

# Gaining Insight into Student Nurses' Clinical Decision-making Process<sup>1</sup>

## ABSTRACT

The purpose of this study was to gain a clearer understanding of the clinical decision-making process of generic baccalaureate student nurses during patient care. A descriptive qualitative design, using semi-structured open-ended questions, was employed to obtain information about the choices culturally diverse student nurses made in the care of adult patients in a variety of clinical settings. Connectedness, knowing, heroism, anxiety and frustration were the emerging themes.

The findings indicate that students used mutual goal setting throughout the decision-making process. The author applied Imogene King's theory of goal attainment to interpret the findings of the study and to link theory to practice. Clinical decision-making is an important topic in nursing education and practice. Faculty understanding of thought processes precedes the design of specific strategies to enhance clinical reasoning. Helping students to advance from reliance on memorization of textbook information to the application of concepts from the liberal arts and from biological and nursing science is part of that process. This is a special challenge for nursing faculty and staff educators who teach nursing students and new graduates from diverse experiential and educational backgrounds.

Numerous clinical decision-making studies offer conflicting and inconclusive findings concerning predictive outcomes and related factors. This investigator chose to study the decision-making phenomenon from a holistic point of view, using a qualitative methodology. As opposed to focusing solely on the outcome of clinical choices, the aim of the study was to gain a clearer understanding of the ways in which student nurses make clinical decisions.

## KEY WORDS

Nursing, clinical decision-making, patient care, qualitative methodology

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# *¿Cómo ganar perspicacia en el proceso de toma de decisiones clínicas por parte de los estudiantes de enfermería?*

## RESUMEN:

El propósito de este estudio fue obtener una más clara comprensión del proceso de toma de decisiones en estudiantes de Enfermería que van a recibir su licenciatura, durante el cuidado de los pacientes. Se empleó un diseño descriptivo cualitativo, basado en preguntas abiertas semi-estructuradas, con el fin de recolectar información acerca de las decisiones, culturalmente diversas, tomadas por las estudiantes de Enfermería durante el cuidado de pacientes adultos, en una variedad de situaciones clínicas. Los temas que surgieron incluyen capacidad de comunicación, conocimiento, heroísmo, ansiedad y frustración.

Los descubrimientos hallados indican que los estudiantes se propusieron metas en forma recíproca a todo lo largo del proceso de toma de decisiones. El autor empleó la teoría de la consecución de metas, de Imogene King, para interpretar los descubrimientos de este estudio y relacionar la teoría con la práctica.

La toma de decisiones clínicas es un punto importante dentro de la educación y práctica de la Enfermería. La Facultad, entendiendo qué son los procesos de pensamiento, se anticipa con un diseño de estrategias específicas que refuerzan el razonamiento en la práctica clínica. Una parte de este proceso es ayudar a los estudiantes a salir de la dependencia que generan cuando quieren memorizar la información contenida en los textos, y hacerlos avanzar hacia la aplicación de los conceptos provenientes, tanto de las artes liberales, como de las ciencias biológicas y de Enfermería. Se trata de un especial desafío para las facultades y personal docente de Enfermería encargado de impartir educación a los estudiantes de la carrera, así como para el recién egresados de otras áreas de formación y de experiencia.

Los resultados de estudios anteriores sobre toma de decisiones clínicas presentan conclusiones conflictivas e inconclusas, concernientes a determinadas consecuencias predecibles y otros factores relacionados.

El investigador de este caso decidió estudiar el fenómeno de la toma de decisiones desde un punto de vista holístico, haciendo uso de la metodología cualitativa. El propósito del estudio, como se dijo al comienzo, fue obtener una más clara comprensión de la manera como los estudiantes de enfermería toman decisiones en clínica, más que limitar la investigación a las consecuencias de las elecciones clínicas.

## PALABRAS CLAVE:

Enfermería, toma de decisiones clínicas, cuidado de pacientes, método cualitativo.

# *Como podem ser mais perspicazes os estudantes de enfermagem quando devem tomar uma decisão*

## RESUMO

O propósito deste estudo foi obter, durante o cuidado dos pacientes, uma compreensão mais clara do processo da tomada de decisão de estudantes de enfermagem que vão receber a sua licenciatura. Foi utilizado um desenho descritivo qualitativo, baseado em perguntas abertas semi-estruturadas para coletar informação sobre as decisões culturalmente diversas, tomadas por estudantes de enfermagem durante o cuidado de pacientes adultos em varias situações clínicas. Entre os temas surgidos estão capacidade de comunicação, conhecimento, heroísmo, ansiedade e frustração.

