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CHILDREN'S PERCEPTIONS OF THE NURSE

by

Nancy Adams Coulter

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Family and Child Development

Approved:

Major Professor

Committee Member

Committee Member

Dean of Graduate Studies

UTAH STATE UNIVERSITY
Logan, Utah

1974

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This work is dedicated to our son, Gary, as a representative of the children for whom this study was performed.

Nancy Adams Coulter

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ABSTRACT

Children's Perceptions of the Nurse

by

Nancy Adams Coulter, Master of Science

Utah State University, 1974

Major Professor: Dr. Carroll Lambert
Department: Family and Child Development

The purpose of this study is to assess children's perceptions of the nurse as they are related to children's age, the amount of contact children have had with nurses and children's sex.

An oral picture test, consisting of 10 photographs, was administered to 45 children in the Edith Bowen Elementary School at Utah State University. The children were interviewed about their perceptions of the nurses in each photograph and their responses were rated as being positive, negative or neutral.

The findings of this study indicate that although significant differences exist in children's perceptions of the nurse in terms of positive, negative and neutral responses, these differences are not due to the effects of the age of the children, the amount of contact they have had with nurses or the sex of the children.

The conclusions are that children's perceptions of the nurse are affected by a variable which was not tested in the present study and that children seem to reveal the more positive aspects of their feelings about nurses. The author suggests that children's negative feelings about nurses are too powerful to be verbalized and have been internalized by the children due to the influence of social pressure to conform.

(108 pages)

CHAPTER I
INTRODUCTION

Statement of the Problem

Hospitalization is traumatic for many children. Recent studies have attempted to determine methods for relieving some of the stress of hospitalization for children. In the past, when a hospitalized child became quiet and cooperative and ceased to cry when his parents left, the hospital staff felt that the child had adjusted to his hospitalization. It is now recognized that this period of "adjustment" may be detachment, the third stage of a child's response to separation following the initial phases of protest and despair (Hales, 1968). We know now that to prevent the progression of these responses the child's basic needs of security, love and play must be met while he is hospitalized (Green, 1970). In fact, children should not be hospitalized unless it is absolutely essential. If they are hospitalized, several steps can be taken to alleviate the distress the child may experience. The child should be prepared for the hospitalization, force and much of the pain in the contact between staff and child should be eliminated and a continued close contact between mother and child should be allowed (Work, 1956). Combined with a program of play therapy these measures can be used to decrease the stress of hospitalization (Anonymous, 1970). As knowledge concerning the care of children who require hospitalization

increases, children will receive more assistance during the experience of hospitalization and the detrimental effects of hospitalization will decrease.

The nurse, or individual who provides the basic care of the sick or injured child, as a result of close contact with children during hospitalization, is in a key position to assist children in their adjustment to hospitalization. Since the nurse's role is changing from that of a technician to a key health professional, she should be capable of providing the emotional support children need during this period. Effectiveness of the nurse is limited, however, by children's acceptance of the nurse and the nurse's role or "... patterned behavior ascribed to a class of individuals that can be described objectively and perceived uniformly by others" (Dubin 1965, p. 818). As mentioned in one study (Yarrow, 1963), it is necessary to investigate the cognitive aspects of perception shown by the perceiver's description or conceptualization of the other person.

The problem which was investigated in this study is that of some factors which may influence children's perceptions of the nurse and the nurse's role and thus influence children's acceptance of the nurse.

Purpose

The purpose of this study was to assess children's perceptions of the nurse. The study attempted to determine the influence of children's age, the amount of contact children have had with nurses and children's sex on their

perceptions of the nurse and the nurse's role. This study was exploratory and descriptive in nature.

Statement of the Hypotheses

The hypotheses which were investigated in this study were:

1. There is a more positive perception of the nurse and the nurse's role by children as the age of the children increases.
2. There is a more positive perception of the nurse and the nurse's role as the amount of contact children have had with nurses increases.
3. There is a more positive perception of the nurse and the nurse's role by female children than by male children.

CHAPTER II
REVIEW OF THE LITERATURE

Introduction

The purpose of this review is to present research findings from the literature about social perception, role perception, children's perception and health and hospitalization.

According to Estvan (1958), perception provides the beginning point to answering the question of how the child sees the world. Estvan defines social perception as "... a response to selected elements in a social situation rather than to the total complex of stimuli" thus "... ascribing meaning to the situation as perceived by the individual" and involving his emotions (Estvan, 1958, p. 215).

Social Perception

Social perception is a very loose term combining the concepts of apperception and cognition in relation to one's understanding of another person. In judging a person, we depend upon physical clues, environmental clues, media of perception (for example a photograph) and an evaluative judgement (Tagiuri, 1964). According to Gollin (1958), impressions of other people are comprised of perceptions which are modifications of the stimulus qualities which the person being judged projects. An individual then tends to form an

impression of the entire person from these modified perceived stimuli.

Whether or not we believe people are held responsible for their actions influences our perceptions of others producing a "halo effect" or general impression of goodness or badness (Tagiuri, 1964). Gage (1951) showed that motivation influenced a person's perception of a given situation. The person's perception of the situation then determined the person's behavior in the situation. Another study (Davitz, 1955) demonstrated further that there was a "... positive relationship between perceived similarity and evaluation of another person" (Davitz, 1955, p. 173).

Bieri (1953), attempting to determine how the perceptions of people about another person change as a result of interacting with that person, assumed in his study that perception of another individual changed as a result of social interaction. He then demonstrated that individuals perceived other individuals as more like themselves after there had been an episode of constructive interaction than before there had been any interaction. Although results supported the hypothesis that conflicting communications about a person may temporarily deflect a person from his preconceptions, in time there was a tendency to return to them (Luchins, 1970).

Children's perceptions of people are usually composed of various characteristics which the child synthesizes rather than from unrelated elements (Yarrow, 1963). This study showed that children judged other people on the basis of interpersonal interactions. The most highly organized descriptions of people given by the children in this study concerned people with whom the children felt

affective bonds whether these bonds were positive or negative.

A child's attitudes or perceptions of his parents will generalize to many other individuals by stimulus generalization, configuration and role similarity. The findings in Cox's study (1962) offered some support for the hypothesis that a positive attitude toward the parent of the same sex is a necessary condition for the establishment of a good relationship with peers. Serot (1961) demonstrated that a child's general adjustment was related to his perception of his relationship with his family.

Role Perception

There is a generalization of perceptions to the population of persons who hold the same position and there is an intra-group consensus on the behavior characteristic of a position when each group member judges a different occupant of the position (Emmerich, 1961). Knowledge of a person's role affects our perception of him (Tagiuri, 1964). A role stereotype shared by members of a group is strengthened by being reinforced by the group. These stereotypes which are shared by the members of one's group are even strong enough to withstand the effects of contradictory perceptual cues (Sheikh, 1968). Levy and Richter (1963) showed that when characteristics of groups were assessed subjects' ratings corresponded to the mean values of the traits of individuals in the group and that the confidence of the judgement decreased as the variation of the trait among the individuals in the group increased.

The Effects of Children's Age on Perception

Much of the work done in the area of perception of others is focused on the variable of age. Gates (1923) stated that the "ability to meet successfully social situations . . . depends, in part, on the capacity to make the appropriate reaction and, in part, on the ability to perceive accurately the conditions which are encountered" (Gates, 1923, p. 449). He stated that there were definite age differences in ability to interpret emotional expressions, although he was not sure whether these differences were due to the photographs used in his study or to an actual difference in the capacity to interpret various emotional expressions. Children use the power dimension more frequently as they progress in age in order to discriminate between roles (Emmerich, 1959). Dubin (1963) stated that the authority inception period extends through the years of six to ten for major areas of learned behavior.

One study (Kohn, 1961) showed that younger people differentiate less among people than older persons do. In the study previously cited (Yarrow, 1963) the frequency of more complex responses concerning the perception of specific individuals increased as age and extrovertism increased. However, the author stated that there was little understanding of the significance of the variations in content and organization of children's cognitive reports of their perceptions. Schellenberg and Wright (1968) believed that a sequential pattern in the process of social perception paralleled the sequential developmental pattern in the understanding of physical environment and of morality. Their beliefs were not supported by their study which showed no evidence of changes

in children's perception occurring with increasing age of the subjects (fourth graders, seventh graders, tenth graders and college freshmen).

Younger children use external cues such as surrounding environment to aid in their perception and as age increases the children's reactions shift from external objects to the personality of the subject perceived (Levy-Schoen, 1964). Facial cues are used as dominant clues only after eight years of age. The ability to discriminate perceptions increases with age and experience as shown in Levy-Schoen's study (1964).

The Effects of Children's Sex on Perception

Sex differences in perception are less clear than age differences. In a study on the development of vocational interests (Tyler, 1955), patterned interests appeared to develop through the acquisition of dislikes by people who initially had a favorable attitude rather than the development of likes and dislikes from an initially neutral attitude. Girls seemed to favor roles that were anti-activity and anti-aggression. They tended to reject roles which demonstrated inappropriate activity. Boys favored roles that were anti-sissy and anti-work. They, too, rejected roles demonstrating inappropriate activity. These differences in role perception suggest that there exists a similar sex difference in person perception. In another study of role preference (Brown, 1956), there was a dichotomy shown in sex role preferences of young children. Although some children of both sexes showed a mixed preference pattern for male and female roles, boys preferred masculine roles more strongly than girls pre-

ferred feminine roles. The increased frequency of preferences for male roles may have been due in part to the higher social value placed on male roles as compared to female roles.

