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An analysis of the values influencing neonatal nurses' perceptions and behaviors in selected ethical dilemmas

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AN ANALYSIS OF THE VALUES INFLUENCING NEONATAL NURSES' PERCEPTIONS AND BEHAVIORS IN SELECTED ETHICAL DILEMMAS

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of Philosophy at Virginia Commonwealth University.

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Table of Contents

List of Tables

List of Figures

ABSTRACT

AN ANALYSIS OF THE VALUES INFLUENCING THE PERCEPTIONS AND BEHAVIORS OF NEONATAL NURSES IN SELECTED ETHICAL DILEMMAS

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The purpose of this research was to identify the values influencing the nurse's perception and choice of behavior in a hypothetical clinical situation. The theoretical framework was Rokeach's (1973) Theory on the Nature of Human Values and Value Systems. A descriptive study using a mailed survey was conducted on a random sample of 331 members of the National Association of Neonatal Nurses. Data on individual nurses' values, perception of information and behavioral choices were collected with an investigator developed questionnaire, consisting of a values scale (alpha = .82) and an information scale and choice alternatives related to three hypothetical vignettes: a low birthweight infant (alpha = .75), an infant with trisomy-13 (alpha = .70) and a chronically ill infant (alpha = .68).

Results of this study indicate that (1) nurses identified a hierarchy of values related to their practice; "doing right" (x = 6.1), beneficence (x = 5.4),

and justice ($x = 4.8$), (2) information related to the infant was consistently most important; however, in uncertain situations, rules or external protocols had an increased influence on the behavioral choice process, (3) the behavioral choice option with the greatest agreement was different for each situation, and a consistently negative association between the options within each vignette indicates that nurses have clearly defined choice preferences, (4) model testing revealed a consistent relationship among the variable of justice and protocol, doing right and infant characteristics, and infant characteristics and the choice options across the three vignettes ($p < .05$).

The major findings include the identification of the value dimension, "doing right" and a lack of congruence between the values the nurse identifies as important and the actions the individual implements in practice. The phenomenon of "doing right is a combination of items originally hypothesized to measure nurse autonomy, family autonomy and beneficence. The convergence of these items results in an unique dimension that represents the nurse's internally directed motivation or sense of duty to the infant/family unit. The lack of congruence between the identified values and the behaviors implemented in practice represents the sense of frustration and feeling of powerlessness experienced by nurses ($n = 97$) as they balance the role of professional and the role of employee.

Chapter One

PURPOSE, BACKGROUND, AND SIGNIFICANCE

In the last twenty years, health care has experienced a proliferation of advances in scientific knowledge and technology. These advances have had a profound impact on the care of neonates. The acceptance of neonatology as a specialty and the expectation that high technology neonatal intensive care units (NICU) can save and cure even the tiniest and sickest infants has resulted in health care professionals, and nurses in particular, developing an interest in ethics.

Neonatal Intensive Care Units are defined by the American Academy of Pediatrics (1980) as nurseries that provide for constant and continuous care of the critically ill newborn. Modern neonatal intensive care has a relatively short history. Early descriptions of the intensive care concept often included discussion of neonatal care in conjunction with adult intensive care. However, during the 1960s the scope of neonatal care expanded and the area of concern evolved from acceptance of the death of premature infants to efforts concentrated on rescuing these infants with technology (American Academy of Pediatrics and American College of Obstetricians and Gynecologists, 1988). This change in perspective has played a major and

definitive role in the improved survival of low-birthweight and premature infants. Between 150,000 and 200,000 infants, representing 4-6% of all births in the United States, are treated annually in NICUs (Herdman, Behney, Wagner, & Ehrenhaft, 1987). Of the infants admitted for neonatal intensive care, half are normal birthweight infants with congenital anomalies, pneumonia, birth related trauma and other problems and the remainder are low-birthweight infants (Phelph, Brown, Tung, Cassady, McLead, Purohit, & Palmer, 1991). In 1986, the National Perinatal Information Center estimated that there were 534 neonatal intensive care units in the United States and that about 420 of these units offered very sophisticated neonatal intensive care services (Herdman et al. 1987).

Neonatal intensive care is responsible for decreasing the neonatal mortality rate for infants with birthweights less than 1500 grams. In 1960, 90% of all infants weighing less than 1000 grams died, but with the development of neonatal intensive care the neonatal mortality rate for this group is now approximately 50% (Herdman et al., 1987). However, as the mortality rates for the tiniest infants decrease, the rate of serious long-term disabilities increases. An Office of Technology Assessment study concluded,

> ...neonatal intensive care has contributed to improved long-term developmental outcomes for premature infants. The decline in mortality among all subgroups of low-birthweight infants over the last 10 years, however means there are now larger absolute numbers of both seriously handicapped and normal survivors. For every 100 low-birthweight infants treated in today's NICU 27 will die, 16 will be seriously or moderately disabled and 57

> will be normal children, though some will develop mild learning disabilities... (Budetti, McManus, & Barrand, 1981, p. 8).

A study of children's hospitals (National Association of Children's Hospitals and Related Institutions, 1986) found that neonatal intensive care was the most costly category of service provided and that hospitals suffer their greatest financial losses from neonatal cases. In the hospitals studied, neonates represented only 8% of admissions, but accounted for 21% of patient days and 25% of hospital costs. Also, approximately 50% of NICU admissions were classified as outliers under the current Medicare system; therefore hospitals are not adequately reimbursed for providing intensive care for neonates.

Thus neonatal intensive care results in both increased survival and increased costs. In addition, neonatal intensive care becomes more expensive as it is employed in increasingly marginal cases. "The worth of a life saved however is ultimately a value judgment involving ethical and social considerations. The results from cost effectiveness studies alone can't guide decisions regarding who should receive care" (Herdman et al., 1987, p. 7). Even with the sophisticated technology that is associated with neonatal intensive care, it is impossible for health care providers to accurately predict an infant's eventual outcome during the first weeks of life (Bozynski, Nelson, & Matalon, 1987).

Nurses occupy a unique role in the care of neonates. Nurses have

continuous contact with the infant and responsibility for the implementation of professional standards of nursing care. Therefore nurses are critical participants in decisions about the use of the available technologies in the care and management of infants (Frohock, 1986). The behaviors chosen by the nurse result in the care and support essential to the infant's survival and well-being. Consequently, the nurse makes numerous value judgments. Understanding the foundation of the values which influence the nurse's perception of a situation and the nurse's behavior in that situation could be of great benefit to nurses, patients and society as a whole.

As a discipline, nursing encompasses the complex interaction of technical skill and moral conviction with the welfare of other humans. According to Curtin (1978), nursing as a profession is vitally concerned with ethics because, "nursing is essentially a moral art, that is, its primary moral conviction shapes its fundamental nature" (p.4). As nursing has incorporated the study of ethics into its educational curricula, administrative policies, and clinical practice standards, ethical dilemmas have become the focus of the theoretical and empirical literature. But ethical dilemmas are not the sole domain of nursing; they belong to all members of society. The area of concern to nursing should be the specifics of the daily moral choices of nurses, for example: why does it distress some nurses to provide aggressive care including intubation and mechanical ventilation, pharmacologic support and invasive monitoring for an infant with a confirmed diagnosis of trisomy

13 and the poor prognosis inherent with this syndrome, while other nurses are comfortable implementing all the technology and interventions available knowing the limited benefit to this infant? These types of situations, with unclear risk to benefit ratios, are difficult to define and are often overlooked by nursing.

The focus of the nursing literature in the area of moral choice has been in the domain of descriptive ethics. The purpose of descriptive ethics is to provide factual information and accurate scientific rationale in a situation (Ketefian, 1988). The literature on descriptive ethics consists mainly of case reports and discussion of issues focusing on the action choice and the consequential criterion of right actions. In other words, the existing literature on descriptive ethics focuses on what individuals do in a given situation and the consequences of the chosen action or the impact of the chosen action on the individual and/or others. Therefore, empirical work in the area of descriptive ethics provides a scientific analysis of the reaction to a situation or an event.

The existing literature in the area of moral choice has focused on consequences and has resulted in limited information about the process of valuing and the values underlying the behavioral choices of nurses. The importance of this process is evident in the ANA Code For Nurses (1976) which states: "neither physician's orders nor the employing agency's policies relieve the nurse of ethical or legal accountability for actions taken and

judgments made" (p.4). For the discipline of nursing, the critical questions are "on what basis do individual nurses identify ethical dilemmas?" and "what are the underlying values used by nurses who face ethical dilemmas in their daily practice?" (Fry, 1987). Therefore, knowledge about values and research on values are important to nursing and will impact ethical decision making in nursing in two ways: 1) knowledge about values helps individuals and groups understand the pervasiveness and complexity of the value concept in decision making, and 2) values are enduring beliefs, and thus one cannot expect individuals to give them up easily when faced with opposing beliefs in decision making situations (Silva, 1990).

PURPOSE

The purpose of this research was to identify the values which influence the individual nurse's perception of a hypothetical situation and choice of behavior in a hypothetical patient care situation. Based on Rokeach's (1973) theoretical framework on the Nature of Human Values and Valuing, a value is "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). According to the American Association of Colleges of Nursing report (1986) which focuses on the essential components of education for professional nursing, "values guide behavior: they are enduring ideals or beliefs to which a person

is committed" (p. 5).

The goal of this study was to discover the types of values that influence the nurses' perception of a situation and guide the behavioral choices of individual nurses in patient care situations. The specific objectives of this research were to:

1. Identify and classify the values that guide the choices of neonatal nurses in their nursing practice.

2. Identify the information believed to be important by individual nurses in their thinking and behavior in a specific patient care situation.

3. Identify the behavioral choices selected by nurses in specific patient care situations.

4. Test a causal model by investigating the relationship among the concepts of values, information and choice in specific patient care situations.

BACKGROUND

THE NEONATAL INTENSIVE CARE UNIT

Nurses practicing in neonatal settings are continually faced with a variety of ethical issues. These dilemmas are primarily the result of rapidly advancing technology which has outdistanced the ability to assess the risks and benefits of this technology on patients, families and society as a whole.

Today, high technology obstetrical and neonatal care is responsible for the birth and survival of infants who just ten years ago were considered non-

viable. Advances in the field of obstetrics are making successful childbearing a reality for women with chronic diseases, complications of pregnancy and anomalies of the reproductive organs. Yet for many of their infants the intrauterine environment is not the setting for the completion of the normal gestational period. To assist these infants, medical science has attempted to create a pseudo-uterine environment in the nursery. In the neonatal intensive care unit of today, health care professionals collaborate to save infants at younger and younger gestational ages and at lower and lower birthweights. These advances in technology have also resulted in improved capacities in the diagnosis and treatment of disease and disability. These technologies include but are not limited to prenatal diagnosis, intrauterine surgery, mechanical ventilation, Extra-Corporeal-Membrane-Oxygenation (ECMO) and the use of pharmacologic agents such as artificial surfactant to assist the infant in making the transition to extrauterine existence when a pathologic condition or prematurity make the circumstances of survival less than optimal.

TECHNOLOGY'S IMPACT: AN ETHICAL PERSPECTIVE

Technologic advances are occurring at a rapid rate and are affecting clinical practice before health care professionals are able to develop guidelines or to foresee the social and ethical impact of these interventions. Consequently nurses are confronted with difficult decisions related to the

care and management of the infant which lead to frustration and uneasiness. The traditional role of the nurse as outlined in the ANA Code for Nurses is based on philosophical beliefs about the nature of the individual, nursing, health and society. A professional code of ethics is an effort to formulate and systematize, in a series of statements or rules, the right way of acting for members of a profession. The most recent version of the ANA Code reflects the desired responsibility and accountability of a group establishing itself as an autonomous discipline. According to the code, nurses have a prima facie duty to enact the following ethical principles in their practice:

> *Autonomy:* Being one's own person without constraint by another's action or psychological or physical limitations.
>
> *Confidentiality:* The holding of information entrusted in the context of special relationships.
>
> *Veracity:* The duty to tell the truth.
>
> *Beneficence:* The duty to do good, and to help others further their important interests.
>
> *Justice:* The equitable distribution of risk and benefits, based on what an individual deserves and can legitimately claim. (ANA, 1976).

Identification of the ethical principles implied in the code appears clear cut. However, the application of these principles to daily nursing practice is more complex. The challenge of this situation is intensified in the neonatal unit since the infant cannot decide or participate in decisions about his/her treatment. In the care of neonates, decisions are delegated to a third party.

Thus, the question becomes not only who should be making these decisions but what values are important in guiding these decisions. Decisions reflect the personal/professional values of the individuals involved in the process. Nurses, because of their continuous involvement with the infant and the family, become vital participants in these situations and therefore their values may profoundly influence their behavior in the application of ethical principles in the practice setting. An examination of the ethical principles identified in the ANA Code as applied in the neonatal nursing practice will illustrate the unique challenges faced by the nurse.

The principle of autonomy is based on the free acceptance by the patient of the treatment option. A major difficulty with infants is that there is no way of knowing what the infant would wish to be done. The infant not only lacks the ability to communicate but lacks the life experience and past history that would give the infant a personal set of values and beliefs upon which such a life choice is made. Therefore the infant's autonomy or the choice about the infant's wishes is delegated to a surrogate decision maker. Traditionally a sphere of privacy has been accorded to the family, recognizing that parents must have authority to play a significant role in governing their children's lives and in deciding their welfare (Hemphill & Freeman, 1976). However, concern about the emotional state of new parents faced with an acutely ill infant and the knowledge base of the parent related to the advancements in neonatal medicine resulted in the "Baby Doe"

cases of the 1980s that reopened the questions of "who should be the surrogate decision maker and what are the best interests of the infant?"

The principles of confidentiality and veracity are closely related to surrogate decision making in that they encompass the issue of who has access to information. The principle of confidentiality is at the foundation of the over-turned Baby-Doe regulations in that the government's attempt to obtain hospital records was seen by the courts as a breach of patient confidentiality. But a more frequently debated question is related to sharing information about the infant. The principle of confidentiality is also at issue if the parents are unmarried at the time of the birth. While the laws vary from state to state the ethical question becomes "does the legal institute of marriage or the biological process of fatherhood take precedence in determining one's role and access to information?"

The determination of the best interests of the child is based on quality of life arguments and is related to the principle of non-maleficence. Increasingly health care professionals believe that the value of life for an individual is related to the individual's own perception of the quality of that life. However, the infant has never had and never will have any different quality of life and the question really becomes "is life at some level of quality better than no life?" Therefore a true comparison is impossible. Also the loss of an ability and the associated loss of quality is different from never having an ability. For example, an individual who becomes blind at age 30

will grieve this loss and the loss of the associated pleasures and benefits that were previously experienced such as watching sporting events, and seeing the sunrise. However the child born without eyes never experienced these events and therefore does not grieve the loss. This child learns to experience sporting events through the sounds and smells, and to appreciate the sunrise through the warmth felt on the skin. And who is to say that seeing the sunrise is better than feeling the sunrise? The answer is based on the norms against which one measures the quality of an event.

Finally, in the realities of today's health care environment of cost containment, staff shortages and limited resources, a discussion of ethical dilemmas requires an examination of the principle of justice: how are neonatal intensive care beds and advanced technology allocated? Which infant receives priority for transport, the vigorous 500 gram infant or the severely depressed 1200 gram infant born to a drug addicted mother? The question of which treatments are ordinary components of neonatal care and which are extra-ordinary are integral components of the discussion of the principle of justice. Health care professionals and society as a whole are increasingly being forced to examine and answer these questions.

EVALUATION OF HIGH TECH-NEONATAL CARE

In health care, the implications of each treatment option are considered based on its potential long-term outcome. In neonatal care the

outcome is not immediately evident; an infant is not a finished product. From a physiologic point of view the infant continues to grow and develop through childhood and adolescence. It is well documented that a number of systems including the neurologic, musculoskeletal and respiratory system continue to develop and mature for varying periods of time following the completion of intrauterine development (Klaus & Fanaroff, 1981). The survivors of today's neonatal unit are charting an unknown path into the future. What effect will today's treatments have on the on-going process of physiologic, psychologic and emotional development and well-being? The long-term implications of the interventions that made it possible for the individual to survive are unknown. And because of the rapid proliferation of technology and the rapidly changing standards in the realm of perinatal care, there may never be well defined outcomes by which to measure risk/benefit ratio of neonatal care.

SIGNIFICANCE

The impact of new knowledge, advanced technology, social concerns and economic forces has forced nursing to re-evaluate its historical roots and its role in the provision of health care. Historically nursing ethics were more concerned with etiquette than with morality (Parsons, 1916). However the technologic breakthroughs in the last 20 years have had a dramatic impact on the moral evaluation of the health care delivery system as well as on the

discipline of nursing. This moral evaluation of health care is forcing nurses to be accountable to the consumer, and society as a whole, for their choices and behaviors. As a result, nurses are being forced to re-examine their personal and professional values. Nurses are the health care providers with the closest and most prolonged contact with the sick neonate. In these roles as caregiver, counselor, educator, and protector, the nurse has a pivotal role in creating a forum in which consistent, sensitive and knowledgeable decision-making can occur as ethical questions emerge. Traditionally, the concepts of caring, coordination and advocacy were central to the nursing profession. However with the evolution of high technology units, such as the Neonatal Intensive Care Unit, the previously established demarcation between life and death is obscured. These advances in knowledge and technology are forcing the discipline of nursing and individual nurses to re-examine the central components or the values that guide behavior.

Ethical dilemmas arise in patient care situations when competing moral considerations underlie the various approaches to caring for a patient. The individuals involved in these situations may reach different but morally defensible decisions by assigning different weights to the competing values. Uncertainty regarding the risks or benefits of particular approaches to care may compound the difficulty in the analysis of these situations. In the NICU, time is critical and "gut-level-decisions" are made with inadequate information about the immediate and the long-term consequences of the

intervention and limited knowledge about the potential outcomes (Hemphill & Freeman, 1976). Because of their contact with the neonate on a 24 hour basis, nurses are sometime forced to determine the most beneficial or the least harmful action within a framework of personal, professional and institutional values.

In the NICU it is important not to attempt to solve ethical problems by the methods of science. Ethical problems are not solvable by the accumulation of data; they must by their very nature involve value judgments (Neal, 1990). Studies of human interaction have demonstrated that values serve as a basis for moral decision-making (Allport, Vernon & Lindzey, 1960). Values direct and limit one's behavior and actions. An examination of values in nursing will not automatically result in ethical nursing practice, but can result in better nursing care along with greater personal satisfaction with one's chosen profession (Thompson & Thompson, 1990). According to Fry (1986), the question for the discipline of nursing is how nurses balance personal, professional and institutional values in order to make decisions about nursing care. Jameton (1984) has stated that nursing needs to be conscious of the conditions that create ethical dilemmas and that empirical work should provide an identification and description of the choices made in some area of health care and of the underlying values that shape such choices and guide future choices. The relationship of values to nursing practice is identified in the NAACOG Standards For Nursing Care

of Women and Newborns (1991):

> Nurses must carefully examine their own value system since values influence the decision-making process. For nurses, most ethical dilemmas occur when there is a real or perceived requirement to act in a manner contrary to personal values or when care ordered or provided does not seem compatible with the best interests of the patient. (p. 11).

Consequently, to be active participants in the ethical decision making process, nurses must identify and prioritize their own personal and professional values in the practice setting.

Chapter Two

THEORETICAL FRAMEWORK AND RELATED LITERATURE

The theoretical framework for this research was the Nature of Human Values and Value Systems (Rokeach, 1973). Rokeach's theory is grounded in the perspective that a person has values and a value system. The purposes of this chapter are to describe Rokeach's theory of values and value systems, to analyze the existing empirical literature on the study of values and value systems and to provide an organizing structure for observing and interpreting the phenomenon of interest in this research.

THEORETICAL FRAMEWORK: THE NATURE OF HUMAN VALUES AND VALUE SYSTEMS

VALUES

In everyday conversation, the concept of value has been employed in two distinctly different ways: the values that objects are said to have and the values that people are said to have. The literature concerning values reflects both approaches. Perry (1954), Lewis (1962), Campbell (1963) and Jones and Gerard (1967) envision all objects as having a one dimensional property of value, positive or negative. From this perspective, the value concept has no additional properties beyond the object itself, for example the

dollar value of a ventilator. B. F. Skinner's notion of behavior is based on the object perspective of values. Skinner (1971) denied that individuals possess values but asserted that "the reinforcing effects of things are the province of behavioral science, which to the extent that it is concerned with operant reinforcement, is a science of values" (p. 104).

The person perspective of values is reflected in the work of Kluckhohn (1951), Maslow(1959) Allport, Vernon and Lindzey (1960), and Williams (1968). According to Williams (1968), "a person's values serve as the criteria or standards in terms of which evaluations are made. Value as criterion is usually the more important usage for social scientific analysis" (p. 283). This perspective of values is predicated on the assumption that the number of values as criteria that a person possesses is relatively small and is considerably smaller than the many thousands of objects that have reinforcing effects. The person perspective of values allows for the multidimensional nature of values and the interaction of values on a continuum of preferable actions. For example, the ventilator has value, beyond its previously mentioned economic value, because it decreases the suffering of individuals with respiratory distress, it prolongs life and assists health care professionals in executing their chosen profession. Rokeach (1968) endorsed the person perspective of values and identified it as a more central, more dynamic and more economical approach to the study of the concept.

Based on the differentiation of the object and person perspective of values, the theoretical framework for this research was the Nature of Human Values and Value Systems (Rokeach, 1973) which is grounded in the perspective that a person has values and a value system. Rokeach (1973) defines a value as "an enduring belief that a specific mode of conduct or an end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence" (p. 5). Thus a value is a prescriptive or a proscriptive belief, specifying that something is preferable to something else. In other words, a value is a belief upon which a person acts by preference (Rokeach, 1973), or a representation of an earlier behavior which serves as a guide in the execution of a new behavior (McKinney, 1975).

The prescriptive and proscriptive attributes of a value differentiate it from an attitude, which is primarily descriptive. Taylor (1977) suggests that the popularity of attitude research may account for the tendency to neglect research on values. A differentiation of the concept of a value and an attitude is essential to recognizing the need for values research as an area of inquiry unique from the available descriptive research on attitudes.

An individual's values are more central, dynamic and limited in number than are an individual's attitudes. Values are global constructs defined by the correlation among a set of attitudes (McKinney, 1975). For example, the value of honesty can be defined by one's attitude towards lying, cheating

and being deceitful and the extent to which these attitudes are intercorrelated. Therefore, values are enduring beliefs about ways of acting. Values are internalized and consciously or unconsciously, become a standard or criterion for guiding actions, for justifying actions of self and others, for morally judging self and others and for comparing self and others (Rokeach, 1968).

An attitude, on the other hand, is an organization of several beliefs focused on a specific object or situation, which predisposes the individual to respond in some preferential manner. These beliefs about objects or situations may involve matters of fact or matters of evaluation and may be influenced by the persuasive effects of group pressure, prestige, order of communication and forced compliance. Therefore an attitude is a package of beliefs consisting of interconnected assertions to the effect that certain things about a specific object or situation are true or false and other things about it are desirable or undesirable (Rokeach, 1968).

Therefore values and attitudes differ in several important aspects: (1) a value is a single belief that transcendentally guides actions and judgments across specific situations or objects and beyond immediate goals to more ultimate states of existence, whereas an attitude represents several beliefs focused on a specific object or situation and will vary as the object or situation change; (2) a value is an imperative to action or a preference for the preferable, whereas an attitude is simply a belief about the preferable

(Lovejoy, 1950); and (3) a value is a standard to guide actions, comparisons, evaluations and justifications of self and others whereas an attitude is a spontaneous response to an object or a situation (Rokeach 1968). Therefore, values differ from and determine attitudes. Thus the study of values includes the more persistent effects of socialization, education and culture. These enduring attributes of the value concept facilitate the broadening of the utility of values research to include matters of education and re-education as opposed to simple persuasion. To be useful, the concept of human values must account for these enduring qualities, as well as the changing character of one's values. The enduring qualities of values are related to the continuity of the individual's personality and society as a whole while the changing characteristics result in individual and social change (Rokeach, 1968).

The stability of values, or the enduring qualities, arise because values are initially taught and learned in an absolute manner in isolation from one another. That is, a particular mode of conduct or an end state of existence is learned as being desirable or preferable in all situations. For example, a child is taught to be honest in all situations, not just a little bit honest or honest in just certain situations, but to be completely honest in all situations - no exceptions. Therefore individuals assimilate that a value is always desirable or always undesirable. On the other hand, values are also relative or possess a changing character. As individuals mature and become more

complex, they are likely to encounter situations in which several values rather than one absolute value are competing. In these situations the individual must weigh one value against another value and decide which value is of more importance: for example, in a particular situation is it better to act honestly or to be concerned about another's feelings. Through the process of maturation and experience, individuals learn to integrate the isolated, absolute values they have been taught into an organized system or a values hierarchy in which each value is ordered in priority or importance relative to other values.

The ANA Code (ANA, 1977) for nurses can be used to illustrate these attributes of values. The principles implied in the code are presented as absolutes to be applied by all nurses to all situations. The statements of the code provide guidelines for conduct and relationships in carrying out nursing responsibilities consistent with the obligations of the profession and quality nursing care. However the practicing nurse frequently finds that the application of these principles as absolutes is impossible. For example, an infant is born at term to a couple who identify themselves as Jehovah's Witnesses. The infant is severely jaundiced. Standard treatment for this condition is an exchange transfusion and the prognosis is excellent. The parents refuse the transfusion based on their religious beliefs. The nurse knows the infant will suffer severe brain damage and will ultimately die without the exchange transfusion. Consequently the principles in conflict

are autonomy of the patient unit (infant/parent) and the nurse's duty of beneficence. Therefore the nurse must determine which of the principles takes priority and how the relative ranking of these principles applies to the clinical practice situation.

PROCESS OF VALUING

The process of valuing is composed of three elements encompassing the cognitive, affective and behavioral domains (Rokeach, 1973; Rath, Harmin, & Simon 1966). In the cognitive domain, values are chosen. Choosing a value involves logical, critical thinking and the development of moral judgment. In the process of choosing, the individual freely selects values from the alternatives available after considering the consequences of each alternative. These consequences include the previously identified variables which impact an individual's values. Therefore a person's values cognitively define the correct way to act or the aspired end-state. As indicators of behavior, the choosing of values frames the problem, that is, the way an individual perceives and interprets the situation.

Prizing is the affective component of the valuing process. This feeling component includes an awareness of the individual's position, the expression of one's value and the experiencing of self-esteem. This component results in the alternative behaviors that one considers as possible resolutions for a problem. The alternative selected must have meaning for the individual.

This affective component includes communication and sending of a clear message about one's values.

The third component of the valuing process is acting. This is the choice of behavior which the individual nurse advocates in a particular situation. In this behavioral component the individual is willing to publicly affirm the choice, to make that choice a part of his/her demeanor, and to consistently repeat the choice. A value is an intervening variable that leads to action when activated. In the behavioral component, the action of the individual results in resolution of the conflict for that individual.

Values are standards that guide on-going activities and general plans employed to resolve conflicts and to make decisions. According to Rokeach (1973), values have a motivational component which functions as the foundational principle for conflict resolution and decision making. In other words, values give expression to human needs. Therefore, values are multifaceted standards that guide conduct in a variety of ways which include:

> Leading one to take a particular position on social situations.
>
> Guiding presentation of self to others.
>
> Evaluating, judging, heaping praise and fixing blame on ourselves and others
>
> Ascertaining whether we are as moral and as competent as others.
>
> Persuading and influencing others to tell us which

> beliefs, attitudes, values and actions of others are worth challenging, protesting, and arguing about or worth trying to influence or to change.
>
> To rationalize beliefs, attitudes and actions that would otherwise be personally and socially unacceptable so that we will end up with personal feelings of morality and competence both indispensable ingredients for the maintenance and enhancement of self-esteem. (Rokeach, 1973, p. 13)

TYPES OF VALUES

Throughout this discussion, values have been related to end states of existence or modes of conduct. Rokeach (1973) has referred to this distinction between ends and means values as terminal and instrumental values. McKinney (1975) has referred to terminal values as lifestyles and instrumental values as behavioral ideals, terms which are more descriptive of the types of values included in each classification.

Terminal values are outcome focused and include states of being or lifestyles such as a comfortable life, a world at peace, national security and social recognition (Rokeach, 1973). Terminal values may be self centered, that is personal, such as a comfortable life and social recognition or they may be society centered like a world at peace and national security. These values are mutually exclusive, that is, one cannot logically demand a world at peace and national security or a secure life and an exciting life as equally desirable, although one can desire a mixture of the two (Taylor, 1977).

Instrumental values or behavioral ideals are process oriented and

include modes of conduct such as being courageous, honest, responsible and loving (Rokeach, 1973). Unlike terminal values, instrumental values are not mutually exclusive: an individual can desire to be completely honest, extremely courageous, highly responsible and consistently loving. Unlike terminal values, therefore, an individual's instrumental values can be internally inconsistent (Taylor, 1977).

