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I am submitting herewith a dissertation written by David S. Gerstle entitled "Relationships Among Registered Nurses' Moral Judgment and Their Perception and Judgment of Pain and Selected Nurse Factors." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Nursing.

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RELATIONSHIPS AMONG REGISTERED NURSES' MORAL JUDGMENT AND THEIR PERCEPTION AND JUDGMENT OF PAIN, AND SELECTED NURSE FACTORS

A Dissertation
Presented for the
Doctor of Philosophy
Degree
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David S. Gerstle
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DEDICATION

This endeavor is dedicated to my wife, Nettie, who has motivated, encouraged, supported, and as needed chastised me as I persevered through my doctoral education. It has been with your help that I have been able to succeed. Thank you for always being there, putting up with my "all nighter" writing marathons, and especially for sharing our computer.

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Abstract

Under-treatment of pain by nurses continues to be a prevalent problem today. Many times pain management situations prove to be ethical in nature for nurses. Nurses are ethically obligated to alleviate pain as part of the profession's responsibilities to patients. The American Nurses' Association Code for Nurses, Joint Commission for Accreditation of Healthcare Organizations pain management standards, the American Pain Society, and other pain management standards express this commitment. Therefore, nurses must possess adequate moral judgment to effectively deal with moral dilemmas and provide adequate pain management. To date, no studies have been conducted to examine the relationship of nurses' moral judgment and perception and judgment of pain.

Other factors of the nurse have been examined in previous research studies. In response to the problem of under-treatment of pain, the National Institute of Nursing Research in 1994 published a state of the science report on acute and episodic pain and its management. Nurse factors that could influence pain management decisions were identified: nurses' age, education level, personal pain experience, professional experience, nurses' espoused goals of pain relief, fear of respiratory depression, and nurses' addiction attitudes. Many of these studies are now old and reexamination of these factors is indicated.

Imogene King's Interacting Systems Framework guided this study. Based on this framework, perception and judgment precedes and influences action. It was proposed that moral judgment is part of the nurse's personal system within the growth and development

subsystem. The concept of moral judgment within this proposed framework was defined by James Rest, a noted moral development theorist and researcher, as a cognitive and developmental process of reasoning about moral choice. It includes principled thinking, which is guided by principles of what is the right thing to do.

In addition, it was proposed that decision-making is part of the nurse's personal system as well. It was also proposed that moral judgment influences perception and judgment of pain, therefore impacting nurses' choices of pain intervention. Therefore, the purpose of this study was to examine the relationship of nurses' moral judgment and perception and judgment of pain. A secondary purpose was to examine selected nurse factors' relationship among moral judgment, perception, and judgment of pain.

The research design was a descriptive correlational design utilizing Pearson r and Spearman rho correlations, and descriptive statistics as appropriate. A convenience sample of 101 registered nurses that provide direct care to adult patients in acute pain on hospital units was used. Moral judgment was measured using the Defining Issues Test, version two designed by James Rest. Nurses' perception and judgment of pain was measured utilizing a pain vignette tool, designed by McCaffery and Ferrell, two well-known pain management nurse experts. The tool was adapted to reflect ethical situations in the patient vignettes. Perception was measured based on the subjects' rating of the vignette patient's pain using a one to ten scale. The subjects' selection of analgesic dosage or no selection of analgesics measured judgment for the patient in the vignette. The selected nurse factors were collected via the demographic questionnaire.

The findings of this study did not support the proposed middle-range theory. Moral judgment and perception and judgment of pain were not related for the total sample. Subsamples based on education, nursing experience, and unit worked did reveal significant correlations between moral judgment and perception of pain. Nurses who did not believe pain relief is possible revealed that their moral judgment was related to judgment of pain. Several relationships among the selected nurse factors, moral judgment, perception, and judgment of pain were also found.

Significance of this study points towards the need to gain further knowledge of the relationship of moral judgment and nurses' perception and judgment of pain. Knowing more about this relationship may indicate a new way to teach pain management. Reflective education and practice may be the path to take to help nurses enhance their moral decision-making regarding pain.

Examination of the selected nurse factors' relationships among moral judgment, perception and judgment of pain will provide greater understanding of how personal attributes of the nurse affect pain management. The most important implication of this study is that it moves us closer to a better approach in addressing under-treatment of pain.

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CHAPTER I

INTRODUCTION

Pain is a frequent symptom seen not only in health care settings, but also throughout society as a whole. It is a known response to many diseases, invasive procedures, and injuries that must be addressed by nurses. Unrelieved pain in hospital patients has been documented for over 30 years. Marks and Sachar conducted the most quoted study of the undertreatment of pain in 1973. The investigators found that 73 percent of medical inpatients reported moderate to severe pain. Thirty-two percent were in severe and 41% in moderate pain. Although 50 –75 milligrams of meperidine every three to four hours was prescribed for pain for 63% of the patients interviewed, only 90 milligrams were given on the average per day (Marks & Sachar, 1973).

The Study to Understand Prognosis and Preferences for Outcomes and Risks of Treatment (SUPPORT) was conducted in hospitals in 1995. A subsample (n = 5176 patients) out of the total sample of 9105 patients was utilized to determine the prevalence of pain. Findings revealed that 50% of the patients reported pain. Nearly 15% reported extremely severe to moderately severe pain at least half of the time (Desbians et al. , 1996).

Warfield and Kahn (1995) also conducted a study of pain experienced by hospitalized patients (n = 500). They found that 77% of patients who had surgery reported pain. Eight percent experienced extremely severe, 23% severe, 49 % moderate, and 19% slight pain. Seventy one percent reported that they continued to have pain even after receiving their first dose of analgesics and 30% reported they had to continually request pain medication. Sixteen percent had to wait for pain medication. Several earlier

studies showed similar findings of unrelieved pain (Cohen, 1980; Crook, Rideout, & Browne, 1984; Donovan, Dillion, & McGuire, 1987; Paice, Mahen, & Faut-Callahan, 1991).

The relief of pain is an expected intervention within the domain of nursing practice. The preamble to the American Nurses' Association's (ANA) Code for Nurses, the profession's ethical code, emphasizes this in its statement that "nursing encompasses the promotion and restoration of health, the prevention of illness, and the alleviation of suffering" (ANA, 1988). The preamble continues by stating that the Code for Nurses provides a guide for conduct in carrying out nursing responsibilities consistent with the ethical obligations of the profession and quality in nursing (ANA, 1988). Providing appropriate pain management is acting upon the professional moral obligation, and therefore is a topic of vital importance to the discipline of nursing.

The standard that "pain is whatever the experiencing person says it is, existing whenever the experiencing person says it does" has been embraced by the profession of nursing (McCaffery & Beebe, 1989). The Agency for Health Care Policy and Research (AHCPR) has added to its guidelines for pain management that all pain is subjective and that the most reliable assessment of pain is the client's self-report (U.S. Department of Health and Human Services, 1992). The American Pain Society (APS) also reinforces this in its highly respected guidelines for the treatment of acute pain and cancer pain. APS states that its position on the definition of pain is that it is "always subjective" (APS, 1999, p. 3), and "the clinician must always accept the patient's report of pain." (APS, 1999, p. 3)

To further promote patients' rights for appropriate pain management, the Joint Commission of Healthcare Organizations (JCAHO) has established specific pain management standards for health care facilities made effective in January 2001. Implementation of these not only are required for organizations to become accredited, but also require a moral commitment for their nurses to integrate the principles that patients have rights to pain management through proper assessment of pain based on the patients' report. These new standards used for accreditation require all organizations to:

1. Recognize the right of patients to appropriate assessment and management of their pain;
2. Identify patients with pain in an initial screening assessment;
3. Perform a more comprehensive pain assessment when pain is identified;
4. Record the results of the assessment in a way that facilitates regular reassessment and follow-up;
5. Educate relevant providers in pain assessment and management;
6. Determine and assure staff competency in pain assessment and management;
7. Address pain assessment and management in the orientation of all new staff;
8. Establish policies and procedures that support appropriate prescription or ordering of effective pain medications;
9. Ensure that pain does not interfere with participation in rehabilitation;
10. Educate patients and their families about the importance of effective pain management;

11. Address patient needs for symptom management in the discharge planning process; and
12. Collect data to monitor the appropriateness and effectiveness of pain management. (JCAHO, 2000).

Nurses must, therefore, provide pain management based on the principle that pain is subjective and that the most accurate source for pain assessment is the patient. Nurses in clinical settings deal with patients in pain on a daily basis. Nursing schools have incorporated the topic of pain into the curricula and clinical experiences for their students. In addition, findings from pain research are frequently seen in the nursing literature as well as in magazines and newspapers read by laymen. Improved pharmacology and technology to deliver parenteral analgesia has made it possible to manage pain more easily in hospitals, clinics, and in the client's home. Based on this, one could speculate that nurses are well informed and quite experienced regarding pain and its management. Yet, in the face of established standards regarding pain, the professional code of ethics for nurses and increased knowledge and education on medication and technology, evidence reveals that pain is still under treated by nurses (Brunier, Carson, & Harrison, 1995; Burokas, 1985; Rankin & Snider, 1984; Warfield & Kahn, 1995).

Since nurses play a key role in assessing and treating pain, it is vital to understand and address why nurses continue to under-treat pain. The nursing profession is morally bound to alleviate suffering as stated in the Code for Nurses. The profession has also embraced the standard of acknowledging that pain is the subjective experience of the patient. In the face of the moral obligation to manage pain, dilemmas involving patients in pain further complicate and even compromise treatment of pain by nurses. Dilemmas

are defined as situations in which one right principle is violated in order to act upon another right principle. An example of a dilemma in pain management is treating a recovering substance abuse patient who is admitted with severe pain. It is right to avoid causing the patient to become addicted to a narcotic and yet it is right to control the severe pain. This can be a dilemma for the nurse even if the patient is not a known substance abuser and the nurse holds the belief that narcotic analgesics are easily addictive. The nurse then is placed in a dilemma, based on held beliefs, of protecting a patient from addiction versus managing the patient's pain. The nurse must exercise moral judgment in order to navigate the waters of moral dilemmas and pain management. It then stands to reason that adequate moral judgment influences the nurse to make the choice to treat pain ethically. Moral judgment influences the nurse's perception and judgment of pain since perception and judgment precedes the nurse's decision-making regarding the action of pain treatment. The relationship between moral judgment and the perception and judgment of pain is not known. Nurses' moral judgment may influence their perception and judgment of pain. Most importantly, nurses must accept patients' own report of pain and that patients are the authority on their pain. Nurses' moral judgment may also influence their acceptance of pain information and the standards of pain management taught in nursing school and as continuing education once practicing in the profession.

In response to the problem of under-treatment, the National Institute of Nursing Research (NINR) formed an expert panel to study symptom management of pain. Their report was published in 1994. The panel believed that the management of pain was based on the interaction of patients, nurses, physicians, and health care organizations. Each of

these entities exerts influence on each other and on the effectiveness of pain management. Nurses are the primary health professionals who make decisions and intervene to manage pain in the patient. Physicians' orders for analgesics usually are written with a discretionary range of dosage and frequency. Nurses then determine the amount and frequency of the drug based on the assessment of the pain. The panel determined that internal as well external factors influenced pain management decisions. These internal "nurse factors" included personal characteristics such as age, education level, personal pain experience, and professional nursing experience. Other factors they noted were nurses' beliefs regarding the goal of pain relief and addiction risks of administering opiate analgesics (NINR, 1994). These six variables will be referred to as "selected nurse factors" throughout this study.

The Ethics of Pain Management

The basis of this study was that nurses' judgments about treating pain are ethical in nature. These judgments are influenced by their perceptions and resulting schemas regarding pain. Lisson (1987) asserted that nurses have difficulty admitting that clinical judgments are ethical in nature. Yet, clinical judgments affect human lives and thus are subject to an ethical analysis by nurses. Unrelieved pain not only causes physical damage to patients, but psychological discomfort as well. This fact alone makes pain management an ethical endeavor. Pain management is an ethical endeavor since it is subjective and provokes many value judgments in regard to pain that could preclude proper pain management for the sufferer. Clinical experience can lead nurses to develop negative attitudes towards clients in pain, particularly substance abusers and AIDS patients, leading to personal revulsion and insult. Some nurses may even perceive patients with

higher pain thresholds as better people (Lisson, 1987). "Clinical nursing ethics becomes a systematic way of resolving conflicts or values." (p. 654)

Greipp (1992) developed an ethical model of ethical decision-making in the management of patients' pain. She emphasized what she called "learned potential inhibitors" (p. 45) as a major influence on decisions nurses made regarding pain. These inhibitors were identified as "the nurses' personal and professional experiences, belief system, and culture." (p. 45) The nurses' belief system could be contrary to the principle that patients are the authority on their pain and therefore the nurse is placed in conflict in providing pain management (Greipp, 1992).

Decisions regarding patients' pain involve selecting the right action involving identifying and balancing technical knowledge, values, beliefs, treatment goals, and the individual patient's needs. It is not a singular act but a continual reflection and further actions to promote comfort in a wholistic way in patients. "Until a method of controlling pain is discovered that will leave the patient alert, oriented, and free of pain and do so without addiction, increasing tolerance, and toxic side effects, pain control will remain a crucial clinical and ethical dilemma." (Lisson, 1987, p. 654) Therefore, nurses make ethical decisions every time patients' pain is assessed (DeWolf, 1993; Lisson, 1987).

The well-known principles of autonomy, advocacy, beneficence, and nonmaleficence are involved in pain management. Respect for autonomy of patients in pain involves first accepting the patients' report of the severity of their pain and secondly, allowing the patient to be involved in the decision-making of how the pain should be managed. This is supported by the new JCAHO standards. Advocacy for the patient requires nurses to speak for patients as needed in acquiring adequate pain medication or

treatment. This may lead to conflict with administrators, physicians, pharmacists, other nurses, other healthcare members, and even family members (Henkelman, 1994).

Beneficence requires that nurses seek and ensure good for the patient. Benefits include physiological effects such as muscle relaxation, increased respiratory function, reduced stress on the cardiovascular system, and reduced endocrine responses. Ethical conflict can occur when risks of analgesia are weighed against the benefits of pain relief. Risks of respiratory depression and sedation and potential for injury such as falling are real concerns, but cannot be reasons to withhold analgesia. Many times nurses must ignore their personal values that may be in conflict and act upon the professional ethics of appropriate pain management (Henkelman, 1994).

Nonmaleficence is the duty to do no harm. This area of ethics in pain management mostly involves the concern of potential side effects as mentioned above. Nonmaleficence and beneficence must occur together and yet many times conflict with each other (Henkelman, 1994). It is interesting to note that there are as many risks of unrelieved pain as there are risks of analgesics. This adds more complication to the ethics of pain management.

In summary, allowing patients to suffer constitutes moral negligence. Nurses make decisions on how much analgesia patients receive. Studies have shown that nurses do not give enough of prescribed analgesics to provide pain relief (Carr & Thomas, 1997; Cohen, 1980; Donovan, Dillon, & McGuire, 1987). Allowing pain to persist allows damage to continue as well as neglect of professional and moral obligations of the profession of nursing. Therefore, nurses who fail to provide adequate pain management are morally negligent (Hunter, 2000).

Pain is an important and critical ethical issue because of the impact of unrelieved pain on patients. Nurses are morally obligated as espoused by the ethical standards of the profession and pain management standards. Therefore, it is proposed that adequate principle-based moral judgment is a necessary developmental cognitive characteristic of nurses in order to honor these standards.

Purpose of the Study

According to the ANA Code for Nurses, the profession of nursing is morally obligated to alleviate suffering. The pain standard corporately embraced by the profession to accept the patient's subjective report of pain also entails a moral obligation to manage pain. It was proposed that the management of pain, based on these professional standards, requires moral judgment. Moral judgment influences nurses' perception and judgment within the decision-making process since perception and judgment must precede any action of treating pain. Therefore, the purpose of this study was to explore the relationship between nurses' moral judgment and their perception and judgment of pain.

According to the NINR expert panel, selected nurse factors identified as age, education level, professional and personal pain experience, goal of pain relief, and addiction attitudes, may influence the nurses' pain management judgments. Therefore, the secondary purpose of this study was to provide a description of this sample on the selected nurse factors from the literature as well as descriptions of other nurse demographics in relation to their moral judgment, perception, and judgment of pain.

Research Questions

In order to better understand the relationship between moral judgment and perception and judgment of pain, the following questions are posed:

1. What is the relationship between nurses' moral judgment and their perception of pain?
2. What is the relationship between nurses' moral judgment and their judgment of pain?

Ancillary Question

1. How do the selected nurse factors relate to nurses' moral judgment, perception and judgment of pain?

Framework

Imogene King's Interacting Systems Framework provided the theoretical guidance for this study. A basic assumption of King's framework was that the focus of nursing is the care of human beings. She addressed this care by viewing humans as open systems who interact with the environment. Her framework included the personal, interpersonal, and social systems, which interact with each other and are dynamic in character (King, 1995). Personal systems are identified as individuals. Interpersonal systems refer to two or more individuals and the social systems refer to groups (King, 1981). The focus of this study was on the personal system and the nurse was the specific personal system of interest.

The concepts in King's Systems Framework addressed in this study were perception, judgment, decision-making, self, and growth and development. Perception, self, and growth and development are concepts in the personal system. Judgment is a core

concept in the personal system, but was not explicitly defined. It was described as an implicit part of the concept of decision-making and was discussed by King (1981) within the social system of her conceptual framework. Each of these concepts are discussed and defined in this paper according to King's point of view in her systems framework.

Perception

Perception and judgment of individuals are involved in all human interactions. Interaction is when two individuals come together for a purpose. Both individuals perceive the other and the situation, and then make judgments regarding choice of action (King, 1981). King (1981) defines perception as "each human being's representation of reality . . . an awareness of persons, objects, and events" (p. 20), and "each person's subjective world of experience." (p. 146) She further described it as involving the elements of processing information, storing information, and then exporting information for overt behaviors. How an individual perceives is related to past experiences, values, self-concept, socioeconomics, biological inheritance, and education (King, 1981).

Other characteristics of perception include universality, uniqueness for each individual, and action oriented. Perception occurs within transactions with others and the environment. Perception is universal because all persons perceive others and objects in the environment, which provides information about the world. However, perception is unique for each individual since experiences vary in spatial-temporal relationships for each person, according to the person's level of development and ability to sense, as well as the context of the perceptual experience. Individuals are continually participating in perception of the environment, therefore, perception is action oriented in the present. Past experiences, values, and needs organize facts for the person as one perceives in the

present. Perception reveals itself in situations experienced by the person and can only be observed in those transactions. Perception in transactions is unique to the individual, drawing upon the time and space of the present situation, and experiences from past situations. Each person then creates a unique internal interpretation of the present (Ittleson & Cantril, 1954; King, 1981).

Perception is an important aspect in nurse-patient interactions and perceptual accuracy is imperative. Inaccurate perceptions lead to inappropriate judgment within decision-making. Nurses must be aware that these factors influence their perceptions of patients and subsequent judgment, both from internal and external origins. When interacting with patients in acute pain, nurses, therefore, must realize that personal and professional values and past experiences in treating and experiencing pain impact nurses' perception of patients' pain and subsequent decisions to treat the pain.

In summary, perception is defined as an individual's subjective representation of reality. It includes the process of organizing, storing, and transforming information gathered from the environment during transactions. It is unique for each individual and is action oriented to the present based on past experiences and values. (King, 1981). In this study, perception was nurses' subjective representation of pain based on nurses' past experiences and values. It is oriented to the current interaction with patients when nurses organize, store, and transform information about patients' pain experiences.

Judgment

King did not define the concept of "judgment" explicitly in her framework even though it is a core concept in the personal system. She did state that judgment follows perception and precedes taking action within a nurse-patient interaction. In her earlier

work, she discussed the concept of judgment using the term "evaluation of a situation." King also referred to this process as "to 'interpret' actions and reactions of others." (King, 1971, p. 95) As with perception, King (1971) stated that values, attitudes, and beliefs influence nurses' evaluation (judgment) of a situation and that "perception influences one's evaluation of a situation and evaluation (judgment) also influences perception." (Brooks, 1995; King, 1971, p.96) King also stated "judgments made by nurses are influenced by their knowledge of the physical, psychological, and social components of man, by their value systems, and by their perceptions in the nursing situation." (King, 1971, p.92) It can be concluded, then, that judgment is both cognitive and affective in nature in the same capacity as perception (Brooks, 1995). It can also be concluded that perception and judgment occur together, each influencing the other.

"Interactions can reveal how one person thinks and feels about another person, how each perceives the other and what the other does to him, what his expectations are of the other, and how each reacts to the actions of others." (King, 1981, p. 85) Therefore, the nurse entering an interaction with a patient in pain perceives and judges the patient just as the patient perceives and judges the nurse. Each brings cognitive and affective factors to these processes. Based on this interaction, the nurse makes decisions to take action to manage or not manage pain.

It is proposed that judgment is implicitly part of the decision-making process of the nurse and that decision-making occurs within the personal system. One must evaluate and interpret information, which requires making a judgment or decision prior to acting.

In summary, judgment is a process of evaluating and interpreting situations and actions and reactions in a nurse-patient interaction. It is a cognitive and affective process

which influences and is influenced by nurses' beliefs, values, perceptions, and knowledge of the physical, psychological, and social components of an individual. Thus, nurses entering into interactions with patients in acute pain judge the pain based on their beliefs, perceptions, and values regarding pain.

Decision-Making

King (1981), in discussing decision-making within the social system, defined decisions as " judgments made that affect a course of action to be taken in a specific situation." (p. 130) King stated that all individuals make decisions and that these decisions regulate one's life and work. She stated that "there are at least three components in every decision: 1) the process, 2) the decision maker, and 3) the decision that is made." (p. 131) "Decisions are usually based on one's values, goals, knowledge, and past experience." (p.132) The decision maker's perceptions influence and are influenced by judgment. Subsequently, judgment influences the choice of actions to take. Resulting decisions are therefore individual, personal, and subjective in character based on perception (King, 1981). It is proposed that judgment is subsumed under decision-making, and decision-making is a part of the self within the personal system of the nurse.

Self

The nurse's concept of self applied to this study. Self was defined by King as "a composite of thoughts and feelings which constitute a person's awareness of his or her individual existence.... A concept of self is reflected in patterns of growth and development and in the structure and functions of human beings." (King, 1981, p. 28) Self is an open system and is perceived in relation to others and the environment. Attitudes towards self are often the same attitudes held toward others, which may be

negative or positive. Values, needs, and goals are acquired within the self through growth and development (King, 1981). Nurses must possess self-awareness in order to be in touch with their perceptions as well as their growth and development. As a nurse develops, values, needs, and goals change, thus changing the nurse's self-concept. Moral judgment and selected nurse factors are a part of the self as well. The more experience a nurse has with caring for patients in acute pain, the more the self is impacted. Thus, moral judgment and nurse factors affect perception and judgment, and as a result, choices for the patient in acute pain are affected by the nurse's changed self-concept.

Growth and Development

Growth and development is the next subsystem of the personal system and is defined as the processes that take place in individuals' lives which help lead them from potentials to achievements. King stated, "growth and development are functions of genetic endowment, meaningful and satisfying experiences, and an environment conducive to helping individuals move toward maturity."(King, 1981, p. 31) Other people and objects in the environment influence growth and development positively and negatively. Perception and growth and development influence each other (King, 1981). Since perception and judgment in decision-making influence each other, growth and development also influence and are influenced by perception and judgment. Moral judgment and the selected nurse factors also influence the nurse's development as a person and a professional. Therefore this, in turn, exerts an influence on perception and judgment. A nurse's experiences with pain management and one's maturity can influence pain management decisions.

Moral Judgment

Moral judgment is a developmental process that fits within King's growth and development concept in the personal system. Lawrence Kohlberg, a globally recognized moral development researcher and theorist, described moral judgment as a cognitive and developmental process of reasoning that occurs in sequential stages to determine what is right or wrong in a social situation. In other words, the individual enters a situation, interprets it, establishes a moral meaning of the situation, and then forms a moral judgment (Kohlberg, 1984). He believed that moral judgment develops in stages as a child develops through adulthood. Each stage is sequential and becomes more complex in the type and comprehensiveness of information evaluated to make a moral judgment within a dilemma. The higher the level of moral judgment, the greater complexity of a moral dilemma can be comprehended and dealt with by the individual. His Theory of Moral Development included three successive levels of moral judgment with two stages in each level. These levels and their stages are: " I. Preconventional reasoning: (Stage 1. Punishment-Obedience, Stage 2. Instrumental-relativist Orientation) , II. Conventional reasoning: (Stage 3. Interpersonal Concordance, Stage 4. Law and Order) and III. Postconventional or principled reasoning (Stage 5. Social Consensus, Stage 6. Universal Ethical Principle)." (Kohlberg, 1984, p. 172-173) Kohlberg proposed that these stages were most influenced by education and age. Principled reasoning was his goal to be achieved as the most mature level (Kohlberg, 1984).

James Rest (1994), a contemporary of Kohlberg who worked closely with him, incorporated Kohlberg's moral judgment stages as one of the components in his own Four Component Model. Rest proposed, through extending Kohlberg's theory, that

moral judgment was only one part of moral reasoning. Four distinct processes were identified:1. Moral sensitivity (interpreting the situation), 2. Moral judgment (judging which action is morally right/wrong), 3. Moral motivation (Prioritizing moral values above other [nonmoral] values), and 4. Moral character (Having courage, persistence, overcoming distractions, implementing skills)." (Rest, 1994, p. 23) All of these components must proceed together for effective moral behavior to occur; however, moral judgment, Rest's second component, was the focus of this study.

Rest did not agree that these stages were as hard and distinct as Kohlberg did. He proposed that they were soft stages and that individuals still used and understood the lower stages as they developed, but preferred to use the higher levels since increased understanding of situations occurs with the use of them. Rest viewed the stages as a means for individuals to cooperate together better and not be separated from one another due to the levels of moral judgment. He described these stages through the perspective of cooperation. Stage I is the morality of obedience to those who have the power to control. A child learns to do what is right out of fear of punishment. A child learns to cooperate with the parent figure and thus avoid punishment. Stage II displaces the first stage when the individual realizes all people have their own interests and cooperation can meet the individual's and other people's needs. Fairness is keeping your side of the bargain in order to gain favors for one's self. Stage III brings the realization that loyalty, commitment, gratitude, and mutual caring foster positive long-term relationships. A person learns to do right in order to develop rewarding relationships. Stage IV displaces stage III as the individual now sees it as only a basis to cooperate with friends and allies. However, it doesn't address how to relate to competitors, strangers, and enemies or

society as a whole. Therefore, stage IV's solution to this problem are laws and rules of a society. Law therefore creates a means for members of a society to cooperate and behave properly because everyone knows the law. At the higher postconventional stages, V and VI, the individual now realizes that there must be bases or principles behind the laws or rules. These principles determine, regulate and critique the laws of a cooperative society. So, individuals at stage IV believe doing right is whatever the law or rules say it is and those at stage V and VI believe morally right is what best fulfills the principle behind the rule (Rest, 1994). Principled thinking, or post-conventional thinking is particularly important in moral dilemmas since two or more "right things" to do are in conflict. Principles must be followed to do the right thing and rules may need to be broken at times to follow principle.