Estvan (1955) demonstrated that boys and girls differed in their social perception. Girls were more perceptive in cognitive aspects of perception and showed a more positive attitude in their perception of life situations. Boys were less perceptive in the cognitive aspects of perception and showed a more neutral perception of life situations.

In Yarrow's study (1963) girls were found to perceive more examples of nurturing behavior while boys perceived more non-conforming, conforming and withdrawn behavior. However, in a study concerning the child's perception of his nursery school teacher (Feigenbaum, 1970), neither the teacher's race nor the race or sex of the child influenced the child's perception of his teacher.

Emmerich (1961) demonstrated in his study that girls discriminated child sex roles by assigning positive actions to the girls and negative actions to the boys whereas boys discriminated child sex roles according to the specific interaction situation.

The Effects of Children's Race, Socio-economic Class and Intelligence Quotient on Perception

A small amount of research on children's perceptions of people is concerned with race, social class and intelligence. Aldous (1969) found no differ-

ence in adult role perception as related to either class or race. Negro and caucasian children were found to differ in their social perception in a study by Estvan (1955). The negro children were found to show a higher degree of cognitive perceptual awareness. In the same study children of a higher social class were found to be superior in recognition and perception to children of lower socio-economic level.

A few studies (Yarrow, 1953; Gollin, 1958; Crandall, 1958) mentioned the possibility of the effect of intelligence on social perception. However, no definite conclusions were drawn. Halverson (1970) determined in his study that interpersonal judgement or perception was partly a function of the interaction between cognitive disposition and personal evaluation. He believed that cognitive abilities could affect interpersonal judgements. He also showed that low cognitive level individuals tolerated less disharmony and inconsistency in their assumptions about others than the high cognitive level group. His findings were supported by Gardner's study (1968).

Health and Hospitalization

In a study dealing with children's perceptions and attitudes toward health and health institutions (Marshall, 1970), it was reported that there were no significant differences in attitudes toward health as related to sex of children. Caucasian children seemed to hold more positive attitudes toward health personnel and institutions than negro children. However, the negro children seemed less

concerned about sickness than the caucasian children. The study did not determine whether these results were due to ethnic origin or poverty.

The findings of one study on health problems demonstrated some attitudes which are of importance to health professionals (Gochman, Bagramian and Sheiham, 1969). In this study children were consistent in their expectations of health problems. The degree to which a child expected health problems was related to the degree with which he expected other problems. Also, the degree with which one health problem was expected by one age/sex group was related to the degree it was expected by other age/sex groups. Older children were more consistent in their expectations of health problems and they expected more health problems than younger children. Girls expected a greater number of health problems than boys. Socio-economic class was found to have no influence on health problem expectancy.

Several studies have been conducted concerning the hospitalized child in relation to how hospitalization affects him and how he can be assisted to minimize the detrimental effects of hospitalization. Prough (1953) demonstrated that 92 percent of children returning to their homes after hospitalization showed significant disturbances in behavior which were not present before their hospitalization. He then suggested that in order to ameliorate this situation children should be given more psychological preparation prior to their hospitalization and that parents should be allowed to assume more responsibility for the care of their children during hospitalization. In order to minimize the psychological trauma of hospitalization for children, Millar (1970) advised against unnecessary

hospitalization of children and suggested that hospital child care practices be redesigned to reduce the stress of hospitalization. These suggestions have been implemented in many hospital pediatric units.

Additional Findings

A study concerning attitudes toward authority (Johnson and Stanley, 1955) demonstrated that there was more hostility shown from both male and female children toward female authority figures than toward male authority figures. It is important to be aware of this finding in any role perception study of any vocation in which the roles being observed are filled predominantly by persons of the same sex.

Hamid (1969) stated that inferences about the behavior of others rely on stimuli which have been perceived by the observer and provide cues to the actions or intentions of the perceived individual. One of these cues is provided for the observer by the type of clothes worn by the individual observed. Specific actions and activities can be ascribed to individuals in specific modes of dress such as the nurse's uniform.

Summary and Synthesis of Literature Review

Although perceptual behavior has been studied over a period of many years, there are many gaps in knowledge concerning perception. Recent studies have focused on determining the variables which affect the perception

of an individual by another individual. Perception is affected by stimuli which are projected by the individual being judged and interpreted by the observer. The observer tends to judge the other person more positively if he believes the person judged is similar to himself. Perception of another person appears to be based on social interaction between the individuals whether the interaction is positive or negative. The motivation of the perceived individual affects our perception of him. Preconceptions also influence perception. Children's perceptions of their parents influence their perceptions of many other individuals as well as influencing their general adjustment.

People are often judged or perceived in terms of roles they hold or memberships they have in groups.

The effect of age on social perception has been studied extensively without any positive conclusions being reached. Although most investigators seem to feel that social perception increases with increasing age, this hypothesis has not been substantiated in all studies.

There is confusion also concerning the effect of sex on social perception. No patterns of perception based on the sex of the perceiver have been demonstrated in studies conducted. Perceptions by individuals of both sexes seem to overlap with no apparent dichotomy.

There is no apparent sex difference in attitudes toward health. Caucasian children seem to have a more positive attitude toward health than negro children. Expectation of health problems increases with age and girls have a higher expectancy of health problems than boys. Socio-economic class was not

found to be related to expectancy of health problems. Hospitalization has been shown to be stressful to children. Several methods have been suggested to alleviate the stress. These methods include decreasing hospitalization of children, psychological preparation of children before hospitalization and increased parental involvement in the care of the hospitalized child.

The effects of other variables such as race, class and intelligence on social perception have been investigated with inconclusive results.

CHAPTER III
METHODS AND PROCEDURES

Pilot Study

An initial pilot study was administered to 10 children between the ages of 7 and 12 randomly selected from the records of the 2 General Practitioners in Smithfield, Utah.

The researcher met individually with each of the ten children in their homes. During the interviews parent and sibling interruption was found to be distracting for the subjects and interfered with their performance during the testing. Therefore, instead of using children selected from the records of physicians, the investigator selected children from an elementary school as subjects.

A second pilot study was conducted in the Edith Bowen School on the Utah State University campus in Logan, Utah. The subjects of this study were 5 children between the ages of 7 and 12 years selected randomly by the secretary to the principal of the Edith Bowen School. These children were tested in a separate room provided by the school for the testing.

In both pilot studies each child was shown 18 photographs. Fifteen of the photographs were of nurses in uniform performing various tasks such as preparing an injection, holding a baby or making a bed. These photographs were taken by the researcher's husband at the Logan L. D. S. Hospital, Logan,

Utah. The parents of children who were photographed signed a Consent to Photograph form from the Logan L. D. S. Hospital. Three pictures of people other than nurses were included in the study in order to determine whether person perceptions were being elicited from the photographs used in the study. The photographs depicted situations involving people in non-leading situations. The children were allowed to use their imaginations in describing the photographs. The children were shown each picture and asked, "What is happening in the photograph?" If the child's answer was purely descriptive or non-projective, he was asked, "Why?" The children's responses were tape recorded during the interview and rated as positive, negative or neutral responses later.

The purpose of the pilot study was to determine the differences in responses made by the children to different photographs. From the 18 photographs used in the pilot study 7 photographs of nurses were selected for use in the final study because they discriminated between positive, negative and neutral responses. Three photographs were chosen from the remaining photographs. The resulting 10 photographs were used in the testing and data collecting for the thesis study.

The Instrument

The 10 photographs used in this study were selected on the basis of the findings of a pilot study with 7 to 12 year old children in Smithfield and Logan, Utah. They depicted nurses performing various duties associated with their

profession and situations involving nurses and children. They portrayed familiar and unfamiliar scenes.

A brief description of each picture follows. A random order of pictures was used for each child since position of the pictures used in the study may have an influence on the subject's response.

Sample

This study was conducted during the winter of 1973-74. The sample consisted of a total of 45 children and was a purposive random sample selected from the school records of the Edith Bowen School.

The names of each of the 7 year old students were written on identical pieces of paper and placed in a box. Fifteen names were selected from the box one at a time. The same procedure was used for the 9 year olds and the 11 year olds. The sex and level of previous contact with nurses was determined for each of the 7 year olds (15 children), 9 year olds (15 children) and 11 year olds (15 children). The information necessary for the categorizations of degree of contact with nurses for each child was obtained from the parents during telephone interviews.

The 7 year old population consisted of 5 males and 10 females. Seven children were categorized as having a high level of contact with nurses and 8 children were categorized as having a low level of contact. The 9 year old population consisted of 3 males and 12 females. Six children had a high level of contact and 9 children had a low level. The 11 year old population consisted

Picture Number One

This is a picture of a nurse pushing an empty wheelchair. She is looking straight ahead and is smiling.



Figure 1. Nurse and empty wheelchair.

Picture Number Two

The nurse is leaning over a small child who is reclining in bed. Her arms are outstretched. Her hands and facial expression are not visible. The child has a paper cup in his hands. His face is obscured by the nurse's arms.



Figure 2. Nurse and reclining boy.

Picture Number Three

A nurse is leaning over a small round table on which there are several toys. She has one toy in her hands. Her expression is passive.



Figure 3. Nurse and toys.

Picture Number Four

A nurse is standing at a medicine cabinet with a syringe and vial of medicine in her hands. She is looking at the syringe and vial with a passive expression.



Figure 4. Nurse and syringe.