Os resultados revelam que os estudantes se propuseram metas entre si durante o processo da tomada de decisões. Para interpretar as descobertas deste estudo e relacionar teoria e prática, o autor recorreu à teoria de consecução de metas de Imogene King.

A tomada de decisões é um aspecto importante no ensino e a prática da enfermagem. A Faculdade, a entender os processos de pensamento, antecipa-se com um desenho de estratégias particulares reforçarem o raciocínio na prática clínica. Em parte, este processo procura apoiar aos estudantes deixarem a sua dependência gerada quando desejam memorizar a informação contida nos textos, e dirigir-los para a aplicação dos conceitos provenientes das artes liberais, das ciências biológicas e da enfermagem. Este é um desafio especial para a Faculdade de Enfermagem, para os professores encarregados de dar aulas aos estudantes da carreira, e para os recém-graduados de outras áreas de formação e de experiência.

Os resultados de outros estudos sobre a toma de decisões em clínica trazem conclusões divergentes e parciais, concernentes a conseqüências que podem se prever, e outros fatores relacionados. Neste caso, o pesquisador decidiu estudar o fenômeno desde uma perspectiva holística, utilizando a metodologia qualitativa. O propósito do estudo no foi restringir a pesquisa as conseqüências das eleições clínicas, senão compreender melhor como tomam decisões em clínica os estudantes de enfermagem.

## PALAVRAS-CHAVE

Enfermagem, tomada de decisões clínicas, cuidado de pacientes, método qualitativo.

## Literature Review

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Prior studies on clinical decision-making have examined accepted beliefs about parts of the phenomena such as critical thinking and problem solving. In many cases, these terms have been used interchangeably in nursing research studies (8, 9). Critical thinking has varying definitions both in and outside the discipline of nursing, making a comparison of study findings difficult. Definitions include logical reasoning, open-mindedness, reflective thinking, and intuitive understanding (8, 10, 11, 12). Problem solving has been studied in terms of data gathering and information processing, including individual perceptions, and data and task analysis (9, 13, 14). The nursing process is a scientific approach to problem solving in with respect to patient-related health care issues.

The majority of early research utilized quantitative measures to examine clinical decision-making (7, 5, 15, 16). Their findings are problematic due to the wide variety of instruments designed to measure this skill (4, 6, 18, 19, 20). The Watson Glaser Critical Thinking Appraisal, the California Critical Thinking Skills Test, and the Cornell Critical Thinking Test are three of the most frequently cited measurement instruments for critical thinking used in nursing research. Clinical decision-making has been measured using a variety of investigator- designed tests that, although similar in format to the NCLEX-RN exam, do not have the sophistication of algorithmic design for implementation and evaluation of outcome, nor the statistical validity and reliability of NCLEX-RN tests.

Definitions of critical thinking are numerous and varied among nursing and other disciplines, causing reliability of data to be diluted and a comparison of findings elusive (5, 21). Bowles, in her study examining the relationship of critical thinking and clinical judgment of baccalaureate nursing students, used the California Critical Thinking Skills Test to measure critical thinking and a researcher- designed instrument to measure judgment. This leaves the practitioner confused when it comes to drawing comparisons to other instruments claiming to measure both constructs, although validity and reliability data are included (5).

Quantitative measurement instruments do not measure the feelings, emotions, and intuitive knowledge that go into making a clinical decision in nursing. Quantitative research attempts to formulate a hypothesis statement about the expected results of relationships between two phenomena using experimental or controlled conditions. Making hypotheses can be premature when not enough is known or understood about a particular phenomenon (22). Conversely, qualitative studies are designed to gather data about phenomena in real time when there is limited knowledge of the concept or it is poorly understood. Since the study of clinical decision-making in nursing and particularly among student nurses is in its infancy and research findings have been ambiguous, taking a qualitative view of this phenomenon is most appropriate to gather more information about the various aspects of this very complex concept.

## Clinical Decision-making

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There are no specific theories on clinical decision-making in nursing. However, the two distinct perspectives that have emerged on this topic include the humanistic approach

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of Benner et al., and the logical positivistic approach of information processing (23). In order to better understand how nurses make decisions, researchers have begun to inquire about this process using qualitative methodologies (8, 24, 25). Benner has continued to expand her research with expert nurses in critical care settings where fast, accurate decision-making is required (26).

