A HOSPITAL PLAY PROGRAM, UNRESTRICTED VISITING, AND ROOMING-IN: THEIR EFFECTS ON CHILDREN'S POSTHOSPITAL BEHAVIORAL RESPONSES AND PARENTAL BEHAVIOR

Thesis for the Degree of M. A.
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Jane Ellen Bopp

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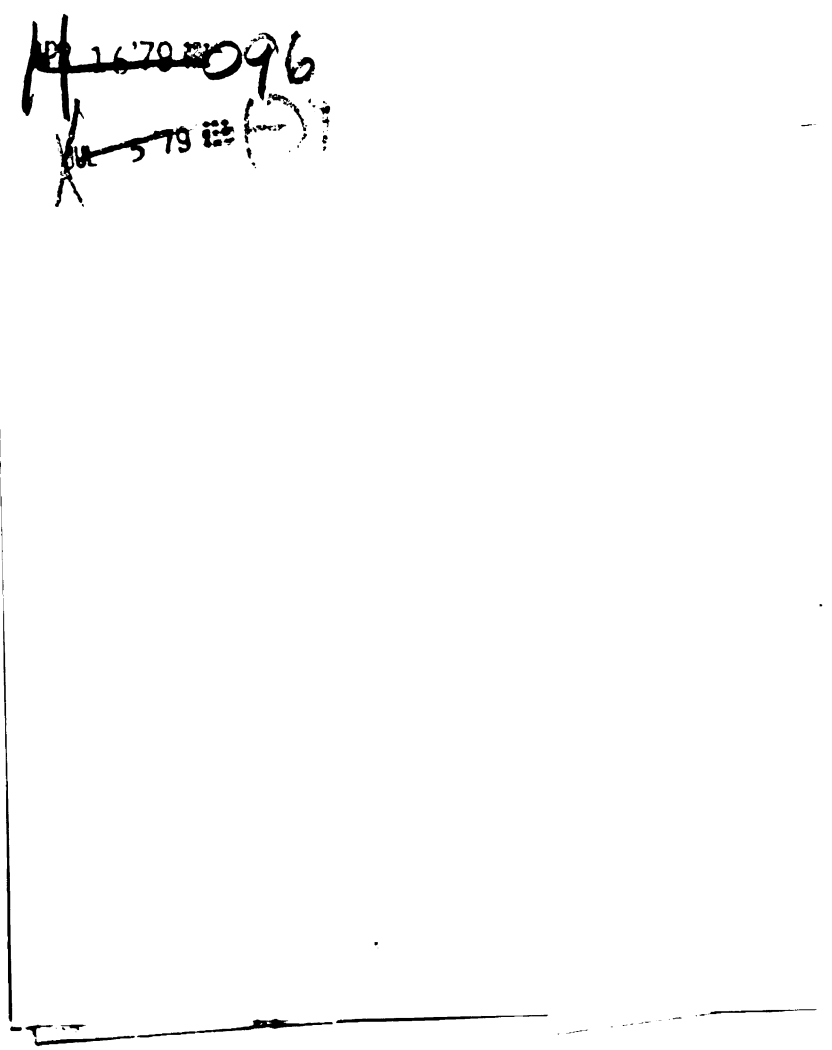

ABSTRACT

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by Jane Ellen Bopp

The effects of illness and short-term hospitalization upon children are crucial in relation to theoretical understanding of children in situations of stress and to the meaning of the experience for the individual child. The stresses inherent in hospitalization and illness are met with adaptational patterns ranging from psychological upset to psychological benefit. In order to lessen the stress and provide emotional support for constructive reactions, new trends in pediatric care emphasize a variety of ameliorative measures.

The purpose of this study was to investigate the effects of three ameliorative measures on children's posthospital behavioral responses. Hospital I

had unrestricted visiting, provisions for rooming-in, and a play program. Hospital II had visiting five hours per day, no play program, and no provisions for rooming-in.

The Posthospital Behavior Questionnaire, developed by Vernon, Schulman, and Foley was mailed to the parents six days following the child's discharge. An additional Information Sheet, developed by the researcher, was used to collect data pertaining to participation in the ameliorative measures. A total of thirty-seven questionnaires were used in the data analysis: fifteen medical patients from Hospital I, twenty-five medical patients from Hospital II and twenty-two surgical patients from Hospital I.

It was hypothesized that children from Hospital I would manifest less General Anxiety and Regression, Separation Anxiety, Anxiety About Sleep, Eating Disturbance, Aggression Toward Authority, Apathy-Withdrawal, and total upset than children from Hospital II. Calculation of the Kruskal-Wallace one-way analysis of

variance showed that there was no significant difference among the three groups. Thus the hypotheses of this study were not supported. This finding seemed to point mainly to problems in research design and methodology, particularly to the global nature of the study.

