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## Emergency Nurse Self Perception of the Benefit of the Emergency Nursing Pediatric Course

Diana Lynn Ropele  
*Grand Valley State University*

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EMERGENCY NURSE SELF PERCEPTION OF THE BENEFIT OF THE  
EMERGENCY NURSING PEDIATRIC COURSE

By

Diana Lynn Ropele

A THESIS

Submitted to  
Grand Valley State University  
in partial fulfillment of the requirements for the  
degree of

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1998

Thesis Committee Members:

Linda Nicholson Grinstead, Ph.D., C.P.N., RN

Cynthia P. Coviak, Ph.D., RN

Jeffrey Jones, MD

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## **ABSTRACT**

### **EMERGENCY NURSE SELF PERCEPTION OF THE BENEFIT OF THE EMERGENCY NURSING PEDIATRIC COURSE**

**By**

**Diana Ropele**

This study evaluated whether emergency nurses perceived an increase in knowledge and skill in caring for pediatric emergency patients after taking the Emergency Nursing Pediatric Course (ENPC). Also it evaluated whether non-certified nurses reported a greater increase in knowledge and skill after the ENPC than the certified nurse.

A cross-sectional, retrospective, correlational design was used with a random sample of 333 registered nurses living in Michigan who completed the ENPC in 1995 or 1996. Ninety-three nurses practicing in emergency care returned the demographic sheet and the ENPC perception questionnaire (EPQ).

Analysis compared knowledge and skill scores before and after taking the ENPC, and summed scores of knowledge and skill of non-certified nurses with the summed scores of certified nurses.

Using the paired t-test significant differences were found in the perceived before and after mean scores on knowledge and skill ( $p < .001$ ). The t-test was used to compare the mean scores of nurses with and without certification in emergency nursing. There were no significant differences in reported increase in knowledge and skill of non-certified nurses when compared to certified nurses ( $p = .183$ ).

### **Dedication**

I would like to dedicate this work to my colleague Sheryl Veurink-Balicki who partnered with me in completing our theses. Her vision and strength led the journey to realizing our dream.

### **Acknowledgments**

I would like to acknowledge my thesis advisory committee: Dr. Grinstead, Dr. Coviak and Dr. Jones who have very generously supported this work with mentoring, time and encouragement.

I would also like to acknowledge the emergency nurses of Michigan who supported this work by participating and by their dedication to improving the care of pediatric patients.

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## CHAPTER 1

### INTRODUCTION

An estimated 30,000,000 children are treated annually in American emergency departments, accounting for about one third of all emergency department visits (Fredrickson, Bauer, Arellano, & Davidson, 1994). Concern about the care of these patients has grown and in 1984 Congress passed the Emergency Medical Services for Children Act, making funding available for development of support programs to improve the care of this population (Durch & Lohr, 1993). The specialty of pediatric emergency medicine has rapidly developed over the last ten years, with the American Academy of Pediatrics and American Board of Emergency Medicine actively defining training and credentialing requirements for physicians. Board Certification in this specialty became available as recently as November, 1992.

It has become essential that emergency nurses also possess the knowledge and skills to care for pediatric emergency patients. The Emergency Nurses Association's (ENA) 1995 policy statement on Pediatric Emergency Care suggests that to lessen the morbidity and mortality of children, emergency nurses must be knowledgeable and able to quickly recognize emergency situations and intervene appropriately.

Several regulatory agencies now require age-specific education or competencies. The Joint Commission for Accreditation of Health Care Organizations (JCAHO) has

specifically addressed the need for pediatric competencies for all staff providing care for pediatric patients (JCAHO, 1997). The Committee on Trauma of the American College of Surgeons requires some type of pediatric education or credentials for nurses caring for pediatric trauma patients in any verified trauma center. Finally, several professional organizations, including the American Nurses Association and the Emergency Nurses Association have position statements addressing the need for a basic level of age-specific emergency education for nurses who participate in conscious sedation (American Nurses Association, 1991; Emergency Nurses Association, 1995).

Not only do regulatory agencies require competency in the care of pediatric patients; emergency nurses themselves have requested more pediatric education (Taylor & Soud, 1991). Many have felt stressed in caring for pediatric emergency patients, and are dissatisfied with their knowledge and skills in caring for this population. The complexity of the pediatric patient requires specialized education (Emergency Nurses Association, 1995) yet most emergency nurses lack this. In addition, most emergency nurses have limited experience in pediatrics. A random telephone survey of 603 nurses working in 55 Florida emergency departments, revealed only 25 (4%) had some training in pediatric care, either during hospital orientation or previous experience. Only 28 of the 603 nurses had taken the Pediatric Advanced Life Support (PALS) course. All 603 expressed an interest in attending a course in pediatric emergency nursing (Taylor & Soud, 1991). In surveying two local emergency departments, similar deficiencies were found where only 5 of 131 (4%) of emergency nurses had pediatric experience prior to employment in the emergency department.

Historically, there have been few options available to nurses seeking specialty education in pediatric emergency nursing. The Emergency Medical Services for Children report of 1993 identifies that current nursing curricula offer little or no pediatric emergency education or experience at the undergraduate level (Durch & Lohr, 1993). Although PALS and Advanced Pediatric Life Support (APLS) have been available, they do not focus on the role of the nurse. Instead, these courses focus primarily on pediatric resuscitation, which is required by only a small percentage of pediatric patients seeking emergency care.

In 1991, the Emergency Nurses Association formed its pediatric committee in response to a request from its membership for a greater focus on pediatric emergency care. This committee conducted an assessment, which overwhelmingly supported the need for a pediatric emergency course. Thus, the Emergency Nursing Pediatric Course (ENPC) was developed and implemented in 1993. The goal of the ENPC is to improve the care of the pediatric patient as well as to improve the skill and confidence of the nurse providing the care in the emergency department setting (Haley & Baker, 1993). The Emergency Nurses Association has published a brochure stating that ENPC is designed to teach nurses all aspects of pediatric care, including, but not limited to, pediatric trauma. This course is the first and only one available on the national and international level that is directed specifically toward emergency nurses. The sixteen-hour course is designed to provide core level pediatric knowledge and skills. Prerequisites include six months clinical emergency or pediatric nursing experience along with generic nursing knowledge, an understanding of emergency care terminology, and familiarity with standard emergency equipment. The course begins with an introduction that includes

etiology and other significant facts related to the care of the pediatric patient.

Throughout the course, a very brief review of anatomy and physiology is presented to facilitate the understanding of pediatric emergencies. Pathophysiology is limited to that which explains key signs and symptoms. The nursing process is used to organize the nursing care. Three categories of triage are taught and used to describe the urgency with which interventions must be initiated. Other areas that are covered include nursing diagnosis, interventions, selected emergencies, prevention and education. The skill stations promote integration of psychomotor abilities and critical thinking in a risk-free setting by simulating pediatric emergency situations. The skill stations include: airway management, medication administration, positioning and securing techniques, trauma assessment, cardiopulmonary resuscitation, triage and drug calculations. The ratio of one faculty per four learners allows opportunities for individual practice at each station. Criteria have been established for successful completion of the written test and each skill station, with limited opportunities for retesting.

As a consequence of increasing regulations, nurse managers are increasingly requiring specialty education or credentials for currently employed or prospective employees (Nielsen, 1989; Tenney, Golden-Baker, DeMoucell, & Wians, 1993). Many have chosen to use the ENPC for this purpose. Since its inception in August of 1993 to August of 1997, 816 nurses have taken this course in Michigan. Emergency department budgets are under close scrutiny, as are all health care budgets. Nurse managers responsible for filling positions and maintaining professionally competent staff must evaluate all educational expenditures. The cost of ENPC is generally less than or comparable to that of PALS and APLS. However, the ENPC verification remains current

for a period of four years as opposed to two years for the others. This makes ENPC a cost-effective choice.

Despite the fact that ENPC may assist in meeting the regulatory agency requirements, and that it is both more cost-effective and comprehensive than either PALS or APLS, there have been no studies done to investigate whether the registered nurse perceives any benefits from this course.

### Purpose

The purpose of this study was to evaluate if emergency registered nurses perceive an increase in knowledge and skill in caring for pediatric emergency patients after successful completion of the Emergency Nursing Pediatric Course (ENPC). The study also evaluated if non-certified emergency nurses report a greater increase in knowledge and skill two years after taking the ENPC than the certified emergency nurse.



