statements about resigning and staying were first brought to the nurses attention by the questionnaire. The fact that nurses could respond to the belief items does not necessarily indicate these beliefs underlie attitude toward resigning and staying. However, since the findings lend some support to the relations specified in the model, abandoning this theory seems premature. Rather, effort should be directed at identifying the salient beliefs that underlie attitudes toward resigning and staying.

Finally, one last consideration must be mentioned. It is possible that there are variables other than behavioral beliefs which influence attitude toward behavior. The need to include other variables which could provide additional explanation of the variation in attitude toward behavior cannot be ruled out.

**Summary**

In summary, the findings from this study lend support for the reasoned action model's applicability to the turnover area. Nurses' decisions to remain employed in their long-term care facility or resign depend on the difference between their intentions to perform each of the two choice behaviors. The stronger their intentions were to stay, the more likely the nurses remained employed in
their long-term care facility. Intentions, in turn, were determined by attitudes toward behavior, subjective norms, and feelings of moral obligation. Of the three determinants of intention, attitude toward behavior was the most important. Nurses’ behavioral beliefs concerning the consequences of staying and resigning explained attitudes; and similarly, normative beliefs concerning the nurses’ important referents explained subjective norm.

Further theoretical and methodological improvements are needed to increase explanatory and predictive effectiveness of the reasoned action model as applied to nurse turnover. One variable, moral obligation, should be included in the reasoned action model as it was an important variable in predicting intention of nurses to resign or stay. Although job satisfaction and organizational commitment were not direct determinants of intention, they may increase explanatory power of the model through their effects on behavioral beliefs.

It is important to note that this group of nurses held favorable attitudes toward staying employed in their long-term care facilities. Furthermore, nurses in this study indicated they were satisfied with their jobs and were committed to their nursing facilities. These findings are contrary to what is expected for nurses employed in long-term care. The small number of nurses who resigned during
the six-month study period was also unexpected and contrary to the high turnover rates reported in the literature for long-term care facilities. The unexpected findings from this study are important because they indicate there are nurses employed in long-term care who are satisfied with their jobs, who are committed to their organization, and who intend to remain employed in their nursing facility. And while job satisfaction and organizational commitment have strong support in both the nursing and non-nursing literature for having a direct effect on an employee's intention to resign or stay, they were not the factors which explained this group of nurses' intentions to remain employed in their long-term care facilities.

Implications for Nursing Practice

This study offers strong support for the utility of the theory of reasoned action in explaining nurse turnover and provides knowledge about nurses' decisions to resign or stay employed in long-term care facilities. Results also support the theory as a potentially useful conceptual framework for nurse administrators who want to intervene to change turnover behavior.

A nurse's turnover decision is the result of a complex process involving the nurse's intentions, attitudes toward resigning and staying, a feeling of moral obligation, social pressure, and beliefs. The stronger the nurse's
intention to stay, the more likely she/he will remain employed in the nursing facility. The more positive the nurse's attitude is toward staying and the stronger the perceived social pressure to stay, the more likely the nurse will remain employed in the nursing facility. Furthermore, nurses who feel a moral obligation to remain employed, are more likely to remain. Since nurses' intentions are based primarily on their attitudes toward resigning and staying, knowing the beliefs underlying their attitudes would help explain their decisions. The set of beliefs that determines a nurse's attitude are beliefs about the outcomes or consequences they perceive as likely to occur if they resign compared to those if they remain employed in their present nursing facility. These beliefs are related to nursing practice, work environment, economics, personal opportunities, physical-emotional costs, and negative job characteristics.

For example, nurses who believe they have a job where they are really helping people and which provides a sense of worth and feeling of accomplishment will have a more favorable attitude toward remaining in their current job. Working in an environment where they have the authority to use their judgment and make decisions about patient care, where they like and respect their co-workers, and where they work on a schedule or shift they prefer contribute to
having a favorable attitude toward staying. If nurses believe these outcomes are more likely to occur if they resign, their attitude is more favorable toward resigning, and they are more likely to resign.

A nurse’s intention to stay (or resign) is also influenced by their perception of the wishes and desires of important others. In particular, nurses are motivated to comply with what the family wants them to do. Thus if a nurse perceives that the family wants them to resign their position in the long-term care facility, the nurse is more likely to resign.