## Conceptual Framework

Imogene King's theory of goal attainment was used to guide the research question and to interpret the data in this study. King's theory was selected because of her conceptual framework on dynamic interacting systems, which views the social aspect of human relationships and the nurse-patient relationship as an interpersonal system. She explains human beings as "dynamic systems interacting" with society, groups and individuals (Figure 1). King's theory has eight propositions related to interactions and transactions between the nurse and the patient. The theory emphasizes the mutuality of goal setting between the nurse and the patient to achieve goal attainment. Nurse and patient are equal partners in this social interaction. The role of the nurse is to help the patient to attain mutual goals through use of the nursing process and to maintain the nurse's functional role in society (Figure 2), (27).

The main objective of this study was to gain a clearer understanding of the ways in which student nurses make clinical decisions. The study included gaining insight into how students use cognitive and emotive thinking processes to make judgments and choices about nursing care given to patients in a clinical setting. The significance

of this study was to add to the sparse body of existing knowledge on how student nurses make accurate clinical decisions.

## Methods

### Sample

The investigator used a convenience sample of 12 generic baccalaureate student nurses enrolled in a large urban public university. The sample included six juniors and six seniors; there were three males and nine females. The subjects' ages ranged from 20-28 years. Students represented five ethnic groups, including two minority groups. Based on research data suggesting that knowledge impacts positively on clinical decision-making accuracy (8, 28) the students were required to have a grade point average of B+ (3.5) or higher to participate in the study. This additional selection criterion was implemented to obtain internal consistency among the sample.

### Human Rights Protection

Confidentiality and procedures for the protection of the rights of human subjects were maintained through a special coding system. IRB approval was received from the college where the study was conducted. A monetary incentive was offered to all participants who volunteered for the study. The investigator conducted private interviews at her campus office; this involved two sessions of approximately two hours each. The meetings were one week apart for each student interviewed. All interviews were tape-recorded and the data were stored in a locked file.

## Procedure

A grounded theory approach was used to gather data through in-depth personal interviews. A series of eight open-ended questions was asked of all student participants regarding direct patient care experiences with adult clients and the student's choices made concerning that care. The interview questions were developed using the results of clinical decision-making research from Benner and King's model of dynamic interaction between nurse and patient. See Table 1.

Interviews were conducted at the college campus where the investigator was on faculty. A dialogical style between participant and investigator was used. Participants were given free range to share personal accounts of their decision-making situations. The investigator prompted students for clarity of information about the described situations. Students were questioned about their ways of thinking, their feelings during and after making their decisions, and the context of the situation described. The reflective process used including "thinking in action" and "thinking on action". Schon discussed the reflective technique as a teaching strategy among various disciplines to move the learner from apprentice to master levels of performance (29). His technique has been cited frequently in nursing literature and employed to teach student nurses how to analyze their reasoning processes during and after patient care, using reflection.

Students shared their thoughts and emotions about their decision-making experiences at a deeply personal level. It was evident to the investigator that both the patients and the experiences were extremely meaningful to the students. Every minute detail was described in their reflec-

tions about the situations, as if they were revisiting the scenarios. This information helped the investigator to fully comprehend what the student experienced in this process. Interviews were conducted until saturation was achieved; that is, until no new information was shared.

## Analysis

Data were analyzed through content analysis. Taped interviews were transcribed verbatim. The investigator listened to the audiotapes and read the written transcripts several times to gain an understanding of each student's responses and the context of the situations described. The researcher verified transcribed information with participants during the second meeting. After that, statements significant to the clinical decision-making process were extracted. Categories and sub-categories were identified and comparisons made to determine connections between categories, including conditions that initiated or supported the categories. Meanings were formulated from coded statements and organized by themes. A detailed description of the themes was drawn up to explain the participant's experiences. A synthesis of themes to develop a relational hypothesis was the final step in the analytical process.

The investigator developed the analysis manually so as to keep a close relationship with the data. Throughout the analysis, the investigator consulted with two expert nurse researchers, both with prior research experience in descriptive qualitative methodology, regarding interpretation of the meaning of the data and the investigator's prior knowledge and potential biases regarding clinical decision-making. This process added to the validity and reliability of the findings.