Picture Number Five

A nurse is pouring milk from a carton into a baby bottle. She is looking at the bottle with a passive expression.



Figure 5. Nurse and baby bottle.

Picture Number Six

A nurse is standing with a bottle in her hands. She is looking at an intravenous solution bottle which is hanging at the head of a bed. The nurse's face is not visible. A young girl is lying in the bed reading a comic book. She has a passive expression on her face.



Figure 6. Nurse and girl.

Picture Number Seven

A nurse is on her knees next to a suction machine. She is holding a rubber tube in her right hand. She is scowling.



Figure 7. Nurse and machine.

Picture Number Eight

This picture includes three people: a woman, a baby and a nurse. The woman is holding the baby in her arms. Her face cannot be seen. The baby is resting its head on the woman's shoulder and has its arm around the woman's arm. The baby's eyes are wide open. The nurse is looking at the baby passively and is holding a baby bottle in her hand.



Figure 8. Nurse, woman and baby.

Picture Number Nine

A nurse is standing beside a crib. Only her back can be seen. A baby is lying in the crib. Its mouth is open and its eyes are partially closed. The baby is holding a blanket.



Figure 9. Nurse and baby.

Picture Number Ten

A nurse is standing beside a boy's bed. She has a cup in her hand and is reaching out toward the boy. She is smiling. The boy is sitting up in bed looking at the nurse with very wide eyes. He is reaching for the cup.



Figure 10. Nurse and sitting boy.

of 6 males and 9 females. Three children had a high level of contact and 12 children had a low level of contact. The sample of 45 children consisted of 15 children from each of the 3 age groups, 16 children with a high level of contact with nurses, 29 children with a low level of contact with nurses, 14 males and 31 females.

The children were statistically compared on the basis of age, level of previous contact with nurses and sex. Low level of contact with nurses was defined on the basis of three criteria: a) having contact with nurses during routine physical examinations and immunizations at a doctor's office; b) having made three or fewer visits a year for miscellaneous complaints; and c) having one or no three day or less hospitalization for minor illness or injury. High level of contact with nurses was defined on the basis of four criteria: a) having contact with nurses during routine physical examinations and immunizations at a doctor's office; b) having made more than three office visits a year for miscellaneous complaints; c) having more than one hospitalization of greater than three days; or d) having a nurse in the immediate family. If the child met two of the four criteria for high level contact with nurses he was classified as having high level contact with nurses. Level of contact was determined for each year of the last two years of the child's life. If the child was determined to have had a high level of contact with nurses during any one year, he was categorized as having a high level of contact with nurses for the purposes of the present study.

By using a purposive random sampling technique the investigator assumed that the sample was a representative sample of the population of 7, 9 and 11 year old children attending the Edith Bowen School.

Test Administration

The interviews were conducted in the Edith Bowen School on the campus of the Utah State University in Logan, Utah. The study was conducted in a small room in the office area of the school. The investigator and the subject sat at a desk on which a tape recorder was lying. The investigator sat behind the desk facing the child who sat beside the desk.

The children were called from their classrooms one at a time to participate in the testing. Most of the children expressed enthusiasm about participating. Several children who were not included in the study requested to be selected. Some of the children seemed bored and commented that they did not want to participate in "another" test.

The researcher identified herself to the subjects as a college student. She then asked the child's help in completing a school assignment by describing ten photographs. All the children agreed to help.

The child was then given directions as to what he was to do. A permissive attitude and unstructured style was used to elicit each child's response. He was then shown photographs one at a time in a random order and was asked to tell the researcher about each photograph. If the child's response was

ambiguous, he was asked, "What is the nurse doing?" If his response was non-projective, he was asked, "Why could she be doing that?"

The child was told by the investigator that he was to describe what he thought was happening in each photograph. The child was told that if he did not know what was happening he was to use his imagination and make up an answer. He was told that there were no right or wrong answers and that whatever he said would be acceptable. A similar procedure was used for each of the ten photographs.

Each interview was tape recorded in order that the investigator could maintain good eye contact and communication with each subject rather than taking notes of each subject's responses. The tape recorder was in view of the children and each child was asked prior to the interview if he was familiar with its use. Several of the children requested to have their interview played back. Their requests were honored.

The information sheet for each child including the child's name, phone number, age, sex, address, class, list of contacts with nurses, categorization of contact with nurses, responses and categorization of responses to pictures was completed from the tape recordings. Several of the children's responses are included in Appendix A of this thesis.

Test Scoring

In order to score the results, the children's responses were played back on the tape recorder and were scored as positive, negative or neutral by the

researcher. A positive response was defined as one in which the nurse was engaged in facilitating, nurturing, guiding or productive activity. A negative response was defined as one in which the nurse was engaged in hindering, destructive, punitive or non-productive activity. Neutral responses were defined as ones which were ambiguous, purely descriptive or non-projective in nature.

In order to insure uniformity of rating, all the positive responses for each individual photograph were compared with each of the other positive responses for that photograph. The same procedure was performed with the negative and neutral responses for each picture.

Analysis

For purposes of analysis the data collected in this study were statistically tested. A Chi-square test of independence at the .05 level of significance was used to determine the effect of each of the variables on children's perception of the nurse and the nurse's role. Responses were grouped from a Likert type scale of three categories: positive, negative and neutral. Frequencies of each type of response were determined for each individual picture for each hypothesis. Then total frequencies of positive, negative and neutral responses for each of the pictures was determined. No correction formula was applied to the data.

The children were compared on the basis of age, level of contact with nurses and sex in order to determine whether these variables influenced their perception of the nurse.

The results of the statistical analysis are included in Chapter IV of this thesis as part of the findings of this study.

CHAPTER IV

FINDINGS

Introduction

The significance of age, level of contact with nurses and sex in the shaping of children's perceptions of nurses has been investigated in this study. The hypotheses were that:

1. There is a more positive perception of the nurse and the nurse's role by children as the age of the children increases.
2. There is a more positive perception of the nurse and the nurse's role by children as the amount of contact children have had with nurses increases.
3. There is a more positive perception of the nurse and the nurse's role by female children than by male children.

The three hypotheses were not supported by the data collected in the study.

Findings Related to Children's Age

There were 15 children in each of the 3 age groups in the sample. Percentages of children responding in a particular manner were determined for each age group.

On Table 1 the totals for 7, 9 and 11 year old children show only very small differences in all 3 categories of positive, negative and neutral. There were no significant differences between the 3 age groups in their response to picture 1 (nurse and empty wheelchair). The level of statistical significance was .50 as shown in Table 1.

Table 1. Observed frequency of children's responses to picture of nurse and empty wheelchair categorized in positive, negative and neutral responses by age (Figure 1)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	10	11	10
Negative responses	0	0	2
Neutral responses	5	4	3
Total	15	15	15
$X^2 = 4.45$ d. f. = 4 Level of significance = .50			

There were few differences in the types of responses given by children of different ages. Forty-seven percent (7 children) of the 7 year olds felt that the nurse was going to give someone a ride in the wheelchair. Thirteen percent of the 9 years olds (2 children) and 33 percent (5 children) of the 11 year olds responded in this manner. One third of the 9 year olds (5 children) and the 11

year olds (5 children) felt that the nurse was going to take someone home. Twenty percent (3 children) of the 7 year olds responded in this manner.

In the scoring process answers such as "going to give someone a ride in the wheelchair" or "taking someone home" were given a positive rating. Answers such as "getting a wheelchair for someone to leave the hospital because it's a rule" were given a negative rating. Answers such as "pushing a wheelchair" were rated neutral.

No significant difference was found among the age levels in their response to the second picture (nurse and reclining boy) in respect to positive, negative or neutral ratings. The level of statistical difference was found to be .20 as indicated in Table 2.

The responses to this picture seem quite predictable. The majority of children in all age groups (73 percent or 11 of the 7 year olds, 66 percent or 10 of the 9 year olds and 47 percent or 7 of the 11 year olds) felt that the nurse was making the child "more comfortable." The percentage of this response decreased as age increased. As age increased, however, the percentage of children who felt that the nurse was "straightening up the bed" increased. None of the 7 years olds, 1 of the 9 year olds (7 percent) and 3 of the 11 year olds (20 percent) responded in this manner.

Most of the children saw the nurse in a positive role such as being concerned about the child's comfort or safety. Only 3 children (all 11 year olds) saw the nurse in a negative role such as "making the little boy go to sleep."

Table 2. Observed frequency of children's responses to picture of nurse and reclining boy categorized in positive, negative and neutral responses by age (Figure 2)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	11	11	8
Negative responses	0	0	3
Neutral responses	4	4	4
Total	15	15	15
$X^2 = 6.60$ d. f. = 4 Level of significance = .20			

Four children in each age group responded by describing the nurse as leaning over the boy or reaching for something. These responses were rated neutral.

There was no significant difference in the response of the children in the 3 age levels to picture number 3 (nurse and toys) in terms of positive, negative and neutral responses. The level of statistical difference was found to be .70 as indicated in Table 3.

There was, however, some difference in type of response to this picture among the 3 age levels. Forty-seven percent (7 children) of the 7 year olds felt that the nurse was going to entertain or amuse some children. Only 27 percent of the 9 year olds (4 children) and 33 percent of the 11 year olds (5 children) responded in this manner. Forty-seven percent of the 9 year olds

Table 3. Observed frequency of children's responses to picture of nurse and toys categorized in positive, negative and neutral responses by age (Figure 3)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	10	11	10
Negative responses	0	2	1
Neutral responses	5	2	4
Total	15	15	15
$X^2 = 3.33$	d. f. = 4	Level of significance = .70	

(7 children) and 40 percent of the 11 year olds (6 children) felt that the nurse was "straightening up the toys." Thirty-three percent of the 7 year olds (5 children) answered in this manner.