Contemporary critics have frequently faulted Kohlberg's theory because for years it had been viewed as the "morality of justice" and the only means to determine the morally correct path to take. Feminist scientists, such as Carol Gilligan, who gave birth to the "morality of caring" challenged Kohlberg by promoting the idea that relationships were of tantamount importance in moral decision-making (Rest, Narvaez, Bebeau, & Thoma, 1999). Through the development of Rest's model, he has answered some critics' challenges that moral judgment is only one piece, yet very much an important part of moral reasoning.

Rest has also proposed that moral judgment based on this model is more suited to macromorality than micromorality. Micromorality is concerned with personal relationships with individuals in everyday life. It involves actions such as caring behaviors in intimate relationships, remembering birthdays, and being courteous.

Macromorality is concerned with formal structures at a societal level that involve cooperation with strangers, adversaries, and diverse groups. It addresses issues such as nondiscrimination practices, equity in providing service, and due process rights of the accused (Rest et al. , 1999). The profession of nursing is a social system. It also has rules and expectations that come in conflict in a moral situation, thus calling upon post-conventional thinking, based on principles, to arrive at an appropriate decision. Likewise, decisions to medicate pain are ethical in nature. In order to meet the principle to alleviate pain in these situations, the higher level of post-conventional moral judgment is required.

Schemas

Rest et al. (1999) suggested that an individual's schemas or worldview have greater influence on moral judgment and its development than the "hard" developmental Piagetian stages that Kohlberg hypothesized. Schemas refer to a general knowledge structure within long-term memory that can be stimulated by a current situation encountered by the individual. "Schema theory is concerned with the application of organized generic prior knowledge to the understanding of new information. When people are processing new information, several activities are involved: selecting items to attend to, taking in information about those items, and either storing it in some form – so that it can be retrieved later for consideration – or using it as a basis for action" (Rest et al. , 1999, p. 136). Schemas can change each time a similar situation occurs as the schema in memory is retrieved to deal with the new situation. Additional factors of the new situation can alter the schema, which is again stored in memory for the next time it is needed. Ideas and perception about how the world functions lead to expectations, which provides a basis for how, gathered information would be used in a given situation (Rest et

al. , 1999). Emotions and perception influence and are influenced by an individual's schema of a situation. Schemas influence and are influenced by moral judgement, therefore perception influences and is influenced by moral judgment. This process in turn influences and is influenced by judgment to determine which action to take in a moral situation. Knowledge and the ability to be cognitively aware of one's environment are necessary to develop perceptions and schemas. Therefore, the moral judgment process dictates that the course of action be based on the cognitive-developmental approach.

Attitudes toward pain can be negative and suggest not medicating adequately or not believing the patient is truly in pain. In pain management, the profession of nursing supports the principle to alleviate pain and base pain relief choices on the patient's subjective report. Pain is a value-laden phenomenon and attitudes towards pain and its relief are not always consistent with the profession's stated values regarding pain. These attitudes can create a situation where adequate pain relief may not occur due to this. Principled, or post-conventional moral judgment may be the characteristic nurses need to choose to appropriately relieve the patient's pain.

Moral development in student nurses has been studied by Ketefian (1981) who conceptualized moral judgment as a cognitive process and theorized that an individual possessing postconventional moral judgment makes a morally based decision (Ketefian, 1981). Her findings supported her theory and contribute to the basis for the theory being proposed here that adequate treatment of pain would therefore be a morally based decision.

In summary, the following midrange theory is proposed according to King's Systems Framework and the moral judgment component of Rest's Four Component

Model. The nursing profession embraces the moral standard of alleviating suffering and accepting the patient's subjective report of pain. Therefore, judgment to act upon this standard is moral in character. Nurses are personal systems whose perception and judgment within the decision-making process come into play when assessing pain. Perception and judgment influence each other and precede the choice of which action to take in managing or not managing pain. It is proposed that moral judgment is part of the growth and development processes of the personal system of the nurse and occur in flexible stages as the nurse develops. Moral judgment influences and is influenced by emotions, perception, and schemas. Moral judgment also influences and is influenced by judgments regarding the choice of action the nurse makes. It is proposed that this occurs in managing pain and, thus, moral judgment influences nurses' perception and judgment within the decision-making process regarding pain. Therefore, this study was designed to test this middle range theory of the relationship of nurses' moral judgment to their perception and judgment of pain. See the diagram of the middle range theory in Figure 1.

Definitions

Moral Judgment: Determines which line of action is more morally justifiable as measured by the Defining Issues Test, version two (DIT2). It is one of the four components of moral reasoning and is greatly influenced by the individual's schemas (Rest, 1994). It was proposed that moral judgment is part of the growth and development processes of the personal system of the nurse and occurs in flexible stages (preconventional, conventional, post-conventional) as the nurse develops. The relationship between moral judgment and perception and judgment of pain is not known.

Perception: The nurses' unique subjective representation of pain as measured by the pain

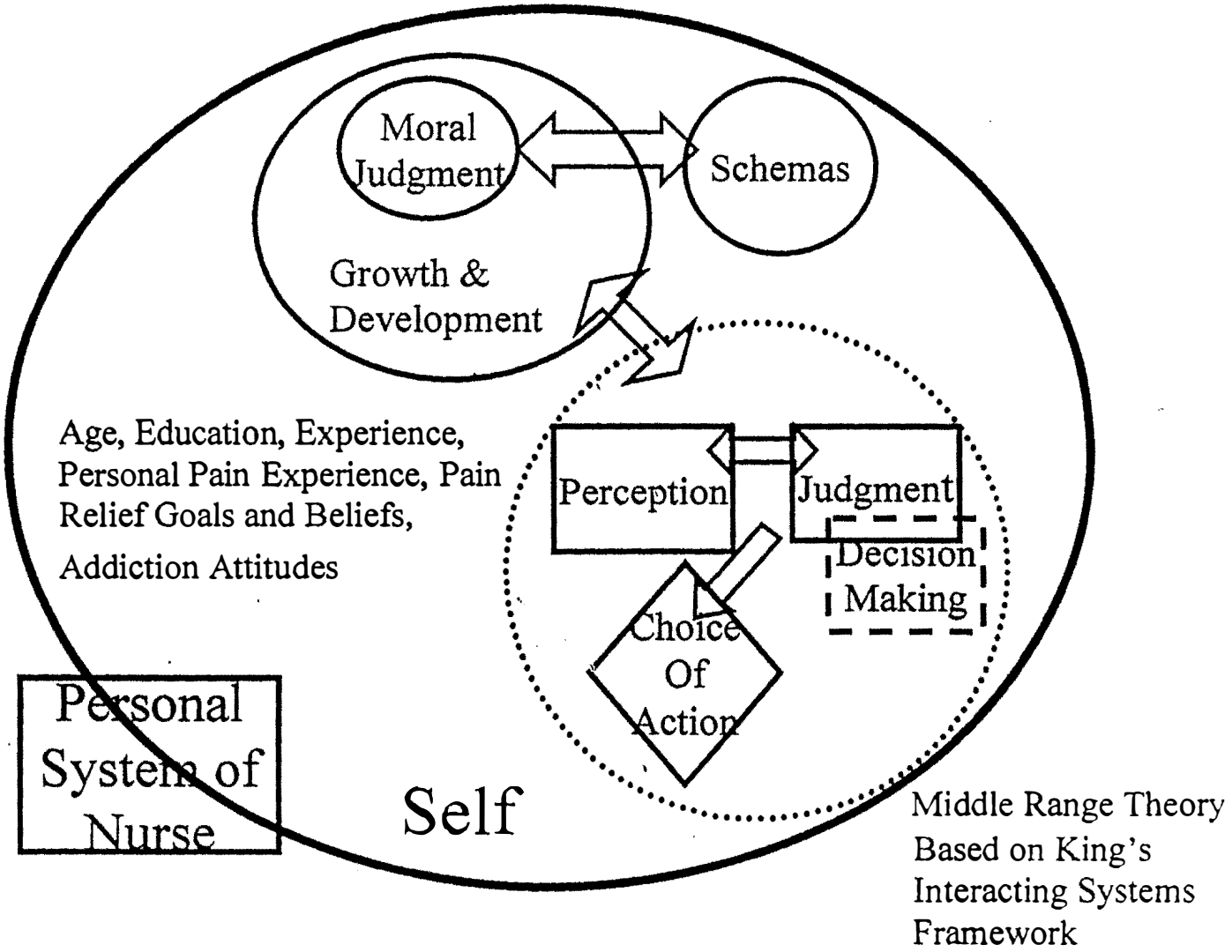

Figure 1. Middle Range Theory

rating component of the adapted Pain Assessment and Use of Analgesic Survey (Ferrell & McCaffery, 1999). Based on the nurse's past experiences and values, perception is oriented to the current interaction with the patient during which the nurse organizes, stores, and transforms information about the patient's pain experience (King, 1981).

Judgment: The process of evaluating and interpreting a patient's pain by the nurse as measured by the analgesic dosage component of the adapted Pain Assessment and Use of Analgesic Survey (Ferrell & McCaffery, 1999). It is a cognitive and affective process influenced by the nurses' beliefs, values, and perceptions regarding pain (King, 1981).

Pain: Acute pain is defined as being of brief duration (six months or less) that subsides as healing takes place (McCaffery & Beebe, 1989). Conceptually, pain is "whatever the experiencing person says it is, existing whenever the experiencing person says it does." (McCaffery & Beebe, 1989, p. 7; McCaffery & Pasero, 1999, p. 17)

Nurse: Registered nurses who care for patients in acute pain, conceptualized as a personal system in King's framework, were the subjects for this study. Their level of education may be diploma, associate, baccalaureate, and master's degrees.

Growth and Development: This subsystem of the nurse personal system, based on King's framework included moral judgment as measured by the DIT2.

Selected Nurse Factors: Part of the growth and development subsystem of the nurse personal system, based on King's framework, were the selected nurse factors of age, education level, professional nursing and personal pain experience, addiction attitude, and goal of pain relief that may affect perception and judgment of pain as measured by

the demographics questionnaire. These selected nurse factors were identified in the NINR panel report (1994) on symptom management of pain.

Delimitations and Limitations

The delimitations and limitations of this study include the following:

1. This study was confined to the study of registered nurses that care for patients in acute pain.
2. The review of literature covered moral judgment, perception, judgment, and decision-making, pain assessment, ethics in pain management, and the selected nurse factors that may influence pain management. Review of literature on King's interacting systems model and Lawrence Kohlberg's and James Rest's moral development theories were also included. The pain literature was limited to pain assessment and subsequent choices, pain management standards, and prevalence of under-treatment of pain. Moral reasoning literature was limited to moral reasoning and judgment.
3. This study was limited to a convenience sample of registered nurses working on medical-surgical units in an acute care hospital in the southeastern United States.
4. This study was limited to determining the nature of the relationships through the use of a descriptive correlational design and was not designed to determine the presence of causal relationships.
5. This study was limited to investigate moral judgment and nurses' perception and judgment of pain as associated with concepts in King's personal system and Rest's conceptualization of moral judgment.

Significance of the Study

The significance of this study is fourfold. First, no study was found that examined how moral judgment is related to perception and judgment in nurses' decision-making regarding pain. Examining moral judgment's relationship may lead to different strategies to address the under-treatment of pain by nurses since increased education regarding pain management, and better technology and drugs has not reduced under-treatment. Current JCAHO's pain management regulations are focused on the acceptance of patients' rights to pain management, regulations to enforce documentation of pain interventions and staff development education offerings. Little, if any effort has been made to assist nurses in making ethical decisions regarding pain. If post-conventional moral judgment is necessary to make better decisions, then efforts to foster it in nurses may be a means to improving pain treatment. In addition, understanding moral judgment's relationship to perception and judgment of pain will provide new information to add to the body of nursing knowledge. This can lead to better understanding and the development of education interventions for pain management.

Second, knowing the relationship of moral judgment to the perception and judgment of pain can lead to different ways of teaching pain management. Perhaps including principles of moral judgment in pain management curricula could have an impact on nurses' pain intervention choices in nursing practice. Teaching ethics to nursing students in a separate course could also impact moral decision-making. Krawczyk (1997) compared moral judgment of baccalaureate nursing students who took an ethics course, those who had ethical components in the nursing curriculum and those

who had no ethics taught. Only the students who took a separate ethics course had higher moral judgment based on the Defining Issues Test (DIT) instrument.

Teaching ethical decision-making with a reflective method is indicated. Reflection on decision-making based on moral judgment, goals of mutuality, and benefiting the client may assist the nurse to follow a morally based decision when treating pain. Ochieng (1999) developed a reflective practice model and applied it to pediatric pain management. The model basically involved the nurse in self-observation, analysis, contemplation, and conceptualization. Based on these steps, nurses' self-managed changes in their practice regarding analgesia administration and then implemented those changes. By reflection and following the model, the nurses who followed the model developed better pain management protocols on their pediatric unit and reported improved philosophy on the unit regarding pain management. The model gave structure to the process that in turn brought change.

Third, this study included selected nurse factors defined by the NINR panel. Moral judgment had not been examined in relationship to the selected nurse factors of professional and personal pain experience, addiction attitudes, and goal for pain relief. Further understanding of these relationships provides direction in addressing nurses' under-treatment of pain.

Fourth, and finally, emphasizing the moral responsibility to treat pain according to the profession's standards improves the integrity of the nursing profession overall. Nurses, in order to meet the standards of a professional, must be highly ethical. Relieving pain is a noble and high calling; nurses must be the strongest advocate and protector of patients' rights to pain management. Understanding the ethical implications of pain relief

and the role that moral judgment plays in this endeavor is important for the patients suffering from pain as well as the continuing development of the nursing profession.

CHAPTER II

REVIEW OF THE LITERATURE

The profession of nursing is morally obligated to alleviate suffering and to treat pain based on the patients' subjective report, as expressed in the Code for Nurses and in established pain management standards. The decision to manage pain is of a moral nature and moral judgment is a required component in this decision-making. It was proposed that moral judgment influences nurses' perception and judgment of pain, which subsequently impacts the act to manage the patient's pain.

The selected nurse factors (age, education level, professional nursing and personal pain experience, addiction attitude, and goal for pain relief) that may influence nurses' perception and judgment of pain have been studied in the past. Conclusions regarding these factors' influence on pain perception and judgment, with the exception of personal pain experience of the nurse, have not been consistent.

The literature discussed in this chapter includes the ethical code for nurses, pain management standards, pain management ethics, moral judgment, nurse factors influencing nurses' pain management, perception, judgment, and decision-making. These concepts framed in King's Systems Framework were linked and discussed in relation to the middle range theory proposed. The literature reviewed ranged from as early as 1969, including the classic Davitz studies, to 2001. Databases used were CINAHL, Medline, UNCOVER, and Proquest.

Ethical Code for Nurses

Principles of professional ethics are used for guiding moral decisions and actions in professional nursing practice. Professional ethics are needed since all professional

conduct has the potential to do harm, including making moral mistakes. Another need for professional ethics is due to the potential for conflict of values and beliefs between professionals and their patients. This is particularly true in regard to pain management. Sound professional ethics are needed to help resolve these conflicts. Professional ethics embraced by the members of the profession can motivate the professional nurse to choose the correct action (Johnstone, 1987). Accepting the tenets of the Code for Nurses and pain management standards will assist the nurse to appropriately treat pain.

Morality derives its content from a moral vision. The word "vision" in this context involves a manner of seeing reality. Moral vision refers to what one actually comprehends as befitting or good for persons. Moral vision is a holistic term which designates held convictions regarding what benefits persons and why this is so. Moral vision is identifiable by expressions such as professional codes. Codes of ethics for nurses are a means of expressing the relationship of trust between nurses and patients. Nurses have publicly expressed their moral vision in the Code for Nurses developed by the American Nurses' Association (McInerny, 1987). The code provides a standard for desirable professional behavior and serves as a guide for nurses in moral situations. It is of utmost importance that nurses practice morally, according to the established standards of the profession in their roles as caregivers and advocates (Ketefian, 1987). Student nurses, in the process of becoming members of the profession, will hopefully make the profession's principles their own and should be able to expect the profession to back up the principles followed in each individual's nursing practice (Brown, 1996).

Summary

The Code for Nurses is the profession's public statement for ethical responsibility to society and includes the responsibility to alleviate suffering. It is the moral vision that the profession states it holds. Nurses are educated and expected to abide by these ethical standards. The Code for Nurses provided the ethical standard regarding pain management for this study. Management of pain is addressed in a basic tenet of this code to alleviate suffering and therefore nurses should treat pain according to this standard. Moral judgment and its influence on perception and judgment of pain enable nurses to meet the moral expectations of the ethical Code for Nurses.

Pain Management Standards

Accurately evaluating pain in another person must begin with the recognition that pain is a subjective phenomenon. Many factors influence the perception of, response to, and reporting of pain (Allcock, 1996). This makes perceiving and judging pain in others quite difficult. Due to the subjective nature of pain, patients are truly the only authority of their pain. McCaffery (1989), a nurse and noted pain expert, stated that the most detrimental attitude of a nurse is one that says the nurse can determine how much and when a patient is in pain, regardless of what the patient says about it. "The patient's report of pain should be either believed or given the benefit of the doubt. This is the professional response.... to accept the patient's report of pain and to help the patient in a responsive and positive manner."(McCaffery & Beebe, 1989, pp. 7-8) Nurses have an ethical obligation to follow current pain management standards.

Patients have rights with regard to pain management. These rights include the right to: 1. decide the duration and intensity of pain to be tolerated, 2. be informed of all

methods of pain treatment, 3. choose which pain control to use, and 4. choose to live with or without pain (McCaffery & Beebe, 1989). Nurses are morally obligated to ensure that these rights are respected. Some attitudes must exist in the nurse in order to fully embrace the pain management standard that pain is the subjective experience of the patient. These are:1. Pain is real, regardless of cause, 2. Pain belongs to the person experiencing it, 3. Pain is an integrated complex phenomenon, 4. Pain must be managed, and 5. The person with pain must be believed (Davis & Seers, 1991).

Summary

Just as the Code for Nurses ethically requires alleviation of suffering, the pain management standards are codes of practice for nurses. The same moral obligation to meet the standards of the Code for Nurses is required to practice pain management by these standards. The pain management standard to treat pain according to the patient's subjective report provides the practice basis of pain management for this study.

Moral Judgment

The terminology in the moral development literature is not standardized. Therefore, several terms are interchangeable. "The terms "moral judgment" or "moral development" are used commonly in the literature as synonymous for moral reasoning. "Moral behavior", "ethical behavior", and "ethical decision-making" commonly are used as synonyms as well." (Ketefian, 1989, p. 174) For the purpose of this study, the term moral judgment is used. It refers to the cognitive and developmental process of reasoning about moral choice. Moral judgment is but one part of the process of making moral decisions. Moral judgment is the component of interest for this paper in that it includes

principled thinking that bases moral choices on guiding principles or values of what is the right thing to do (Rest, 1994).

Kohlberg defines moral judgment as cognitive and developmental process characterized by the way social arrangements are interpreted. His three successive levels of moral reasoning were defined in the previous chapter. Each stage is an organized system of thought within which individuals consistently function in their moral judgments. The stages sequentially progress from simple thought to complex moral reasoning. The thought processes involved in higher levels of moral development build on the earlier levels. Each stage is characterized by distinctive ways in which dilemmas and crucial issues are evaluated. The highest and most desirable stage is principled moral reasoning (Ketefian, 1989).

A person's cognitive development places a ceiling on one's moral judgment ability; however, there is no guarantee that performance of moral reasoning will be equal to the person's level of cognitive development. Theoretically, though, stages of logical thought parallel stages of moral development (Ketefian, 1981). Cognitive-developmental based morality assumes that as individuals develop, moral issues are viewed differently. Each moral judgment stage has unique ways of defining relevant elements of a social problem and making a decision about what to do (Crisham, 1981). As one moves upward through the stages, the breadth of human interaction is widened. Higher stages deal with more complex social problems than the lower stages. People at different levels of moral development may approach the decision-making process differently, particularly in situations involving value judgments (Crow, Fok, Hartman, & Payne, 1991).

The problem-solving capabilities of persons, the way concepts, images, and principles are classified and integrated, have a bearing on the way individuals make moral decisions. Therefore, moral judgment involves logical thought processes, which depend to a great extent on a person's cognitive level of development (Ketefian, 1981). If cognitive development influences the level of moral judgment and it is a prerequisite in its development, then, education, including nursing education, is an important means by which the intellect is sharpened and moral judgment developed. Theoretically, cognitive ability and education level parallel stages of moral judgment (Ketefian, 1981).

Rest's Four Component Model

As stated in the previous chapter, Rest developed the Four Component Model of moral reasoning that leads to moral behavior. These four components are moral sensitivity, moral judgment, moral motivation, and moral character. These components are inner cognitive-affective processes experienced by an individual which together lead to moral behavior. Failure in any of the components prevents moral behavior from occurring (Rest, 1994). The second component, moral judgment, was the one of interest for this study. Moral judgment involves making decisions about what action should be taken in a moral situation. Moral judgment is based on the cognitive-developmental approach that focuses on progressive understanding of the purpose, function, and nature of social situations. The focus is on rationale for cooperation, particularly on how each participant benefits from the other, which is balanced with the responsibilities of each. Justice is the core of this mutual cognitive relationship and the developmental characteristic is in the increasing understanding by the individual of the different cooperative arrangements that can be arranged (Rest, 1984).

The individual's values and perception have a great part in moral judgment and subsequent action. These have a part in how a schema is developed which the individual uses to filter information perceived in a situation. Depending on the level of moral judgment of the person, the situation is primarily seen through preconventional, conventional, or postconventional schema. These schemas are also defined as the personal interests, maintaining norms, and postconventional thinking schemas. The personal interests schema justifies decisions made by the individual on the basis of personal interest, including personal relationships, and not on any interest in organized society. The maintaining norms schema has four elements: "1) need for norms, 2) society-wide scope, 3) uniform categorical application, 4) partial reciprocity and 5) duty orientation." (Rest et al. , 1999, p. 305) The need for norms provides rules for all involved so that conflict need not occur during moral action. A society wide scope is important in this schema because individuals at this level realize that they need to cooperate with others in society. Cooperation regarding rules among large number of strangers, competitors, and acquaintances must occur. Uniform categorical application refers to law that should be applied to everyone in society. Partial reciprocity demands that each individual should obey the law and meet duty requirements and that other individuals should do the same, therefore a mutual exchange of labor occurs in society. It is considered a partial reciprocity because not all people benefit from obeying the law. The last element, duty orientation is towards authority and is seen by those at this level as being moral when respecting those in authority or doing one's duty. By not doing so would lead to anarchy because people would then act to meet their own interests and destroy the order of society (Rest et al. , 1999). The last type of schema is the

postconventional thinking type. Moral thinking at this level is "based on shared ideals which are reciprocal and open to debate and tests of logical consistency, and on the experience of the community." (Rest et al. , 1999, p. 307) This schema has four elements: "1) primacy of moral criteria, 2) appeal to an ideal, 3) sharable ideals, and 4) full reciprocity." (Rest et al. , 1999, pps. 307-308) Primacy of moral criteria proposes that the principles behind the rules are more important than the superiority of rules alone. Ideals in this schema are based on what are the best principles for organizing a society. Sharable ideals are not based on individual preference or ideas. Acts based on these ideals benefit others and are open to rational criticism, analysis, and challenge by evidence. The last element, full reciprocity, refers to attempting to achieve fairness in applying rules of society. Individuals at this level realize that laws or rules may be imperfect and can be unfair to some members of society, therefore law or rules may need to be renegotiated. All of these schemas are developmentally ordered and each advance beyond the other (Rest et al. , 1999). This points out that nurses need to develop beyond the conventional schema to more effectively deal with ethical situations in the healthcare environment. Specifically in relation to pain management, nurses must act upon their moral obligation to manage pain according to the patient's subjective report. Nurses' own values that may be in conflict with this principle or espoused misconceptions about pain should not therefore be the basis for pain management decisions.

The type of schema affects perception, judgment, and action in any given situation. Schemas may have a greater influence on moral judgment and behavior than once thought (Rest, 1999). Levy, a moral theory philosopher, observed that nurses develop a unique schema when entering an ethical situation involving patient care. He

stated that nurses have their own specialized knowledge about patient care which can aid in making moral decisions. This knowledge and first-hand experience can provide moral insight for the nurse when dealing with the situation. It also can corrupt and skew moral judgment if the nurse holds conflicting values or based on prior experience, the nurse underestimates or overestimates the impact of the situation (Levy, 1993). This observation supports the significance of schemas in moral judgment.

Rest's four component model is not considered a linear decision-making process. Individuals would not go through each component sequentially, although there is a logical sequence to them. The model is more of a feedback loop (Rest, 1994). To illustrate this, a nurse would sense that a patient was in pain through perception of data including the subjective report of pain from the patient. Based on this perception, the nurse would then judge the pain situation, making a decision about management of pain. Moral judgment of the nurse comes into play as the nurse considers pain management in regard to the nurse's schema, the ethical code and pain management standards.

Moral Judgment and Nursing

Dierckx de Casterle, Roelens, and Gastmans (1998) supported the use of Kohlberg's theory as a framework for nursing ethics. Although Kohlberg's theory is known as ethics based on justice, nurses must consider the well being of the patient as well. Considering all of the potential barriers of the health-care environment to providing for the patient's well being, encounters with patients become ethical in nature. This requires "moral maturity of the nurse." (Dierckx de Casterle et al. , 1998, p. 832) These authors concluded that nurses must cognitively consider their practice, which includes procedures, regulations, and dilemmas in healthcare. Nurses must reflect on their practice

and adjust what they do in caring for patients within an ethical context in order to assure the patient's wellbeing. This requires post-conventional moral thinking of the nurse. However, a caring perspective must be embedded in post-conventional thinking when applied to nursing because of the nurses' responsibility to ensure the well being of patients. This level of moral judgment requires nurses to reflect ethically on their daily work and environment in which they practice (Dierckx de Casterle et al. , 1998).

