ELEMENTS OF THE PLAY BEHAVIOR OF THE PRESCHOOL HOSPITALIZED CHILD AN ETHOLOGICAL APPROACH

by

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STATEMENT BY AUTHOR

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ACKNOWLEDGMENTS

In his book *The Prophet*, Kahlil Gibran has said of Teaching:

The teacher who walks in the shadow of the temple, among his followers, gives not of his wisdom but rather of his faith and lovingness.

If he is indeed wise he does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own.

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ABSTRACT

The purpose of this study was to explore the question: What are the elements of the play behavior of the preschool hospitalized child? The ethological approach was used to gather information on the play behavior of four preschool hospitalized children with the mean age of four years.

The elements identified as common to the children's play behaviors were categorized in the following manner: (1) initiator and terminator of the play activity and the participants and participation in the activity were classified as association, (2) the use of toy and non-toy materials were classified as exploitation, (3) the mobility of the child within the pediatric unit was categorized as territoriality, and (4) the verbal and non-verbal interactions during the activity were classified as interaction.

The findings indicated that interaction, association, territoriality, and exploitation as related to play behavior expanded as the length of hospitalization increased. Specifically, as the length of the child's hospitalization increased, the number of solitary activities decreased, the number of participants in an activity increased, the geographical territory expanded, the number of verbal interactions increased, and the amount of body play increased.
decreased. As the number of adult participants decreased, the utilization of non-toy objects for play increased.

Based on the findings of this study, there are implications for the nurse caring for the preschool child. The implications were discussed and recommendations for further study were presented.
CHAPTER 1

INTRODUCTION

The most characteristic means of communication in childhood is play activity. Through play a child is able to interact with his environment and to express his reactions to a situation. As the environmental forces of the child are altered, the importance of play is increased. The hospitalized child utilizes play for its cushioning effect and relies on the familiarity of play activities as a comforting factor in the midst of a strange environment. The child patient needs the opportunity to communicate in the language he speaks most fluently and which he understands best, play.

In contrast, as representatives of adulthood, nurses and other members of the hospital team have become impotent in their ability to communicate through play. The meaning of spontaneous play to adults has often been altered; through the maturation process more sophisticated means of interaction have evolved. In the hospital situation, play may not be included in the nursing care of the child. Amidst the monitoring devices, intravenous tubing, and tracheal suctioning, it may be difficult for the nurse to offer the child an opportunity to play. Often play is
not a priority because adults establish the priorities and in doing so impose their value of play upon the child.

A premise of this study was that there should be emphasis on the development of playing skills in the nursing of children just as there is emphasis on the development of interviewing skills in the nursing of adults. In order to effectively interact with children, nurses need to know how to play and how to identify behavior patterns of a child that are representative of his communication process, play.

**Statement of the Problem**

The problem of this investigation is stated in the question: What are the commonalities that can be identified in the play behavior of preschool hospitalized children?

**Purpose of the Study**

The purpose of this study was to describe elements in the play behavior of the hospitalized preschool child through the utilization of the ethological approach.

**Conceptual Framework**

Play behavior is a spontaneous type of behavior exclusive to learning animals. Through play, the child interacts with his environment and in doing so involves himself in a communication process. Hall (1959:45) has described the communication process as a cultural system.
composed of a complex series of interrelated activities. The activities, labeled by Hall as Primary Message Systems (PMS), include the following: interaction, association, subsistence, bisexuality, territoriality, temporality, learning, play, defense, and exploitation. The PMS are interrelated entities; each can be related with one or more of the others. In this study, the activities of interaction, association, territoriality, and exploitation provided the framework for describing the play behavior of preschool hospitalized children.

Interaction with one's environment is essential to life. According to Hall (1959:46), interaction is the basis of irritability of living matter and a means by which man functions within a group. "To interact with the environment is to be alive, and to fail to do so is to be dead" (Hall, 1959:46).

Association is the relationship of man to the group. Children in the hospital culture, for example, are members of several reference groups and need to learn the role expected of them as a member of each group, e.g., peer group, patient group, family group, and health team group.

Territoriality is the taking possession of a particular territory for one's living area. "To have a territory is one of the essential components of life, to lack one is one of the most precarious of all conditions" (Hall, 1959:51). The hospitalized child needs to establish
his hospital territory and needs to learn the accessibility and approved behavior of the other territories within the hospital, e.g., private, public, forbidden, play, work, or sleep.

In order to exploit his environment, man has used materials to develop extensions of his body. For example, transportation vehicles are extensions of man's hands and feet; clothes and houses are extensions of man's temperature control mechanism. Likewise, during play the child extends his body through the employment of inanimate materials.

Considering the information the observer wished to collect from the children in this study, the selected activities of interaction, association, territoriality, and exploitation seemed to provide a reasonable framework for categorizing the data. Through play the child is able to discover: (1) how he is to function with a group—interaction, (2) what role is expected of him as a member of a specific group—association, (3) what territories he can and should establish within a particular group—territoriality, and (4) how to utilize materials in adapting to his environment—exploitation.

Play, as a part of the communication process becomes vitally important to a child during hospitalization. Through play the child can provide continuity between his world at home and the hospital world. The hospitalized
child, however, needs the assurance that play is a socially approved behavior for the new setting in which he has found himself. The dichotomy existing within the hospital setting is that play is a socially approved activity for children while the adult hospital personnel view play as a non-work, lazy, non-constructive activity. An ambiguous attitude toward play as a nursing care priority results from this dichotomy.

Each child who enters the hospital has left a social system in which he has developed certain play patterns. He has learned to interact with adults and his peers through play. Upon entering a hospital, a new environment and new people are forced upon him. Superimposed on the apprehension caused by his illness, the fear of the unknown and the separation anxiety of being apart from his mother is the realization that he must adapt himself to his present environment. To facilitate this adaptation, adults within the hospital setting should be cognizant of the child's need to play and should allow the child opportunities for spontaneous play. In doing this, the adult is encouraging the child to employ his Primary Message Systems and is laying the groundwork for a meaningful communication between the child and his environment.

In an attempt to identify the preschool child's gross play behavior in the unfamiliar yet natural environment of the hospital, the ethological approach was utilized.
in this study. Aiming toward the observation and recording of human behavior, the ethological approach correlates behavior with the naturally occurring events that stimulate different aspects of the behavior. Unlike the experimental approach, the subject's behavior is not altered by stimulation or intervention from the observer. Unlike other observational approaches, recordings should not include the bias of the observer (Hutt and Hutt, 1970:16).