The majority of the children responded in a positive manner. They saw the nurse as being concerned with the children's amusement, or safety or with neatness or repair of the toys. The 3 negative responses indicated that the nurse was putting away the toys because she had to or because it was time to do so. The neutral responses described the nurse as holding a toy.

There was not a significant difference between the responses of 7, 9 and 11 year old children for picture number 4 (nurse and syringe). There was a level of significance of .80 as shown in Table 4.

Table 4. Observed frequency of children's responses to picture of nurse and syringe categorized in positive, negative and neutral responses by age (Figure 4)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	7	7	9
Negative responses	1	1	2
Neutral responses	7	7	4
Total	15	15	15
$X^2 = 1.86$	d. f. = 4	Level of significance = .80	

There were, however, basically only 2 types of responses. The children either described the nurse as preparing a "shot" or described her as preparing a "shot to help them get better." There were only 2 other isolated responses. About half of the 7 year olds responded in each manner as did the 9 year olds. Two thirds of the 11 year olds felt that the nurse was going to make someone better while one third responded only that she was preparing a "shot."

Positive responses included such responses as "giving a vaccine to cure disease" and "she wants to help the little children." Negative ratings were given to responses which included such statements as "Yech!" or, "That's really going to hurt." Neutral ratings were given to the purely descriptive responses.

No statistical significance was shown in the responses of the children to the fifth picture (nurse and baby bottle) when categorized in positive, negative and neutral responses by age.

All the children responded in a positive manner to this picture. All the responses stated that the nurse was going to feed a baby which is a nurturing or positively rated activity.

Table 5. Observed frequency of children's responses to picture of nurse and baby bottle categorized in positive, negative and neutral responses by age (Figure 5)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	15	15	15
Negative responses	0	0	0
Neutral responses	0	0	0
Total	15	15	15
$X^2 = 0.00$	d. f. = 2	Level of significance = .00	

There was not a statistically significant difference between the responses of 7, 9 and 11 year old children to picture number 6 (nurse and girl). The level of significance is shown to be .70 in Table 6.

Table 6. Observed frequency of children's responses to picture of nurse and girl categorized in positive, negative and neutral responses by age (Figure 6)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	9	8	8
Negative responses	0	0	1
Neutral responses	6	7	6
Total	15	15	15
$X^2 = 2.20$	d. f. = 4	Level of significance = .70	

More younger children than older children responded that the nurse was helping the girl get better (47 percent of the 7 year olds (7 children), 33 percent of the 9 year olds (5 children) and 20 percent (3 children) of the 11 year olds). The older children responded that the nurse was putting up a bottle of fluid (40 percent of the 11 year olds (6 children), 40 percent of the 9 year olds (6 children) and none of the 7 year olds).

Positive ratings were given to responses which depicted the nurse as helping the young girl. The negative response was "putting some kind of liquid into her veins 'cause she's supposed to." Neutral ratings were given to descriptive answers such as "hanging a bottle of something."

No significant difference occurred among the 3 age levels in children's responses to picture number 7 (nurse and machine). Table 7 shows the level of statistical significance to be .50.

Table 7. Observed frequency of children's responses to picture of nurse and machine categorized in positive, negative and neutral responses by age (Figure 7)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	3	6	6
Negative responses	0	0	1
Neutral responses	12	9	8
Total	15	15	15
$X^2 = 4.12$	d. f. = 4	Level of significance = .50	

There were many different responses to this picture. The children thought that the nurse could be checking blood, plugging in a machine, testing something, getting a drink of water or getting a machine ready. There was no observable difference in responses of the children in the different age levels. Four of the children were unable to give any response at all to this picture.

Positive ratings were given to responses in which the nurse was using the machine to assist someone. The negative response was, "She's taking

blood. She doesn't enjoy her work." Neutral ratings were given to descriptive and, "I don't know" responses.

There was not a statistically significant difference between 7, 9 and 11 year old children's responses to picture number 8 (nurse, woman and baby). The level of significance as shown in Table 8 was .50.

Table 8. Observed frequency of children's responses to picture of nurse, woman and baby categorized in positive, negative and neutral responses by age (Figure 8)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	9	11	12
Negative responses	0	1	0
Neutral responses	6	3	3
	—	—	—
Total	15	15	15
$X^2 = 3.96$	d. f. = 4	Level of significance = .50	

The largest number of children (15) responded that the nurse was giving the baby to its mother. Twenty-seven percent of the 7 year olds (4 children), 33 percent of the 9 year olds (5 children) and 40 percent of the 11 year olds (6 children) answered in this way.

Responses which indicated that the nurse was helping the mother or the baby were rated as positive. The negative response was, "They gave it a shot. It's a young child and won't forgive the doctor or the nurse." Responses which described the nurse as talking to the mother or looking at the baby were given neutral categorizations.

There was no significant difference in the responses of children in the 3 age groupings to the ninth picture (nurse and baby). The level of significance as shown in Table 9 was .70.

Table 9. Observed frequency of children's responses to picture of nurse and baby categorized in positive, negative and neutral responses by age (Figure 9)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	12	13	11
Negative responses	0	0	1
Neutral responses	3	2	3
Total	15	15	15
$X^2 = 2.43$	d. f. = 4	Level of significance = .70	

There was very little difference in the types of responses in each of the 3 age groups. The same number of children of each age saw the nurse as

checking the baby or taking care of the baby. One third of the children in each age group responded in one of these 2 ways.

Responses which indicated that the nurse was taking care of the baby in some way were rated as positive answers. The negative responses was, "She's tucking the boy in 'cause it's something to do." Responses such as, "She's looking at the baby," or, "She's talking to it" were rated as neutral replies.

No significant difference was seen in the responses of 7, 9 and 11 year old children to picture number 10 (nurse and sitting boy) in regard to positive, negative and neutral categorizations. The level of statistical significance was .20 as indicated by Table 10.

Table 10. Observed frequency of children's responses to picture of nurse and sitting boy categorized in positive, negative and neutral responses by age (Figure 10)

Rating	7 year olds	9 year olds	11 year olds
Positive responses	11	7	8
Negative responses	0	2	4
Neutral responses	4	6	3
Total	15	15	15
$X^2 = 6.08$	d. f. = 4	Level of significance = .20	

There were more negative responses to this picture than to any of the other pictures. Almost half of the children responded that the nurse was giving the boy a drink. Forty percent of the 7 year olds (6 children), 40 percent of the 9 year olds (6 children) and 53 percent of the 11 year olds (8 children) answered in this manner. Six of the children responded that the nurse was giving the boy ice cream because he had "gotten his tonsils out." Thirteen percent of the 7 year olds (2 children), 7 percent of the 9 year olds (1 child) and 20 percent of the 11 year olds (3 children) responded this way.

Positive ratings were given to responses which indicated that the nurse was helping the boy. Negative ratings were given to responses which indicated that the boy was not happy about what the nurse was doing. Neutral categorizations were descriptive in nature such as, "She's holding a glass."

Summary of Findings Related to Children's Age

Data in this study did not support the hypothesis that older children perceive the nurse in a more positive manner than younger children. No observable difference in children's perception of the nurse was shown with the 7, 9 and 11 year old children employed in this study.

Table 11. Summary of Chi-square scores for all 10 pictures based on differences in age of all the children

Picture	X^2	Degrees of freedom	Level of significance
1	4.54	4	.50
2	6.60	4	.20
3	3.33	4	.70
4	1.86	4	.80
5	0.00	2	.00
6	2.20	4	.70
7	4.12	4	.50
8	3.96	4	.50
9	2.43	4	.70
10	6.08	4	.20

Findings Related to Children's Level of

Contact with Nurses

There were 16 children who had a high level of contact with nurses and 29 children who had a low level of contact with nurses in the sample. Percentages of children responding in a particular manner were determined for each level of contact group.

Very little difference in positive, negative and neutral classification of responses was found between children who have had a high level of contact with nurses and those who have had a low level of contact with nurses for the first picture (nurse and empty wheelchair). The level of statistical significance as shown in Table 12 was .90.

Table 12. Observed frequency of children's responses to picture of nurse and empty wheelchair categorized as positive, negative and neutral responses by level of contact with nurses (Figure 1)

Rating	High level contact	Low level contact
Positive responses	11	20
Negative responses	1	1
Neutral responses	4	8
Total	16	29
$\chi^2 = .22$	d. f. = 2	Level of significance = .90

Most of the children with a high level of contact with nurses (47 percent, 7 children) replied that the nurse was pushing the wheelchair for someone who could not walk. Most of the children who had low level contact with nurses (38 percent, 11 children) felt that the nurse was going to give someone a ride in the wheelchair.

Table 13 shows very small observable difference between the 2 contact level groups in their response to picture number 2 (nurse and reclining boy) in terms of positive, negative and neutral ratings. The statistical level of significance was .30 as shown in Table 13.

No difference in types of responses to this picture was found between the 2 contact level groups.