It is important that nurses develop morally in order to effectively deal with the ethical dilemmas in healthcare. "Moral uncertainty arises when one is unsure what moral principles or values apply. . .Inability to act morally produces negative feelings and psychological discomfort that, if not resolved, leads to anger, frustration, and guilt. . . Some nurses attempt to cope by overcompensating patients (doing more than they normally would do); others distance themselves from patients, and some leave nursing." (Raines, 2000, p.30) Under-treatment of pain by nurses may be the consequences of nurses distancing themselves if they have not internalized or have not accepted the ethical obligation of providing relief for pain.

A number of studies have examined the moral development of nurses and nursing students. This paper limits its review to studies that have focused on moral judgment level of nurses and nursing students. No studies have been reported that examined moral judgment levels in relation to pain assessment and management.

Crisham (1981) found that nurses with high levels of education reasoned at higher moral levels than less well-prepared nurses. Nurses prepared at the associate degree level used lower stage or conventional level responses to nursing dilemmas than did nurses with baccalaureate or higher degrees (Felton & Parsons, 1987).

The majority of nursing studies exploring moral judgment are based on Rest's Four Component Model of Moral Reasoning. Ketefian (1981) conducted a study to explore the level of moral judgment in nurses and to determine the relationship between it, education level and critical thinking. A convenience sample of 79 nurses was given the Defining Issues Test (DIT) and the Critical Thinking Test. The DIT measures the level of moral judgment as described by Rest (1979). The DIT is a highly structured self-administered test incorporating six vignettes with a moral dilemma. For each story, the subject was presented with a list of 12 issue statements regarding the situation each of which represents a moral judgment stage. Each vignette defines a social-moral dilemma and the particular issues of greatest concern. Subjects rate each of the 12 statements in a vignette according to the importance they would give it in making a decision about the dilemma. After subjects rate each issue on a scale of importance, they are asked to rank the four most important ones according to their respective importance. Reliability and validity of the DIT has been established in prior studies (Ketefian, 1981). The 12 items the participant rates per vignette are scored to measure the participants' use of principled thinking. A maximum score of 66 could be achieved. Test-retest correlations average .70 to .80 and Cronbach's alpha in the high .70s (Rest, 1994). This study revealed that there is a positive relation between critical thinking and moral judgment ($r = .53$, $p = .001$). ANOVA analysis showed that critical thinking and education accounted for 33% of the variance of moral judgment. Age and religion were not significant influences on moral judgment in this sample (Ketefian, 1981).

Felton and Parsons (1987) compared senior undergraduate students' ($n = 361$) to graduate nursing students' ($n = 184$) moral judgment. Using the DIT, graduate students

had higher levels of moral judgment than undergraduate students ($t = 3$, $p = .002$). A more recent study by Duckett, Rowan, Ryden, Krichbaum, Miller, Wainwright, and Savik (1997) compared scores on the DIT of 348 nursing students as they were entering a baccalaureate nursing program and then again as they were exiting the program. The mean entry score on the DIT was 44.50 and the mean exit score was 51.38. The paired t-test value was 7.88 ($p = .0001$). These findings indicate that moral judgment improved for this sample during nursing school. An interesting finding was that men (mean score = 39.8, SD = 12.2) scored lower on the DIT than women (mean score = 44.5, SD = 13.4).

Crisham (1981) tested a nursing research instrument based on the DIT in a study of nursing students ($n = 38$), registered nurses ($n = 146$), and non-nursing college students ($n = 38$). The new instrument, Nursing Dilemma Test (NDT) included nursing dilemmas based on real situations determined by an expert panel of clinical nurses. The NDT was designed the same way as the DIT with the same type of ranking of items to determine use of principled thinking. The mean score achieved was 55.3 with an increase in moral judgment with education (ANOVA, $F = 3.37$, $p = .01$). Age was not a significant factor influencing moral judgment in this sample (Crisham, 1981).

Corley and Selig (1994) examined 75 critical care nurses using the NDT instrument. The mean score achieved was 50.9, which is lower than in Crisham's original study. However, the nurses selected 62% of principled thinking choices for the vignettes in the instrument and 40% of the sample used total principled thinking for all the vignettes. The internal reliability reported in the study was low (Cronbach's alpha = 0.36) compared to Crisham's original study (0.57). The investigators themselves questioned the reliability and validity of the tool they used. The Nursing Dilemma Test was developed in

1981 and several of its dilemmas were no longer up to date. This combined with the low internal reliability brought into question the results of this study (Corley & Selig, 1994). This provides another reason to conduct the current study with an established instrument.

Other studies that measured moral judgment in nurses using the DIT instrument have shown moral judgment scores to be in the forties and fifties. Bankert (1994) reported a mean pre-test P score (measure of post conventional thinking) of 44.91 of a combined group of expert and novice nurses in her study of the effects of teaching ethical decision-making using contextual models and noncontextual models. Only the nurses in the contextual model group showed a significant post test increase in moral judgment (p score = 50.34). Cady (1991) compared moral judgment based on Kohlberg's ethics of justice and moral judgment based on Carol Gilligan's ethics of caring. She used the DIT to measure the justice based moral judgment and a new tool designed by the investigator to measure caring. The mean p score on the DIT was 48.02. The findings revealed that nurses used both justice and caring to make moral decisions.

Riesch, von Sadovszky, Norton, & Pridham (2000) conducted a descriptive study of moral judgment levels of graduate nursing students from master's and doctoral programs. The sample size was 36 and was comprised of white, middle class Christian women in their thirties who were married and had significant clinical experience. Moral judgment was measured using the DIT and the Dilemma Discussion Technique (DDT) developed by Norton, one of the investigators. The DDT was based on the case study approach in which the participant reads a vignette of a moral dilemma and then forms a moral argument on what a person should or should not do in the situation. Respondents

could use a justice or caring orientation as they interpreted the case. Criteria used in scoring the responses were: "1) issues and points of conflict, 2) interested parties, 3) consequences, and 4) obligations." (Riesch et al. , 2000, p. 75)

Results on the DIT revealed a mean P score of 50.76 (SD = 11.18), which is considered moderately high. The ability to form a moral argument was low based on the dilemma discussion technique analysis. The investigators stated that this might have been due to how the data were collected. It was administered right after administering the DIT which can take 30 to 40 minutes to complete, thus the participants may have been fatigued (Riesch et al. , 2000).

Seymour et al. study (1997), reported that the contribution of moral judgment to nurses' assessment was small (0.6% usage and 2.1% of repertoire used). However, its influence pervaded judgments based on other modes such as clinical mode and professional responsibility for pain control. Nurses even questioned "truthfulness" of infant behavior. Some of the participants stated that they judged crying in relation to whether the patient's crying was justified in comparison to the pain experienced. In a sense, the author observed, the nurse is questioning the veracity of the infants' behavior (Seymour et al. , 1997). On the opposite end of the spectrum, Ferrell, Eberts, McCaffery, and Grant (1991) reported that 76% of the nurses (n = 53) in their study expressed the feeling that patients did not get adequate pain relief. In summary, it is known that nurses score fairly high in principled thinking based on scores on the DIT and the NDT. Thus, the higher the education level, the higher the level of moral judgment. In these studies, age and religion were not correlated with moral judgment.

Viens (1995) completed a qualitative research study to investigate what nurse practitioners considered to be moral dilemmas in their practice and what considerations they used in their moral reasoning in resolving these moral dilemmas. The phenomenological approach was used to interview 13 nurse practitioners. The interviews lasted one to two hours each. The beginning interview question was, "Tell me about a time or an incident when you had to make a moral decision in your clinical practice. Talk about it as completely as you can. Give as much information about it as you can: what you remember, how you acted, what you thought, and how you felt." (Viens, 1995, p. 279) Further questions were asked to trigger further elaboration and clarification of the participants' interview. The investigator then analyzed the interview and extracted and organized elements of the interviews into clusters of categories. The essential features of moral reasoning by this sample were: 1. Contextual framework (environment, role of the practitioner), 2. Values (caring, responsibility, trust, justice, honesty, helping, quality/sanctity of life, empathy, beneficence, religious beliefs, intuitive values, and respect for the patient), 3. Influencing factors (work setting, participants, decision-making process, and cause of the dilemma), 4. Recognition of the dilemma, and 5. Outcomes (deciding to act, affective response, cognitive response, and evaluative response) (Viens, 1995). Although the author did not relate these findings to any particular theory of moral judgment, it is interesting to note that the five features of moral reasoning found in her study fit into Rest's Four Component Model. Specific to moral judgment, the features of responsibility, justice, honesty, and beneficence fit this component. This study provides further support for the current study.

Duckett, Rowan-Boyer, Ryden, Crisham, Savik, and Rest (1992) conducted a critical review of literature regarding research studies of nurses and nursing students' moral judgment scores on the DIT. They reported that several of the studies reviewed concluded that nurses have much lower moral judgment stages than most adult groups normed in Rest's samples reported in his publications regarding the DIT. This conclusion was based on a comparison of raw scores in their studies to percentage scores that Rest reported instead of comparing percentages to percentages.

The following studies were reviewed by Duckett et al. Frisch (1987) stated that the sample in her study scored lower than junior high school students in Rest's original samples. Nokes (1989) mistakenly compared raw DIT scores from her study to percentages reported in Rest's work. Of course, when this was done, the scores were much lower and thus the author concluded the nurses in her study had low moral judgment. A secondary source (Munhall, 1980) was also misquoted in this same publication when the author (Nokes), stated that the nursing students in this study scored low because of this same type of error of comparing raw scores to percentage scores reported from other studies. Another area of concern was that moral judgment scores of the DIT in several studies were not always broken down by education level. This lowered the mean scores of the DIT for the total group and thus when comparing these scores to other professional groups that do not have multiple entry educational levels into the profession, nursing appears lower since moral judgment is highly correlated to education. As a result, a number of studies in the literature have reported incorrect results regarding moral judgment of nurses (Duckett, et. al. , 1992).

Moral Reasoning and Perception

Ketefian (1981) postulated that the degree of a person's moral development would affect the degree to which that person's nursing actions are ethical. Her hypotheses: "1. There is a positive relationship between moral reasoning and knowledge and valuation of ideal moral behavior in a nursing dilemma, 2. There is a positive relationship between moral reasoning and nurses' perception of realistic moral behavior in nursing dilemmas."(Ketefian, 1981, pp. 172-173) Ketefian conducted a study to test these hypotheses. She distributed 158 packets containing the Defining Issues Test (DIT), the Judgments About Nursing Decisions (JAND) instrument, and a personal information sheet to registered nurses that practiced in three major medical centers.

The JAND, developed by Ketefian (1981) is a self-administered objective test that contains seven stories depicting nurses in ethical dilemmas. Each story is followed by a list of nursing actions, ranging from five to eight items. For each nursing action, respondents check "yes" or "no" twice: first in column A whether they thought the nurse experiencing the dilemma in the story should engage in that action, and second, in column B, whether they thought the nurse experiencing the dilemma will engage in the nursing action. Each column has 48 items. The JAND has content and face validity in two respects. First, it includes a reasonably representative sampling of ethical nursing conflicts, and second, all items were evaluated by experts in terms of how each item represents the tenets of the Code for Nurses, which served as the standard for moral behavior in the study. Reliability was tested with 63 nurses in a pilot test; an internal consistency coefficient alpha yielded an alpha of .70 (Ketefian, 1981).

Results of Ketefian's 1981 study supported the hypothesis that there is a positive relationship between moral reasoning and moral behavior. Correlation between principled reasoning scores (P scores) and column A of the JAND was moderately correlated at .28, significant at .01 level. The theory that the process of moral reasoning is related to moral behavior, using the Code for Nurses as the standard, was supported by this study (Ketefian, 1981). These results support this study's proposal that a higher level of moral judgment is related to meeting ethical standards such as those expressed in the Code for Nurses.

Summary

Development of both moral judgment, cognition, and schemas have a bearing on moral decision-making. As nurses develop in cognitive abilities, potential for growth in moral development is present. If influences or schemas are present that are contradictory to providing adequate pain management, a higher level of moral judgment could affect perception and judgment, thereby leading nurses to appropriately manage pain. This is particularly true if a nurse holds beliefs and values that contradict providing adequate pain relief. This creates a moral dilemma for the nurse in deciding whether to act upon personal beliefs and values that the nurse believes to be right or provide analgesics according to values of the profession in order to relieve pain based on the patient's subjective report.

The extant research on nurses' moral judgment was important to this study, even though some disparity is found in the combined findings. This disparity demonstrates the need for further study of nurses' moral judgment levels. Moral judgment has not been

examined in relationship to nurses' perception and judgment of pain. Further study will add to the body of nursing knowledge both in moral judgment and pain management.

Perception

The classic conceptualization of perception in nursing comes from the writings of Imogene King. She defined perception as "each human being's representation of reality" and as an "awareness of persons, objects, and events." (King, 1981, p. 21) In discussing her theory of goal attainment, she simply defines perception as "each person's subjective world of experience." (King, 1981, p. 146) King further defines "perception as a process of organizing, interpreting, and transforming information from sense data and memory. It is a process of human transactions with environment. It gives meaning to one's experience, represents one's image of reality, and influences one's behavior." (King, 1981, p. 24)

King (1981) identified four main areas of characteristics of perception: "1) Perception is universal. Everyone perceives other people and objects within the environment. These experiences cause the individual to form concepts in his/her memory of what is perceived. Any future similar experiences will then give meaning to one's perception. Every person is unique; therefore, each person sharing a similar experience may have a different perception, 2) Perception is subjective, personal, and selective for every person. Person's perceptions vary according to the development and cognitive-physiological level of the individual as well as the situation in which the perception experience occurs. Each person's prior experiences make perceptions unique. Past experiences, self-concept, genetics, education, and socioeconomic level influence one's perception." (King, 1981, p. 20), 3) Perception is action-oriented in the present. People

are continuously in a state of perceptual activity. A person's role in life, awareness of the past, and needs affect perception. 4) Perception is transactions. Individuals actively enter situations in which this interaction affects their identity." (King, 1981, pp. 22-23)

Another definition of perception within the nursing literature states that perception is a process in which an individual assigns interpretations to experiences (Houfek, 1992). The definition of perception is further expanded and is described as a sensory and cognitive phenomena influenced by individual beliefs and attitudes (Molzahn & Northcott, 1988). Yet, another definition of perception describes it as gaining specific knowledge through one's senses involving an instant awareness (Johnson, 1996). Ella M. Brooks developed a theory of intra personal perceptual awareness, which was derived from King's interactive framework. In this theory, perception is defined as: "1) an immediate concrete sensory recognition through sight, hearing, smell, taste, and touch of environmental events; 2) an intuitive hunch or recognition of environmental events (whole-form experience) related to experiential, growth and developmental, educational, cultural, religious, and socioeconomic back-ground; while also interacting with 3) cognitive and affective judgment." (Brooks & Thomas, 1997, p. 52)

From the psychology literature, perception was examined from the view of a person perceiving another person, thus using the label of person perception. Hamlyn (1996) proposes a somewhat lengthy philosophical description of perception. He states that perception begins with receiving data from the senses. Perception must involve beliefs about something, otherwise, perception cannot occur. Perception can be either passive or active. It is concept-dependent in that it presupposes a relation of intentionality, in that there is an intentional object, and that perception in the realm of

person perception, is conscious. This consciousness is formed by past experiences and is causal in nature in molding perception (Hamlyn, 1996). Quattrone (1982) described person perception as involving three sequential processes: Categorization (what the person is doing), characterization (what trait the person is implying), and correction (what caused the action). He further describes this action as the perceiver draws an inference about a person and then adjusts this inference by evaluating how various external factors have affected that person's behavior. (Quattrone, 1982).

Klein (1970) believed that "perception is an adaptive cognitive act, always rooted in the intentional life of the person, in his motives and aims vis-a-vis the environment." (Klein, 1970, p.4) Perception occurs continuously as individuals interact with others in the environment. Nurses only have to enter into situations with patients for perceptual activity to occur. One could state that any interaction with the environment at any time is an antecedent to perception. However, an important analysis is the influences in general that affect one's perception prior to an interaction with the environment. "Perceptions are affected by both objective and subjective factors. The subjective components of perceptions include such attitudinal factors as preconceptions, stereotypes, and evaluations. Perceptions are both sensory and cognitive phenomena that are influenced by an individual's attitudes and beliefs about what is important to him/her." (Molzahn & Northcott, 1988, p. 133) Because "perception can be distorted by high emotional states such as anger, fear, love, data can be blocked thus affecting the perception of the individual." (King, 1981, p. 24)

McCaffery, Ferrell, & Pasero (2000) recently conducted a study regarding nurses' opinions about patients' pain and how these opinions affects their choice analgesic

dosage. Convenience samples from pain conferences were recruited by McCaffery prior to any pain information being given. A total of 1276 surveys were completed and then 100 surveys were randomly selected from each of the four regions (western, midwestern, southern, and eastern) of the United States in which the conferences were presented. The investigators utilized the Survey of Pain Assessment and Use of Analgesics instrument. The survey comprised of two vignettes, one a smiling patient and the other a grimacing patient. Both patients depicted were one day post-operative of abdominal surgery and both stated their pain was "eight" on a scale of zero to ten (zero being no pain and ten being worst pain). Morphine two milligrams had been given intravenously and was not effective. Using this survey, the participants in this study rated the vignette patients' pain on this same scale of zero to ten according to their personal opinion and on a separate scale what they would record on the patients' chart. The participants then selected no pain medication, or one, two, or three milligrams of morphine for the vignette patients. The results of the study showed that the nurses believed the grimacing patient more than the smiling patient, rating the grimacing patient's pain higher. Higher analgesic dosages were also selected for the grimacing patient. Out of the 400 nurses, 175 stated they would record the patients' ratings of "eight and selected the morphine three milligram choice. Of these nurses, 62.3 % gave a personal opinion that agreed with the smiling patient's rating and 91.4 % agreed with the grimacing patient. Therefore, 37.7 % disagreed with the smiling patient, yet still gave the highest dose of morphine. Of the 225 nurses who chose other pain ratings to record in the chart or chose lower doses of morphine, 21.8 % agreed with the smiling patient's pain rating and 48 % chose three, four, or five, and six as pain ratings and only 6.2 %

increased the morphine dosage. Sixty-eight percent of these nurses agreed with the grimacing patient's pain rating, yet only 33.3 % increased the dosage for this patient.

Ninety percent of the nurses recorded the patients' reported pain rating, but only 43.8 % of the nurses recorded the patients' reported ratings and increased the opioid dosage. Of the 56.7 % who did not, these findings suggest that nurses' personal opinions of these patients' pain influenced their choice of opioid dosages (McCaffery et al, 2000). This study's findings support the proposed theory that nurses' perception influences their judgment about pain. This also points out that nurses must address how their opinion can affect practice and the importance of set standards of practice. The standard that pain assessment must be based on the patient's report implies that nurses must disregard their personal opinions if it conflicts with patients' complaint of pain. This, therefore, brings into play moral issues for nurses who question patients' truthfulness about their pain. It also can be confusing for nurses when making clinical decisions, since many times in practice, nurses must rely on their opinion, or intuition, in taking action. Setting a standard that patients' subjective report of pain must be accepted can help nurses to justify their acceptance of patients' report of pain instead of their own opinion.

Summary

Upon reviewing the literature on perception, some common attributes of the concept of perception were noted to occur repeatedly in the literature. Perception is consistently described as subjective and unique to the individual. It is a cognitive process that serves as an organizer and interpreter of information that is gathered from sensory data. This gives meaning to what is perceived and thus affects behavior. Many things also influence perception. The influences mentioned throughout the literature were past

experiences, growth and development, self-concept, culture, personal beliefs/attitudes, and socioeconomic status. Adaptation was only mentioned in the psychology literature as an attribute, which also implies that perception is an intentional process.

Utilizing these attributes found in the literature, a definition of perception is thus formulated: Perception is a subjective and unique cognitive process of each individual which serves to organize and interpret information, being influenced by various external factors, from sensory data. This process gives meaning to the information and thus affects behavior in the individual.

Many things regarding the phenomenon of pain influence the nurse's perception of pain. Since perception is unique to each individual, one's perception of pain differs when interacting with patients. Each successive interaction also influences perception based on the prior experiences, making it even more unique to the individual nurse. If the influences on the nurse's perception are negative towards appropriately managing pain, then this in turn leads to under treatment of pain. This practice, of course, does not meet the standards of the Code for Nurses or established pain management standards that state that pain is a subjective experience for the patient. Since perception is a cognitive process and can be influenced, perhaps the nurses' moral judgment ability can also influence perception of pain in a positive manner. If nurses embrace the ethical standards of nursing, then moral judgment would influence nurses to treat pain adequately in spite of negative influences to under-treat pain.

Judgment

As in perception, a person's experiences, knowledge, and values influence judgment. According to Brooks and Thomas' interpretation of King, "nurses' judgments

are influenced by their personal values, selected perceptions, and their knowledge of the components of the human being. This means that judgment is influenced by perception and judgment is also influenced by both cognitive and affective processes such as a person's personal and socioeconomic experiences, education, growth and development, subjective values (personal, cultural, religious beliefs, emotions, value systems, and biases)." (Brooks & Thomas, 1997, p. 52)

Brooks proposed the concept of intra personal perceptual awareness. It was derived from King's use of the concepts of perception and judgment in nursing situations. Brooks proposed that "perception and judgment interact in the decision-making process . . . This suggests that there is an intra personal interaction between perception and judgment processes, through which interpretation of environmental events occurs. King (1971) stated that 'perception influences one's evaluation of a situation and evaluation influences perception'. This suggests the interaction between perception and judgment in an intra personal plane." (Brooks & Thomas, 1997, p. 53)

One implication arising from Kohlberg's research is that people at different levels of moral development may approach decision-making differently, particularly in situations involving value judgments. "His model implies that differences in levels, no matter what the reason, will be associated with differences in decision-making" (Crow, Fork, Hartman, & Payne, 1991, p. 256). Levels of moral development vary among individuals to the extent that individuals at lower levels of moral development will weigh decision issues and make final decisions differently from those with a higher level of moral reasoning (Crow et al. , 1991).

The consequence of perception is judgment and the behaviors or actions of the person who perceives. These behaviors could range anywhere from an attitude being displayed to an action taken. An example in nursing would be how a nurse would intervene for a patient in pain. It could affect the type of medication given, its dose and the frequency it is given, depending on how the nurse perceives the patient's pain. "Perception of the nurse leads to judgments and to action by the nurse. This is a continuous dynamic process rather than separate incidents in which the action of one person influences the perceptions of the other and vice versa." (King, 1971, p. 92) "The nurse and patient perceive each other, make mental judgments about the other, take some mental action, react to each other's perceptions of the other, communicate, and begin to interact." (King, 1981, p.149)

Summary

Perception and judgment share a reciprocal relationship and have a direct impact on subsequent actions. Moral judgment and its predisposing factors that develop it are also related to perception and judgment. Therefore, moral judgment's influence is shared in perception and judgment of the individual.

Decision-Making

The term, decision-making, is interchanged in the nursing literature with clinical judgment, cognitive reasoning, and diagnostic reasoning. Clinical judgment generally refers to a clinical scientific approach for problem solving (Giulio & Crow, 1997; Gordon, Murphy, Candee, & Hiltunen, 1994; Itano, 1989; Malek & Olivieri, 1996; Peate, 1996; Tanner, Padrick, Westfall, & Putzier, 1987; Thiele, Holloway, Murphy, Pendarvis, & Stucky, 1991). A further distinction is made between diagnostic-therapeutic and ethical

decision-making processes. The former distinction excludes an affective aspect and the latter includes it (Blake & Guare, 1997; Fowler, 1989; Gordon et al. , 1994; Smith, 1996).

A basic definition of diagnostic-therapeutic decision-making is described as an intricate process of selecting a course of action from several alternatives. Variations in knowledge base, environment, individual situation, and response are factors that influence decisions. Cognitive and clinical nursing decisions should be derived through application of all components of the nursing process (Malek & Olivieri, 1996).

Cognitive reasoning includes gathering of data, synthesis of the data, hypothesis, inference, and evaluation. Before making a decision, analysis of the situation must be performed and then cognitive action taken based on the data. This cognitive reasoning in a clinical situation is influenced by knowledge and experience of the nurse (Giulio & Crow, 1997). These two factors seem to increase accuracy of gathered information and the information is gathered more systematically (Tanner et al. , 1987). Experienced individuals have built up schemas that help them collect data more rapidly and with minimal information to make accurate decisions (Thompson & Sutton, 1985).

Diagnostic reasoning is defined as a complex process that involves cue recognition and ends in a clinical judgment. Following cue recognition, a hypothesis is made based on clustering of information in patterns found in the cues. Decisions are then made from these in a clinical situation (Thiele et al. , 1991). These definitions of decision-making, cognitive reasoning, and diagnostic reasoning omit any personal beliefs or values of the decision-maker; they simply address a logical linear approach to decision-making.

A classic study in diagnostic reasoning conducted by Tanner and others (1987) compared nursing students' to practicing nurses' diagnostic reasoning. The framework for the study was based on a diagnostic reasoning model (Elstein, Shulman, & Sprafka, 1978), which included four steps. These were: 1. attending to available cues, 2. activating hypotheses, and 3. gathering data to address the hypotheses, and 4. evaluating hypotheses until diagnoses are made (Tanner et al. , 1987). The conclusions of the study were that students and practicing nurses alike followed the steps of this framework in evaluating clinical vignettes. The more experience the nurse possessed, the more systematically the nurse made decisions. Students and nurses alike were very task-oriented in the decision-making process (Tanner et al. , 1987).

Clinical judgment is defined as the process of determining a patient's needs. Although this seems a simplistic approach to decision-making, conscious awareness and use of a judgment making process is needed. Judgment must involve a careful evaluation and then application of an opinion based on specific and specialized knowledge. The judgment process is not simply looking at the information alone, but includes the cognitive processes of the nurse making the judgment (Gordon, 1980; Itano, 1989). Therefore, clinical judgment and the subsequent decision incorporate what the nurse brings to the situation. This definition acknowledges that there are other characteristics that the nurse must consider before making a conclusion and decision.