## CHAPTER 2

### CONCEPTUAL FRAMEWORK AND LITERATURE REVIEW

#### Conceptual Framework

Imogene King's theory of Goal Attainment was used as the framework for this study. To understand this theory, one must have an understanding of King's conceptual model. King views nursing as three interacting systems - personal, interpersonal, and social. Figure 1 shows a schematic diagram of the open systems. The personal system is composed of individuals who are open systems interacting with the environment. Six concepts interact within this system: perception, self, body image, growth and development, time, and space. Another system is the social system, which encompasses the multiple forces within society that influence one's social behavior, interaction, perception, and health (Griffith-Kenney, & Christensen, 1986).

King's Theory of Goal Attainment is derived from within the interpersonal system. The interpersonal system is composed of two or more individuals interacting with one another. Concepts of importance within this system are role, interaction, communication, transaction, and stress. Role is a set of behaviors that are expected from an individual within the social system. It may include rules, regulations, rights, or obligations applicable to an individual with a particular position within the system.

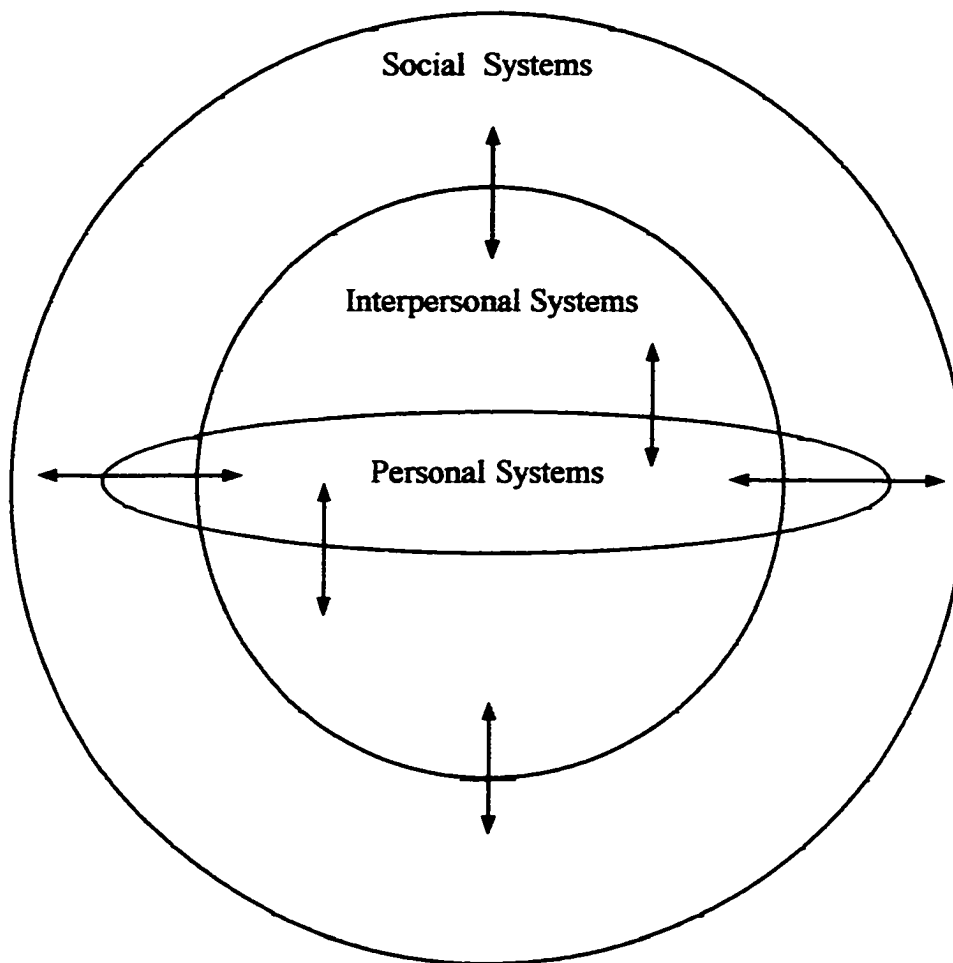


Figure 1. King's conceptual framework for nursing

Interaction refers to a process of perception and communication between two individuals or between an individual and the environment, which is directed toward a goal.

Communication is the exchange of information between two individuals, by any means.

Transaction is the observable behavior of individuals interacting with their environment.

Stress is the dynamic state in which an individual interacts with the environment to maintain balance for growth, development, or performance (King, 1981).

Nursing, as it occurs among these systems, is viewed as a process of human interactions between the nurse and client whereby each perceives the other and the situation, goals are set, and plans are developed to achieve these goals (King, 1981).

Health is viewed as a dynamic experience in which the individual continuously adjusts to the stressors in both the internal and external environment to achieve maximum potential (King, 1981).

King includes the concepts defined above within the theory of Goal Attainment. In addition she includes the concepts of growth and development and perception. Growth and development refer to the continuous changes that occur in individuals both from a physiologic and psychological perspective. Perception, according to King (1981), is each person's representation of reality. It involves the following: import of energy from the environment, transformation of energy, processing of information, storing of information, and exporting information to overt behaviors. Past experiences, education, self-concept, biological inheritance, and socioeconomic group all influence one's perception. King (1981) goes on to describe perception as being each person's subjective world of experience. Figure 2 shows the relationships of these concepts in King's process of

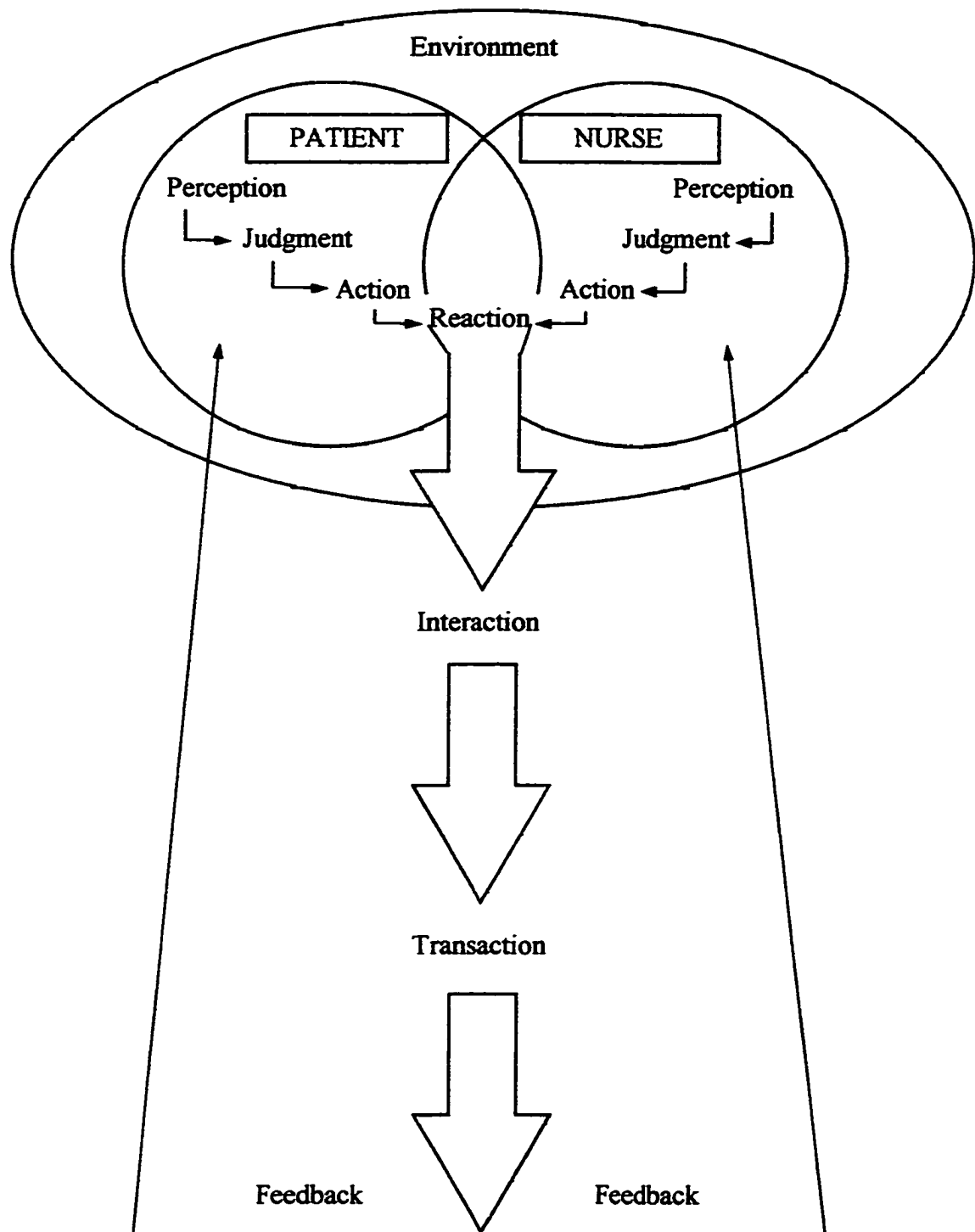


Figure 2.