*This investigator chose to study the phenomenon of decision-making from a holistic viewpoint using qualitative methodology. The aim of the study was to gain a more clear understanding of the ways in which student nurses made clinical decisions rather than limit the investigation to the outcomes of clinical choices.*

*Quantitative measurement instruments do not measure the feelings, emotions, and intuitive knowledge that go into making a clinical decision in nursing. Quantitative research attempts to formulate a hypothesis statement about expected results of relationships between two phenomena using experimental or controlled conditions.*

## Results and Discussion

Five themes were identified by means of the study: connectedness, knowing, heroism, frustration and anxiety. See Figure 3.

### Connectedness

Connectedness with their patients was the first theme to emerge from the interviews. This concept was used as the transaction and was the first step in the decision-making process. This transaction marked the beginning of establishing mutual goals. King describes transaction as “mutuality” or a “harmonious reciprocal” sharing in the student nurse-patient relationship (30). If students were connected to their patients, they then moved smoothly on to the next step; that is, towards interpreting the patient’s behavior and “knowing” or accurately identifying the patient’s problems or needs.

All students felt a closeness or intimate professional relationship with the patients selected for the cases shared. The fact that students remembered these patients, and that the patient had an impact on their learning and professional development, was significant to the decision-making process. Students were asked to share a clinical experience where they made a decision about the nursing care they were giving to a patient. They had no hesitation recalling these situations and shared information in great detail. Intimate communication between the student and patient was evident in their narratives.

The communication between student nurse and patient was both verbal and non-verbal. One student described her semi-comatose patient turning toward

her during personal care as if to send the student a non-verbal message. The student was sensitive to this subtle form of communication and responded appropriately, noting that the patient was able to relax and become more at ease. “*She would turn her head towards me even though it was difficult.*” “*You could feel by some minor detail that she would feel more comfortable.*” Imogene King, in her theory, describes this form of communication as a transaction or harmonious reciprocal sharing.

***Harmonious reciprocal sharing or mutuality was key to the connectedness that students and their patients developed. This was the first step in the decision-making process. It led to the next step in the decision-making process; namely, that of knowing or accurately interpreting the patient’s behavior and identifying needs.***

### Knowing

The correctness or accuracy of the student’s perceptions was captured in their “knowing”. They used words like “*I knew right away*” for immediacy of accurately interpreting patient behavior for a nursing diagnosis. “*I knew the patient had pain*” “*I knew, even though the patient had no symptoms.*” At other times, the knowledge occurred during the care of the patient throughout the day, indicating a developing understanding of the problem or need “*I came to know*”. Students used both cognitive and emotive aspects of thinking in this “knowing.” “Knowing” was supported by their research on the patient’s diagnosis and a review of patient records. Discussions with peers, professional nursing staff members, and clinical instructors were very helpful to their developmental understanding; however,

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student nurse- patient interactions and patient's behavioral cues dominated their exemplars. Frequently, students "knew" independent of input from anyone other than the patients themselves "A lot of time, I get feedback from the patients themselves." This finding supports the advancement in decision-making skills from theoretical knowledge to practical understanding (8). The emotive aspect of "knowing" was gained through student-patient transaction or intimate communication between the dyad. In this way, students understood patient's needs, expressed both verbally or non-verbally, as well as through disease research and chart review. This way of knowing was the essence of the decision-making process; that is, accuracy of perception in order to make an appropriate nursing diagnosis.

**Connectedness between student nurses and patients was essential to the students' knowing or the perceptual accuracy of identifying and prioritizing the patient's needs. All behavioral cues were important to this process, both verbal and non-verbal.**

### **Heroism**

Patients were described as needing the student. Also, the students needed the patients in the sense that they provided a valuable learning experience for the students. Patients were seen as vulnerable and described as being in a weaker state requiring the intervention of the student nurse. "She was moaning." "...[a] very weak and frail old lady." Students were there to rescue the patients from their problems. "Nurses are very busy and need to be reminded about the patients' needs." Students always expressed "feeling good" during those times when they were present for their patients.

During those times of "feeling good," students were able to achieve the mutual goals set by themselves and the patients. They evaluated the outcome of these goals as positive.

The students wanted very much to help or rescue their vulnerable patients and to achieve the mutual goals. As long as patient's behavioral cues signaled a need for the student nurse, the student's decision was to continue to advocate for the patient. By helping the patient, student were empowered, rather than feeling helpless or frustrated. "...the patient verbalized she is happy that I am there."