Although ethical decision-making and clinical judgment have been artificially separated into two different entities, today's complex environment requires all decisions in the clinical arena to be of a moral nature. This is particularly true for pain management. Diagnostic and treatment decisions rarely occur without reference to

values. Professional nurse practice must assume responsibility for diagnostic, therapeutic, and ethical decision-making, especially in the face of additional moral concerns due to advanced technology and related decisions (Gordon et al. , 1994). "Contemporary moral issues in health care have fostered a role for the place of moral philosophy in the everyday clinical judgments of health care practitioners." (Gordon et al. , 1994, p. 57)

Although nurses work within their own value system, they are expected to adhere to values inherent in professional codes of practice, and to know their own values and how these values influence decision-making in achieving the goal to provide quality care. In ethical decision-making, the nurse is required to sort out his or her own values and needs and step back and identify the emotional aspects of the situation (Turner & Rufo, 1992). Clinical judgment is a multidimensional act involving diagnostic, therapeutic, and ethical dimensions. Dilemmas occur during each step of the nursing process and have a moral or value dimension as well (Gordon et al. , 1994).

King (1981) defines decision-making as " a continuous process in the course of analyzing facts gathered to make rational decisions, a continuous process is observed in interpretation of the facts, in relationship of facts to values and goals. Decisions are situational. Decisions are influenced by timing, the amount of information available, and the persons involved. Perceptions of the decision maker influences choice of alternatives." (p. 132)

Brooks and Thomas (1997) proposed that decision-making in King's Systems Model is part of the personal system and was supported by their qualitative study of student nurses' clinical decision-making. Within the personal system, perception and

judgment interact prior to decision-making. Brooks and Thomas (1997) also proposed that perception and judgment must be viewed together as a whole that then influences decision-making. Regarding ethical decision-making, these researchers also observed in their study that there is an affective component to all decision-making, which includes emotions and beliefs. Due to this, it was concluded that all decision-making includes an ethical component within the "intrapersonal perceptual awareness of the whole nurse in every clinical situation." (Brooks & Thomas, 1997)

Summary

Much of the literature regarding decision-making separates clinical decision-making as a separate entity different from ethical decision-making. Yet current nursing science views the person as a wholistic being which in turn requires a wholistic approach in decision-making. To make decisions without ethical considerations limits the comprehensiveness and quality of the decision and its impact on the patient. Pain is a particularly value laden phenomenon and therefore requires moral consideration. Nurses' personal and professional values, perception, and judgment all cumulatively impact choices in treatment of pain. The level of moral judgment a nurse possesses then impacts the ethical aspect of decisions made regarding pain. The literature also supports that all clinical decisions are moral in nature and thus are made in concert with the nurses' values and moral judgment.

Selected Nurse Factors

A number of factors have been investigated which affect nurses' judgment of pain. The selected nurse factors described in this section are the nurses' age, education,

professional experience, personal pain experience, goal for pain relief, and addiction attitude.

Age Factor

All but one of the studies reviewed concluded that the age of the nurse had no significant effect on nurses' assessment of pain in the patient or in subsequent pain management decisions (Brunier, Carson, & Harrison, 1995; Burokas, 1985; Choiniere, Melzack, Girard, Randeau, & Paquin, 1990; Cohen, 1980; Dudley & Holm, 1984; Gonzalez & Gadish, 1990; Mason, 1981). Zalon (1993) conducted the one study that proposed the nurses' age had some influence on pain assessment. Her findings concluded that nurses in the age range of 21 to 30 years were more accurate in assessing pain. This study of pain in postoperative abdominal surgery patients compared assessments of pain completed by 119 registered nurses to the patients' assessment of their own pain. A visual analogue scale (VAS) was utilized to measure the level of pain. The VAS was a horizontal ten centimeter scale with one end representing "no pain" and the opposite end representing pain as bad as it could be (Zalon, 1993). Patients would mark the VAS when they reported pain to the nurse. The nurses caring for the patients would also mark the VAS when they assessed the patients' pain. Neither the patients nor the nurses were allowed to see the others' VAS. Nurses' assessments were moderately correlated with the patients' own assessment ($r = 0.304$, $p < 0.01$). However, a paired t test showed that nurses under assessed pain in the patients ($t = 2.09$, $p < 0.05$). Nurses 21-30 years of age were more accurate in pain assessment than the other age groups as demonstrated by one-way ANOVA ($F(20, 289) = 2.67$, $p = 0.051$). These results, as pointed out by the investigator, are compromised since 82% ($n = 98$) of the subjects were also in this age

group (Zalon, 1993). The results therefore are skewed and cannot be generalized to the population. No analysis was reported as to the effect of age of the whole sample of nurses on pain assessment, therefore this study actually does not support that the age of the nurse has any relation to pain assessment.

Researchers who concluded that age of the nurse did not affect pain assessment or choice of pain treatment used a variety of research designs and instruments. Brunier, Carson, and Harrison (1995) surveyed a sample of 514 nurses in a Canadian teaching hospital. The purpose of this study was to determine nurses' knowledge and attitudes towards pain assessment and treatment. Specifically, the researchers examined differences in pain knowledge and attitudes according to educational levels and clinical areas. They also explored whether nursing experience, and education in other countries made any difference in nurses' pain knowledge and attitudes. The instrument used was the Nurses' Knowledge and Attitudes Survey (NKAS), which was a 46-item tool, developed by Ferrell and Leek in 1990. An expert panel established content validity. Test-retest reliability ($r > 0.80$) and cronbach's alpha of 0.70 was established. In this survey, the internal consistency measured by Cronbach's alpha was 0.73. The maximum possible score was 46. Each correct response was given a value of one point. The first 22 questions assessed pain attitudes and the rest dealt with knowledge about pain management. The survey used a variety of Likert-type scales, multiple choice, and true-false questions. The content of the survey was based on current standards of pain management as published by the American Pain Society and the World Health Organization (Zalon, 1993). The results of this study revealed a mean raw score of 19.21, out of a possible 46 ($SD = 5.56$). The median was 19 and the mode was 21. ANOVA

was used to compare differences among the demographic variables, including age. No significant differences were found based on this variable. Regression was also used to determine predictors or influence on the dependent variable (total correct score on the NKAS). The overall R_2 was 15% ($p = 0.0001$) indicating that only 15% of variation was explained by the demographic characteristics of the sample. Age was not found to be significant in this model ($p = 0.95$).

Two studies (Burokas, 1985; Gonzalez & Gadish, 1990) examined factors affecting pain management decisions involving pediatric patients. Burokas (1985) used a sample of 134 registered nurses to assess nurses' decisions to administer analgesics and to assess the actual administration of analgesics on the nursing unit by the same nurses. The study was conducted on six pediatric units in two large university hospitals. The first part of the study involved completion of a questionnaire, the Pediatric Nurses' Pain Relief Questionnaire, which had 36 closed-ended questions. It included three sections: clinical postoperative situations described in vignettes in which the nurses chose dosages of analgesics, multiple-choice questions related to goals of pain relief, and demographic items. The second part of the study involved a chart review of 40 pediatric patients ranging in age from neonate to ten years, who had undergone abdominal or thoracic surgery. These patients received care from the nurses in the study over the first five postoperative days (Burokas, 1985).

Chi square results from the vignettes showed that the nurses chose to intervene with analgesics ($X_2 = 40.04$, $p < 0.001$). Of the nurses choosing analgesics, 21.9% medicated with nonnarcotics and 10.8% chose a low dose, 25.5% chose a mid-range dose, and 32% chose the highest dose. Narcotics were selected more often for terminally

ill patients (X_2= 91.94, $p < 0.001$) and less often for younger patients (X_2= 114.28, $p < 0.001$). Using chi-square analysis, the age variable was not shown to be significant in influence on assessment of pain and decisions based on these vignettes. The average age of the nurses was 28.9 years.

In the second part of the study, the chart review revealed that only two percent of the patients received all the analgesics ordered. Fifteen of the 40 patients received subtherapeutic doses and only one patient received narcotic analgesics past five postoperative days (Burokas, 1985). The chart review provided important information about selection of analgesics; however, the researcher did not carry through on analyzing the nurse characteristics in comparison to the actual medications selected by the nurses in the study. This addition would have strengthened the study. It is interesting to note that the nurses' choices of analgesics for the patients in the vignettes were better than their actual choices on the units. This difference may be the result of the Hawthorne effect; i.e. the vignettes were a novel experience for the nurses.

Gonzalez and Gadish (1990) replicated the Burokas study, using a sample of only 38 pediatric nurses. The sample consisted of both registered and practical nurses. However, the percentages of educational preparation were not reported nor were practices according to education examined. The conclusions reached were the same as those in Buroka's study. Age was not found to influence the nurses' pain management decisions. A description of the sample's age range was not given. Its small sample size as well as the fact that percentages of registered nurses and practical nurses were not identified or assessed for impact on practice weakens this study. Furthermore, the written report of the study was incomplete in other aspects.

Choiniere et al. (1990) conducted a study comparing 42 burn unit registered nurses' and 42 burn patients' assessments of pain. Assessment of pain was done immediately after a painful procedure such as dressing changes, wound cleansing, and hydrotherapy. The patients and the nurses were asked, independently, to rate the pain using a visual analogue scale and a verbal scale (zero to four scale). A second assessment, using the same procedure, was done when the patient was at rest. The correlation between the nurses' and patients' ratings was moderate using both scales at both times (after procedure using VAS, $r = 0.47$, VS, $r = 0.41$ ($p < 0.001$), at rest using VAS, $r = 0.33$, VS, $r = 0.31$ ($p < 0.01$). In regard to demographic influences using Chi-square, age was not found to be significant. The mean age of the nurses was 31.2 years (SD = 6.1, range 21 - 53). The small sample size detracts from the strength of this study. The methodology and tools were strong. The VAS and VS have been utilized for years and have shown to have adequate reliability and validity.

Cohen conducted another study that used vignettes depicting post-surgical adult patients in 1980. The investigator developed a written, self-administered questionnaire, consisting of clinical vignettes and multiple-choice questions. A panel of nurses reviewed it to evaluate validity. The questionnaire was administered to 121 nurses. Their ages ranged from 20 to 65 years (mean = 32.8 years) (Cohen, 1980). One set of vignettes depicted postoperative patients of different genders; one set depicted patients of different genders with inoperable terminal malignancy. Nurses selected more analgesics for the female patients in both sets of vignettes. The nurse in deciding on analgesia considered various characteristics of the patient. The demographic variable of age, based on chi-

square analysis, was not significantly related to the nurses' pain assessment and management decisions.

The last two studies (Dudley & Holm, 1984; Mason, 1981) utilized the Standard Measure of Inferences of Suffering (SMIS) instrument developed by Davitz who conducted the classic studies of influences of patient characteristics and culture on inferences of suffering. The SMIS consists of 60 short clinical vignettes of patients in various degrees of physical and psychological suffering. The subject rates the patients using a seven point Likert-type scale that ranges from no pain to severe pain. Davitz (1981) reports an internal consistency coefficient of 0.96 for both physical and psychological scales. This study showed an internal consistency of 0.85 for physical pain and 0.90 for psychological distress (Davitz & Davitz, 1981). Both of these studies focused on nurse demographic factors that potentially influenced nurses' perception of pain. Dudley & Holm (1984) administered the SMIS to 50 hospital-based registered nurses whose ages ranged from 22 to 61 years (mean age 30.8 years). The mean score for all vignettes was 2.7 on the 1 to 7 scale and is considered a mild rating. Correlational analysis was used to determine the relationship between the nurses' age and the SMIS scores. Correlation was weak and not significant ($r = 0.11$).

Mason (1981) used a sample of 161 registered nurses ranging in age of 22 to 40 or more years, with the following percentages 20-29 years (53.4%), 30-39 (25.5%), 40 and over (21.1%). The influence of the nurses' age on the scores on the SMIS was analyzed using a split-plot factorial ANOVA across the age groups. No significant relationships were found between inference of pain and age of the nurse (Mason, 1981).

Summary

All but one of the studies reviewed resulted in concluding that age was not a factor in assessment and treatment of pain. However, several of the studies had small samples and included licensed practical nurses. This does not provide a clear picture of registered nurses' age as a factor. Several of the studies also utilized specialized samples such as pediatric and burn unit nurses. This information may not be properly generalized to medical-surgical nurses caring for adult patients. The current study can provide more specific information regarding the influence of nurses' age in caring for adult patients in acute pain.

Education Level Factor

Except for the Lenburg, Burnside, and Davitz (1970) study, the same studies that examined the influence of the nurses' age also examined the influence of the educational level of the nurse. These results are displayed in Table 1 in Appendix A. Unlike the nurse factor of age, there were mixed findings in relation to the education level of the nurse. Three studies (Burokas, 1985; Cohen, 1980; Mason, 1981) concluded that the education level of the nurse had no effect on pain assessment or pain management choices. Burokas (1985) reported that the majority of the 134 nurse participants held baccalaureate degrees, but she did not report a specific number. If the majority held baccalaureate degrees, the use of chi-square may have been inappropriate, giving flawed results. She reported that chi-square analysis revealed no significant influence of educational level on nurse's pain assessment and analgesic choices. Cohen's (1980) sample of 121 nurses included 34 (28.1%) practical nurses, 65 (53.7%) diploma graduates, nine (7.4%) associate degree graduates, and 13 (10.8%) baccalaureate

graduates. Again, since the sample had uneven groups of nurses, the use of chi-square analysis may not have been appropriate. Based on this analysis, Cohen reported that the educational level of the nurses was not related to the nurses' responses to the vignettes. Mason (1981) utilized the Standard Measure of Inferences of Suffering instrument and using one-way ANOVA, she reported that there was no statistically significant variance in mean scores on the instrument by educational level of the nurse. The sample consisted of 96 (59.6%) diploma, 34 (21.1%) associate degree, 28 (17.4%) baccalaureate in nursing, one (0.6%) baccalaureate in other field, and two (1.2%) master's in non-nursing field (Mason, 1981). Due to the extremely uneven numbers of the various education levels, conclusions regarding the impact of education on perception of pain in this study are called into question.

The sample in the Brunier, Carson, and Harrison (1995) study consisted of 344 diploma, 81 baccalaureate nurses, ten master's nurses, and 70 registered nurse assistants. Results showed that nurses with baccalaureate or master degrees held more appropriate attitudes and knowledge than the other groups. Although the Tukey test is indicated for multiple comparisons of means, it may have been better to use the Tukey-Kramer test that accounts for uneven samples since each of the educational levels was comprised of very uneven numbers.

Comparison of means of the scores on the Standard of Suffering Inferences instrument of the various education levels was used to determine the differences in the Dudley and Holm study (1984). No chi-square analysis was used to determine relationships between education and scores on the instrument. The sample in this study included 12 (24%) baccalaureate degrees, 27 (54%) associate degrees, and 11 (22%)

diplomas in nursing. Baccalaureate nurses in this sample perceived greater pain in the vignette patients than nurses with associate degrees or diplomas.

A different approach was taken in the Gonzalez and Gadish study (1990). They compared the selection of analgesic dosages by each education level. The results are displayed in Table A-1 in Appendix A. The authors, however, did not report the proportions of the sample for each education level and the sample included only 38 nurses. In Zalon's (1993) study comparing pain assessments by the patient and the nurse, it is concluded that nurses with baccalaureate degrees had higher agreements with the patient's assessments. However, 81.5% of the sample of 119 nurses held at least a baccalaureate degree. Due to this disproportion, these results may not accurately compare the educational levels in regard to pain assessment.

The last study in this category is a classic study by Lenburg, Burnside, and Davitz (1970) comparing first year and second year students' inferences of pain to patients in an instrument of 40 brief vignettes of patients in physical and psychological distress. Each vignette was rated using a seven-point Likert-type scale. There were 108 first year students and 150 second year students with ages ranging from 16 to over 40 years. Most of the students were between 16 and 30 years of age. Although this sample consisted of nursing students instead of graduate nurses, it was interesting to note that the second year students inferred less pain to the patients.

Summary

These studies' combined results were mixed therefore the influence of nurses' education level on perception and judgment of pain is not well established. In addition, some of the samples were small and included licensed practical nurses and

nursing students. The current study can provide further information regarding education in order to detect whether nurses' education level affects perception and judgment of pain.

Professional Experience Factor

Professional experience is defined as any work experience as a nurse in general and not in a particular type of nursing service. Five of these studies (Brunier et al. , 1995; Choniere et al. , 1990; Cohen, 1980; Seymour, Fuller, Pederson-Gallegos, & Schwaninger, 1997; Zalon, 1993) concluded that professional experience had no effect on either nurses' pain management attitudes and knowledge or assessment and analgesics selected for pain. Seymour et al. (1997) conducted a study to determine the components of the assessment process which pediatric nurses identify to determine sources, nature, and level of pain in preverbal infants. The relative importance and interaction of these elements were also explored (Seymour et al. , 1997). A qualitative approach utilizing interviews and analysis was used with an intentional sample of 60 baccalaureate pediatric nurses who work with infants under one year of age. The sample of nurses was divided into three groups of 20 based on years of pediatric experience. The groups were novice (up to one year of experience), less experienced (one to five years of experience), and more-experienced (five to 30 years of experience). Videotapes of infants of varying ages and levels of pain preceded interviews with the participants. Each tape was limited to one infant and three minutes in length. A script of the infants' history including diagnosis, medications, nutrition and fluid status was read. The nurses were asked to verbally describe the pain the infant was experiencing and to rate them using a numerical scale of

zero to ten. They were also asked to describe any factors such as feelings, attitudes, thoughts, and anticipated actions they would consider. The aim of the interview was to construct a "picture" of the process the nurse goes through in assessing pain in the infant. The various elements the nurses verbalized were arranged into subsets. These subsets were organized into mode of assessment (deductive, inductive, clinical, testing, knowing the infant, moral perspectives, lay knowledge, personal experience, and other work experience. Repertoires of these modes were also analyzed according to frequency and importance of use by the nurses (Seymour et al. , 1997).

Studies that revealed there were differences in pain assessment based on professional experience were conducted by Gonzalez & Gadish (1994), Hamers et al. (1994), and Mason, (1981). Although the Choiniere et al. (1990) study found that general nursing experience had no effect, the investigator differentiated general nursing experience from burn nursing experience and the results showed that burn nursing experience did provide a significant influence on estimation of pain. Results also showed that nurses with more burn experienced underestimated pain more frequently.

Hamers et al. (1994) also conducted a qualitative study, based on the grounded theory approach, which explored the factors influencing pediatric nurses' pain assessments and interventions in children. A convenience sample of ten registered nurses in the Netherlands were interviewed and observed as they worked on a pediatric unit. A second part of the study involved a review of patient's charts. For data management, KWALITRAN, a computer software program that analyzes grounded-theory data was used to process the data. For reliability, the main researcher discussed each interview with three other researchers. For validity, using several methods of data collection

followed data triangulation principles: interview, observation, and chart review. Factors identified as influencing nurses' assessments and choice of interventions were: medical diagnoses, child's expressions and age, child's parents, nurses' own attitudes, experience and knowledge. Nurses reported in the interview that they relied on their experience when dealing with pain in patients (Hamers et al. , 1994). Summaries of these studies regarding professional experience are displayed in Table A-2 in Appendix B.

Summary

These studies resulted in mixed findings regarding nurses' length of professional experience. Types of experience were not compared, however, studies using samples of pediatric and burn unit nurses were included. These samples may not, however, be generalizable to medical-surgical nurses caring for adult patients in acute pain. Since these results were inconclusive, examining the relationship of nurses' professional experience and perception and judgment of pain was an important aspect of this proposed study.

Personal Pain Experience Factor

All of the studies reviewed except one demonstrated that nurses' personal pain experiences exerted influence on assessment and decisions about pain management for patients. Burokas (1985) concluded in her study that the nurses' personal pain experience did not significantly influence nurses' assessment of either pediatric patient's pain or their decisions regarding analgesia. However, nurses whose own children had had severely painful experiences did medicate pediatric patients more frequently than nurses who did not have the same experience ($X_2 = 5.04$, $p = 0.03$). Thirteen nurses (10.7%) in the Cohen study reported that personal pain experience influenced their attitudes about

pain relief decisions (Cohen, 1980). Gonzalez and Gadish (1990) found that the majority of the nurses reported that their personal pain experience was the most influential factor in their selection of analgesics and the strength of dosage. Seymour et al. (1997), in their qualitative study found in their interviews that nurses with greater personal pain experiences drew on their knowledge as mothers, aunts, sisters, baby sitters, and even pet owners. Personal pain experiences were pervasive in each participant's experience in estimating infants' pain. Nurses reported they tried to imagine the infants' situation when assessing pain. Several nurses described their personal pain experiences as a strong source for pain management decisions.

Holm, Cohen, Dudas, Medema, and Allen (1989) measured nurses' personal pain experience and compared it to the nurses' inferences of pain to patients depicted in vignettes. The sample included 134 diploma, associate, baccalaureate, or higher degreed registered nurses. Mean age was 31.6 years of age. There were 128 females and 6 males. Religious preferences of the sample were 64 Protestant, 48 Catholic, seven who replied as other, and 12 replied as no religious preference. Davitz's Standard Measure of Inferences of Suffering Questionnaire, a 60 item vignette tool with a one to seven Likert type scale was used to measure inference, or perception of pain. A personal pain history listing 12 items of common painful situations was used to measure the nurses' pain experience. The subjects rated the situations experienced with a pain intensity scale with one to three being mild, four to six being moderate, and seven to ten being intense. These items included surgery, fractures, dental pain, menstrual distress, headache, cancer, heart disease, burns, childbirth, spasms, back injury, and other that the subject could complete. Questions on the tool asked the subject to report length of time suffering from pain

episodes, rate their pain tolerance, and what actions they take when in pain. In addition, it asked if they had any significant others who had experienced addiction to pain medications. The tool also measured the nurses' experience with caring for patients in acute and chronic pain. The pain history was pilot tested with 20 nursing faculty and the authors reported content validity. However, it should be noted that some of the 12 items seem to reflect chronic pain, some episodic pain such as menstrual pain, and some acute pain episodes. Two of the items related to pain only experienced by females (menstrual pain, childbirth). The only significant findings were that differences in pain intensity of personal pain experiences of the subjects were related to differences in inference of pain. Using pain intensity (mild, moderate, severe) as the grouping variable, ANOVA analysis revealed a difference in inference of pain to the vignette patients ($F = 4.3213$, $p < .05$). Nurses having experienced more severe pain inferred more pain to the vignette patients (Holm et al. , 1989).

Davitz (1981) also found that nurses who inferred greater pain to the patient reported their own pain experience as more painful ($r = .32$, $p < .001$). The sample for this study was 94 registered nurses, 66% of whom worked in medical-surgical units in hospitals. The instrument used in the study was the Standard Measures of Inference of Suffering. This study was designed to investigate the individual differences of nurses and how these may relate to their inferences of suffering to patients. The study measured years of nursing experience, position held, area of greatest nursing experience, ethnic background, personal pain experience, reaction to psychological distress, stoicism, and preference for interpersonal versus technical duties (Davitz & Davitz, 1981). The battery of instruments used to measure these took approximately two-and-one-half hours and was

completed in two sessions. The variable of personal pain was measured by a twenty-item questionnaire participants answered about the amount of pain felt the last time they experienced in each of a series of events listed that are commonly associated with pain. These events, such as headaches and injections were rated on a seven-point rating scale, ranging from none to very severe. The mean rating was computed, with a high score indicating a high degree of pain (Davitz & Davitz, 1981). Correlation analysis was used to measure the relationship between the variables listed above, including personal pain experience, and the score on the Standard Measure of Inferences of Suffering.

Summary

All of the studies showed that nurses' personal pain experience or their children's pain experience were related to greater inference of pain to the patient. Two of the studies used samples of pediatric nurses; therefore, the findings may not be applicable to nurses caring for adult patients in acute pain. Four of the studies showing that personal pain experiences of nurses were based on the nurses' self-report that their personal pain experiences influenced their pain management decisions. These studies did not compare the nurses' actual pain management decisions. The results would be strengthened if all of these studies utilized some form of measurement of pain management judgment. Further measurement of this factor is an important aspect of this study, adding the experiences of personal pain to the body of nursing knowledge regarding pain management.

Goal for Pain Relief Factor

As displayed in Table A-3 in Appendix C, nine studies explored nurses' goals for pain relief. The majority of the studies found that a pain-free state was not the leading goal held by nurses. Only two studies (Scott, 1992; Vortherms, Ryan, & Ward, 1992)

demonstrated that the majority of nurses held the goal of a pain-free state for patients. Dalton (1989) found that the majority of oncology nurses (slightly over 50%) chose the goal of pain-free state, but non-oncology nurses did not, although the difference in percentage was slight between the two groups.

Scott (1992) explored nurses' attitudes toward pain control and the use of pain assessment tools. The sample included 29 nurses on a surgical floor and 23 student nurses in their final year. Scott distributed questionnaires, which contained statements of commonly held views regarding pain and pain management. A Likert-type scale accompanied these statements, ranging from strongly agree to strongly disagree choices. A second part of the questionnaire was designed to determine the participants' previous experience with pain assessment scales and their opinion of their effectiveness. A demographic form was also administered which included age, sex, experience, etc. This data was analyzed using descriptive statistics only, and the means were reported for the various questions posed. The study would be stronger if correlations were made between the demographic variables and the results of the questionnaires on attitudes and pain scales.

A large study conducted in Wisconsin by Vortherms et al. (1992) explored the knowledge, attitudes, and perceived barriers to pharmacological interventions for cancer pain. A random sample of 1,173 registered nurses drawn from the population of 43,000 nurses licensed in the state. A total of 790 (68%) nurses responded. An 82-item questionnaire was mailed to the participants addressing demographics such as education, experience, pain knowledge, attitudes, and perceived barriers, etc. Five experts in pain management and research reviewed the questionnaire for content validity and clarity. A

pilot test of the questionnaire was done prior to the mailing. Knowledge questions were scored based on percentage of correct responses. Internal consistency was alpha = .76. A one-to-five scale accompanied items regarding attitudes. A "liberalness" score was derived from the scale to demonstrate willingness to medicate pain. A poor internal consistency alpha of .53 was reported. The section about perceived barriers was also measured with a five-point scale. Overall, the nurses performed poorly in regard to pain knowledge. Attitudes were found to be liberal towards medicating patients in pain; however, actual practice was not observed, which is a limitation of this study. In regard to pain relief goals, the nurses supported the goal of pain-free state; however, their actual practice may not be consistent with this.