Instrumental values can be divided into two classifications, moral values and self-actualization or competence values. Moral values are concerned with the rightness of an act, thought or behavior and have an interpersonal focus which when violated, arouse pangs of conscience and feelings of guilt for a wrong-doing, whereas instrumental values that have a person focus and are not concerned with rightness or wrongness are called competence values. Violation of competence values leads to feelings of shame about personal inadequacies rather than to feelings of guilt about wrong-doing (Rokeach, 1973). To clarify further the distinction between moral and competence values it is necessary to comprehend the difference between guilt and shame. Both guilt and shame serve the purpose of controlling behavior that is socially undesirable, both are learned and both are influenced by the roles and relationships held by the individual. The difference is in the source of the control: one is externally controlled and the other is internally controlled. Guilt is the result of a violation of one's own set of standards or one's conscience. It operates without the presence of

others and is based on internalized values and represents one's own control over behavior. Guilt is a more prevalent social control of behavior in western societies. Individuals may feel guilty about thoughts, fantasies, wishes, or angers. The externally driven control of social behavior is shame. Shame is the feeling of remorse that occurs when one believes oneself to have brought discredit to oneself or to others in their reference group. Shame cannot occur unless others are aware of the shameful act. Therefore, while an individual may feel guilt for having sexual fantasies, he/she will not experience shame unless those fantasies become visible to someone else. In eastern societies, shame is the primary control of social behavior (Kalish & Collier, 1981).

VALUE SYSTEMS

Values that guide behavior are the result of judgments made based on a number of interacting values and the influence of variables that impact ones' perception of the situation. Williams (1968) states, "particular acts or sequences of acts are steered by multiple and changing clusters of values. After a value is learned it becomes integrated somehow into an organized system wherein each value is ordered in priority with respect to other values" (p.278). Rokeach (1973) has identified this phenomena as a value system which he defines as "an enduring organization of beliefs concerning preferable modes of conduct or end states of existence along a continuum

of relative importance" (p. 5). Therefore, value systems are learned sets of principles and organized roles to help a person choose between alternatives and to make decisions. McKinney (1975) has suggested that "value for an individual is neither entirely objective nor entirely subjective, but like perception, lies on the interface between external reality and internal commitment" (p. 806).

INFORMATION AND CHOICE

Rokeach (1973) identifies the purpose of a value as a standard that guides and determines action. One's value system can be likened to a road map or a blueprint, that is, it is an organization of principles and rules to help one choose among alternatives, to resolve conflicts and to make decisions. Therefore, an immediate function of values is to guide human actions in daily situations. Fowler (1977) states that,

> A set of values serves to orient a person in a complex world. The value set is considerably less complicated than the world, however, and this is its greatest virtue: a few standards apply in a multiplicity of situations. They apply in the interpretation of incoming stimuli, which are evaluated with respect to a "good-bad" continuum. They apply in the channelling of drives and needs into appropriate behavior. Without values, a person's judgment and actions would be whimsical, disorderly. (p. 305).

Thus consistent with Rokeach's concept, the essential nature of a value is that values provide a basis for interpreting the world and formulating

appropriate responses in the form of behaviors.

As motivational preferences integral to the reasoning process values influence an individual's perception of the information available in a situation. Information is an individual's assessment of meaning related to a specific object, event, or behavior on a continuum. Perception of the importance of information is the human experience through which values become tangible (Omery, 1989). Therefore information or the perception of objects, events or behaviors serves as the vehicle for translating the cognitive function of choosing abstract values into the affective process of priortizing specific facts. Thus information is an aspect of the environment with which the individual interacts based on values. Finally perceptions of information serve as a mechanism to justify or rationalize the subsequent choice and behavior enacted by the individual.

Information as perceived by the individual is the source of internal guidance and self-assessment in determining choice and ultimately behavior (Rokeach, 1973). Choice is the behavioral component of the valuing process and is based on the comparison process. Choice is defined in terms of a values-fact framework in which facts are perceived by the individual in the context of pre-existing knowledge and experience in similar situations (Sethi, 1986). Values are schematic representations of earlier behaviors that determine perception of information which serves as a guide in the determination of new choices. Therefore, choice is the intent of the

indivivdual in making judgment about a course of behavior. Choices consistent with an individual's values and perceptions of a situation are publicly affirmed in the form of action or overt behaviors.

The relationship between values, information and choice is concisely described by Rokeach and Kleijunas (1972). They state that behavior towards a particular object in a particular situation is a function of the cognitive interaction between the attitude activated by the object and the attitude activated by the situation within which the object is encountered. These attitudes toward the object and the situation are each functionally related to the individual's values system. As related to the values of neonatal nurses, the object is the infant/family unit and the situation includes factors related to the professional/institutional/societal obligations for action or inaction. Therefore, an individual's perception of information in a specific situation and their behavioral choice in that situation are consequences of values.

REVIEW OF LITERATURE

The review of the literature is presented in four sections: individual attributes, position-related attributes, educational attributes and values, information and choice. The first three areas of this literature review discuss attributes or characteristics associated with the individual that influence the formation of values. These attributes include entities directly related to the

individual person, such as age, religious background, religiosity, cultural/ethnic background and years of neonatal nursing experience; entities related to the occupational environment including position, employment setting, level of care delivered, and familiarity with different clinical situations and entities associated with the individual's educational experience and background. The last section of the literature review is focused on the relationship among the concepts of values, information and choice. Each area is discussed independently to clarify the linkages and relationships among the variables.

INDIVIDUAL ATTRIBUTES

The individual cannot be separated from the personal, familial and experiential factors that influence one's value system. According to Taylor (1977), "it is by studying the earliest family environment, and the lessons taught, as well as subsequent kinds of conditioning, that we shall find the clues to value systems" (p. 411). Therefore, the influence of individual attributes, such as gender, age, culture, religion, and work experience, must be considered when examining values and value systems.

The role of gender in the formation of a value system has been explored in the work of Kohlberg (1976) and Gilligan (1982). Kohlberg expanded on the work of Piaget and described stages of moral development that follow a definite pattern. The essence of Kohlberg's work is the

principle of distributive justice or that equals ought to be treated equally and unequals unequally (Beauchamp, 1982). An alternative model for the development of moral reasoning, proposed by Gilligan (1982), is based on deductive reasoning from higher principles and includes the contextual nature of a situation. The work of these individuals supports a relationship between gender and choice in the interpretation of professional roles and relationships.

The influences of age, religion and cultural background have been investigated by Henshel (1971) and Rokeach (1973). These researchers identified consistency in the values of the same group of individuals over time but differences in the values of groups of individuals of differing age, religion or cultural background at any one time. For example, Henshel (1971) investigated the values of honesty and intelligence in school children. The findings supported her hypothesis that older children scored higher on the honesty scale of a questionnaire than did younger children. When compared with the incidence of cheating, which was the empirical measure of honesty, there was a significant negative correlation in the older students whereas the correlation became progressively smaller as the students became younger and was not significant in the youngest age group.

Baird (1990) conducted a longitudinal study of the religious ideas of 83 subjects as college freshmen, college seniors and alumni 20 years later, using the Allport-Vernon-Lindzey Values Scale and the Omnibus Personality

Inventory. The purpose of this investigation was to compare the religious ideas of the same individual across the life span. In this sample, the most substantial change in score on the Allport-Vernon-Lindzey Values Scale and the Omnibus Personality Inventory was related to religious orientation and occurred during the four years of college attendance. This suggests that the challenges and openness encountered during college are major influences on the religious ideas of the sample. The religious orientation scores, on the Allport-Vernon-Lindzey Values Scale and the Omnibus Personality Inventory, demonstrate relatively minor change in the alumni group. Baird (1990) suggests this finding is related to greater integration of religious ideas with other values and comparatively fewer challenges and conflicts encountered after college. Therefore, this study supports the proposition that religious ideas influence aspects of individual values and personality as well as career-related activities.

In an experimental study of unethical behavior, Hergarty and Sims (1978) presented 120 graduate business students with a simulated task involving decision-making and the possibility of kickback payments. The focus of this study was to measure ethical decision behavior as related to selected personality and demographic covariates, reward conditions and competitiveness. The results supported the influence of individual personality and demographic characteristics on ethical behavior. In particular, cultural background, economic and political value orientation were

significant covariates of unethical behavior, whereas gender and religious value orientation were not related to ethical behavior. The presence of extrinsic reward and conditions of competitiveness was also correlated with the presence of unethical behavior. These findings led the researchers to suggest that unethical decision-making is a combination of personality, culture, and environmental rewards.

Szawarski and Tulczynski (1988) replicated a survey on the treatment of infants with congenital handicaps. In a survey comparing physicians in Australia (N = 111) and Poland (N = 74) a majority of respondents reported facing a case in their practice when a decision had to be made on whether to continue or discontinue treatment. Only 1.8% of the Australian physicians identified that all possible steps should always be taken to sustain the lives of newborns with serious handicaps. These individuals cited religious injunctions as the justification of their response. The remainder of the Australian sample regarded it as their duty to consult with colleagues and families, to consider the quality of life and to display a greater understanding and tolerance toward decisions about life-prolonging treatments. In contrast, 50% of the Polish physicians indicated they would try anything to preserve the life of the infant. These individuals cited religious beliefs and professional ethics as the grounds for their position. Polish physicians believed they could make decisions on their own without parent's consent. This may be a reflection of the Polish society's moral consciousness and the

fact that the medical community is subject to virtually no public control (Szawarski & Tulczynski, 1988). The results revealed that Australian physicians tended to consider the quality of future life and displayed greater understanding and tolerance toward decisions about life prolonging treatment, whereas physicians in Poland were more traditional, had a paternalistic attitude and were unwilling to distinguish between ordinary and extraordinary means of prolonging life which resulted in an unconditional respect for life as the dominant attitude. Therefore, the investigators concluded that while both groups demonstrated a preference for life-prolonging treatments, their perception of the situation was different. These findings were theorized to be related to cultural differences between the groups.

Culture was also a determinant of the moral reasoning of nurses. Ketefian (1981) examined the relationship between moral reasoning and moral behavior. Using the Judgments About Nursing Decisions instrument (JAND), the Defining Issues Test (DIT) and a personal information sheet, data from 79 practicing nurses were analyzed. This study provided support for the theory that moral reasoning is related to moral behavior, with the code for nurses as the standard for that behavior (Ketefian, 1981). However, analysis of variance revealed significant differences in moral reasoning among groups based on the characteristics of ethnicity, age, years in nursing practice and type of basic nursing education.

Younger, Jackson, and Allen (1979) used an investigator-developed questionnaire to examine staff attitudes about ethical issues, decision-making process, communication and emotional reactions of staff, in a newly opened medical intensive care unit. General biographical information including age, gender, educational background, work experience and religion was also collected. The sample consisted of 36 house officers and 32 registered nurses. In all areas of the questionnaire, where there were significant differences between the groups of physicians and nurses, the data were reanalyzed to ascertain if the variations were related to differences in gender or religion. Based on the results, the investigators concluded that differing professional roles and the traditional hierarchy of authority were greater contributors to conflicts between physicians and nurses in the medical intensive care unit than were gender of the individuals or their religious backgrounds.

Using the Rokeach Value's Survey, Furnham (1988) compared the values of medical, nursing and psychology students to measure terminal values or end states of existence, such as freedom, wisdom and equality and instrumental values or modes of conduct such as courage, independence and logic. Her results demonstrated that nursing and medical students were more alike than the psychology students in terminal values but different from each other regarding instrumental values. The resulting similarities and differences among these groups led to speculation on the effects of

predispositional variables, such as age, gender or culture, versus socialization variables, such as professional education, peer association and career selection, on an individual's value system. In this study it was possible to eliminate the influence of the socialization factor since the participants had just begun their course of professional study (Furnham, 1988). There also were no differences related to gender or age. However, the investigator points out that one cannot eliminate the influence of cultural and social-economic background and previous education as influences of the individual's occupational choice and subsequently the group's values.

The findings of the above studies identify a relationship between individual attributes such as cultural background, religion, gender, age and work experience on an individual's values. These relationships support the idea that values are the result of the persistent effects of personal, familial and experiential factors and are not a result of simple persuasion or reaction in a given situation. Therefore, individual attributes or those personal characteristics that an individual brings to a situation do have an impact on the perceptions and behavior of that individual and need to be incorporated in the study of values and value systems.

POSITION RELATED ATTRIBUTES

Most nurses are employees of organizations. Consequently, an examination of the relationship between individual values and position-related

attributes within the larger organization is important. Position related factors that may influence the individual's values and behavior include: type of hospital/institution, position in the organizational hierarchy, previous experience in a similar situation and experience in the present work setting.

Using a modified version of the Rokeach Values Survey, Clare and Sanford (1979) examined the values and value systems of 132 managers from four different organizations: a mid-sized manufacturing company, a small manufacturing company, a small service company and a large franchising company. The results provided a profile of an individual managerial values pattern dominated by personal achievement-oriented goals and competence or individualistic values as opposed to social goals and moral or interpersonal values. A comparison between organizations revealed a difference in the values of the manager related to the individual's level in the organizational hierarchy and the type of organization. In the larger firms (the mid-sized manufacturing company and the large franchising company), there was a strong correlation between the types of values identified by managers at different levels within the organization. However in the small manufacturing company, the opposite was true: there was no significant correlation between the value systems of upper and lower managers. Finally in the service company, the only correlation was in the terminal dimension of the Rokeach Value Survey. Therefore, these findings suggest that at one level, all managers share common values, however when by-level and by-

organization comparisons are made, a more complex relationship of value systems is found (Clare & Sanford, 1979).

Pratap and Srivastava (1982) compared value patterns among technical and non-technical aeronautical workers. Subjects were matched for socio-economic status and age and completed the Allport-Vernon-Lindzey Values Scale. Subjects in non-technical jobs were more interested in the discovery of the truth, whereas technical employees were more practical-minded, materialistic and more interested in acquiring power, prestige and dominance over others. There were no significant differences in their responses on the religious or social values as measured by the scale. Along a similar type of professional/non-professional differentiation, Pope and Bajt (1988), in a questionnaire survey of 60 psychologists, found that a majority of the psychologists interviewed had intentionally broken a law or formal professional ethical principle to enhance a client's welfare or other deeper values. The types of situations reported included failure to report child abuse, illegally divulging confidential information and refusing to make legally mandated warnings about dangerous clients. Both of these investigations provide evidence to support the influence of a professional ethic as an influence of values.

A questionnaire was administered to 39 intensive care and 36 intermediate care neonatal nurses to discover the attitudes of nursing staff toward high-risk infants and to examine certain factors that may influence

those attitudes. Intensive care nurses were more reluctant to resuscitate certain high risk infants than were intermediate care unit nurses. Nurses in the intensive care unit were also more likely to favor passive and active euthanasia and to view termination of life support for the sick infant as a necessity. The investigators suggest that these differences may be related to work setting: because intensive care nurses deal with infant death more frequently than intermediate care unit nurses, work setting influences their values related to infant management plans. An examination of demographic characteristics revealed that longer work experience was related to the nurses' disinclination to support resuscitation of the high risk infant. Similarly, there was a significant relationship between those individuals with a stated religious preference and the individuals' preference towards resuscitation procedures (Berseth, Kenny, & Durand, 1984).

Ketefian (1985) in a descriptive study examined the relationship between role conceptions or idealized behavior, based on the Code For Nurses, and role discrepancies or the difference between actual and perceived practice and moral behavior of nurses. The sample consisted of 217 nurse volunteers. The results reveal a significant positive correlation between professional role conception ($r = .30$, $p < .001$) and moral behavior and between bureaucratic role discrepancy ($r = .16$, $p < .01$) and moral behavior, but a significant negative correlation between professional role discrepancy ($r = -.33$, $p < .001$) and moral behavior. These findings suggest

that the higher the professional categorical score, on either the role conception or the role discrepancy component, the higher the moral behavior. Thus, nurses should be encouraged to practice according to the professional role conceptions acquired during their basic nursing education, which was highly correlated with the nurse's role orientation. Therefore, this study provides evidence that professional role conflict has a negative effect on moral behavior.

A phenomenologic study by Norberg, Asplund and Waxman (1987) supports Ketefian's (1985) findings on the influence of role perception. Norberg, et al. (1987) interviewed 39 health care workers about their thoughts, feelings and attitudes towards feeding severely demented patients. The focus of this study was to describe conflicts between the care giver role and the demands or expectations of the individual in that role. The researchers identified this conflict as highly stressful, having an impact on care-giver behavior and the need for care givers to be able to communicate about conflicting demands. In addition there was an inverse relationship between the length of employment at the institution and the number of complaints identified.

Mayberry (1986) studied 130 staff nurses and 37 head nurses to determine if there was a relationship between the level of moral reasoning and (1) level of nursing education, (2) length of nursing experience, (3) age and (4) size of the employing agency. The findings revealed that education

demonstrated a consistent and powerful relationship to moral reasoning as evidenced by a positive association between the number of years of formal education and the way the nurse judged moral dilemmas. The length of nursing experience had a negative association with moral reasoning, that is, the fewer years of nursing practice immediately following formal schooling, the greater the principled reasoning ability. This further supported the previous finding on the contribution of formal education to principled thinking. The other significant relationship was between work environment and moral reasoning. Mayberry's (1986) data suggest that work environment factors such as administrative policies and organizational structure may influence the individual's moral reasoning. As nurses become imbued with the organization's mission and purpose, they develop loyalty to the institution and move toward obedience and conformity. This was particularly evident in the head nurse sample. Finally, there was no relationship between age and moral reasoning in this study.

The influence of contextual variables on the nurse's moral choice was affirmed by Penticuff (1989). In interviews with 20 neonatal nurses, over a six year period, Penticuff identified themes related to nurse advocacy in the NICU. Three contextual variables emerged as influences of the nurse's implementation of the advocacy role. Consistent with other studies, Penticuff (1989) found a relationship between formal education, age and previous experience with a situation and the level of moral reasoning used

by the nurse. These were labeled characteristics of the nurse. The second set of variables is related to characteristics of the organization and includes factors such as type of hospital and unit, institutional philosophy and unit culture. The third factor related to characteristics of the infant and included issues of infant suffering, prognosis for a relatively normal life and the risk to benefit ratio of the treatment.

Similarly institutional factors influenced decision making in situations of informed consent (Davis, 1989). In a descriptive study, a convenience sample of 27 nurses responded to vignettes and a semi-structured interview. Content analysis of the responses indicated that nurses' ethical decision-making in situations of informed consent was based on institutional or structural influences such as type and location of institution, organization of work, institutional policies and procedures and accountability structure and philosophical influence, specifically the epistemologic positions of the subjects.

The results of these studies support a relationship between type of organization/unit, position within the organizational hierarchy, previous experience in a situation and experience in the work setting and the values of an individual. The impact of position-related attributes as determinants of individual behavior are important to nursing because nurses are employed by organizations, and therefore are influenced by organizational and role-related factors which are external to the individual. Consequently, an

understanding of position-related attributes as they impact individual values and subsequently guide behavior is significant.

EDUCATIONAL ATTRIBUTES

One function of professional education is socialization to the roles and values of the chosen discipline. Educational attributes that impact the individual's values include: formal nursing education, continuing education and special knowledge as evidenced by professional certification.

In a sample of college students, Buier, Butman, Burwell and VanWicklin (1989), examined the role of formal college education on the individual's value system. They conducted a multi-year cross-sectional and longitudinal study of 99 freshman and 93 college seniors, to gain insight into how students think about right and wrong, attribute meaning to their lives and view the learning process. Using the Rokeach Values Survey, the Defining Issues Test (D.I.T.) and a survey of major social issues, they found that students were leaving college with almost the same values as they bought with them when they arrived. This is in contrast to Ketefian's (1985) finding that educational experience to a large extent shapes a nurse's role orientation and to Mayberry's (1986) positive association between formal education and moral reasoning skill.

Berseth and Durand (1990) investigated the attitudes of residents toward resuscitation of children before and after attendance at a Human

Values Seminar. Using a non-equivalent control group design, the sample consisted of 15 pediatric residents as the intervention group and 20 family practice and anesthesia residents who were rotating through the NICU, in-patient pediatrics service, delivery room and pediatric E.R. during the study year as the control group. The intervention group attended mandatory bi-monthly Human Value Seminars throughout the study year while the control group received no formal program. Both groups completed a questionnaire about their attitudes toward the resuscitation of critically ill children one week prior to the beginning of the seminar and one week after the completion of the seminar. The seminar sessions were three hours in length and consisted of didactic material and small group discussion on topics such as death and dying, uncertainties in decision-making, coping, difficult patients and parents and withdrawing life support. Analysis of variance revealed no differences between the two groups on any of the scales of the questionnaire prior to the seminar. However after the seminar, the pediatric residents expressed more reluctance to offer respiratory support to infants with progressively fatal diseases whereas non-pediatric residents expressed increased willingness to offer respiratory support to the same infants. The change in the pediatricians' attitudes were significantly correlated with considerations given to societal needs, sanctity of life and poor prognosis. This finding led the researchers to suggest that with exposure to formal ethics education, poor prognosis and sanctity of life became viewed as more

important influences in making ethical decisions for the residents less likely to offer respiratory support. There is no information available about the long-term effects of the attitude change in the intervention group or about the impact of differing levels of knowledge about or experience with pediatric care between the two groups.

Gaul (1987) looked at the effects of an ethics course on the variables of ethical choice and ethical action in baccalaureate nursing students. The sample consisted of 17 nursing students in an ethics course and 20 volunteer control subjects, also nursing students, who were matched with the ethics students for placement in the nursing curriculum. The Judgments About Nursing Decisions (JAND) instrument was used to measure ethical choice and ethical action. The instrument was completed by course participants during the second to last class session of the ethics course. Students at the desired curriculum level, and not in the ethics course were recruited to complete the instrument packet. The analysis of the grouped data identified an extremely strong correlation between ethical choice and ethical actions in the students enrolled in the course. In comparison, there was a weak negative correlation between ethical choice and ethical action in the control group. Based on these findings, the researchers suggest that students exposed to the ethics course may have achieved a higher level of moral development than the control group. In addition, students who had formal training in ethical decision-making demonstrated less cognitive

dissonance because the same ethical principles used in making ethical choices were also used to determine ethical action. Based on this study, the researchers recommend the need for free standing ethics courses in the nursing curriculum to enable graduates to approach ethical decision-making in practice with increased confidence, increased accuracy and less cognitive dissonance (Gaul, 1987).

Ulrich (1987) studied nurse executives and educators of graduate students. Using a questionnaire, she found that values were significantly related to the presence of a graduate degree. Subjects with graduate degrees placed more value on prestige while subjects without advanced degrees valued security and control. Consequently, Ulrich (1987) concluded that the presence of graduate education influences an individual's values.

The findings of these studies indicate that there is no relationship between attending college, or a general basic education and an individual's values. However, the findings do indicate that there is a relationship between specialized education either in the form of an advanced degree or exposure to specific education in the area of ethics, and an individual's value based behavior. The lack of relationship between basic education and behavior is important to consider in studying nurses, since there are a limited number of nurses providing direct bedside care with advanced degrees or who have taken special courses in ethics.

VALUES, INFORMATION AND CHOICE

The values of the nursing profession are delineated in the ANA Code for Nurses (ANA 1976); however there is limited evidence about how these philosophical ideals are translated into the work of nursing. Values not only influence the choices an individual makes, but determine the type of information an individual seeks as the rationale for a choice of behavior.

Frohock (1986) in four months of participant observation, examined the types of decisions made by physicians, nurses and parents in the treatment of infants and described the social practices in a Neonatal Intensive Care Unit. The goal of this study was to describe a social practice that by its logic employs both technical and moral language and the application of complex medical knowledge. Emergent themes in this study included: (1) participants used earlier experiences that did not even resemble the present situation to make choices, (2) nurses claimed to be the authorities in the needs of infants and advocates for what is best for the infant and (3) members of the health care team did not use an established hierarchy of values in the care of infants.

Anspach (1987) engaged in participant observation and in-depth interviews over a 16 month period to explore conflicts in life and death decisions in NICUs. The data suggest that staff members, because of their differing work experiences, differed in their view of the infant's prognosis, suggesting that nurses and physicians rely on different cues in reaching

decisions. Based on their continuous contact with the infant, nurses assessed condition and prognosis on the basis of cues obtained from interactions with the infant. However, physicians, who had limited contact with the infant assessed the infant's condition and prognosis largely on the basis of diagnostic technology. These findings imply that technology and interactive cues are influences of values and behaviors.

Younger, Jackson and Allen (1979) studied the basis of conflict and tension related to decision making in an ICU setting. Using a questionnaire, data were collected for 36 house officers and 32 registered nurses. The findings revealed no significant differences in the ethical positions between the physicians and nurses. However, there were differences in the attitudes of the two groups toward the decision-making process, the system and role of communication and emotional issues. In general, nurses were less satisfied with the decision-making process and communication than were the physicians. In addition, nurses were more aware of their own and others' emotional reactions than were the physicians. The nurses identified more with the patient's human need and favored autonomy in patient decision-making. These findings reinforce the impact of professional role on the individuals' perception and behavior in a situation and the types of information important in the decision process.

Schank and Weis (1989) examined the relationship between professional values of senior baccalaureate nursing students and graduate

nurses compared to the values reflected in the Code for Nurses (ANA, 1976). The sample consisted of 199 students and graduates. The values most frequently identified by the nursing students were related to dignity, care, patient autonomy and helping, which are reflective of the first statement of the ANA Code. The elements of the ANA Code infrequently identified by students were those related to privacy/confidentiality, contribution to the profession's body of knowledge and conditions of employment. Nursing graduates identified responsibility and accountability most frequently with the values of dignity, care and patient autonomy as close seconds. For the group of practicing nurses the infrequently identified values included: conditions of employment, protecting the public and privacy, and collaboration in the community. These findings indicate that the values identified most frequently by all respondents (students and graduate nurses) related to patient care issues rather than social issues of the profession. The results provide evidence that professional values are not fully developed at the end of one's basic professional nursing education and that work experience is necessary.

Thurston, Flood, Shupe and Gerald (1989) conducted a descriptive study, using the Rokeach Values Scale, that compared the professional and personal values of nursing faculty to those of generic nursing students. The faculty demonstrated a significantly higher commitment to professional values, altruism and human dignity than to values of equality and esthetics.

However when personal values were compared, the students were more alike than different from the faculty.

Elizondo (1991) in a national survey of 150 neonatal nurses reported on the nurse's beliefs about nursing's role in ethical decision-making in the NICU. Eighty-three percent of respondents believed they should be more involved in ethical decision-making and 93% of the sample experienced conflict related to their participation in ethical decision-making. Of the 93% reporting conflict, the source of the conflict was identified as: physicians - 82%, parents - 59%, and laws regarding ethics of caring for newborns - 3%. In addition 55% of the participants reported conflict with their own ethical beliefs. The author concluded that the dilemma arises from a conflict between what the nurse sees as ethical behavior on a professional level and what the individual believes to be ethical from a personal perspective.

Levin, Driscoll and Fleischman (1991) investigated professionals' beliefs about appropriate management for a series of hypothetical infants, some at risk for and some infected with HIV, in the NICU. Using a self-administered questionnaire the investigators surveyed physicians, nurses and infant care review committee members at six New York City hospitals. The instrument asked respondents to recommend treatments for infants described in hypothetical vignettes. Their findings indicated that recommendations for treatment of the infant varied both by HIV status and treatment technique. In general, members of each professional group were

more supportive of treatment in infants without known risk of HIV infection than in infants known to be infected with HIV. For the total sample, there was no significant correlation between caring for a patient thought to be infected and the number of treatments recommended for an infant with a known HIV infection. These results enabled the researchers to contrast the attitudes of health professionals working in NICUs about treatment for patients at risk of HIV infection with their beliefs concerning the care of patients with other concurrent conditions (Levin, et al., 1991).

EVALUATION OF EMPIRICAL LITERATURE

The research on values and value systems in nursing and related disciplines is limited both in terms of the number of studies and the utility of the existing studies for the development of knowledge.

There are a number of methodologic limitations which jeopardize the validity of the existing research literature in nursing. In many of the studies, the sample size is small, non-random or the composition of the sample is not clearly delineated. The use of convenience or volunteer samples increases the probability of bias in the results based on differences in the subjects attributable to characteristics not related to the variables being studied. Samples with unspecified composition present a similar problem. When the composition of the sample is unspecified, it is not clear to whom the results can be generalized. These flaws limit the generalizability of the findings to

groups beyond the sample. Another issue related to sampling is the use of students or individuals in formal training programs which are part of their professional education. The major impact of using students is related to issues of generalizability. Individuals in academic programs or in post-graduate programs which are necessary pre-requisites for entrance into the profession are not the same as practitioners in a clinical practice setting. Therefore the results of studies conducted with samples of students or individuals in other pre-professional roles are applicable only to other individuals in a similar role and are not generalizable to practicing professional nurses.