There is a need for descriptive studies that identify the behavior of people in the face of illness and hospitalization (Paul, 1965). Utilizing the ethological method of observation and Hill's Primary Message Systems as a basis for data categorization, the writer has attempted to identify elements in the play behavior of hospitalized preschool children and to identify patterns common to the children's behavior.

**Definition of Terms**

**Preschool hospitalized child** is a child between the ages of three years to five years who: (1) has not yet entered kindergarten, (2) has been hospitalized for longer than twenty-four hours and for no longer than two weeks, and (3) is alert and reactive.

**Play** is any relatively unstereotyped behavior in which a child is involved in seemingly purposeless actions (Schaller, 1963:249).
Play activity is a unit of behavior in which the child is engaged in play without interruption.

Play period is that period of time in which several play activities take place without interruption of a functional activity.

Assumptions

The following assumptions were utilized in this study:

1. Commonalities can be described in the play behavior of preschool children.
2. Hospitalized children manifest play behavior.

Limitations

The study was limited to the observation of four preschool children admitted to one pediatric unit of a private community hospital during February, March, and April, 1972, in Tucson, Arizona.

The group was composed of boys and girls with no attempt to be selective on the basis of sex.

Observations were made by this nurse investigator and no attempt was made to correct for bias on the part of the investigator.
CHAPTER 2

REVIEW OF THE LITERATURE

This chapter includes a review of literature in the following areas: play and ethology, the characteristics of play, play and social interaction, and play and hospitalization.

Play and Ethology

The functions of play, the nature of play, and the causation of play are characteristics of interest to the ethologist. The aim of the ethological approach of observing human behavior is to record it in full detail, correlating it with events that stimulate different aspects of the behavior. The impartiality of the observer is vital to the ethological recordings. The report must not include interpretations or human thoughts but must simply be recording of whatever activity occurs within the observation period. The ethologist believes that until one knows what an animal will do in the natural setting, one is not in a position to make assertions regarding the effect of the stimulus (Hutt and Hutt, 1970:16).

The ethological observation of play patterns in humans has not been widely explored. Jones (1967:348) in his study on nursery school children applied ethological
methods of observation to the study of the behavior of normal children. He based his methodology on Tinergen's description of three kinds of circumstantial evidence about causation of play: (1) comparison of the form of movement, (2) analysis of temporal association of movements, and (3) examination of situations in which the behavior occurs.

In contrast to Jones' well, nursery school children, the present study has identified behavioral patterns and has examined situations in which the behavior occurred during a hospitalized preschool child's play activity.

**Characteristics of Play**

The literature revealed characteristics of play behavior in terms of: (1) participants involved in play, (2) motor patterns of play, (3) physiological state conducive to play, (4) effect of environment on play, and (5) the developmental stages of play.

Schaller (1963:249) described the play behavior of the gorilla young as "any relatively unstereotyped behavior in which an animal was involved in vigorous actions seemingly without definite purpose." In their natural jungle habitat, the juvenile and infant gorillas observed by Schaller (1963:250) engaged in either lone or social play. Physical contact was a predominant activity in social play but the larger juvenile animals did not injure the infants; they always contained their strength.
Loizos (1967:178), an ethologist, describes primate play behavior as similar to other behavioral patterns but not motivated by the same factors. She observed motor patterns of play to include non-play motor patterns with qualities of repetition, fragmentation, and exaggeration.

The physiological state of the animal has been related to play behavior by several ethologists. From his field work, Eibl-Eibesfeldt (1970) observed animals to play only when they were in a satiated state. Schaller's (1963) gorillas exhibited play behavior after morning feedings and when the older adult animals had settled down to rest. Loizos' (1966:3) observations revealed that play behavior occurred when the animal was free from physiological pressures such as hunger, thirst, fatigue, or pain.

In reporting his ethological observations of several species, Eibl-Eibesfeldt (1970:139) indicated that play behavior is a special type of behavior characteristic of only the most highly developed animals, that is, those animals that seek new situations out of their own initiative. Eibl-Eibesfeldt (1970:240) defines play as an "experimental dialogue with the environment." As an activity encountered for the purpose of trying out new behavior patterns, play is a learning experience in that during play an animal interacts with the environment, experiments with things in its environment, and acquires knowledge about their characteristics. Because the
behavior is free of emotional tension associated with goal-seeking, it is play. The utilization of novel behavior patterns makes it an experimental activity. The ability of an animal to withdraw from the situation qualifies play as a dialogue with the environment.

Hutt (1966:78) demonstrated the difference between play and exploration by controlling the environment of several nursery school children. Putting these children in a room with a specially designed, totally unfamiliar object, Hutt observed the exploratory action as differentiated from play action. According to the observations, investigative or specific exploratory actions were directional and oriented toward specific environmental changes. Play, on the other hand, occurred only in a known environment and when the child knew the property of characteristics of that environment. Play only occurred when the child was in a relaxed state. From her study, Hutt concluded that play is a repetitive, redundant activity that can actually prevent learning.

Vernon (1969), in contrast, suggested that behavior described by Hutt as exploratory occurs only when an object or situation is not too strange. Too much uncertainty is the factor that inhibits the learning of play. He cited an example where upper-class children were more frightened by dark rooms or unusual looking persons than were lower-class children. This may have been because the
lower-class children did not consider the situation to be strange. The object presented to the children in Hutt's study was totally unfamiliar to all of the children and this unfamiliarity, according to Vernon, inhibited their ability to play, not their exploratory behavior.

The psychoanalyst's description of play is in terms of ego development and analysis. According to Erikson (1963:212), "to hallucinate ego mastery and yet also to practice it in an intermediate reality between phantasy and actuality is the purpose of play." Explaining further, Erikson (1963) views play as a developmental process through which one's ego learns to function, first in relation to oneself and one's body, then in relation to others. He has described play in three developmental stages.

Solitary play, centering on one's own body, is typical of the infant child. Characteristic of this play is repetition and experimental vocalizations, body movements, and sensual perceptions. The child then begins to play with toys in toddlerhood but on a socially parallel basis with people. He is interested in controlling the small, manageable world of toys. Associative and cooperative play are the advancements the child makes into the world of social play. In these stages, the peer group increases in importance and the child begins to realize the importance of sharing with other children and then proceeds toward a
cooperative interaction with his peers in pursuit of obtaining a goal.

### Play and Social Interaction

Harlow and Harlow (1962) emphasized social interaction in primate play behavior. The captive rhesus monkeys involved in the study on social deprivation engaged in exploratory play by exploring the room and each other. Rough and tumble play and flight and pursuit play were examples of peer interaction that may have resembled conflict; because of the play quality of their motor actions, none of the monkeys were harmed.