Summary

The conclusions of these studies indicate that the majority of nurses have a goal of reducing pain rather than relieving pain to a pain-free state. This may be due to either the nurse not believing complete relief of pain is possible or not believing pain should be totally relieved. Either of these causes can affect the perception and judgment of pain. In the studies reviewed, the goal of pain relief was not compared to nurses' perception and judgment of pain. The current study was designed to also examine this relationship, thus adding further understanding of nurses' beliefs about pain relief to the body of nursing knowledge.

Addiction Attitude Factor

Even though the fear of addiction is quoted often in the literature as a factor that possibly causes nurses to under-medicate, the majority of the studies reviewed revealed that nurses know that less than one percent of patients treated for pain with narcotics

become addicted. See Table A-4 in Appendix D. The early study by Cohen (1980) and a more recent study by Lebovitz, Florence, Bathina, Hunko, Fox, and Bramble (1997) were the only two that revealed a majority of nurses believed addiction occurred more frequently than one percent. McCaffery and Ferrell (1997) questioned whether the higher percentages of nurses selecting the correct percentage of addiction is truly representative of what the respondents truly believe or whether they are merely providing the correct answer because the number is well known. These researchers also observed that the nurses who completed their instruments were attendees at their pain management workshops and were inherently interested in pain (McCaffery & Ferrell, 1997). The observations, the authors noted of this sample, may compromise their results.

The majority of studies used vignettes and multiple-choice questions to collect data on addiction beliefs (Cohen, 1980; McCaffery & Ferrell, 1996; McCaffery & Ferrell, 1997; Ross, Bush, & Crummette, 1991). The 1996 study by McCaffery and Ferrell did not ask the question about the correct rate of addiction but asked if addiction was a concern for the vignette patients. It is interesting to note that the smiling patient was viewed more as being prone to addiction than the frowning patient. Three studies (Brunier et al. , 1995; Lebovitz et al. , 1997; Rankin & Snider, 1984) did not even have the benefit of clinical vignettes that at least approach a real clinical setting. Data was based on self-report of the participants on their knowledge of addiction prevalence.

Summary

To determine nurses' attitudes towards risk of addiction, the majority of these studies queried nurses about what percentage of patients become addicted to narcotic analgesics. Most of the studies showed that nurses knew it was less than one percent,

especially in the more recent studies. However, this may indicate that the question elicited knowledge regarding what is taught about pain management; and may not necessarily trigger what the nurse actually believes about addiction. Some of the studies did not examine the relationship of addiction risk knowledge and perception and judgment of pain. Based on this literature, the current study was designed to elicit nurses' beliefs regarding addiction risk of patients receiving narcotic analgesics. In addition, the relationship of addiction attitude to moral judgment, perception, and judgment of pain was examined.

Summary of Nurse Factors Literature

In conclusion, age of the nurse does not appear to have any influence on pain management decisions in the majority of the studies. Education levels appeared to have more of an influence on pain management in the later studies than in the earlier studies. This finding may be due to improved pain content in the curriculum in more recent years. General nursing experience did not appear to have much influence with the exception of Mason's study (1981), which found that the more experience nurses, had, the less sensitivity they had to pain. Burn nursing experience in Choniniere's study (1990) also was associated with decreased pain sensitivity. Personal pain experience of the nurse was positively related to appropriate pain assessment and management. In pediatrics, nurses whose children had experienced pain were more sensitive to pain. The majority of the nurses in these studies still do not hold the goal for a pain-free state for patients. This interesting finding needs to be explored further in relation to its effect on pain management decisions. If the nurse does not believe a patient could or should be pain free, interventions won't be attempted promptly or vigorously to achieve a pain free state.

The studies examining addiction attitudes may indicate that the findings are more representatives of nurses who are well informed about pain management because most of the participants knew that addiction occurs in less than one percent of patients. Perhaps these studies addressed knowledge more than nurses' attitudes towards addiction or drug addicts. Beliefs about addiction attitudes would seem to have more influence on analgesic choices than knowledge. Lastly, moral judgment at the level of principled thinking has not been examined in relation to pain management. Because pain management is an ethical endeavor, this factor was examined in this context in this proposed study.

Summary of Literature Review

This literature review has summarized the theory and research regarding the code for nurses, pain management standards, moral judgment, perception, judgment, decision-making, and selected nurse factors influencing perception and judgment of pain.

The Code for Nurses and pain management standards that state pain is an objective experience of the patient creates a moral obligation of nurses to treat pain according to these precepts. There are many factors that influence nurses' perception and judgment of pain; a number of which preclude treating pain adequately. Perception and judgment influence each other and also lead to an appropriate action regarding pain management.

Moral judgment that is developed to the principled reasoning, or post-conventional stage, may be the developmental skill that nurses need to choose to manage pain. Cognitive ability and education both affect moral development. Nurses, therefore, must develop in these areas in order to develop moral judgment necessary for

professional practice. Some of the studies examining moral judgment of nurses inaccurately reported results of the DIT instrument, thus drew wrong conclusions about nurses' moral judgment levels. No studies examined the relationship between moral judgment and perception and judgment of pain.

Regarding the research on the selected nurse factors affecting their perception and judgment of pain, many of the studies were done a number of years ago. Several of the studies included flawed statistical design; thus their results may not be valid. In addition, some of the selected nurse factors were not compared to the nurses' assessment of pain and were based only on self-reported survey questions of the sample. In addition, most of the studies were not based on any type of theory-based nursing or moral framework.

This literature review established a need to determine the presence of a relationship between moral judgment and perception and judgment of pain, as well as a reexamination of the selected nurse factors' relationships to the perception and judgment of acute pain. Gaining further knowledge about these relationships should lead to better education interventions for nurses regarding pain management. This study was designed to develop a better path to take in addressing the under-treatment of pain by nurses.

CHAPTER III

METHOD

Under-treatment of pain remains a prevalent problem today. Many influences on nurses' perception and judgment of pain have been identified. Moral judgment, a cognitive and developmental process of the nurse, has not been considered as an influence on nurses' perception and judgment of pain. The selected nurse factors (age, education level, professional nursing and personal pain experience, addiction attitude, and goal of pain relief) have been analyzed in numerous previous studies; however, relationships among nurses' moral judgment and their perception and judgment of pain have not been explored. Since earlier studies were primarily based on self-reported questionnaires with univariate or bivariate research designs that may have altered the results and conclusions, further investigation is warranted. Therefore, the purpose of this study was to determine the relationship between nurses' moral judgment and their perception and judgment of pain. A secondary purpose was to examine the relationships among the selected nurse factors and the perception and judgment of pain. The research design, setting and sample, protection of human subjects, instrumentation, data collection and analyses are described in this chapter.

Research Design

The design selected for this study was a descriptive correlational multivariate design. Correlational designs are used in an effort to understand relationships among variables, but not for inferring causal relationships. "Correlational research is conducted to examine linear relationships between two or more variables and to determine the type (positive or negative) and degree (strength) of the relationship. The positive relationship

indicates that the variables vary together, where both variables either increase or decrease together. The negative or inverse relationship indicates that the variables vary in opposite directions; thus as one variable increases, the other will decrease." (Burns & Grove, 1997, p.57)

Therefore, the descriptive correlational design was best suited for examining the relationship of nurses' moral judgment and their perception and judgment of pain. It was used to determine if a higher level of moral judgment was related to greater perception of pain and judgment to provide greater analgesia. The same statistical analyses were used to describe relationships among the selected nurse factors and nurses' moral judgment, and perception and judgment of pain.

Sample and Setting

The sample selected for this study was registered nurses who were currently licensed. Two inclusion criteria were used to draw the sample from the population of hospital nurses on units caring for adults in acute pain: 1) the nurse must be in active practice on a hospital unit containing adult patients experiencing acute pain, and 2) the nurse's practice must involve direct care of patients in acute pain. The sample was considered homogeneous in that all of the subjects were registered nurses who practiced in an acute care setting. Some diversity was anticipated with regard to age, education, nursing experience, gender, marital status, religion, and ethnic background. Sample size for this study was determined by power analysis. An effect size of .30, a significance criterion alpha of .05, and a power of .80 was used to determine the sample size for this study. Using the Sample Power program in SPSS, Suite 10, a sample size of 84 was calculated as an appropriate number of cases required for correlational analysis. A sample

size of 100 was selected for this study to ensure an adequate number of cases to allow for any incomplete instruments returned and if any subjects chose to withdraw from the study.

Access to potential subjects was gained through the administration of the selected hospital in southeastern Tennessee. With permission of the administration and the hospital's Institutional Review Board, potential subjects were asked to volunteer to participate in the study. The packet of questionnaires was distributed to the participants who volunteered for the study. Incentives of a five-dollar pizza certificate and a plastic pain-rating ruler were offered for participation in the study and completion of the instruments.

Initially 100 survey packets were distributed. A reminder card was sent to the participants who had not returned the instruments at approximately three weeks and six weeks after the packets were distributed. At eight weeks, an additional 25 packets were distributed. Of the 125 survey packets distributed, 101 packets were returned that could be used. The other packets either were not returned or had missing data from one or more of the instruments. The DIT2 has established criteria for how many missing datum must occur for the instrument to be considered invalid and unusable as well as the number of items that are ranked and rated in an illogical manner (Rest & Narvaez, 1998). One DIT2 instrument was deleted based on this criterion. One pain vignette instrument was not completed. In order to avoid losing all of the data of this subject, it was determined appropriate to replace the missing data of this instrument with the means of the total sample for each item.

Protection of Human Subjects

Human subject approval was obtained from The University of Tennessee, Knoxville Institutional Review Board and from the hospital that was used as the setting for this study. Subjects were assured that there was no penalty for not participating and informed of the time required to complete the instruments. The term "moral judgment" carries different connotations or meanings to individuals and thus posed a risk of affecting subjects' responses on the instruments. As a precaution, subjects were informed that the purpose of the study was to examine how nurses made decisions regarding pain management choices. Subjects were informed that they could withdraw from the study at any time and that there were no risks to employment involved. Complete confidentiality was guaranteed and the subjects were assured no individual responses would shared with any member of hospital management. The subject signified consent by signature on the written informed consent. The consent included the purpose of the study, risks, benefits, rights to withdraw, and confidentiality protection. The consent form and a list of subjects were the only places the subjects' names appeared. Each subject was assigned a five-digit identification number on the instruments and demographic questionnaire for further confidentiality. A locked file cabinet was secured to store all data for this study. Only the researcher and the major professor had access to the data and list of subjects.

Instrumentation

Three instruments used in this study were: 1) the Defining Issues Test, version two (DIT2), developed by James Rest, which measured moral judgment, 2) a pain vignette instrument adapted from a tool designed by Margo McCaffery and Betty R. Ferrell, and 3) a demographic questionnaire developed by the investigator.

Defining Issues Test, Version Two

The DIT2 is a revision of the original defining issues test (DIT) that has been in use for 25 years. Reliability and validity of the tool has been established through its use in over 1000 studies. It is designed to trigger moral schemas (if present) from long-term memory for use in processing the dilemmas on the instrument. These schemas determine the rankings the participant chooses in analyzing the dilemmas (Rest et al. , 1999). Like the original tool, the DIT2 is a multiple choice, objective, self-administered tool. The tool consists of five hypothetical stories involving moral dilemmas. A list of 12 considerations representing moral judgment stages are rated, and then ranked from the most to least important. The DIT2 is designed to measure how the subject collects information using moral reasoning and how it is compared to the moral stages. The subject answers a question of what the person in the hypothetical situation should do. Next, a scale is marked for 12 statements of items that the subject may or may not consider in making the prior decision. The scale represents the importance of the considerations, ranging from Great to No Importance. After the subjects complete the scale, the subject then ranks the four most important considerations that the subjects believe they use in making the decision about the dilemma.

The DIT2 is based on Rest's Four Component Model that stated that an individual learns to use a variety of schemas of moral judgment as the individual gains experience. An individual will use higher stages more and lower stages less as the individual gains experience dealing with moral dilemmas (Narvaez, 1998).

The five moral dilemmas on the DIT2 instrument included decisions of whether to take food during a famine, report a damaging story on a political candidate, calling off a

board meeting due to threats to the members, allowing the students of a school the right to demonstrate, and providing additional analgesics to a cancer patient. The last dilemma was of particular importance for this study since it dealt with a patient in pain.

Since the DIT2 is a revision of the established original instrument, its validity and reliability is discussed first. Validity of the original DIT has been assessed using several criteria. First, it has been hypothesized that moral development increases with education and age. Over 400 studies analyzed have shown that 30% to 50% of DIT score variances are attributed to education. A ten-year longitudinal study (n = 500) has shown that DIT scores increase with age, showing an effect size of .80 in gains. Second, the DIT is sensitive to moral education interventions. Over 50 intervention studies report effect sizes of .41 (showing moderate gain) in groups receiving moral education compared to effect size of .09 (showing little gain) for those who did not receive moral education. Third, linking the DIT to prosocial behaviors and professional decision-making has been found to be statistically significant in 37 out of 47 correlation studies. Face validity seems adequate in that the dilemmas contain moral issues in each vignette. The questions and scales of considerations are written to address the stages of moral reasoning (Rest, et al. , 1999).

The DIT is nonsignificantly correlated with Social Desirability and personality trait measures (e.g., MMPI, Locus of Control, Self-Esteem, Anxiety). The DIT is moderately correlated with aptitude and IQ measures (generally in the 0.2 to 0.5 range) (Rest et al. , 1999). The DIT typically correlates in the 0.6 to 0.7 range with other measures of moral thinking, such as the Moral Judgment Inventory and the Comprehension of Moral Concepts test (Rest, 1994). The DIT shows discriminant

validity from verbal ability and general intelligence and predicts well according to the above criteria. The DIT is equally valid for males and females. Reliability has been shown to be adequate; Cronbach's alpha is in the upper 70's and low .80s. Test-retest reliability is in the same range (Rest et al. , 1999).

The DIT2 is highly correlated to the original DIT at .79. A study ($n = 200$) comparing the DIT2 to the DIT in regard to four different education levels revealed significant ANOVA comparisons ($F = 58.9$, $p < .0001$). Mean scores on the DIT2 and DIT were significantly correlated for each educational group ($r = .69$, $p < .0001$). Based on age, correlations of scores were also significant ($r = .56$, $p < .0001$). Additional validity of the DIT2 was established by correlating its scores with scores of the Attitudes Toward Human Rights Inventory (ATHRI). Correlations were found to be significant ($r = .50$, $p < .01$) (Rest et al. , 1999).

Scoring of the DIT2

The P score of the DIT2 summarizes the ranking data and is the weighted sum of the rank principled issues (moral judgment stage five and six). This score indicates the amount of postconventional moral reasoning that the subject used in analyzing and making decisions about the hypothetical situations on the instrument. It indicates the relative importance subjects give to postconventional moral considerations. Ranking items calculate the P score by importance (Rest, Thoma, Narvaez, & Bebau, 1997). The P score ranges from zero to 95, is a continuous scale and an interval measure. Thus, this measure was appropriate for correlational analysis.

The DIT2 was acquired through Rest's Center for the Study of Ethical Development, located on the campus of the University of Minnesota. The center required

that the DIT2 be returned to them for scoring. Scores are returned from the center in a paper report and on diskette so that further analysis can be completed. The P scores are calculated for the total instrument as well as for each dilemma. These files can then be used to correlate the scores to the dependent variables of perception and judgment.

Pain Assessment and Use of Analgesia Survey

The pain vignette instrument used for this study was originally developed by McCaffery for research studies in the late eighties and early nineties and then refined for use on the Pain Knowledge and Attitude Test by both Ferrell and McCaffery. Since that time, the vignettes have been used in numerous studies. Content validity was established by a panel of pain experts and was derived from the Agency of Health Care Policy and Research (AHCPR) standards of pain management. Each vignette was initially pilot tested with a minimum of 100 subjects. Test-retest reliability was reported at $r > .80$ and internal consistency for knowledge and attitudes was reported at alpha $r > .70$ (Ferrell & McCaffery, 1999).

Subjects rate the vignette patients' pain using a zero to ten Likert-type scale, with zero being "no pain" and ten being "worse pain possible". This is the same type of scale used in clinical settings for patients to rate their level of pain. After rating the patients' pain, the subjects then selected a dosage of analgesic for the patient or chose not to medicate the patient.

The concept of "perception" was operationalized through the pain rating scale and "judgment" was operationalized by the choice of analgesics for the patient depicted in each vignette. The pain rating score was at the interval level (zero to ten scale) and the analgesic dosage choices were at the ordinal level of data.

Demographic Questionnaire

The demographic questionnaire was designed by this investigator to measure the selected nurse factors (age, education, professional nursing and personal pain experience, addiction attitude, and goal of pain relief) and other demographic information. Age in years and professional nursing experience were at the interval level of data. The nurses' education level, addiction attitude, and goal of pain relief are at the ordinal level of data and the personal pain experience factor was at the nominal level. See Appendix E.

Data Collection Procedure

Pilot Test of the Instruments

Review of the adapted vignettes began with the formation of a panel of four registered nurses, two who were expert in pain management and two who were expert in ethics. Three were doctorally prepared and one was masters' prepared. The panel was asked to do three activities: 1) evaluate the pain vignettes according to their experience with similar pain situations, 2) evaluate analgesic options based on the action they would take in these situations and 3) evaluate if the situations depicted in the vignettes were typical ethical situations encountered in the clinical setting. Changes in the vignettes were incorporated into the instrument upon the panel's recommendations.

Once the pain vignettes tool was evaluated, a small pilot test utilizing ten registered nurses that met eligibility requirements was conducted. The purpose of this pilot was twofold: 1) to confirm the estimated time to complete the DIT2, pain vignette tool, and demographic questionnaire; and 2) to check the clarity of the instruments for the subjects of the proposed sample.

Data Collection

Recruiting of nurses occurred in the nursing units in cooperation with the nursing administration of the respective hospital. The purpose, benefits, and risks of the study were explained and incentives for participation in the study were described and given to the participants upon their agreement to complete the questionnaires. The participants were asked to read and sign an informed consent. Signing the consent indicated the participants' acknowledgment of the purpose, benefits, and risks of the study as well as the right to withdraw and acknowledging agreement to participate in the study. Each consent was coded with a five-digit number that corresponded to the same number on the instrument packet to identify the subject. A locked file cabinet was maintained to store all completed instruments and demographic forms. A separate locked file was maintained to keep the subjects' consent forms and list of names with identification numbers.

Each packet of questionnaires contained a pencil, the DIT2, Pain Assessment and Use of Analgesics Survey, demographic questionnaire, gift certificate, and pain-rating ruler. The subjects were instructed to complete the DIT2 first, then the vignette tool, and the demographic form last after reading the written instructions for the instruments. The DIT2 was anticipated to take approximately 35 to 40 minutes to complete. The pain vignette instrument was anticipated to take approximately ten minutes to complete and the demographic questionnaire to take approximately five minutes. Anticipated time to complete all instruments was approximately one hour; however, no time limit was imposed.

Due to the extreme demands of the nurses' time while on duty at the hospital selected for this study, it was recommended that the nurses who participated be allowed

to complete the questionnaires on their own time and then return the completed forms by mail. Postage and a self-addressed manila envelope were provided to return the instruments to the investigator by mail.

Data Analysis

Correlational and descriptive statistics were performed on the data collected in this study. Descriptive statistics (mean, median, mode, and range) were performed on the scores on the DIT2 of the aggregate. Descriptive statistics were also reported on the results of the pain ratings of the vignette patients, selection of analgesic dosages as well as the sample's selected nurse factors and demographics.

The P scores of the DIT2 of the total instrument were compared to the pain ratings assigned to the patient's pain level that measured perception. Pearson's r correlation coefficient was calculated to determine the relationship between nurses' level of moral judgment and perception of pain. Pearson's r coefficient was calculated to examine the relationships among the selected nurse factors of the nurses' age and years of professional nursing experience.

Spearman rho was also used to describe the relationships among moral judgment and selected nurse factors of personal pain experience, attitude towards risk of addiction to analgesics, and goals for pain relief. Spearman rho correlation was calculated to determine the relationship between nurse's moral judgment and the selection of the analgesic dosage, which measured judgment of pain.

A codebook was maintained of the variables. The Statistical Package for the Social Sciences (SPSS), Suite 10 was used for the statistical analyses. Data was stored on the hard drive of the computer used as well as on computer diskettes. A second copy was

kept in a separate place for security. Both sets were kept under lock and password protection of data stored on computer. Access to the computer and diskettes was limited to the researcher and the major professor. Once the data were entered, a hard copy was printed and checked for accuracy with the original data. Any missing data or incorrect data were considered individually and evaluated for inclusion or exclusion. Some data was replaced by the item mean or left blank as appropriate. Evaluation of the remaining data was performed to determine that there were adequate numbers to complete the study. This process helps ensure validity of the data (Burns & Grove, 1997).

Rest's Center for Ethical Development, which monitors the DIT2, requires that the completed forms be sent to the center for scoring. A report is then provided of the scores including a computer diskette of all of the DIT2 data suitable for SPSS software for further analysis. Additional data from other instruments can then be added and further statistical analyses can be completed. Scoring of the DIT2 is described under the Instrumentation section. The P score, which indicates the subject's preference for the principled moral reasoning level of moral judgment, was the focus of interest in this study.

Upon calculating frequencies and means of the variables in the sample, it was found that each of the means fell within three standard deviations from the mean except for the Robert and Dave vignette pain ratings on the pain vignette instrument. The lower ratings fell outside of three standard deviations from the mean. Three standard deviations are within normal distribution of a population (Polit & Hungler, 1999). It was determined that no subjects from the sample should be deleted from the study based on the distribution of the findings. Instead, the Spearman rho correlational analysis was used to

address the nonparametric character of this data. Nurses' educational level, addiction attitude, and goal of pain relief are at the ordinal level and personal pain experience is at the nominal level of data. Therefore, the Spearman rho correlation was calculated for these variables to examine their relationship with perception and judgment of pain. The alpha level was set at .05 to determine significance in all tests.

Summary

This chapter has covered the methods employed to conduct this study. A descriptive correlational design using correlational analyses was used to determine the relationship among nurses' moral judgment and perception and judgment of pain. The relationship between the selected nurse factors and perception and judgment of pain was also examined. Subjects were registered nurses whose practice includes care of patients in acute pain. All IRB guidelines for the protection of human subjects were strictly followed. The subjects completed the DIT2, pain vignette, and demographic instruments. Descriptive statistics, pearson r and spearman rho correlation coefficients were calculated, analyzed, and reported to address the research questions of this study.

CHAPTER IV

RESULTS

The purpose of this study was to determine the relationship between registered nurses' moral judgment and their perception and judgment of pain. A middle range theory proposing this relationship, based on King's Interactive Systems Framework, was tested using correlation statistics. Selected nurse factors in relation to moral judgment, perception and judgment of pain were also examined using descriptive and correlation statistics. The SPSS statistical program (version 10) was used to analyze the data to answer the research questions for this study.

The findings of this study are presented in this chapter in the following order: 1) sample demographics, 2) performance and reliability of the instruments, 3) findings from the correlational analyses used to determine the relationship between nurses' moral judgment and perception and judgment of pain, 4) descriptive findings of moral judgment, perception and judgment of pain, and 5) findings from the descriptive and correlation analysis to describe the selected nurse factors in relation to moral judgment and the perception and judgment of pain.

Sample Demographics

The demographics questionnaire included questions regarding the sample's characteristics of: 1) age, 2) gender, 3) ethnic background, 4) education level, 5) religious preference, 6) years of professional nursing experience, 7) pain management experience, 8) nursing unit worked, past and present, 9) past nursing experience worked outside of hospital medical-surgical units, 10) shift worked, and 11) work status. These descriptive

data are displayed in Table 1. Age, education level, and years of experience are also included as selected nurse factors in the last section of this chapter.

Performance and Reliability of the Instruments

DIT2 Instrument

The reliability of the DIT2 was adequate for this study. The total reliability alpha calculated for the instrument was .72. For each story, the coefficients were as follows: Demonstration story, .72, Reporter story, .68, School Board story, .74, Cancer Pain story, .74, and Famine story, .77. This is comparable to Cronbach's alpha reported for the DIT in other studies, which ranged from the upper .70s to the low 80s. These scores were also reported for test/retest reliability (Rest, 1999). In addition, it was noted by the instrument's developers that if studies do not have the entire range of educational levels, the Cronbach's alpha is usually lower (Rest & Narvaez, 1998).

Testing internal consistency of the DIT2 is one way to test reliability of the data generated from this instrument. Internal consistency estimates the extent to which different subparts of an instrument are equal in measuring the variable for which it is designed. The Cronbach's alpha is computed to measure this reliability. The normal range of values is 0 to 1, with higher values representing higher internal consistency. A Cronbach's alpha coefficient of .60 to .70 is acceptable (Polit & Hungler, 1999). The mean moral judgment level was low for this sample. The mean P score was 33.94 %, (SD =13.94). The median and mode P scores were each 32 %. The range of P scores was eight to 64 %.

Table1. Demographics of Sample (n = 101)

Variable	n	%	range	mean	SD
Age	101		20-68 years	38.20 years	12.60 years
Gender					
Female	91	90 %			
Male	10	10%			
Ethnic Background					
African-American	5	5 %			
Asian	5	5%			
Caucasian	87	86 %			
Latino	2	2 %			
Native American	1	1 %			
No Response	1	1 %			
Education					
Diploma	9	9 %			
Associate	53	52 %			
Baccalaureate	34	34 %			
Master's	5	5 %			
Religious Preference					
Adventist	35	35 %			
Baptist	25	25 %			
Catholic	6	6 %			
Christian	3	3 %			
Church of Christ	3	3 %			
Church of God	1	1 %			
Episcopalian	2	2 %			
Lutheran	1	1 %			
Methodist	6	6 %			
Pentecostal	3	3 %			
Presbyterian	3	3 %			
None	1	1 %			
No Response	12	12%			

Table 1. (continued)

Variable	n	%	range	mean	SD
Experience	101		1 - 42 years	8.57 years	9.74 years
Pain Experience	101		1 - 42 years	7.10 years	7.92 years
Unit Worked					
Medical	24	23.5 %			
Surgical	17	16.7 %			
Orthopedics	17	16.7 %			
Gynecology	16	15.7 %			
Cardiac	18	17.6 %			
Cardiac Surgery	9	8.8 %			
Past Unit Worked					
Medical	26	29 %			
Surgical	12	14 %			
Cardiac	21	24 %			
Gynecology	7	7 %			
Oncology	5	6 %			
Orthopedics	14	16 %			
Other	4	4 %			
Past Experience (n = 31)					
Emergency	4	3.9 %			
Home Health	6	5.9 %			
Nursing Home	9	8.8 %			
Outpatient Clinic	1	1.0 %			
Public Health	2	2.0 %			
Other	9	8.8 %			
Shift Worked					
7 AM - 7 PM	59	57.8 %			
7 PM - 7 AM	42	41.2 %			
Work Status					
Part-time	24	23.5 %			
Full-time	77	75.5 %			

Pain Assessment and Use of Analgesics Survey

The total pain rating score was negatively skewed (-.707) and platykurtic (-.742). The total analgesic choices score was positively skewed (.421) and leptokurtic (.310). The Andrew (smiling patient) pain rating score was negatively skewed (-.484) and the Robert (grimacing patient) pain rating score was negatively skewed (-1.904). Also, the Andrew pain rating score was platykurtic (-1.088) and the Robert pain rating score was leptokurtic (3.141).