A second criticism is related to instrumentation. Some investigators have used the Judgments About Nursing Decisions (JAND), The Defining Issues Test (DIT), the Allport-Vernon-Lindzey Values Scale or the Rokeach Values Survey. These instruments have established reliability and validity, although, in some instances the established levels are below the desired level of .80 for established instruments (Nunnally, 1978): for example, the instrumental scale of the Rokeach Values Survey has a test-retest reliability of .60 (Rokeach, 1973). This less than optimal reliability is below the established level to assure confidence in the research findings. On the other hand, a number of the studies have used investigator developed questionnaires and surveys with no evidence of the establishment of the psychometric properties of these instruments. The lack of any information

about the psychometric properties of the instruments is an even greater concern with respect to the amount of confidence that can be placed in the findings and conclusions of the studies.

Another limitation is the lack of a theoretical base and the lack of conceptual clarity related to the concept of values. This fragmented approach to the study of values is evident in the variety of empirical indicators identified as measures of the values concept. These varying definitions and theoretical foundations, as well as the failure of many investigators to differentiate values and attitudes, make the replication of the existing studies and the accumulation of knowledge from the empirical literature difficult.

The fourth limitation is not a methodologic concern but an epistemologic limitation related to the variables investigated. Many of the studies concentrate on the relationship between characteristics of the individual nurse or personal attributes such as age, religion, and culture and the influence of these variables on values and attitudes. While these factors are important and need to be integrated into the knowledge about values and values theory, they are factors which are beyond the control of nursing leaders. The empirical data needed by nurse administrators, educators and researchers need to be expanded to include position-related and educational influences which are open to modification by nurse leaders. Some of the previous studies (Ketefian, 1985; Mayberry, 1986; and Penticuff, 1989),

have initiated identification of these variables and an investigation into their relationship to values. However, the work in this area is fragmented and in an embryonic stage of development and needs further inquiry.

A review of the research literature from other disciplines reveals a number of the same limitations cited in the nursing literature. However despite the numerous flaws identified in all the previously cited studies, they are useful in that they suggest a variety of relationships between individual, position-related and educational attributes that may have implications for nursing practice, education, and administration. These studies also provide the basis for further clarification and investigation of the concept of values and value systems in nursing. Table 1 summarizes the empirical literature in reference to the variables studied and their relationship to the concept of values.

TABLE 1:
Summary Of Empirical Literature Related To The Concept Of Values

NURSING

AUTHOR/YEAR	INDIVIDUAL ATTRIBUTES		POSITION-RELATED ATTRIBUTES		EDUCATIONAL ATTRIBUTES		VALUES/INFORMATION/ CHOICE	
Younger, Jackson and Allen, 1979**	Gender Religion	(-) (-)	Hierarchy of Authority Professional Role	(+) (+)			Human Needs Autonomy	(+) (+)
Ketefian, 1981*	Culture Age Years in Nursing	(+) (+) (+)			Nursing Education	(+)		
Berseth, Kenny and Durand, 1984*	Years in Nursing Religion	(+) (+)	Work Setting Familiarity	(+) (+)				
Ketefian, 1985*			Role Conception Role Discrepancy Position	(+) (-) (+)	Nursing Education	(+)		
Frohock, 1986**			Previous Experience	(+)			Advocate for Infant	(+)
Mayberry, 1986*	Years in Nursing Age	(-) (-)	Work Environment Position	(+) (+)	Nursing Education	(+)		
Anspach, 1987**	Work Experience	(+)					Technology Cues Interactive Cues	(+) (+)
Gaul, 1987***					Ethics Course	(+)		

AUTHOR/YEAR	INDIVIDUAL ATTRIBUTES		POSITION-RELATED ATTRIBUTES		EDUCATIONAL ATTRIBUTES		VALUES/INFORMATION/ CHOICE	
Norberg, Asplund and Waxman, 1987**			Role Demands Years at job	(+) (+)				
Ulrich, 1987**					Graduate Education	(+)		
Furnham, 1988***	Age Gender Culture	(-) (-) (+)			Previous Education	(+)		
Davis, 1989*			Structural Influences Philosophical Influences	(+) (+)				
Penticuff, 1989*	Age	(+)	Role Models Organizational Factors	(+) (+)	Formal Education	(+)	Infant Characteristics	(+)
Shank and Weis, 1989****	Work Experience	(+)			Basic Education	(+)	Patient Care Issues Professional/ Social issues	(+) (+)
Thurston, Flood, Shupe, and Gerald, 1989****			Professional Ethic	(+)			Human Dignity Equality Esthetics	(+) (-) (-)
Elizondo, 1991*			Professional Ethic	(+)			Personal Perspective	(+)
Levin, Driscoll and Fleischman, 1991**			Role	(+)			Treatment Tech. HIV Status	(+) (+)

NON-NURSING

AUTHOR/YEAR	INDIVIDUAL ATTRIBUTES		POSITION-RELATED ATTRIBUTES		EDUCATIONAL ATTRIBUTES	VALUES/INFORMATION/ CHOICE
Henshel, 1971	Age	(+)				
	Religion	(+)				
	Culture	(+)				
Rokeach, 1977	Age	(+)				
	Religion	(+)				
	Culture	(+)				
Kohlberg, 1976	Gender	(+)				
	Age	(+)				
Hergarty and Sims, 1978	Culture	(+)	Reward Conditions	(+)		
	Gender	(-)	Competitiveness	(+)		
	Religion	(-)				
Clare and Sanford, 1979			Position	(+)		
			Type of Organization	(+)		
Gilligan, 1982	Gender	(+)				
Pratap and Srivastava, 1982			Role	(+)		
Pope and Bajt, 1988			Professional Ethic	(+)		

AUTHOR/YEAR	INDIVIDUAL ATTRIBUTES		POSITION-RELATED ATTRIBUTES		EDUCATIONAL ATTRIBUTES		VALUES/INFORMATION/ CHOICE	
Szawarski and Tulczynski, 1988	Culture Religion	(+) (+)	Professional Ethic Social Control	(+) (+)				
Buier, Butman, Burwell and VanWicklin, 1989					Formal Education	(-)		
Baird, 1990	Religion	(+)						
Berseth and Durand, 1990					Values Course	(+)	Sanctity of Life Prognosis	(+) (+)

[+] Indicates a relationship exists between the variable and values.
[-] Indicates the variable and values are not related.

Samples including nurses are designated as follows:

*	Sample includes only RNs
**	Sample includes RNs and others
***	Sample includes nursing students
****	Sample includes nursing students and RNs.

THE MODEL

A review of the empirical literature supported the relationship between individual, position-related, and educational attributes, and an individual's values. This was consistent with Rokeach's Theory that values are learned early in an individual's life and become more complex as the individual matures and encounters situations in which several values are competing. According to Rokeach (1973), the antecedents of human values can be traced to culture, society and its institutions and personality. In the proposed model these antecedents or exogenous variables were cultural/ ethnic background, religious background, religiosity, age, and work experience symbolizing individual attributes; position, level of care, years experience in present setting and familiarity, symbolizing position-related attributes; and nursing education, continuing education and special knowledge or professional certification symbolizing educational attributes. Consequently through a process of experience and maturation, individuals develop a set of values in which each value has a relative importance to all other values.

Values are variables that are internalized based on a set of attitudes. That is, a value is a schematic representation based on prior judgment of rightness or wrongness and motivated by personal sanctions not external authority (Benjamin & Curtis, 1981). Therefore values are personal and

subjective standards that tell the individual how to rationalize attitudes and actions that otherwise would be personally and/or socially unacceptable. The process of rationalization would be impossible without values as criteria to rationalize the rightness or wrongness of a choice, action or behavior. Therefore values are internalized and contribute to the individual's sense of self. Campbell (1984) summarizes the dilemma presented by values:

> It seems that value is a powerful force in controlling the actions of most individuals...But although powerful, it may not always be right...After all, if everyone's value always gave totally correct statements of the right actions in situations, no two values would ever differ. Yet unless we support that everyone with different views from our own is either totally ignorant or completely unscrupulous, we know there can be many disagreements about values. Thus the guidance of my values may be right for me, but not right for somebody else. (p.23).

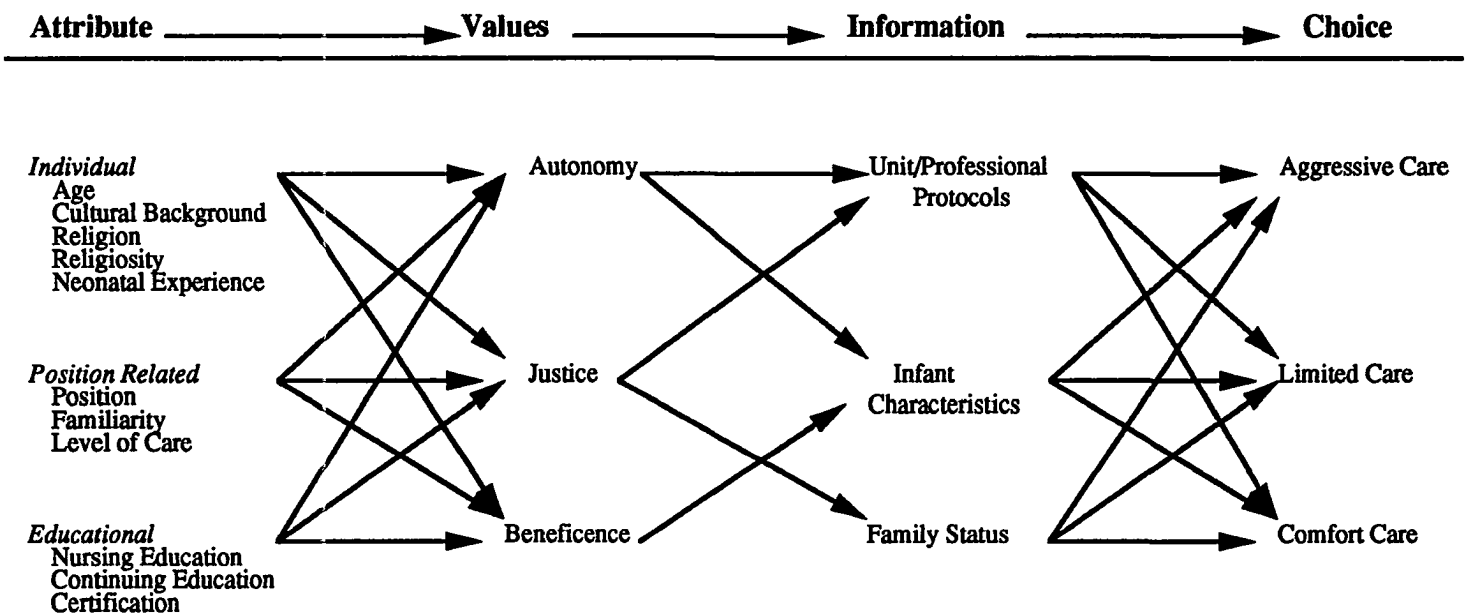
Rokeach (1973) identified the purpose of values as standards that guide activities and as general plans used to resolve conflicts and to make decisions. Therefore, an individual's values guide the type of information an individual seeks in a specific situation and the perceived importance of that information in the situation. Perception of information is the mechanism through which an individual's values are attached to specific objects, events and behaviors. Information perception is the translation of the individual's internalized sense of right and wrong into tangible facts, but the active or behavioral component of the values process is choice. Based on the

individual's information perception, a preferred choice of action is identified. An individual's choice is influenced by pre-existing knowledge and experience as well as the individual's internalized standards or values. Consequently the choice of behavior preferred by the individual in a given situation is guided by the type of information perceived to be important.

In summary, values are central to the understanding of an individual's perception of objects, events and facts and to the study of the comparison process or the identification of a preferred choice. Therefore, preferred choice as an outcome is a result of the interaction of two sequential sets of variables: values or the individual's internalized standards of right or wrong and the ensuing perception of information or the external set of objective and factual factors in the environment which are prioritized within the individual's value system (Sethi, 1986). The outcome of an individual's choice emerges from the sequential interaction between the concepts of values and information. According to Rokeach (1973), the consequences of values are manifested in virtually all phenomena that scientists might consider worth investigating and understanding. The relationship of the concepts investigated in this research are illustrated in Figure 1.

Figure 1:

Conceptual Model: The Values Influencing The Perceptions and Choices of Neonatal Nurses



Chapter Three

METHODOLOGY

DESIGN

A descriptive study using a cross-sectional correlational design was used to discover the relationship among the variables identified in the proposed model (Figure 1, page 63). A descriptive study facilitated the identification and description of variables as they exist in the population. To examine the current state of the variables among the target population, a cross-sectional data collection technique was used. The cross-sectional technique eliminated the threats of history, maturation, testing and interaction on the validity of the data since all data were collected at a single point in time (Waltz & Bausell, 1981).

The correlational design explored the association between the variables and refined the precise relationship between these variables. With the use of quantitative data and multivariate statistics, this design allowed the answering of complex questions about the strength and direction of the relationship among independent and dependent variables and generated support for conceptual explanation of the relationship between variables (Waltz and Bausell, 1981). This design is appropriate for complex questions,

in which a conceptual framework suggests a relationship, but that relationship has not been tested in the target population. This design allowed the specification of relationships between two or more variables and provided the means of examining variables within random samples of target populations and of drawing conclusions about the target population from the sample data (Woods & Catanzaro, 1988).

This research met the basic assumptions for the use of correlational design in the following ways:

> A conceptual framework based on the work of Rokeach (1973), supported the possibility of relationships among variables.
>
> The variables of interest exist naturally in the population and were amenable to study without manipulation.
>
> A random sample, representative of the target population was attainable.
>
> The variables of interest, were operationalized on a numerical scale. (Brink & Wood, 1989).

POPULATION AND SAMPLE

The sampling frame for this study was the membership roster of the National Association of Neonatal Nurses (NANN). This professional organization was established in 1984 "to shape the future of neonatal nursing and to provide neonatal nurses the voice they deserve in meeting their needs" (NANN, 1991). As of April 1991, NANN's membership was 10,000. Membership is limited to registered nurses. The association has

estimated that there are approximately 30,000 nurses working in level II and level III neonatal units (NANN 1991), consequently the present membership represents approximately one-third of the total estimated population of neonatal nurses. A majority of the membership (70%) indicate their primary role function as direct patient care. The remainder of the membership is composed of nurse managers, clinical specialists, educators/faculty and others (NANN, 1991).

Random sampling was used to identify subjects from the NANN membership roster. The use of random sampling decreased the threat of selection bias, controlled for extraneous variables and resulted in a sample representative of the total membership of NANN. Because the nursing profession is primarily female, the sample was limited to female members of NANN. The primary limitation of this sampling frame is the systemic bias introduced because nurses who join professional organizations, such as NANN, may differ in some relevant way from individual nurses who do not belong to professional organizations. Unfortunately, there was no realistic method for identifying and describing the characteristics of these non-members.

The size of the sample was related to the number of variables being studied. Using the general rule of ten subjects per variable, a sample size of 110 was required (Prescott, 1987; Thorndike, 1971). However Nunnally (1978) recommends a sample size of 30 subjects per variable for studies

using multiple regression and factor analysis or 5-10 subjects per item for scales that are to be factor analyzed. Therefore based on the more conservative estimate, the sample size required for this study was 330. Mailed surveys have a significant non-response rate, therefore, the sample size must be adjusted upward to assure adequate variation on all the variables of interest (McLaughlin & Marascuilo, 1990). Based on an anticipated response rate of 60%, the sample size was increased by [(1/.60) (330)] to maintain the degree of precision desired in the variables (McLaughlin & Marascuilo, 1990). Therefore, a sample size of 550 subjects was used.

INSTRUMENTATION

Independent Variables:

Independent variables related to the individual attributes, position-related attributes and educational attributes of the individual nurse were measured to explore the relationship between these variables and the values of the individual. These independent variables were individual attributes of age, religious background, religiosity, cultural/ethnic background and years experience in neonatal nursing; position-related attributes of position, familiarity, level of care, years in present work setting; and educational attributes of nursing education, continuing education, and special knowledge. A participant information sheet was used to collect information

on the independent variables. An example of the participant information sheet is included as Appendix A. A definition of each independent variable with the corresponding item number from the participant information sheet is as follows:

Individual Attributes:

Age: The individual's self reported chronological age, in 10 year intervals. [item 2]

Religious background: The religious background or preference in faith as reported by the individual. [item 4]

Religiosity: The degree of importance the individual's self-reported religion has on the decisions and choices of the individual. The participant will indicate how often their religious beliefs influence their decisions. [item 5]

Cultural/Ethnic background: The cultural/ethnic background as reported by the individual. [item 6]

Years Experience in Neonatal Nursing: The total number of years the individual has practiced in a neonatal setting as a R.N. [item 13]

Position-Related Attributes:

Position: The individual's position within the organizational hierarchy of the nursing unit. [item 8]

Familiarity: The individual's previous involvement with an infant similar to the infant presented in the vignette. [item 17]

Level of Care: The level of care provided in the respondent's primary practice setting or place of employment. This classification of level of care will be consistent with the levels of neonatal care

as described in the Guidelines for Perinatal Care, developed by the American Academy of Pediatrics/American College of Obstetricians and Gynecologists. [item 9]

Years in Present Work Setting: The number of years the individual has practiced in her present position. [item 14]

Educational Attributes:

Nursing Education: The individual's highest level of formal education. [item 10]

Continuing Eduction: The number of continuing education activities on the topic of ethics, moral values or ethical decision making, attended by the subject, within the past five years. [item 16]

Special Knowledge: Certification in the specialty area of neonatal nursing as offered through one of the professionally recognized credentialling agencies. [item 11]

Dependent Variables - Values:

The major dependent variable of interest was the values of the individual nurse. Values are broad categories, concerned with feelings about one's participation in activities (Nunnally, 1978). In this study individual values were defined as consistent processes or enduring modes of conduct used by the individual nurse as the foundation of what the individual nurse perceives to be important and chooses as her behavior of choice in a given patient care situation. Values involve the affective domain; therefore scales to measure this function are based on abstract domains. The most direct approach to the measurement of values is to ask people, "what are their

values?" In survey research, this approach to measurement is accomplished with self-report inventories or value/attitude scales (Nunnally, 1978). Self-report scales have been advocated in the measurement of values because, to the extent that anonymity of responses can be ensured, self-report measures are not influenced by social desirability (Nunnally, 1978; Rokeach 1973). The disadvantage of self-report measures is that the results are limited to what individuals know about their values, the complexity of the situation and how much they are willing to disclose (Nunnally, 1978). Consequently, in this study, values were operationalized as the intercorrelation among the participant's responses to a set of attitude statements as these statements pertain to the individual's neonatal nursing practice.

Information and Choice:

The other dependent variables explored in this study were: [1] the factors identified as influences of the nurse's behavior in the presented patient care situation, and [2] the behavioral choice of the nurse related to the management of the infant in the selected situation. The factors that may influence the nurse's behavior encompassed infant and family factors conceptualized to include birthweight, gender, gestational age, APGAR score, medical diagnosis, family socio-economic status, presence of other children, marital status of the parents, diagnostic test results, and opinions

of consultants/specialists; and a professional, institutional and societal factor thought to incorporate professional standards of care, nursing practice, ANA Code for Nurses, peer persuasion, evaluation of superiors, expectations of physicians, philosophy/mission of institution and governmental regulations such as the Baby Doe Regulations. The behavioral choice of the nurse related to the management of the infant was identified based on the individual's preference for each level of nursing/medical intervention on three levels of care labelled aggressive care, limited/conservative care and comfort care. A tool reflecting the identified theoretical framework and focused on the concepts of interest was not available to measure these variables as identified in the research purpose. Therefore an instrument had to be developed prior to the implementation of this study.

PRELIMINARY STUDIES

Two preliminary studies were conducted to further define the concepts of interest in this research and to generate items for the data collection instrument. A quantitative study was conducted to determine if a relationship existed between the preferences of individual nurses and physicians for a specific clinical action and the ethical principle in a hypothetical patient care situation (Raines, 1991a). The participants consisted of a convenience sample of 10 nurses and 10 physicians practicing in a NICU. Subjects were presented with a series of five vignettes and asked

to select the treatment alternative they would choose as the right option in the care and management of the infant, and the one ethical principle that was most important to them in the situation. The treatment alternatives encompassed the use or non-use of specific interventions such as mechanical ventilation, pharmacologic support, feedings, and comfort techniques, and the ethical principle included; the duty to do good, the greatest good for the greatest number, the sanctity of life, the quality of life, the dignity of the individual, self-determination of the infant/family, the duty to do no harm, equal distribution of risks and benefits, hospital policy/philosophy, death with dignity and the duty to make up for a wrong, that was the most important to them in the situation. The data collection tool was developed by the investigator. Content validity was established by a panel of six expert judges composed of three nurses and three physicians. Consensual agreement of 100% was obtained for three of the vignettes and 83% agreement was obtained for two of the vignettes. Reliability of the tool was established using a test/re-test method with a two week intervening time period. A correlation coefficient was obtained for each item and a mean correlation coefficient for each vignette was calculated. The reliability of each vignette ranged from 0.68 to 0.88, resulting in an overall reliability index of the tool of 0.78.

A descriptive review of the data revealed some consistent patterns of responses. In two vignettes (the addicted infant born prematurely and the

continued care of the chronic infant), over 75% of the sample selected the same alternative as the preferred option in the situation. In another vignette (the infant with a chromosomal anomaly incompatible with long-term survival), 90% of the sample was approximately equally distributed between two alternatives. However in the remaining vignettes (the low-birthweight questionably viable infant and the infant with a congenital anomaly necessitating surgery), the responses were more widely dispersed among the three alternatives.

Patterns in the ethical principles selected were also evident. In all except the vignette of the addicted infant born prematurely, quality of life and self determination of the infant/family unit were most frequently selected by nurses. The physician group was not as consistent in the ethical values identified. This dissimilarity of the ethical values selected by nurses and physicians was a consistent finding across the five vignettes.

The data were analyzed using Chi Square to identify relationships between the alternatives chosen as the preferred option and the ethical principle selected as the most important in the situation. Results were obtained for the sample of nurses, physicians and for the combined sample. The findings were not significant at a $p < .05$ except for the vignette on the addicted infant born prematurely. This finding may be related to the higher degree of uncertainty about the effect of new street drugs on fetal development and neonatal outcome.

While the findings of this pilot study were not generalizable to any other group and were not statistically significant, the identified similarities and differences in the decisions of physicians and nurses have practical implications for nursing practice in the NICU. Because of the physician-nurse relationship in the acute care setting and the nurse's role in implementing the physician's medical plan of care, widely divergent ethical principles of these two professions can result in frustration and distress for the practitioner and can ultimately have an adverse impact on the quality of patient care. As health care providers become more specialized and the array of treatment options continue to expand, health care professionals become more interdependent. Recognition and understanding of the similarities and differences in the principles guiding practice decisions within and between the professions can contribute to the development of interdisciplinary strategies for the examination and resolution of ethical dilemmas. Tables summarizing the findings of this study are included in appendix B.

The second preliminary study was a qualitative investigation conducted with neonatal nurses (n = 3) (Raines, 1991b). The purpose of this study was to identify themes related to the neonatal nurses' interpretation of the phase, "the best interests of the infant" and the enactment of the role of advocate. The constant comparative approach was used to identify and isolate emergent themes in the participant's responses relative to the concepts under study.

The first theme to emerge was that nurses consistently identified a typology of infants which provided the foundation of the nurse's description of the concepts of best interest and advocacy. This typology differentiates three groups of infants: the very immature, the unstable/chronically ill and the genetically linked syndromes.

The participants' interpretations of the concept of the infant's best interests was distinctly based upon the type of infant. Participants expressed meanings that included doing something good, examining the risk/benefit ratio and using professional judgment in the determination of what is best. The emergent theme relative to the concept of advocacy was to enact the desires or needs of another; however, the designation of who is the other person was without consensus. The typology of infants and the matrix of meanings derived from the data analysis are included in Appendix C.

TOOL DEVELOPMENT

Based on the findings of the preliminary studies, the instrument for this research is composed of two parts: (1) a rating scale to measure individual values and (2) hypothetical patient care situations in the form of vignettes to quantify the variables of information and choice. Part one of the instrument consists of a series of attitude statements symbolizing individual values. These statements reflect three of the values or ethical principles

reflected in the ANA Code For Nurses: autonomy or freedom of choice, beneficence or the duty to do good, and justice or the equitable distribution of risks and benefits. Each statement is rated on a scale anchored with bipolar adjectives. This type of scale, known as a summative scale, is a flexible and appropriate approach to the measurement of values and is an easy-to-construct scale for the measurement of different facets of values (Nunnally, 1978). The scale is a seven-point Likert scale, representing the degree of importance of each statement to the individual nurse in thinking about her nursing practice in the neonatal unit. An odd number of steps were used in this study to permit the presence of a middle or a neutral response. This was appropriate in the study of values because some subjects may have neutral reactions which should be measured (Nunnally, 1978). The risk of having a neutral response is that subjects will use this neutral response to avoid committing themselves to a directional response. The inclusion of seven steps has been shown to be the number of steps at which reliability indexes are maximized. Guilford (1954) has identified that the reliability of individual rating scales is a monotonically increasing function of the number of steps. In Likert-type rating scales, no item is considered separately. Each item is monotonically related to the underlying dimension continuum, that is, the sum of the items is expected to contain all the important information relative to a common factor (McIver & Carmines, 1981).

Items for this scale were consistent with Rokeach's (1973) work on the Nature of Human Values and Values Systems. Items were generated deductively from exemplars associated with the conceptual/theoretical definitions and the Rokeach Value Survey (1967) and inductively from the previously described qualitative study. A pool of items (n=41) was developed and submitted for item analysis. Item analysis was used to determine the number and the kind of homogeneous scales that were implicit in the item pool (Nunnally, 1978). Using factor analysis, each item was explored to ascertain whether the item discriminated in the way the overall question was intended to discriminate and if the hypothesized sub-scales were supported. Item analysis was also a useful mechanism to determine the number of items that would be needed to obtain an acceptable level of reliability.

The second part of the instrument consists of patient care vignettes, followed by two questions. The content of the vignettes was based on actual clinical situations and reflected the typology of infants identified in the previously described qualitative study. The first question elicited the subject's degree of agreement or disagreement for each level of nursing/medical management of the described infant, on three levels identified as aggressive, limited/conservative or comfort care. The choice options did not include specific treatment modalities such as method of oxygen administration, but were presented as levels of care, that is,

aggressive care, limited/conservative care or comfort care. This classification of levels of care was used to eliminate regional and hospital specific differences; for example - in one hospital, administering oxygen via an oxyhood may be considered aggressive care whereas in another hospital with a sophisticated respiratory service, supplemental oxygen via a hood is considered limited treatment. While these differences may make a difference in the ultimate outcome of the infant's neonatal hospitalization, the patient's outcome was not the focus of this study. The concept of interest in this research was the intent of the individuals involved in making choices about the treatment. Thus, in the first hospital, choosing oxygen administration by means of oxyhood is the most aggressive treatment available in the setting, whereas the most advanced treatment available in the second hospital is not an oxyhood but mechanical ventilation or high frequency oscillatory ventilation; however, the common factor is that the most advanced and aggressive management available was being selected.

The second question was a rating scale of type of information available to the nurse in the neonatal unit related to infant, family and institutional/professional/societal factors. Subjects identified the importance of each piece of information in their thinking and behavioral choice related to the care and management of the type of infant presented in the vignette. The importance of each piece of information was identified on a seven-point Likert scale.

Vignettes were an appropriate tool for this type of study because they present real life situations without the complexities and dangers of an actual setting (Holzemer & McLaughlin, 1988; Sherman, Miller, Farrand, & Holzemer, 1979; Dincher & Stidger, 1976). In addition, vignettes allowed all subjects to respond to the same stimuli.

INSTRUMENT TESTING

Validity

Validity refers to the degree to which a measure is capable of achieving the purpose for which it was developed. Two steps are required in the judgment and quantification of content validity for affective measures: judgment and quantification of items, and judgment and quantification of the instrument (Lynn, 1986).

To quantify the validity of the tool, the list of value statements and the series of vignettes and accompanying questions were submitted to a panel of three expert judges. The panel of judges consisted of two experts in neonatal nursing as evidenced by certification in the specialty area and position and an individual with advanced academic preparation in ethics and axiology and involvement with ethical issues in health care settings. Each judge was given: (1) an introduction and overview of the proposed research, (2) a summary of the theoretical framework and the conceptual and operational definitions of the variables, and (3) a rating form for evaluating

the items on the tool. The judges were asked to evaluate the tool based on the following criteria:

* Representation of different types of value based statements, embodying the values of autonomy, beneficence and justice, according to Rokeach's theoretical framework.

* Classification of each item as belonging to the sub-scale of autonomy, beneficence, or justice.

* Accuracy of the clinical content of the vignettes,

* Evidence of an ethical dilemma in the vignette,

* Relevance of the items to the overall scale and objectives of the research.

To quantify the evaluation of the judges, the index of content validity (C.V.I.) was used (Waltz & Bausell, 1981). The C.V.I. is a four point scale (1 = not relevant, 4 = very relevant) on which the judges independently rated the relevance of each item. The content was considered valid if a rating of 3 or 4 was given by each expert judge. If all the items were rated 3 or 4 by all the judges, the values of the C.V.I. would be 1.00 (Waltz & Bausell, 1981). Since there were only three expert judges for this study, content validity was established by a C.V.I. of 1.00 or by consensual validation with 100% agreement. Consensual validation of the relevancy of items was achieved for 36 of the 41 items. The remaining items were eliminated from the instrument. Related to the classification of each item as belonging to one of the three hypothesized sub-scales, there was agreement about the items comprising the autonomy and beneficence sub-scales. However, on the

justice scale, it was suggested that a second sub-scale, quality of life, was evident in some of the items. With the unanimity of the expert panel, this scale was identified and used in subsequent instrument testing procedures.