**Being a hero was a part of the emotional encouragement student nurses needed to initiate and continue to be connected with their patients. This served as a powerful feedback mechanism for students. It was part of the continued harmonious reciprocal relationship between the student nurse and the patient, as described by King.**

### **Frustration**

Feelings of frustration were cited when students met obstacles from others - including the patient - that impeded the accomplishment of mutually-agreed-upon patient goals. One student had an issue with a patient regarding the goal of pain relief. "Relaxation... the patient was never getting any rest. The phone was ringing off the hook. He kept screaming on the phone, (to a business colleague) ..... as if nobody could make a decision without him. I tried telling him that he shouldn't do that but, in my opinion, it was very difficult to do. He had his own way and it's like if I am in pain the medication should work. He was so agitated. It was hard to make him understand and to do it (relax)".



In this case, the student nurse and patient had mutual goals and were connected in part. However, the plan of care that the student had for the patient could not be carried out in full, due to miscommunication between the two. Although the relationship was harmonious, it was not totally reciprocal in nature, as described by King. The patient did not understand how to completely relax and let the pain medication take effect, and the student nurse was not in control of the stressful distractions in the patient's immediate environment. Once the student enlisted the aid of the patient's girlfriend to minimize and eliminate distractions, the goal of pain relief was accomplished completely and quickly. *"Because he was so agitated, I decided to take a different approach and I decided to approach his girlfriend."* Although students were frustrated, they continued to attempt to meet the goals that had been established mutually between themselves and their patients.

In her theory, King explains that, in the nurse-patient relationship, each member of the dyad perceives the other, makes judgments and takes action. Perceptual awareness includes thinking and feeling. The emotive and cognitive aspects of experiencing a situation are key components of goal attainment. Together, this exchange is known as a "reaction". The "reaction" is the interaction within the dyad. "Transaction" then occurs, if perceptual accuracy is present, and goals will be attained. Goal attainment leads to effective nursing care. As a result of goal attainment, each member of the dyad will experience satisfaction, growth and development.

For the student nurse, perceptual accuracy was critical to mutual goal attainment and to accurate decision-making.

In this case, the student was able to perceive that, although pain medication was administered, the patient was not relaxed enough for the drug to work effectively. Here, the blocker was lack of reciprocity between the student and the patient. The student enlisted the aid of the patient's girlfriend, after establishing a harmonious reciprocal relationship with the patient's significant other to attain the mutual goal of pain relief.

However, if either the nurse or the patient experiences role conflict based upon perceptual differences, then stress in the relationship will occur (30).

In another narrative, a different student described a mentally ill patient who was manipulative in his behavior. Yet, the student connected with this patient as a human being in need of help, while the patient was placing barriers to their relationship. That barrier left the student with a sense of frustration, because there was no "reciprocal connection."

"My goal was to establish trust." "At first, he sounded very true, because I was taking everything at face value, ...after I read his chart, I started questioning him on some things, like homelessness ...he couldn't give me a straight answer. He just lived in a big house. He was very vague. .... I was just trying to work with him. I hope he will trust someone and not be so grandiose and vague."

In this case, due to the lack of connectedness, the student's frustration was never alleviated. The relationship did not grow or develop further. The student's decision was to have hope for the patient in his new discharged setting (a men's shelter).

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***Feelings of frustration and helplessness added extra layers to the decision-making process and delayed or prevented goal achievement.***

### **Anxiety**

Students experienced remorse or indicated “feeling bad” when they were unable to meet the patient care goals established with their patients. A student describes her personal anxiety when attempting to maintain a sterile technique during her first tracheotomy suctioning experience on a ventilator dependent patient, “I was so scared. I was afraid of introducing more infection.” After input from the clinical instructor, the student was able to implement the procedure correctly and stated, “I made myself concentrate on her (patient) feelings and not my skills. And I did it.... The instructor told [me] that I did it right, that I didn’t panic. That was a good lesson for me.”

***Fear and anxiety caused students to step back and reflect on the situation and to re-assess the events. The student’s fears got in the way of her understanding of the patient’s feelings and a reciprocal relationship did not develop initially. Once she relaxed and let herself feel and understand what the patient was experiencing, the student was able to carry out the procedure skillfully. The student was then able to accurately perceive the patient’s needs and to carry out the procedure.***

### **Conclusions**

The researcher initially set out to understand the decision-making process used by student nurses in direct patient-care situations. A descriptive qualitative

approach to research design was utilized in order to gain a clearer understanding of the perspective of decision-making among this population in various healthcare settings. Student narrative exemplars about their thoughts and feelings during decision-making were analyzed to better understand this process.