King's process of human interaction

human interaction. For this study, only the concept of perception will be addressed, and this will only be from the perspective of the nurse.

King's concept of perception can be applied to the Emergency Nursing Pediatric Course (ENPC). The import of energy from the environment could be considered as the information gained from the course. Transformation of energy could be associated with student participation in the teaching skill stations. Processing and storing information could then be associated with the studying and practicing of information in preparing for testing. Exporting information to overt behaviors could be associated with both the skill stations testing portion and the integration of the information in the clinical setting.

In King's theory, past experiences and education influence one's perception. Therefore, Benner's theory of knowledge is used in this study to define and measure experience and education as described in King's theory. Patricia Benner's (1984) Novice to Expert Model is based on ascending levels of proficiency. According to the model the nurse passes through five stages of development which occurs with individual experiences. Benner (1984) writes that experience results when expectations are either confirmed or disconfirmed by actual clinical situations. An example of this can be seen when the registered nurse learns about symptoms of fever in a child from a textbook and then observes those symptoms in a child with a fever in the clinical setting.

Benner (1984) describes the differences between practical and theoretical knowledge. She states that knowledge development consists of extending practical knowledge (know-how) through theory-based scientific investigations and through the charting of the existent know-how developed through clinical experience in the practice setting. In describing the differences between theoretical knowledge and practical

knowledge, she simplifies it as: knowing that is theoretical knowledge and knowing how is practical knowledge or skill.

Benner refers to skill as both skilled nursing interventions and clinical judgment skills. She does not refer to skills as psychomotor skill or other enabling skills that can be demonstrated in a skill laboratory. For this study skill refers to the applied skill of nursing in actual clinical situations. Benner goes on to say that expertise develops when the clinician tests and refines principles in actual practice situations. In addition, Benner believes that experience is a requirement for expertise and uses experience to build on the Dreyfus' Model of Skill Acquisition. The Dreyfus model states that in the acquisition and development of a skill, a student passes through five levels of proficiency. The levels as defined by Benner (1984) are as follows:

**Novice:** The novice includes not only a new graduate but any nurse entering a clinical setting without experience in that particular setting. The novice learner needs rules and procedural lists in order to practice.

**Advanced beginner:** The advanced beginner is able to demonstrate the correct technique for skills, begins to relate to previous experiences, and utilizes guidelines rather than rules to guide practice.

**Competent:** The competent nurse is able to consistently perform a skill, begins to see long-range goals, and uses conscious, abstract, and analytical thought processes.

**Proficient:** The proficient nurse is able to perceive situations as a whole and formulates long-term goals. The proficient nurse recognizes when the expected picture does not materialize.

**Expert:** The expert nurse has an intuitive grasp of situations and quickly zeroes in on any problem. The expert nurse is able to manage complex situations but may have difficulty explaining why.

“These different levels reflect changes in three general aspects of skilled performance. One is a movement from reliance on abstract principles to the use of past concrete experience as paradigms. The second is a change in the learner’s perception of the demand situation, in which the situation is seen less and less as a compilation of equally relevant bits, and more and more as a complete whole in which only certain parts are relevant. The third is a passage from detached observer to involved performer” (Benner, 1984, p. 13).

Benner’s theory of knowledge can be used in conjunction with King’s theory of goal attainment. This study will compare the nurse’s perception of proficiency level in caring for pediatric patients prior to taking the ENPC and after taking the ENPC. The proficiency level will be evaluated on knowledge and skill or practical knowledge and theoretical knowledge as described by Benner which reflect King’s theory that past experiences and education influence one’s perception. Knowledge, which is gained from the content of the ENPC, can then be viewed as the influence in perception in King’s process of perception.

### Literature Review

An extensive literature search revealed very little information that addressed knowledge and skill from the perspective of the emergency nurse. No literature was found specific to the topic of pediatric emergency nursing as related to ENPC. Some information was found that referred to certification only and one study addressed the

perceived outcomes of a standardized course, Pediatric Advanced Life Support. No studies were found in the literature to validate the perceived benefit of other standardized courses such as Advanced Cardiac Life Support (ACLS), Basic Cardiac Life Support (BCLS), Basic Trauma Life Support (BTLS), or the Trauma Nursing Core Course (TNCC).

### Knowledge and skill

The Emergency Nurse's Association Standards of Emergency Nursing Practice (1991) state that emergency nurses must be competent, adhere to established standards of practice, and demonstrate integration of knowledge and technical skills through application of the nursing process and ongoing professional growth. The Emergency Nurse's Association (1995) in their policy statement suggests that this can be accomplished by completing specific requirements. Two identified requirements are completion of the ENPC and passing the Certified Emergency Nurse exam. However, the ENA has never studied whether successful completion of these is associated with competence.

Hawley's (1992) survey of 69 Canadian emergency nurses revealed that staff who lacked emergency care skills perceived this as a major stressor. The sample size was relatively small, and represented only four urban Canadian emergency departments. This is one example where nurses perceived that lack of knowledge, experience and skill created a major source of stress when caring for pediatric emergency patients.

Another example of nurses perceiving that lack of knowledge, experience and skill can affect their ability to care for patients was reported by Hinds, Quargnenti, Hickey, and Mangum (1994). They interviewed 25 nurses who worked in pediatric



oncology units. Nine were new to the clinical specialty and sixteen had more than 18 months experience. At three and six months post hire, the new pediatric oncology nurses reported a keen awareness about the lack of knowledge in working with patients and their families. They were also concerned about making clinical mistakes, such as medication administration and treatment completion at the assigned time. They had doubts about their ability to handle job-related responsibilities adequately and reported difficulty adjusting to shift work. After 12 months of experience these same nurses identified less fears in relationship to inadequate knowledge, lack of skill, and inability to do the job. The small sample size of this study limits its usefulness for comparison in this study.

Fredrickson, Bauer, Arellano, and Davidson (1994) surveyed 362 emergency nurses from 51 hospitals in southern California to determine their knowledge and comfort levels regarding pediatric patients. Generally they found that the higher the knowledge, the lower the discomfort ( $r = -0.71$ ,  $p < 0.05$ ). They also found that self-reported knowledge was lowest and discomfort was highest with nurses with no pediatric education. Finally, they reported that mean knowledge scores were higher and discomfort scores were lower as evaluated using ANOVA ( $p < 0.05$ ) for nurses with PALS or CEN than for those without these certifications. There was no difference in scores for those with and without ACLS, BCLS, TNCC, or Certified Critical Care Nurse (CCRN).

Bidigare and Oermann (1991) found, in a study of 61 critical care nurses, that higher knowledge scores correlated with an increased comfort level in approaching families for organ donation ( $r = 0.358$ ,  $p = 0.002$ ). They also found that the mean knowledge score for nurses with and without experience in organ donation were different

( $p = 0.02$ ), with experience correlating positively with higher knowledge. The relevance that may be implied in this study is that a course that provides experience and knowledge should increase confidence and comfort levels, thus influencing the nurse's perception and influencing outcomes of patient care. The limitation of this study is that it is applied to specific situations so generalization to pediatric emergency nursing care cannot be made.

### Certification

Redd and Alexander (1997) studied whether there was a difference in scores of certified and noncertified nurses in six areas of performance. They surveyed 83 registered nurses that worked in the staff nurse role to determine if there was any relationship between certification and job performance and self-esteem. In addition, the supervisors were asked to rate each nurse's performance. Using the t-test, the authors found no difference in the performance scores between the certified and non-certified nurses. However, using the t-test it was found that the supervisors' scores were different for the two groups with the certified nurse group scoring significantly higher in planning/evaluation ( $p = .0141$ ), and tending to score higher in teaching/collaboration ( $p = .0018$ ). The sample size was small and included nurses from only two hospitals, both over 450 beds, which is not reflective of most hospitals in the United States. Their findings suggested that nurses with specialty certifications perform better than those nurses without certifications. They recommended that more in-depth research in the areas of performance, certification and experience be conducted to accurately determine if a difference in job performance does exist between the certified and noncertified nurse.