In the second stage of the validation process the experts were asked to judge and quantify the instrument. For this process the experts were provided the overall objectives of the research and were asked to assess the relevancy of the items on the instrument to the research objectives. A quantification process similar to that previously described was used. Finally the experts were asked to identify any areas that had been omitted from the tool. Based on the input of the expert panel two items were reworded/restated to increase clarity and relevancy to the research objectives. There was consensus among the expert panel that no major areas had been omitted from the tool.

Following the establishment of content validity, a convenience sample of 25 registered nurses practicing in the neonatal setting were recruited to participate in instrument testing procedures. Each subject completed the tool and construct validity was evaluated by a principal components factor analysis procedure with Varimax rotation. Since the number of items in the values scale was greater than the number of subjects, it was impossible to analyze the instrument as a whole. Therefore each of the hypothesized scales of autonomy, beneficence, justice and quality of life were entered into the principal components factor analysis independently. One of the scales,

autonomy, was discovered to contain two factors. Of the original 36 items, 29 had significant loadings (>0.40) on the identified sub-scales. Items which had low or negative correlations and items which loaded on more than one factor were eliminated. The factor structure identifying the item, factor loadings, means, standard deviations and the corrected item to total correlations are illustrated in Table 2.

For the variable of information, it was possible to evaluate the scale as a whole. The factors hypothesized to exist and confirmed by the data were an infant factor, a family factor and an institutional/professional factor. In two of the vignette situations, the infant with a chromosomal anomaly and the chronically ill infant, the infant sub-scale consisted of two factors: 1)birth characteristics and 2) diagnostic characteristics. Table 3 displays the factor structure and loadings, the means, standard deviations and item to total correlations for the information scale.

Reliability

Reliability refers to the degree of consistency and repeatability of the scores on an instrument (Brink and Wood, 1989). Nunnally (1978) has described reliability as the extent to which measurement error is minimized. Reliability is a psychometric property that all measurement instruments must satisfy (Stanley, 1971).

TABLE 2:
Psychometric Properties of Values Scale: Pilot Study Data
(N = 25)

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
NURSE AUTONOMY	Nurses exercising choice in treatment decisions	.9110	3.04	1.31	.8480
	Non-judgmental attitudes	.9065	3.96	2.34	.8531
	Personal standards of nursing care	.8798	3.68	2.21	.7378
	The right to independence in nursing care	.6701	3.20	2.06	.5352
	Eigen Value: 3.329 Percent of variance explained: 66.6			ALPHA:	.8451
FAMILY AUTONOMY	Family's wishes, including religious beliefs	.8172	5.08	1.53	.6173
	The family's right to make choices even if they are different than the choices of the health care providers	.7666	5.56	1.47	.5380
	Knowledge of what the family wants for the infant	.7287	5.72	1.31	.5112
	The family's right to participate in all decisions related to their infant	.6446	6.24	0.969	.4215
	Eigen Value: 2.202 Percent of variance explained: 55.0			ALPHA:	.7248

TABLE 2 -Continued:

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
BENEFICENCE	Maintaining human contact with the infant	.7365	6.08	1.08	.7096
	Equal care regardless of the ability to pay	.7365	5.40	1.50	.5820
	Providing love to the infant	.6686	3.84	2.51	.5493
	The needs of the individual patient take priority over other needs	.6604	5.32	1.60	.5065
	Providing treatment when the benefits outweigh the risks	.6452	5.80	1.12	.5652
	Making the infant comfortable even if it alters the treatment plan	.6421	5.68	1.14	.4975
	The principle of do no harm	.6405	5.76	1.39	.5708
	Preventing harm to the infant/family	.6156	5.72	1.10	.5968
	Protecting the infant from unnecessary procedures	.5523	6.00	0.816	.3935
	Eigen Value: 4.02 Percent of Variance explained: 44.7			ALPHA:	.8179

Table 2-Continued:

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
JUSTICE	Providing equipment to those infants who can benefit most	.8641	2.92	1.44	.6864
	Effectiveness of the care plan	.8599	3.92	1.38	.4998
	Consistency among health care providers in the treatment plan	.7855	5.24	1.20	.3782
	Cost containment	.7422	2.20	1.58	.4612
	Actions based on the desires or needs of another person	.6738	1.68	0.85	.5277
	Effectiveness of care as measured by survival	.5355	3.44	1.68	.2445
	Equitable distribution of skill and equipment	.4580	2.48	1.98	.1606
	Eigen Value: 2.34 Percent of variance explained: 46.8				ALPHA: .6563 THETA: .7162
QUALITY	Severely impaired infants should be allowed to die	.7989	3.4	1.78	.6001
	The patient's right to die under any circumstances	.7613	3.84	2.09	.5664
	Quality of life should be the criterion for making decisions about discontinuing treatment.	.7391	4.00	1.61	.5633
	Preserving life at all costs	.7282	3.32	1.52	.5111
	The infant's prospect for an active life.	.4608	3.92	1.75	.2996
	Eigen Value: 2.507 Percent of variance explained: 50.1				ALPHA: .7383

TABLE 3:
Psychometric Properties of Information Scale: Pilot Study Data
(N = 25)

Vignette #1: The Low Birthweight Infant

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
INFANT	Birthweight	.8509	5.64	1.41	.7435
	Infant's medical diagnosis	.8392	5.72	1.21	.6973
	Opinion of consultants	.8063	5.60	1.19	.7071
	Gestational Age	.7936	6.28	0.842	.6637
	APGAR score at 5 minutes	.7032	4.88	2.15	.5832
	Results of diagnostic tests	.6529	5.52	1.45	.5279
	Eigen Value: 3.629 Percent of variance explained: 60.5			ALPHA:	.8361
INSTITUTIONAL/ PROFESSIONAL/SOCIETAL	Unit protocol	.8058	3.84	1.72	.6855
	Hospital philosophy or mission statement	.7567	2.40	1.71	.5946
	Expectation of physicians	.7400	3.64	1.55	.5676
	ANA Code for Nurses	.7323	3.28	1.77	.6495
	Evaluation of my superior	.5237	2.52	1.26	.3777
	Current standards of care as defined by professional organization	.4239	3.00	1.89	.3349
	Baby Doe Regulations	.4002	2.68	1.60	.3214
	Eigen Value: 4.91 Percent of Variance Explained: 61.4			ALPHA:	.7674

Table 3-Continued:

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
FAMILY	Parent's marital status	.9832	1.60	1.12	.8368
	Socio-economic status	.9084	1.88	1.20	.7863
	Eigen Value: 2.195 Percent of Variance explained: 73.2			ALPHA:	.8552

Vignette #2: Infant with a Chromosomal Anomaly

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
INFANT:					
Birth Characteristics	Gestational Age	.7182	3.92	1.68	.5251
	APGAR score at 5 minutes	.7091	3.96	1.84	.3439
	Birthweight	.6832	3.28	1.46	.5301
	Eigen Value: 1.47 Percent of Variance Explained: 48.2			ALPHA:	.6603
Diagnostic Characteristics	Infant's medical diagnosis	.8229	5.92	1.44	.6620
	Results of diagnostic tests	.8159	6.00	1.00	.7752
	Opinion of consultants	.8159	5.60	1.26	.6349
	Eigen Value: 1.25 Percent of Variance Explained: 41.0			ALPHA:	.8187

Table 3- Continued:

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
INSTITUTIONAL/ PROFESSIONAL PROTOCOL:	Hospital philosophy or mission statement	.7959	2.36	1.44	.5885
	Evaluation of my superior	.7082	2.52	1.33	.5507
	Expectation of physicians	.6812	3.64	1.68	.5227
	Unit protocol	.6502	3.88	1.48	.5677
	Baby Doe Regulations	.6264	3.84	1.55	.0157
	Current standards of care as defined by professional organization	.5766	4.48	1.72	.2631
	ANA Code for Nurses	.5359	3.56	1.76	.5801
	Eigen Value: 3.1 Percent of Variance Explained: 41.1			ALPHA:	.7358
FAMILY	Socio-economic status	.9635	2.60	1.78	.8803
	Parent's marital status	.9444	2.24	1.56	.8428
	Eigen Value: 2.52 Percent of Variance Explained: 84.0			ALPHA:	.8908

Table 3-continued: ***Vignette #3: The Chronically Ill Infant***

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
INFANT					
Infant Characteristics:	APGAR score at 5 minutes	.7601	2.20	1.55	.4719
	Gestational Age	.7387	2.24	1.81	.4130
	Birthweight	.5978	2.40	1.68	.2312
	Eigen Value: 2.54			ALPHA:	.6294
	Percent of variance explained: 42.4				
INFANT:					
Diagnostic Characteristics:	Results of diagnostic tests	.9249	6.48	1.08	.3724
	Opinion of consultants	.8876	6.16	1.11	.3799
	Infant's medical diagnosis	.7953	6.36	1.28	.3252
	Eigen Value: 1.97			ALPHA:	.6225
	Percent of Variance Explained: 32.8				
FAMILY	Socio-economic status	.9073	2.60	1.88	.7967
	Parent's marital status	.7652	2.28	1.66	.7525
	Eigen Value: 2.39			ALPHA:	.8864
	Percent of Variance Explained: 79.8				

Table 3-continued:

FACTOR	ITEM	FACTOR LOADING	MEAN (range 1-7)	S.D.	ITEM/SCALE CORRELATION
INSTITUTIONAL/	Unit protocol	.8782	3.56	1.29	.7784
	Expectation of physicians	.8631	3.52	1.36	.6862
	Hospital philosophy or mission statement	.7717	2.36	1.44	.4837
	ANA Code for Nurses	.5765	3.32	1.55	.4836
	Evaluation of my superior	.5568	2.40	1.29	.4292
	Current standards of carte as defined by professional organization	.4142	4.68	1.73	.2920
	Baby Doe Regulations	.4135	3.72	1.57	.1375
	Eigen Value: 3.29 Percent of Variance Explained: 41.1			ALPHA:	.7312

Using the previously identified convenience sample of 25 neonatal nurses, internal consistency reliability was determined for the scales that compose the instrument. Internal consistency measures estimate the performance of a group of individuals across the items on a single test or scale (Waltz & Bausell, 1981). Internal consistency estimates of reliability for the scales range from 0.62 to 0.89. The criterion level for coefficient alpha is targeted at +.70 or above for new scales (Nunnally, 1978). The alpha for each of the value sub-scales is included in Table 2, and for the information sub-scales in Table 3.

The dependent variable of values was defined as consistent processes or modes of conduct and therefore was operationalized as an enduring trait, which is stable over time. Therefore, the test/re-test stability of the values scale was assessed. The test/re-test procedure determined the consistency of performance a measure elicited from a group of subjects on two separate occasions (Waltz & Bausell, 1981). The same sample of 25 neonatal nurses completed the research instrument at a two week interval. A two week interval is appropriate for variables known to be relatively stable over time (McLaughlin & Marascuilo, 1990). Based on the subjects' scores from the test/re-test procedure, the reliability of the tool was established using a Pearson's Correlation Coefficient. In general, in scale and instrument development, test/re-test reliability coefficients of +.70 and higher are desired (McLaughlin and Marascuilo, 1990). The test/re-test correlation

coefficient for this sample ranged from .75 to .96 resulting in an overall stability index of .86 for the values scale. The test/re-test approach is a theoretical way to measure the reproducibility of a scale, but the method has pragmatic limitations. In particular items from the first test administration are remembered by the subject and influence the subject's responses on the second test administration. To assess for differences in the subject's scores between administration of the instrument at time one and time two, a paired t-test was performed. The t-values for the individual items ranged from 0.00 to 2.10. Only three items had p-values <0.05 and the mean p-value for scale items was .54. Therefore, there was statistical support for the concept of values being stable over time. Based on these findings that indicated that there were no significant differences in the subjects' values at time one and time two, the measure of values was demonstrated to be stable.

The results of test/retest on part two of the instrument provided evidence that the variables of information and choice were not stable over time. The correlation coefficient for the information scale with each vignette was : situation #1-The Low-birthweight Infant 0.49, situation #2-The Infant with a Chromosomal Anomaly 0.40 and situation #3 - The Chronically Ill Infant 0.44. The correlation coefficient for the behavioral choices were: situation #1-The Low-Birth-weight Infant 0.57, situation #2-The infant with a Chromosomal Anomaly 0.55 and situation #3 The Chronically Ill Infant

0.40. In an attempt to identify environmental and experiential factors that may have influenced the participants' response, an additional question was added to the second administration of the tool. This questions was: "In the past two weeks have you been directly involved in a situation similar to the circumstances presented in the vignette?". The participants responded to this question as follows: situation #1: yes-16 (64%), situation #2: yes-3 (12%), and situation #3: yes-5 (20%). Therefore, there was some evidence that experiential or environmental factors may have altered the participants responses to this part of the instrument between the two times it was administered.

INSTRUMENT REVISION

Based on the findings of the instrument testing procedures, items for the revised instrument were selected. Criteria for elimination of items included; (1) lack of variability in participant responses, (2) items with low or negative inter-item correlations, and (3) factor loadings less than 0.4 or less than a 0.2 difference between factor loadings for a single item. The resulting instrument consisted of 30 items on the values scale and 15 items on the information scales accompanying each vignette. A copy of the final data collection instrument is included in Appendix A.

PROCEDURE

Each subject was mailed a packet containing a cover letter explaining the purpose of the study and informed consent procedures, a demographic information questionnaire, instructions, the research instrument and a stamped self-addressed envelope. The informed consent procedure for this study consisted of a statement introducing the study, explaining the benefits and costs of participation and outlining the protection of confidentiality and the participant's right to withdraw. Since the study was conducted by mail, with no direct contact between the researcher and the participant, the subjects indicated their consent to participate by completing and returning the research instrument. This process of consent through participation was outlined in the cover letter. A copy of the cover letter, including the informed consent statement is included in Appendix D. A follow-up postcard was sent to all participants one week after the first mailing. A second follow-up including a cover letter, a replacement research instrument and another stamped, self-addressed envelop was mailed three weeks after the original mailing (Dillman, 1978).

DATA ANALYSIS

Data were analyzed using descriptive statistics, factor analysis, and correlational analysis. Following the collection and tabulation of the raw data, reliability and validity of the tool were re-established. An alpha of .70

was desired, to indicate an acceptable degree of consistency in response to the items (McLaughlin & Marascuilo, 1990).

The next step was to analyze all data with descriptive statistics to summarize the data, to identify outlier or erroneous values and to communicate an overall picture of the findings. This type of inspection of the data set allowed the researcher to get an intuitive sense concerning the relationship among the variables, constructs and propositions (McLaughlin & Marascuilo, 1990).

The primary analytic technique employed in this study was path analysis to test the proposed causal model (Figure 1 p. 64) by investigating the relationship among the variables of values, information and choice. This statistical procedure identifies and supports the strength of the relationship among the variables. Based on correlation analysis and multiple regression equations, path analysis can be viewed as an ordered system of presumed causal connections among variables. The specific levels of data analysis for each of this study's objectives were addressed individually. In all analytic procedures the unit of interest was the individual nurse.

Chapter Four

RESULTS

The data for this study were collected during January and February 1992. The focuses of this chapter will be to describe the sample of neonatal nurses completing the research instrument and to present the findings of this project within the context of the purposes and objectives as previously defined for this research.

DATA RETURN

A total of 550 study packets were mailed to individuals randomly selected from the membership roster of NANN. Forty-nine states and the District of Columbia were represented in the sample. The National Association of Neonatal Nurses has no members listing the state of Montana as their mailing address, in the 1991 Member Directory. Of the 550 packets mailed, twenty-nine (5%) were returned as undeliverable. A total of 345 (66%) of the packets were returned by the participants. Of the returned packets, 331 (96%) were appropriate for inclusion in the data set. Those questionnaires excluded from the analysis included: 2 (0.5%) from male nurses, 1 (0.3%) from an LPN, and 1 (0.3%) from a retired nurse; which

were excluded based on the a-priori definition of the sample as female registered nurses currently practicing in a neonatal setting. In addition, 7 (2%) questionnaires that had blocks of data missing for one or more sections of the instrument, and 3 (0.8%) questionnaires returned unanswered by individuals who included notes stating that they were not currently practicing neonatal nursing and therefore felt their input would bias the findings were also omitted from the data set. Thus a total of 14 (4%) responses were excluded from the analysis. The distribution of respondents by geographic region is illustrated in Table 4.

SAMPLE

The sample consisted of 331 female registered nurses working in neonatal settings. A review of the demographic variables classified as individual attributes of the participant revealed a mean calculated age of 30 years 9 months and the sample included predominately married (70.7%) individuals. The sample was composed primarily of individuals who were white/not of hispanic origin (94.0%). The stated religious preference of respondents was divided between catholic (32.6%) and protestant (43.8%). The measure of religiosity or the degree of importance the individual's religion has on that person's choices was approximately evenly distributed among the three levels: highly influential, somewhat influential, not influential. Individuals in the sample had been practicing neonatal nurses for

TABLE 4:
Frequency Distribution: Respondents by Geographic Region
(N=331)

REGION	RETURN RATE (%)	RESPONDENTS: FREQUENCY	PERCENTAGE
WEST COAST: Washington, Oregon, California.	56	30	9.1
MOUNTAINS: Idaho, Montana, Nevada, Utah, Arizona, New Mexico, Colorado, Wyoming.	54	20	6.0
MID-AMERICA: North Dakota, South Dakota, Iowa, Missouri, Kansas, Minnesota, Nebraska.	57	21	6.4
GULF COAST: Texas, Oklahoma, Arkansas, Louisiana	51	24	7.3
GREAT LAKES: Wisconsin, Michigan, Illinois, Indiana, Ohio	67	66	20.1
SOUTH: Kentucky, Tennessee, Mississippi, Alabama	57	12	3.6
NEW ENGLAND: Maine, Vermont, New Hampshire, Massachusetts, Connecticut, Rhode Island	61	24	7.3
MID-ATLANTIC: New York, Pennsylvania, New Jersey	68	49	14.9
SOUTHEAST: Maryland, District of Columbia, Virginia, West Virginia, South Carolina, Georgia, Florida. Delaware, North Carolina.	60	78	23.7
NON-CONTINENTAL U.S.: Alaska, Hawaii, US Military Bases	56	5	1.6

a mean of 6.75 years. Table 5 shows the frequency distributions for the variables included as individual attributes.

Independent variables categorized as position-related attributes included position, level of care, familiarity, and years in present work setting. The most frequently held position was staff nurse (66.5%). This was consistent with the membership profile of NANN. Approximately 79% of respondents reported that their primary place of employment provided level III or tertiary neonatal care and 95% report their employer to be a hospital. Given the high percentage of individuals practicing in level III centers it was not surprising that 97-99% of the sample had experience with low-birthweight infants, infants with chromosomal anomalies, unstable infants and chronically ill infants. The mean number of years experience in the present work setting was 4.75 years. Table 6 illustrates the distribution of the variables comprising position-related variables.

Table 7 exhibits the frequency of the variables nursing education, continuing education and special knowledge that were classified as educational attributes. Sixty percent of participants reported having a Bachelor of Science Degree in Nursing (BSN) and 22% of the total sample reported having an advanced degree in nursing. One hundred thirty-five (40.7%) participants held certification in neonatal nursing through a nationally recognized credentialling organization. In addition 183 (55.3%) individuals reported having current certification in Neonatal Resuscitation;

TABLE 5:
Frequency Distribution: Individual Attributes
(N=331)

VARIABLE	VALUE LABELS	FREQUENCY	PERCENT
Age	less than 25 years	14	4.2
	25-34 years	145	43.8
	35-44 years	140	42.3
	45-54 years	28	8.5
	55-64 years	4	1.2
	over 65 years	0	0.0
Marital Status	Single	66	19.9
	Married	234	70.7
	Divorced	26	7.9
	Widowed	5	1.5
Religion	Catholic	108	32.7
	Jewish	13	3.9
	Protestant	145	43.8
	Other	65	19.6
Religiosity	High (influences almost every decision)	88	26.7
	Average (influences 50% of decisions)	130	39.6
	Low (does not influence most decisions)	111	33.7
Race	American Indian or Alaskan Native	1	0.3
	Asian/Pacific Islander	2	0.6
	Black	5	1.5
	Hispanic	7	2.2
	White/not of hispanic origin	311	94.2
	Other	4	1.2
Years of practice as a neonatal nurse	less than 3 years	23	6.9
	3-5 years	69	20.8
	6-10 years	114	34.5
	11-15 years	85	25.7
	16-20 years	36	10.9
	greater than 20 years	4	1.2

TABLE 6:
Frequency Distribution: Position-Related Attributes
(N = 331)

VARIABLE	VALUE LABELS	FREQUENCY	PERCENT
Position	Staff Nurse	220	66.5
	Head Nurse	11	3.3
	Supervisor	9	2.7
	Clinical Specialist	17	5.1
	Nurse Practitioner	40	12.1
	Educator	11	3.3
	Director	2	0.7
	Other	21	6.3
Level of Care	Level I	8	2.5
	Level II	58	17.5
	Level III	262	79.3
	Unknown	2	0.7
Familiarity	Low-Birthweight Infant	321	97.0
	Infant with Chromosomal Anomalies	327	98.8
	Unstable Infants	324	97.9
	Chronically Ill Infants	323	97.6
Present Employer	Private Hospital	113	34.3
	Public Hospital	94	28.7
	University/Academic Medical Center	106	32.2
	Independent Practitioner	3	0.9
	Other	13	3.9
Years in present work setting	less than 3 years	84	25.6
	3-5 years	78	23.7
	6-10 years	94	28.6
	11-15 years	56	17.0
	16-20 years	11	3.3
	greater than 20 years	6	1.8

TABLE 7:
Frequency Distribution: Educational Attributes
(N=331)

VARIABLE	VALUE LABELS	FREQUENCY	PERCENT
Nursing Education*	Diploma or ADN	144	44.1
	BSN	212	64.0
	Advanced Degree in Nursing	74	22.0
	Non-Nursing Degree	20	6.0
Continuing Education Activities	None	61	18.4
	1-2	140	42.3
	3-5	85	25.7
	greater than 5	45	13.6
Special Knowledge (Certification)	Neonatal Intensive Care Nurse	85	25.7
	Low-Risk Neonatal Nurse	7	2.1
	Neonatal Nurse Practitioner	37	11.2
	Other Certification	6	1.8
	No certification	196	59.2

* Total greater than 100% because participants were asked to indicate all that apply.

however, since this is a basic job requirement in most hospitals and neonatal units it was not included as a positive response for the variable of special knowledge. Over 40% of the participants had attended 1-2 continuing education activities on the topic of ethics in the past five years.

VALUES SCALE

The values scale consisted of 30 items. Each item was rated on a 7 point Likert scale. Means for individual items on the scale ranged from 2.45 to 6.56, resulting in a scale mean of 5.44. Table 8 reports the mean, median and standard deviation for each item. To assess the distribution of the data, histograms were generated. The responses for the values scale were normally distributed around the mean. The normal distribution of the data was further supported by the approximately equivalent values of the mean (5.44), median (5.46) and mode (5.43) values.

The construct validity of the instrument was evaluated by a principal components factor analysis procedure with varimax rotation. The resulting two factor solution was determined by eigenvalues greater than one, and the lack of items loading on more than one factor. A total of 44.2% of the variance was explained by this two factor solution. Twenty of the 30 scale items had significant loadings (>0.40) on one of the two factors. The factors represent the dimensions of autonomy or freedom of choice (13 items), and justice or the equitable distribution of risks and benefits (7

TABLE 8:
Descriptive Statistics: Values Scale
(N=331)

ITEM	Scale Range: 1=Least important 7=Most important MEAN	MEDIAN	STANDARD DEVIATION
Effectiveness of care plan.	4.03	4.00	1.75
Doing good regardless of the consequences	3.26	3.00	1.69
The inherent worth of the individual.	5.91	6.00	1.22
The good of society over the needs of the individual.	3.04	3.00	1.44
Nurses exercising choice in treatment decisions.	5.56	5.00	1.16
Maintaining human contact with the infant.	6.56	7.00	0.68
Providing equipment or care to those infants who can benefit most.	4.93	5.00	1.51
Non-Judgmental attitudes of the health care professionals.	5.95	6.00	1.10
Health care professionals providing love to the infant.	6.17	7.00	1.04
Equal care regardless of the ability to pay.	6.43	7.00	0.99
The right to independence in nursing care.	5.89	6.00	1.04
The infant's prospect for an active life.	5.22	5.00	1.21
Protecting the infant from unnecessary procedures.	6.09	6.00	0.83
Equal distribution of skills and equipment among all infants.	5.49	5.00	1.34
Severely impaired infants should be allowed to die.	2.45	2.00	1.02
Making the infant comfortable even if it alters the treatment plan.	5.99	6.00	0.93

Table 8-continued:

ITEM	MEAN	MEDIAN	STANDARD DEVIATION
The family's right to participate in all decisions related to their infant.	6.23	7.00	1.11
The infant's/family's right to make choices even if they are different than the choices of the health care providers.	5.88	6.00	1.15
Preserving life at all costs.	4.45	4.00	1.69
The needs of the individual patient take priority over other needs.	2.84	3.00	1.27
The principle of do no harm.	5.49	5.00	1.22
Action based on the desires or needs of another person.	3.72	4.00	1.46
Cost-containment.	3.93	4.00	1.47
Effectiveness of care as measured by survival.	3.55	4.00	1.46
Knowledge of what the family wants for the infant.	6.11	6.00	0.88
Preventing harm to the infant/family.	6.29	6.00	0.80
Family's right to request treatment even if it will not change the infant's prognosis.	5.34	5.00	1.14
Consistency among health care providers in the treatment plan.	6.20	6.00	0.97
Family's wishes including religious beliefs	5.87	6.00	1.06
Personal standards of nursing care	6.18	6.00	0.95
Values Scale:	5.44	5.46	0.40

items). These two factors, autonomy and justice, correspond to the previously described conceptual model and are congruent with Rokeach's theory of Human Values and Valuing. In addition the item, "the principle of do no harm" was retained as a criterion measure representing the value of beneficence or the duty to do good.

These factors, while not identical to the pilot study, represent the same underlying dimensions of the concept. In the pilot data the autonomy dimension factored into two sub-scales: nurse autonomy and family autonomy. However, in the larger data set these sub-scales merged into a single dimension. In addition, six of the items from the original beneficence sub-scale met the criteria and were incorporated in the autonomy sub-scale. Of the seven items on the original justice scale, six of the items met the criteria and remained on the scale. One item dropped off the justice dimension and one item moved from the autonomy to the justice dimension. The items on the quality scale in the pilot study did not enter into the previously described factor solution and were omitted from further analytic procedures.

Therefore while the present factor solution has some minor alterations from the pilot data, it is congruent with the theoretical framework of this study. Also it is important to remember that the factor solution for the pilot data was attained by specifying which items were thought to intercorrelate and only looking for homogeneity within the specified items. Because the

pilot study sample size was less than the number of items on the scale, it was only possible to support that the identified item correlated with the other items entered as part of that scale. Related to sample size, it was not possible to evaluate if another factor solution provided a better fit with the data. However the findings of the present factor analysis were reassuring in that the dimensions were consistent with the pilot study data and the theoretical framework.

Alpha coefficients were calculated for each of the factors or subscales and were found to be: autonomy; .85, and justice; .86. The alpha for the entire 21 item scale was .82; however, the inter-item correlation mean for the entire scale was only .18. Because the total values scale is the composite of two sub-scales and a criterion item, it is a multidimensional scale and therefore an omega was calculated. An omega is based on a principle axis factor analysis and yields an internal consistency coefficient of .86. Table 9 displays the factor loadings, corrected item-to-total correlations and reliability coefficients for the values scale.

INFORMATION SCALE

The information scale, following each vignette consisted of 15 items. Each item was rated on a 7-point Likert scale. The histograms for the information scale in each vignette reveal that the data were normally distributed. The normal distribution was supported by the approximately

TABLE 9:
Factor Structure and Reliability Summary for Values Scale
(N=331)

FACTOR	ITEM	LOADING	ITEM/SCALE CORRELATION
AUTONOMY	Knowledge of what the family wants for the infant	.6842	.64
	Maintaining human contact with the infant	.6728	.59
	Family's right to make decisions for the infant	.6569	.52
	Family's right to make choices different than the health care professionals	.6468	.65
	Personal standards of nursing care	.6329	.60
	The right to independence in nursing care	.5562	.51
	Preventing harm to the infant/family	.5480	.37
	Family's wishes, including religious beliefs	.5369	.38
	Equal care regardless of the ability to pay	.5165	.40
	Nurses exercising choice in treatment decisions	.5083	.46
	Protecting the infant from unnecessary procedures	.4569	.48
	Providing love to the infant	.4547	.52
	Making the infant comfortable even if it alters the treatment plan	.4223	.42
		Eigenvalue: 5.116 Variance explained: 25.6%	Inter-item Correlation: .30 ALPHA: .85

Table 9-Continued:

FACTOR	ITEM	LOADING	ITEM/SCALE CORRELATION
JUSTICE	Effectiveness of care measured by survival	.7240	.72
	Cost Containment	.7163	.73
	Providing equipment to those who benefit most	.7101	.67
	Equal distribution of skills and equipment among all infants	.6970	.68
	Consistency among health care providers	.6335	.61
	Non-judgmental attitudes	.6231	.56
	Actions based on the needs of another person	.5202	.36
	Eigenvalue: 3.729 Variance explained: 18.6%		Inter-item Correlation: .45 ALPHA: .86
		Values Scale:	Alpha = .82 Omega = .86

equivalent values of the mean, median and mode for the scale. Descriptive statistics for this scale, by vignette, are displayed in Table 10.