Data from the Additional Information Sheet seemed to indicate that differences were most apparent in the visiting patterns of mothers and in how the parents viewed the hospital experience.

This study pointed to the need for education of the public concerning new trends in pediatric care and for further definitive research.

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By

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CHAPTER I

INTRODUCTION

General Statement of the Problem

"Hospitalization as a significant psychologic event in childhood has been a focus of concern, investigation and action for two decades" (47, p. 406). During this period a vast quantity of literature dealing with short-term hospitalization has accumulated; the stressful factors inherent in hospitalization and illness, adaptational patterns of hospitalized children, and ameliorative measures aimed at lessening the stress and providing psychological support have been widely discussed.

It is notable that much of the writing, particularly during the 1930's and 1940's, was the result of speculative and subjective thought based on clinical experience (3,7,8,18,24,34,41,42). Although evidence from controlled research (21,22,28,33,37,38,52,61,69,71) has in general supported the theses of the clinical observers, much of the research is lacking in scientific adequacy (67, p. 162-4).

Unfortunately, the research has not answered many of the practical questions which arise in daily practice.

There are many aspects of the illness-hospital experience which are potentially stress-producing for the child. The effects of operative procedures range from psychological benefit to deep psychological disturbance (18,34,37,38,51). Children are differentially affected by immobilization, special dietary regimes, medications, and the imposition of nursing care (6,8,24,42). The psychological meaning of the stress encountered, along with the child's intellectual conceptions, are important variables in determing the child's reactions (7,8,24,28,29,37, 38).

Apart from the illness itself, the unfamiliarity of the hospital setting (19,37,50,66) and separation from familiar adults may also have significant consequences. "Separation anxiety" appears to be the most critical for children of approximately six months to four years of age (11,55,56,57,69).

Also affecting how a child reacts to hospitalization and illness is his age (37,52,55,57,69), sex (3) level of personality development, and the quality of

parental relationships (11,35,37,38,52,71).

The adaptational patterns of hospitalized children have been variously observed and classified by clinicians and researchers (16,21,36,37,38,43,44,52,69). Generally, the effects have been viewed in terms of upset, thus neglecting the possibilities for no change in behavior or for psychological benefit. The possibilities of using hospitalization as a constructive growth experience have been recently emphasized (6,8,37,38,59,63).

Ameliorative measures, designed to minimize the traumatic elements and provide positive emotional support for the child have been introduced into hospital care. Frequently these changes take place at an amazingly slow pace and amid much skepticism. Unrestricted visiting and rooming-in are aimed at counteracting the effects of separation and unfamiliarity by the maintenance of strong parent-child relationships (2,3,6,14,47,48,56). Hospital play programs are established to help the child cope with the experience through supervised play activities and therapeutic group interaction (1,9,13,17,30,32,50,71). Revised admission procedures, changes in physical facilities, changes in nursing care, and preparation of the child for

stressful events are other important measures (14,26,29, 31,35,38,47,48,49,50).

The most extensive study of the effects of these measures was carried out by Prugh (52). The results of this study showed some benefit for those children who were hospitalized under an experimental program of ward management.

The need for more evidence from empirical studies on the effects of the ameliorative measures on children's adaptational patterns is critical. The data from such research may aid not only theoretical understanding of children in stressful situations, but may also influence clinical practice so that the care of children in hospitals can be improved.

Specific Statement of the Problem

The purpose of this study was to investigate the effect of three ameliorative measures on the posthospital behavioral responses of children. Two hospitals were selected for study because they differ with regard to pediatric policies which it was hypothesized would affect children's posthospital behavioral responses. Hospital I

allowed unrestricted visiting, had provisions for rooming-in with the child, and had a play program under the direction of a professional worker. Hospital II had stated visiting hours of five hours per day, no play program, and no provisions for rooming-in with the child on the pediatric ward.

Several researchers (21,37,38,44,52,69) have studied the effects of hospitalization by measuring the change in behavior which occurred after the child was discharged from the hospital. A recently developed questionnaire, the Posthospital Behavior Questionnaire (hereafter referred to as the PBQ), assesses changes in behavior by means of twenty-eight questions. The parent is asked to compare the child's typical behavior prior to hospitalization to the child's behavior following discharge from the hospital. A copy of the PBQ is included in Appendix A.

According to the designers of the PBQ, the assumption that mothers can accurately compare the behavior of their children was supported by several factors. A study of twins used a modified form of the PBQ. For this study the authors supported the use of the questionnaire by noting the mother's general familiarity with the child's

behavior, the fact that psychological sophistication and training were not needed because of the nature of the questions, and the fact that the time period between the behavior and the mother's judgment was relatively short (59, p. 229).

Children who had been patients on the pediatric wards of Hospital I and II were compared on the basis of scores obtained on the PBQ. Children from ages two to ten years were included. An Additional Information Sheet (Appendix B), developed by the researcher, was used to determine the extent of differences in visiting, rooming-in, staying with the child following admission, being with the child prior to and following surgery, and the parents' view of the hospital experience.