Wooten, Wood, and Barnes (1970) reported a study of preschool children's behavior while waiting in a health care waiting area. They categorized play based on Parten's classifications: unoccupied, solitary, onlooker, parallel, associative, and cooperative. The first three categories were labeled unsocial play and the last three were labeled social play. After observing the children for two five-minute periods at each play session, the observers recorded the behavior during that time. The information gathered was utilized in directing comprehensive care for the child and guidance for the family. If a child was retarded or regressed in his play development he was given special attention including follow-up care. In this way valuable
information was gathered during an otherwise non-functional period of time.

Parten (1933), utilizing her own classifications, observed the spontaneous play of nursery school children. She was looking for degrees of leadership and patterns of social interaction. The following were among the conclusions of her study: (1) preschool children most frequently play in groups of two, (2) the size of the group increases with age, (3) IQ has little influence on preschool children's friendships, (4) playing house is the most social type of play, and (5) constructive play and sand play are characteristically parallel play activities.

In his book *The Silent Language*, Hall (1959:47) described man's employment of Primary Message Systems (PMS) as a means of social interaction. Each of the PMS is a kind of human activity utilized in the communication process. For the purposes of this study, four of the ten PMS were utilized: interaction, association, territoriality, and exploitation. Through play the child is able to discover: (1) how he is to function within a group--interaction, (2) what role is expected of him as a member of a specific group--association, (3) what territories he can and should establish within that group--territoriality, and (4) how to use materials in adapting to his environment--exploitation.
Play and Hospitalization

The importance of play as a normal activity and the learning value of play is recognized by the British pediatrician, Jolly (1969). Through play, "every child should be given the opportunity to learn to the full so as to achieve his own intellectual potential" (Jolly, 1969:487). Jolly maintains that play is a critical period of learning and should be recognized as such by adults. Working with nurses on a pediatric unit, he found that adults had a tendency to force their value of play upon the child; children see play as an essential part of living where adults view play as a non-work, essentially useless activity. This value difference is emphasized by Erikson (1963:213), "the playing adult steps aside into another world; the playing child advances forward to a new stage of mastery." In dealing with these two seemingly antithetical concepts of play, the child may develop guilt feelings about his play resulting in inhibition of play behavior.

As diversion, play de-emphasizes the emotional stress of the hospitalization and establishes for the child pleasant associations for otherwise unpleasant circumstances. Dramatic play also helps the child cope with hospital procedures and treatments. "Play is a known, reliable friend that a child seeks in a strange environment" (Holt, 1970).
Piaget and Inhelder (1969:58) have said that play is the child's attempt to assimilate reality to the needs of the self. In his attempt to adapt to the world of adults, the child does not succeed in satisfying the emotional or intellectual needs of his personality without the use of play behavior.

The importance of this assimilation process was demonstrated by a group of preschool children studied by Tisza, Hurwitz, and Angoff (1970). They observed hospitalized children of three different age groups. The children played in a hospital playroom during the first three days of hospitalization. In the three to four year old group, the pattern of behavior indicated that during the initial period of hospitalization the external and internal threats inherent to hospitalization created so much anxiety that the children were not able to engage in play. Regression or struggle against regression in play behavior was observed in this group. During the observation period, very little or no peer interaction occurred among the preschool children.

Takata (1969), an occupational therapist, has suggested a method of helping hospital personnel assess the play behavior of young children. She advocated the taking of a play history by means of interviewing the parents and child upon admission to the hospital. The factors considered in the play history included: play
interaction with peers, play toys and objects, play posture and mood, play space and frequency, and the predominant play activity of the child while at home. Utilization of the play history was beneficial in observing and encouraging the play behavior of the hospitalized child.

Douglas (1971), in a preliminary study on malnutrition, observed the behavior of sick children on a pediatric ward. The child's behavior was observed in terms of his interactions, responses to stimuli, and behavior during feeding and bathing times. The behavior was recorded in detail and then compared to developmental norms. In this manner the child's behavior was assessed and measures were implemented to include these patterns in the nursing care.

The importance of including opportunities for the child to exercise the behavior of play during hospitalization was inherent in the investigation carried out by the Platt Commission in England. The Commission studied the arrangements made in hospitals for the child and his family, exclusive of the medical and nursing treatment. It was from the Platt Report of 1959 that the American Association for the Care of Children in Hospitals (AACCH) emerged. The purposes of this group include the development of programs of comprehensive care for the hospitalized children and the stimulation and support of research leading to better understanding of the needs of children
in medical settings (Editorial, 1971:35). The organization supports family nursing care as a means of providing an atmosphere conducive to childhood within the hospital setting.

Summary

The literature relevant to the characteristics of play, play and ethology, and the relationship of play to the social interaction and hospitalization of a child has been reviewed. Studies about play behavior of the pre-school child in hospital settings are limited and the need for investigation is indicated. The identification of this need serves as a basis for the present study.
CHAPTER 3

RESEARCH DESIGN

A premise of this study was that there should be emphasis on playing skills in the nursing of children just as there is emphasis on the development of interviewing skills in the nursing of adults. The purpose of the study was to describe elements in the play behavior of the hospitalized preschool child. The study was designed to answer the question: What are the commonalities that can be identified in the play behavior of preschool hospitalized children? To accomplish this, the ethological method of observation was chosen.

The basis of an ethological investigation is an ethogram, or a recording of the behavior of the subject observed. The most accurate means of documenting the behavior is through the use of motion pictures. The ethogram of man has not yet been documented in a way that would permit examination of data that are not already colored by the observer's interpretation (Eibl-Eibesfeldt, 1970: 412). The preliminary nature of this study did not indicate the use of video-tape as a method of correcting for the investigator's adult bias.
The ethogram in this study consisted of a catalogue of recordings of the spontaneous play behavior of the hospitalized child as observed by the investigator. The ethological approach was chosen to identify elements in the child's play behavior without stimulation or intervention from the observer. It is the ethologist’s belief that until one knows what a subject will do in an unaltered setting, one is not in a position to make assertions regarding the effect of a stimulus.

**Sample Population**

The sample population consisted of four children who were admitted to a pediatric unit of a private community hospital in Tucson, Arizona, during the months of February, March, and April, 1972. The convenience sample was composed of children: (1) who ranged in age from three to five years old, (2) who had not yet attended kindergarten, (3) who had been hospitalized for longer than twenty-four hours and no longer than two weeks at the time of observation, (4) who were alert and reactive at the time of observation, and (5) who were free from immobilizing devices; cribs were not considered to be immobilizing devices.

The preschool-age child was selected for this study because play behavior of children between three and five years of age is characterized by out of bed movement and is independent of adult supervision. The availability of
the preschool child within the hospital setting during the school year was also considered when selecting the age group to be studied.