The construct validity of the information scales was evaluated by a principal components factor analysis procedure with varimax rotation. A three factor solution evolved for each vignette. This three factor solution was determined by eigenvalues greater than one and the lack of items loading on more than one factor. Items which did not load on one of the factors at a 0.40 level were dropped from further analytic procedures. The three factor structure corresponds with the conceptual model proposed as the foundation of this study and was similar to the factor solution attained in the pilot study. The only items which shifted from one factor to another were "infant's medical diagnosis" and "results of diagnostic tests". However, the basic factor solution and the meanings and content of the identified dimensions were consistent.

Alpha coefficients were calculated for each of the factors. In addition an alpha coefficient was calculated for the entire information scale for each vignette. As with the previously described values scale, the information scale was thought to be multi-dimensional; therefore alpha is not the most appropriate estimate of internal consistency. Consequently an omega, based on a principal axis factor analysis was calculated for the information scale for each vignette. Table 11 displays the factor loadings, corrected item-to-scale correlations, and reliability for the information scale by vignette.

TABLE 10:
Descriptive Statistics: Information Scale
(N=331)

Vignette #1: The Low-Birthweight Infant

ITEM	Scale Range: MEAN	1=least important 7= most important MEDIAN	STANDARD DEVIATION
Gestational age	5.71	6.00	1.18
Evaluation of superior	2.32	2.00	1.46
Family Socio-economic status	1.84	1.00	1.24
Standards defines by professional organizations	4.59	5.00	1.41
APGAR score at 5 minutes	4.56	5.00	1.65
Baby Doe Regulations	3.35	4.00	1.68
Opinion of consultants	5.15	5.00	1.25
Unit protocols	4.73	5.00	1.35
Expectation of physicians	4.61	5.00	1.38
Infant's medical diagnosis	5.60	6.00	1.14
Results of diagnostic tests	5.60	6.00	1.10
Hospital philosophy	3.80	4.00	1.53
Parent's marital status	1.42	1.00	0.89
ANA Code for Nurses	4.10	4.00	1.54
Birthweight	5.27	5.00	1.35
INFORMATION SCALE:	4.20	4.20	0.66

Table 10-Continued:
Vignette #2: The Infant with a Chromosomal Anomaly

ITEM	MEAN	MEDIAN	STANDARD DEVIATION
Gestational age	2.84	2.00	1.76
Evaluation of superior	2.19	2.00	1.41
Family Socio-economic status	1.85	1.00	1.41
Standards defines by professional organization	4.47	4.00	1.45
APGAR score at 5 minutes	3.33	3.00	1.74
Baby Doe Regulations	3.66	4.00	1.71
Opinion of consultants	5.56	6.00	1.26
Unit protocols	4.51	5.00	1.39
Expectation of physicians	4.69	5.00	1.51
Infant's medical diagnosis	6.68	7.00	0.99
Results of diagnostic tests	6.31	6.00	0.99
Hospital philosophy	3.81	4.00	1.48
Parent's marital status	1.53	1.00	1.04
ANA Code for Nurses	4.01	4.00	1.51
Birthweight	2.71	2.00	1.64
INFORMATION SCALE:	3.26	3.26	0.68

Table 10-Continued:

Vignette #3: The Chronically Ill Infant

ITEM	MEAN	MEDIAN	STANDARD DEVIATION
Gestational age	2.32	2.00	1.50
Evaluation of superior	2.19	2.00	1.31
Family Socio-economic status	1.90	1.00	1.44
Standards defined by professional organizations	4.32	4.00	1.51
APGAR score at 5 minutes	3.98	4.00	2.00
Baby Doe Regulations	3.53	4.00	1.61
Opinion of consultants	6.08	6.00	1.09
Unit protocols	4.40	4.00	1.39
Expectation of physicians	5.03	5.00	1.59
Infant's medical diagnosis	6.46	7.00	0.94
Results of diagnostic tests	6.41	7.00	0.86
Hospital philosophy	3.87	4.00	1.51
Parent's marital status	1.49	1.00	0.99
ANA Code for Nurses	3.85	4.00	1.54
Birthweight	2.18	2.00	1.26
INFORMATION SCALE:	3.23	3.26	0.62

TABLE 11:
Factor Structure and Reliability Summary: Information Scale
(N=331)

Vignette #1: The Low-Birthweight Infant

FACTOR	ITEM	LOADING	ITEM/SCALE CORRELATION
PROTOCOL	Unit protocol	.7515	.65
	Opinion of consultants	.6922	.56
	Results of diagnostic tests	.6365	.43
	Infant's medical diagnosis	.6195	.42
	Expectations of physicians	.6092	.47
	Hospital philosophy	.5816	.51
	ANA Code for Nurses	.5806	.52
	Standards defined by professional organizations	.5581	.47
	Baby Doe Regulations	.5102	.43
	Eigenvalue: 3.604	Alpha: .80	
	Variance explained: 27.7	Inter-item Correlation: .31	
INFANT	Gestational age	.6402	.53
	Birthweight	.6285	.53
	Eigenvalue: 1.993	Alpha: .69	
	Variance explained: 15.3	Inter-item Correlation: .54	
FAMILY	Socio-economic status	.7587	.27
	Parent's marital status	.7202	.27
	Eigenvalue: 1.539	Alpha: .66	
	Variance explained: 11.8	Inter-item Correlation: .52	
	TOTAL SCALE:	Alpha: .75	
		Omega: .80	

Table 11-continued:

Vignette #2: The Infant with Chromosomal Anomalies

FACTOR	ITEM	LOADING	ITEM/SCALE CORRELATION
PROTOCOL	Unit protocol	.7181	.61
	Standards defined by professional organizations	.7173	.60
	Opinion of consultants	.6516	.47
	ANA Code for Nurses	.6375	.52
	Baby Doe Regulations	.6233	.48
	Hospital philosophy	.5920	.48
	Expectations of physicians	.5558	.40
	Eigenvalue: 3.388		Alpha: .78
	Variance explained: 26.1		Inter-item Correlation: .34
INFANT	Infant's medical diagnosis	.6915	.43
	Gestational age	.6913	.61
	Birthweight	.6731	.54
	Results of diagnostic tests	.6211	.35
	Eigenvalue: 2.356		Alpha: .68
	Variance explained: 18.1		Inter-item Correlation: .36
FAMILY	Socio-economic status	.7536	.62
	Parent's marital status	.7372	.62
	Eigenvalue: 1.537		Alpha: .75
	Variance explained: 11.8		Inter-item Correlation: .62
	TOTAL SCALE:		Alpha: .70
			Omega: .74

Table 11-continued:

Vignette #3: The Chronically Ill Infant

FACTOR	ITEM	LOADING	ITEM/SCALE CORRELATION
PROTOCOL	ANA Code for Nurses	.7724	.63
	Standards defined by professional organizations	.7682	.66
	Unit protocol	.7673	.65
	Baby Doe Regulations	.6624	.49
	Hospital philosophy	.6371	.52
	Expectations of physicians	.4028	.22
	Eigenvalue: 3.263 Variance explained: 27.2		Alpha: .77 Inter-item Correlation: .37
INFANT	Infant's medical diagnosis	.7275	.39
	Gestational age	.5162	.37
	Birthweight	.4987	.39
	Results of diagnostic tests	.7230	.37
	Eigenvalue: 2.130 Variance explained: 17.8		Alpha: .58 Inter-item Correlation: .28
FAMILY	Socio-economic status	.6670	.56
	Parent's marital status	.5903	.56
	Eigenvalue: 1.534 Variance explained: 12.8		Alpha: .68 Inter-item Correlations:.56
	TOTAL SCALE:		Alpha: .68 Omega: .73

SPECIFIC FINDINGS

The purpose of this research was to identify the values which influence the individual nurse's perception of a situation and choice of behavior in a hypothetical patient care situation. The findings for each of the study's objectives will be addressed individually. In all analytic procedures the unit of analysis was the individual nurse.

OBJECTIVE 1: *To identify and classify the values that guide the behavioral choices of neonatal nurses in their nursing practice.*

The measure of an individual's values was obtained from the participant's responses to the items on the values scale. Data reduction was accomplished with principal components factor analysis to identify the underlying dimensions of the values concept. The resulting factor solution identified two dimensions whose items were consistent with the values of autonomy and justice. In addition, to these two dimensions or sub-scales, a single item emerged as a criterion item to measure a third value, beneficence.

Autonomy was the most important value identified by study participants. The mean score for the variable of autonomy was 6.10 on a seven point scale. The dimension of autonomy was consistent with Rokeach's (1973) conceptualization of instrumental values or behavioral ideals which guide activities and decision-making. According to Rokeach

(1973), instrumental values or behavioral ideals are process oriented and include modes of conduct such as being courageous, responsible and loving. Items in this factor included, "human contact with the infant", "loving the infant", "comfort", "family participation in decision-making" and "self directed nursing care". All of the items in this factor or dimension are concerned with the rightness of an act, thought or behavior and are personal in nature or have an intrapersonal focus, that is, the rightness or an act is based on the individual's model of behavior and not universally agreed upon standards of behavior. Behaviors inconsistent with this value cause the individual feelings of guilt for the wrong-doing. Therefore the value of autonomy is an internalized sense of rightness or wrongness and represents one's own control over behavior. That is, autonomy is one's own set of standards or one's conscience that operates without the presence of others.

The value of beneficence was the second most important to the study sample. The value of beneficence was also consistent with Rokeach's definition of instrumental values. However, unlike the intra-personal focus of autonomy, beneficence has an inter-personal or societal focus. Violation of values with an inter-personal or societal focus results in feelings of shame about personal inadequacies (Rokeach, 1973). Shame can only occur when others are aware of the breach of an accepted value; therefore, beneficence is an external standard or a societal enculturated norm of good and bad, that motivates individual behavior. The mean score for the variable of

beneficence was 5.46.

The third identified value was justice. This was the least important of the three identified values with a mean score of 4.82 on a 7-point scale. The dimension classified as justice encompassed items that were outcome focused and included, "effectiveness of care", "consistency among health care providers", "non-judgmental attitudes" and "cost-containment". These items were consistent with Rokeach's conceptualization of terminal values. Table 12 displays the descriptive statistics for the identified values of autonomy, beneficence and justice.

The proposed model in this research suggested a relationship between the independent variables, categorized as individual attributes, position-related attributes and educational attributes, and an individual's values. In general, the data did not support this relationship. A table illustrating the associations between the demographic variables comprising individual attributes, position-related attributes and educational attributes and the values of autonomy, beneficence and justice is presented in Table 13.

Regression analysis was used to determine the impact of the independent variables, which include individual attributes, position-related attributes and educational attributes of the individual, on the dependent variable of values. Therefore each of the identified values was regressed on the independent variables. When regression equations with the dependent variables of autonomy and justice and the independent variables of age,

TABLE 12:
Descriptive Statistics For The Identified Value Dimensions
(N=331)

	AUTONOMY	BENEFICENCE	JUSTICE
MEAN:	6.09	5.46	4.82
MEDIAN:	6.07	6.00	4.86
MODE:	6.00	6.00	5.00
STANDARD DEVIATION:	0.52	1.28	0.68

TABLE 13:
Correlation Matrix: Selected Independent Variables and Identified Value Dimensions (N = 331)

	Pearson's Correlation		
	Autonomy	Beneficence	Justice
INDIVIDUAL ATTRIBUTES:			
Age	.102	.172**	.012
Religiosity	-.026	-.047	-.038
Neonatal Experience	.020	.084	.017
POSITION-RELATED ATTRIBUTES:			
Level of Care	.023	-.004	-.031
Familiarity:			
Low-Birthweight Infants	.034	.051	.142*
Infant with Chromosomal Anomalies	.156**	.010	.050
Unstable Infant	.010	-.029	-.041
Chronically Ill Infants	.064	.011	-.056
EDUCATIONAL ATTRIBUTES:			
Nursing Education ADN/Diploma	-.035	.065	.072
BSN	.016	-.009	-.090
Advanced Degree	-.002	.119*	-.064
Continuing Education	.019	-.013	-.098
Certification	.021	.125*	-.045

Significance Levels * $p<.05$
** $p<.01$

religiosity, position, level of care, neonatal nursing experience, continuing education, nursing education and special knowledge were entered, the models were not significant: autonomy R^2=0.04, F=1.04, p=0.41 and justice R^2=0.05, F=1.23, p=0.26. In the autonomy model, age was the only significant predictor at p=.04 and in the justice model none of the exogenous variables were significant at p<.05. In the regression equation with beneficence as the dependent variable and the previously mentioned independent variables entered, age (p=.01) was again a significant predictor and the model was significant: R^2=0.07, F=1.77, p=.05. The summary statistics for the regression equations are shown in Table 14.

OBJECTIVE 2: *To identify the information and/or data perceived as important to the individual nurse in her thinking and behavior in a specific patient care situation.*

The measure of information perceived as most important to the individual nurse was obtained from the responses to the items on the information scale accompanying each vignette. A principal components factor analysis was used to identify the underlying dimensions of the information scale items. The resulting factor solution identified three factors for each vignette. Items within each factor were consistent with the dimensions of unit/professional protocols, infant characteristics and family status. However while the identified dimensions were consistent for all three situational vignettes, two items loaded on different factors dependent on the

TABLE 14:
Regression Analysis Summary Statistics:
Individual, Position-Related and Educational Attributes as Predictors of Values
(N=331)

MODEL: **Autonomy**	[Mean = 6.09]
F Statistics:	1.04
Significance for F:	0.41
R^2 for Model:	0.04
MODEL: **Beneficence**	[Mean = 5.46]
F Statistics:	1.77
Significance for F:	0.04
R^2 for Model:	0.07
MODEL: **Justice**	[Mean = 4.82]
F Statistics:	1.23
Significance for F:	0.26
R^2 for Model:	0.05

situation. The identified dimensions are congruent with the proposed model. The movement of the items "infant's medical diagnosis" and "results of diagnostic tests" between the unit/professional protocol factor and the infant characteristic factor is reasonable from a clinical perspective.

In the first situation, the low-birthweight infant, an immediate choice is necessary and extensive diagnostic testing and confirmation of a diagnosis are impossible. Therefore the knowledge added to the situation from information about medical diagnosis and diagnostic tests results is based on previous experience in similar circumstances, previous case studies or unit specific policies and procedures. However in the vignettes of the infant with a chromosomal anomaly and the chronically ill infant, diagnostic testing and confirmation of the medical diagnosis are used to determine the extent of the abnormal genome map and the magnitude of the physiologic and neuro-biological damage relative to the specific infant. Therefore in the vignette of the low-birthweight infant, these items were by necessity viewed within the norms of a group of pre-existing but similar infants, that is, how does the particular infant compare to previous infants in similar circumstances, whereas in the vignettes of the infant with a chromosomal anomaly and the chronically ill infant, these items were being applied to the specific infant in the vignette.

Across the three situations, the dimension of family status was consistently the least important with an average score of 1.66 on a 7-point

scale. Information about infant characteristics was the most important dimension in all situations, however the ranking of items within this dimension varied by clinical situation. In the first vignette (the low-birthweight infant) the single most important item related to infant characteristics was gestational age with a mean score of 5.71, whereas for the infant with a chromosomal anomaly and the chronically ill infant, the infant's medical diagnosis was identified as the single most important item and gestational age was relatively unimportant. In all situations the dimension of unit/professional protocol was only slightly less important than infant characteristics; however, in the situation with the low-birthweight infant the mean of the unit/professional protocol dimension was somewhat higher than in the other situations. This may be related to the high degree of uncertainty and the lack of opportunity to gather additional information in this situation which lead the individual to be more reliant on established practices and procedures. In the second and third vignettes, the importance of the unit/professional protocol dimension was closer to the midpoint of the scale. Table 10 displayed the mean and standard deviation for each of the information dimensions by vignette.

To determine the relationship between the importance of each of the identified information dimensions and an individual's values, a correlation matrix was generated. A correlation matrix for each vignette is present in Table 15. In addition selected categorical characteristics related to

TABLE 15:
Correlation Matrix: Identified Values and Information Dimensions
(N = 331)

Vignette #1: The Low-Birthweight Infant

	AUTONOMY	BENEFICENCE	JUSTICE
Unit/Professional Protocol	.224**	.100	.266**
Infant Characteristics	.132*	.012	-.027
Family Status	-.089	.009	-.107

Vignette #2: The Infant with a Chromosomal Anomaly

	AUTONOMY	BENEFICENCE	JUSTICE
Unit/Professional Protocol	.109	.083	.199**
Infant Characteristics	-.110*	-.022	.074
Family Status	-.110*	.004	-.134*

Vignette #3: The Chronically Ill Infant

	AUTONOMY	BENEFICENCE	JUSTICE
Unit/Professional Protocol	.156**	.156**	.194*
Infant Characteristics	-.091	-.028	.027
Family Status	-.055	.069	-.075

* p-Value < 0.05
** p-Value < 0.01

individual, position-related and educational attributes of the nurse were correlated with the information dimensions (Table 16).

OBJECTIVE 3: *To identify the behavioral choices selected by nurses in specific patient care situations.*

The measure of behavioral choice was generated from the subject's response on a seven point rating scale indicating their degree of agreement or disagreement with each level of care available in the situation.

The option of aggressive care of the low-birthweight infant received a mean score of 4.44 which was slightly above the midpoint of a seven point scale with the anchors 1 = completely disagree and 7 = completely agree. The option of limited care had a mean score of 3.43 and the option of comfort care elicited the most disagreement with a mean score of 2.84. There was a wide variation in the responses to these variables as is evidenced by a standard deviation of greater than 2.0 for the aggressive care and comfort care variables. In addition, the responses have a non-normal distributions. The frequency plot of the scores on the variable of aggressive care reveals that individuals have strong opinions either for or against this choice option with a small percentage of respondents remaining neutral: while the mean score for this variable was 4.44, the mode was 7.00. A similar pattern of responses was found for the variable of comfort care, but in the opposite direction: the mode for this variable was 1.00. However for the variable of limited care the responses tended to cluster at the midpoint

TABLE 16:
Correlation Matrix: Selected Demographic Variables and Information Dimensions
(N=331)

Pearson's Coefficient

Vignette #1: Low Birthweight Infant

	UNIT/PROFESSIONAL PROTOCOL	INFANT CHARACTERISTICS	FAMILY STATUS
AGE	-.099	-.013	-.005
NEONATAL EXPERIENCE:	-.099	-.017	-.086
LEVEL OF CARE:	-.071	.107	-.057
BSN EDUCATION:	.064	.044	.071
ADVANCED DEGREE:	-.033	.055	-.006
CONTINUING EDUCATION:	-.147*	-.024	.003

Vignette #2: The Infant With A Chromosomal Anomaly

	UNIT/PROFESSIONAL PROTOCOL	INFANT CHARACTERISTICS	FAMILY STATUS
AGE	-.065	-.078	-.016
NEONATAL EXPERIENCE:	-.085	-.117*	-.123*
LEVEL OF CARE:	-.092	.189**	-.129*
BSN EDUCATION:	.112	.008	.082
ADVANCED DEGREE:	-.043	-.033	.031
CONTINUING EDUCATION:	-.039	-.033	.029

Vignette #3: The Chronically Ill Infant

	UNIT/PROFESSIONAL PROTOCOL	INFANT CHARACTERISTICS	FAMILY STATUS
AGE	-.067	-.036	.016
NEONATAL EXPERIENCE:	-.054	-.088	-.120*
LEVEL OF CARE:	-.054	-.007	-.067
BSN EDUCATION:	.079	.038	.068
ADVANCED DEGREE:	-.028	-.028	.050
CONTINUING EDUCATION:	-.033	-.033	-.010

Significance: * $p<.05$
** $P<.01$

of the scale with a median and mode of 4.00 and a mean of 3.43. Table 17 contains the descriptive statistics for the measurement of choice. When the variables of aggressive care, limited care and comfort care were correlated a negative association ($p < 0.01$) was found indicating that individuals who agree with aggressive care disagreed with limited ($r = -.43$) and comfort care ($r = -.67$). However there was a positive association between limited and comfort care ($r = .21$, $p < .01$).

TABLE 17:
Descriptive Statistics for Variable of Choice

Vignette #1: The Low-Birthweight Infant

	MEAN	MEDIAN	MODE	STANDARD DEVIATION
AGGRESSIVE CARE	4.44	5.0	7.0	2.07
LIMITED CARE	3.43	4.0	4.0	1.81
COMFORT CARE	2.84	2.0	1.0	2.24

In the second vignette, the infant with a chromosomal anomaly, the mean score for each of the variables was: aggressive care 2.45, limited care 5.25 and comfort care 3.40. Again the standard deviations are high indicating a wide spread of responses. Descriptive statistics for the measure of choice are provided in Table 18. When a correlation matrix was generated for these variables, there was a consistent negative association ($p < 0.01$) among the levels of care: aggressive care and limited care $r = -.35$, aggressive care and comfort care $r = -.38$, and limited care and comfort care $r = -.25$. This negative association implies that participants had explicit ideas related to the degree of agreement or disagreement with each level of care in this situation. The decisiveness of the participant's responses was evidenced by the mode of one for the aggressive care option and the mode of seven for the limited care and comfort care options.

The pattern of responses for the chronically ill infant was similar to the responses for the infant with a chromosomal anomaly in vignette #2, except for the variable of comfort care in which the responses were similar in pattern but in the opposite direction. The mean scores for the measurement of choice were: aggressive care 1.62, limited care 4.77 and comfort care 5.33 (Table 19). A correlation matrix was generated between these variables and again demonstrates a negative association among all variables: aggressive and limited care $r = -.07$ {N.S.}, aggressive and comfort care $r = -.23$ ($p < .01$) and limited and comfort care $r = -.28$ ($p < .01$).

TABLE 18:
Descriptive Statistics for Variable of Choice

Vignette #2 - Infant with a Chromosomal Anomaly

	MEAN	MEDIAN	MODE	STANDARD DEVIATION
AGGRESSIVE CARE	2.45	2.0	1.0	1.77
LIMITED CARE	5.25	6.0	7.0	1.76
COMFORT CARE	3.41	3.0	1.0	2.10

TABLE 19:
Descriptive Statistics for Variable of Choice

Vignette #3 - Chronically Ill Infant

	MEAN	MEDIAN	MODE	STANDARD DEVIATION
AGGRESSIVE CARE	1.62	1.0	1.0	1.12
LIMITED CARE	4.77	5.0	7.0	1.86
COMFORT CARE	5.33	6.0	7.0	1.85

THE MODEL

Rokeach (1973) has identified the purpose of values as standards that guide activities and as general plans used to make decisions. Therefore it was proposed in this research that an individual's values guide the type of information sought in a particular situation and ultimately the choice of behavior preferred by the individual in that situation.

To test the proposed model (Figure 1, page 61) and to determine which factors best predict the nurse's behavioral choice, path analysis was used. Path analysis was an appropriate strategy because the causal ordering of the variables was supported by theory; values influence an individual's perception of information and one's perception of information determines choice (McLaughlin & Marasculio, 1990). Using the variables of values, information and choice, a series of regression equations were specified for each vignette or clinical situation to account for case specific influences. Based on the previous regression model and the lack of significance of the independent variables as predictors of individual values, the independent variables of individual attributes, position-related attributes and educational attributes were excluded from further testing.

A regression equation was entered for the endogenous variables at each stage of the model; in the first series of equations the dependent variables were the information dimensions and in the second series of equations the dependent variables were the behavioral choices. Regression

analysis identified significant predictors for each of the endogenous variables. For the purpose of analysis, each vignette was entered as a separate model.

Vignette #1: The Low Birthweight Infant

A regression equation was entered for each of the identified information dimensions, that is, unit/professional protocols, infant characteristics and family status. The value of autonomy was the only significant predictor of the infant characteristics dimension and the value of justice was predictive of the unit/professional protocol dimension. These findings imply that individuals who value autonomy or acting according to their internal standards of right and wrong place greater importance on characteristics related to the individual infant whereas individuals who value justice or the equal distribution of risks and benefits, place greater importance on rules, policies and protocols. When the second level of dependent variables or the behavioral choice variables were entered, the value of justice was positively related to comfort care and was negatively related to aggressive care. In addition, justice was indirectly predictive of comfort care and aggressive care through the information dimension of unit/professional protocols. However the sign of the path coefficient of the direct effect of justice on the behavioral choice was opposite the sign of the indirect effect of justice on the choice alternatives. This change in the

direction of the relationship indicates that the content of the unit/professional protocol dimension has an intervening effect on the relationship. This intervening effect is supported by the finding of a direct effect of unit/professional protocols on the aggressive care and comfort care choices. The direct relationship implies that individuals who place greater importance on unit/professional protocols are more in agreement with aggressive care and more in disagreement with comfort care. When the dependent variable, limited care, was entered, a single predictor emerged: the infant characteristics dimension of the information variable was positively predictive at the $p < .05$ level.

The values of beneficence and the information dimension of family status did not result in significant paths to any of the dependent variables. A summary of the direct, indirect and total causal effect for each pair of related variables is provided in Table 20. In the vignette, the low birthweight infant, the regression models for each of the choice alternatives are significant at $p < .05$; however these models explained only a small amount of the variance and had large residual values indicating that some other factor is the cause of the variation in the choice alternatives (Figure 2). The summary statistics for the regression equations with the dependent variable of choice are presented in Table 21.

TABLE 20:
Calculation of Direct, Indirect and Total Causal Effect of The Model: The Values Influencing Neonatal Nurse's Perceptions and Choices
(N=331)

Vignette #1: Low Birthweight Infant

PATH	DIRECT EFFECT	INDIRECT EFFECT	TOTAL EFFECT
Autonomy/Infant Characteristics:	.130	---	.130
Justice/Unit Professional Protocol	.247	---	.247
Justice/Aggressive Care	-.137	.048	-.089
Justice/Comfort Care	.188	-.029	.159
Unit/Professional Protocol/ Aggressive Care	.195	---	.195
Unit/Professional Protocol/ Comfort Care	-.117	---	-.117
Infant Characteristics/ Aggressive Care	-.129	---	-.129
Infant Characteristics/ Limited Care	.157	---	.157
Infant Characteristics/ Comfort Care	.185	---	.185
Autonomy/Aggressive Care	---	-.017	-.017
Autonomy/Limited Care	---	.020	.020
Autonomy/Comfort Care	---	.024	.024

Figure 2:

Prediction Model: The Values Influencing
The Preceptions and Choices of Neonatal Nurses
(N=331)
Vignette #1: Low Birthweight Infant

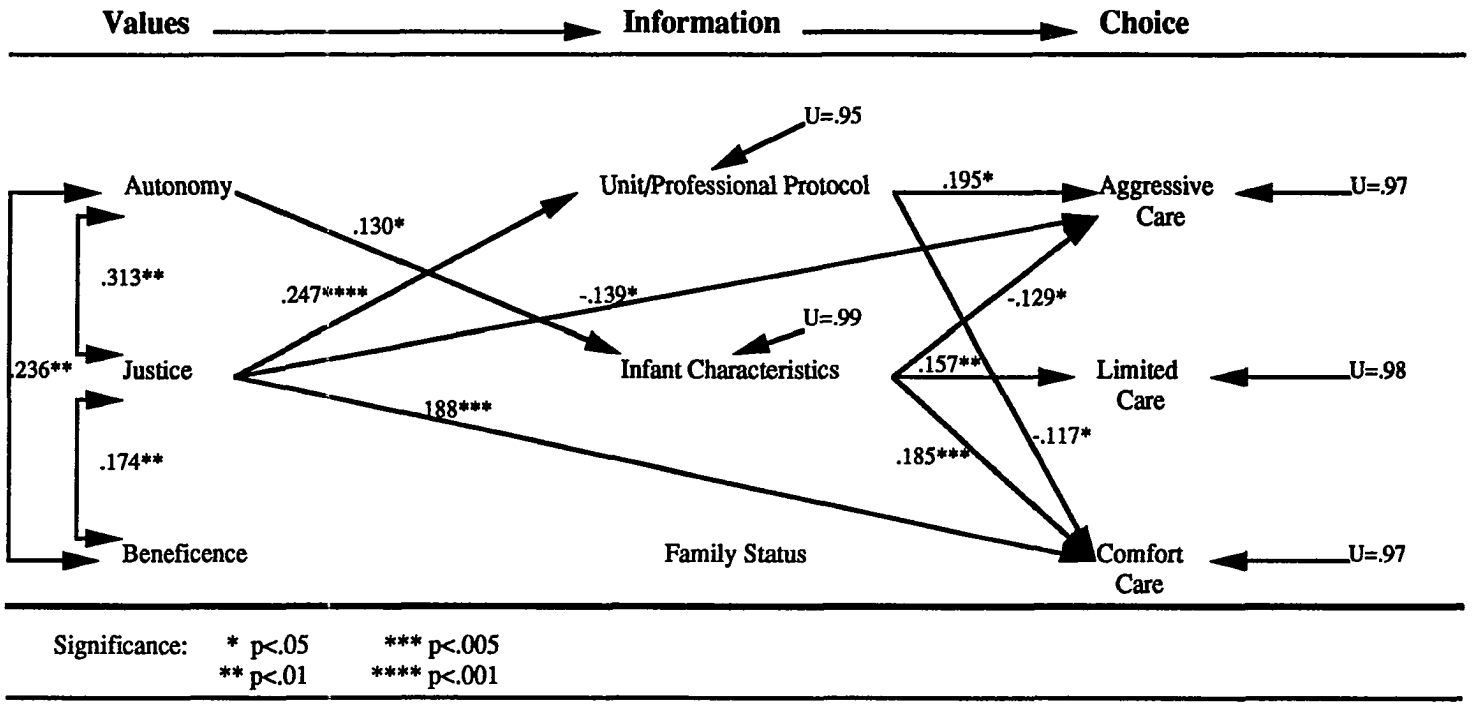


TABLE 21:
Regression Analysis Summary Statistics: Values and Information as Predictors of Choice
(N = 331)

Vignette #1: The Low Birthweight Infant

MODEL: **Aggressive Care**	[Mean = 4.44]
F Statistics:	2.99
Significance for F:	.007
R^2 for Model	.06
MODEL: **Limited Care**	[Mean = 3.43]
F Statistics:	1.91
Significance for F:	.07
R^2 for Model	.04
MODEL: **Comfort Care**	[Mean = 2.84]
F Statistics:	2.86
Significance for F:	.01
R^2 for Model	.06

Vignette #2 - Infant With A Chromosomal Anomaly

The path diagram for the second vignette is illustrated in Figure 3. In the first stage of the analysis the variable of information dimension was regressed on the independent variable of values. The value of justice was predictive of all three information dimensions, that is, unit/professional protocols, infant characteristics and family status. However the path coefficient between justice and family status is negative, indicating that family status is more important to individuals who value justice. There is also a negative sign on the path coefficient for the relationship between autonomy and the infant characteristics dimension.