The Andrew (smiling patient) analgesic choices score was positively skewed (1.284) and the Robert (grimacing patient) analgesic choices score was negatively skewed (-1.201). The Andrew analgesic choices score was platykurtic (.248) and the Robert analgesic choices score were also platykurtic (.751).

The Dave (PCA pump patient) pain rating scores was negatively skewed (-2.677) and was extremely leptokurtic (7.254). The Dave analgesic choices score was positively skewed (.780) and was also platykurtic (.419). Comparing the kurtosis of all three vignettes on the instrument, it became apparent that the Dave vignette pain ratings score was far more peaked than the other vignettes. Severe kurtosis indicates that the scores have little variability and may not measure the pain ratings in the same way as the other two vignettes. Because the Dave vignette was much more peaked than the other two vignettes, no assumptions were made regarding its distribution, thus nonparametric statistical analysis was used.

The pain rating scores and the analgesic choice scores on the three vignettes of the pain vignette tool were moderately to highly correlated. The total scores of the pain ratings were moderately correlated to the total scores of the analgesic choices (r =. 393, p

< .000). The Andrew (smiling patient) pain rating was highly correlated to the total pain rating score (r =. 935, p < .000). The Robert (grimacing patient) pain ratings were highly correlated to the total pain rating scores as well (r = .788, p < .000). The Dave (PCA pump patient) pain ratings were highly correlated to the total pain rating scores (r =.615, p < .000). The Andrew pain ratings were highly correlated to the Robert pain ratings (r = .518, p < .000).

The Dave (PCA pump patient) pain ratings were significantly correlated to the Andrew (smiling patient) pain ratings (r = .274, p = .006) and to the Robert (grimacing patient) pain ratings (r = .442, p < .000). The Dave pain ratings were also correlated to the Robert analgesic choices (r = .356, p < .000) and to the Dave analgesic choices (r = .240, p = .016).

The total analgesic choices score was correlated to the Andrew (rho = .695, p <.000), Robert (rho = .727, p < .000), and Dave (rho = .593, p < .000) analgesic choices scores. The Andrew analgesic choices score was moderately correlated to the Robert analgesic choices (rho = .277, p = .005). The Robert analgesic choices were correlated to the Dave analgesic choices (rho = .251, p = .011).

Research Questions

- **What is the relationship between nurses' moral judgment and perception of pain?**

The relationship was not statistically significant between the total sample's moral judgment and perception of pain (r = .141, p = .159). However, the raw P score (the number of items selected based on principled moral judgment) for the cancer patient

vignette on the DIT2 did correlate to the total pain ratings of the pain vignette instrument (r = .209, p = .036).

- **What is the relationship between nurses' moral judgment and judgment of pain?**

The relationship was not statistically significant between the total sample's moral judgment and judgment of pain (rho = .063, p =.531).

Descriptive Findings of Moral Judgment

The moral judgment measures (P score) of this sample ranged from eight to 64 on the DIT2 instrument. The mean P score was 33.94 (SD = 13.94). The median and modal P scores were 32. Categorized by education levels, the P scores for this sample was 31.33 for diploma nurses (n = 9), 33.21 for nurses with associate degrees (n = 53), 35.82 for baccalaureate nurses (n = 34), and 33.60 for nurses with master's degrees. The ranked scores for the stages of moral development are based on weighted ranks across the five stories on the DIT2. These ranks are: 4, most important, 3 second important, 2, third important, one, fourth important, and zero, not ranked. These scores represent the sum of all items keyed at a stage (Rest & Narvaez, 1998). The ranked scores for each stage represent similar characteristics of Kohlberg's moral development stages. The mean scores represent the items selected across the five scores for each stage. The mean number of items selected by this sample for each stage were as follows: 2.48, SD = 2.70 (Stage 2), 9.90, (SD = 4.91) (Stage 3), 18.80 (SD = 5.96) (Stage 4), 13.22 (SD = 5.59) (Stage 5), and 3.75 (SD = 2.98) (Stage 5B/6). The more items selected at the higher stages, the greater the preference for higher moral judgment thinking.

The terminal cancer story on the DIT2 had particular importance for the focus of this study since it involves a moral dilemma regarding severe pain. The vignette posed in the study was:

> Mrs. Bennett is 62 years old and in the last phases of colon cancer. She is in terrible pain and asks the doctor to give her more pain-killer medicine. The doctor has given her the maximum safe dose already and is reluctant to increase the dosage because it would probably hasten her death. In a clear and rational mental state, Mrs. Bennett says that she realizes this, but she wants to end her suffering even if it means ending her life. Should the doctor give her an increased dose? (Rest & Narvaez, 1998).

The question is again asked on the instrument, "Do you favor the action of giving more medicine?" The choices given were strongly favor, favor, slightly favor, neutral, slightly disfavor, disfavor, and strongly disfavor. Frequencies and percentages of these choices are displayed in Table 2.

Table 2. DIT Cancer Story Responses

Response	n	%
Strongly Disfavor	4	4.1%
Disfavor	7	7.1%
Slightly Disfavor	6	6.1%
Neutral	11	11.2%
Slightly Favor	13	13.3%
Favor	34	34.7%
Strongly Favor	23	23.5%
	98	100 %

Description of Perception and Judgment of Pain

The Pain Assessment and Use of Analgesics Survey revealed the nurses' perception and judgment of pain. The total scores for pain ratings and analgesic choices reflect the combined pain ratings of the three vignettes and the combined analgesic choices for the vignettes respectively. The highest possible score for the pain ratings is 24 and ten is the highest score for the analgesic choices. The mean score for pain ratings was 20.79 (SD = 3.68) and the mean score for the combined analgesic choices was 5.18 (SD = 2.02). The mode for the total pain ratings was 24 and the mode for the total analgesic choice was five. This is more meaningful information when the individual vignettes were examined. See Table 3.

Analgesic choices for Andrew (smiling patient) revealed that the majority of nurses (n =70) selected Tylenol #3 1 tablet by mouth and the next highest analgesic choice was MS 3 milligrams IV (n =16). MS 1 milligram IV was selected by two nurses and MS 2 milligrams IV was selected by five nurses. Eight nurses chose not to give any medication for pain. For Robert, 57 nurses selected the MS 3 milligrams IV, 30 selected MS 2 milligrams IV, and 11 selected MS 1 milligram IV. Three nurses chose not to give any medication for the vignette patient. See Table 4.

Of note, 45 % of the nurses agreed with the patient's reported pain rating of "eight" in the Andrew (smiling patient) vignette, yet 69.3 % of the nurses chose Tylenol # 3 for the analgesic choice. Compared to the Robert (grimacing patient), 71.3 % agreed with the patient's pain rating of "eight" and 56.4 % chose morphine 3 milligrams IV which was the highest dosage available in the vignette. For the Dave (PCA pump

Table 3. Descriptive Statistics of Pain Ratings

Vignette	Pain Ratings	n	%
(smiling patient)			
Andrew			
	0	0	
	1	3	3.0 %
	2	6	5.9 %
	3	8	7.9 %
	4	15	14.9 %
	5	14	13.9 %
	6	8	7.9 %
	7	2	2.0 %
	8	45	44.6 %
	9	0	
	10	0	
(grimacing patient with addiction history)			
Robert			
	0	0	
	1	0	
	2	1	1.0 %
	3	0	
	4	4	4.0 %
	5	8	7.9 %
	6	7	6.9 %
	7	8	7.9 %
	8	72	71.3 %
	9	1	1.0 %
	10	0	
(patient with PCA pump)			
Dave			
	0	0	
	1	1	
	2	1	1.0%
	3	1	1.0%
	4	2	2.0%
	5	4	4.0%
	6	7	6.9%
	7	3	3.0%
	8	82	81.2%
	9	1	1.0%
	10	0	

Table 4. Descriptive Statistics of Analgesic Choices

Vignette	Analgesic Choice	n	%
Andrew	No pain medication now	8	7.9 %
	Tylenol # 3 1 tablet po now	70	69.3 %
	MS 1 milligram IV now	2	2.0 %
	MS 2 milligrams IV now	5	5.0 %
	MS 3 milligrams IV now	16	15.8 %
Robert	No pain medication now	3	3.0 %
	MS 1 milligram IV now	11	10.9 %
	MS 2 milligrams IV now	30	29.7 %
	MS 3 milligrams IV now	57	56.4 %
Dave	No pain medication now	10	9.9%
	PCA dose MS 1.0 milligrams	63	62.4%
	PCA dose MS 1.5 milligrams	18	17.8%
	PCA dose MS 1.75 milligrams	10	9.9%

patient), 81.2 % agreed with the patient's report of "eight" on the pain rating scale, however, 63 % of the nurses chose the lowest PCA dose of 1.0 milligram of morphine.

Ancillary Question

- **How do the selected nurse factors relate to nurses' moral judgment, perception and judgment of pain?**

Selected Nurse Factors

The selected nurse factors as identified by the 1994 NINR panel on symptom management of pain were age, education level, professional nursing experience, personal pain experience, attitudes about risk of addiction to analgesics, and personal goal for pain relief. Additional characteristics added for examination in this study were unit goals for pain relief, and nurses' belief whether pain relief was possible. Age, educational level, and professional nursing experience were presented in the sample description. A number

of findings held clinical significance that was other than expected. These will be discussed in the following section.

Age

No significant correlation was found among age in years and moral judgment, perception and judgment of pain, or with the selected nurse factors. However, when age was collapsed into groups above and below the median age of 34 years, a negative correlation was found between age and moral judgment ($r = -.232$, $p = .019$). This indicates that the older the nurse, the lower the principled moral judgment score.

Education Level

Nurses' education level for the total sample was not correlated to moral judgment, perception and judgment of pain for the total sample. However, when examining the data by education level alone, a significant correlation between the P score (moral judgment) and the total pain rating scores ($r = .291$, $p = .035$) was found in nurses ($n = 53$) with associate degrees.

A significant correlation between moral judgment and the Dave (PCA pump patient) analgesic choice score (rho = -.386, $p = .024$) was found in baccalaureate nurses ($n = 34$). Interestingly, this indicates that the higher the moral judgment level, the lower the analgesic dose chosen for the Dave vignette.

Professional Nursing Experience and Experience with Patients in Pain

No correlation was found among nursing experience or experience with patients in pain and nurses' moral judgment and perception and judgment of pain. Experience of working with patients in pain and nursing experience were strongly correlated ($r = .836$, $p < .000$). Experience with working with patients in pain was also correlated to the

response to provide additional pain medication to the vignette cancer patient on the DIT2 instrument (rho = .248, p = .019).

It was found that the number of years of nursing experience was negatively correlated to attitude towards risk of addiction to analgesics (rho = -.251, p = .012) meaning that the more experience nurses have, the less they believed addiction is a risk from taking analgesics. Pain experience was also negatively correlated to attitude towards addiction risk of analgesics (rho = -.264, p = .008).

Personal Pain Experience

Eighty-four (84%) of the nurses reported they had experienced moderate to severe pain and 16 (16%) had never experienced moderate to severe pain. No significant correlation was found among nurses' personal pain experience, their moral judgment, and perception and judgment of pain.

Attitude Towards Risk of Addiction

Twenty-two nurses (22%) believed that there was no risk of addiction and 58 (57%) believed there was little risk. Eighteen nurses (18%) reported that there was a moderate risk of addiction and two nurses (2%) believed that there was a great risk of addiction from analgesics. As noted under the nursing experience section, a significant correlation was found between years of experience and experience of working with patients in pain and the belief that there is little risk of addiction to analgesics.

Nurses' Pain Relief Goals

Nurses' pain management goals were divided into three categories. These categories were pain management goal to achieve a pain free state, achieve tolerance of the pain, or to be able to function. Fifty-four registered nurses (53%) reported their

personal goal was to achieve a pain-free state for the patient. Twenty-nine nurses (29%) managed pain so that the patient could function and 18 nurses (18%) managed pain to the patient's tolerance. The belief that pain relief is possible and nurses' personal goal to attain a pain-free state was correlated (rho = .575, p < .000). This indicates that nurses who believed pain relief is possible also had a goal to attain a pain-free state.

Unit Goals for Pain Relief

Fifty-one nurses (51%) reported their units' goal was to achieve a pain-free state for patients. Twenty-nine (29%) reported that their units' pain management goal was to allow patients to function and 19 nurses (19%) stated their units' goal was to manage patients' pain only to tolerance of the pain.

Forty-six (90%) of the 51 nurses who reported their personal goal to attain pain-free state also reported their unit goal was to attain a pain-free state. Twenty-four (83%) of the 29 nurses who reported their goal was to attain function. Seventeen (89%) of the 19 nurses who reported their goal was to attain tolerance reported the same for their unit goal.

The unit goal to attain a pain-free state was strongly correlated to nurses' personal goal to attain a pain free state (rho = .837, p <.000), unit goal and nurses' personal goal to attain function (rho = .755, p <.000), and unit goal and nurses' personal goal to attain tolerance (rho = .812, p < .000).

Belief Whether Pain Relief is Possible

Fifty-one (51%) of the nurses in the sample reported that complete pain relief is possible. Forty-nine (49%) did not believe that complete pain relief is possible. For nurses who did not believe pain relief is possible (n = 49), a significant correlation was

found between the P score and the analgesic choice for the total analgesic choices score (rho = .303, p = .034). This indicates that the higher the moral judgment score, the greater amount of analgesics chosen for the vignette patients.

Nursing Units

When examining the relationships among moral judgment and perception and judgment of pain according to unit the nurses worked, significant correlation between nurses' pain perception and moral judgment was only found in nurses (n = 18) who worked on the cardiac unit (r = .499, p = .035). Significant correlation of these variables was not found for any other units.

Other Pain Interventions

The nurses in this sample were asked to list other pain management interventions they used besides analgesics. A total of 29 different interventions were listed. The most frequent interventions given were repositioning (n = 36), diversions (n = 30) and helping the patient to relax (n = 18). The other interventions are displayed in Table 5.

Summary of Findings

Moral judgment and perception and judgment of pain was not significantly correlated for the total sample. Moral judgment and perception and judgment of pain were significantly correlated if education, unit worked, and nurses' belief that pain relief is not possible is considered. Correlations between moral judgment and perception and judgment of pain were found among the individual vignettes on the pain vignette instrument. Other relationships among the selected nurse factors were also found in this sample. Pearson r and Spearman rho correlations were utilized to identify these correlations. Description of the sample's demographics and selected nurse factors were

Table 5. Other Pain Management Interventions used by Nurses (n = 101)

Intervention	n
Repositioning	36
Provide Diversion	30
Helping Patient Relax	18
Heat/Cold applications	14
Provide a quiet environment	12
Back rub/ Massage	9
Imagery	8
Deep breathing	6
Heat applications	6
Ice applications	6
Communicate/Talk with patient	5
Soft Music	5
Ambulation	4
Increase Activity	4
Listening	4
Splinting to painful site	4
Calm environment	3
Dim light in room	3
Encouragement	3
Involve Family	3
Prayer	3
Sedatives	3
Touch	3
Bath	2
Decrease Stress	2
Emotional Support	2
Adjust Environment	2
Favorite Food	1
Mouth Care	1
Sitting	1

also provided in this chapter. The middle range theory that moral judgment was related to perception and judgment of pain was not supported for the total sample. It was partially supported on a limited basis when computed with the variables of education, unit worked, and the belief that pain cannot be relieved.

CHAPTER V

DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

This study was designed to explore the relationships among nurses' moral judgment and perception and judgment of pain. Selected nurse factors were also described in relation to moral judgment, perception, and judgment of pain. Although research has been conducted to examine the selected nurse factors included in this study, no study has been done to examine the relationships between nurses' moral judgment and their perception and judgment of pain. Therefore, the purpose of this study was a preliminary step towards defining the relationships among moral judgment, perception and judgment of pain, and the selected nurse factors. The middle range theory for this study, based on King's Interacting Systems framework, proposing that relationships among these variables exist was tested. The secondary purpose of the study was to describe the selected nurse factors identified by the 1994 NINR panel study (NINR, 1994) on symptom management of pain. Greater understanding of these relationships and the middle range theory may lead to improvement of pain management by nurses.

This chapter is a discussion of the study's findings and their significance in addressing the under-treatment of pain in relation to the proposed middle range theory. Recommendations to emphasize moral development in nursing education and utilization of reflective education principles as an alternative method to teach pain management are given. Use of reflection in practice by nurses providing pain management is also recommended. Recommendations for further research of moral reasoning, the selected nurse factors and perception and judgment of pain are included.

Discussion

Pain is a part of countless physiological diagnoses, medical, surgical, and diagnostic procedures. Most, if not all, patients receiving care from nurses and other healthcare providers experience moderate to severe pain. Because of this overwhelming prevalence of pain, it would be reasonable to think that nurses' attitudes and nurses' pain management decisions would be compatible with the profession's moral obligation to relieve pain. Unfortunately, research studies reviewed in the literature revealed the opposite.

A number of studies have explored the relationship of the selected nurse factors (age, professional nursing experience, educational level, personal pain experience, pain management goals, and attitude towards risk of addiction) on perception and judgment of pain. The results of these studies have yielded mixed findings. Other studies have suggested that pain management decisions are of an ethical nature, however, no studies were found that attempted to determine the relationship of nurses' moral judgment and perception and judgment of pain. The results of this study did not reveal a significant association between moral judgment and perception and judgment of pain for the total sample. However, among subsamples in this study significant associations among moral judgment and perception of pain were found when viewed by education level and the type of unit. There was also a significant relationship between moral judgment and judgment of pain when viewed by nurses' belief that pain relief is not possible. These findings suggest that the relationship of moral judgment as a single variable to nurses' perception and judgment of pain was not related in this sample. However, correlations are present when factors of education, unit worked, and the belief whether pain relief is

possible are compared. An explanation as to why these relationships are not significant for the total sample may be that nurses' moral judgment must be triggered by these other factors for it to be called into action during perception and judgment of pain. These factors perhaps invoke a variety of schemas in nurses that subsequently create significant relationships among their moral judgment, and perception and judgment of pain. Further study into these influences and relationships is needed. Each of these will be discussed separately.

Personal System of the Nurse

Since the middle range theory, based on King's Interacting Framework, was not supported, a second look at the personal system of the nurse is warranted. Moral judgment's placement in the growth and development is appropriate since it is proposed that it is cognitively developmental in nature and has been shown to improve with education (Rest, 1999; Ducket et al. , 1992). This study's findings revealed that the mean moral judgment level was low for this sample. This may be due to the majority of the sample having an associate degree or diploma (64%). Based on this, the middle range theory could be altered to reflect that as the nurse develops in knowledge and education, moral judgment increases.

As Rest (1999) surmised that schemas play a very significant part in making moral judgment decisions, schemas appear to be significant in this study. Reexamining the other concepts of King's personal system in her framework, the concept of "time" may need to be added to the middle range theory to address its relationship with schemas. King stated that "time is a happening, a continuous flow of events in successive order that implies change, a past, and a future. Time is a duration between one event and another as

uniquely experienced by each human being; it is the relation of one event to another event." (King, 1981, p.45) She further stated that "time is the subjective perception of a succession of events from past to present to future." (p. 42) and it is "a relational one, in that it connects past with present and future." (p.41) Schemas are subjective perceptions of events in the past and are applied to subsequent events that occur to the individual in the future. Time therefore is related to schemas. Succession of events forms schemas as individuals perceive the events. These perceptions then influence and are influenced by judgment, which then influence a choice of action.

Further exploration of moral reasoning is indicated by this study's findings. Rest's theory proposed that in order for moral behavior to occur, each of the four components (moral sensitivity, judgment, motivation, and character) must occur. This study only examined moral judgment and in particular principle based judgment. Although this is extremely important, the other components also have an impact on moral decision-making. Adding these additional components to the middle range theory will provide a broader picture of the relationships of interest. Therefore, to test this model, these components need to be measured in concert with moral judgment in determining if there are significant relationships with perception and judgment of pain.

Moral Judgment and Perception of Pain

The sample in this study included medical-surgical nurses who worked on general medical, surgical, orthopedics, gynecology, cardiac, and cardiac surgery units. It is notable that the study's findings revealed that a significant relationship between nurses' moral judgment and perception of pain was found for nurses who worked on the cardiac unit. Although this subsample was small, one must question why this relationship is

found only with cardiac unit nurses and not with nurses on the other units. Do nurses' perception of pain experienced by patients on the other units differ from nurses' perception of the patients on the cardiac unit? Medical, surgical, and gynecological units contain patients who experience a variety of diagnoses and types of procedures with respective different types of pain. Each have different etiologies that can lead to different characteristics and severity of pain. Because of this greater variety, is there lesser consistency in how nurses on these units perceive pain? Does moral judgment come into play less with these types of patients than cardiac patients?

Nurses on the cardiac unit must deal with patients who suffer from cardiac pain. Cardiac pain can herald life-threatening events for the patient. Because of these consequences, could perception by nurses of cardiac patients' report of pain be more ethically related? With cardiac pain, not accepting patients' report of pain not only allows the patient to suffer, but could also lead to death if the nurse does not respond. Therefore, does moral judgment of cardiac nurses play a more significant role when nurses perceive cardiac pain?

Although the findings in this sample demonstrated that baccalaureate prepared nurses had higher moral judgment scores than associate degree nurses, only the nurses with associate degrees demonstrated a significant relationship between moral judgment and perception of pain. The fact that the baccalaureate nurses had higher scores was expected as it has been established in the literature that moral judgment is at higher levels with higher education (Duckett et al. , 1997; Ketefian, 1981; Riesch et al. , 2000; Schultz, 1998). The curious finding is that a significant relationship between moral judgment and perception of pain was found only in nurses with associate degrees. The question then is

why is it significant in nurses with less education than nurses with more education? If critically analyzed by assuming that higher education produces greater knowledge, then one assumption is that nurses with more education are influenced more by knowledge than moral judgment in perceiving pain. Conversely, nurses with associate degrees and less knowledge are more influenced by their moral judgment than knowledge when perceiving pain. If this is so, it is a contradictory finding against a number of studies that proposed that increased knowledge about pain and pain management results in better treatment of pain (Brunier, Carson, & Harrison, 1995; Clarke, French, Bilodeau, Caspasso, Edwards, & Empoliti, 1996; Ferrell, McGuire, & Donovan, 1993; Field, 1996; McCaffery et al. , 2000; McCaffery & Ferrell, 1996; Hunt, 1995; Ryan, Vortherms, & Ward, 1994; Vortherms, Ryan, & Ward, 1992). This indicates further study is needed and could indicate that nurses with different levels of education may require different teaching approaches to learn pain management.

Moral Judgment and Judgment of Pain

Findings of this study revealed a significant association between moral judgment and choices of analgesics (judgment) was found in nurses who did not believe pain relief is possible. This indicates that even though these nurses did not believe pain relief was possible, they chose to provide higher analgesia. This leads to the question of whether this decision was made because they judged that in order to provide pain relief, a greater amount of analgesia was required or since principled moral judgment was associated with this choice, does this indicate that it was an ethically based decision?

A curious finding was that baccalaureate prepared nurses demonstrated that the higher their moral judgment, the lower the analgesic dosage chosen for the Dave

vignette (PCA pump patient). Does this indicate that these nurses believe that giving more analgesics to the patient on the PCA pump is morally wrong? Could baccalaureate nurses rely more on other factors than moral judgment to make pain management decisions?

Moral Judgment

The mean score for the level of moral judgment in this sample was lower than those scores reported for nurses and baccalaureate nursing students in the literature (Bankert, 1994; Cady, 1991; Corley & Selig, 1994; Duckett et al. , 1997; Ketefian, 1981; Munhall, 1980; Rest, 1994; Riesch, von Sadovszky, Norton, & Pridham, 2000). The majority of this sample was associate degree nurses which may account for the lower moral judgment scores since it is shown that higher education is related to higher moral judgment levels. Studies designed to examine associate degree nurses are very limited, however, of those studies found, the DIT scores were similar to the scores achieved by this sample. Ketefian (1981) reported 37.5 % and Nokes (1985) reported 33.3 %. More research of moral judgment of associate degree nurses is indicated since the majority of registered nurses employed have associate degrees.

Another interesting finding was that nurses over the age of 34 years also had lower moral judgment levels. This is the opposite of the established findings reported by Rest in his research (Rest et al. , 1999). This finding prompts the question of whether nurses' lower moral judgment is truly due to their age group or whether this is a cumulative effect of their level of education. Further research is indicated to answer these questions.

Perception of Pain

Each of the vignettes elicited different responses from the sample. The Andrew vignette depicting the laughing patient demonstrated the least selection of the highest pain rating of all the vignettes. The behavior of the laughing patient seemed to affect the nurses' perception of pain more than addiction or the PCA pump in the other two vignettes. Comparing the Robert vignette (grimacing patient) to the Dave vignette (PCA pump), more nurses selected "eight" for Dave than for Robert. Therefore, one could conclude that addiction may have more influence on perception than being on a PCA pump. These are similar findings to those that McCaffery reported in her latest study. McCaffery, Ferrell, and Pasero (2000) measured nurses' perception and analgesic choices using the same tool with the Andrew and Robert vignettes as was adapted and used in this study. Of the sample of registered nurses, less than half chose "eight", which was the patients' ratings, for the smiling Andrew and the majority chose "eight" for the grimacing Robert. This was similar to this study's results in which almost half of the registered nurses selected "eight" for Andrew and over three-fourths of the nurses for Robert. The other ratings for both samples were similar as well.