Perry (1989) suggested that employing the certified nurse ensures quality care and promotes certification. Nielsen (1989) feels that research should be focused on the small percentage of nurses who have chosen to be certified. She believes these are the nurses who commit to professional growth and development and are highly motivated thus ensuring a competent individual. Certification would be one criterion on which she would base hiring and promotion. delBueno (1989) differs and feels that recognition, reward and acknowledgment should be given for certification but should not be required for selection or promotion of professional nurses. No studies have been conducted to explore this further from the emergency nurse's perspective.

Only one study measured the perceived benefit of a standardized course. Kadish, Bolte, Santora, Espinoza, and Woodward (1996) studied the knowledge levels of physicians caring for pediatric trauma patients in a third world country. They surveyed 43 physicians from Guatemala before a pediatric trauma course, and then immediately after and again at nine months after the course. Using the Wilcoxon signed-rank test, they found uniform improvement in the comfort levels of the physicians on both the immediate and the nine month post-tests compared to the pre-test ( $p < 0.05$ ). In addition, 100% of their nurse and physician co-workers perceived that the physicians who participated in the course had better resuscitative skills at nine months after the course than they did prior to the course. Although the authors report that PALS is taught during pediatric residency programs in Guatemala, and 29 of the subjects were pediatric residents, there is no information about the medical education of the other attending physicians who participated in this study. The course is very similar to the ENPC, using didactic and small group settings to enhance learning.

### Summary and Implications for Study

The literature reveals that research is lacking related to outcomes, whether perceived or real, of standardized courses that provide certification or verification. Although these courses are considered to reflect proficiency there is no research to validate the outcomes of knowledge and skill acquisition. There were no studies found addressing ENPC and only one that addressed other similar verification or certification courses. This study contributes to the body of knowledge about the ENPC in general and its benefits for the emergency nurse. In addition, it contributes to the knowledge about the value of certification or verification programs.

### Hypotheses/Research Questions

The research questions answered in this study are:

1. Do emergency nurses perceive an increase in knowledge and skill in caring for the pediatric emergency patient two years after successful completion of the ENPC?
2. Do non-certified emergency nurses report a greater increase in knowledge and skill two years after taking the ENPC than the certified emergency nurse?

### Definition of Terms

Emergency Nursing Pediatric Course (ENPC) - a 16 hour course designed to provide core level pediatric knowledge and skills needed to care for pediatric patients. ENA suggests that a prerequisite to the course is to have worked in a setting that cares for pediatric patients at least six months prior to taking the course. The course presents a systematic assessment model, integrates the associated anatomy, physiology and pathophysiology, and identifies appropriate interventions. Triage categorization and

prevention strategies are included in the course content. It is taught using a variety of formats, including lectures, videotape demonstrations, videotaped lectures, and instructor demonstration. It also includes skill stations that encourage participants to integrate decision making abilities into a patient situation in a risk-free setting. The course was developed by the ENA and is monitored by them. Instructors have completed additional requirements and training provided through the ENA.

Perception - each human being's representation of reality. It is an awareness of persons, objects, and events. It gives meaning to one's experience, represents one's image of reality, and influences one's behavior. (King, 1981)

Environment - everything both internal and external to the individual with which that individual is interacting. (King, 1981)

Novice - The novice includes not only a new graduate but any nurse entering a clinical setting without experience in that particular setting. The novice nurse needs rules and procedural lists to practice. (Benner, 1984)

Advanced beginner - The advanced beginner nurse is able to demonstrate the correct technique for skills, begins to relate to previous experiences, and utilizes guidelines rather than rules to guide practice. (Benner, 1984)

Competent - The competent nurse is able to consistently perform a skill, begins to see long-range goals, and uses conscious, abstract, and analytical thought processes. (Benner, 1984)

Proficient - The proficient nurse is able to perceive situations as a whole and formulates long-term goals and recognizes when the expected picture does not materialize. (Benner, 1984)

**Expert** - The expert nurse has an intuitive grasp on situations and quickly zeroes in on any problem. The expert nurse is able to manage complex situations but may have difficulty explaining why. (Benner, 1984)

**Knowledge** - Benner differentiates knowledge between practical knowledge and theoretical knowledge.

Knowing that = theoretical knowledge.

Knowing how = practical knowledge/skill

## CHAPTER 3

### METHODS

#### Design

A cross-sectional, retrospective, correlational survey design was used to study registered nurses' perceptions of their knowledge and skill levels in caring for pediatric emergency patients before and after successfully completing the Emergency Nursing Pediatric Course (ENPC). Additionally, the study examined whether non-certified emergency nurses reported a greater increase in knowledge and skill two years after taking the ENPC than the certified emergency nurse. The variables studied included ENPC, certification in emergency nursing (CEN), knowledge (theoretical) and skill (practical knowledge, ability).

One advantage of this study design was that it was completed in a relatively short time frame. In addition, the subjects completed all questionnaires at one time so there was no loss of subjects due to failure to complete the second half of the study. Finally, this study was relatively inexpensive.

Several potential problems with the design were identified and measures were taken to minimize or avoid them. The study employed a retrospective survey design. Due to the passage of time, subjects who took the course several years ago may have had difficulty remembering how they felt prior to taking the course. In addition, responses of

the subjects may not have been a true reflection of their feelings after taking the course since some have obtained more experience and/or education related to pediatric patients between the time of ENPC completion and completion of the survey. To minimize this problem, the sample was limited to nurses who had taken the course within the past two years.

Confusion in answering “before” and “after” questions could have occurred because the data was collected at only one point in time. To minimize this problem, all “before” questions were on one color of paper and all “after” questions were on another color of paper.

Talbot (1995) notes that there is increased risk for erroneous interpretation of the results with this type of design. To reduce this risk, a large sample size was used.

Self-report data were used, and therefore, participants may have hesitated to respond in an honest manner. To reduce this risk, participants were informed that all responses were anonymous, with the goal of reducing hesitancy of the participant to be honest.

Finally, there is controversy about the value of the findings from studies in which there is no manipulation of variables (Brockopp & Hastings-Tolsma, 1989; Polit & Hungler, 1995). Although there may be less confidence in inferring a cause and effect relationship with this study design, as the sample size increases, there is less likelihood that the observed findings are only due to chance. Therefore, a relatively large sample was used for this study.



### Pilot Study

Following Grand Valley State University Human Subjects Committee approval (Appendix A), a pilot study of the instruments was undertaken to evaluate the stability and internal consistency of the EPQ (Polit and Hungler, 1995).

### Sample and Setting

The Emergency Nurses Association (ENA) supported this study by providing a mailing list of nurses who completed the ENPC in 1995 or 1996. No other formal approval was required by this professional organization for this study.

Utilizing the randomization function of the Statistical Package for the Social Sciences (SPSS for Windows), 333 registered nurses were randomly selected from the mailing list of 816 provided by ENA.

There were a few sample limitations for this study. Selection of participants from the statewide list rather than limiting the participants to West Michigan registered nurses reduced bias that could have resulted from the participants recognition of the researcher's names. To assure that the sample represented only emergency nurses, only the responses of subjects that were currently working in emergency care were included in the data set.

### Pilot study sample

The pilot study sample consisted of 33 registered nurses selected from the list provided by ENA. Of the 33 registered nurses selected, 16 returned surveys. All 16 participants in the pilot sample were females ranging from 28 to 57 years of age ( $M=39.91$ ,  $SD=8.73$ ). The participants reported a range of 0-35 years of combined pediatric and emergency nursing experience ( $M=9.66$ ,  $SD=7.93$ ). Total years of nursing

experience ranged from 3-35 years ( $M=17.06$ ,  $SD\ 9.60$ ). Of the 16 participants 56% were certified emergency nurses (CEN).

#### Formal study sample

For the formal study, surveys were sent to 300 registered nurses from the list provided by ENA. Of these 110 were returned. Fifteen respondents were no longer employed in the emergency care setting and their data were not included in the study. Two surveys were returned after the data analysis was complete and also were not included. Therefore, 93 subjects were included in the study, representing 31% of those originally invited to participate.

The ages of the participants in the full study were comparable to those of the pilot study participants, and ranged from 27 to 60 years ( $M = 42.3$ ,  $SD = 7.88$ ). There were 82 females (88.2%), 9 males (9.7%) and 2 of unknown gender (2.2%). A summary of their experience is shown in Table 1.

Table 1

#### Experience of Participants (N=93)

Experience	M	SD	Range
Years of combined adult and pediatric ED experience	10.89	7.46	0 - 30
Years as an RN	17.85	8.68	3 - 38

The 93 participants in this study reported varying levels of education with greatest (53.8%) having a Diploma or Associate Degree in Nursing. A summary is shown in the table below.