Reducing turnover is challenging because it is not caused by any one factor. Understanding the attitudes and beliefs underlying nurses’ decisions to resign or stay can add to the knowledge base needed in developing policies and practices designed to solve turnover problems. Clearly, nurses’ intentions, attitudes, beliefs, and sense of moral obligation are not under the direct control of nurse administrators. However, they can attempt to influence nurses’ beliefs about the consequences of staying employed in the long-term care facility through positive changes related to nursing practice, economics, and the work environment.

The sample of nurses in this study included nurse administrators and directors of nursing as well as staff
nurses. While nurse administrators are responsible for managing the nursing resources within the long-term care facilities themselves, it is the responsibility of the nursing profession to influence the broader health care system. The findings from this study provide beginning knowledge about the attitudes, beliefs, and intentions of long-term care nurses as a group and may be useful for those who represent nursing on health care commissions and policy-making bodies.

Recommendations for Future Research

The recommendations for further study are as follows:

First, test the ability of the theory of reasoned action to explain turnover of nurses employed in other long-term care facilities, hospitals, and health care settings. Further research is important to provide evidence for the generalizability of the findings to the broader population of nurses.

Second, design a study in which nurses who resign can be compared with nurses who stay in regards to beliefs, attitudes, and intentions. Only 23 nurses resigned in this study, resulting in too small a sample for detecting true differences in population values. A sampling strategy must be chosen to achieve a large enough group of nurses who resign for comparison with a group of stayers. By comparing the beliefs of leavers with the beliefs of
stayers, valuable information can be obtained about the reasons for the differences in turnover behavior.

Third, the instrument measuring behavioral beliefs needs to be refined. In testing the model, it is assumed that all of the nurse’s salient beliefs have been identified and correctly measured. Since only salient beliefs are expected to influence a nurse’s attitude toward behavior, the set of 30 beliefs needs to be examined more closely. Many of these beliefs may not be salient, and other salient beliefs may have been excluded. By improving the reliability and validity of the instrument, the relationships between beliefs and attitude toward resigning and staying can be better explicated.

The preceding recommendations provide direction for further study. The goal of research and theory development in the turnover area is to develop a model which will provide thorough and comprehensive knowledge about the possible factors related to nurse turnover. This knowledge is needed by nurse administrators for predicting and understanding turnover; and for influencing turnover behavior where possible and desirable.
LITERATURE CITED


APPENDIX A

QUESTIONNAIRE SENT AT TIME 1

Table 27 lists the concepts and identifies the section of the questionnaire and the items which measure each concept. A copy of the questionnaire follows.

Table 27

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<th>Concepts and Related Questionnaire Items</th>
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<td>Behavioral Beliefs</td>
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<td>Beliefs about staying</td>
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<td>Attitude Toward Behavior</td>
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<td>Moral Obligation</td>
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<td>Facility Characteristics</td>
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Study of Nurses Employed in Long-Term Care

1. Please answer all questions - don’t skip any.

2. Feel free to add any explanations or comments in the margins or anywhere on the questionnaire you wish.

3. Remember your answers are completely confidential so please be as candid as possible.

General Instructions

Most of the questions make use of rating scales with seven places. You are to make a check mark in the place that best describes your opinion. For example, if you were asked to rate the statement: “I would recommend nursing as a career for young people” on such a scale, the seven places would be interpreted as follows:

I would recommend nursing as a career for young people.

Likely__________________________Unlikely
extremely quite slightly neither slightly quite extremely

If it is quite likely that you would recommend nursing as a career, you would place your mark as follows:

Likely__________________________Unlikely
extremely quite slightly neither slightly quite extremely

On some parts of the questionnaire the labels on the scales change. For example, some scales are labeled good-bad, some yes-no, etc. Therefore, please look at each scale carefully before placing your mark.

1. This section asks for your opinion about the consequences of remaining in the employment of your nursing facility. Remaining on the staff of this nursing facility will mean my having a job...

1. That I find challenging, stimulating, and interesting.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

2. Which is stressful and fatiguing.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

3. Where I am really helping people.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

4. Where I receive an acceptable salary.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

5. Where I feel overworked and have too much to do.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

6. That gives me a sense of worth and a feeling of accomplishment.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

7. Where I work on a schedule and/or shift that I prefer.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely

8. Where I have a considerate and responsive supervisor - one who listens, understands my problems, and appreciates my work.
   Likely__________________________Unlikely
   extremely quite slightly neither slightly quite extremely
9...Where I am unfamiliar with the routine, equipment, and personnel.