The private community hospital was chosen because of the absence of a structured play program or play room within the pediatric unit. The architectural framework of the pediatric unit allowed for observation of spontaneous play behavior exhibited by the children and facilitated the use of ethological methodology.

**Data Collection and Technique**

Observations were made on a non-participant basis, in keeping with ethological methodology. The observer assumed a position away from the child yet with full view of the child. Remaining as inconspicuous as possible the observer followed the child from one geographical area to another. Explanation of the observer's presence was given upon request; requests were made by staff members only. Initially it was difficult for the nurse observer to remain a non-participant within the hospital setting. The one time this role was violated was the intervention of the observer as an adult authority figure for the purpose of stopping a potentially unsafe activity. Intervention was made by the observer because of the absence of other adults in the setting.
The observations took place in one of three settings. The first two settings were four bed wards in which the number of child occupants varied from one to four. Each unit contained the usual hospital furniture of a crib or bed, bedside stand, and over-the-bed table. The units of all the preschool children observed contained cribs. The third setting was an open area in the corridor designated as a play area and was furnished with a small table, child-size chairs, a telephone, a bookshelf with games and books, an aquarium, and a small toy box.

The time of the observation periods was between the morning hours of nine and eleven, but not necessarily inclusive of those hours. Each observation period was not less than one hour and no more than seventy-five minutes. The morning hours were chosen because it was at this time that all breakfasts were finished and most baths completed. According to the literature, the child is ready for play in a satiated, rested state. The end of the period was determined by the temporary removal of the child from the pediatric unit or the inability of the observer to maintain an inconspicuous post within the setting. Whenever possible, a one-way mirror was used for observation. The mirror was not frequently utilized for either of two reasons: (1) the mirror was usable only when the lights were off in the medication room of the nurses' station and
(2) the mirror was usable for only those activities occurring in the play area setting of the corridor.

An observation guide was designed to facilitate recording of behavior observed (Appendix A). A preliminary observation was done to assess the usefulness of the observation guide. The utilization of the guide with pre-established categories was demonstrated to be a restrictive device. It was decided that the observations would be recorded in an open-ended manner on a blank piece of paper. The open-ended method was utilized throughout the study and allowed the observer more freedom in recording the observations.

During the observation period, the investigator recorded all motor and social behavior observed; a catalogue of all recordings was compiled for each child. At the conclusion of the study the catalogues were compared and those behavior patterns common to the preschool hospitalized child were described.

Difficulty was encountered when attempting to identify the discreteness of a play activity as a unit of behavior in which the child was engaged in play without interruption. It was decided that the termination of a play activity would be at that point when the focus of the behavior was altered. The following excerpt from the field notes serves as an example:
Child picks up chocolate, drinks with straw until it makes gurgling noises then sucks to make more noise. Folds and refolds carton, continuing to make noise with straw. ... Gets down out of chair, walks down hall where she finds little boy (older than she) and pool table. With right arm, grasps cue overhandedly and then points out to boy which balls are his and which are hers.

The point of termination in the incident was when the child got down out of the chair, changing her focus of behavior away from noisemaking with the straw. The point of initiation was when the girl grabbed the cue stick and entered herself into a new play activity.

The termination of the play periods was less difficult to determine. Interruption of play behavior with a functional activity such as toileting, bathing, or treatments constituted the termination of the play period.

Categorization of the data was based on a modification of Hall's (1959) Primary Message Systems. The elements of play behavior were placed in the following categories: association, interaction, territoriality, and exploitation. Association was demonstrated by (1) the participants and their participation in the activity and (2) the initiator and the terminator of the activity. Exploitation was examined in terms of the use of toy and non-toy materials for play. Territoriality was described in terms of mobility within the setting. Interaction during the activity was examined in terms of verbal and non-verbal interactions.
The research design has been described in this chapter. The following chapter will present the findings of the study.
CHAPTER 4

PRESENTATION OF THE DATA

The purpose of this study was to describe the play behavior of preschool hospitalized children. A total of sixty-eight play activities were observed during ten play periods of four preschool hospitalized children. Play periods were defined as that period of time in which several play activities took place without interruption of a functional activity. Play activities were defined as units of behavior in which the child was engaged without interruption; play activity units did not depend on time spent in a given activity. The number of play activities during a play period ranged from two to ten with an average of six and eight-tenths activities per play period.

Description of the Sample

The convenience sample was composed of four preschool children with the following diagnoses: (1) multiple dog bites, (2) punctured eye from a fall from a tree, (3) bronchitis, and (4) third degree burns of arm and axilla sustained while climbing on a counter near a gas stove at home. The ethnic composition of the sample was one Black, two Anglos, and one English-speaking Mexican-American. The mean age of the group was four years. Except for one
observation period in which one child was confined to bed, all the children were ambulatory at the time of observation. The composition of the group is presented in Table 1. Specific descriptions of the children are offered in Appendix B.

Table 1. Sample Composition

<table>
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<th>Child</th>
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<td>3</td>
<td>3</td>
<td>Anglo</td>
</tr>
<tr>
<td>Patty</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>Black</td>
</tr>
<tr>
<td>Johnny</td>
<td>3</td>
<td>6</td>
<td>7</td>
<td>Anglo</td>
</tr>
<tr>
<td>Mandi</td>
<td>4</td>
<td>1</td>
<td>2</td>
<td>Mexican-American</td>
</tr>
</tbody>
</table>

Presentation of the Findings

The data were examined and categorized to identify the commonalities in the play behavior of preschool hospitalized children. The mode of play during the activity was described as a separate entity. The elements of play divided themselves rather easily into four of Hall's (1959) Primary Message Systems. The participants and their participation in the activity along with the initiator and the terminator of the activity were classified as elements exemplifying association. The use of toy and non-toy
materials was considered representative of exploitation. The settings in which the child was operating during the play activity described territoriality and the verbal and non-verbal interactions were demonstrative of interaction. The data were tabulated according to category and frequency and are presented in Table 2.

Mode of Play

The mode of play was the general form of play in which the child was engaged during the play activity. The modes of play and their frequency of occurrence are presented in Table 3.

Playing quiet games was the most frequent mode of play observed; quiet games included table games, parlor games, and commercial games and were usually hospital owned. Playing dolls, body play, and eating were other frequently occurring modes of play. The doll play varied in nature but had the commonality of grooming; each child at some point of doll play brushed the doll's hair or fur. Body play most often involved purposeless activity with the hands, feet, mouth, or head. Eating and drinking, although functional behaviors, were classified as play when the behavior became seemingly purposeless, e.g., licking a spoon, blowing bubbles with a straw, or making noises with a cup.