The hypotheses to be examined in this study stated that children from Hospital I would manifest less upset than children from Hospital II. Appropriate statistical measures were used to determine whether the hypotheses were supported.

A descriptive technique was employed in analyzing data from the Additional Information Sheet. Other findings that may be suggestive were also reported.

Definition of Terms

Posthospital behavioral responses--reactions as measured by the Posthospital Behavior Questionnaire.

Surgical group--those children on whom a surgical procedure was performed.

Medical group--those children on whom a surgical procedure was not performed.

Play program--an activity centered program for hospitalized children under the direction of a professional worker employed by the hospital.

Rooming-in--provisions made by the hospital for the mother (or other family member) to stay with the child, particularly referring to staying overnight.

Restricted visiting--an administrative policy which defines specific visiting hours for parents on the pediatric ward, here referring to five hours per day.

Unrestricted (unlimited) visiting--an administrative policy which defines no specific visiting hours for parents on the pediatric ward.

General Anxiety and Regression--measured by Items 4, 5, 8, 13, 22, and 28 of the Posthospital Behavior Questionnaire.

Separation Anxiety--measured by Items 9, 18, 19, and 21 of the Posthospital Behavior Questionnaire.

Anxiety About Sleep--measured by Items 1, 20, and 23 of the Posthospital Behavior Questionnaire.

Eating Disturbance--measured by Items 2, 3, and 25 of the Posthospital Behavior Questionnaire.

Aggression Toward Authority--measured by Items 14 and 16 of the Posthospital Behavior Questionnaire.

Apathy - Withdrawal--measured by Items 10, 11, 15, 24, and 27 of the Posthospital Behavior Questionnaire.

Total Score--the sum of the six factor scores of the Posthospital Behavior Questionnaire.

Research Hypotheses to be Examined

The hypotheses to be examined in this study are as follows:

1. Children discharged from Hospital I will manifest less General Anxiety and Regression than children discharged from Hospital II.

2. Children discharged from Hospital I will manifest less Separation Anxiety than children discharged from Hospital II.

3. Children discharged from Hospital I will manifest less Anxiety About Sleep than children discharged from Hospital II.

4. Children discharged from Hospital I will manifest less Eating Disturbance than children discharged from Hospital II.

5. Children discharged from Hospital I will manifest less Aggression Toward Authority than children discharged from Hospital II.

6. Children discharged from Hospital I will manifest less Apathy-Withdrawal than children discharged from Hospital II.

7. Children discharged from Hospital I will manifest less total upset than children discharged from Hospital II.

Additional Research Questions to be Investigated

The following questions were asked, in addition, to determine what differences exist between the two hospitals on the independent variables of the study:

1. What differences between Hospital I and II were apparent in the length of time a parent stayed with the child following admission?

2. What differences between Hospital I and II were apparent in the time spent with the child prior to and following surgery?

3. What differences between Hospital I and II were apparent in the visiting patterns of parents and other family members or friends?

4. What differences between Hospital I and II were apparent in how parents viewed the hospital experience?

CHAPTER II

REVIEW OF LITERATURE

Introduction

Clinical observers and, more recently, research workers, have sought to evaluate the psychological effects of illness and short-term hospitalization upon children. Beginning with the exploratory work in the 1930's and 1940's (4,7,18,34,41,44,49,58), understanding of the hospitalized child and his emotional needs has been increasing. Efforts are now being made to expand theoretical knowledge and improve clinical practices by researchers and clinicians in the fields of medicine, psychiatry, social work, and education. The need for further clarification is repeatedly emphasized. As the writers of a recent review of literature on the psychological responses of children to hospitalization and illness indicate, at the present time such a review of literature results in more questions than answers (67, p. vi).

The complexity of factors influencing any child's response affects both research and clinical practice. Langford (43) lists thirteen factors which determine how the child handles the stresses of illness and hospitalization:

1. Age and level of personality development.
2. Attitudes of his parents toward him.
3. Past ways of dealing with new situations.
4. Immediate emotional surroundings of the illness.
5. Nature of the illness: its duration, severity, acuteness and kind of symptoms.
6. Discomfort involved in diagnostic procedures.
7. Nature of the required medical and surgical procedures, including the type of anesthesia and its administration.
8. Meaning of illness in general to the child, his pre-existing feelings regarding health and disease, his specific fears and fantasies.
9. Attitudes of the parents toward illness and to this particular illness.
10. Child's relationship with hospital personnel, their attitudes and feelings toward him.
11. Nature of the hospital setting, its policies and practices.
12. Ability of the parents to visit.
13. Type of preparation the child has had for the experience (43, p. 1).