Table 13. Observed frequency of children's responses to picture of nurse and reclining boy categorized as positive, negative and neutral responses by level of contact with nurses (Figure 2)

Rating	High level contact	Low level contact
Positive responses	10	20
Negative responses	0	3
Neutral responses	6	6
Total	16	29
$X^2 = 2.82$	d. f. = 2	Level of significance = .30

Very little observable difference was found between the responses of the high level of contact group and the low level of contact group of children to picture number 3 (nurse and toys) in respect to positive, negative and neutral responses. The statistical level of significance was .30 as shown in Table 14.

No difference was found between the 2 groups of children in respect to types of responses given for this picture.

Table 14. Observed frequency of children's responses to picture of nurse and toys categorized as positive, negative and neutral responses by level of contact with nurses (Figure 3)

Rating	High level contact	Low level contact
Positive responses	13	18
Negative responses	0	3
Neutral responses	3	8
	—	—
Total	16	29
$X^2 = 2.55$	d. f. = 2	Level of significance = .30

No significant difference was found between the responses of children who had a high level of contact with nurses and those who had a low level of contact with nurses to picture number 4 (nurse and syringe) in terms of positive, negative and neutral responses. The statistical level of significance is shown in Table 15 to be .70.

There was no difference between the 2 groups in terms of type of response given to this picture.

Table 15. Observed frequency of children's responses to picture of nurse and syringe categorized as positive, negative and neutral responses by level of contact with nurses (Figure 4)

Rating	High level contact	Low level contact
Positive responses	9	14
Negative responses	2	2
Neutral responses	5	13
Total	16	29
$X^2 = 1.00$	d. f. = 2	Level of significance = .70

There was no difference in responses between the 2 contact level groups of children to picture 5 (nurse and baby bottle) in terms of positive, negative and neutral ratings. All the children responded in the same manner.

No significant difference occurred between the responses of the children who have a high level of contact with nurses and those with a low level of contact with nurses to picture 6 (nurse and girl) in terms of positive, negative and neutral responses. The statistical level of significance was .70 as shown in Table 17.

Very little difference was seen in type of response to this picture by the 2 groups.

Table 16. Observed frequency of children's responses to picture of nurse and baby bottle categorized as positive, negative and neutral responses by level of contact with nurses (Figure 5)

Rating	High level contact	Low level contact
Positive responses	16	29
Negative responses	0	0
Neutral responses	0	0
Total	16	29
$X^2 = 0.00$	d. f. = 1	Level of significance = .00

Table 17. Observed frequency of children's responses to picture of nurse and girl categorized as positive, negative and neutral responses by level of contact with nurses (Figure 6)

Rating	High level contact	Low level contact
Positive responses	8	17
Negative responses	0	1
Neutral responses	8	11
Total	16	29
$X^2 = 1.04$	d. f. = 2	Level of significance = .70

There was very little significant difference in the responses of the 2 groups of children to picture number 7 (nurse and machine) in terms of positive, negative and neutral responses. Table 18 shows the statistical level of significance to be .20.

Some difference between the 2 groups was noted in type of response given to this picture. Thirty-eight percent of the high contact group of children (6 children) responded that the nurse was using a blood machine of some type. Only 17 percent of the low contact level group (5 children) gave this response.

Table 18. Observed frequency of children's responses to picture of nurse and machine categorized as positive, negative and neutral responses by level of contact with nurses (Figure 7)

Rating	High level contact	Low level contact
Positive responses	8	7
Negative responses	0	1
Neutral responses	8	21
Total	16	29
$\chi^2 = 3.44$	d. f. = 2	Level of significance = .20

There was very little significant difference between the responses of the 2 contact level groups of children to picture 8 (nurse, woman and baby) in terms of positive, negative and neutral responses. The statistical level of significance is shown in Table 19 to be .50.

There was little difference in type of response to this picture by the 2 groups.

Table 19. Observed frequency of children's responses to picture of nurse, woman and baby categorized as positive, negative and neutral responses by level of contact with nurses (Figure 8)

Rating	High level contact	Low level contact
Positive responses	10	22
Negative responses	1	0
Neutral responses	5	7
Total	16	29
$X^2 = 2.23$	d. f. = 2	Level of significance = .50

There was very little significant difference between the high level contact group and the low level contact group in their responses to picture number 9 (nurse and baby) in respect to positive, negative and neutral ratings. The level of statistical significance was .30 as shown in Table 20.

There was little difference in the type of reply given by the 2 groups.

Table 20. Observed frequency of children's responses to picture of nurse and baby categorized as positive, negative and neutral responses by level of contact with nurses (Figure 9)

Rating	High level contact	Low level contact
Positive responses	15	21
Negative responses	0	1
Neutral responses	1	7
Total	16	29
$X^2 = 3.00$	d. f. = 2	Level of significance = .30

Very little significant difference was seen between the high and low contact groups in respect to their positive, negative and neutral responses to the tenth picture (nurse and sitting boy). The statistical level of significance was .20 as shown in Table 21.

There was little difference in the type of response given by the 2 groups to this picture.

Table 21. Observed frequency of children's responses to picture of nurse and sitting boy categorized as positive, negative and neutral responses by level of contact with nurses (Figure 10)

Rating	High level contact	Low level contact
Positive responses	12	14
Negative responses	2	4
Neutral responses	2	11
Total	16	29
$\chi^2 = 3.60$	d. f. = 2	Level of significance = .20

Summary of Findings Related to Children's

Level of Contact with Nurses

Data in this study did not support the hypothesis that there is a more positive perception of the nurse as level of contact with nurses increases. No observable difference in children's perception of the nurse was shown with the high contact level and low contact level children.

Table 22. Summary of Chi-square scores for all 10 pictures based on differences in level of contact with nurses of all the children

Picture	X^2	Degrees of freedom	Level of significance
1	.22	2	.90
2	2.82	2	.30
3	2.55	2	.30
4	1.00	2	.70
5	0.00	1	.00
6	1.04	2	.70
7	3.44	2	.20
8	2.23	2	.50
9	3.00	2	.30
10	3.60	2	.20

Findings Related to Children's Sex

There were 14 males and 31 females in the sample. Percentages of children responding in a particular manner were determined for each sex.

Very little significant difference between male and female children's responses to picture number 1 (nurse and empty wheelchair) was seen in terms of positive, negative and neutral responses. Table 23 shows the level of statistical significance to be .70.

Table 23. Observed frequency of children's responses to picture of nurse and empty wheelchair categorized as positive, negative and neutral responses by sex (Figure 1)

Rating	Male	Female
Positive responses	8	23
Negative responses	1	1
Neutral responses	5	7
Total	14	31
$X^2 = 1.37$	d. f. = 2	Level of significance = .70

There was little difference between the 2 sexes in terms of type of response to this picture. More females (32 percent, 10 children) than males did feel that the nurse was going to give someone a ride in the wheelchair. Only 14 percent of the males (2 children) responded in this manner.

There was not a statistically significant difference between the responses of male and female children to the second picture (nurse and reclining boy). The level of statistical significance was .50 as shown in Table 24.

The male and female children both responded with the same type of description of this photograph.

Table 24. Observed frequency of children's responses to picture of nurse and reclining boy categorized as positive, negative and neutral responses by sex (Figure 2)

Rating	Male	Female
Positive responses	10	20
Negative responses	0	3
Neutral responses	4	8
Total	14	31
$X^2 = 1.45$	d. f. = 2	Level of significance = .50

With picture number 3 (nurse and toys) the hypothesis could be accepted at the .05 level of significance as shown in Table 25. Female children did perceive the nurse in a more positive manner in this photograph.

There was some difference in the type of responses given by the children to this picture. Thirty-nine percent of the girls (12 children) stated that the nurse was trying to amuse the children. Only 29 percent of the boys (4 children) gave this response. More of the boys (43 percent, 6 children) responded that the nurse was concerned with neatness.

Little significant difference was noted in the responses of male and female children to picture number 4 (nurse and syringe). The statistical level of significance shown in Table 26 was .20.

Table 25. Observed frequency of children's responses to picture of nurse and toys categorized as positive, negative and neutral responses by sex (Figure 3)

Rating	Male	Female
Positive responses	9	22
Negative responses	3	0
Neutral responses	2	9
Total	14	31
$X^2 = 7.60$	d. f. = 2	Level of significance = .05

Table 26. Observed frequency of children's responses to picture of nurse and syringe categorized as positive, negative and neutral responses by sex (Figure 4)

Rating	Male	Female
Positive responses	6	17
Negative responses	3	1
Neutral responses	5	13
Total	14	31
$X^2 = 4.00$	d. f. = 2	Level of significance = .20

There was no difference shown in the types of responses given by the children to this photograph.

There was no difference in the children's response to picture number 5 (nurse and baby bottle) in terms of positive, negative and neutral ratings or in terms of type of responses. All the children answered in the same manner for this picture.

Table 27. Observed frequency of children's responses to picture of nurse and baby bottle categorized as positive, negative and neutral responses by sex (Figure 5)

Rating	Male	Female
Positive responses	14	31
Negative responses	0	0
Neutral responses	0	0
Total	14	31
$X^2 = 0.00$	d. f. = 1	Level of significance = .00

There was only a small level of statistical difference between the male children's responses to picture 6 (nurse and girl) in respect to positive, negative and neutral ratings. The statistical level of significance is shown to be .50 in Table 28.