Drinking as a mode of play is illustrated in the following field note:
Table 2. Common Elements of Play

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Association</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Initiator</strong></td>
<td></td>
</tr>
<tr>
<td>child</td>
<td>45</td>
</tr>
<tr>
<td>adult (non-nursing)</td>
<td>9</td>
</tr>
<tr>
<td>nursing personnel</td>
<td>7</td>
</tr>
<tr>
<td>another child</td>
<td>7</td>
</tr>
<tr>
<td><strong>Terminator</strong></td>
<td></td>
</tr>
<tr>
<td>child</td>
<td>34</td>
</tr>
<tr>
<td>adult (non-nursing)</td>
<td>16</td>
</tr>
<tr>
<td>nursing personnel</td>
<td>14</td>
</tr>
<tr>
<td>another child</td>
<td>4</td>
</tr>
<tr>
<td><strong>Participants</strong></td>
<td></td>
</tr>
<tr>
<td>child alone</td>
<td>32</td>
</tr>
<tr>
<td>two children</td>
<td>12</td>
</tr>
<tr>
<td>one adult, one child</td>
<td>12</td>
</tr>
<tr>
<td>one adult, more than one child</td>
<td>6</td>
</tr>
<tr>
<td>one child, more than one adult</td>
<td>6</td>
</tr>
<tr>
<td><strong>Participation</strong></td>
<td></td>
</tr>
<tr>
<td>solitary</td>
<td>36</td>
</tr>
<tr>
<td>associative play</td>
<td>16</td>
</tr>
<tr>
<td>parallel play</td>
<td>12</td>
</tr>
<tr>
<td>associative then parallel play</td>
<td>2</td>
</tr>
<tr>
<td>cooperative play</td>
<td>1</td>
</tr>
<tr>
<td>associative then cooperative play</td>
<td>1</td>
</tr>
<tr>
<td><strong>Exploitation</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Toys</strong></td>
<td></td>
</tr>
<tr>
<td>doll-animal</td>
<td>10</td>
</tr>
<tr>
<td>books</td>
<td>5</td>
</tr>
<tr>
<td>parlor games</td>
<td>5</td>
</tr>
<tr>
<td>drawing implements</td>
<td>4</td>
</tr>
<tr>
<td>mechanized toys</td>
<td>4</td>
</tr>
<tr>
<td>building/pounding toys</td>
<td>3</td>
</tr>
<tr>
<td>pool table</td>
<td>1</td>
</tr>
<tr>
<td><strong>Non-toys</strong></td>
<td></td>
</tr>
<tr>
<td>furniture</td>
<td>13</td>
</tr>
<tr>
<td>eating implements</td>
<td>12</td>
</tr>
<tr>
<td>hospital equipment</td>
<td>6</td>
</tr>
<tr>
<td>clothing and grooming implements</td>
<td>5</td>
</tr>
</tbody>
</table>
Table 2.—Continued

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Territory</strong></td>
<td></td>
</tr>
<tr>
<td>child's room</td>
<td>24</td>
</tr>
<tr>
<td>child's bed</td>
<td>15</td>
</tr>
<tr>
<td>child's unit</td>
<td>9</td>
</tr>
<tr>
<td>corridor</td>
<td>8</td>
</tr>
<tr>
<td>play area</td>
<td>8</td>
</tr>
<tr>
<td>another child's room</td>
<td>4</td>
</tr>
<tr>
<td><strong>Interaction</strong></td>
<td></td>
</tr>
<tr>
<td>Verbal interactions</td>
<td></td>
</tr>
<tr>
<td>adult to child</td>
<td>68</td>
</tr>
<tr>
<td>child to adult</td>
<td>66</td>
</tr>
<tr>
<td>adult to adult</td>
<td>19</td>
</tr>
<tr>
<td>child to child</td>
<td>13</td>
</tr>
<tr>
<td>child to self</td>
<td>12</td>
</tr>
<tr>
<td>Non-verbal interactions</td>
<td></td>
</tr>
<tr>
<td>child with environment</td>
<td>25</td>
</tr>
<tr>
<td>child with body</td>
<td>10</td>
</tr>
<tr>
<td>child with another child</td>
<td>8</td>
</tr>
<tr>
<td>child with adult</td>
<td>8</td>
</tr>
<tr>
<td>Mode</td>
<td>Frequency</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td>Quiet games</td>
<td>14</td>
</tr>
<tr>
<td>Body Play</td>
<td>10</td>
</tr>
<tr>
<td>Doll Play</td>
<td>9</td>
</tr>
<tr>
<td>Eating and drinking</td>
<td>9</td>
</tr>
<tr>
<td>Climbing, running, and throwing</td>
<td>9</td>
</tr>
<tr>
<td>Drawing</td>
<td>5</td>
</tr>
<tr>
<td>Reading</td>
<td>4</td>
</tr>
<tr>
<td>Riding</td>
<td>2</td>
</tr>
<tr>
<td>Combinations</td>
<td>5</td>
</tr>
</tbody>
</table>

Nurse hands child in a croup tent a cup of soda and a straw. . . . Child stirs soda with straw . . . begins drinking with straw; stirs soda vigorously in circular motion . . . takes straw and licks bottom of it. Makes designs on book with straw. Bends straw then tries to look through it . . . holds straw between thumb and index finger and pretends to write with it. Puts straw in mouth and shakes head sideways; repeats shaking several times. Puts straw in ear, soda runs into ear and down neck. Child giggles, takes corner of pajama and wipes soda out of ear, repeating several times and giggling.

Less frequently occurring modes of play were climbing, running, throwing, and riding. Occurrence of passive play behavior was on the second or third day of
hospitalization; the more active behavior occurred on the third or fourth day of hospitalization.

The trend in relation to the mode of play was quiet, solitary play with few objects early in the hospitalization progressing to more social and more active play behavior involving increased number of objects as the length of hospitalization increased.

Elements of Play

The common elements of the play behavior exhibited by the preschool hospitalized children in this study were identified as follows: initiator and terminator, participants and their participation, use of toy and non-toy materials, territory, and verbal and non-verbal interactions. The nine elements are described in terms of four of Hall's (1959) Primary Message Systems: association, interaction, territoriality, and exploitation.

Association. To demonstrate the child's association as a member of the group, the initiation and termination of the play activity, the participants and their participation in the play activity are described.

Initiation and Termination:

The initiation of the play activity was defined as that point when the child focused his behavior toward an object or body part in a seemingly purposeless manner.
The termination of the play activity was at that point when the focus of behavior was altered.