Judgment of Pain

Just like the perception of pain, each vignette elicited different responses for the judgment of pain. For the Andrew vignette, most of the sample selected the Tylenol #3 choice for the patient even though almost half of the sample agreed with the patient regarding his pain rating of "eight" which would require more analgesics since the patient was on a morphine dose that was not effective. Few nurses chose morphine 3 milligrams IV. However, even though the pain ratings and the analgesic choices

correlated for this vignette, this does suggest that the nurses who chose the higher pain ratings also chose Tylenol #3. This may indicate that despite the nurses' perception of pain, they chose to give what the physician prescribed even though it was an inappropriate analgesic and too small of a dosage for the amount of pain the patient reported. To provide the patient with the more effective morphine that the patient was originally on, the nurse would need to contact the physician and discuss the original order for morphine. From an ethical point of view, this choice requires greater moral judgment to base decisions on principle as well as moral character and motivation to contact the physician.

For the Robert vignette (grimacing patient), over half of the sample chose the greater dosage of morphine 3 milligrams and almost a third of the nurses chose morphine 2 milligrams that the patient was already receiving which was not effectively relieving his pain. This was starkly different from the Andrew vignette (smiling patient). In the McCaffery et al. (2000) study, the Andrew vignette did not include the choice of Tylenol #3 as an option so a comparison cannot be made. Forty-seven percent of her sample chose morphine 3 milligrams IV compared to 15.8 percent in this sample. For the Robert vignette, 62.3 percent chose morphine 3 milligrams compared to the 56.4 percent in this sample. The other choices were similar between the studies.

The Dave vignette (PCA pump patient) produced somewhat similar results to the Andrew vignette. Over half of the sample chose to request morphine 1 milligram PCA dose, that is a standard dose, for patient-controlled analgesia. The majority of the sample chose a pain rating of eight or higher for the patient, yet just over a fourth of the nurses chose the higher doses of 1.5 or 1.75 milligrams of morphine. This may indicate that the

usual practice or a standard order by physicians is a greater influence on the nurse than providing analgesia based on pain reported by the patient.

Selected Nurse Factors

Age

As was found in the literature, age as a continuous variable was not related to perception and judgment of pain. Moral judgment was not related to age either. However, when age was collapsed into nurses' age 34 (median age) and below and nurses' age above 34 years, several significant relationships appeared. Discussion of this relationship was discussed in the Moral Judgment section in this chapter.

Education

The relationship between associate degree nurses and pain perception has already been discussed under the Moral Judgment and Perception of Pain section. The findings of this study related to associate degree nursing education urge that future research of moral judgment in nurses be designed to include larger samples of nurses with associate and baccalaureate degrees. This would allow better statistical analyses to detect the differences between these groups

Nursing Experience and Experience with Patients in Pain

It was found that nurses with more experience believed that risk of addiction to analgesics was lower and also were in greater agreement on the DIT2 to provide more pain medication to the terminal cancer patient. Actual experience is thus related to the nurses' attitude (perception) and decisions about analgesic dosage (judgment). Previous studies only identified nurses' pain management goals. This study demonstrated that nurses' beliefs that pain can be relieved were strongly related to their pain management

goal to attain a pain free state. What nurses believe is possible in regard to relieving pain influences their goal for relieving it.

Personal Pain Experience

Contrary to previous findings, personal pain experience was not found to be related to nurses' increased perception and judgment of pain. In the previous literature, where it was found to be related, the nurses self-reported that personal pain experience or pain experience of their children or even pets influenced their pain management (Cohen, 1980; Gonzalez & Gadish, 1990; Seymour et al. , 1997). The other studies compared the severity of personal pain and found that nurses with greater pain gave more inference to pain in their patients (Holm et al. ,1989; Davitz, 1981). This suggests that it is the severity of experienced pain that affects pain management decisions and not just having had moderate to severe pain experience. This study did not measure severity, only if the nurse had experienced moderate to severe personal pain.

Addiction Attitude

The majority of the sample believed that the risk of addiction to analgesics was either nonexistent or of little risk. This was significantly related to having a goal to attain a pain-free state for the patient. The less likely nurses believed addiction is a risk, the more likely they have a pain free goal. Although cause and effect cannot be asserted, one could conclude that convincing and teaching nurses that addiction is a low risk influences their pain management goals to achieve better pain management.

Belief Whether Pain Relief is Possible

Barely one half of the sample believed pain relief was possible. Whether nurses believed pain relief was possible was related to the judgments they made regarding

analgesic choices. As discussed under the Moral Judgment and Judgment of Pain section, higher moral judgment was related to the choice of higher dosages of analgesia by nurses who did not believe pain relief was possible. This indicates that in spite of their opinion that pain relief cannot be achieved, their judgment of pain in their choice of dosages was at a moral level and not based on their pain relief opinion. This is evidence that supports in part the theory that moral judgment is related to pain perception and judgment.

Personal and Unit Pain Management Goals

Nurses' personal pain management goals and unit goals of pain management were strongly associated in this study. In addition, nurses' personal pain management goals closely coincided with the unit goals. The strongest association was with the pain free personal and unit goals. This suggests that having and promoting the unit's goal of pain management is related to its nurses' personal pain management goals. Its influence on the nurses' decisions for pain management needs to be further established.

Other Pain Management Interventions

Pain management interventions, other than analgesics, were also described by the nurses. These interventions seemed to fall mainly into physical interventions and psychological interventions. Interventions such as repositioning, hot and cold application, adjusting the environment, and ambulation are examples of physical interventions. Psychological interventions included promoting relaxation, imagery, providing music, and listening were listed. Prayer was listed which would fall into a spiritual category. It was interesting to note that three nurses listed sedatives as another intervention they used to manage pain. Warfield and Kahn (1995) surveyed 500 hospitalized patients regarding

nonpharmacologic interventions for pain that they received. Forty-six percent reported that they had received other interventions besides analgesics, which included exercise (28%), cold and hot applications (34%), relaxation techniques (9%), massage (7%), and biofeedback (1%). These are similar to the interventions reported by this study's sample. Further study is needed to determine how much these interventions are used by nurses as well as the effectiveness of these interventions in managing pain.

Conclusions

The findings of this study did not support the middle range theory that proposes nurses' moral judgment is related to their perception and judgment of pain. However, moral judgment was related to perception of pain by nurses with associate degrees and nurses who worked on the cardiac unit. Moral judgment was also related to judgment of pain in nurses who did not believe pain relief is possible. Inversely, nurses with baccalaureate degrees with higher moral judgment levels have a lower judgment of pain for the Dave vignette, which depicts a patient on a PCA pump.

It is thus apparent that nurses' moral judgment is related to perception and judgment of pain in these subsamples. This study's findings suggest that education, unit worked, and beliefs about pain relief are some of these circumstances.

Rest (1993) suggested that development of moral judgment is associated with more education and cognitive development. Generally, the higher the education and the greater the cognitive development, the greater is the development of moral judgement. Even though the baccalaureate nurses in this sample had higher moral judgment, perception and judgment of pain is correlated only in associate degree nurses. One would assume, based on Rest's theory, that it would have been the nurses with baccalaureate

and higher degrees would have displayed this correlation. This then indicates that other factors were involved.

Baccalaureate nurses with higher moral judgment judged less pain for the Dave vignette (PCA pump). This is a curious finding and requires further research and utilization of this vignette to acquire greater understanding of this finding.

A correlation between moral judgment and perception of pain in cardiac nurses may indicate that the medical diagnosis of the patient affects moral judgment for medical-surgical nurses' perception and judgment of pain.

A significant relationship between nurses' moral judgment and judgment of pain was found in nurses who believed pain relief was not possible. Less than half of this sample believed pain relief is possible, therefore development of moral judgment in nurses is quite important in order for nurses' judgment of pain to be influenced to give adequate analgesics according to patients' reports.

This study's findings regarding the selected nurse factors of age, education, professional nursing experience, personal pain experience, addiction attitude, and pain management goals were compared to the findings of previous studies. When reviewed in relation to the previous findings summarized in the review of literature, age, education, and professional nursing experience were not found to be related to nurses' perception and judgment of pain (Brunier et al. , 1995; Burokas, 1985; Choniere et al. , 1990; Cohen, 1980; Dudley & Holm, 1984; Gonzales & Gadish, 1990; Mason, 1981; Seymour et al. , 1997). Previous studies that measured attitude towards risk of addiction to analgesics had similar findings to those reported in this sample (Brunier et al. , 1995; McCaffery & Ferrell, 1997; Ross et al. , 1991). Most nurses believed there was little to no risk of

addiction. Pain management goals including belief whether pain relief was possible for this sample were in support of the findings reported in the literature (Hamers et al. , 1994; Rankins & Snider, 1984; Winefield, Katsikitis, Hart, & Rounsfell, 1990).

Most nurses in this sample did not believe pain relief was possible, yet the majority of the nurses reported their personal pain management goal was to attain a pain-free state. The demographic variables of unit worked and unit pain management goals demonstrated a need for future studies regarding perception and judgment of pain.

An important finding was the strong association between nurses' personal pain management goals and their unit pain management goals. This suggests that the social and interpersonal system of the nursing units influences nurses' personal goals. It also indicates that promoting appropriate pain management goals on nursing units can be a means to promote better pain management by nurses. Additional research that focuses on these other systems in King's framework is indicated.

Based on these findings, the proposed middle range theory needs further testing. Additional research may lead to modification of the theory in regard to the influence of the selected factors on nurses' moral judgment and perception and judgment of pain. Perhaps the factors of education, addiction attitude, the unit worked, unit pain management goals, and beliefs about pain relief will have a more dominant influence in the personal system of the nurse in regard to these relationships.

Recommendations

Under-treatment of pain by nurses continues to be a problem today. Studies continue to show that patients report having unrelieved moderate to severe pain. JCAHO has implemented new regulations for healthcare institutions as an attempt to improve pain

management. It is now required of these institutions to inform patients of their rights to have their pain effectively managed. Current pain management education of nurses has not seemed to be effective. Due to this prevalent problem and the findings of this study, the following recommendations are suggested:

1. Design and conduct further studies of the relationship among moral judgment, perception, and judgment of pain, testing the middle range theory, based on King's Interacting Systems Framework, that moral judgment influences perception and judgment of pain. Using larger samples of medical-surgical nurses and conducting studies in different geographical locations with greater percentages of the subsamples, particularly nurses with baccalaureate or higher degrees, older nurses, and nurses who work on cardiac units, may give further information of these factors.
2. Design and conduct a study based on the interpersonal and social systems of King's framework to examine nurses' perception and judgment of pain. The purpose of this type of study would be to determine influences of processes in these systems.
3. Develop and conduct a study to test the relationship found between nurses' personal goals for managing pain and their unit's goals for pain by adding a retrospective chart review to determine if their actual practice is consistent with the unit goal.
4. Continue to develop the vignette depicting the PCA pump patient (Dave) as part of the adapted instrument used in this study.

5. Develop an instrument to measure perception and judgment of pain and moral judgment level based on reasons nurses choose the pain ratings and dosages of analgesics. These reasons should be based on moral development stages based on Rest's theory. The benefit of this type of instrument would more closely relate the nurses' perception of pain and their judgment in deciding how to treat pain. These elements chosen by the nurses would reveal what influenced nurses in their perception and judgment.
6. Conduct a phenomenological study to explore the relationships among nurses' moral judgment, perception and judgment of pain. Since the middle range theory proposed in this study was not fully supported, this will provide another approach to explore it.
7. Develop and conduct research studies exploring the other components of Rest's theory, moral sensitivity, motivation, and character, and their relationships to nurses' perception and judgment of pain.
8. Consider the application of what is known and being learned to further understanding of the relationship among moral judgment, perception and judgment of pain. New understanding can lead not only to better treatment of pain but also to a different way to teach pain management. Inclusion of ethics and principled decision-making in curricula provides the moral foundation for making appropriate decisions in pain management. Reflective education in which the student examines their perception of pain and their own attitudes should also be a part of these new curricula. Research should be conducted to verify this need and compare moral judgment levels of students who complete

a course with more ethical content and those who do not. Additional studies are indicated comparing students' perception and judgment of pain. Incorporating reflective practice in which nurses contemplate the reasons and purposes of their pain management decisions may be an effective means to improve pain management by nurses. Research of the effectiveness of this practice is also indicated.

Summary

In summary, the purpose of this study was to determine the relationships among moral judgment, perception and judgment of pain and selected nurse factors. Findings the middle range theory that proposed moral judgment in relation to perception and judgment of pain were discussed. Description of the selected nurse factors was discussed. Conclusions and recommendations for pain management curricula and further research studies have been proposed.

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APPENDICES

APPENDIX A

TABLE A-1.

NURSES' EDUCATION LEVEL

AS A NURSE FACTOR

Table A-1. Nurses' Education Level as a Nurse Factor

Study	Results
Brunier, Carson, & Harrison, 1995	Nurses with masters or baccalaureate degrees demonstrated more appropriate pain attitudes and had higher scores on pain knowledge survey than diploma nurses (Tukey's Studentized Range test, F, 3 = 8.87, p = 0.0001)
Burokas, 1985	Educational background had no significant influence on nurses' decisions to medicate patient in pain
Cohen, 1980	No relationship between level of education and analgesic decisions
Dudley & Holm, 1984	Nurses with baccalaureate degree inferred more pain to patients in vignettes than associate degree nurses or diploma nurses.
Gonzalez & Gadish, 1990	Higher the educational level, the higher the analgesic doses selected for patients in pain Degree # Doses (narcotic) % MS 10 91 BS 67 85 Diploma 28 77 AS 44 67
Lenburg, Burnside, & Davitz, 1970	First year nursing students inferred greater physical pain to patients than second year students (t = 2.14, p < .0.05)
Mason, 1981	No differences in inferences of pain to patients based on educational level
Zalon, 1993	Baccalaureate nurses more accurately assessed pain in patients than associate degree nurses (t = 2.44, p < 0.01)

APPENDIX B

TABLE A-2.

PROFESSIONAL EXPERIENCE AS

A NURSE FACTOR

Table A-2 . Professional Experience as a Nurse Factor

Study	Results
Brunier, Carson, & Harrison, 1995	Length of nursing experience had no effect on pain knowledge or attitudes. Full or part-time status did not make a difference. Sample: 47% had 10+ years experience 75% worked full time in nursing
Choiniere, et al., 1990	No significant relationship between accuracy of assessment and treatment of burn patients' pain and the number of years of experience in general nursing nor work status in burn unit. Nurses with more than two years of burn nursing experience underestimated pain more frequently. Sample: Experience in Nursing — n — % < 5 yrs. — 9 — 30 5-10 yrs — 9 — 30 >10 yrs — 12 — 40 Experience in Burn Nursing — n — % < 6 months — 11 — 38 7 months-2 yrs — 7 — 24 >2 yrs — 11 — 38
Cohen, 1980	No relationship found between length of experience and analgesic decisions Sample: 60 of the 121 nurses had 2 years or less of experience
Gonzalez & Gadish, 1994	Nurses ranked clinical experience as second most influential in selecting analgesics and dosages on checklist on questionnaire Sample: 38 nurses with minimum of 3 months experience

Table A-2. (continued)

Study	Results
Hamers, Abu-Saad, Halfens, & Schumaker, 1994	Nurses reported professional experience was a main factor influencing their perception of pain and subsequent interventions in structured interview Sample: Convenience sample of 10 nurses (7 women, 3 men, avg. age 30) working on pediatric units
Mason, 1981	Nurses with less than one year of experience inferred higher degree of pain than nurses did with six-ten years of experience. Although no significant differences found between intervening years, it was found that as the years of experience increased, sensitivity to pain decreased. Sample: Nursing Experience — n — % >1 yr — 19 — 11.8 1-5 yrs — 53 — 32.9 6-10 yrs — 48 — 29.8 11-20 yrs — 23 — 14.3 21 yrs + — 18 — 11.2 Activity Status — n — % Full-time — 118 — 73.3 Part-time — 43 — 21.7
Seymour, Fuller, Pederson-Galleges & Schwaninger, 1997	Clinical knowledge and expertise accounted for 19.8% of all assessment of nurses. Years of nursing experience was not significantly related. However, nurses mentioned clinical knowledge and expertise throughout the interviews. Sample: Intentional sample of 60 BS nurses with varying experience who work with infants < 1 year

Table A-2. (continued)

Study	
Zalon, 1993	No significant relationship between pain assessment and years of nursing experience Sample: 119 RNs Nursing Experience 1-5 years 51.3% of sample

APPENDIX C

TABLE A-3.

GOAL FOR PAIN RELIEF AS A NURSE FACTOR

Table A-3. Goal for Pain Relief as a Nurse Factor

Study	Results	
Brunier, et al. , 1995	Goal	% of nurses
	Pain-free	20
	Relieve pain as it occurs	39
Burokas, 1985	Pain-free	12
	Relieve as much as possible	61.2
	Relieve enough to function	23.1
	Relieve to tolerance	3.7
Cohen, 1980	Pain-free	3.3
	Relieve as much as possible	57.5
	Relieve enough to function	38.3
	Relieve to tolerance	0.8
Dalton, 1989	Less than one-half of nurses working with cancer patients thought pain-free state should be achieved. Slightly more than half of oncology nurses thought the same.	
Hamers, et al. , 1994	(Qualitative study)Majority of nurses stated that goal for pain relief was dependent on diagnosis. Some believed pain can never be relieved.	
Rankin & Snider, 1984	Goal	%
	Pain-free	42.3
	Reduce pain	57.7
Scott, 1992	Pain-free	78 (student nurses) 59 (nurses)
	33% of nurses did not believe complete pain relief was possible.	

Table A-3. (continued)

Study	Results
Vortherms, et al. , 1992	84% (n=667) of nurses believed an acceptable level of pain is when it is absent or is not distressing
Winefield, Katsikitis, Hart, & Rounsefell, 1990	32.2% of nurses believed complete pain relief was an appropriate goal

APPENDIX D

TABLE A-4.

ADDICTION ATTITUDE AS A NURSE FACTOR

Table A-4. Addiction Attitude as a Nurse Factor

Study	Results
Brunier, et al. , 1995	70% selected < 1% addiction rate, 30% selected 25% addiction rate
Cohen, 1980	36 (31.6%) of nurses believed rate of addiction 1% or less 78 (68.4%) of nurses believed rate above 1% 15 (13.2%) of nurses believed rate 26% or greater
Lebovitz, Florence, Bathina, Hunko, Fox, & Bramble, 1997	Concordant/discordant scale with "1"being concordant with correct response, nurses scored 3.3, indicating belief that 25% of patients will become addicted to opioid analgesics. The least concordant response in this study was addiction attitudes.
McCaffery & Ferrell, 1996	11% of nurses believed addiction would occur in smiling patient depicted in vignette 6% of nurses believed addiction would occur in frowning patient in vignette
McCaffery & Ferrell, 1997	Addiction Rate of Patients / % of Nurse Agree
	< 1% — 62.7% 5% — 24.0 % 25% — 9.9% 50% — 2.6% 75% — 0.6% 100% — 0.2%
Rankin & Snider, 1984	84.6% (n=44) denied being concerned about addiction 15.4% (n=8) were concerned about addiction

Table A-4. (continued)

Study	Results	
Ross, Bush, & Crummette, 1991	Addiction Rate of Patients	% of Nurses Agree.
	< 1%	51%
	1-6%	26%
	6-10%	10%
	>10%	13%
Vortherms, et al. , 1992	16.1% (n = 27) correctly selected the rate of addiction of < 1%	

APPENDIX E

DEFINING ISSUES TEST, VERSION TWO

DIT-2

Defining Issues Test

Version 3.0

University of Minnesota
Center for Research in Ethical Development

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Instructions

This questionnaire is concerned with how you define the issues in a social problem. Several stories about social problems will be described. After each story, there will be a list of questions. The questions that follow each story represent different issues that might be raised by the problem. In other words, the questions/issues raise different ways of judging what is important in making a decision about the social problem. You will be asked to rate and rank the questions in terms of how important each one seems to you.

This questionnaire is in two parts: one part contains the **INSTRUCTIONS** (this part) and the stories presenting the social problems; the other part contains the questions (issues) and the **ANSWER SHEET** on which to write your responses.

Here is an example of the task:

Presidential Election

Imagine that you are about to vote for a candidate for the Presidency of the United States. Imagine that before you vote, you are given several questions, and asked which issue is the most important to you in making up your mind about which candidate to vote for. In this example, 5 items are given. On a rating scale of 1 to 5 (1=Great, 2=Much, 3=Some, 4=Little, 5=No) please rate the importance of the item (issue) by filling in with a pencil one of the bubbles on the answer sheet by each item.

Assume that you thought that item #1 (below) was of great importance, item #2 had some importance, item #3 had no importance, item #4 had much importance, and item #5 had much importance. Then you would fill in the bubbles on the answer sheet as shown below

1 Great	2 Much	3 Some	4 Little	5 No	Item #:
●	0	0	0	0	1. Financially are you personally better off now than you were four years ago?
0	0	●	0	0	2. Does one candidate have a superior personal moral character?
0	0	0	0	●	3. Which candidate stands the tallest?
0	●	0	0	0	4. Which candidate would make the best world leader?
0	●	0	0	0	5. Which candidate has the best ideas for our country's internal problems, like crime and health care?

Further, the questionnaire will ask you to rank the questions in terms of importance. In the space below, the numbers at the top, 1 through 12, represent the item number. From top to bottom, you are asked to fill in the bubble that represents the item in first importance (of those given you to chose from), then second most important, third most important, and fourth most important. Please indicate your top four choices. You might fill out this part, as follows:

Item number:	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*
Most important item	●	0	0	0	0	0	0	0	0	0	0	0
Second most important	0	0	0	0	●	0	0	0	0	0	0	0
Third most important	0	0	0	●	0	0	0	0	0	0	0	0
Fourth most important	0	●	0	0	0	0	0	0	0	0	0	0

Note that some of the items may seem irrelevant to you (as in item #3) or not make sense to you--in that case, **rate** the item as "No" importance and do not **rank** the item. Note that in the stories that follow, there will be 12 items for each story, not five. Please make sure to consider all 12 items (questions) that are printed after each story.

In addition you will be asked to state your preference for what action to take in the story. After the story, you will be asked to indicate the action you favor on a seven-point scale (1=strongly favor some action, 7=strongly oppose that action).

In short, read the story from this booklet, then fill out your answers on the answer sheet. Please use a #2 pencil. If you change your mind about a response, erase the pencil mark cleanly and enter your new response.

[Notice the second part of this questionnaire, the Answer Sheet. The Identification Number at the top of the answer sheet may already be filled in when you receive your materials. If not, you will receive instructions about how to fill in the number. If you have questions about the procedure, please ask now.

Please turn now to the Answer Sheet.]

Famine --(Story #1)

The small village in northern India has experienced shortages of food before, but this year's famine is worse than ever. Some families are even trying to feed themselves by making soup from tree bark. Mustaq Singh's family is near starvation. He has heard that a rich man in his village has supplies of food stored away and is hoarding food while its price goes higher so that he can sell the food later at a huge profit. Mustaq is desperate and thinks about stealing some food from the rich man's warehouse. The small amount of food that he needs for his family probably wouldn't even be missed.

[If at any time you would like to reread a story or the instructions, feel free to do so. Now turn to the Answer Sheet, go to the 12 issues and rate and rank them in terms of how important each issue seems to you.]

Reporter --(Story #2)

Molly Dayton has been a news reporter for the *Gazette* newspaper for over a decade Almost by accident, she learned that one of the candidates for Lieutenant Governor for her state, Grover Thompson, had been arrested for shop-lifting 20 years earlier. Reporter Dayton found out that early in his life, Candidate Thompson had undergone a confused period and done things he later regretted, actions which would be very out-of-character now. His shop-lifting had been a minor offense and charges had been dropped by the department store. Thompson has not only straightened himself out since then, but built a distinguished record in helping many people and in leading constructive community projects. Now, Reporter Dayton regards Thompson as the best candidate in the field and likely to go on to important leadership positions in the state. Reporter Dayton wonders whether or not she should write the story about Thompson's earlier troubles because in the upcoming close and heated election, she fears that such a news story could wreck Thompson's chance to win.

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

School Board --(Story #3)

Mr. Grant has been elected to the School Board District 190 and was chosen to be Chairman. The district is bitterly divided over the closing of one of the high schools. One of the high schools has to be closed for financial reasons, but there is no agreement over which school to close. During his election to the School Board, Mr. Grant had proposed a series of "Open Meetings" in which members of the community could voice their opinions. He hoped that dialogue would make the community realize the necessity of closing one high school. Also he hoped that through open discussion, the difficulty of the decision would be appreciated, and that the community would ultimately support the school board decision. The first Open Meeting was a disaster. Passionate speeches dominated the microphones and threatened violence. The meeting barely closed without fist-fights. Later in the week, school board members received threatening phone calls. Mr. Grant wonders if he ought to call off the next Open Meeting.

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

Cancer --(Story #4)

Mrs. Bennett is 62 years old, and in the last phases of colon cancer. She is in terrible pain and asks the doctor to give her more pain-killer medicine The doctor has given her the maximum safe dose already and is reluctant to increase the dosage because it would probably hasten her death. In a clear and rational mental state, Mrs. Bennett says that she realizes this; but she wants to end her suffering even if it means ending her life. Should the doctor give her an increased dosage?

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

Demonstration --(Story #5)

Political and economic instability in a South American country prompted the President of the United States to send troops to "police" the area. Students at many campuses in the U.S.A. have protested that the United States is using its military might for economic advantage. There is widespread suspicion that big oil multinational companies are pressuring the President to safeguard a cheap oil supply even if it means loss of life. Students at one campus took to the streets in demonstrations, tying up traffic and stopping regular business in the town. The president of the university demanded that the students stop their illegal demonstrations. Students then took over the college's administration building, completely paralyzing the college. Are the students right to demonstrate in these ways?

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

DIT-2 Answer Sheet

IDENTIFICATION NUMBER

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Please read story #1 in the INSTRUCTIONS booklet.

Famine -- (Story #1)

What should Mustaq Singh do? Do you favor the action of taking the food? (Mark one.)