Table 2

Levels of Education of Formal Study Respondents

Level of Education	n	%
Diploma /ADN	50	53.8
BSN	37	39.8
MSN	3	3.2
Other	1	1.1
Unknown	2	2.1

ACLS verification was achieved by 89.2% of the participants, but only 26.1% had achieved PALS. Table 3 summarizes the various certifications of the 93 subjects.

Table 3

Certifications of Formal Study Respondents

Current Certification	n	%
ACLS	83	89.2
TNCC	43	46.2
CEN	38	40.9
PALS	24	26.1
AACN	4	4.3

Twenty-eight percent of the participants reported the main reason they enrolled in the ENPC was to increase knowledge. Table 4 summarizes the reasons that were reported for enrolling in the ENPC.

Table 4

Reasons for Enrolling ENPC

Reason	n	%
Increase knowledge	26	28.0
Professional growth	19	20.3
Mandatory	15	16.1
Increase competency	14	15.1
Validate knowledge	11	12.9
Unknown	8	8.6

Instruments

The instruments used for this study included a demographic survey and the ENPC Perception Questionnaire (EPQ). The demographic tool was designed to collect general demographic data as well as information related to past experience, educational background, certifications and the reason for taking the ENPC (Appendix B). In addition, the Modified Clinical Stress Questionnaire (MCQ) survey was included in the packet for use in another study related to the ENPC. Data from the MCQ were not used for this study.

The EPQ survey tool was developed by this author specifically to measure nurses' perception of their knowledge and skill in caring for pediatric emergency patients before (Appendix C) and after taking the ENPC (Appendix D) because no instrument was found that addressed perception. The EPQ survey is a 12-item inventory of five levels of proficiency related to theoretical knowledge and skill (practical knowledge) defined by Benner (1984). The levels of proficiency are derived from the Dreyfus model of skill acquisition also described by Benner (1984). The 12 items were developed to reflect the content in the lectures and skill stations in the ENPC. Five nurse experts who are current ENPC instructors evaluated the EPQ survey for clarity, ease of use, understanding and content validity. Revisions in the tool were made based on the results of the nurse expert review of the instrument and included only minor changes in the wording of two of the items.

#### Pilot Study

Thirty-three subjects received two identical packets that were coded to distinguish time one and time two, but not to identity of the respondent. The packet, which included an informational letter (Appendix E), a demographic survey and the EPQ, was mailed on December 15, 1997, for the first administration of the EPQ and a second packet was mailed on December 30, 1997. This test/retest technique was used to test stability of the EPQ. Four participants completed the EPQ at both time periods. Their cumulative responses evaluating knowledge and skill before and after taking the ENPC were compared, and the correlation of their scores at time one and time two was calculated. Polit and Hungler (1995) describe reliability coefficients as ranging from .00 to a high of 1.00 with higher values indicating a more reliable (stable) measuring instrument. The

correlation of time one EPQ scores and time two EPQ scores was .85 ( $p < .01$ ), which was an acceptable estimate of stability. However, these results might not be replicated in other samples, because only four of the 33 pilot study subjects returned completed surveys at each time period.

The EPQ was analyzed for internal consistency by calculating Cronbach's alpha. The groups that were evaluated were knowledge and skill before and after completing the ENPC time one ( $n = 13$ ), knowledge and skill before taking the ENPC time two ( $n = 7$ ) and knowledge and skill after taking the ENPC time two ( $n = 5$ ). Results can be seen in Table 5.

Table 5

Estimates of Internal Consistency of the 24-item EPQ in Pilot Study

Test condition	n	Cronbach's alpha
Time one		
Before ENPC	13	.9869
After ENPC	13	.9583
Time two		
Before ENPC	7	.9875
After ENPC	5	.9145

Polit and Hungler (1995) noted that a reliability coefficient for internal consistency of .70 or greater is sufficient for internal consistency of a new instrument, with higher coefficients more preferable. The Cronbach's alpha was found to be .91 or greater for the "before" and "after" scales at each test period. This is sufficient for

internal consistency for the EPQ. No revisions of the EPQ survey were made based on the acceptable results of the two tests.

### Formal Study

Internal consistency of the EPQ tool was also established in the formal study through calculation of Cronbach's alpha. The 12-item knowledge scale and skill scale individually, and as a cumulative scale, before and after taking the ENPC were evaluated. Results are presented in Table 6. As can be seen the coefficient alpha was found to be .95 or greater in all group comparisons, thus establishing internal consistency for the EPQ in the formal study.

Table 6

### Internal Consistency Coefficients of Cumulative and Individual Self Reported Knowledge and Skill Scores Before and After Taking ENPC

	Before ENPC		After ENPC	
	n	Cronbach's alpha	n	Cronbach's alpha
Knowledge and Skill	90	.9785	89	.9768
Knowledge	91	.9569	92	.9588
Skill	90	.9590	89	.9515

Note: Number of items in Knowledge = 12, Skill = 12, Cumulative = 24

### Procedures

The procedure that was followed for this study is as follows:

1. Random selection of 333 names from the ENPC participant list from 1995 – 1996 provided by the ENA using the SPSS random table of numbers.

2. Approval from the Grand Valley State University Human Research Review Committee.
3. Completion of the pilot of the EPQ survey, utilizing thirty-three names from the ENA list after elimination of the expert reviewers.
4. Mailing of complete packet to the remaining three hundred subjects. The packet included an informational letter (Appendix E), the demographic survey, the EPQ, the MCQ survey, and the postcard requesting the results of the study. (See Appendix F for the text of the postcard.) Nurses who participated in the expert nurse review were eliminated from the list sent by ENA thus, exempting them from the study. When undeliverable surveys were received, no additional names were selected due to the large numbers sent in the mailing.
5. Reminder postcards were sent to all subjects two weeks after the initial survey was mailed. (See Appendix G for the text of the postcard.)
6. Data collected by return mail, which indicated voluntary participation.
7. Two weeks were allowed for response.
8. Data collection completed.

Anonymity of all participants was assured by numerical coding of the instruments after they were received. There were no hazards or risks associated with this study, as the participants were protected by anonymity and by voluntary participation. To accommodate those participants who requested study results a copy of the study abstract was prepared for delivery.



## CHAPTER 4

### RESULTS

The purpose of this study was to evaluate the effectiveness of the Emergency Nursing Pediatric Course in increasing perceived knowledge and skill of registered nurses caring for pediatric emergency patients. Additionally, this study examined whether non-certified emergency nurses reported a greater increase in knowledge and skill two years after taking the ENPC than the certified emergency nurse.

The variables studied were knowledge and skill, ENPC and CEN. The independent variables were CEN and ENPC. The dependent variables were knowledge and skill. The independent variables were measured at the nominal level. The dependent variables of knowledge and skill were measured individually on a Likert scale with responses ranging from one to five. The summation of data converted the scale to an interval level of measurement. Missing data or duplicate answers for a question were coded as unknown.

Data analysis was accomplished utilizing the Statistical Package for the Social Sciences (SPSS for Windows) software.

#### Characteristics

The sample consisted of 93 registered emergency nurses living in the state of Michigan who had successfully completed the ENPC in 1995 or 1996. Most of the subjects had current ACLS (88.2%), but few had the pediatric specific credential PALS

(26%). Certification in Emergency Nursing (CEN) was achieved by 38 (40.9%) of the participants. Refer to Table 3 for a summary of their certifications. Their reasons for taking ENPC varied and can be seen in the summary of the findings in Table 4.

#### Research Questions

The first research question analyzed for this study was whether emergency nurses perceive an increase in knowledge and skill in caring for pediatric emergency patients two years after taking the ENPC. Table 7 summarizes the self-reported 12-item knowledge and 12-item skill scores before and after taking ENPC.