Table 28. Observed frequency of children's responses to picture of nurse and girl categorized as positive, negative and neutral responses by sex (Figure 6)

Rating	Male	Female
Positive responses	6	19
Negative responses	0	1
Neutral responses	8	11
Total	14	31
$X^2 = 2.11$	d. f. = 2	Level of significance = .50

One difference in the type of response made by the children to this picture was that almost half of the girls (42 percent, 13 children) responded that the nurse was trying to help the little girl get better. Only two boys (14 percent) gave a similar reply.

There was very little difference between the responses of the males and the females to picture number 7 (nurse and machine). The statistical level of significance demonstrated in Table 29 was .50.

There were some differences in types of responses to this picture. More than a third of the males (36 percent, 5 children) thought that the nurse was working with a blood machine, only 19 percent (6 children) of the females responded in this manner. Sixteen percent of the girls (5 children) thought

Table 29. Observed frequency of children's responses to picture of nurse and machine categorized as positive, negative and neutral responses by sex (Figure 7)

Rating	Male	Female
Positive responses	4	11
Negative responses	1	0
Neutral responses	9	20
Total	14	31
$X^2 = 2.37$	d. f. = 2	Level of significance = .50

that the nurse was getting a drink of water. None of the boys responded similarly.

No real difference was shown between male and female children's responses to picture 8 (nurse, woman and baby) in terms of positive, negative and neutral ratings. The level of statistical significance shown in Table 30 was .30.

No difference was seen in the types of responses the children made to this photograph.

Little significant difference was seen between the responses of boys and girls to photograph number 9 (nurse and baby). The statistical level of significance seen in Table 31 was .20.

Table 30. Observed frequency of children's responses to picture of nurse, woman and baby categorized as positive, negative and neutral responses by sex (Figure 8)

Rating	Male	Female
Positive responses	8	24
Negative responses	0	1
Neutral responses	6	6
Total	14	31
$X^2 = 3.01$	d. f. = 2	Level of significance = .30

Table 31. Observed frequency of children's responses to picture of nurse and baby categorized as positive, negative and neutral responses by sex (Figure 9)

Rating	Male	Female
Positive responses	12	24
Negative responses	1	0
Neutral responses	1	7
Total	14	31
$X^2 = 3.60$	d. f. = 2	Level of significance = .20

A few differences in the type of response given by the children were seen. Almost half the girls (42 percent, 13 children) as compared with 21 percent (3 children) of the boys thought that the nurse was checking the baby. Over half of the boys (57 percent, 8 children) said that the nurse was taking care of the baby. One fourth of the girls (26 percent, 8 children) thought that the nurse was taking care of the baby.

There was little significant difference in the responses of the 2 sexes to photograph number 10 (nurse and sitting boy). The level of statistical difference shown in Table 32 was .50.

The responses of the children to this picture were very similar in type.

Table 32. Observed frequency of children's responses to picture of nurse and sitting boy categorized as positive, negative and neutral responses by sex (Figure 10)

Rating	Male	Female
Positive responses	6	20
Negative responses	3	3
Neutral responses	5	8
Total	14	31
$X^2 = 2.11$	d. f. = 2	Level of significance = .50

Summary of Findings Related to Children's Sex

Data in this study did not support the hypothesis that girls perceive nurses in a more positive manner than boys. A significant difference in the perception of the nurse between girls and boys was found in only one case. In this case the girls perceived the nurse in a more positive manner. In the other cases no observable difference was shown between girls' perception of the nurse and boys' perception of the nurse.

Table 33. Summary of Chi-square scores for all 10 pictures based on differences in sex of all the children

Picture	X^2	Degrees of freedom	Level of significance
1	1.37	2	.70
2	1.45	2	.50
3	7.60	2	.05
4	4.00	2	.20
5	0.00	1	.00
6	2.11	2	.50
7	2.37	2	.50
8	3.01	2	.30
9	3.60	2	.20
10	2.11	2	.50

Summary of Findings

Many factors influence a child's perception of his world. His age, sex, social class, home environment and personal experience are but a few of the factors which may help shape his view. This study attempted to determine the influence of three specific factors: age, level of contact with nurses and sex on children's view of the nurse. The findings of this study did not support the view that these factors differentiate between children in regard to their perception of the nurse.

Table 34 demonstrates that a significant difference in total responses existed for each of the photographs when Chi-square values were calculated on the basis of total positive, negative and neutral responses for each picture. There were a total of 294 positive, 22 negative and 134 neutral responses given. The differences in responses were not due to the influence of the three variables tested.

There were some differences in the content of the children's projections, but their responses were not found to be significantly different in terms of positive, negative and neutral projections based on the variables tested as shown in Table 35.

Table 34. Summary of total responses of the 45 children for all 10 pictures

Picture	Number of positive responses	Number of negative responses	Number of neutral responses	X^2	d. f.	P
1	31	2	12	28.93	2	.001
2	30	3	12	25.20	2	.001
3	31	3	11	27.74	2	.001
4	23	4	18	12.94	2	.010
5	45	0	0	90.00	2	.001
6	25	1	19	20.81	2	.001
7	15	1	29	26.14	2	.001
8	32	1	12	31.94	2	.001
9	36	1	8	45.74	2	.001
10	26	6	13	13.74	2	.010
Totals	294	22	134			

X^2 = Chi-square

d. f. = degrees of freedom

P = level of significance

Table 35. Summary of frequency of ratings, Chi-square, degrees of freedom and level of significance for each of the 10 pictures for each variable

Picture	Rating	Age			Contact level		Sex	
		7 yr.	9 yr.	11 yr.	High	Low	Male	Female
1	Positive	10	11	10	11	20	8	23
	Negative	0	0	2	1	1	1	1
	Neutral	5	4	3	4	8	5	7
X^2 (d. f.)P		4.45(4).50			.22(2).90		1.37(2).70	
2	Positive	11	11	8	10	20	10	20
	Negative	0	0	3	0	3	0	3
	Neutral	4	4	4	6	6	4	8
X^2 (d. f.)P		6.60(4).20			2.82(2).30		1.45(2).50	
3	Positive	10	11	10	13	18	9	22
	Negative	0	2	1	0	3	3	0
	Neutral	5	2	4	3	8	2	9
X^2 (d. f.)P		3.33(4).70			2.55(2).30		7.60(2).05	
4	Positive	7	7	9	9	14	6	17
	Negative	1	1	2	2	2	3	1
	Neutral	7	7	4	5	13	5	13
X^2 (d. f.)P		1.86(4).80			1.00(2).70		4.00(2).20	
5	Positive	15	15	15	16	29	14	31
	Negative	0	0	0	0	0	0	0
	Neutral	0	0	0	0	0	0	0
X^2 (d. f.)P		0.00(2).00			0.00(1).00		0.00(1).00	
6	Positive	9	8	8	8	17	6	19
	Negative	0	0	1	0	1	0	1
	Neutral	6	7	6	8	11	8	11
X^2 (d. f.)P		2.20(4).70			1.04(2).70		2.11(2).50	

Table 35. Continued

Picture	Rating	Age			Contact level		Sex	
		7 yr.	9 yr.	11 yr.	High	Low	Male	Female
7	Positive	3	6	6	8	7	4	11
	Negative	0	0	1	0	1	1	0
	Neutral	12	9	8	8	21	9	20
X^2 (d. f.)P		4.12(4).50			3.44(2).20		2.37(2).50	
8	Positive	9	11	12	10	22	8	24
	Negative	0	1	0	1	0	0	1
	Neutral	6	3	3	5	7	6	6
X^2 (d. f.)P		3.96(4).50			2.23(2).50		3.01(2).30	
9	Positive	12	13	11	15	21	12	24
	Negative	0	0	1	0	1	1	0
	Neutral	3	2	3	1	7	1	7
X^2 (d. f.)P		2.43(4).70			3.00(2).30		3.60(2).20	
10	Positive	11	7	8	12	14	6	20
	Negative	0	2	4	2	4	3	3
	Neutral	4	6	3	2	11	5	8
X^2 (d. f.)P		6.08(4).20			3.60(2).20		2.11(2).50	

X^2 = Chi-square

d. f. = degrees of freedom

P = level of significance

CHAPTER V
DISCUSSION OF FINDINGS

Children's perceptions are influenced by many factors. The findings of this study indicate that their perceptions of the nurse are not influenced by their age, their level of contact with nurses or their sex.

The differences observed in the children's responses to the ten photographs of nurses used in this study could be due entirely to chance or they could be due to the influence of some other factor not examined in the study.

Another possibility is that the study did not elicit children's real perceptions of the nurse. Children are social beings. They are being socialized from the moment they are born. The youngest infant can learn shortly after birth that all his needs and desires cannot be satisfied. He cannot always have what he wants. His social world tempers his life. This knowledge grows with the child as he grows. He learns the approved actions: he smiles and shakes hands; the approved dress: his body is covered with shirt, pants, and shoes; and the approved attitudes: cheating and lying are wrong. Socialization of the child occurs at a very early age.

One social attitude which is prevalent in our society today is that helping others is worthwhile and commendable. People employed in the helping professions are, therefore, thought to be worthwhile and commendable people. Most children are taught at a very early age that nurses and doctors help people who

are sick and cannot help themselves. They are told that the nurse can make them feel better and be happier. They are given their play nurse kits and told to make their dolls feel better. This training, received by children, is very effective. Children know intellectually that the nurse is a "good" person who will make them well and they will tell you this when they are asked. Any thoughts they may have about the nurse giving them foul tasting medicine and painful injections generally remain private and hidden.