The inclusive nature of these factors points to the necessity for discriminative selection of the literature to be reviewed; included in this review are only those writings which appear to be the most respected in the field and which are most relevant to the present study. This review of literature falls into three categories: (1) stressful factors inherent in illness and hospitalization, (2) adaptational patterns of hospitalized children, and (3) ameliorative measures and their effect on the child.

Stressful Factors Inherent in Illness and Hospitalization

Certain factors of stress are inherent in illness and hospitalization. Although the effects of illness and hospitalization cannot be entirely separated, certain exclusive aspects can be distinguished. As Vernon et al. noted, the literature has tended to give little emphasis to aspects of the situation which produce psychological benefit, but rather the emphasis has been on potential sources of upset (67, p. 4).

Deutsch has noted that "operations performed in childhood leave indelible traces on the psychic life of

the individual" (18, p. 107). Assessing the immediate significance of an operation, Freud states that it is "common knowledge among analysts that any surgical interference with the child's body may serve as a focal point for the activation, reactivation, grouping, and rationalization of ideas of being attacked, overwhelmed, and (or) castrated" (24, p. 74). Conceptions involving mutilation, hostile acts, or castration have been frequently reported (18,22, 34,37,51).

Jessner et al. studied 150 children undergoing tonsillectomy and adenoidectomy. The three foci around which anxiety were manifested were: (1) separation, (2) anesthesia (narcosis), and (3) the operative procedure. To some children, narcosis produced anxiety because of fear of loss of control or fear of death. For others, narcosis served as reassurance that they would not feel anything or for the gratification of submissive tendencies. The operation had a variety of meanings: mutilation or castration, giving birth, identification with someone who had undergone an operation, punishment, or as an initiation rite.

The body part involved affects the response. Blom mentions that "the heart, brain, genitals, and eyes are all organs which are particularly invested with unconscious as well as realistic significance, and threats to them represent the threats of death and the integrity of the body" (8, p. 591).

Less serious procedures can also have significant meanings to the child. Fear of needles is most commonly noted (8,22,34,37,38,52). Erickson studied thirty four-year-old's interpretations of intrusive procedures (medicine, enemas, temperatures, blood tests, intraveneous fluids). Through individual play interviews she found that the hypodermic syringe was interpreted as an instrument of violence or punishment. "The data presented clear evidence that the majority of children studied perceived no protective intent of the adult behind the intrusive procedure but rather considered them as hostile in intent with the exception of procedures in the oral area" (22, p.66).

The child may be immobilized. Movement restriction often precipitates a heightening of aggression. The fact that "normal emotional discharge through movement" is blocked

presents special problems (8,24). Vernon et al. noted that "most authors have emphasized that motor restriction lead to two principal types of response in children-anger or hyperactivity" (67, p. 73).

Taking medicine orally is influenced not only by the immediate sensory responses, but by unconscious meanings (8,24). Other sources of upset include: special dietary regimes (8,24,42), missing time from school (12,42, 50), and the increased dependency imposed upon the child (7,24,27,42).

The degree of pain and objective stress theoretically could be measured by the severity of the illness and/or the length of hospitalization. There has been surprisingly little research which considered the variable of objective stress. Vernon et al. states that Prugh et al. (52), Schaffer and Callender (57), and Woodward (71) "concluded that the severity and duration of illness are not important determinants of psychological upset among children" (67, p. 144). In a recent study using the PBQ an attempt was made to evaluate the level of objective stress. Ratings of the degree of pain were made on the basis of diagnosis, although the rating criteria were not reported. The results showed no significant

differences in degree of upset as related to degree of pain, although some differences were found when length of hospitalization was considered (69).

Other authors have suggested that the degree of pain and stress cannot be measured by strictly objective criteria; the psychological meaning of pain and illness must also be investigated (8.24). Freud noted regarding operations, "What the experience means in his life, therefore, does not depend on the type or seriousness of the operation which has actually been performed, but on the type and depth of fantasies aroused by it" (24, p. 74).

The child's intellectual conception of the experience is another determinant of response. Children often develop misconceptions (6,26,29). Jessner et al. (37,38) found that fantasy notions often existed simultaneously with realistic conceptions in children undergoing tonsillectomy. "Conceptions involving punishment, mutilation, death, and abandonment predominate" in the literature (67, p. 77). In a study by Beverly (7), when asked why children get sick, 90% of the children answered, "Because they are bad." This finding was further supported by Gips (28) who studied 100 hospitalized children through

the use of a projective technique. She concluded:

> Teeming through all the results of this study was found a central concept of crime and punishment, guilt and retribution. For the large number of children who believed that they themselves were responsible for the onset of their illness, it followed logically that treatment should be painful . . . The child who believed that others had caused his illness, for reasons incomprehensible to him, nevertheless thought he was being punished. The heavy arm of morality escaped hardly a child (28, p. 95-6).

Children's intellectual processes may cause other problems in interpretation. Children often cannot distinguish between the suffering from the illness and suffering from the treatment (8). They may also be unable to differentiate procedures for diagnosis and those for treatment (28).