When the choice variable is entered as the dependent variable, the information dimension of infant characteristics is predictive of all the choice alternatives; however the direction of the relationship is positive for the aggressive and limited care options and negative for the comfort care option. Neither unit/professional protocols nor family status had a direct effect on the choice alternative. The value of justice had a direct path to aggressive care and an indirect path to all three choice options through the information dimension of infant characteristic. The value of autonomy also has an indirect path to all the choice alternatives through the infant characteristic dimension. Finally beneficence has a direct path to the limited care alternative.

A summary of the direct, indirect and total causal effects for each

variable is provided in Table 22. In this vignette, the regression model for the behavioral choice aggressive care explains 29% of the variance in the responses. The models for limited care and comfort care were significant but explained only a small amount of the variance. Table 23 presents the summary statistics for the regression equations with the outcome variable of choice.

Vignette #3 - The Chronically Ill Infant

A regression equation was entered for each of the identified information dimensions. The value of justice was predictive of the importance of unit/professional protocols and the value of autonomy was predictive of the importance of infant characteristics. Unlike the previous vignettes, beneficence was predictive of the importance of two information dimensions unit/professional protocols and family status.

In the second level of the analysis, agreement with the option of aggressive care was predicted by the information dimension of infant characteristics and the value of justice. The value of justice was also predictive of the dependent variable of limited care, but its sign was negative in this equation. Other predictors of limited care were the value of autonomy and the unit/professional protocol dimension of the information factor. When the equation was entered with the dependent variable of comfort care the information dimension of infant characteristics was negatively predictive and

Figure 3:

Prediction Model: The Values Influencing The Preceptions and Choices of Neonatal Nurses (N=331)

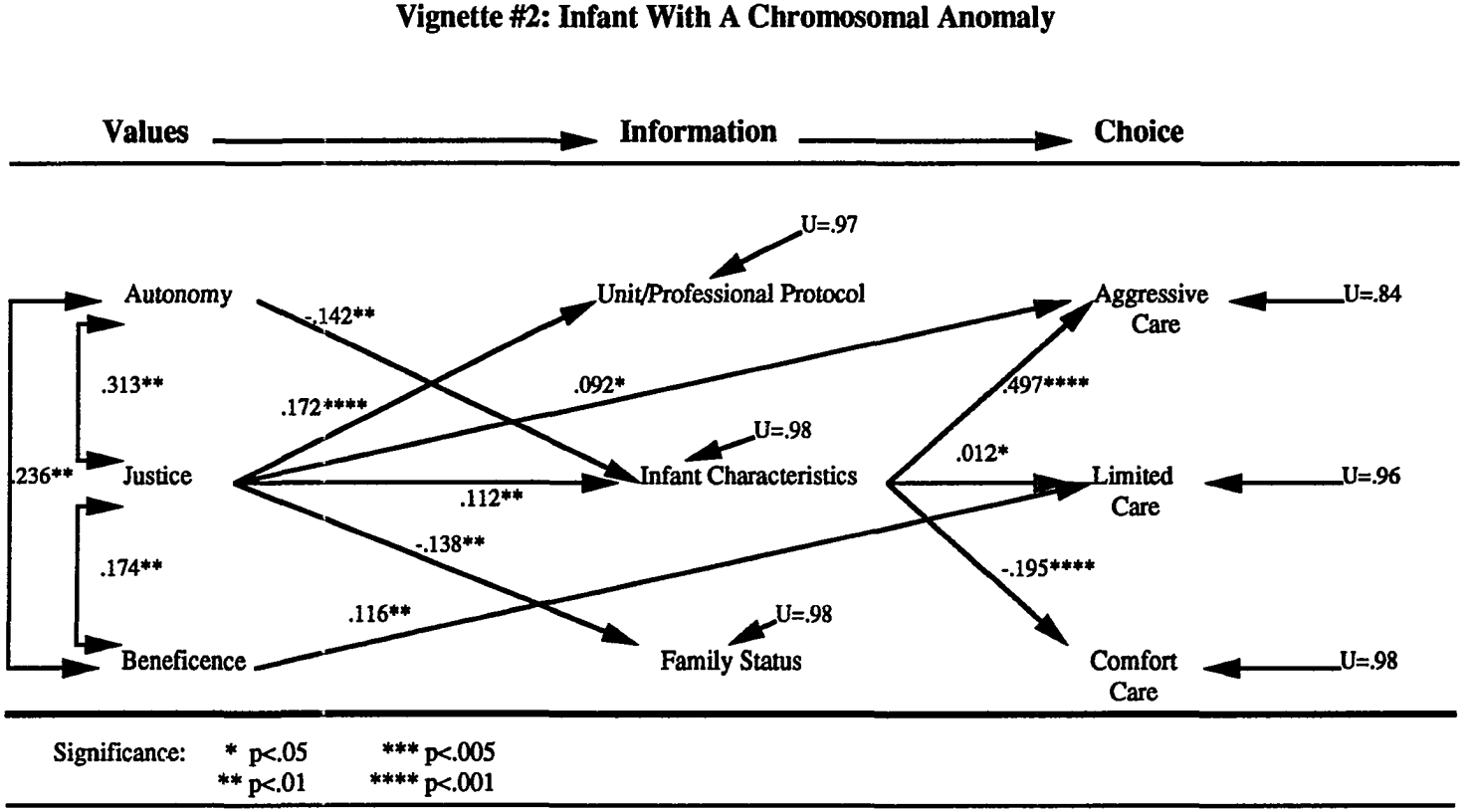


TABLE 22:
Calculation of Direct, Indirect and Total Causal Effect of The Model: The Values Influencing Neonatal Nurse's Perceptions and Choices
(N=331)

Vignette #2: Infant With A Chromosomal Anomaly

PATH	DIRECT EFFECT	INDIRECT EFFECT	TOTAL EFFECT
Autonomy/Infant Characteristics:	-.142	---	-.142
Justice/Unit Professional Protocol	.172	---	.172
Justice/Infant Characteristics	.112	---	.112
Justice/Family Status	-.138	---	-.138
Autonomy/Aggressive Care	---	-.071	-.071
Autonomy/Limited Care	---	-.002	-.002
Autonomy/Comfort Care	---	.028	.028
Justice/Aggressive Care	.092	.056	.148
Justice/Limited Care	---	.001	.001
Justice/Comfort Care	---	-.022	-.022
Beneficence/Limited Care	.116	---	.116

TABLE 23:
Regression Analysis Summary Statistics: Values and Information as Predictors of Choice
(N=331)

Vignette #2: The Infant With a Chromosomal Anomaly

MODEL: **Aggressive Care**	[Mean = 2.45]
F Statistics:	18.97
Significance for F:	.00
R^2 for Model	0.29
MODEL: **Limited Care**	[Mean = 5.25]
F Statistics:	2.78
Significance for F:	.01
R^2 for Model	.06
MODEL: **Comfort Care**	[Mean = 3.41]
F Statistics:	1.86
Significance for F:	.09
R^2 for Model	.04

the unit/professional dimension was positively predictive. The value of justice was also predictive of comfort care. It is worth noting that the values of justice and beneficence have indirect effects on the dependent variable of limited care and comfort care through the information variable of unit/professional protocols. There was also an indirect effect from autonomy to aggressive care and comfort care through the infant characteristics dimension of the information variable. Once again the family status dimension had no effect on the dependent variable of choice. Figure 4 shows the path diagram with parameter estimates ($p < 0.05$) and a summary of the direct, indirect and total causal effect is presented in Table 24. The summary statistics for the regression equations for the dependent variable of choice are presented in Table 25.

Summary

A comparison of the models for the three vignettes reveals a number of similarities in the relationships among the concepts of values, information and choice. In all three situations the value of autonomy was predictive of the infant characteristic dimension of information. However, the direction of the relationship was positive in the vignette with the Low Birthweight Infant and was negative in the vignettes of the Infant with a Chromosomal Anomaly and the Chronically Ill Infant. Similarly there was a consistent relationship between the value dimension of justice and the information

Figure 4:

Prediction Model: The Values Influencing The Preceptions and Choices of Neonatal Nurses (N=331)

Vignette #3: Chronically Ill Infant

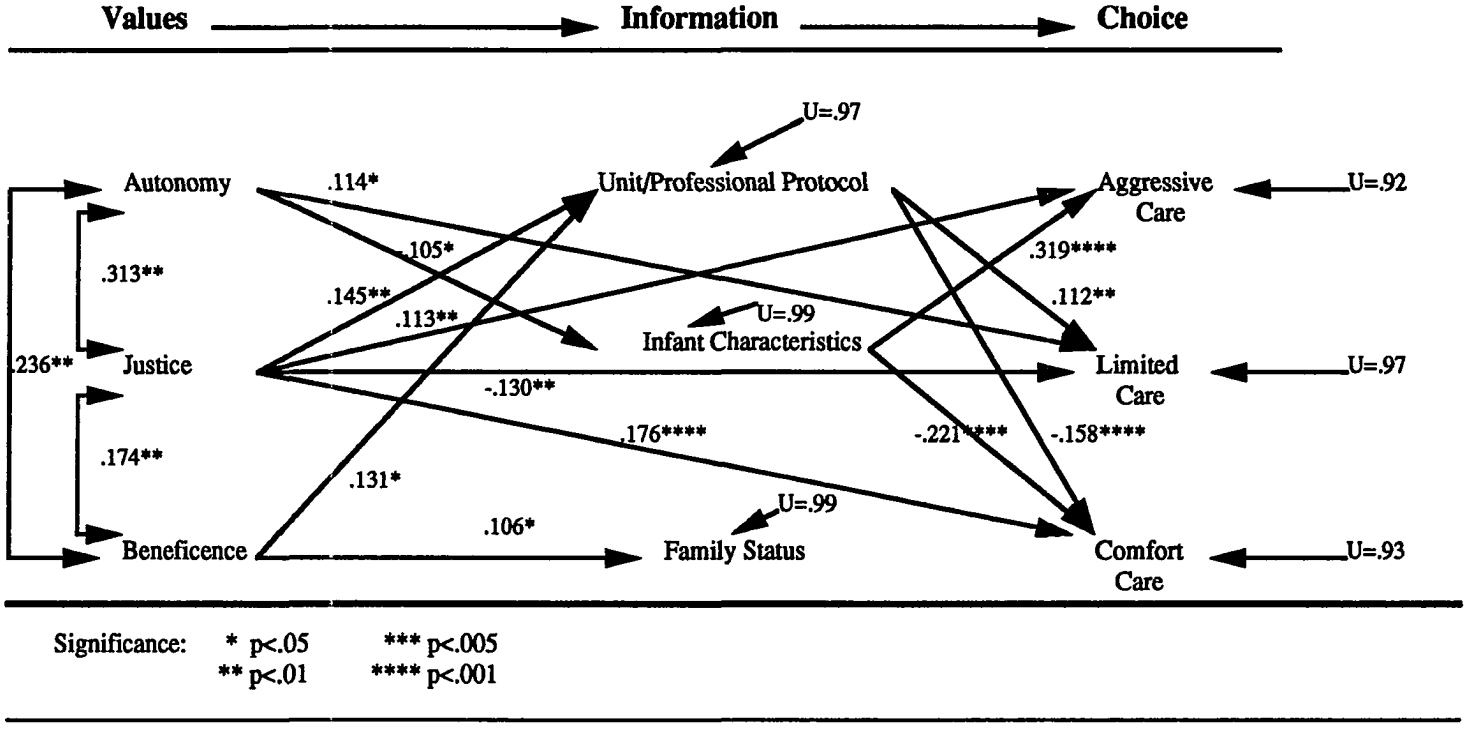


TABLE 24:
Calculation of Direct, Indirect and Total Causal Effect of The Model: The Values Influencing Neonatal Nurse's Perceptions and Choices
(N = 331)

Vignette #3: Chronically Ill Infant

PATH	DIRECT EFFECT	INDIRECT EFFECT	TOTAL EFFECT
Autonomy/Infant Characteristics:	-.105	---	-.105
Justice/Unit Professional Protocol	.145	---	.145
Beneficence/Unit Professional Protocol	.131	---	.131
Beneficence/Family Status	.106	---	.106
Autonomy/Aggressive Care	---	-.012	-.012
Autonomy/Limited Care	.114	---	.114
Autonomy/Comfort Care	---	.023	.023
Justice/Aggressive Care	.113	---	.113
Justice/Limited Care	-.130	.016	-.114
Justice/Comfort Care	.176	-.023	.153
Beneficence/Limited Care	---	.015	.015
Beneficence/Comfort Care	---	-.021	-.021

TABLE 25:
Regression Analysis Summary Statistics: Values and Information as Predictors of Choice
(N = 331)

Vignette #3: The Chronically Ill Infant

MODEL: **Aggressive Care**	[Mean = 1.62]
F Statistics:	8.15
Significance for F:	.00
R^2 for Model	.15
MODEL: **Limited Care**	[Mean = 4.77]
F Statistics:	2.21
Significance for F:	.04
R^2 for Model	.05
MODEL: **Comfort Care**	[Mean = 5.33]
F Statistics:	6.24
Significance for F:	.00
R^2 for Model	.12

dimension of unit/professional protocol; both justice and unit/professional protocol are externally directed factors and the consistently positive relationship between these dimensions is logically congruent. Interestingly, the values dimension of justice was also predictive of disagreement with the aggressive care alternative in all three situations. Related to the information and choice components of the model, there was a relationships between the information dimension of infant characteristics and the choice alternatives in all situations except for the limited care alternative for the chronically ill infant; however the direction of these relationships varied with the situation. Finally, the information dimension of family status was never a predictor of the individual's choice, regardless of the clinical situation. Therefore while the practical significance of the variance explained by the three models is limited, the emergence of consistent relationships among the concepts of values, information and choice, establishes the need for further investigation and refinement of these relationships.

Chapter Five

PARTICIPANT RESPONSES

The research instrument provided the participants a place to include written comments after the values scale and after each of the clinical vignettes. Ninety-seven or 29% of the respondents included written remarks on one or more components of the research instrument. These comments included expressing opinions, sharing experiences, frustrations and practice based dilemmas and observations about the role of the nurse in the NICU. The written comments were collated and analyzed for the emergence of recurrent themes and keywords, to extract unique and reappearing attributes related to the concepts being investigated in this study, and to identify situations which further illustrate the role of values in the nurse's practice.

THE LOW-BIRTHWEIGHT INFANT.

This situation received the greatest number of responses (n=85) and raised the greatest range of issues. Words frequently used in association with this vignette included "controversial", "discomforting", "tough decision" and "outcome is hard to determine". Many participants wrote statements in favor of initial aggressive resuscitation or as they stated "giving the infant

a chance". These statements appeared to imply a sense of duty toward the infant. However while these nurses favored resuscitation, the lack of knowledge related to the prognosis of the infant was evident in their statements.

> "The percentage of survival and good quality of life may be low but some infants have a good outcome, they should be given a chance."
>
> "While many of these babies develop fatal complications some do very well with minimal residual problems. I think we owe them a chance."
>
> "This baby should be given every chance for survival using all we have to offer in terms of technology and pharmacology."

Many individuals who favored giving the infant a chance also identified that if the infant did not respond to treatment or developed complications, the interventions and treatment plan should be discontinued or withdrawn. This theme is evident in comments such as:

> "Give the baby a chance to see how he will do BUT you need to know when to quit if you do this".
>
> "These tiny infants should be given the support needed initially until devastating problems occur, then they should have the right to die in peace".
>
> "We need to evaluate when enough is enough."

At the other end of the spectrum were individuals who commented in support of warmth and comfort as the foundation of treatment. The notion of a dignified and painless death appeared to be an essential component of

their opinions.

> "We should not be aggressive with babies less than 28 weeks gestation, in my opinion. The outcome of most (not all) is simply too grim."

> "If life is sustained with invasive action at birth, a fatality would probably occur at a later time due to a secondary infection."

A concern for the quality of life was also evident in many of the responses. Individuals identified the importance of quality over the quantity of life, and of the influence of quality of life factors as guiding forces in their decisions. As one respondent stated:

> "I value quality over quantity. I would prefer a minimum of suffering for the infant as opposed to dying from infection two months later or to be blind with CP [Cerebral Palsy] and RDS [Respiratory Distress Syndrome] for its lifetime."

The role of the family was a consistent theme which occurred regardless of the participants' views about the type of care. Individuals cited the family's role in decision-making, the importance of giving the family time to cope with the situation and in providing the parents time with the infant prior to death.

One participant suggested that "some criterion" be established to deal with this type of situation while another suggested that it was "hard to have a blanket policy". Throughout all the written comments relative to this situation, the uncertainty faced by the nurse was evident. The most poignant insight came from an individual who began by stating that her

response to this vignette was influenced by personal experience:

> "I am the adoptive mother of one of our NICU graduates. She was born at 23 weeks gestation, weighed 510 grams with APGARS of 1 and 3. She spent the first seven months of her life on a ventilator. My daughter is now a loveable three year old who is very nearly developmentally normal. I did not want to resuscitate her that day in the nursery!!! I do not know what the answer is and I'm still not sure how I would react given the same situation today."

INFANT WITH A CHROMOSOMAL ANOMALY

The comments associated with this vignette (n=58) focused on the terminal nature of the infant's condition and that trisomy-13 is incompatible with life;

> "Trisomy-13 infants at any gestational age are heart-rending. There is no quality of life or productivity expected from these infants. They usually die before one year of age due to respiratory infection."

> "Our unit has experienced 6-8 trisomy-13 infants in the past year. All of our babies have died either in the hospital or shortly after going home with the parents".

A large percentage of those commenting wanted the diagnosis of trisomy-13 confirmed prior to their committing to a treatment plan. In general, statements about the care of the infant focused on comfort of the infant and the family and were in opposition to aggressive interventions. An underlying theme in many of these statements was the issue of quality of life for both the infant and the family. Typical comments included:

> "Aggressive treatment for this infant would be unkind to the infant and the parents".
>
> "I believe in warmth and feedings for this infant...No extraordinary means. You must consider the quality of the life you preserve".
>
> "Trisomy-13 is incompatible with life. I believe minimal care and maximum comfort measures should be instituted to help ease the suffering of the baby and family".
>
> "A baby like this should be suctioned, kept warm, comfortable and be fed. THAT IS ALL".

A congruent element throughout the responses was related to the needs of the family. The focus on the family was not limited to their role in the decision-making process but also as the nucleus of the nurses' activities in providing support and comfort.

> "Nursing care should be directed towards the family...helping them to connect with the infant and grieve".
>
> "Parents should be fully informed of the medical condition and prognosis and should be allowed to decide what type of care to give the infant...The NICU team should support the parents in their decisions".

The importance of the nurse's role with the family was evident in the accounts of actual clinical experiences shared by some respondents. The first story provided some of the most revealing insights into the difficulties faced by the practicing nurse, whereas the second portrays a positive experience given the inherently distressing nature of the situation.

> "A few years ago I cared for an infant with Trisomy-13. The parents consented to surgery for an abdominal wall defect before they were made aware of the possibility of a genetic abnormality. The infant developed post-op complications and remained intubated for a prolonged period of time. Much of his brief life was spent in the NICU hundred of miles from his parents rural home. The parents later confided that they wouldn't have been willing to subject the baby to surgery had they been aware of his genetic problems but would have opted for comfort measures and care. I felt that this infant and his family had suffered a terrible injustice and lost much of the time that they should have had together".

> "We had an infant in our unit with trisomy-13 recently. He was born to a wonderful church family with two other young children. They faithfully visited to learn his care and to take pictures. He had Tetralogy of Fallot and it was evident his heart would probably fail first so we taught the family signs of CHF [congestive heart failure] as signs of eventual demise. Home care was involved and he was scheduled to go home after Christmas. He expired christmas eve at 2 weeks of age with his family present".

Finally the constraints on professional practice by the potential legal consequence of one's action or inaction were cited:

> "Continuation of care is provided based on many ethical obligations, as well as legal/medical obligations. If the legal/medical portion didn't exist or count, I would base my decision on what was best for the baby, and secondly what was best for the family. Unfortunately, the legal/medical influence is a strong influence, in that if our practice is out of established guidelines it could be a potential invitation for legal action and or non-support of peers".

THE CHRONICALLY ILL INFANT

The tone of comments (n = 71) associated with this vignette reflected discomfort with the time lag between the infant's birth and addressing the issue of the treatment plan, portrayed the infant as a victim and focused on facilitating a good death or letting nature take its course.

> "There comes a time when we have to stop interfering in the death process and this would be a prime example. This infant "died" at birth".
>
> "This is a hopeless case and I think we would do the baby and his family a disservice to keep him alive any longer."
>
> "I strongly believe that when there is no hope, beyond a miracle from God (which is possible) of survival, that prolonging an infant's life is unreasonable and cruel, both to the infant and the family, and also to our resources. I believe in removing support from infants in order that they may die a peaceful death, when there is no hope for life or any type of quality of life. It is tragic when we continue to support a body, but there is no hope of ever having a baby in that body".

While a majority of the opinions expressed supported "letting the infant die", a number of individuals specifically mentioned that the infant should continue to receive comfort care and that in their opinion comfort included feedings:

> In this case there is no chance for any quality of life (there is always a chance in the other situations). I believe that with a child in a vegetative state aggressive treatment could be weaned or discontinued and comfort measures given out of respect and love for this unfortunate life..."
>
> "This is an infant that is basically brain-dead and

> not a candidate for aggressive therapy. However I do not believe in with-holding [sic] feedings...I do believe that we need to sometimes let nature take its course."
>
> "Death is inevitable and comfort measures are the only humane intervention".
>
> "I would have no problem with discontinuing mechanical ventilation, and making the infant DNR, but feedings should be continued".
>
> "I believe removing baby from ventilator and IVs is right. Continue to provide NG feedings, hygiene care...until death occurs".

As in the previous situations, issues related to quality of life were influential in the nurse's decision. Again the relationship between the quality of life and the lack of suffering was evident. The question of the role of technology as a contributing factor to the infant's state of being and the question of how technology and quality were to be balanced are underlying themes in many of the statements.

> "Now that we have technology - where do we draw the line. Quality of life and the suffering of the infant would greatly effect my decision".
>
> "This is a hopeless case and I think we do a disservice to the baby and family to continue this life with technology".

As with the previous vignettes, the informed participation of the family and the nurse's role in support of the family were again apparent,

> "Parents should be given all medical information, treatment options and prognosis and be allowed to decide the course of treatment".

> "We must treat this infant as the parent's desire, even if it means "saving" him at all costs".
>
> "The parent's wishes in this case should be the most important aspect of caring for this infant".

However it is not clear from these statements how the individual nurse would react to a parent who desired aggressive care with the hope or prospect of the infant's recovery. This situation would result in a direct conflict of the values these participants have identified as important: comfort or humane care and fulfilling the parent's desires for the infant's care.

Finally a concern with the phase "brain-dead" and its application to infants was mentioned by some respondents:

> "I have cared for an infant who was born brain dead due to massive infarct related to cocaine abuse by mother...We did in fact do everything, aggressive care, because the laws are not well defined with regards to discontinuing life support on infants and children such as these".
>
> "The situation is bleak to say the least, yet there are really no guidelines for brain-death in the neonate".

VALUES

The predominant theme in the comments related to the values scale was related to the frustrations individual nurses had encountered in their practice. Two individuals stated that their employment by religious affiliate hospitals impacted the treatment decisions in the nursery; one nurse stated that "nurses have little input in these types of decisions" and another

individual reported that she recently left a position in a level III NICU at a children's hospital because "it was conflicting with my morality". Other comments reflecting a sense of frustration included:

> "The mission statement of my facility is that above all else we must make money. I believe the ability to sleep at night is more important".
>
> "...my answers reflect my opinion and not what is done in our unit. In our unit the approach is 100% aggressive care in all circumstances unless the infant is proven brain dead. I don't like that approach - but on the other hand I wouldn't want to be responsible for the decision".

These comments reflect a feeling of powerlessness and represent the precarious balance nurses must achieve between the role of professional and the role of employee. This balancing of two sometime opposing roles was evident in the comments of a number of individuals who very explicitly stated their values and belief in a particular situation and then countered their initial statements with a declaration that they always follow physician's orders and hospital policy.

> "At our hospital they keep babies alive on ventilators, hyperal etc. with nothing but a brainstem. What a waste of nursing time, money, etc., because it will not help the baby at all. However I always follow all physician's orders and unit protocols no matter how I personally feel".
>
> "I would do what was the protocol for my unit. I would follow all doctors orders. I would do nothing to harm a child, no matter how I felt about the morality of keeping the child alive".

The third recurrent theme was related to the quality of life and

extraordinary means of sustaining life. The notion of cost-consciousness and cost-containment was also mentioned by some participants.

> "Where there is any chance whatsoever for any decent quality of life, I believe we have no right to withhold care. When life is sustained in a vegetative state by extraordinary means it is unnatural and can be withdrawn".
>
> "The whole outlook depends on quality of life and is so hard to determine. The question must be asked, will the baby grow up to be an active, happy citizen of the world or to be a financial and emotional burden to his parents and family".
>
> "Aggressive care in all situations is practiced at the hospital in which I am employed. I do believe that we in the neonatal field should be more aware of the quality of the life we care for and the cost of what we do and make attempts to control those costs".

Throughout all the comments there was consensus that there were no clearly right or wrong answers to many of the questions facing the neonatal nurse. One participant attached a note to the end of the research instrument which nicely summarizes the general climate of the responses.

> "Over the past years there has been a lot of controversy about how much is too much care physically and financially. There is a different opinion for each person on this earth. Sometimes I think we are going too far but then I remember that in the late 1970's that a 32 weeker with a heart anomaly was considered fatal. Who can put a price on a child. I personally would not subject my own very preterm infant to invasive, life-sustaining procedures nor would I desire a lifetime of surgical procedures for my infant with anomalies. I don't feel that these are lives that can be enjoyed. However it is my job and

responsibility as an RN to provide each child the most comfortable and cost-saving care that I can give. No matter the child's state I make that life the most pleasant that I can for that little person. What a shame though for us human beings to be like this".