Table 7

Self Reported Knowledge and Skill Item Scores Before and After Taking ENPC (n = 93)

	Before ENPC		After ENPC	
<u>Knowledge</u>	M	SD	M	SD
1. Triage	3.409	.947	4.109	.791
2. Assessing patency of airway	3.731	.911	4.261	.739
3. Maintaining airway	3.645	.893	4.163	.788
4. Assessing respiratory status	3.645	.940	4.250	.765
5. Assisting ventilations	3.570	.982	4.174	.820
6. Assessing circulatory status	3.570	.865	4.185	.769
7. Establishing venous access	3.380	1.078	3.967	.818
8. Assisting with intraosseous insertion	2.359	1.163	3.370	1.066
9. Calculating fluid requirements	2.688	.932	3.565	.881
10. Assessing pediatric trauma	3.065	1.009	3.913	.794
11. Providing care for pediatric trauma	3.086	1.060	3.946	.817
12. Resuscitation of pediatric patient	3.000	1.063	3.848	.876
<u>Skill</u>				
1. Triage	3.473	.904	4.163	.774
2. Assessing patency of airway	3.763	.925	4.283	.731
3. Maintaining airway	3.688	.897	4.207	.764
4. Assessing respiratory status	3.710	.916	4.261	.724
5. Assisting ventilations	3.581	.982	4.152	.811
6. Assessing circulatory status	3.570	.914	4.185	.783
7. Establishing venous access	3.402	1.080	3.989	.863
8. Assisting with intraosseous insertion	2.319	1.246	3.163	1.198
9. Calculating fluid requirements	2.753	.996	3.622	.955
10. Assessing pediatric trauma	3.097	1.022	3.967	.831
11. Providing care for pediatric trauma	3.129	1.066	3.978	.864
12. Resuscitation of pediatric patient	3.054	1.057	3.837	.917

Value Label Scale 1-5

- 1= Novice
- 2= Advanced Beginner
- 3= Competent
- 4= Proficient
- 5= Expert

The statistical analysis used in this study was the t-test for paired samples. It was used to compare the knowledge and skill scores before and after taking the ENPC. Significance was set at .05 for both tests. The mean individual knowledge and skill scores were perceived as significantly higher on the after taking the ENPC as compared to the before taking the ENPC scores. This is shown in Table 8.

Table 8

Comparison of Self-Reported Knowledge and Skills Scores Before and After Taking the ENPC (n=93)

	Before ENPC		After ENPC	
	M	SD	M	SD
Knowledge	38.90	9.75	47.72	8.25
Skill	39.11	9.72	47.80	8.25
Knowledge & skill				
cumulative	78.07	19.24	95.49	16.28

The mean of the cumulative knowledge and skills scores before taking ENPC was 78.07 (SD= 19.24) and 95.49 (SD=19.24) after taking ENPC. Respondents' recalled knowledge and skill before the ENPC were perceived as significantly less than after the course. Results are shown in Table 9.

Table 9

Comparison of Self-Reported Knowledge and Skill Before and After Taking ENPC

	M	SD	t	df	Sig
Knowledge	8.82	6.26	-13.35	89	<.001
Skill	8.68	6.77	-11.89	85	<.001
Knowledge & Skill	17.41	12.77	12.64	85	<.001

The second question addressed by the study was whether nurses without certification in emergency nursing report a greater increase in knowledge and skill in caring for pediatric emergency patients two years after taking the ENPC than the certified emergency nurse. The t-test for independent samples was used to determine if there was a difference in the reported knowledge and/or skill either before or after taking the ENPC.

With  $p < .05$  designated for alpha, no significant differences were found between the means of the CEN and non-CEN groups on knowledge and skill. However, the CEN group tended to report higher scores on knowledge and skill as compared to the non-CEN group before and after taking the ENPC. Results are reported in Table 10.

Table 10

Comparison of CEN and Non-CEN Nurses' Responses on the ENPC Perception Questionnaire (N=93)

Variables	CEN		Non-CEN		t	df	p
	(n = 37)		(n = 53)				
	M	SD	M	SD			
Before ENPC							
Knowledge	40.70	9.47	38.09	9.74	1.26	88	.209
Skill	40.75	9.46	38.47	10.14	1.07	87	.288
Knowledge & Skill	81.17	18.79	76.57	19.58	1.11	87	.272
After ENPC							
Knowledge	48.89	7.43	47.00	8.87	1.07	89	.286
Skill	49.24	7.54	46.98	8.77	1.27	86	.209
Knowledge & Skill	98.49	14.65	93.76	17.40	1.34	86	.183

### Other Findings

One interesting finding was that although the participants were a very experienced group, only 15.2% scored their knowledge in assisting with intraosseous insertion as proficient or expert before taking ENPC. After taking ENPC that percentage had increased to 44.6%. This finding may indicate that there is a need for even the highly experienced nurse to obtain more information and education in providing care to the pediatric patient who requires intraosseous insertion and maintenance.

## CHAPTER 5

### DISCUSSION AND IMPLICATIONS

#### Discussion of the Findings

One question that this study addressed was whether emergency nurses who successfully completed the Emergency Nursing Pediatric Course (ENPC) perceived an increase in knowledge and skill in caring for pediatric emergency patients after completing ENPC than they recalled possessing before taking the ENPC. The data obtained indicated that they do perceive an increase in overall knowledge and skill after taking the ENPC. However, the validity of this perception cannot be fully supported because this was a retrospective study and other factors such as additional experience in caring for pediatric emergency patients may have influenced their recalled responses.

According to King's theory of Goal Attainment, a variety of factors influence one's perception of a situation, including past experience, self-concept, and education (King 1981). As nurses increase their knowledge and skill through the ENPC they become more knowledgeable about the care of the pediatric emergency patient and perceive the ability to manage cases confidently. Some may also have improved self-concept, as they receive recognition in the form of a card that identifies them as a provider of pediatric emergency care (ENPC Provider). In addition recognition by peers and management increases pride and self-esteem, which in turn may increase their perception of their ability to care for pediatric emergency patients. There also will be confidence in knowing what to expect and do when caring for a pediatric patient with an



unfamiliar disease or complaint. This may then decrease the registered nurse's fears and concerns that patients and their families view them as incompetent.

The belief that nurses will use newly acquired knowledge and skills to improve the care of the patient and family is supported by a study reported by Shaw, Tessarao, Herman, and Giese (1997). This study determined factors associated with public health nurse performance of breast and cervical cancer screening. They reported that public health nurses who perceived high self-confidence were more likely to perform the six services of cancer screening. Another finding reported by Shaw (1997) was that those public health nurses who reported having good or excellent breast examination clinical skills were more than twice as likely as public health nurses with fair or poor clinical skills to perform clinical breast exams. Shaw also examined the factors that influenced self-confidence, and reported that completion of continuing education courses, such as cancer education or physical examination assessment, were both significantly related to perceptions of higher self-confidence in public health nurses. In addition, higher self-confidence was also associated with having worked in public health for more than five years. Comparing Shaw's findings to the findings of this study it could be assumed that nurses who successfully complete the ENPC will use their increased knowledge and skill in caring for pediatric emergency patients.

The findings of this study are also consistent with those of Kadish, Bolte, Santora, Espinoza, and Woodward (1996) who found that physician knowledge levels were increased both immediately and nine months after taking a pediatric trauma course ( $p < 0.05$ ). Physician respondents in their study showed improvement in both the knowledge and attitudinal aspects of pediatric trauma following completion of the ATLS course, just

as the nurse participants reported in this study. Kadish's study also supported the belief that performance improves if the practitioner perceives an increase in knowledge and skill. Patient outcomes were not examined by either Kadish et al., or Shaw, therefore, a conclusion cannot be made that perceived increase in knowledge and skill improves patient morbidity and mortality.

Ready (1994) suggests that a competency program helped emergency nurses apply established standards of emergency care more consistently. Based on this belief it could be assumed that the ENPC providers consistently deliver standard-based care to pediatric emergency patients, thus possibly affecting outcomes positively.

The second question that this study addressed was whether two years after completing the ENPC, nurses without certification in emergency nursing (CEN) would report a greater increase in knowledge and skill than nurses who were certified. Because certification validates the emergency nurse's knowledge of care of patients across the age continuum, it can be anticipated that the nurse who has achieved certification has at least a basic level of knowledge and expertise in caring for pediatric emergency patients. However, because there are a variety of reasons for pursuing or not pursuing certification, it cannot be assumed that nurses who are not certified would have a lower knowledge or skill level in caring for pediatric emergency patients. Assuming that certified registered nurses already had basic level knowledge and skill in caring for pediatric emergency patients, it was expected that they would not perceive as great an increase in knowledge and skill after taking the ENPC as the non-certified emergency nurse. Findings did not support this expectation. This could be attributed to a number of reasons. First, they may have had only limited experience or exposure to pediatric emergency patients. Also, they

may have had limited educational opportunities related to pediatrics after testing for certification, therefore making their perceptions about the knowledge and skill obtained from ENPC no different from those of the non-certified emergency nurse.