Likely: unlikely

10...Where I use my nursing skills and keep them up-to-date.

Likely: unlikely

11...Where I work with the kind of patients I prefer.

Likely: unlikely

12...Where I become attached to patients.

Likely: unlikely

Remaining on the staff of this nursing facility will mean my working in an environment...

13...Where I have job security.

Likely: unlikely

14...Where there is a spirit of cooperation and teamwork.

Likely: unlikely

15...Where I like and respect my co-workers.

Likely: unlikely

16...Where I have the authority to use my judgment and make decisions about patient care.

Likely: unlikely

17...Which provides me with a variety of nursing care experiences - different types of patients, health care problems, etc.

Likely: unlikely

18...Where the doctors treat me as a professional - with courtesy and respect.

Likely: unlikely

19...Where I can rely on the support of the nursing administration.

Likely: unlikely

20...Where my concerns and goals are shared by the facility's administration.

Likely: unlikely

21...That provides me with educational and learning experiences which enhance my personal and professional growth.

Likely: unlikely

22...Where I provide my patients with more than just physical care - e.g., teaching, emotional and family support, follow-up, etc.

Likely: unlikely

23...Where my work is affected by poor communication and coordination between units or departments.

Likely: unlikely

24...Where I am able to provide the quality of care that my patients deserve.

Likely: unlikely

25...Where I have acceptable and appropriate fringe benefits, e.g., insurance, retirement, sick leave, vacation, etc.

Likely: unlikely
Remaining on the staff of this nursing facility will result in....

26....My having the time I need for my family.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

27....My having the time I need for myself, e.g., to do the things I enjoy, to socialize, to travel, to relax, etc.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

28....My being bored and restless.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

29....My advancing my career.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

30....My meeting and being with people.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

II. This section asks for your opinion about the consequence which would follow if you were to resign from your nursing facility.

Resigning from this nursing facility will lead to my having a job...

1....That I find challenging, stimulating, and interesting.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

2....Which is stressful and fatiguing.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

3....Where I am really helping people.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

4....Where I receive an acceptable salary.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

5....Where I feel overworked and have too much to do.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

6....That gives me a sense of worth and a feeling of accomplishment.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

7....Where I work on a schedule and/or shift that I prefer.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

8....Where I have a considerate and responsive supervisor - one who listens, understands my problems, and appreciates my work.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

9....Where I am unfamiliar with the routine, equipment, and personnel.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

10....Where I use my nursing skills and keep them up-to-date.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

11....Where I work with the kind of patients I prefer.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely

12....Where I become attached to patients.
Likely______________ Unlikely
extremely quite slightly neither slightly quite extremely
Resigning from this nursing facility will lead to my working in an environment...

13...Where I have job security.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

14...Where there is a spirit of cooperation and teamwork.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

15...Where I like and respect my co-workers.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

16...Where I have the authority to use my judgment and make decisions about patient care.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

17...Which provides me with a variety of nursing care experiences - different types of patients, health care problems, etc.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

18...Where the doctors treat me as a professional - with courtesy and respect.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

19...Where I can rely on the support of the nursing administration.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

20...Where my concerns and goals are shared by the facility's administration.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

21...That provides me with educational and learning experiences which enhance my personal and professional growth.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

22...Where I provide my patients with more than just physical care - e.g., teaching, emotional and family support, follow-up, etc.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

23...Where my work is affected by poor communication and coordination between units or departments.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

24...Where I am able to provide the quality of care that my patients deserve.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely

25...Where I have acceptable and appropriate fringe benefits, e.g., insurance, retirement, sick leave, vacation, etc.

Likely _________________: Unlikely

exremely quite slightly neither slightly quite extremely
Resigning from the staff of this nursing facility will result in...

26...My having the time I need for my family.

Likely ______________ Unlikely ______________

extremely quite slightly neither slightly quite extremely

27...My having the time I need for myself, e.g., to do the things I enjoy, to socialize, to travel, to relax, etc.

Likely ______________ Unlikely ______________

extremely quite slightly neither slightly quite extremely

28...My being bored and restless.

Likely ______________ Unlikely ______________

extremely quite slightly neither slightly quite extremely

29...My advancing my career.

Likely ______________ Unlikely ______________

extremely quite slightly neither slightly quite extremely

30...My meeting and being with people.