One subject, child number 36, a nine year old male, demonstrated this possibility very effectively. During the testing procedure he described each picture thoughtfully and calmly. He was helpful and cooperative throughout the testing. He gave eight positive responses, one negative response and one neutral response. When the interview was completed and he was excused from the room, he turned and asked why the study was being done. When told that the test was a requirement for a college class, he asked if the interviewer was studying to be a nurse. After being told that the interviewer was a nurse, the boy approached her with clenched fists and asked if she had ever given a little boy a "shot" and hurt him. When the interviewer said she had, the boy said he would like to pinch her and play tricks on her. The child was quite angry and expressed several threats.

This child was able to keep his inner feelings hidden during the testing procedure. He knew how he thought he was expected to behave and how he was supposed to feel about nurses. For some reason, when he found out that the researcher was a nurse, he was able to allow other feelings to show.

Children's feelings about nurses are powerful. The children in this study expressed mainly positive and neutral attitudes during the testing, but may have concealed their deeper feelings because of a desire to express socially accepted views. Maybe children's feelings about nurses are too powerful to be expressed in an impersonal testing situation and perhaps they have been internalized by the children due to the influence of social pressure to conform.

All the children's responses to picture number 5 (nurse and baby bottle) were positive. All the children said that the nurse was going to feed the baby. Apparently this photograph was non-projective in nature. The children probably all responded in the same manner because the situation depicted was too structured.

In photograph number 6 (nurse and girl) the fact that almost half of the 9 and 11 year olds responded that the nurse was putting up a bottle of fluid and none of the 7 year olds gave this response may be attributed to the fact that the older children were able to be more specific in their answers because of an increased knowledge of medical procedure. For this picture the fact that almost half of the girls responded that the nurse was making the girl better and only 14 percent of the boys thought that the nurse was trying to help the girl get better may be due to the fact that girls perceived more nurturing behavior.

Photograph number 7 (nurse and machine) seemed to have given the children difficulty. All of the children seemed to have been puzzled by this picture and used their imaginations in several different ways to produce an

interpretation of the portrayal. The large number of neutral responses to this picture seems to indicate that the children were unable to project a motive for the nurse's action in an unfamiliar situation. The high contact level group of children gave only two main types of replies, whereas the children who had a low contact level with nurses gave five different types of responses. This is probably an indication that the children who have had less contact with nurses had to fabricate a response to this picture which was not based on experience but imagination. Of the four children unable to give a response to picture number 7, 3 were girls and none were 11 year olds. This may indicate that the female children and the younger children did not have the mechanical background to devise a response to this photograph involving an unfamiliar machine.

More girls than boys believed that the nurse was checking the baby in photograph number 9. More boys than girls thought that the nurse was taking care of the baby. This may indicate that the boys were more concerned with active physical care of the baby whereas the girls were concerned with overseeing the baby.

Photograph number 10 (nurse and sitting boy) produced a larger number of negative responses than any other picture. Most of these negative responses were a reaction to the boy's expression rather than a response to the nurse's action.

During the testing procedure the children seemed quite sophisticated about participating in a research study. Several children questioned the researcher about what they were expected to do for this study and offered informa-

tion about previous studies in which they had participated. This sophistication and familiarity with testing procedures may have contributed to their expression of socially acceptable attitudes. They may have felt that this was what the researcher wanted.

An interesting sidelight to this study was an environmental stimulus which was present in the room in which the study was conducted. On the wall behind the researcher and facing the subjects was a large painting of several children squatting on a beach using sticks to investigate the entrails of a dead animal. Most of the children appeared not to notice the painting or at least they did not comment upon it. Two children, however, did mention it, child number 3 and child number 13. Both children, who were brother and sister, asked the researcher what the children in the painting were doing. When the researcher asked, "What could they be doing?", both children replied, "I don't know." The remaining children in the study appeared to ignore this possibly socially unacceptable painting. If they had any feelings about the painting, they did not express them.

The findings and analysis of this study seem to indicate a need to allow children to express some of their negative feelings about nurses. When we teach children about people in the helping professions, we need to mention the negative things they do and why they do them. A discussion of these negative aspects of nurses and others in the helping professions would allow the child's feelings to surface, be examined, and be understood by the child. He could then make a judgment of the nurse's worth based on knowledge and understanding rather than

societal pressure. The child would be able to cooperate with the nurse rather than submit to her.

CHAPTER VI
SUMMARY AND CONCLUSIONS

Summary

It was the purpose of this research to examine children's perceptions of nurses as related to the age of the children, the amount of contact the children have had with nurses and the sex of the children.

The hypotheses tested in this study were:

1. There is a more positive perception of the nurse and the nurse's role by children as the age of the children increases.
2. There is a more positive perception of the nurse and the nurse's role as the amount of contact children have had with nurses increases.
3. There is a more positive perception of the nurse and the nurse's role by female children than by male children.

An oral picture test consisting of 10 photographs, was administered individually to 45 elementary school children from the Edith Bowen School on the Utah State University campus in Logan, Utah. The children were interviewed about their perceptions of the nurses in each of the photographs and their responses were rated as being positive, negative or neutral.

The findings of the study indicated that children differ significantly in their perceptions of nurses. The data in the study, however, did not support

the hypotheses that the difference in children's perceptions of nurses was due to the influence of children's age, amount of contact with nurses or children's sex.

Conclusions

1. Children 7 to 11 years of age have learned to keep socially unacceptable attitudes hidden or suppressed. The children in the study seemed to reveal the most acceptable aspects of their feelings about nurses.

2. Children were more able to project feelings about situations with which they had some familiarity. Photographs of nurses in familiar situations such as preparing an injection were capable of producing more differentiated responses. Children responded to this photograph in positive and negative manners whereas they responded to a photograph of a nurse and an unfamiliar machine in a more neutral manner.

3. Children should be taught the positive and negative aspects of the helping professions and the people working in these professions. If children understood the motives behind some of the actions of nurses they might be more able to verbalize their feelings.

Suggestions for Further Study

1. A similar study needs to be conducted with a larger number of children from various backgrounds to make possible a more detailed analysis of differences between the children.

2. Additional studies should be done to investigate younger children's perceptions of the nurse.
3. Additional studies could be performed with a less structured instrument to allow the children more freedom of expression.
4. Additional studies with children who are currently in a hospital setting would be beneficial to our understanding of children's views of the nurse.
5. A further study should be done with a refined instrument including pictures of a nurse giving injections to a quiet child and a crying child.

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APPENDIXES

Appendix A

Examples of Children's Verbal Responses to Photographs

These six examples of children's verbal responses to photographs were chosen from the responses of the 45 children in the study. The first three examples were cited in the study. The last three examples are representative of the three age groups used in the study.

The questions which were asked by the interviewer are underlined on all of the following pages.

Child	Number 3
Age	7
Level of contact	High
Sex	Male

- Neutral 1. What could be happening in this picture? "I don't know what she's doing." What could she be doing? "She's taking it someplace to bring someone back."
- Positive 2. What could the nurse be doing in this picture? "She's moving something." Why could she be doing that? "To make him more comfortable."
- Positive 3. What could the nurse be doing in this picture? "She's cleaning up things so they can play with them again."
- Positive 4. What could the nurse be doing in this picture? "She's going to give somebody a shot." Why could she be going to do that? "Because he has some disease."
- Positive 5. What could be happening in this picture? "She's putting milk in the thing." Why could she be doing that? "I think she's going to feed the baby."
- Neutral 6. What could be happening in this picture? "She's fixing up a shot." Why could she be doing that? "Is that a shot? Yes it is, that's what she's doing."

- Neutral 7. What could be happening in this picture? "This one's hard. It's some kind of machine." What could the nurse be doing? "She's going to use it for something."
- Neutral 8. What could be happening in this picture? "The baby's going back home." What could the nurse be doing? "I don't know what she's doing? What could she be doing?"
- Positive 9. What could be happening in this picture? "I don't know. Maybe he's just had a shot." What could the nurse be doing? "Maybe she's watching him so he won't fall out of bed."
- Neutral 10. What could be happening in this picture? "I don't know." What could the nurse be doing? "She could be getting him to take a pill."

Child	Number 13
Age	9
Level of contact	Low
Sex	Female

- Neutral 1. What could be happening in this picture? "She's pushing a wheelchair." Why could she be doing that? "For a person to ride in."
- Positive 2. What could be happening in this picture? "She's putting down the bed." Why could she be doing that? "Because he probably wants it down."
- Positive 3. What could be happening in this picture? "She's cleaning off the table." Why could she be doing that? "So it will look better."
- Neutral 4. What could be happening in this picture? "She's putting medicine into a shot." Why could she be doing that? (Shrug)
- Positive 5. What could be happening in this picture? "She's pouring milk into a bottle." Why could she be doing that? "To feed it to a baby."
- Neutral 6. What could be happening in this picture? "Checking the thing." Why could she be doing that? (Shrug)

- Positive 7. What could be happening in this picture? "She's checking the record player." Why could she be doing that? "So people can listen."
- Positive 8. What could be happening in this picture? "She just fed the baby."
- Positive 9. What could be happening in this picture? "She's checking the baby to see if he's alright."
- Neutral 10. What could be happening in this picture? "She's giving him a drink of water." Why could she be doing that? "Because that's what nurses usually do."