The majority of play activities were both initiated and terminated by the child. Two unsuccessful attempts to initiate or to become initiated into a play activity were observed. In both incidents the child attempted to enter another child's unit. In both incidents the child was verbally told by an adult to go away. In both incidents the child did as told.

The most frequent method of initiation utilized by a child was to pick up an object or to employ a body part(s) in a new activity. The most frequent method of initiation by an adult was to offer the child a toy or non-toy object.

The most frequent method of termination of a play activity was the completion of a task or the removal of self from an uncompleted task. Although most of the activities were terminated by the child, more activities were terminated by adults than were initiated by adults. The mode of termination by adults ranged from removal of self and/or child from the situation to offering the child a new object.

Participants:

The number of participants in a play activity varied. The participants in the activities, other than the preschool child, were either another hospitalized child or
a female adult. The preschool child as the sole participant occurred most frequently and occurred early in the hospitalization with the exception of one child. The exceptional child was in constant attendance of adult relatives. The adult-child ratio with this child was two to one during his second day of hospitalization and one to one or one to two during his third day of hospitalization. With this exception, as the length of hospitalization increased, the number of participants and the number of objects in a play activity increased. Most of the activities in which there were two children occurred on the third or fourth day of hospitalization.

Participation:

Solitary play as described by Erikson (1963) occurred most often in the early part of the hospitalization and when the child was in bed. The degree of participation during the activities in which an adult(s) was a participant was usually associative or parallel. Co-operative play occurred once when two children were the participants.

Exploitation. The inanimate materials utilized during the play activity were categorized as toy and non-toy objects as defined by adult culture. The use of toy and non-toy objects during play established several trends. Furniture and food or eating implements were each utilized more frequently than any one toy object. Except for the
use of dolls, hospital equipment and clothing or grooming implements were each observed more frequently than any other single category of toys.

The use of hospital equipment and furniture as play material is illustrated by the following field note:

. . . the girl preschool child and the six-year-old boy have just entered the boy's room. She sits on the bottom of the over-the-bed table and hangs on to the standard. Looking up at the boy she says "Push me, take me for a ride!" He grabs a hold of the table and swings her around on the table in a complete circle. She squeals with delight. He lets go and climbs over the raised bedrail into bed. She walks over to the intravenous standard and stands on the base of it with both hands grasping pole in climbing position. "Push me, push me!" she demands. The boy looks toward her but does not move from the bed. The girl puts one foot on the floor and propels herself around the room in skating manner, squealing as she goes.

The only activities in which hospital equipment such as intravenous stands, croup tent, or mattress pad was used as play objects were those activities in which none of the participants were adult. Likewise, as the number of adult participants in the play activity increased, the number of toy objects increased.

Territoriality. The most frequent territory in which the play activity occurred was the familiar environment of the child's room; the least frequent was the environment of another child's room. The trend of territoriality was similar to that of the mode of play; as the child's stay in the hospital lengthened, the geographical
territory was expanded. In one case the territory was limited from the fourth to the fifth day; the child was the only child in the constant attendance of adult relatives during each of the observation periods. With this exception, as the length of hospitalization increased, the number of participants and the number of inanimate objects increased and the geographical territory was expanded. The relationship of the geographical territory and length of hospitalization is shown in Figure 1.

Interactions. The child's interaction with the group during the play activity was described in terms of verbal and non-verbal interactions. Any vocal sound emitted from the child or participant was categorized as a verbal interaction. The child's interactions with his body, the environment, an inanimate object, or another person in the absence of verbalization were classified as non-verbal interactions.

Verbal Interaction:

The direction of the verbal interaction varied among the activities and all combinations were observed: adult to child, child to adult, adult to adult, and child to child.

The greatest number of play activities with no verbal interaction occurred during the second day of hospitalization and decreased on the third day of hospitalization.
Figure 1. Relationship of Territoriality to Length of Hospitalization
The number of child-initiated interactions increased as the length of hospitalization increased; conversely, the number of adult-initiated interactions decreased as the length of hospitalization increased.

The pattern of verbal interaction during the play periods or consecutive play activities was of interest. Excluding verbalizations to self, the least number of interactions during a play period was one and occurred on the child's second day of hospitalization. The interaction was adult initiated and explanatory in nature. During this play period there were no other participants in any of the ten play activities although where were seven other persons in the child's room at the time of the activities. The child was the only Black person in the setting. The highest number of two person interactions involved the same child on the third day of hospitalization. During this play period, consisting of nine play activities, there were forty-five interactions; two were between the two children, thirty-seven were between the child and the adult (toddler's mother), and the remaining six were between the mother and the toddler. Two of the six interactions between the mother and the toddler were in Spanish.

The trend of verbal interactions of all the children was similar to but not as striking as the example cited. As the length of hospitalization increased, the number of verbal interactions increased and is most likely
related to the increase in the number of participants in the play activity.

Non-Verbal Interaction:

The frequency of non-verbal interactions was highest in those activities in which the child was the sole participant and with those children who remained in bed or in their units. The children engaged in solitary play utilized body motions and body parts more frequently than those children in parallel or associative play. Examples of body use were licking, sucking, wiggling and counting toes, hand clapping, pounding, rhythmic movement of arms and hands, climbing, scooting, and rocking.

Wiggling and counting toes, sucking thumb, hand-clapping in the absence of music or singing, scooting, and rocking were classified as non-verbal interactions with self. Scooting was defined as that activity in which the child assumed a squatting position and propelled himself forward or backward through alternate use of arms and legs. Rocking was defined as that activity in which the child assumed a sitting position and swayed his trunk to and fro.

Pounding a book with hands, licking the croup tent with tongue, sucking a straw, or climbing upon furniture were classified as non-verbal interactions with the environment.
The following excerpt from the field notes illustrates non-verbal interactions with self and environment exhibited by a child in bed.

Child props herself against her teddy bear with feet propped up on bedrail. Swinging octopus yarn doll. Brushing own hair then teddy bear's. Sits up, grabs feet and moves to the other end of bed in rocking motion. Lies on stomach with left thumb in mouth puts head on teddy bear's stomach.

Propping against the teddy bear, swinging the yarn doll, and grooming the teddy bear were categorized as non-verbal interactions with environment. Brushing her own hair, rocking, and sucking her thumb were considered interactions with self.

Behavior of intimate nature occurred most frequently during solitary play. Kissing, looking at genital area, listening to doll's abdomen with a stethoscope, and putting dolls to sleep occurred when the child was engaged in solitary play and confined to bed.