Likely ______________ Unlikely ______________

extremely quite slightly neither slightly quite extremely

III. The questions in this section ask for your feelings (i.e. good or bad) about features of a job or a work environment.

1. Having a job that I find challenging, stimulating, and interesting is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

2. For me, having a job which is stressful and fatiguing is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

3. Having a job where I am really helping people is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

4. Having a job where I receive an acceptable salary is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

5. Having a job where I feel overworked and have too much to do is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

6. Having a job that gives me a sense of worth and a feeling of accomplishment is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

7. Having a job where I work on a schedule and/or shift that I prefer is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

8. Having a job where I have a considerate and responsive supervisor (one who listens, understands my problems, and appreciates my work) is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

9. Having a job where I am unfamiliar with the routine, equipment, and personnel is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

10. Having a job where I use my nursing skills and keep them up-to-date is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely

11. Having a job where I work with the kind of patients I prefer is...

Good ______________ Bad ______________

extremely quite slightly neither slightly quite extremely
12. Having a job where I become attached to patients is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

13. Working in an environment where I have job security is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

14. For me, working in an environment where there is a spirit of cooperation and teamwork is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

15. Working in an environment where I like and respect my co-workers is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

16. Working in an environment where I have the authority to use my judgment and make decisions about patient care is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

17. Working in an environment which provides me with a variety of nursing care experiences (different types of patients, health care problems, etc.) is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

18. Working in an environment where the doctors treat me as a professional - with courtesy and respect is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

19. Working in an environment where I can rely on the support of the nursing administration is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

20. Working in an environment where my concerns and goals are shared by the facility's administration is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

21. Working in an environment that provides me with educational and learning experiences which enhance my personal and professional growth is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

22. Working in an environment where I provide my patients with more than just physical care (e.g., teaching, emotional and family support, follow-up, etc.) is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

23. Working in an environment where my work is affected by poor communication and coordination between units or departments is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

24. Working in an environment where I am able to provide the quality of care that my patients deserve is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely

25. Working in an environment where I have acceptable and appropriate fringe benefits, (e.g., insurance, retirement, sick leave, vacation, etc.) is...
   Good ________:_________ Bad
   extremely quite slightly neither slightly quite extremely
26. Having the time I need for my family is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

27. Having the time I need for myself (e.g., to do the things I enjoy, to socialize, to travel, to relax, etc.) is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

28. For me, being bored and restless is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

29. My advancing my career is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

30. For me, meeting and being with people is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

IV. The questions in the next section ask for your own personal feelings about your resigning or staying.

1. For me, remaining on the staff of this nursing facility, at least for the next six months, is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

2. For me, resigning from this nursing facility, sometime in the next six months, is...
   Good ___________________________ Bad
   extremely quite slightly neither slightly quite extremely

3. I feel I have a moral obligation to remain on the staff of this nursing facility at least for the next six months.
   Yes ___________________________ No
   extremely quite slightly neither slightly quite extremely

4. I feel that I have a moral obligation to resign from this nursing facility sometime in the next six months.
   Yes ___________________________ No
   extremely quite slightly neither slightly quite extremely

V. This section concerns how other people feel about you remaining or resigning from your nursing facility.

1. Most people who are important to me think I
   Should ___________________________ Should Not
   extremely quite slightly neither slightly quite extremely
   remain on the staff of this nursing facility at least for the next six months.

2. Most people who are important to me think I
   Should ___________________________ Should Not
   extremely quite slightly neither slightly quite extremely
   resign from this nursing facility sometime in the next six months.

VI. The next few questions ask if a specific person thinks that you should or should not resign from your nursing facility sometime in the next six months.

1. My close friends think I
   Should ___________________________ Should Not
   extremely quite slightly neither slightly quite extremely
   resign from this nursing facility sometime in the next six months.

2. My family thinks that I
   Should ___________________________ Should Not
   extremely quite slightly neither slightly quite extremely
   resign from this nursing facility sometime in the next six months.

3. The nurses I work with think that I
   Should ___________________________ Should Not
   extremely quite slightly neither slightly quite extremely
   resign from this nursing facility sometime in the next six months.
4. My supervisor thinks that I should resign from this nursing facility sometime in the next six months.

5. The administration at this nursing facility thinks that I should resign from this nursing facility sometime in the next six months.