In this study, students passed through a series of three major steps in their decision-making process. These included connectedness, knowing, and heroism. These themes were the pillars of clinical decision-making that formed the basis for understanding the student’s thinking and feelings throughout this process.

The sample group of twelve novice nurses used mutual goal setting as the key to their clinical decision-making accuracy by establishing and continuing a transactional relationship with patients. Patient behavioral cues were the most significant data that students collected and learned to interpret in the decision-making process. Continuous patient reassessment for goal achievement was paramount. This finding reinforces the importance of therapeutic communication and holistic behavioral and physical assessment skills within the clinical context for beginning-level student nurses who tend to seek greater information and comfort from a review of patient records and textbooks during clinical practice.

The questionnaire used and the themes found in this study can serve as a blueprint for clinical nurse faculty understanding of how to help student nurses to blend theoretical knowledge with practical application. The faculty can reinforce positive thinking and decision-making skills by refocusing clinical conferences on patient findings through both emotive and theoretic

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tical ways of knowing. Reinforcing the establishment of "connectedness" between the student and the patient to more accurately interpret the meaning of patient behavior and correlation with theoretical knowledge to "know" or correctly identify patient care needs are key components of the decision-making process. The clinical faculty must help students to distinguish between the two levels of "knowing"; that is, theoretical and practical. Reflecting on and sharing thoughts and feelings through journaling and pre and post conference discussions continues to be important to

the development of student's clinical decision-making skills and confidence in their nursing actions.

It is equally important that student nurses learn to identify mutual and accurate goals when caring for patients and to be in touch with their own thinking and feelings. Students can be taught to establish simple and more complex goals with patients, as they advance in their nursing program and as practicing registered nurses. Meaningful engagement with patients and sharing thoughts and feelings about

clinical findings with the clinical faculty and professional colleagues who are skilled in accurate clinical decision-making can provide needed feedback on student judgment abilities.

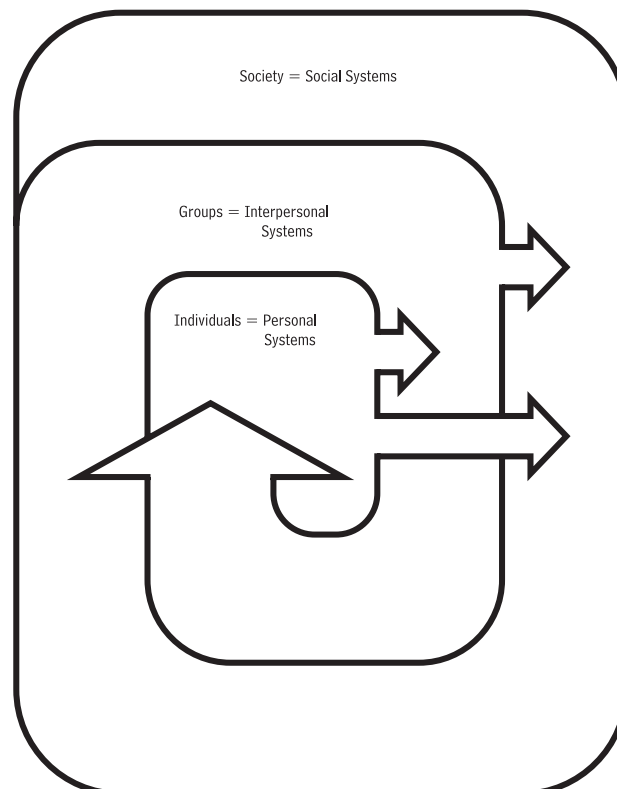
Future studies of this type require duplication with larger samples of student nurses from various types of nursing programs and at various geographic locations to continue to expand the body of knowledge on student nurse clinical decision-making processes.