Apart from factors imposed by the nature of illness, several determinants of upset are inherent in the hospital situation. Separation is the most frequently discussed variable. Concern over separation was first stimulated by studies showing the adverse effects of institutionalization and prolonged separation experiences. Following these reports, attempts were made to equate all separation experiences. Further refinement of these theories has led to critical distinctions. This review considers only short-term separation experiences in which contact with the mother figure is maintained.

Numerous writers (6,7,11,27,34,38,44,51,55,56,69) have mentioned the importance of separation, especially for the preschool child. According to Schaffer and Callender (57), the period from seven months to three years is the most critical. Robertson stresses the effects of separation for the child under five (55,56). The immediate effects of separation have been best characterized by Bowlby (11) and Robertson (55). In the process of "settling in" to the hospital routine the young child passes through three stages. The "protest" stage is a period of crying, confusion, fright, and searching for the mother. Gradually, "despair" sets in, with the child showing apathy, withdrawal, and monotonous wailing. During the last stage, "detachment", the child begins to show more interest in his environment. The fact that all is not well is seen by his relationship with his mother; he remains remote and apathetic, turning away and seeming to have lost all interest in her. According to Bowlby (11), if a child has reached only one of the first two stages, the psychological upset can be fairly easily reversed. The farther along in "detachment" the child has progressed, the more irreversible are the reactions.

A variety of interpretations have been suggested for the observed reactions. Bowlby (11) would stress the child's emotional attachment to his mother. Absence of her suggests her loss, and for this reason Bowlby believes that the three phases are manifestations of mourning. Others have mentioned the child's dependency on the mother for care, affection, and attention (7,8,37). The infant's fundamental fear of being alone or abandoned, his poor concept of time, and his interpretation of the experience as loss of love, rejection, or punishment have also been suggested (67).

The unfamiliarity of the hospital setting may be stressful to the child. For the child who has never been away from home, a myriad of new experiences will be encountered. "When they come to the hospital, children usually find their patterns of living radically disrupted . . . To a child, a hospital is like a foreign country to whose customs, language, and schedule he must learn to adapt" (27, p. 126).

Critical variables within the child affect his responses. The concept of differential susceptibility to upset for different age groups has been investigated.

Most studies have shown the particular vulnerability of the young child, primarily because of separation anxiety (52,55,57,69). Prugh et al. (52) found that for children in the oedipal stage of development, the meaning of illness and its treatment had more effect than separation. Jessner et al. (37) observed that anesthesia was more disturbing to older than to younger children.

With regard to sex, the evidence fails to suggest consistent relationships. Jessner et al. (37), Prugh et al. (52), and Woodward (71) failed to find significant sex differences. Jackson (34) has suggested that boys are more susceptible to upset.

The importance of prehospital personality and parent-child relationships have been discussed. In general, there is agreement that those children who are undisturbed before hospitalization and who have sound relationships with their parents show the least amount of upset (35,37, 38,52,71). A qualification by Bowlby (11) states that the young child may be upset regardless of the quality of parental relationship; in fact, a warm relationship with the mother may make the child especially vulnerable to the immediate effects of separation.

Adaptational Patterns

The adaptational patterns of children facing hospitalization and illness have been studied from several different perspectives. Because of the variety of conceptual frameworks and methodologies by which hospitalized children have been studied, it is difficult to gain a unified concept of the adaptational patterns. The frequent lack of clear operational definitions of the reactions observed inhibits comparisons between studies. These reactions may be defined in terms of psychological processes, observable behavior, or classes of behavioral symptoms.

The long-term effects of hospitalization and illness upon the structure of the personality have most frequently been discussed by psychoanalysts as a result of their analytic experience (11,18,24,37,49). Because of the nature of their samples the effects have been discussed mainly in terms of psychological upset. Recollections of childhood operations and the working through of related conflicts show some examples of the dire effects of hospitalization and illness.

Other workers have described the immediate reactions of children while still hospitalized and/or their

posthospital responses, usually up to one year later. Levy (44) studied the post-operative reactions of 124 children who had been referred for psychiatric help because of behavior problems. The observed emotional sequelea included: (1) night terrors, (2) negativistic reactions, (3) dependency reactions, (4) regressive symptoms, and (5) fears.

Eckenhoff (21) used a questionnaire to study children's responses two months following a tonsillectomy. Parents noted if their children had shown increased incidence of: (1) bed-wetting, (2) night terrors, (3) temper tantrums, (4) fear of strangers, (5) fear of having his face covered, and (6) fear of new odors.

In a study of 140 children who underwent tonsillectomy, Jackson et al. reported that 91% of the group "seemed either benefited by or were scarcely affected by the experience" (36, p. 27). Thirty percent of the children had a mixed reaction, showing improvement in some traits and disturbance in others. The evaluated traits included: (1) appetite and eating habits, (2) dependency, (3) disposition (overt expression of retaliatory feelings), (4) sleep habits, and (5) mannerisms.