6. My patients think that I should resign from this nursing facility sometime in the next six months.

VII. The following questions ask you to indicate how much influence specific people have on your career decision.

1. How much do you want to do what your close friends think you should do about your career?

2. How much do you want to do what your family wants you to do about your career?

3. How much do you want to do what the other nurses you work with want you to do about your career?

4. How much do you want to do what your supervisor wants you to do about your career?

5. How much do you want to do what the administration at this nursing facility want you to do about your career?

6. How much do you want to do what your patients want you to do about your career?

VIII. This next section is the most important part of the questionnaire! Please answer these questions carefully and honestly.

1. I intend to remain on the staff of this nursing facility at least for the next six months.

2. I intend to resign from this nursing facility sometime in the next six months.
3. If you are at all likely to resign from this nursing facility in the next 6 months, what would be your primary reason?

____ To move to another community because of my spouse.

____ To have a baby or raise a family.

____ To continue my formal education in nursing.

____ To get a job outside of nursing.

____ Other ______________________

____ Not applicable.

IX. Listed below are a series of statements that represent possible feelings that individuals might have about the organization for which they work. With respect to your own feelings about the particular organization for which you are now working, please indicate the degree of your agreement or disagreement with each statement by checking one of the seven alternatives below each statement.

1. I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

2. I talk up this organization to my friends as a great organization to work for.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

3. I would accept almost any type of job assignment in order to keep working for this organization.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

4. I find that my values and the organization's values are very similar.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

5. I am proud to tell others that I am part of this organization.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

6. This organization really inspires the very best in me in the way of job performance.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

7. I am extremely glad that I chose this organization to work for over others I was considering at the time I joined.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

8. I really care about the fate of this organization.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly

9. For me this is the best of all possible organizations for which to work.
   Agree ___________ ___________ ___________ ___________ Disagree
   strongly moderately slightly neither slightly moderately strongly
X. The next section asks for your own personal feelings about your job. How much do you agree or disagree with each of the following statements about your job?

1. I find real enjoyment in my job.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

2. I consider my job rather unpleasant.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

3. I am often bored with my job.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

4. I am fairly well satisfied with my job.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

5. I definitely dislike my job.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

6. Each day on my job seems like it will never end.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

7. Most days I am enthusiastic about my job.
   Agree: _______ _______ _______ _______ _______ Disagree: _______ _______ _______ _______ _______
   strongly moderately slightly neither slightly moderately strongly

XI. The following information is needed for statistical purposes only, but it is very important. (You cannot be personally identified from this information.)

1. Year of birth: 19_____
2. Sex: ______ Female
   ______ Male

3. Marital status:
   ______ Married
   ______ Divorced, separated or widowed
   ______ Never married

4. Children living at home most of the time are:
   ______ No children at home
   ______ All less than 6 years old
   ______ All 6 years old or older
   ______ Some less than 6 and some 6 or over

5. In what type of basic nursing education program were you prepared to become a nurse?
   ______ L.P.N./L.V.N.
   ______ Diploma
   ______ Associate degree
   ______ Baccalaureate or higher degree

6. What is your highest nursing-related education?
   ______ Diploma
   ______ Associate degree
   ______ Baccalaureate in nursing
   ______ Baccalaureate in other field
   ______ Masters in nursing
   ______ Masters in other field
   ______ Doctorate
7. How many years have you been employed on the nursing staff of this nursing facility?
   _____ Less than one year
   _____ 1 up to 2 years
   _____ 2 up to 3 years
   _____ 3 up to 5 years
   _____ 5 years or more

8. What is your present employment status?
   _____ Employed full-time
   _____ Employed part-time
   _____ Other________

9. Of the following types of position, which one is the best description of the one you hold in your nursing facility?
   _____ Staff nurse
   _____ Head or assistant head nurse
   _____ Clinical nursing specialist
   _____ Nurse practitioner
   _____ Supervisor or assistant
   _____ Administrator or assistant
   _____ Other________

10. What is the type of ownership of your nursing facility?
    _____ For Profit Organization
    _____ Nonprofit Corporation
    _____ Government-Owned
    _____ Other________

11. Is this nursing facility affiliated with a hospital?
    _____ Yes
    _____ No

12. Is this nursing facility part of a chain?
    _____ Yes
    _____ No

13. How many beds are in your nursing facility?
    _____ 1. 50 Or less
    _____ 2. 51 - 99
    _____ 3. 100 - 149
    _____ 4. 150 - 199
    _____ 5. 200 Or more

14. What type of nursing care best describes your facility?
    _____ Independent living/retirement
    _____ Residential care
    _____ Intermediate/skilled care
    _____ Alzheimer's care
    _____ Care for the developmentally disabled
    _____ Health clinic
    _____ Other________
APPENDIX B

QUESTIONNAIRE SENT AT TIME 2

ID Number __________

**General Instructions**

Please answer the following questions and feel free to write in any explanations or comments. Remember your answers are completely confidential, so please be as candid as possible.