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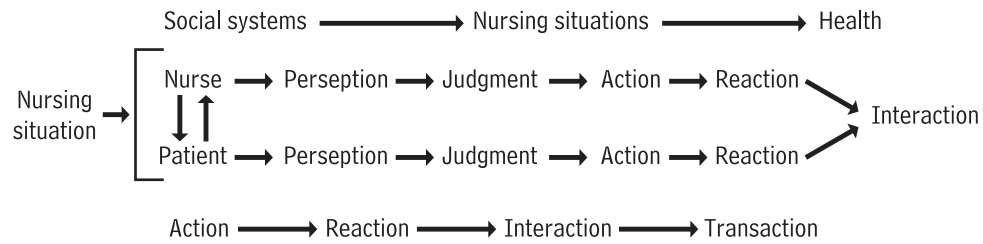
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**Figure 1**  
**King`s Dynamic Interacting Systems (King, 1980, p. 20)**

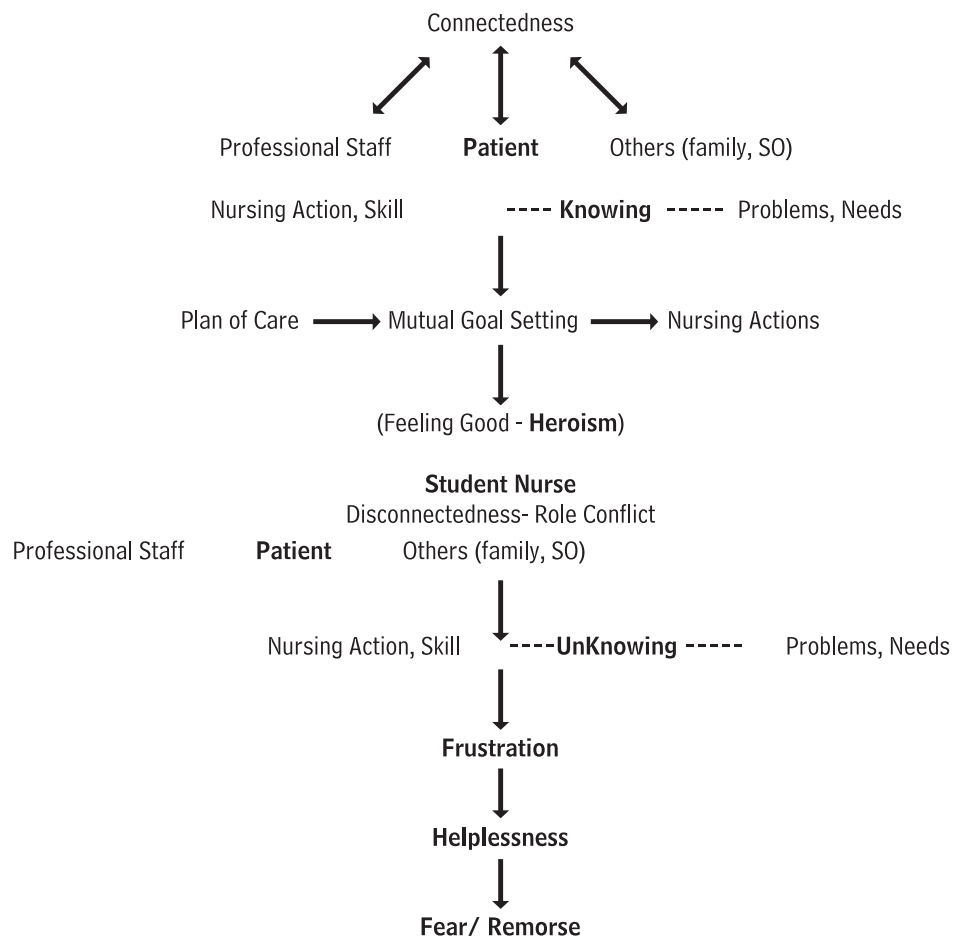


**Figure 2**  
**King`s Interaction-Transaction Process (King, 1980, p. 26)**



8. Gaining Insights into CDM Manuscript.doc

**STEPS IN THE CLINICAL DECISION-MAKING PROCESS**  
**Student Nurse**



**Connectedness** between the SN and the patient leads to a transaction. This connectedness leads to **knowing** or accurately understanding the patient's problems and needs, and to mutual goal setting. The **good feeling** students have when they connect with patients is that of a **hero** who attempts to save a vulnerable human being and to meet that person's needs. This feeling establishes the student as a patient advocate, and helps to prioritize patient needs and goals that lead to actions or **decisions** that directly or indirectly assist in satisfying the patient's needs.

Lack of **connectedness** between the SN and the patient or others delays mutual goal setting and leads to feelings of **frustration** and **helplessness**. Students feel **remorse** for not having lived up to their role as a hero or patient advocate. Errors in decision-making lead the student to feel **fear**.