Jessner et al. classed the behavioral symptoms as: (1) eating disturbances, (2) sleep disturbances, (3) speech disturbances, (4) tics and mannerisms, (5) fears, and (6) regressive behavior. They found that the majority of children seemed to be able to master and integrate the experience without any serious emotional consequences. The majority did, however, have mild reactions for one week to ten days following the operation (37).

Schaffer and Callender (57) studied infants age three weeks to fifty-one weeks. By means of interviews and observations, data were collected which showed that psychological upset was less common among children twenty-eight weeks of age or less than among children twenty-nine weeks or older. Upset was measured by: (1) motor and vocal functioning, (2) responsiveness to the observer, mother, or a toy, and (3) somatic functioning.

Chapman et al. (16) summarized posthospital responses: (1) eating problems, (2) sleep disturbances, (3) enuresis, or fecal soiling, (4) regression, (5) tics, (6) depression, (7) terror of hospitals, etc., (8) death fears, (9) withdrawal, (10) hypochondrial body overconcern, and (11) hysterical symptoms.

From his clinical experience Langford (43) has classified children's reactions: (1) regressive reactions, (2) rebellious reactions, (3) depression, (4) chronic invalid reactions, (5) denial, (6) displacement, (7) docility, (8) persistent dependency reactions, and (9) constructive responses.

A study by Prugh et al. (52) investigated the immediate and long-term reactions of two groups of 100 children each under traditional and improved conditions of ward management. The groups were differentiated only by incidence of reaction; both groups exhibited the same reaction patterns. Overall reactions were classified as severe, moderate, or minimal. The disturbances for which data are presented include: (1) feeding, (2) sleeping, (3) toilet, (4) habit disturbances, (5) aggressive, (6) anxious, (7) somatization, (8) withdrawn, (9) hyperactivity, (10) irritability, and (11) restlessness.

Although most studies have primarily focused on psychological upset, it is important to recognize the potentialities for growth and constructive development (6,8, 37,59,68,72). Jessner et al. (37) found that for some children a tonsillectomy was a constructive experience

because it provided atonement for guilt feelings, a challenge to the ego strength, a gain in prestige, or an improvement in general health.

Many children not only show no immediate adverse reaction, but are able to achieve new heights of growth and development. Possible constructive uses of the hospital experience include the alteration of parent-child relationships, the encouragement of normal growth patterns, the provision of a refuge from emotional storms, and opportunities for identification and education (72). Jessner et al. (37,38) found that those children who are able to master their emotions and adapt to the environment used the following means: (1) the ability to transfer positive feelings to the medical personnel, (2) the capacity to interact with other children, (3) ability to direct interest away from themselves and into toys, games, etc., and (4) the freedom to express themselves in direct unsublimated ways.

When blaming hospitalization and illness for neurotic or psychotic effects, one must exercise considerable caution. "It is true that changes of this kind may happen after a period of hospitalization. But it is equally true

that they happen as well where hospitalization does not take place . . . When considering the effects of bodily illness on the life of the child, it is important to note that hospitalization is not more than one factor among several other potentially harmful and upsetting influences" (24, p. 70).

In constructing the PBQ Vernon et al. (69) reviewed the work of Beller and Neubauer (5), Eckenhoff (21), Jackson et al.(36), Jessner et al. (37), Levy (44), and Schaffer and Callender (57). Symptoms mentioned in two or more of the studies were included in the questionnaire. The authors stress the need for analyzing subgroups of symptoms and for examining the relationships between symptoms. By means of factor analysis, six dimensions have been distinguished. On the basis of high loadings, the dimensions have been identified. They have been interpreted as being related to: (1) general anxiety and regression, (2) separation anxiety, (3) anxiety about sleep, (4) eating disturbances, (5) aggression toward authority, and (6) apathy-withdrawal. A total score including all the factors is also determined.

The factors were analyzed with respect to age, sex, incidence of prior hospitalization, likelihood of pain during hospitalization, length of hospitalization, occupational status of the parents, and birth order. Significant differences were obtained for age, duration of hospitalization, and occupational status.

Age differences were greatest for separation anxiety. An examination of questionnaire scores revealed that the preschool children (6 months to 3 years, 11 months) had particularly high (indicating upset) scores on the factor of separation anxiety ($p < .001$). Also significant ($p < .01$) in relation to age was aggression, with children 6 months to 8 years, 11 months showing equal amounts of increased aggression. Differences on the basis of total score were found to be significant at the $p < .05$ level when age was considered.

Another hypothesis stated that the degree of psychological distress varies directly with the length of hospitalization. Three day intervals were used for the analysis. Although the groups did not differ significantly on total score, Sleep Anxiety ($p < .01$), Aggression ($p < .001$), and Apathy-Withdrawal ($p < .01$), showed

significant differences, with children hospitalized for two to three weeks showing the most upset.