Take Food ① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

①②③④⑤ 1. Is Mustaq Singh courageous enough to risk getting caught for stealing?
①②③④⑤ 2. Isn't it only natural for a loving father to care so much for his family that he would steal?
①②③④⑤ 3. Shouldn't the community's laws be upheld?
①②③④⑤ 4. Does Mustaq Singh know a good recipe for preparing soup from tree bark?
①②③④⑤ 5. Does the rich man have any legal right to store food when other people are starving?
①②③④⑤ 6. Is the motive of Mustaq Singh to steal for himself or to steal for his family?
①②③④⑤ 7. What values are going to be the basis for social cooperation?
①②③④⑤ 8. Is the epitome of eating reconcilable with the culpability of stealing?
①②③④⑤ 9. Does the rich man deserve to be robbed for being so greedy?
①②③④⑤ 10. Isn't private property an institution to enable the rich to exploit the poor?
①②③④⑤ 11. Would stealing bring about more total good for everybody concerned or wouldn't it?
①②③④⑤ 12. Are laws getting in the way of the most basic claim of any member of a society?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

Reporter -- (Story #2)

Do you favor the action of reporting the story? (Mark one.)

Report the story ① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

①②③④⑤ 1. Doesn't the public have a right to know all the facts about all the candidates for office?
①②③④⑤ 2. Would publishing the story help Reporter Dayton's reputation for investigative reporting?
①②③④⑤ 3. If Dayton doesn't publish the story wouldn't another reporter get the story anyway and get the credit for investigative reporting?
①②③④⑤ 4. Since voting is such a joke anyway, does it make any difference what reporter Dayton does?
①②③④⑤ 5. Hasn't Thompson shown in the past 20 years that he is a better person than his earlier days as a shop-lifter?
①②③④⑤ 6. What would best serve society?
①②③④⑤ 7. If the story is true, how can it be wrong to report it?
①②③④⑤ 8. How could reporter Dayton be so cruel and heartless as to report the damaging story about candidate Thompson?
①②③④⑤ 9. Does the right of "habeas corpus" apply in this case?
①②③④⑤ 10. Would the election process be more fair with or without reporting the story?
①②③④⑤ 11. Should reporter Dayton treat all candidates for office in the same way by reporting everything she learns about them, good and bad?
①②③④⑤ 12. Isn't it a reporter's duty to report all the news regardless of the circumstances?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

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School Board -- (Story #3)

Do you favor calling off the next Open Meeting?

Call off meeting ① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

①②③④⑤ 1. Is Mr. Grant required by law to have Open Meetings on major school board decisions?
①②③④⑤ 2. Would Mr. Grant be breaking his election campaign promises to the community by discontinuing the Open Meetings?
①②③④⑤ 3. Would the community be even angrier with Mr. Grant if he stopped the Open Meetings?
①②③④⑤ 4. Would the change in plans prevent scientific assessment?
①②③④⑤ 5. If the school board is threatened, does the chairman have the legal authority to protect the Board by making decisions in closed meetings?
①②③④⑤ 6. Would the community regard Mr. Grant as a coward if he stopped the open meetings?
①②③④⑤ 7. Does Mr. Grant have another procedure in mind for ensuring that divergent views are heard?
①②③④⑤ 8. Does Mr. Grant have the authority to expel troublemakers from the meetings or prevent them from making long speeches?
①②③④⑤ 9. Are some people deliberately undermining the school board process by playing some sort of power game?
①②③④⑤ 10. What effect would stopping the discussion have on the community's ability to handle controversial issues in the future?
①②③④⑤ 11. Is the trouble coming from only a few hotheads, and is the community in general really fair-minded and democratic?
①②③④⑤ 12. What is the likelihood that a good decision could be made without open discussion from the community?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

Cancer -- (Story #4)

Do you favor the action of giving more medicine?

Give more medicine ① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

①②③④⑤ 1. Isn't the doctor obligated by the same laws as everybody else if giving an overdose would be the same as killing her?
①②③④⑤ 2. Wouldn't society be better off without so many laws about what doctors can and cannot do?
①②③④⑤ 3. If Mrs. Bennett dies, would the doctor be legally responsible for malpractice?
①②③④⑤ 4. Does the family of Mrs. Bennett agree that she should get more painkiller medicine?
①②③④⑤ 5. Is the painkiller medicine an active heliotropic drug?
①②③④⑤ 6. Does the state have the right to force continued existence on those who don't want to live?
①②③④⑤ 7. Is helping to end another's life ever a responsible act of cooperation?
①②③④⑤ 8. Would the doctor show more sympathy for Mrs. Bennett by giving the medicine or not?
①②③④⑤ 9. Wouldn't the doctor feel guilty from giving Mrs. Bennett so much drug that she died?
①②③④⑤ 10. Should only God decide when a person's life should end?
①②③④⑤ 11. Shouldn't society protect everyone against being killed?
①②③④⑤ 12. Where should society draw the line between protecting life and allowing someone to die if the person wants to?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

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Demonstration -- (Story #5)

Do you favor the action of demonstrating in this way?

Students demonstrate ① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

①②③④⑤ 1. Do the students have any right to take over property that doesn't belong to them?
①②③④⑤ 2. Do the students realize that they might be arrested and fined, and even expelled from school?
①②③④⑤ 3. Are the students serious about their cause or are they doing it just for fun?
①②③④⑤ 4. If the university president is soft on students this time, will it lead to more disorder?
①②③④⑤ 5. Will the public blame all students for the actions of a few student demonstrators?
①②③④⑤ 6. Are the authorities to blame by giving in to the greed of the multinational oil companies?
①②③④⑤ 7. Why should a few people like Presidents and business leaders have more power than ordinary people?
①②③④⑤ 8. Does this student demonstration bring about more or less good in the long run to all people?
①②③④⑤ 9. Can the students justify their civil disobedience?
①②③④⑤ 10. Shouldn't the authorities be respected by students?
①②③④⑤ 11. Is taking over a building consistent with principles of justice?
①②③④⑤ 12. Isn't it everyone's duty to obey the law, whether one likes it or not?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Please provide the following information about yourself:

1. Age in years:

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

2. Sex (mark one): ○ Male ○ Female

3. Level of Education (mark highest level of formal education attained, if you are currently working at that level [e.g., Freshman in college] or if you have completed that level [e.g., if you finished your Freshman year but have gone on no further].)
   - ○ Grade 1 to 6
   - ○ Grade 7, 8, 9
   - ○ Grade 10, 11, 12
   - ○ Vocational/technical school (without a bachelor's degree) (e.g., Auto mechanic, beauty school, real estate, secretary, 2-year nursing program).
   - ○ Junior college (e.g., 2-year college, community college, Associate Arts degree)
   - ○ Freshman in college in bachelor degree program.
   - ○ Sophomore in college in bachelor degree program.
   - ○ Junior in college in bachelor degree program.
   - ○ Senior in college in bachelor degree program.
   - ○ Professional degree (Practitioner degree beyond bachelor's degree) (e.g., M.D., M.B.A., Bachelor of Divinity, D.D.S. in Dentistry, J.D. in law, Masters of Arts in teaching, Masters of Education [in teaching], Doctor of Psychology, Nursing degree along with 4-year Bachelor's degree)
   - ○ Masters degree (in academic graduate school)
   - ○ Doctoral degree (in academic graduate school, e.g., Ph.D. or Ed.D.)
   - ○ Other Formal Education. (Please describe: _____

4. In terms of your political views, how would you characterize yourself (mark one)?
   - ○ Very Liberal
   - ○ Somewhat Liberal
   - ○ Neither Liberal nor Conservative
   - ○ Somewhat Conservative
   - ○ Very Conservative

5. Are you a citizen of the U.S.A.?
   ○ Yes ○ No

6. Is English your primary language?
   ○ Yes ○ No

Thank You.

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Dilemma #6

Do you favor the action?

① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO *Rate the following 12 issues in terms of importance (1-5)*

①②③④⑤ 1.
①②③④⑤ 2.
①②③④⑤ 3.
①②③④⑤ 4.
①②③④⑤ 5.
①②③④⑤ 6.
①②③④⑤ 7.
①②③④⑤ 8.
①②③④⑤ 9.
①②③④⑤ 10.
①②③④⑤ 11.
①②③④⑤ 12.

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Dilemma #7

Do you favor the action?

① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO *Rate the following 12 issues in terms of importance (1-5)*

①②③④⑤ 1.
①②③④⑤ 2.
①②③④⑤ 3.
①②③④⑤ 4.
①②③④⑤ 5.
①②③④⑤ 6.
①②③④⑤ 7.
①②③④⑤ 8.
①②③④⑤ 9.
①②③④⑤ 10.
①②③④⑤ 11.
①②③④⑤ 12.

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫
Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

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APPENDIX F

PAIN VIGNETTE INSTRUMENT

Pain Assessment and Use of Analgesics Survey

Three patients who are receiving PRN pain medication are presented. For each patient you are asked to make decisions about their pain and use of analgesics. **Directions: After considering all of the information in each situation, select one answer for each of the following questions.**

Patient Andrew

Andrew is 25 years old and this is his first day following abdominal surgery. As you enter his room, he smiles at you and continues talking and joking with his visitor. Your assessment reveals the following information: BP = 120/80; P = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his post-operative pain as 8.
Just before you entered the room, Andrew's physician had "made rounds" to Andrew's room and witnessed the patient joking and talking. The physician stops your charge nurse in the hall while you are in the patient's room and tells her, " I don't think the patient is hurting much if he can joke around and visit like that. I am going to reduce his pain medication. I'll leave the new orders on the chart."

The charge nurse calls you to the desk and tells you what the physician has said. She also adds, "You need to follow his new orders and don't ask him for additional pain medication. You know how that makes him upset. He will not only make it hard on you, but will make it impossible for the rest of us to work with him as well."

1. On the scale below, please circle the number that represents <u>your</u> perception of the intensity of this patient's pain?

0	1	2	3	4	5	6	7	8	9	10
No pain/discomfort										Worst pain/discomfort

Your assessment, above, is made two hours after he received morphine 2 milligrams IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other adverse side effects. He has identified 2 or less as the level of pain necessary for him to cough and deep breathe. His physician's original order for pain medication was "morphine IV 1-3 milligrams q 1 hour PRN pain relief. The physician has now changed the orders to "D/C morphine IV; give Tylenol #3, 1 tab. p.o. q 4 hours PRN pain relief".

2. Check the action you will take at this time:

_____ 1) Administer no pain medication now

_____ 2) Administer Tylenol #3, 1 tab. p.o. per new orders now

3) Request the physician to reinstate the original order of "morphine 1-3 milligrams q 1 hour PRN pain" so that you can:

_____ a) Administer morphine 1 milligram IV now

_____ b) Administer morphine 2 milligrams IV now

_____ c) Administer morphine 3 milligrams IV now

Patient Robert

Robert is 25 years old and this is his first day following abdominal surgery. As you enter the room, he is lying quietly in bed and grimaces as he turns in bed. Your assessment reveals the following information: BP = 120/80; HR = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his post-operative pain as 8. The physician is aware that Robert has a past history of opioid abuse. He has reported on admission that he has been "clean" for four years.

1. On the scale below, please circle the number that represents your perception of the intensity of this patient's pain.

0	1	2	3	4	5	6	7	8	9	10
No pain/discomfort								Worst pain/discomfort		

Postoperatively, the physician had ordered Toradol (ketorolac) 30 milligrams IV [a nonopioid NSAID/analgesic] q 6 hours for pain relief. After two doses, this was not effective and the patient's pain rating ranged from 9 to 10. His physician writes the following order for pain medication: "D/C the Toradol 30 milligrams IV q 6 hours for pain relief. Give Morphine 1-3 milligrams IV q 1 hour PRN pain relief." Your assessment, above, is made two hours after he received morphine 2 milligrams IV. Half hourly pain ratings following the injection ranged from 6 to 8 and he had no clinically significant respiratory depression, sedation, or other adverse side effects. He has identified 2 or less as the level of pain necessary for him to cough and deep breathe.

2. Check the action you will take at this time:

_____ 1) Administer no pain medication now

_____ 2) Administer morphine 1 milligram IV now

_____ 3) Administer morphine 2 milligrams IV now

_____ 4) Administer morphine 3 milligrams IV now

Patient Dave

Dave is 25 years old and this is his first day following abdominal surgery. As you enter his room, he is lying in bed and grimaces as he turns in bed. He is on a patient-controlled analgesia (PCA) pump delivering a basal dose of morphine 0.5 milligrams per hour, PCA dose of 0.5 milligrams q 10 minutes. He has had no clinically significant respiratory depression, sedation, or other untoward side effects. Your assessment reveals the following information: BP = 120/80; P = 80; R = 18; on a scale of 0 to 10 (0 = no pain/discomfort, 10 = worst pain/discomfort) he rates his pain as 8. He has identified 2 or less as the level of pain necessary for him to cough and deep breath. He also tells you he has been "pushing the PCA button constantly, but the pain won't 'go away'." You check the pump and IV line and find that all is in perfect working order.

1. On the scale below, please circle the number that represents your perception of the intensity of this patient's pain.

0	1	2	3	4	5	6	7	8	9	10
No pain/discomfort										Worst pain/discomfort

2. Check the action you will take at this time:

_____Do nothing at this time since the patient is already receiving adequate PCA dosage

_____Call the physician for additional PRN pain medication orders and administer.

3. Of the following orders, which would you consider the most appropriate to give to this patient?

_____ Basal rate of morphine 0.5 milligrams/hr., PCA dose 1 milligram

_____ Basal rate of morphine 0.5 milligrams/hr., PCA dose 1.5milligrams

_____ Basal rate of morphine 0.5 milligrams/hr., PCA dose 1.75milligrams

Thank you for your participation.

(Adapted from "Survey: Assessment & Use of Analgesics 'Andrew – Robert". Permission for adaptation and use granted by Margo McCaffery, MSN, RN)

APPENDIX G

DEMOGRAPHIC QUESTIONNAIRE

Demographic Questionnaire

Please provide the following information about yourself. All information on this form is kept confidential.

1. Your age:_____

2. Your gender: _____Female _____Male

3. Your ethnic background: _____African-American _____Asian-American _____Caucasian

   _____Hispanic/Latino Other_____

4. Your religion: _____

5. Highest level of Nursing Education you have achieved:

   Diploma _____
   Associate _____
   BS/BSN _____
   Master's _____
   Doctorate_____

5.a Shift Worked_____

5b. Do you work:
   Full-time_____
   Part-time_____

6. How many years of experience do you have as a registered nurse? _____
   If less than 1 year, how many months?_____

7. Regarding the number of years of experience, how many of those years have included caring for patients with acute pain?_____
   If less than 1 year, how many months?_____

8. On what type of nursing unit do you currently work? Check the option that most closely describes your unit.

   Medical _____
   Surgical _____
   Orthopedics_____
   Gynecology _____
   Cardiac _____
   Cardiac Surgery_____
   Other_____

9. On what type of nursing unit have you **predominantly** worked in the past? Check the option that most closely describes this unit.

   Medical_____
   Surgical_____
   Cardiac_____
   Cardiac Surgery_____
   Gynecology_____
   Oncology _____
   Orthopedics_____
   Other_____

10. If you have worked in other types of nursing besides in-patient hospital nursing, check the type of nursing you have **predominantly** worked in the past.

    Emergency Department_____
    Home Health_____
    Nursing Home_____
    Operating Room_____
    Outpatient Clinic_____
    Outpatient Surgery Clinic_____
    Public Health_____
    Other_____

11. In general, what is your unit's goal for giving pain medication?

    Give enough pain medication for the patient to function_____
    Give enough pain medication to achieve a pain-free state_____
    Give enough pain medication so the patient can tolerate it_____

12. Do you believe complete pain relief is possible?

    Yes_____ No_____

13. In general, what is your goal for pain relief in your patients?

    Give enough pain medication for the patient to function_____
    Give enough pain medication to achieve a pain-free state_____
    Give enough pain medication so the patient can tolerate it_____

14. Besides giving pain medication, what other interventions do you use to manage your patients' pain?

    _____

    _____

15. Have you personally experienced moderate to severe acute pain?

    Yes_____ No_____

16. For patients receiving PRN narcotic pain medication, how much risk for addiction does a patient in acute pain have?

    No risk_____
    Little risk_____
    Moderate risk_____
    Great risk_____

APPENDIX H

LETTER OF INSTRUCTION TO PARTICIPANTS

June 23, 2000

Dear Participant:

My name is David Gerstle. I am currently enrolled as a doctoral candidate in the College of Nursing at the University of Tennessee, Knoxville. I also teach nursing at Southern Adventist University and have practiced hospital and home health nursing for over 15 years. I am interested in pain management and how registered nurses' characteristics are related to their decisions regarding pain management. This is study is designed to examine just that. Your input is vital for this study.

I want to thank you ahead of time for completing these questionnaires. Once you have completed them, just place them in the addressed brown envelope and drop it in the mail. I have already provided the postage. Please enjoy the pizza and ruler as a token of my appreciation for returning the completed questionnaires. **PLEASE COMPLETE AND RETURN WITHIN 1 WEEK**

PLEASE REVIEW THE FOLLOWING INSTRUCTIONS BEFORE YOU BEGIN:

1. Read and sign the informed consent. There are two copies-RETURN one and keep the other.
2. Complete the Defining Issues Test first. (It takes 30 –45 minutes) USE THE ANSWER SHEET AND COMPLETE WITH THE #2 PENCIL PROVIDED.
3. Complete the Pain Assessment and Use of Analgesia Survey next (It takes 5-10 minutes)
4. Complete the Demographic Questionnaire (It takes 5 minutes)
5. Place all questionnaires in the brown envelope provided and drop in the mail

Again, thank you for participating in this study. If you have any question, please contact me at 396-9114.

Sincerely,

David Gerstle

APPENDIX I

INFORMED CONSENT

INFORMED CONSENT

Nurses' Decision-Making Characteristics and their Perception and Judgment of Pain Study

You are invited to participate in this research study that is designed to explore the relationship between acute care hospital registered nurses' decision-making characteristics and their perception and judgment of pain. The study consists of the completion of three questionnaires: 1. the Defining Issues Test that requires you to make decisions regarding various dilemmas, 2. the Pain Assessment and Use of Analgesics Survey that asks you to evaluate vignettes of patients in pain, rate their pain, and make decisions regarding treatment of their pain, and 3. a Demographic Questionnaire. The completion of these forms will take approximately one hour.

Your answers on these questionnaires will be kept confidential. Your name is not identified on any of the questionnaires or answer sheets; you will only be identified by a code number. Your signed informed consent will be kept separate from your completed questionnaires and answer sheets in a locked filing cabinet. You will not be identified in any publication or presentation nor will individual answers be described in such a way that could lead to your identification. No member of management or their personnel, supervisors, or other staff members will have any access to your answers. Your employing hospital or its location will not be identified in any report of the findings of this study.

The only risk of participating in this research study is potential breach of confidentiality. The measures to prevent this occurrence are described in the above paragraph. The benefit of participation in this study is contribution of new information about nurses' decision-making characteristics regarding pain management. This could lead to better educational methods to assist nurses in making these decisions. For your time and effort in participating, you will be given a $5 gift certificate and a pain rating scale ruler upon the completion of the questionnaires.

Your participation in this research study is completely voluntary. You have the right to refuse to participate or withdraw from the study at any time. There is no penalty or loss if you refuse to participate or withdraw. If you choose to withdraw after completion or partial completion of the questionnaires, your answers will be destroyed. If you have any questions about this research or your rights as a research participant, please contact either:

David Gerstle, RN, MSN
Doctoral Candidate
University of Tennessee, Knoxville
College of Nursing
1200 Volunteer Blvd.
Knoxville, TN 37996
423-396-9114

Martha Alligood, RN, Ph.D
Doctoral Dissertation Chair
University of Tennessee, Knoxville
College of Nursing
1200 Volunteer Blvd.
Knoxville, TN 37996
865-974-6804

I have read this consent and understand its content. I agree to participate in the study as described. I understand that my participation is fully voluntary and that there is no risk to withdraw at any time. I have received a copy of this form.

Participant's signature_____ Date_____

Investigator's signature_____ Date_____

APPENDIX J

IRB FORM

FORM A

IRB#_____

Certification for Exemption from IRB Review for Research Involving Human Subjects

A. PRINCIPAL INVESTIGATOR: David Gerstle, RN, MSN
ADVISOR: Martha Alligood, RN, Ph.D.

B. UNIT: College of Nursing

C. COMPLETE MAILING ADDRESS AND PHONE NUMBER OF PI AND ADVISOR:

David Gerstle, RN, MSN
5500 Misty Valley Drive
Ooltewah, Tennessee 37363
Home Phone: (423) 396-9114
Office Phone: (423) 238-2966

Martha Alligood, RN, Ph. D.
c/o The University of Tennessee, Knoxville
College of Nursing
1200 Volunteer Blvd.
Knoxville, Tennessee 37996
Office Phone: (865) 974-6804

D. TITLE OF PROJECT:

THE RELATIONSHIP BETWEEN NURSES' DECISION-MAKING CHARACTERISTICS AND THEIR PERCEPTION AND JUDGMENT OF PAIN WITHIN A MORAL DILEMMA

E. EXTERNAL FUNDING AGENCY AND ID NUMBER:

Sigma Theta Tau International, Gamma Chi Chapter, The University of Tennessee, Knoxville
(Funds will be received and ID number assigned upon proposal approval by the IRB)

F. STARTING DATE: May 1, 2000

G. ESTIMATED COMPLETION DATE: December, 2000

H. RESEARCH PROJECT:

1. Objective(s) of Project:

The purpose of this study is to explore the relationship between acute care hospital registered nurses' decision-making characteristics (moral judgment) and their perception and judgment of pain within a moral dilemma. The subjects, registered nurses who practice on nursing units that contain adult patients in acute pain, will be asked to complete two vignette

instruments (one designed to measure moral decision-making characteristics [moral judgment]) of the nurse and one to measure the nurse's perception and judgment of patients' pain depicted in the vignettes) and a demographics questionnaire. This research project is being conducted in partial fulfillment for a doctoral dissertation.

2. Subjects:

The sample is registered nurses licensed in Tennessee drawn from the population of hospital nurses currently in practice on hospital units containing adults in acute pain. The nurses' practice must involve direct care of patients in acute pain. The anticipated time for the subjects to complete the research instruments for this study is one hour.

3. Methods or Procedures:

Certification for exemption from UTK's IRB review shall be obtained from the College of Nursing's Departmental Review Committee. Permission to use the selected hospitals as research sites has been obtained. This permission allows access to its personnel as appropriate for conducting this study. Since patients are not subjects in this study, review by the institution's IRB has been waived. Registered nurses will be asked to volunteer to participate in the study. Informed consents shall be signed by the subjects prior to administration of the instruments and after explanation of the study's procedure for completing the instruments.

Explanations shall be given verbally and included in the written informed consent regarding the purpose of the study, confidentiality of the participants' data, and their right to withdraw from the study at any time without fear of repercussions. Confidentiality and anonymity of the participants shall be maintained by coding the instruments with five digit numbers. Any reporting of results will not reveal participants' identity or the hospital involved. Completed instruments shall be secured in a locked file cabinet. Only the PI (David Gerstle) and faculty advisor (Dr. Martha Alligood) shall have access to the data and signed informed consents. The informed consents with the participants' signatures shall be kept in a separate locked cabinet.

One of the instruments (Defining Issues Test, version 2 [DIT]) answer sheet must be sent to the Center for the Study of Ethical Development located on the campus of the University of Minnesota for scoring. The answer sheets have only a five-digit ID number that was assigned to each participant, thus maintaining anonymity and confidentiality. The hospital, its location, nor any characteristics of individual participants or aggregate is not identified to the center. The scoring and answer sheets are returned in one week to the investigator.

The subjects shall be assured that no one from management will be present during their participation in the study nor shall any participant or their answers on any of the instruments shall be shared with any administrator, manager, or their personnel. The only risk is the potential for breach of confidentiality that the above interventions address in an effort to minimize.

After signing the informed consent, the participants shall complete the instruments in either a conference room or break room on the nursing unit where the nurse works. The participants shall be asked to complete the instruments prior to their shift or other off-duty time in order to minimize distress and interruptions. This investigator shall administer all of the instruments and shall maintain a comfortable, quiet, uninterrupted environment.

4. CATEGORY(s) FOR EXEMPT RESEARCH PER 45 CFR 46:

Category 46.101(b): paragraph 2

I. CERTIFICATION: The research described herein is in compliance with 45 CFR 46.101 (b) and presents subjects with no more than minimal risk as defined by applicable regulations.

Principal Investigator David Gerstle 4/5/00 _____
David Gerstle Date

Student Advisor Martha Alligood RN, PhD 4/5/00 _____
Dr. Martha Alligood Date

Dept. Review Comm. Chair Maureen Groer 5/1/00 _____
Dr. Maureen Groer Date

APPROVED:
Dean, College of Nursing Joan Creasia 5/1/00 _____
Dr. Joan Creasia Date

APPENDIX K

APPROVAL FROM IRB

THE UNIVERSITY OF TENNESSEE

College of Nursing
1200 Volunteer Boulevard
Knoxville, Tennessee 37996-4180
(865) 974-4151
FAX (865) 974-3569

July 21, 2000

David Gerstle
5500 Misty Valley Drive
Ooltewah, TN 37363

Dear David:

Your Form A has been reviewed and approved by the College of Nursing, Committee on Research Involving Human Subjects.

Best of luck in your endeavors.

Sincerely yours,

Maureen Groon

Chair, Research Involving Human Subjects

MG:jb
Enclosure

VITA

David S. Gerstle was born on August 9, 1956 in Houston, Texas, the youngest of three sons of Alvin T. Gerstle and Thelma A. Gerstle. After graduating in 1974 from Valley Grande Academy in Weslaco, Texas, he entered Southwestern Adventist College in Keene, Texas. Transferring to Union College in Lincoln, Nebraska, he received a Bachelor of Science in Nursing in 1979. David entered practice and worked in a variety of settings and positions for the next 12 years. He has worked primarily in acute care hospitals but has also worked in nursing homes and home health care agencies. He has worked as a staff nurse, administrative supervisor, staff development coordinator, and nursing director. In 1991, David entered the University of Texas at Arlington and received a Master's degree in Nursing (adult nursing and nursing administration) in 1993. In 1994, he accepted a teaching position at Southern Adventist University in the School of Nursing. In August of 1997, he entered the University of Tennessee, Knoxville to pursue the Doctor of Philosophy degree in nursing. The doctoral degree was granted in May, 2001.

David continues to teach at Southern Adventist University. He is a member of the board for the Tennessee League for Nursing and belongs to numerous professional organizations including the American Nurses' Association, American Pain Society, Association of Pain Management Nurses, Phi Kappa Phi, Sigma Theta Tau, and Southern Nursing Research Society. David is married to the former Nettie Jean Thomas, residing in Collegedale, Tennessee, with their son, Brian and daughter, Christina.