Chapter Six

DISCUSSION OF FINDINGS

In this study the main emphasis was to describe the variables of values, information and choice as they existed in a sample of neonatal nurses and to generate support for the direction and the strength of the relationship among these variables. The primary goal of the research was to discover the types of values that influenced the nurse's perception of a situation and guided the behavioral choices of the individual nurse in a hypothetical patient care situation. The significant findings of this research were:

> Demographic variables related to individual, position-related and educational attributes of neonatal nurses were not significantly associated with the values identified as most important by the individual nurse, that is, demographic attributes did not influence values.
>
> The type of value identified as most important, in the individual's nursing practice, was consistent with the moral aspect of Rokeach's classification of instrumental values; that is, an internally directed sense of right and wrong choices and behaviors.
>
> There were consistent patterns related to the nurse's perception of the relative importance of the three information dimensions: the dimension of infant characteristics was most important and the dimension of family status was least

> important, the dimension of unit/professional protocols increased in importance as the uncertainty of the situation increased.
>
> The behavioral choices of individual nurses are situational and reflect the integration of the individual's values and the information available in the situation.

Each of these findings will be discussed separately and then the findings of this research will be discussed within the context of the existing empirical literature and the ANA Code for Nurses.

ATTRIBUTES OF VALUES

Based on Rokeach's theory, a relationship between individual, position- related and educational attributes and an individual's values was expected. The results of this study did not support the predicted relationship. This lack of a relationship among the exogenous variables of individual, position-related and educational attributes and an individual's values is inconsistent with previous research findings (Baird, 1990; Penticuff, 1989; Mayberry, 1986; Ketefian, 1981). The only independent variable with a significant association to the variable of values was age. However, while the association between this variable and values was significant, it explained only a minimal amount of the variance in the dependent variable of values. Therefore it would appear that some factors other than age are the true antecedent of values formation. An alternative explanation is that an individual's values are formed early in an individual's

life and include a more multifarious process than the attributes measured in this research. Therefore the influence of family origin and traditions, primary education experiences, and cultural experiences may delineate an individual's basic values many years prior to their socialization into the profession of nursing. While it cannot be determined from this research, it is possible that an individual's early life experiences subliminally guide the formation of values which then influence career choices, and within a multispecialty field such as nursing, may even influence one's choice of specialty practice area or work setting.

In this study the independent variable found to be associated with values was age. Rokeach (1973) states that values are freely chosen after considering the consequences of alternative choices and that choice of values includes logical, critical thinking and the development of moral judgment. Based on Rokeach's discussion of values formation, the relationship between age and autonomy as found in this study is not unexpected. In other words, as individuals grow older or more mature, they have a greater number of experiences, are able to foresee more alternatives and consequences in a given situation, and become more aware of the impact of their action or inaction in a given situation. Therefore individuals place greater importance on doing what they believe is the more desirable or the preferable option within the context of their life experience, and their individual hierarchy of good and bad or their value system. A similar

explanation exists for the relationship between age and beneficence. As the individual matures and experiences increased interaction with individuals and groups, one's concern for externally oriented goals or societal-good develops. Beneficence is the measure incorporating a concern for societal good, or an internal measure of right or wrong based on the impact of an act on others.

None of the position-related attributes was related significantly with an individual's values. This further supports the previous supposition that values are pre-existing traits intrinsic to the individual and not related to position, employment status or choice of profession. This conclusion was further supported by a comment from an individual who stated that she recently left a position because it conflicted with her morality. Therefore an individual's values are enduring traits which appear to evolve over time as evidenced by the positive relation between age and the values of autonomy and beneficence. However, the antecedents or the explanatory factors underlying the formation of an individual's values and their value system remain elusive.

TYPE AND IMPORTANCE OF VALUES

The values identified in this research correspond with Rokeach's classification of values as being instrumental or behavioral ideals and terminal or outcome focused states. All three of the value dimensions

identified in this study, i.e. autonomy, beneficence and justice, were rated above the mid-point on a scale representing the degree of importance (1 = least important, 7 = most important). Therefore while all three value dimensions were identified as important, the relative importance of each value with respect to others was also evident. Identifying the relative degree of importance of a value and how the individual balances competing values in real life situations is essential to the understanding of values.

Autonomy was identified as the most important consideration in an individual's nursing practice, by the study sample. The value of autonomy represents Rokeach's (1973) notion of an instrumental value or a behavioral ideal. More specifically, Rokeach would designate autonomy within the moral aspect of his values classification because of its intrapersonal or internally directed mechanism of control. However, the dimension labelled autonomy in this study, is broader and more complex than the singular value of autonomy. Items comprising this dimension included a combination of items from the originally hypothesized scales of nurse autonomy, family autonomy and beneficence. The convergence of these items results in a unique dimension that represents the nurses' "sense of duty" to the infant/family unit or the nurses' motivation to base professional choices and behaviors on a value that incorporates the individual's judgment of "doing right".

The value of justice was the least important of the three values

identified in this study. Justice is the equitable distribution of risks and benefits based on what an individual deserves or can legitimately claim. Justice represents the type of value Rokeach (1973) identified as a terminal or outcome value, and focuses on states of being and social recognition. In this research, justice represented the means of attaining an outcome-oriented objective that was external to a particular situation, such as controlling health care costs, maintaining work relationships or acknowledging status and position within an organization.

The findings of this research identified the relative importance of the values of autonomy, beneficence and justice. The empirical data revealed that individual nurses identified autonomy or their self-perceived "sense of duty" or their internal criterion of right or wrong, as the most important determinant or consideration in their nursing practice. Therefore, according to the theoretical framework of this research, autonomy, which was identified as the most important value, should be the prevailing value when the individual is challenged by an ethical dilemma or a situation necessitating a choice between two equally undesirable alternatives.

However, while the empirical data support the emergence of autonomy as an important individual value, the qualitative comments from participants identify a potential lack of congruency between what the individual identifies as important and what the individual implements in practice. For example, while the quantitative ratings of the scale items

related to autonomy were high and some participants included statements in their qualitative remarks about implementing care that realized their personal standards of actions or behaviors as the right choice in a situation, these same individuals countered their statements by stating that they always followed physician's orders and complied with unit and/or hospital policy, even when they disagreed. These types of statements represent a willingness to compromise or violate one type of value, that is a behavioral ideal or doing what one knows is right, in favor of another, that is an outcome focused or terminal value such as maintaining a working relationship with others or retaining their position and/or status within the organizational hierarchy. According to Rokeach (1973), if the behaviors consistent with the value dimension of autonomy are of greater importance than other value dimensions, and these personal standards are violated or compromised, the result would be the experience of guilt. It is not possible to conclude from this study how the individual nurse reconciled the identified disparity between these dissimilar values. However it is evident from the number of unsolicited comments, that conflicts between the individual's sense of duty or personal beliefs about the rightness or wrongness of an alternative and the individual's sense of responsibility toward the institution/physician as employer are prevalent in the practice environment and impact the nurses' practice-related behaviors.

These findings related to the type and the importance of different

values are consistent with Rokeach's (1973) theory on the Nature of Human Values and Value Systems and with the findings of previous empirical studies. Consistent with Shank and Weis' (1989) and Young, Jackson and Allen's (1979) research, the nurses in this sample identified values related to patient care issues as most important and favored autonomy in patient/family decision making. In addition, the discrepancy between the values identified in the quantitative component of this study and the participant's qualitative comments are consistent with Young, Jackson and Allen's (1979) finding that nurses were less satisfied than physicians with decision making and communication processes in an ICU setting. Similar findings were obtained by Elizondo (1991), who reported that 93% of the nurses responding to a survey about participation in ethical decision making had experienced conflicts related to their participation in this process.

USE OF INFORMATION

In all three vignettes, infant characteristics were the most important type of information and family status factors were consistently the least important type of information identified by the sample. The third information factor, unit/professional protocol, became relatively more important to the individual as a guiding factor in determining choice as the uncertainty of the situation increased.

The infant characteristics dimension included information about the

individual infant such as birthweight, gestational age and medical diagnosis. These are pre-existing characteristics of the individual infant which are not amenable to control or manipulation by others, such as the nurse. However these traits are also the manifestations and indices on which literature in the field of neonatology generates assessment parameters, treatment plans and prognostic predictions about survival and functional ability of neonatal patients. Therefore, this dimension represents an integral and constant component of neonatal care regardless of situational circumstances.

The information dimension of family status was rated as least important across all three vignettes. This dimension encompassed the family's social and economic status. The lack of support for the importance of family status was further evidence that the nurses in this sample viewed consideration related to the individual infant as important, regardless of family status. In the qualitative comments one individual concisely identified the role of family status and its impact on nursing practice:

> "The family's SES [socio-economic status] in not a factor in the sense that children of wealthy people deserve more care than children of poor people. However a realistic discussion of finances should take place at some point in the infant's treatment, in all three situations."

Therefore it can be concluded that this sample identified a person-related not a status-related direction to their analysis and evaluation of ethical dilemmas in their neonatal practice.

The unit/professional dimension was consistently rated as the second

most important information factor, but it was rated as more important in the low birthweight infant situation than in the vignettes of the infant with a chromosomal anomaly or the chronically ill infant. This dimension included items related to unit and hospital specific guidelines, professional practice standards and governmental regulation of infant care practices. This dimension represented the external guidelines or the "rules" that guide a nurse's practice behaviors. The finding of this dimension being more important in the care of the low birthweight infant is thought to be related to the uncertainty in this type of clinical situation. In the qualitative comments from participants there was a consensus that the prognosis for this type of infant (24 weeks gestation and estimated birth weight 450-500 grams) is unclear and management strategies are controversial, hard to determine and difficult to justify. Therefore the uncertainty of the situation is obvious. A second factor increasing the skepticism in this type of situation is the function of time. If the objective or goal of the management approach is survival, rapid initiation of supportive and preventative technologies is crucial to minimizing morbidity and mortality. Therefore an instantaneous decision is necessary in a situation with no clear or specific guidelines. Consequently it appears that when confronted with these types of situations, the nurses in the sample, used the "rules" or external guidelines to influence their practice decisions.

In the other vignettes, the infant with chromosomal anomalies and the

chronically ill infant, the factor of uncertainty was less significant. Most participants in the qualitative comments used words in reference to these situation such as: "terminal", "incompatible with life" and "letting nature take its course", which indicate that the ultimate outcome was predetermined. Consequently the factors influencing their choices and behaviors were based more on pre-existing knowledge which led to their acknowledgment of the situation as terminal, and on internal or situational factors such as the needs of the family and prevention of infant suffering. In these situations however, the dimension of unit/profession protocol was rated close to the midpoint of the scale or near a neutral response. Therefore these participants have admitted that while other factors may be more important, these external forces continue to exert an influence on the overall process.

The acceptance of external forces may be related to the nurse's sense of responsibility toward the institution as an employer. Across the three vignettes, there was a consistent relationship between the unit/professional dimension and the value of justice. This relationship implies that as the importance of justice, which is a terminal or outcome-focused value increases, there is a corresponding increase in the individual's perception of the importance of the unit/professional protocol dimension. This is consistent with rule following or choice and behavior guided by external forces.

In all situations, autonomy was associated with the infant characteristic dimension of information. However in the vignettes of the infant with a chromosomal anomaly and the chronically ill infant, the association between these variables and the resulting path coefficients was negative. This inverse relationship indicates that as the individual rated internal standards of action or behavior as more important, factors such as the infant's birthweight, gestational age and medical diagnosis, which compose the infant characteristic dimension of information, become less important. Therefore, in these situations the individual's behavior is motivated by some internal factor that defines the right action or behavior regardless of the characteristics of a particular neonate. This inverse relationship may be related to the fact that the primary problems being experienced by the infant are related to an abnormal genotype or to extensive damage to physiologic integrity and are not correctable with the interventions available with the present state of technology and knowledge. However, in the situation with the low birthweight infant, there is a direct relationship between the types of information available in the infant characteristic dimension and the interventions available in the nursery setting. Many of the medical advances in the NICU are focused at establishing a pseudo-intrauterine environment to facilitate the premature infant's completion of physiologic and functional developmental processes. The bases of many of these treatments are the infant's physical status.

Since nurses are catalysts in the implementation of these technologies, a positive relationship between the values of autonomy and the information dimension of infant characteristics is feasible in the care of the low-birthweight infant.

In two situations, the low birthweight infant and the infant with a chromosomal anomaly, beneficence was not related to any of the information dimensions. This finding may be related to the societal focus and other-directed nature of beneficence in contrast to the infant and circumstantial focus of the items on the information scale. It is interesting to note however, that in the vignette involving the chronically ill infant, beneficence is predictive of the importance of the family status and protocol dimensions of information. Initially this appears to be a paradoxical finding but it is actually consistent with the externally directed nature of this value. Beneficence is directed at looking beyond a specific situation, that is, a particular infant and a specific diagnosis, and incorporates the impact of choices and behaviors on the family, the nursing unit and the society as a whole. Therefore a positive relationship between beneficence and the family's status and unit/professional protocol dimensions and the lack of an association with the infant characteristics dimension are logical.

The differing importance of the identified information dimension related to situational circumstances is consistent with the findings of Penticuff (1989) and Anspach (1987). Penticuff (1989) and Anspach

(1987) identified the impact of interactive cues and environmental factors on an individual's behavior. In addition, the work of Gilligan (1982), which identified the contextual nature of moral reasoning, is supported. The consistent emergence of the unit/professional protocol dimension and the information variable is congruent with Davis' (1989) conclusion that nurse's decision making is restrained by administrative structures and Mayberry's (1986) proposition that work environment factors such as administrative policies and organizational structure may influence moral reasoning.

Finally, a disturbing finding related to the unit/professional protocol dimension of the information scale was the number of individual nurses who indicated an unfamiliarity with the content of the Baby Doe Regulations (n=72, 21%) and the ANA Code For Nurses (n=104, 31%). Those unfamiliar with the Baby Doe Regulations represent the 28% of the group of nurses, who have been practicing neonatal nursing less than 5 years. These individuals entered the specialty after the much publicized "Baby Doe" cases, the posting of child abuse HOTLINE numbers in the nursery, and the active lobbying by nursing and other medical groups to retain control of treatment decisions in the practice setting. Therefore, while the amended version of the Baby Doe Regulations as part of the Child Abuse Act of 1986 continue to be in effect today, there are not constant reminders of the impact of governmental regulation on daily nursing practice present in the nursery environment.

The lack of knowledge of the ANA Code is more difficult to explain. One explanation may be the ANA's lack of influence with the clinically focused nurse. This assumption is supported by the fact that participants did not experience difficulty with the item related to standards of care determined by professional organizations. An interesting finding is that across the three vignettes the mean scores for the items related to the importance of the ANA Code and to the importance of the standards of care as defined by professional organizations were both near the mid-point or the neutral value of the scale: ANA Code for Nurses 3.99 and Standards of care as defined by professional organizations 4.46. Thus individuals who were familiar with both the ANA Code and standards from professional organizations rated the importance of these documents as essentially equivalent. Therefore the problem appears to be related to less exposure to the ANA Code For Nurses than to standards from other professional organizations.

CHOICE:

The consistently negative association between the different levels of care within each vignette indicates that nurses individually have clearly defined preferences about treatment alternatives. The patterns of these preferences incorporate both the values of the individuals and the nurse's perception of the importance of different dimensions of information.

In the low birthweight infant vignette, most individuals agreed with aggressive care. The second most agreed upon level of care was comfort whereas the least frequently agreed to option was limited care. This indicated the individual nurses' desire to either "go all out" to save the infant or to concede that the infant is pre-viable and not to subject the infant to procedures that are not beneficial. This finding was further supported by the qualitative comments in which individuals stressed the importance of "giving the infant a chance". The most frequent response category for the limited care category was the neutral response.

The value of justice and the information dimension of infant characteristics and unit/professional protocol were the variables predictive of an individual's identifying aggressive care as an agreeable choice. However, the unit/professional protocol dimension was the only predictor exhibiting a positive association with the aggressive care alternative. This relationship supports the previously stated conclusion that in uncertain situations, rules or external forces, such as unit policies and procedures, hospital philosophy and standards of care have a greater amount of influence on the choice process. The infant characteristic dimension was negatively associated with aggressive choice and may indicate the emergence of the nurses' knowledge base related to the prognosis of the low birthweight infant. A combination of clinical knowledge related to clinical course, incidence of potential complications and long-term outcomes of similar

infants would result in the nurse identifying infant characteristics as important facts in the decision process and the choice to avoid aggressive care.

At the other end of the spectrum was comfort care. The option of comfort care demonstrated a positive association with the values of justice and the infant characteristic dimension and a negative relationship with the unit/professional protocol dimension of the information scale. These are the same variables that demonstrated a relationship with the aggressive care option, but the direction of the association is reversed.

In the second vignette, the infant with a chromosomal anomaly, the option of limited care was the only care option with a mean response indicating a degree of agreement. The choice alternatives of aggressive care and comfort care both elicited mean responses indicating disagreement with these levels of care. This finding can be interpreted to mean that individual nurses believed that this infant is entitled to ordinary care, including suctioning, hygiene and feedings, but no extraordinary care such as invasive procedures, surgery or heroic codes which include invasive cardio-respiratory support and chemical resuscitation. The frequent agreement with the limited care option over the comfort option indicates that while the nurse recognized the terminal nature of the diagnosis, there is a precedent to maintain the infant's existence and to focus nursing goals on maximizing the quality of the infant's short life for the family and the child. Interestingly the variable

that demonstrated a positive association with the limited care option is the value of beneficence. Beneficence is an outward focused value which entails looking beyond the individual infant and situational circumstances and focusing on the good of a larger unit, in this case the family.

The variables of justice, infant characteristics and family status explained 29% of the variance in the dependent variable of aggressive care. All of the variables were positively associated with the participant's disagreement with the aggressive care option. Consequently, the more important the value of justice and the information dimensions of infant characteristics and family status are to the individual nurse, the more opposed that individual was to the aggressive care alternative.

Not unexpectedly, the dimension of unit/professional protocol did not have an association with any of the care options in the vignette of the infant with a chromosomal anomaly. This finding was consistent with the general consensus among participants of the terminal nature of the diagnosis of trisomy-13. Therefore, with confirmation of the diagnosis, the uncertainty is completely removed from the situation and individuals do not identify the need to rely on rules to guide their choices.

In the care of the chronically ill infant there was strong disagreement among the nurses in this sample with the option of aggressive care. This disagreement was validated by the qualitative comments that treatment should be withdrawn or discontinued when an infant is not responding or if

complications develop. The predictors of disagreement with aggressive care were the importance of the value of justice and the infant characteristic dimension of information.

The option of limited care elicited agreement just slightly above the neutral or mid-point value of the scale, as the choice in vignette of the chronically ill infant. The comfort care option recorded the greatest degree of agreement in this situation and in combination with the qualitative comments it appears that the goal of this option was preventing further suffering and technology related injury and to facilitate a good death. The only variable positively associated with this care option was justice; or the assertion that as the individual values outcome states, such as cost containment and providing services to those who can benefit most, they are more likely to agree with comfort care. The other predictors of comfort care were the information dimensions of unit/professional protocol and infant characteristics, but these associations were negative. Therefore as unit/professional protocol became less important, the degree of agreement with comfort care increased. This was not unanticipated because the type of external forces included in this dimension were aimed at doing something whereas in this situation, comfort care entails the withdrawal of treatment or the undoing of something. The negative relationship with the infant characteristic dimension was possibly related to the time lag introduced in the vignette (the infant is 45 days old) and therefore infant characteristics

related to birth such as birthweight and gestational age are not applicable.

In summary, related to choice, the most frequently agreed to option was different for each situation: the low birthweight infant - aggressive care, the infant with a chromosomal anomaly - limited care and the chronically ill infant -comfort care. These differences reflect the situational nature of the individual nurse's choices. Also in the vignettes with the low birthweight infant and the infant with a chromosomal anomaly, only one option received a mean value above the midpoint or neutral value on the scale and in the third vignette, the chronically ill infant, one response was just slightly above the midpoint while the remaining responses demonstrated divergent degrees of agreement and disagreement. In all situations the information dimension of infant characteristics was associated with the level of care options with the exception of the limited care option for the chronically ill infant. This finding substantiates the nurse's role as being patient oriented and is consistent with the findings of previous research which identified the impact of interactive cues, contextual nature of the situation and professional role as contributors to the process of choice (Penticuff, 1989; Anspach, 1987; Young, Jackson and Allen, 1979).

THE ANA CODE FOR NURSES

The ANA Code for Nurses (1976) is based on philosophical beliefs about the nature of the individual, nursing, health and society. According to

the Code for Nurses (ANA, 1976), nurses have a prima facie duty to enact the ethical principles of autonomy, confidentiality, veracity, beneficence and justice in their nursing practice. Three of these ethical principles or values, autonomy, beneficence and justice, were explored in this study. Consistent with the ANA Code, the nurses in this research identified all three values as important in their neonatal nursing practice. However, unlike the ANA Code which depicts each of these values as equally important, the study sample identified a hierarchy of values with autonomy being the most important followed by beneficence and justice. As previously identified, one of the major difficulties in attempting to apply the Code to the practice setting is the inherent equivalence of all the identified values, that is the assumption that all values are equally applied in all situations. Therefore the code is vulnerable to interpretation by individual nurses and is perceived to be ambiguous and ineffective as an instrument to assure ethical nursing practice. Consequently the identification of a hierarchy of the values within the code as applied to differing practice situations, would make it a more useful document to the practicing nurse.

While the nurses in this research identified the importance of the identified values to their practice choices, the application of this values hierarchy to practice behaviors was less evident. In the qualitative comments, a number of participants stated that in the actual practice situation their identified values hierarchy frequently becomes secondary to

the physician's orders and the institution's policies in determining which behaviors are enacted. These individuals indicated that they carry out behaviors based on the physician's orders and the hospital policy even if these behaviors conflict with their own value based choices. One individual even identified that the compromise of individual values was necessary to prevent legal repercussions in the event of a less than optimal outcome. However this behavior is in direct contradiction to the ANA Code (1976) which states, "neither physician's orders nor the employing agencies' policies relieve the nurse of ethical or legal accountability for actions taken and judgments made" (p. 4). Therefore the specific behaviors which nurses are implementing to avoid accountability, not only do not relieve the nurse of accountability but may actually make the individual nurse more liable, based on the enactment of the values of others, than if the individual had assumed responsibility for implementation of the preferred choice based on their own values. Therefore, in addition to a lack of familiarity with the existence of the code, there is a lack of understanding of the content and intention of the Code for Nurses as a mechanism to support the nurse's value-based practice. As Aroskar (1982) explains, "...nurses have support for more ethical practice in such documents as the ANA Code. Yet one still hears arguments that ethical practice is too risky and requires a certain amount of heroism on the part of the nurse" (p.22).

Therefore even in a high-technology unit, such as the NICU, the values

identified in the ANA Code are congruent with the values identified by individual nurses. However two problem were evident: (1) the nurse's lack of familiarity with the Code for Nurses and (2) nurse's lack of acceptance of the role as an independent professional accountable for competent and efficient practice behaviors based on a code of ethics. This lack of acceptance of professional accountability is related to the role of nurse as employee responsible for loyal implementation of policies and procedures based on the values of others, such as physicians, and religious organizations or corporations affiliated with health care institutions. Thus the traditional caring components of the nurse's role continued to be evident in this study and were validated by the greater importance attached to the values of autonomy and beneficence and to the information dimension of infant characteristics as opposed to the value of justice and the family status dimension. Individual nurses also appeared to identify the role of advocate for the infant and family as manifested in the form of preventing harm or suffering of the infant and family; however they expressed a reluctance to implement this role when faced with opposing viewpoints in the practice setting.

Chapter Seven

IMPLICATIONS AND RECOMMENDATIONS

In this study the main emphasis was to describe the variables of values, information and choice as they occurred in a sample of neonatal nurses and to generate support for the direction and the strength of the relationship among these variables. The findings identified that individual nurses have developed a hierarchy of values that influences their judgments about patient specific and situational factors and motivates their choices related to the degree of agreement or disagreement with differing options of care. In addition this study identified a disparity between the identified values and preferred choices of the individual nurse in a specific situation and the behaviors the nurse reports enacting in that type of situation. Therefore the preferred choice, based on the individual's values, and the enacted behavior are in conflict, and result in frustration for the individual and diminished autonomy and accountability for the professional role of the nurse.

The strengths of this study were: (a) the availability of a well defined population from which it was possible to obtain a random sample, (b) a topic that generated interest among participants as evidenced by the greater than

60% response rate for a mailed survey, and the number of comments included by participants, and (c) responses from nurses representing all parts of the United State thereby eliminating the threat of regional differences influencing the results. The limitations of the study were: (a) the lack of information about neonatal nurses who are not members of NANN and therefore excluded from the study and how they may differ from the population used in this study, (b) the lack of an existing tool with established reliability and validity and (c) the lack of representation of cultural/ethnic groups other than white/not of hispanic origin, in the sample to facilitate exploration of the impact of this variable on values identification.

The major findings of this research include the identification of a value dimension labelled "doing right" and a lack of congruence between the values the individual nurse identifies as important and the actions the individuals implements in the practice setting. Participants identified the value dimension, "doing right", as the most important influence in their neonatal nursing practice. The phenomenon of doing right, is a combination of items originally hypothesized to measure nurse autonomy, family autonomy and beneficence. The convergence of these items results in an unique dimension that represents the nurse's internally directed motivation to base professional choices on a value that reflects the nurse's sense of duty to the infant/family unit. Therefore, individual nurses identify an intrapersonal or internally guided values as most influential. The lack of

congruence between the identified values and the behaviors nurses report enacting in practice was evident from the number of written comments (n = 97) included on the research instrument. Participant responses covered a broad range of topics including, expressing opinions, sharing experiences and practiced-based dilemmas and commenting on the role of the nurse in the NICU. However, an over-riding theme related to the sense of frustration and the feeling of powerlessness experienced by nurses as they balance the role of professional and the role of employee. The precarious balance of these sometimes opposing roles is evident in the comments of individuals who explicitly stated their values and beliefs in a particular situation and then countered their initial statements with a declaration that they always follow physician's orders and hospital policy.

The findings of this research have implications for nursing administration, education and practice as well as for the development of nursing theory. In addition, the implications of these findings for the utility of the theoretical framework which generated this study are discussed. Finally, areas of future nursing research based on the outcomes of this research are identified.

IMPLICATIONS FOR NURSING ADMINISTRATION, EDUCATION AND PRACTICE

Nurse administrators need to gain insight into the bases on which individual nurses' perceive ethical dilemmas and to become conscious of the

organizational and clinical conditions that create ethical dilemmas for the practicing nurse. From this research, it appears that the dilemmas experienced by the participants were more directly related to the frustrations that result from the conflict of personal values and choices with the behaviors the individual nurse feels compelled by external forces, including physicians, supervisors, the organization and the legal system, to implement. This type of role-related dilemma appears to be more troubling to individual nurses than are the difficult decisions they face when dealing with a specific clinical situation. Many of the past administrative strategies related to ethics in the practice setting have focused on assisting the nurse identify the presence of an ethical dilemma, gather information, and outline a sequence of steps to assist with resolution of the dilemma. This research identifies the need to move forward. It appears that nurses have clarified their values and have developed a hierarchy of values based on patient specific and situational factors that guide their preferred choices and behaviors in a situation. Nurse administrators need to redirect their strategies to create practice environments in which the nurse can fulfill the role of practicing professional without the constraints of the role of employee of the larger organization. The history of nursing is rich in obedience, subservience and the bureaucratization of nursing practice (Ashley, 1976). Inherent in this bureaucratization are role conflicts related to the multiple allegiances of nurses to physicians, clients and organizations, and the uneven distribution

of decision making power between nurses, as employees, and physicians, clients and the organization. In the present climate, the autonomous, risk-taking nurse has been vulnerable to being labeled as disloyal and as a trouble-maker. While administrators have a right to expect an employee's loyalty against detractors and/or competitors, they cannot expect an employee's loyalty against sources of common or personal morality. As role models for professional practice and accountable agents of that practice, nurse administrators need to demonstrate consistency between professed and implemented values to build, maintain and disseminate a strong culture of ethical nursing practice. The need for recognizing the professional role of the nurse is supported not only by the statements of the ANA Code (1976), but by the high degree of importance attached to the value of autonomy or the internal criteria related to the sense of duty and differentiation of right and wrong identified by nurses in this study.

If nurses enter the profession of nursing with a pre-existing set of values as has been suggested by this study, educators cannot expect to socialize these individuals to a profession specific hierarchy of values. Thus the goal for educators is to assist the individual nurse in the clarification of personal values and the integration of individual values with the goals of the nursing profession. These goals are concerned with the health and welfare of humans, based on a tradition of caring and individual focused activities. According to Curtin (1979), the goals of nursing are not scientific; they are

moral and are based on the seeking of good. Consequently nursing education must assimilate not only the scientific or factual knowledge needed to implement the high technology care found in the NICU but the aesthetics or moral/ethical knowledge necessary to provide humane, person-oriented care in an environment of uncertainty.

In the practice setting, nurses must collaborate with colleagues to ensure that sound decision-making is applied in solving ethical problems. The identification and candid assertion of similarities and differences in the values influencing perceptions and choices in a particular situation are important in the development of strategies for the examination and resolution of ethical dilemmas. Widely divergent and unacknowledged variation in value-based practice choices among nurses can result in frustration and distress for the individual practitioner and can ultimately have an adverse impact on the quality of patient care. Nurses need to take an ethical stance and speak and act from that stance. Individual nurses should be encouraged to articulate and justify their values, perceptions and choices to their colleagues in an atmosphere of mutual respect and with the shared goals of quality care for the infant, family and society. Compromising personal values in favor of physician or institutional values is inappropriate for members of a profession. The assumption of the victim role is a self-defeating behavior that results in the abdication of the nurse's accountability to the infant and the family.