No hypotheses were formed for occupational status. On the Anxiety and Regression factor the clinic patients appeared to have benefited (< .001). No significant differences were found for other factors.

To evaluate the overall effects of illness on the full sample, total score and individual factor scores were analyzed by t-tests. Significant differences indicative of increased psychological upset were found for the total score (p .01 - .001) and for three factor scores Separation Anxiety (p < .001); Sleep Anxiety (p .05 - .01); and Aggression (p < .001). These differences were primarily the result of preschool children and the children who were hospitalized for a relatively long term (i.e., two to three weeks or more).

"These findings, which suggest that the illness-hospitalization combination is psychologically upsetting to children in general, agree with the general direction of prior research" (69, p. 591). The hypothesis that hospitalization is a psychologically upsetting experience

for children in general was supported; it results particularly in increased separation anxiety, increased sleep anxiety, and increased aggression toward authority.

Ameliorative Measures

Recognizing the numerous stressful factors and the traumatic consequences of hospitalization for some children, many approaches have been tried to help the child cope more effectively with the experience. The American Academy of Pediatrics (2) and the British Ministry of Health (48) have made extensive recommendations regarding the care of children in hospitals. Many other writers have also been concerned with the ameliorative measures (14,19,25,37,42,50,72).

Attempts to counteract separation, particularly of the young child and his mother, have led to policies of unrestricted visiting and rooming-in (2,3,6,14,47,48). Recognizing the need for the maintenance of a close mother-child relationship, hospital authorities have encouraged

parents to help in the hospital care of their children and have begun to view parents not as awkward appendages but as being of fundamental importance for the child's mental health (56).

The work of Robertson (54,55,56) has shown that when parents leave the hospital it is not only natural for the child to cry, but that greater harm is done if parents are unable to visit and the child is unable to release his feelings of grief about separation and anger about being left. Objections to visiting because of fears of cross-infection, crowding, interrupting routines, abuse of rules by parents, and harm to children are being overcome (47).

Illingworth and Holt (33), observing children's reactions to visiting, noted that it was far better for the child to see his mother every day than to allow the child to become more certain he had been deserted. He found that frequently parents expended great amounts of time, money, and energy to be able to visit their children. Woodward (71) followed up seventy-five burned children and showed that emotional disturbance was significantly ($p < .01$) less among children who had been visited two or three times daily than among children who had been visited

one to three times weekly.

Spence (62) has admitted children with mothers for many years and found it to be advantageous to the child, the mother, the nurse, and other children on the ward. Parents who roomed-in with their child were questioned by MacCarthy et al. (46). When asked about repeating the experience, generally an emphatic "yes" was given. The upsets reported were "rather trivial." Fagin (23) compared the effects of visiting and rooming-in. By means of interviews it was found that restricted visiting was associated with psychological upset while rooming-in was associated with psychological benefit.

Often unrestricted visiting is available only in wards which also provide rooming-in accomodations; here the approach is to encourage the parent to maintain contact in whatever manner is best suitable. As indicated by parents' letters, when mothers are allowed to live in all levels of staff are generally viewed favorably. When restrictions of visiting and physical contact are imposed, the hospital and its staff are more likely to be viewed with frustration, apprehension, and criticism (56).

Two films by Robertson and Bowlby, A Two-Year Old Goes to the Hospital (10) and Going to Hospital with Mother (54), give an excellent comparison of the hospitalization of young children under the restricted and liberal policies; in the second film the child receives the needed support by being able to have her mother present at all times. Recognition of the fundamental importance of the mother for the child's happiness and mental health has come slowly; understanding of the implications for hospital practice has been even slower yet (56).

Another important development in the hospital care of children has been the inclusion of play programs. The benefits of such programs, their organizational structure, and various aspects of programming have been frequently discussed (1,9,13,17,30,32,50,70). Although programs vary because of individual hospital setting and because of a variety of professional identifications, four widely supported goals can be identified.

The literature emphasizes that the play program gives the child the opportunity for emotional expression, particularly for the expression of feelings about illness

and the hospital. Children are helped to think through their feelings instead of repressing them (17). "In the warm, non-threatening atmosphere of the group, children often play out, or talk out, their anxieties and fears about the whole experience of being in the hospital" (1, p. 218).

The special position of the child care worker (group worker, teacher, therapist, "playlady", etc.) as a warm, sympathetic and concerned adult has been emphasized. "The therapist is not directly connected with the child's medical care and, as a result, she is more likely to be associated by the child with the supportive figures from his normal life" (9, p. 134). For the young child, the child care worker acts as a mother substitute (1,9,17,32, 65). In an observational study by Harvey et al. (32) it was found that children with good play provisions had more contacts with other hospital personnel (5 contacts per hour) than those children with poor play provisions (.76 contacts per hour).