Child	Number 36
Age	11
Level of contact	High
Sex	Male

- Positive 1. What could be happening in this picture? "She's taking the wheelchair to someone that's crippled so they can move around."
- Neutral 2. What could be happening in this picture? "I don't know." What could the nurse be doing? "I don't know."
- Positive 3. What could be happening in this picture? "She's picking up some toys for children." Why could she be doing that? "So they'll have them to play with."
- Negative 4. What could be happening in this picture? "She's giving someone a shot 'cause they're sick. That's a terrible looking needle."
- Positive 5. What could be happening in this picture? "She's giving a baby a bottle." Why could she be doing that? "So it will live."
- Positive 6. What could be happening in this picture? "She's putting a chemical in a bottle to try and prevent blood poisoning."
- Positive 7. What could be happening in this picture? "I don't know." What could the nurse be doing? "Giving a transfusion so people will live."

- Positive 8. What could be happening in this picture? "She's getting the baby ready to go home."
- Positive 9. What could be happening in this picture? "She's taking care of it so it won't die."
- Positive 10. What could be happening in this picture? "She's going to drain the mucus out of his nose so he can breathe."

Child	Number 2
Age	7
Level of contact	Low
Sex	Female

- Neutral 1. What could the nurse be doing in this picture? "She's going to take the wheelchair to someone so they can sit in it and she can ride them around."
- Neutral 2. What could the nurse be doing in this picture? "She's tucking the sheets in." Why could she be doing that? "I don't know."
- Positive 3. What could be happening in this picture? "The nurse is taking out the blocks in the toy for the baby to do it again."
- Neutral 4. What could be happening in this picture? "She's putting a shot in something like alcohol." Why could she be doing that? "To give someone a shot for anything."
- Positive 5. What could be happening in this picture? "She's pouring some milk in the bottle and she's going to give it to the baby to drink."
- Positive 6. What could be happening in this picture? "She's getting something out of the can - like water for the little girl." Why could she be doing that? "'Cause sometimes they can't drink water and that's how they get water."
- Neutral 7. What could be happening in this picture? "It looks like she's got something to talk on about how everything's going."
- Neutral 8. What could be happening in this picture? "A baby just got out of the hospital." What could the nurse be doing? "She's giving it to the mother."

- Positive 9. What could be happening in this picture? "She's looking at the baby in the crib." Why could she be doing that? "So he won't cry too much."
- Neutral 10. What could the nurse be doing in this picture? "She's giving the boy something to drink."

Child	Number 19
Age	9
Level of Contact	High
Sex	Female

- Positive 1. What could be happening in this picture? "The nurse is going to take someone home."
- Positive 2. What could the nurse be doing in this picture? "She's tucking the boy in to make him feel comfortable."
- Positive 3. What could be happening in this picture? "She's cleaning up the playroom to keep the hospital neat."
- Positive 4. What could be happening in this picture? "She's going to give somebody a shot in case they have a cold." Why could she be going to do that? "So they can get better."
- Positive 5. What could the nurse be doing in this picture? "She's getting some milk to feed the baby."
- Positive 6. What could the nurse be doing in this picture? "Trying to help the girl get better."
- Positive 7. What could the nurse be doing in this picture? "Taking a blood temperature so she can tell what kind of blood he has."
- Positive 8. What could the nurse be doing in this picture? "She just got done helping the baby and she's trying to get the baby better."
- Positive 9. What could the nurse be doing in this picture? "She's trying to help the baby smile to make it feel better."

- Positive 10. What could the nurse be doing in this picture? "She's going to feed him 'cause he's hungry."

Child	Number 31
Age	11
Level of Contact	Low
Sex	Male

- Positive 1. What could the nurse be doing in this picture? "She's taking a patient home in a wheelchair."
- Positive 2. What could the nurse be doing in this picture? "She's feeding the baby so it won't starve to death."
- Positive 3. What could the nurse be doing in this picture? "She wants to give some toys to a child so he'll be amused and not be bored."
- Negative 4. What could the nurse be doing in this picture? "She's loading up a needle 'cause she wants to give someone a shot."
- Positive 5. What could the nurse be doing in this picture? "She's pouring milk into a bottle for a baby."
- Positive 6. What could the nurse be doing in this picture? "She's checking the flow 'cause if you've got too much you'll die."
- Neutral 7. What could the nurse be doing in this picture? "She's making a weird organism."
- Positive 8. What could the nurse be doing in this picture? "She's helping the mother with the baby."
- Negative 9. What could the nurse be doing in this picture? "She's tucking the boy in 'cause it's something to do."
- Negative 10. What could the nurse be doing in this picture? "She's trying to get a kid to eat, but he doesn't want to."

Appendix B
Information Sheet

Name _____ Phone Number _____

Age _____

Sex _____

Address _____ Class _____

List of Contacts with Nurses

Categorization of Contact with Nurses (High or Low) _____

Responses and categorization to pictures

Picture 1 Response _____

Categorization (positive, negative or neutral) _____

Picture 2 Response _____

Categorization (positive, negative or neutral) _____

Picture 3 Response _____

Categorization (positive, negative or neutral) _____

Picture 4 Response _____

Categorization (positive, negative or neutral) _____

Picture 5 Response _____

Categorization (positive, negative or neutral) _____

Picture 6 Response _____

Categorization (positive, negative or neutral) _____

Picture 7 Response _____

Categorization (positive, negative or neutral) _____

Picture 8 Response _____

Categorization (positive, negative or neutral) _____

Picture 9 Response _____

Categorization (positive, negative or neutral) _____

Picture 10 Response _____

Categorization (positive, negative or neutral) _____

Appendix CLogan L. D. S. Hospital Consent to Photograph

The undersigned do hereby authorize the above named hospital, and the attending physician or permit other persons to photograph _____ while under the care of the above institution, and agree that they may use these photographs for use in the thesis of Nancy A. Coulter.

Signed _____
parent

Signed _____ M. D.
attending physician

Date _____ Hour _____ M. Witness _____

Appendix D

Table 36. Summary of Children's Responses

Child's no.	Category			Response to pictures									
	Age	Level of contact	Sex	1	2	3	4	5	6	7	8	9	10
3	7	H	M	o					o	o	o		o
11	7	H	M	o	o	o	o		o	o	o		
37	7	H	M	o			o			o	o		
38	7	H	M						o				
39	7	H	M			o	o		o				
9	7	H	F				o		o	o			
10	7	H	F			o	-				o		
1	7	L	F							o		o	o
2	7	L	F	o	o		o			o	o		o
4	7	L	F				o			o			
5	7	L	F		o	o	o			o			
6	7	L	F						o	o	o	o	
7	7	L	F		o	o				o		o	o
8	7	L	F							o			
43	7	L	F	o						o			
18	9	H	M	o	o				o	o	o		o
14	9	H	F		o								
16	9	H	F							o	-		-
19	9	H	F										
22	9	H	F		o		o		o	o	o		-
28	9	H	F						o				
20	9	L	M				-		o	o	o		o
21	9	L	M	o			-			o			o
12	9	L	M				o			o			o
13	9	L	F	o			o		o				o
17	9	L	F		o		o						o
23	9	L	F							o			
24	9	L	F				o			o		o	
25	9	L	F	o		o	o		o	o		o	
27	9	L	F			o	o		o				
15	11	H	M	-	o								
36	11	H	M		o		-						
26	11	H	F							o		o	
30	11	L	M			-	o		o	o	o		o

Table 36. Continued

Child's no.	Age	Category		Response to pictures									
		Level of contact	Sex	1	2	3	4	5	6	7	8	9	10
31	11	L	M				-			o		-	-
33	11	L	M				o			o			-
40	11	L	M						o	-		o	-
29	11	L	F		-				o		o		
32	11	L	F	o	o				o	o			
34	11	L	F	o		o	o		o	o		o	o
35	11	L	F		-	o	o		-				-
41	11	L	F	-	o	o				o			
42	11	L	F		-								
44	11	L	F							o			o
45	11	L	F	o		o			o		o		

o symbolizes neutral

- symbolizes negative

all other responses are positive

VITA

Nancy Adams Coulter

Candidate for the Degree of

Master of Science

Thesis: Children's Perceptions of the Nurse

Major Field: Family and Child Development

Biographical Information:

Personal Data: Born in Paisley, Scotland, May 10, 1947, daughter of Albert Andre and Agnes Bell Adams; married Dean Marshall Coulter, March 19, 1971; one child - Garrett Travis, born February 19, 1973.

Education: Attended elementary school in Paisley, Scotland, Pawtucket, Rhode Island, Etain, France and Alconbury, England; graduated from Surrattsville High School, Clinton, Maryland in 1964; studied at the Walter Reed Army Institute of Nursing in Washington, D. C. from 1966-1968; received the Bachelor of Science degree from the University of Maryland, with a major in nursing, in 1968; did graduate work in child development from 1972-1974 and completed the requirements for the degree of Master of Science in Family and Child Development at Utah State University in 1974.

Professional Experience: 1968, commissioned in the U. S. Army Nurse Corps; 1968-1969, charge nurse, Pediatric Unit, Fort Ord Army Hospital, Fort Ord, California; 1969-1970, staff nurse, Intensive Care Unit, U. S. Army Hospital, Camp Zama, Japan; 1970-1971, charge nurse, Pediatric Unit, U. S. Army Hospital, Camp Zama, Japan; 1971-1972, charge nurse, Pediatric Unit, Logan L. D. S. Hospital, Logan, Utah; 1972-1973, instructor, Pediatric and Community Health Nursing, Weber State College/Utah State University Cooperative Nursing Program, Logan, Utah; 1974, supervising teacher, Child Development Laboratory, Utah State University, Logan, Utah.