1. Are you still employed in the same nursing facility as you were six months ago in September?  (Check one)

   _____ YES
   _____ NO

2. Which response best describes your situation in relation to the nursing facility in which you were employed six months ago?  (Check one)

   _____ STILL EMPLOYED IN THE SAME FACILITY
   _____ VOLUNTARILY RESIGNED
   _____ LAID OFF OR DISCHARGED
   _____ RETIRED
   _____ OTHER ______________

3. If you are no longer employed in the same nursing facility as you were six months ago, what month did you resign?

4. If you are no longer employed in the same nursing facility as you were six months ago, please give your reasons below.
APPENDIX C

COVER LETTER SENT AT TIME 1

718 Donegal Drive
Papillion, NE 68046
September 15, 1992

Dear Colleague in Long-Term Care,

As a long-term care nurse in Nebraska, pursuing an advanced degree in nursing, I am conducting a study of factors that influence nurses' decisions to stay or resign employment in nursing facilities. Your name has been selected for this study because you indicated to the Nebraska State Board of Nursing that you are employed in long-term care.

I need your help. Please complete the enclosed questionnaire booklet which will take about 20 minutes. As a nurse employed in long-term care, you can provide valuable information. With today's nursing shortage, it is critical that we work towards retaining nurses in long-term care.

Your responses will be kept confidential and your name will never be linked to your responses. An identification code is on the booklet to protect your identity. Only I will have access to the list which matches your name with the identification code. Findings from this study will be reported to nurses through publications and conferences, but only group responses will be reported.

Please return this booklet in the enclosed envelope within one week. Your opinions are very important; however, your participation is voluntary. There are no risks to you for participating, although the questions may make you think about your work differently.

Thank you for your help. In six months, a short follow-up questionnaire will be sent to you to complete the study. If you have any questions about the study, please call me collect at (402) 593-0271 or you can call Dr. Patricia Brennan, my research advisor at the university, at (800) 825-2540, extension 3067.

Sincerely,

Carol J. Sharkey, R.N.
APPENDIX D

FOLLOW-UP POSTCARD SENT AT ONE WEEK

Dear Colleague in Long-Term Care,

Last week a questionnaire was mailed to you seeking your participation in an important study concerning nurses in long-term care. If you have already completed and returned it, thank you very much. If not, please do so today. Because it has been sent to only a small, representative sample of Nebraska long-term care nurses, it is extremely important that you be included in the study. If you need a replacement questionnaire or did not receive one, please call me collect at (402) 593-0271.

Thank you for your participation,

Carol J. Sharkey, RN
718 Donegal Drive
Papillion, NE 68046
Dear Colleague in Long-Term Care,

Four months ago, you completed a questionnaire for the STUDY OF NURSES EMPLOYED IN LONG-TERM CARE. Because only a representative sample of Nebraska long-term care nurses were chosen for the study, your participation is greatly appreciated. To complete the study, I will be sending you a short follow-up questionnaire in March. I will be completing my study from Alabama because my husband received a job transfer in November. If your address is incorrect or has changed, please call me collect at (205) 262-7818. Until then, thanks very much!

Sincerely,

Carol J. Sharkey, RN
March 15, 1993

Dear Colleague,

Six months ago, you were sent a questionnaire for the STUDY OF NURSES EMPLOYED IN LONG-TERM CARE. Over 300 RNs responded!

To complete the study, I need to know whether you are still employed at the same nursing facility as you were in September. Although short, this follow-up questionnaire is very important.

Your responses are completely confidential, and no individual or nursing facility will be identified when reporting the results. The questionnaire has an identification number so that I can check your name off the mailing list when it is returned and record your responses appropriately.

Please answer the four questions, refold, and send the questionnaire back to me by return mail.

Thank you very much for your participation in this study.

Sincerely,

Carol J. Sharkey, RN