Child to child non-verbal interaction was usually with a younger toddler child and involved the communication of a desire on the part of the toddler. The preschool child usually responded non-verbally by helping the toddler fulfill his desire. The following is an edited field note demonstrating the non-verbal communication between the preschool child and a toddler:

The toddler boy child in a nearby crib gives the girl preschool child who is sitting in a chair near his bed, a wind-up duck. She gets down from
the chair and puts the duck toy on the chair to run. The duck runs off the chair. . . . Repeated performance of winding and unwinding the duck. When the duck falls off the chair she looks up at the boy and both children laugh. Toddler holds outstretched hand to preschooler when he wants the toy back in his crib. She gives the toy back and sits on the chair.

Adult and child body contact was initiated by the adult and usually was transient in nature. The adult-child contact was usually functional; for example, lifting a child from the crib to the floor. The only prolonged, non-functional adult-child contact observed was a child sitting on his grandmother's lap. The lap sitting was not close body contact in that the child sat upright with the grandmother's hand supporting his back at intermittent intervals.

In relation to other categories, the occurrence of non-verbal interaction with self was greatest during solitary play and without inanimate objects. As the length of hospitalization increased, the number of observable non-verbal interactions decreased.

Summary

The data were categorized and tabulated according to frequency of occurrence. From the analysis of the data by category, it was demonstrated that in relation to the play activities, the child's association, territoriality, and interaction were expanded as the length of hospitalization increased. The use of inanimate objects fluctuated
from non-toy to toy and was related to adult participants in the activity (Figure 2).
Figure 2. Graphic Representation of Categories of Play Behavior in Relation to Length of Hospitalization
CHAPTER 5

DISCUSSION OF THE FINDINGS

The investigator attempted to analyze the data to answer the initial question: What are the commonalities that can be identified in the play behavior of preschool hospitalized children? This study demonstrated several behaviors common to the hospitalized preschool child.

Each child utilized play as a mechanism of interacting with his environment. As he mastered the private environment, each child emerged into a widened geographical territory, with the exception of the one child who was in constant attendance of adults. According to Piaget and Inhelder (1969), this play behavior is necessary in order to successfully assimilate reality to the needs of the self.

The patterns of play observed in these children could also be analogous with Erikson's theory of play development. The components of autocosmic, microspheric, and macrospheric worlds of play are comparable to the territories in which the play behavior occurred.

Loizos' (1967) observation that play is similar to other non-play behavior patterns but possesses qualities of repetition, fragmentation, and exaggeration was demonstrated by the behavior of the children in this study. Eating and
drinking, some of the most frequently occurring play activities, became play behavior by exaggeration of eating movements. Licking and sipping from the straw were repeated and non-purposeful movements.

The necessity for toys as objects in a play situation was not supported. The simpler the objects utilized in the play activity, the longer the child of four years interacted with it. The longest observed use of a single object was with a single participant in the play activity. The child was in a croup tent and was given a cup of soda and a straw with which to drink the soda. The straw was used to drink with, to draw with, to see through, to listen with; the soda was sipped, put in her ear, dotted on her pajamas, and used as a substitute paint for drawing; the cup was used as a telephone, a hat, and finally torn up in little pieces.

The use of inanimate materials can be related to the patterns of territoriality. Body play, for example, is exclusively private play which can be shared only through intimate behavior. Non-toy objects, such as a straw can be considered potentially private or potentially universal depending on how the child chooses to share his play behavior; the child is the controlling agent regarding the privateness or universality of the object. Analogous to patterns of territoriality, as the child's territory expanded, the universality of the play objects increased.
Television programs are a phenomena that qualify for several of the established categories. Interaction, association, exploitation, or even territoriality are areas encompassed by the television set. Each room had a television set suspended on the wall approximately six feet from the floor. The television set was on during each observation period. The programs ranged from comedies and cartoons to Spanish educational programs. The children and adults would intermittently watch television however, no patterns were established in relation to the type of television programs being broadcasted or to the amount of time spent watching the television.

In summary, the analysis of the data demonstrated common elements in the play behavior of preschool children. The commonalities were described in terms of the relationship of interaction, association, territoriality, and exploitation to play. Through play, the child expanded each of the selected categories as the length of hospitalization increased.

**Implications of the Study**

The patterns of behavior of hospitalized preschool children suggest many questions which might be considered by nurses caring for the child. Some of them follow:
Is adaptation to the hospital environment facilitated by a child's use of play behavior? If so, does the nurse offer the child opportunities for spontaneous play?

Do structured play programs offer children opportunities for spontaneous play? Do structured play programs inhibit spontaneous play? Do play programs facilitate the child's play behavior or do they force the child prematurely into territorial expansion? Does the premature territorial expansion increase the child's anxiety?

How important is body play to the child in the initial stage of hospitalization? What need does body play meet? Is this need met through body play with the constant presence of adult relatives? Does the presence of adult relatives interfere with body play? Whose needs are being met by constant relative presence?

When adults and children participate in a play activity together, who is playing? Who is having fun? Who terminates and initiates these activities?

What opportunities are available in the pediatric unit for the child to interact with other children? Is this type of interaction encouraged? Are the opportunities for children to interact available to them outside of the structured play room?

What effect does television have on the play behavior of the hospitalized child? Does the presence of a television facilitate the child's adaptation to the
environment? Do children incorporate television into the employment of their Primary Message Systems? What programs do children watch or listen to? How is the selection of the television program determined?

From the findings of the present study, clues given by the preschool hospitalized child indicating play behavior were identified. Nurses caring for the hospitalized child may find the clues helpful in attempting to provide opportunities for play in the pediatric setting that does not have a structured playroom.

A child's engagement in body play and solitary play early in his hospitalization should be recognized as manifestations of the child's interaction with his environment. Nurses caring for hospitalized children who cannot engage in body play might consider employing methods to encourage the child to interact with his body or his environment.

The children in this study spontaneously expanded their territory as the length of hospitalization increased. Nurses caring for children in a pediatric unit without a play room might consider this finding when circumstances force territorial expansion or limitation upon a child.

The use of toys, as defined by the adult culture, was not essential to each play activity observed in the present study. The children employed several non-toy materials as innovative play materials. When caring for children, the nurse should consider the use of ordinary
hospital supplies as potential play material. At times materials defined by the adult culture as toys are less playable to the child than non-toys.

Recommendations

After analysis of the findings was complete, the following recommendations were made:

A study is needed to utilize videotape in observing play behavior to correct for adult bias of the observer. To further correct for bias, children might watch the videotape and the verbal reactions and information be collected from their responses.

A study employing a larger population and using varying sizes of pediatric units with and without playrooms is needed to ascertain differences between play behavior in structured and unstructured situations. A relatively small pediatric unit was utilized in the present study because of the absence of a playroom.