DEVELOPMENT OF NURSING THEORY

The fundamental nature of nursing practice in the fast-paced and highly technical environment of the NICU requires the answering of difficult, philosophical questions such as: what does it mean to be human? what is the essence of quality? and what does it mean to be compassionate and caring? The answers to these questions define the boundaries of the nursing discipline and the concept of values is indigenous to these answers. At an abstract level, values theory provides broad generalizations about the guiding forces that determine an individual's choices and behaviors. The study of the concept of values in the practice setting leads to the accumulation of observations and the delineation of specific relationships. These observations and relationships give significance to a phenomenon, such as values.

The outcome of this research provided insight into the phenomenon of values by defining them in relation to the information perceptions and the behavioral choices of neonatal nurses in selected situations. These meanings can be used to give direction to nursing practice since they identify, in operational terms, the focus, goals, and interpretations of the concept of values as applied to the practice of the individual nurses. Continued work is necessary in the application of the values concept and the explication of the hierarchy of values operationalized by nurses in the NICU. Additional findings will move the discipline of nursing closer to answering the previously

stated questions related to the essence of "being human" "quality" and "caring". Through the clarification of these meanings, the discipline will be able to establish norms of the acceptable choices and behaviors within a framework of professional practice.

IMPLICATIONS FOR ROKEACH'S THEORETICAL FRAMEWORK

The findings of this research have implications for the utility of Rokeach's theoretical framework as an organizing structure for the study of the values of neonatal nurses. This research supported Rokeach's proposition that the process of valuing is composed of three elements: cognitive or values selection, affective or prioritizing of information, and behavioral or choice of an action alternative. In addition, the value dimensions that resulted from this data set support the existence of two types of values; that is, instrumental or process-oriented values and terminal or outcome-oriented values. However, the findings of this study do not support Rokeach proposition that values are used to resolve conflicts. In fact, the nurses in this sample identified the conflict between their values and the behaviors they enact in the work situation as a source of frustration and a feeling of powerlessness. Therefore, the utility of Rokeach's theoretical framework, for the study of the values of neonatal nurses, is limited. This limitation may be related to the fact that, in the development of his theory, Rokeach focused on social and political issues; therefore the

context of the situations used in his work were unlike the situations faced by nurses. Nurses in a highly technical and highly uncertain environment, such as the NICU, are faced with life and death situations which have a multidimensional nature. In addition, the role of nursing is not enacted in isolation; the nurse is a member of the larger health care team. Therefore, while Rokeach's theory provides a starting point for the investigation of the values of neonatal nurses, this research identifies the needs for a theoretical framework germane to the unique nature of nursing, an autonomous profession functioning within the larger system of health care delivery.

FUTURE RESEARCH

The topic of ethics is multidimensional and could provide substance for many years of research. From a theoretical perspective, future research would be aimed toward continuing to develop an understanding of the variables and the relationship among the variables of values, information and choice as outlined in Rokeach's (1973) Theory of the Nature of Human Values and Valuing. An area clearly identified as needing further research is related to the identification of the antecedents of the value concept. The current research found a lack of support for the antecedents of individual, position-related and educational attributes, as determinants of an individual's values. Future research would need to focus on the cognitive process by which an individual forms values in an attempt to identify the critical

indicators of this process. The theoretical perspective of the application of values theory to nursing could also be expanded by investigating other ethical principles of the ANA Code for nurses within this theoretical perspective. Finally an investigation of the similarities and differences in the identified values among nurses classified within distinct categorical variables, such as, position, or work environment as differentiated by academic medical center, religious affiliated or corporate affiliated hospital, would assist in clarifying the relationship between an individual's values and position-related variables. Finally, the current study only examined the values of the individual as they impacted neonatal nursing practice. However the exploration of values as they impact other roles of the nurse such as, the role of employee of an institution, the role of patient advocate, or the functional role of administrator, educator or clinical expert, would yield interesting and useful information.

Future methodologic research would relate to the continued development and refinement of the data collection instrument. Activities in this area include: developing and testing additional items to measure the concepts of beneficence, rewriting and testing additional items to equalize the length of the sub-scales and continuing to test the reliability and validity of the instrument with other samples.

Finally there is a practical area in need of inquiry based on the findings of this research. That is, how do individual nurses reconcile the identified

disparity between their identified values and their preferred choices in a situation and the behaviors they report enacting in practice, even if they disagree with that behavior.

CONCLUSIONS

The NAACOG Standards For Nursing Care Of Women And Newborns (1991) states "...for nurses, most ethical dilemmas occur when there is a real or perceived requirement to act in a manner contrary to personal values or when care ordered or provided does not seem compatible with the best interests of the patient" (p.11). The findings of this study support the divergence between the values and choices the individual nurse intrinsically prefers and the behaviors the nurse feels compelled to carry out in the practice setting.

To resolve this situation, nurses must take an active role in the development of guidelines for individuals in areas of practice. A number of medical specialty organizations in the field of perinatal/neonatal care have formed ethics committees, as have many hospitals. However nursing representation on many of these committees is minimal or non-existent. While the ANA has an active ethics committee, nursing specialty organizations have not established distinct ethics committees. Given the individual nurse's greater identification with specialty nursing organizations, these organizations need to demonstrate an awareness of the complexity of

ethical issues and develop committees and standards for the integration of technology, health care and nursing practice based on the concept of caring. Failure to do so will limit the growth of the profession and will obstruct nursing's commitment to humanity.

Raya (1975) has characterized the nursing profession as a treasury of values. In the past decade, nurses have examined and discussed the role of values and ethics in practice and have described the ethical dilemmas they encounter in their practice. As is evident in these findings, neonatal nurses have identified their values and the conflicts present in their practice setting. It is time to move to the next phase of development and to become active participants in creating, sustaining and disseminating quality nursing care based on the wealth of values in Raya's treasury.

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APPENDIX A:

PARTICIPANT INFORMATION SHEET
and
RESEARCH INSTRUMENT

PARTICIPANT INFORMATION SHEET

Please complete the following information:

1.	What is your gender?	1. Female 2. Male
2.	What was your age on your last birthday?	1. Under 25 2. 25-34 years 3. 35-44 years 4. 45-54 years 5. 55-64 years 6. Over 65 years
3.	What is your marital status?	1. Never married 2. Married 3. Divorced 4. Widowed
4.	What is your religious preference?	1. Catholic 2. Jewish 3. Protestant 4. Other:_____
5.	How influential are your religious beliefs in the way you behave and act?	1. Influences almost every decision I make. 2. Influences about 50% of the decisions I make. 3. Does not influence most decisions I make.
6.	What is your race?	1. American Indian or Alaskan Native 2. Asian/Pacific Islander 3. Black 4. Hispanic 5. White/not of Hispanic Origin. 6. Other:_____
7.	What state are you currently practicing in?	_____
8.	What is your present position?	1. Staff Nurse 2. Head Nurse 3. Supervisor 4. Clinical Specialist 5. Nurse Practitioner 6. Educator 7. Director 8. Other:_____

9.	In your primary practice setting or place of employment, what level of neonatal care is provided.	1. Level 1 2. Level 2 3. Level 3 4. Don't know
10.	What is your educational preparation? *(Circle all that apply).*	1. Diploma 2. A.D. in Nursing 3. B.S. in Nursing 4. B.S. not in nursing 5. Masters in Nursing 6. Masters not in nursing 7. Other:_____
11.	Do you hold any of the following professional certifications? *(Circle all that apply)*	1. Neonatal Intensive Care Nurse: NCC 2. Low Risk Neonatal Nurse: NCC Sponsored 3. Neonatal Nurse Practitioner: NCC Sponsored 4. Other Certification - Specify:_____
12.	How many years have you been licensed as a R.N.?	1. Less than 3 years 2. 3-5 years 3. 6-10 years 4. 11-15 years 5. 16-20 years 6. Over 20 years
13.	How many year have you been a practicing neonatal nurse?	1. Less than 3 years 2. 3-5 years 3. 6-10 years 4. 11-15 years 5. 16-20 years 6. Over 20 years
14.	How many years have you practiced in your present employment setting?	1. Less than 3 years 2. 3-5 years 3. 6-10 years 4. 11-15 years 5. 16-20 years 6. Over 20 years
15.	In your present position, who is your employer?	1. Private Hospital 2. Public Hospital 3. University/Academic Medical Center 4. Independent practitioner 5. Other:_____
16.	How many continuing education activities on the topic of ethics have you attended in the past five years?	1. None 2. 1-2 3. 3-5 4. more than 5

17. Have you ever been involved in the care and management of the following types of infants? *(Circle all that apply)*

1. Very Low-Birthweight (less than 750 grams)
2. Chromosomal anomaly incompatible with long term survival.
3. Very unstable infants requiring continuous cardio-pulmonary support.
4. Chronically Ill infants.

SURVEY OF VALUES IN NEONATAL NURSING
DIRECTIONS

This is a study of values and value systems. There are no right or wrong answers. The best answer is your own opinion based on how important each statement is in your nursing practice in the neonatal unit. Please indicate your response to the statement by circling the appropriate number after each statement.

Each of the following statements is an important consideration in one's nursing practice. Please identify how important each of the following is in your neonatal nursing practice?

	Least important						*Most Important*
Effectiveness of care plan.	1	2	3	4	5	6	7
Doing good regardless of the consequences.	1	2	3	4	5	6	7
The inherent worth of the individual.	1	2	3	4	5	6	7
The good of society over the needs of the individual.	1	2	3	4	5	6	7
Nurses exercising choice in treatment decisions.	1	2	3	4	5	6	7
Maintaining human contact with the infant.	1	2	3	4	5	6	7
Providing equipment or care to those infants who can benefit most.	1	2	3	4	5	6	7
Non-Judgmental attitudes of the health care professionals.	1	2	3	4	5	6	7
Health care professionals providing love to the infant.	1	2	3	4	5	6	7
Equal care regardless of the ability to pay.	1	2	3	4	5	6	7
The right to independence in nursing care.	1	2	3	4	5	6	7
The infant's prospect for an active life.	1	2	3	4	5	6	7
Preserving life at all costs.	1	2	3	4	5	6	7

	Least important						*Most important*
Personal standards of nursing care.	1	2	3	4	5	6	7
Protecting the infant from unnecessary procedures.	1	2	3	4	5	6	7
Equal distribution of skills and equipment among all infants.	1	2	3	4	5	6	7
Severely impaired infants should be allowed to die.	1	2	3	4	5	6	7
Making the infant comfortable even if it alters the treatment plan.	1	2	3	4	5	6	7
The family's right to participate in all decisions related to their infant.	1	2	3	4	5	6	7
The infant's/family's right to make choices even if they are different than the choices of the health care providers.	1	2	3	4	5	6	7
The needs of the individual patient take priority over other needs.	1	2	3	4	5	6	7
The principle of do no harm.	1	2	3	4	5	6	7
Action based on the desires or needs of another person.	1	2	3	4	5	6	7
Cost-containment.	1	2	3	4	5	6	7
Effectiveness of care as measured by survival	1	2	3	4	5	6	7
Knowledge of what the family wants for the infant.	1	2	3	4	5	6	7
Preventing harm to the infant/family.	1	2	3	4	5	6	7
Family's right to request treatment even if it will not change the infant's prognosis.	1	2	3	4	5	6	7

	Least important						*Most important*
Consistency among health care providers in the treatment plan.	1	2	3	4	5	6	7
Family's wishes including religious beliefs.	1	2	3	4	5	6	7

PART II: DIRECTIONS

In this section you will be presented with three situations representative of types of patients encountered in neonatal units. Please read each situation and answer the questions that follow. Again there are no right or wrong answers. The best answer is your own opinion based on your nursing practice in the neonatal unit.

As you approach each situation base your answers on the following assumptions:

1. The infant is a patient at the hospital where you work,
2. You are the infant's nurse, and
3. The parent's views are the same as yours.

SITUATION 1

You are in the delivery room for the delivery of a 24 week gestation pregnancy. At birth the infant is limp, has a heart rate of 110 bpm and a weak but spontaneous cry. You estimate that the infant weighs between 450-500 grams. The eyes are fused and the skin is thin and transparent.

1. The following are three levels of intervention available for the care and management of infants. Please circle the number which indicates your agreement with each alternative in the type of infant described in the above situation.

	Completely Disagree						*Completely Agree*
AGGRESSIVE CARE: Do everything possible to keep the infant alive. This may include but not be limited to initiation or continuation of mechanical ventilation, pharmacologic support of vital functions, surgery and other invasive interventions.	1	2	3	4	5	6	7
LIMITED/CONSERVATIVE CARE: Care plan includes initiation and continuation of some treatments for the infant which may include suctioning, non-invasive oxygen administration, and feedings but do not include any invasive interventions such as intubation and mechanical ventilation, or surgery.	1	2	3	4	5	6	7
COMFORT CARE: Do not initiate or continue any treatments for the infant other than providing warmth and comfort.	1	2	3	4	5	6	7

2. The following is a list of information that may influence your thinking about and your behavior in this type of situation. Please circle the number which indicates how important you feel each piece of information is to your behavior as a nurse in the care and management of the type of infant described in this situation.

	Least Important						*Most Important*
Infant's gestational age	1	2	3	4	5	6	7
Evaluation of my supervisor	1	2	3	4	5	6	7
Family's socio-economic status	1	2	3	4	5	6	7
Current standards of care as defined by professional organizations.	1	2	3	4	5	6	7
APGAR Score at 5 minutes	1	2	3	4	5	6	7
The Baby Doe Regulations.	1	2	3	4	5	6	7
Opinion of consultants and specialists	1	2	3	4	5	6	7
Unit protocols	1	2	3	4	5	6	7
Expectations of physician	1	2	3	4	5	6	7
Infant's medical diagnosis	1	2	3	4	5	6	7
Results of diagnostic tests.	1	2	3	4	5	6	7
Hospital philosophy or mission statement	1	2	3	4	5	6	7
Marital status of the parents	1	2	3	4	5	6	7
The ANA Code For Nurses	1	2	3	4	5	6	7
Infant's birthweight	1	2	3	4	5	6	7

COMMENTS:

SITUATION 2

An infant is brought to the nursery following a vaginal delivery at 35 weeks gestation. The infant exhibits characteristics of trisomy 13 including rocker-bottom feet, low-set ears, cleft lip and palate, polydactyly and clenched fists. The diagnosis of Trisomy 13 is confirmed by chromosomal analysis.

1. The following are three levels of intervention available for the care and management of infants. Please circle the number which indicates your agreement with each alternative in the type of infant described in the above situation.

	Completely Disagree						*Completely Agree*
AGGRESSIVE CARE: Do everything possible to keep the infant alive. This may include but not be limited to initiation or continuation of mechanical ventilation, pharmacologic support of vital functions, surgery and other invasive interventions.	1	2	3	4	5	6	7
LIMITED/CONSERVATIVE CARE: Care plan includes initiation and continuation of some treatments for the infant which may include suctioning, non-invasive oxygen administration, and feedings but do not include any invasive interventions such as intubation and mechanical ventilation, or surgery.	1	2	3	4	5	6	7
COMFORT CARE: Do not initiate or continue any treatments for the infant other than providing warmth and comfort.	1	2	3	4	5	6	7

2. The following is a list of information that may influence your thinking about and your behavior in this type of situation. Please circle the number which indicates how important you feel each piece of information is to your behavior as a nurse in the care and management of the type of infant described in this situation.

	Least Important						*Most Important*
Infant's gestational age	1	2	3	4	5	6	7
Evaluation of my supervisor	1	2	3	4	5	6	7
Family's socio-economic status	1	2	3	4	5	6	7
Current standards of care as defined by professional organizations.	1	2	3	4	5	6	7
APGAR Score at 5 minutes	1	2	3	4	5	6	7
The Baby Doe Regulations.	1	2	3	4	5	6	7
Opinion of consultants and specialists	1	2	3	4	5	6	7
Unit protocols	1	2	3	4	5	6	7
Expectations of physician	1	2	3	4	5	6	7
Infant's medical diagnosis	1	2	3	4	5	6	7
Results of diagnostic tests.	1	2	3	4	5	6	7
Hospital philosophy or mission statement	1	2	3	4	5	6	7
Marital status of the parents	1	2	3	4	5	6	7
The ANA Code For Nurses	1	2	3	4	5	6	7
Infant's birthweight	1	2	3	4	5	6	7

COMMENTS:

SITUATION 3

A 3 kilogram infant was born at 37.5 weeks gestation secondary to placental abruptio. At birth, the infant was normal appearing, well nourished, limp without tone, and blue without spontaneous respirations. Resuscitation was initiated and the infant was transferred to a medical center.

The infant is 45 days old. Pupils are fixed and dilated. The infant is spastic in all four extremities and requires continuous NG feedings and cardiorespiratory support. The neurologist states that all movements are spinal in nature and there is little chance of long term survival and no chance for functional development.

1. The following are three levels of intervention available for the care and management of infants. Please circle the number which indicates your agreement with each alternative in the type of infant described in the above situation.

	Completely Disagree						*Completely Agree*
AGGRESSIVE CARE: Do everything possible to keep the infant alive. This may include but not be limited to initiation or continuation of mechanical ventilation, pharmacologic support of vital functions, surgery and other invasive interventions.	1	2	3	4	5	6	7
LIMITED/CONSERVATIVE CARE: Care plan includes initiation and continuation of some treatments for the infant which may include suctioning, non-invasive oxygen administration, and feedings but do not include any invasive interventions such as intubation and mechanical ventilation, or surgery.	1	2	3	4	5	6	7
COMFORT CARE: Do not initiate or continue any treatments for the infant other than providing warmth and comfort	1	2	3	4	5	6	7

2. The following is a list of information that may influence your thinking about and your behavior in this type of situation. Please circle the number which indicates how important you feel each piece of information is to your behavior as a nurse in the care and management of the type of infant described in this situation.

	Least Important						*Most Important*
Infant's gestational age	1	2	3	4	5	6	7
Evaluation of my supervisor	1	2	3	4	5	6	7
Family's socio-economic status	1	2	3	4	5	6	7
Current standards of care as defined by professional organizations.	1	2	3	4	5	6	7
APGAR Score at 5 minutes	1	2	3	4	5	6	7
The Baby Doe Regulations.	1	2	3	4	5	6	7
Opinion of consultants and specialists	1	2	3	4	5	6	7
Unit protocols	1	2	3	4	5	6	7
Expectations of physician	1	2	3	4	5	6	7
Infant's medical diagnosis	1	2	3	4	5	6	7
Results of diagnostic tests.	1	2	3	4	5	6	7
Hospital philosophy or mission statement	1	2	3	4	5	6	7
Marital status of the parents	1	2	3	4	5	6	7
The ANA Code For Nurses	1	2	3	4	5	6	7
Infant's birthweight	1	2	3	4	5	6	7

COMMENTS:

APPENDIX B:

AN INSTRUMENT TO MEASURE ETHICAL DECISION MAKING IN THE NICU

Funded by an A.D. Williams Summer Research Fellowship from the
Medical College of Virginia/Virginia Commonwealth University,
Richmond, Virginia.

Table 26:
Distribution of Clinical Actions by Profession

The low-birthweight questionable viable infant.

	Aggressive Intervention	Conservative Intervention	No Intervention
Nurses	4	5	1
Physicians	3	4	3
TOTAL	**7 (35%)**	**9 (45%)**	**4 (20%)**

The infant with a chromosomal anomaly incompatible with long-term survival.

	Aggressive Resuscitation	Limited Resuscitation	No Resuscitation
Nurses	1	6	3
Physicians	0	3	7
TOTAL	**1 (5%)**	**9 (45%)**	**10 (50%)**

The infant with a congenital anomaly necessitating surgery.

	Immediate Surgery	Delay Surgery	No Surgery
Nurses	1	4	5
Physicians*	6	0	3
TOTAL	**7 (37%)**	**4 (21%)**	**8 (42%)**

[* one no answer]

Table 26-Continued:

The addicted infant born prematurely.

	Full Care & Resuscitation	Routine Care No Resuscitation	Minimal Care
Nurses	9	1	0
Physicians*	7	2	0
TOTAL	**16 (84%)**	**3 (16%)**	**0 (0%)**

[* one no answer]

The continued care of the chronic infant.

	Increase Support	Maintain Support	Withdraw Support
Nurses	0	4	6
Physicians	0	1	9
TOTAL	**0 (0%)**	**5 (25%)**	**15 (75%)**

Table 27:
Distribution of Selected Values By Profession

SAMPLE	DUTY TO DO GOOD	GREATEST GOOD GREATEST NUMBER	SANCTITY OF LIFE	QUALITY OF LIFE	DIGNITY OF INDIVIDUAL	SELF-DETERMINATION	DO NO HARM	DISTRIBUTION RISK/BENEFITS
Low Birthweight Questionable Viable Infant								
Nurses	-	-	-	4	-	5	1	-
Physicians	1	1	-	1	2	-	3	2
TOTAL	**5%**	**5%**	**-**	**25%**	**10%**	**25%**	**20%**	**10%**
Infant with a Chromosomal Anomaly:								
Nurse	-	-	2	3	1	2	-	1
Physician	-	-	-	1	1	-	6	-
TOTAL	**-**	**-**	**10%**	**20%**	**10%**	**10%**	**30%**	**5%**
Infant with a Congenital Anomaly Necessitating Surgery:								
Nurse	-	-	2	2	1	5	-	-
Physician	3	-	-	1	-	4	1	-
TOTAL	**15%**	**-**	**10%**	**15%**	**5%**	**45%**	**5%**	**-**
Addicted Infant Born Prematurely:								
Nurse	1	-	2	1	2	1	1	2
Physician	-	-	1	2	2	1	-	3
TOTAL	**5%**	**-**	**15%**	**15%**	**20%**	**10%**	**5%**	**25%**
Continued Care of the Chronic Infant:								
Nurse	-	-	-	3	2	3	1	-
Physicians	-	-	1	3	2	2	1	-
TOTAL	**-**	**-**	**5%**	**30%**	**20%**	**25%**	**10%**	**-**
TOTAL FREQUENCY BY PROFESSION:								
Nurses	1	-	6	13	6	16	3	3
Physicians	4	1	2	8	7	7	11	5

Table 28:

Comparison of Clinical Actions and Selected Values

VIGNETTE	NURSE		PHYSICIAN		COMBINED SAMPLE	
	x^2	p-Value	x^2	p-Value	x^2	p-Value
Low birthweight questionable viable infant.	15.55	.1131	3.23	.5209	15.54	.2134
Infant with a chromosomal anomaly.	3.65	.3017	8.33	.5963	16.93	.1524
Infant with a congenital anomaly necessitating surgery.	6.42	.1694	3.10	.7962	9.36	.6722
Addicted infant born prematurely.	17.71	.1081	4.44	.6167	25.22	.0324*
Continued care of the chronic infant.	10.00	.0752	4.44	.3462	6.48	.2615

* $p<.05$

APPENDIX C:

DECIDING WHAT TO DO WHEN THE PATIENT CAN'T SPEAK: A PRELIMINARY ANALYSIS OF AN ETHNOGRAPHIC STUDY OF PROFESSIONAL NURSES IN THE NEONATAL INTENSIVE CARE UNIT.

Figure 5:

Typology of Infants

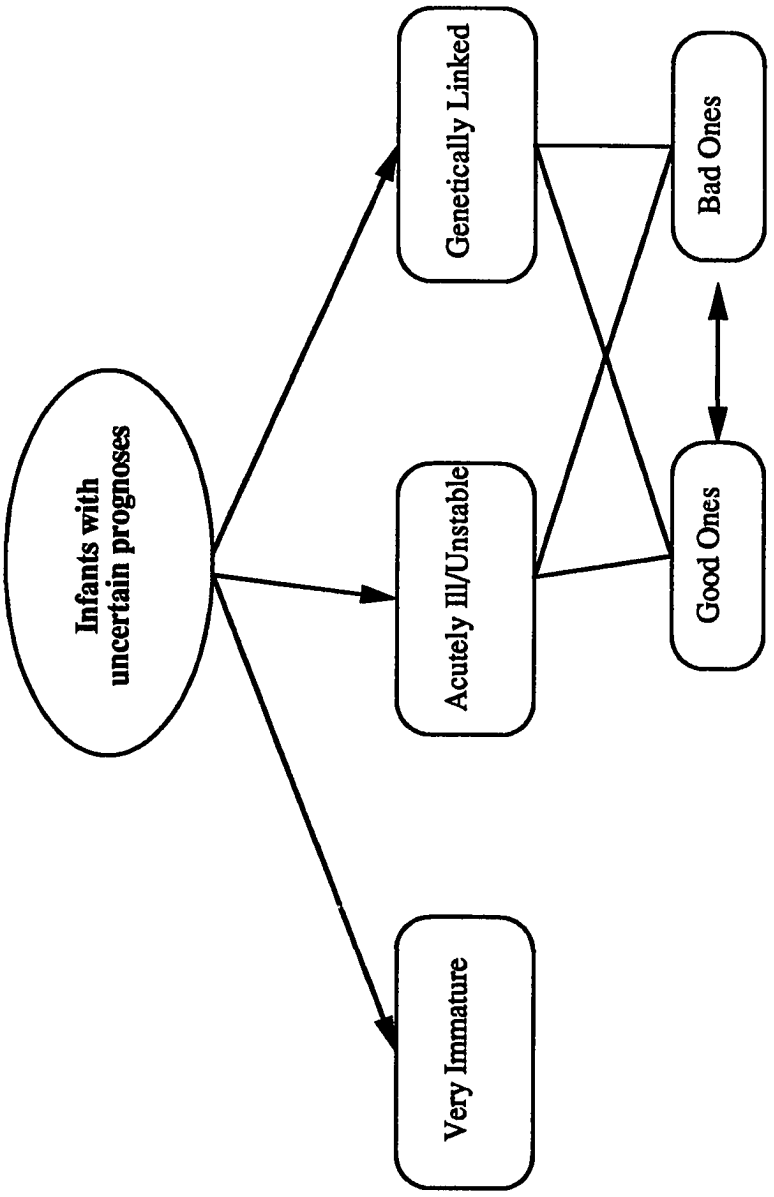

Table 29:
Matrix of Meanings: Best Interests and Advocacy By Type Of Infant

PATIENT TYPE	CHARACTERISTIC	BEST INTERESTS	ADVOCACY
Very Immature	-Extreme prematurity -Previable, still a fetus -Not a baby -Lacks cognitive awareness	-Leave alone -Avoid poking and prodding -Death with dignity	-Protection from procedures/ risk
Acutely Ill/ Unstable	-Appropriate gestational age and size -Normal chromosomes -Presence of life threatening problems.	-Continuum from very aggressive intervention to very limited supportive care only.	-Role unclear -Extends from recognizing characteristics of the infant to working with the family
Genetically Linked Syndrome	-Abnormal chromosome map -Gestational age mature -Cognitive awareness -Short life span related to syndrome.	-Life maintaining "normal or ordinary" care -Emphasis of T.L.C.	-finding meaning in the infant's life

APPENDIX D

PARTICIPANT LETTER/INFORMED CONSENT

9404 Tracey Lynne Circle
Glen Allen, Virginia 23060

January 4, 1992

Dear Colleague,

You have been randomly selected from the NANN membership roster to participate in a doctoral dissertation research study entitled, *An Analysis of The Values Influencing the Perceptions and Behaviors of Neonatal Nurses in Selected Ethical Dilemmas.* The goal of this study is to discover the types of values that influence the nurses' perception of a situation and guide the behavioral choices of individual nurses in patient care situations.

Your participation will involve reacting to a series of statements, reading three vignettes followed by a series of questions related to each situation and completing a participant information sheet. Compietion of the entire packet requires 30-45 minutes. The research instruments contain no identifying information and your responses will remain anonymous. Findings of this research will be reported only as aggregate data.

You will receive no direct benefits from your participation in this study. However it is anticipated that the findings will contribute to the development of educational and administrative strategies which will contribute the growth of the nursing discipline. In addition the results of this research will be submitted to NANN for consideration for presentation at future meetings.

You are free to ask questions related to this study at any time. Questions can be addressed to the investigator at 804-786-0720 or to Mary Corley Ph.D., RN at 804-786-0710. You have a right not to answer any question which makes you uncomfortable and you have the right to withdraw your participation in this study at any time without penalty or repercussions.

I hope you are willing to participate in this project. Your input is important in defining the role of the neonatal nurse in ethical dilemmas. Returning the completed questionnaire indicates your willingness to participate in this research. To meet deadlines for the completion of this project I would appreciate receiving your completed questionnaires by January 22, 1992. A stamped, self-addressed envelope is included for your convenience.

If you wish to receive a summary of the findings, please complete the enclosed card with your name and address and I will forward you a copy. I welcome any comments you may have in relation to this study and look forward to receiving your completed questionnaires.

Thank you for your assistance.

Sincerely,

Deborah Raines RNC, MSN.
Doctoral Candidate
School of Nursing
Virginia Commonwealth University