Although the knowledge and skill scores before ENPC tended to be higher for the CEN group than the non-CEN group, there was no statistical significant difference between the groups. Prior to ENPC, both groups were similar in their knowledge and skill scores, and both groups had higher scores in knowledge and skill after the ENPC. These findings are similar to Fredrickson, Bauer, Arellano and Davidson (1994), who found that nurses with PALS or CEN had higher self reported knowledge scores. In addition, the results would support delBueno's (1989) belief that certification should not be required for selection or hiring and promotion, because there was no significant difference in the means of their scores.

No attempt was made in this study to determine actual pediatric knowledge, skill or experience level of the nurses who were certified, in comparison to those who were not certified. Nor was the reason for taking ENPC taken into consideration. The non-certified group may have had equivalent knowledge and skill, but had not chosen to pursue certification for a variety of reasons including fear of test taking, monetary constraints, or no perceived value in the credential. This same non-CEN group may have had other reasons for taking ENPC. They may have been required to take ENPC (16.1% of participants reported they took the course because it was mandatory), had the course paid for by their employer, had taken the course at a reduced rate due to grant funding of the course, or perceived the ENPC credential to be of more value than certification.

### Limitations

The major limitation of this study was that it relied on retrospective recall of the nurse's perceptions before taking ENPC. To reduce the effects of the passage of time on the nurses' recollection, only those who had taken ENPC during the two years prior to the study were included in the sample. Even with this approach, the nurses may have had difficulty remembering their knowledge level and ability to care for pediatric patients up to two years previously.

The nurses were also asked to report their levels of knowledge and skill when caring for pediatric emergency patients after taking ENPC. All respondents had some additional clinical experience following the course and before completing this study. Some may have attended other pediatric courses, inservices, or other educational offerings. These factors could have influenced their perceptions of their knowledge and skill in caring for pediatric emergency patients thus affecting their responses positively.

Because this sample was selected from Michigan nurses who have taken ENPC already, the findings can only be generalized to that group. It is not known whether those who have already taken ENPC are a representative sample of emergency nurses throughout the state. Although this is an international standardized course, no comparisons were done to determine if the Michigan nurses who took the course are similar to nurses in other states who have taken the course. Furthermore, since this is a new course, those who took ENPC during these years may be a much more experienced group than those who will be taking it in the future and at an earlier stage in their careers.

### Implications

Implications for clinical practice indicate that ENPC participants perceive an increase in knowledge and skill after successful completion. This supports ENA's recommendation that this course be required for all emergency nurses who provide care to pediatric patients. The overall increase in perceived knowledge and skill may increase job satisfaction and retention while decreasing burnout, a major hazard of emergency nursing. It may also improve the care that pediatric emergency patients receive by consistent use of standard-based care.

The emergency department nurse manager and the educator evaluating the benefits of the course can recognize the value of employing nurses who have the knowledge and skill to care for pediatric emergency patients. This study supports basing a decision of selecting candidates with ENPC verification when all other qualifications are equal.

The study findings suggest that the nurse with CEN perceives an increase in knowledge and skill following completion of the course just as the non-CEN nurse. From these findings ENPC should be promoted to all emergency nurses whether CEN or not. CEN status alone should not be an indicator of a nurse's ability to care for pediatric emergency patients.

### Recommendations

It is recommended that a similar study should be conducted with future ENPC participants across the United States and internationally. To improve the design of future studies the EPQ should be completed prior to taking the ENPC so that scores would provide an actual representation of the nurses' perception of knowledge and skill before

ENPC. Following completion of the ENPC, at a specified interval, the instrument should be completed again. Although it would be difficult to control for the type of experience the nurse achieved during that time interval, an attempt could be made to control for other educational activities. These modifications to the study design would enhance the strength of the study.

A valuable but difficult study would be to evaluate actual nursing care provided to pediatric emergency patients by non-ENPC provider nurses and compare it to nursing care provided by an ENPC provider nurse. This study could be used to support the recommendation that ENPC should be required for emergency nurses.

It also would be beneficial to compare the knowledge and skill scores perceived by nurses with varying years of nursing experience. Because the course is relatively new, many of the nurses completing the course in the first years had many years of nursing and emergency nursing experience. In this study, the nurses reported a mean of almost 11 years of emergency nursing experience and almost 18 years of nursing experience. As new nurses are hired into emergency departments, they have the opportunity to take this course earlier in their careers. They may perceive even more benefit from the course than the more experienced nurses.

Cost analysis is a topic for another future study. The actual cost of the ENPC could be compared to the cost of individual education that covers the same curriculum. This would be a strong factor in managers making decisions on whether or not ENPC is the right choice for emergency department managers.

This study indicates that out of the 12-items that emergency nurses scored themselves on, intraosseous insertion was scored below the proficient level. This data

suggests that educational opportunities for practice and review should be available, as for actual experiences in assisting with insertion are extremely rare in the clinical setting.

In summary, more in-depth research is indicated in the areas of comparing performance in relationship to certification and experience and then measuring their effect in actual patient outcomes. Nurses reported a perceived increase in knowledge and skill in caring for pediatric emergency patients after completing the ENPC. The ENPC should be considered as an effective mechanism to increase knowledge and skill for nurses who provide care to pediatric emergency patients.

## APPENDICES



## **APPENDIX A**

**Grand Valley State University Human Subjects Approval**

## APPENDIX A

### Grand Valley State University Human Subjects Approval



1 CAMPUS DRIVE • ALLENDALE MICHIGAN 49401-9403 • 616/895-6611

December 11, 1997

Diana Ropele  
18180 Wilson Ave.  
Big Rapids, MI 49307

Dear Diana:

Your proposed project entitled "*Emergency Nurse Perception of the Benefit of the Emergency Nurse Pediatric Course*" has been reviewed. It has been approved as a study which is exempt from the regulations by section 46.101 of the Federal Register 46(16):8336, January 26, 1981.

Sincerely,

[Redacted Signature]

Paul Huizenga, Chair  
Human Research Review Committee

## **APPENDIX B**

### **Demographic Tool**

## APPENDIX B

### Demographic Tool

#### Demographic Information

ID \_\_\_\_\_

ID \_\_\_\_\_

**Are you currently working in an emergency care setting?**

**YES** \_\_\_\_\_ please continue to fill out this survey and return by February 20 in the envelope provided.

**NO** \_\_\_\_\_ please stop and return this questionnaire in the envelope provided.

**Age at last birthday:** \_\_\_\_\_

**Sex:** M \_\_\_\_\_ F \_\_\_\_\_

**Highest nursing degree achieved**

1. \_\_\_\_\_ Diploma/A.D.N.
2. \_\_\_\_\_ BSN
3. \_\_\_\_\_ MSN
4. \_\_\_\_\_ Other Describe \_\_\_\_\_

**Certifications/Verifications**

	<i>Current</i>	<i>Past</i>
AACN	_____	_____
CEN	_____	_____
PALS	_____	_____
TNCC	_____	_____
ACLS	_____	_____

**Indicate number of years of employment in the following:**

	<i>Years</i>
Combined Adult & Ped ED	_____
Ped ED	_____
PICU	_____
PEDS UNIT	_____
PEDS CLINIC	_____
MED CENTER	_____
SCHOOL NURSE	_____

**Total number of years as an RN** \_\_\_\_\_

**The main reason I attended an Emergency Nursing Pediatric Course: (check one)**

1. \_\_\_\_\_ Mandatory (required to maintain job)
2. \_\_\_\_\_ Obtain continuing education credits
3. \_\_\_\_\_ Professional growth
4. \_\_\_\_\_ Increase knowledge
5. \_\_\_\_\_ Validate level of knowledge
6. \_\_\_\_\_ Increase competency

**What is your primary current position? (choose one)**

1. \_\_\_\_\_ Staff Nurse
2. \_\_\_\_\_ Nurse Educator
3. \_\_\_\_\_ Management
4. \_\_\_\_\_ CNS/Nurse Practitioner
5. \_\_\_\_\_ Other Describe \_\_\_\_\_

## **APPENDIX C**

### **ENPC Perception Questionnaire (EPQ)**

## Appendix C

### ENPC Perception Questionnaire (EPQ)

Please complete the sections below using the following scale:

**NOVICE** - inexperienced, needs specific rules and procedures to guide practice

**ADVANCED BEGINNER**- minimally acceptable performance, uses general guidelines to guide practice

**COMPETENT**-acceptably performs skills, analyzes situations to plan care

**PROFICIENT**-sees the whole picture, recognizes when the expected outcomes do not occur

**EXPERT**-has an intuitive grasp of situations, quickly zeroes in on any problem, manages complex situations

Please rate your **KNOWLEDGE** level before completing the ENPC using this scale:

	Novice	Adv beg.	Competent	Proficient	Expert
1. Triage pediatric patients	1	2	3	4	5
2. Assessing patency of airway	1	2	3	4	5
3. Maintaining airway	1	2	3	4	5
4. Assessing respiratory status	1	2	3	4	5
5. Assisting ventilations	1	2	3	4	5
6. Assessing circulatory status	1	2	3	4	5
7. Establishing venous access	1	2	3	4	5
8. Assisting with intraosseous insertion	1	2	3	4	5
9. Calculating fluid requirements	1	2	3	4	5
10. Assessing pediatric trauma patient	1	2	3	4	5
11. Providing care for pediatric trauma patient	1	2	3	4	5
12. Resuscitation of the pediatric patient	1	2	3	4	5

Please rate your **ABILITY** to perform the following before completing the ENPC according to this scale:

	Novice	Adv beg.	Competent	Proficient	Expert
1. Triage pediatric patients	1	2	3	4	5
2. Assessing patency of airway	1	2	3	4	5
3. Maintaining airway	1	2	3	4	5
4. Assessing respiratory status	1	2	3	4	5
5. Assisting ventilations	1	2	3	4	5
6. Assessing circulatory status	1	2	3	4	5
7. Establishing venous access	1	2	3	4	5
8. Assisting with intraosseous insertion	1	2	3	4	5
9. Calculating fluid requirements	1	2	3	4	5
10. Assessing pediatric trauma patient	1	2	3	4	5
11. Providing care for pediatric trauma patient	1	2	3	4	5
12. Resuscitation of the pediatric patient	1	2	3	4	5

## **APPENDIX D**

### **ENPC Perception Questionnaire (EPQ)**

## Appendix D

### ENPC Perception Questionnaire (EPQ)

Please complete the sections below using the following scale:

**NOVICE** - inexperienced, needs specific rules and procedures to guide practice

**ADVANCED BEGINNER**- minimally acceptable performance, uses general guidelines to guide practice

**COMPETENT**-acceptably performs skills, analyzes situations to plan care

**PROFICIENT**-sees the whole picture, recognizes when the expected outcomes do not occur

**EXPERT**-has an intuitive grasp of situations, quickly zeroes in on any problem, manages complex situations

Please rate your **KNOWLEDGE** level after completing the ENPC using this scale:

	Novice	Adv beg.	Competent	Proficient	Expert
1. Triage pediatric patients	1	2	3	4	5
2. Assessing patency of airway	1	2	3	4	5
3. Maintaining airway	1	2	3	4	5
4. Assessing respiratory status	1	2	3	4	5
5. Assisting ventilations	1	2	3	4	5
6. Assessing circulatory status	1	2	3	4	5
7. Establishing venous access	1	2	3	4	5
8. Assisting with intraosseous insertion	1	2	3	4	5
9. Calculating fluid requirements	1	2	3	4	5
10. Assessing pediatric trauma patient	1	2	3	4	5
11. Providing care for pediatric trauma patient	1	2	3	4	5
12. Resuscitation of the pediatric patient	1	2	3	4	5

Please rate your **ABILITY** to perform the following after completing the ENPC according to this scale:

	Novice	Adv beg.	Competent	Proficient	Expert
1. Triage pediatric patients	1	2	3	4	5
2. Assessing patency of airway	1	2	3	4	5
3. Maintaining airway	1	2	3	4	5
4. Assessing respiratory status	1	2	3	4	5
5. Assisting ventilations	1	2	3	4	5
6. Assessing circulatory status	1	2	3	4	5
7. Establishing venous access	1	2	3	4	5
8. Assisting with intraosseous insertion	1	2	3	4	5
9. Calculating fluid requirements	1	2	3	4	5
10. Assessing pediatric trauma patient	1	2	3	4	5
11. Providing care for pediatric trauma patient	1	2	3	4	5
12. Resuscitation of the pediatric patient	1	2	3	4	5



## **APPENDIX E**

### **Informational Letter Pilot**

## **Appendix E**

### **Informational Letter Pilot**

**December 3, 1997**

**Dear Nursing Colleague,**

**For our master's theses at Grand Valley State University, we are conducting a study to investigate the benefits of the Emergency Nurses Pediatric Course (ENPC) for the Emergency Department Nurse. The first part of the study tests the reliability of one of the questionnaires. We are requesting your participation in the pilot of this questionnaire.**

**Enclosed you will find two questionnaires. One should be completed to indicate how you felt *before* taking ENPC; the other to indicate how you felt *after* taking ENPC. About two weeks after completing the first questionnaires, you will receive another copy of the same questionnaires to complete. It is important that you complete the questionnaires both times.**

**Your completion and return of the questionnaires implies your consent to participate in the study. It also implies understanding of the following:**

- 1. I have been selected for participation because I have completed the ENPC course.**
- 2. Participation in this study will involve completion of two brief questionnaires. They will take about five minutes to complete. I will be asked to repeat these in two weeks.**
- 3. My participation is voluntary and I may choose not to participate simply by not returning the forms.**
- 4. The information that I provide will be kept confidential and the tools and data will be coded such that individual respondents can not be identified.**
- 5. The investigators, Diana Ropele and Sherri Veurink-Balicki, have my permission to release information obtained in this study to scientific literature. I understand that I will not be identified by name.**
- 6. The following may be contacted at any time if I have questions about the study or my participation in it:**
  - Diana Ropele, BSN, RN (616) 796-7215**
  - Sheri Veurink-Balicki, BSN, RN (616) 791-1641**
- 7. If I have any questions about my rights if I choose to participate in this study, I may contact:**
  - Professor Paul Huizenga (616) 895-2472**
  - Chairperson, GVSU Human Research Review Committee**

**After completing the questionnaires, please return in the enclosed, stamped envelope by December 17, 1997.**

**Thank you in advance for your participation. Please accept the enclosed token of appreciation for assisting us with this study.**

**Sincerely,**

## **APPENDIX F**

### **Informational Letter for Participants**

## Appendix F

### Informational Letter for Participants

February 5, 1998

Dear Nursing Colleague,

We are conducting a study to investigate the benefits of the Emergency Nurses Pediatric Course (ENPC) for the Emergency Department Nurse. This study is being done as our master's theses at Grand Valley State University. Since you have taken this course, we are requesting your participation in this study.

Enclosed you will find an information sheet and two sets of questionnaires. The questionnaires should be answered to indicate how you felt before taking ENPC and after taking ENPC. The sheets are color coded to make it easier to differentiate between the "before" and "after" questionnaires.

Your completion and return of the questionnaires implies your consent to participate in the study. It also implies understanding of the following:

1. Participation will involve completion of an information sheet and four short questionnaires. This should take a total of no more than 20 minutes.
2. I have been selected for participation since I have completed the ENPC course.
3. The information that I provide will be kept confidential and the questionnaires and data will be coded such that individual respondents can not be identified.
4. A summary of the results will be provided to me at my request.
5. My participation is voluntary and I may choose not to participate simply by not returning the forms.
6. The investigators, Diana Ropele and Sherri Veurink-Balicki, have my permission to release information obtained in this study to scientific literature. I understand that I will not be identified by name.
7. The following may be contacted at any time if I have questions about the study or my participation in it:

Diana Ropele, BSN, RN (616) 796-7215

Sherri Veurink-Balicki, BSN, RN (616) 791-1641

8. If I have any questions about my rights if I choose to participate in this study, I may contact:  
Professor Paul Huizenga (616) 895-2472

Chairperson, GVSU Human Research Review Committee

Please return the forms in the enclosed addressed, stamped envelope within two weeks. If you would like a copy of the results, please complete the enclosed postcard and return it separately so the confidentiality of your responses can be maintained.

Thank you in advance for your participation.

Sincerely,

## **APPENDIX G**

### **Request Results Postcard**

## Appendix G

### Request Results Postcard

If you would like to receive a copy of the findings of these studies, please complete the information requested below and return this postcard. The results will be mailed to you upon completion of both studies.

Name \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

## **APPENDIX H**

### **Reminder Postcard**

## Appendix H

### Reminder Postcard

Dear Nursing Colleague,

About two weeks ago we mailed you a packet of questionnaires about your perceptions before and after taking the Emergency Nursing Pediatric Course. If you have already completed and returned the questionnaires, thank you for your assistance. If you have not completed them yet, please complete them as soon as you can and return them in the addressed, stamped envelope that came with the packet of questionnaires. Thank you for your participation in this study.

Sincerely,

Diana Ropele, BSN, RN, CEN      Sherri Veurink-Balicki, BSN, RN, CEN



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## LIST OF REFERENCES

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