A study is needed to determine patterns of play behavior of children with chronic illnesses. Children with chronic illnesses are continuously attempting to cope with their illnesses and are more frequently exposed to the hospital environment. All the children in the present study were hospitalized because of an acute illness or traumatic injury. A comparative study would help the nurse
anticipate the play needs of both the acute and chronically ill child.

Studies are needed to observe children in pediatric settings with restricted visiting and in pediatric settings with care-by-parent programs to determine the effects of adults on children's play behavior.

Research based on the design of this study is needed to observe children in other unfamiliar settings to determine if the patterns observed are common to children in any new setting, e.g., kindergarten rooms, camp cabins, Sunday schools, or nursery schools.

Studies of this nature should be done with children of all ages and with adults to determine commonalities of the adaptive mechanisms of the human being when placed in an unfamiliar setting, e.g., orientation programs, new social settings, new towns.

The above recommendations for further investigation would promote a better understanding of the importance of play behavior as an adaptive mechanism in maintaining one's well-being within a changing environment.
CHAPTER 6

SUMMARY

The purpose of this study was to describe the elements in the play behavior of the hospitalized preschool child through the utilization of ethological methodology. It was speculated that there would be commonalities in the play behavior of the children that could be identified.

The observations were made by the writer in a non-participant role. The setting was a small pediatric unit that did not have a separate playroom or a structured play program. The sample was a convenience sample of four preschool children who had been hospitalized for at least twenty-four hours and who were not critically ill at the time of observation. All of the children were hospitalized because of an acute illness or traumatic injury.

A total of sixty-eight play activities were observed during ten play periods of four preschool hospitalized children. Play period was defined as that period of time in which several play activities took place without interruption of a functional activity. Play activity was defined as a unit of play behavior in which the child was engaged without interruption.
The mode of play for each activity was described. The categories of association, interaction, territoriality, and exploitation provided the framework for organizing and describing the elements identified in the play activities.

The most frequent mode of play observed was quiet games. The most frequent degree of participation was solitary play as described by Erikson; the child alone was the most frequently occurring participant group. The geographical area utilized most frequently was the child's room, a three or four bed ward. In relation to use of materials in play, a doll or stuffed animal was the most frequently utilized toy. The non-toy play object most frequently used was furniture (rocking chair, straight chair, empty beds, over-the-bed table). Almost equivalent in frequency to the use of furniture were the uses of food and eating or drinking implements (ice cream and container, spoon, soda and cup, straw).

The amount of verbal interaction during a given play activity varied according to the number of participants in the activity. The number of child initiated interactions increased as the length of hospitalization increased; conversely, the number of adult initiated interactions decreased as the length of hospitalizations increased.

The implications of the study were discussed and questions relevant to the practice of dealing with
hospitalized children's play behavior were presented. Recommendations for further study of the play behavior of preschool hospitalized children through the utilization of the ethological methodology were proposed.
APPENDIX A:

ORIGINAL OBSERVATION GUIDE

Child's Research Number ______ Sequence Number ______
Age ______ Sex _____ Sibling Order _____ of _____ children
Nursery School ______ Time of Observation ______
Activity prior to play ________________________________

Stimuli:

1. Participants --
   Number
   Sex
   Peer
   Adult
   Other

2. Materials --
   Toys
   Objects
   Other

3. Activity -- (description of gross activity observed)
Social Interaction:

1. Participation:
   Solitary _____ Parallel _____ Associative _____
   Cooperative _____

2. Initiation:
   Child _____ Peer _____ Adult _____

3. Method of Initiation:
   Verbalization _____ (cite words used)
   Body Contact _____
   Other _____

4. Verbalization:
   Nonsense syllables _____
   Giggling _____
   Laughing _____
   Singing _____
   Humming _____

Territory:

1. Child's bed _____
2. Child's unit _____
3. Child's room _____
4. Corridor _____
5. Other _____ (specify)
APPENDIX B

DESCRIPTION OF SUBJECTS

Tammy

Tammy was a four year old Anglo girl hospitalized for treatment of third degree burns on her left arm and axilla. The burns were sustained at home while climbing on a counter near a gas stove. Therapy for the burns consisted of closed dressings which limited her shoulder and elbow range of motion but did not immobilize the arm.

The youngest of three siblings, Tammy had not yet attended nursery school at the time of hospitalization. She was observed on her third, fourth, and fifth days of hospitalization and no relatives were present during the observation periods.

Tammy's exploitation varied from the use of non-toy materials such as eating and drinking implements to the use of toys such as pull toy and parlor games to the use of non-toy materials such as furniture. Tammy was the only preschooler to expand her territory to another child's room and participated in co-operative play with another child while in that setting.
Patty

Patty was a five year old Black female who had not yet attended nursery school and who was the youngest of three siblings. Having fallen out of a tree, Patty punctured her eye and was hospitalized for surgical repair in an attempt to maintain vision. She was observed on her second and fourth days of hospitalization and no adult relatives were present at the time of observation.

Patty, on her second day of hospitalization, engaged in a great deal of solitary play. Although she was allowed to ambulate, she voluntarily limited her territory to her bed. Behavior displayed by Patty during solitary play consisted mostly of non-verbal interactions with self and the environment. Thumb sucking, rocking, grooming, singing, kicking feet in the air, scooting, and doll play were examples of her non-verbal interactions.

On her fourth day of hospitalization, Patty engaged in parallel and associative play with her toddler roommate and his mother. A remarkable increase in her verbal interactions and territoriality was observed.

Johnny

Johnny was a three year old Anglo male with five older siblings and one younger sibling. Having been mauled by a German shepherd dog, Johnny was hospitalized and underwent extensive surgical repair including skin grafts to his
upper lip and suturing of open scalp and shoulder lacerations. During the observation periods on his fourth and fifth days of hospitalization, Johnny was in constant attendance of either his mother, aunt, or grandmother.

Johnny played primarily with his mother and his aunt in the corridor play area during the fourth day of hospitalization. He played with his grandmother in his unit on the fifth day of hospitalization.

Johnny was the only child who did not play with other children during the observation periods and whose territoriality was not expanded as the length of hospitalization increased.

**Mandi**

Mandi was a four year old English-speaking Mexican-American child. The older of two siblings, she was attending nursery school at the time of hospitalization. Admitted to the hospital with acute bronchitis, Mandi was confined to a croup tent on the third day of hospitalization but was ambulatory on the fifth day of hospitalization. There were no relatives present during the observation periods.

Mandi was the only child whose territory was involuntarily restricted. During the time she was in the croup tent, she engaged in a great deal of body play and innovatively utilized non-toys as play materials, i.e.,
croup tent, stethoscope, soda cup and straw, mattress pad, and bedrails.
REFERENCES