The importance of sharing the experiences with other children and being able to identify with others

has been stressed. Brooks reports that there are "many examples of how children gain support, comfort, and reassurance from their friends, to say nothing of the satisfaction an older child may get from caring for one who is much younger" (13, p. 10). The reassurances children can give each other are far beyond those that can be given by an adult, whose help, no matter how well-meaning, often appears as a new threat (1).

The play program attempts to alter the child's view of the hospital; the child's environment is made more relaxed, accepting, and satisfying (17). The program is designed to help the child realize that even though unpleasant and painful procedures are often necessary, there is something to look forward to, that he can return to play again with materials which he enjoys using (13). The importance of the return to more normal patterns of life (30,64) and the expression of the child's initiative and autonomy (1,17,64,70) are also discussed.

The Harvey et al. study found that where supervised play was provided the children occupied themselves with settled play for an average of 39.4 minutes; where

there was no play leader settled play lasted an average of 3.8 minutes (32).

Distinct from a play program is the provision for educational programming. The importance of children continuing to learn and being able to keep up in school is generally recognized (12,19,50).

Preparation of the child has been widely advocated. The basis for preparation is to counteract the stress of unfamiliarity. The emphases are: "(a) that vague, undefined threats are more upsetting than threats which are known and understood, and (b) that unexpected stress is more upsetting than expected stress" (67, p. 9). Preparation of the child for the hospital may include discussion with the physician, parent, and/or other workers (6, 14,26,29,38,47,48). Practical guidelines for determining what the child should be told before going to the hospital are included in Geist (26). Mason (47) lists several pamphlets on a child's level which may be used in preparation. Some hospitals have initiated programs allowing the child direct contact with the hospital (19,25,63).

It is considered critical that the child be prepared for surgical or other procedures. Psychological preparation includes not only explanations of what will happen but a recognition and acceptance of the child's feelings about the procedure (29,31,35,49,50). Haller reports that it is "no longer enough to say that a surgical procedure or operation was in itself successful . . . The patient must remain a whole child and be able to look upon his hospital experience as a new adventure" (31, p. 25).

Revised admission procedures allow the parents to remain with the child (6,14,26,48,50). The child is allowed time to become used to the hospital with the support of his parents who are able to accompany him to the floor. Previously the child and parents were separated upon entrance to the hospital and various routines and procedures were immediately performed on the child.

Changes in the nursing care have improved the care of children (2,6,14,19,26,48,50). An important advance is the development of home care programs (45). Unique home

care programs provide special medical consultation. They are designed to bring the child back to health without imposing on him the stress of hospitalization.

The most extensive study of the effects of a special care program on children was carried out by Prugh et al. (52). Two hundred children, one hundred each in control and experimental group, were selected for study. Those in the control group were hospitalized under traditional ward procedures. The experimental program included daily visiting, a special play program, revised admission procedures, psychological preparation for procedures, early ambulation, interdisciplinary ward conferences, etc. From interviews with the parents and observations of the children on the ward, data on the child's reactions were obtained. Measurement criteria included degree of reaction, degree of stress encountered, previous adjustment, nature of the mother-child relationship, the child's adjustment to the hospital, and the parent's adjustment to the hospital. Follow-up studies were carried out at three weeks, three months, and, for some children, up to one year later.

In the control group 92% of the children showed moderate or severe immediate reactions in comparison with 68% in the experimental group ($p < .01$). The experimental group showed a significantly lower percentage of severe immediate reactions (14% in experimental group, 36% in control group) and a higher percentage of minimal reactions (32% as opposed to 8%). Children under three years showed the highest incidence of severe reactions (50% in control group, 37% in experimental); children from six to twelve showed the lowest incidence of severe reactions (27% in control, none in experimental).

The long-term effects (three months after discharge) showed that 58% of the control group and 44% of the experimental group exhibited what were regarded as disturbing reactions of at least moderate degree. Five children in the experimental group were considered to have improved in their adjustment following hospitalization.

The authors conclude that the experimental program "appears to have produced a significant lowering of the incidence and severity of reactions at all age levels,

most evident among children over four years of age" (52, p. 103). The exploratory nature of the study and the need for further study and clarification were emphasized.

Summary

A review of literature seems to indicate that profound psychological effects may result from a child's hospitalization and illness. The effect on the child is determined by many interrelated factors; included are the stresses and supports as a result of being ill, of being in the hospital, and of being influenced by one's previous development. Reactions to the experience vary from being able to use the event as a constructive force for further growth to showing pathological responses which inhibit further growth. Many forward-looking members of the medical community have sought to make hospitalization easier for the child and have introduced a variety of measures to assist the child in coping with the experience. The need for further research in this area is critical.

CHAPTER III

METHODOLOGY

Description of the Hospitals

The two hospitals selected for study differed with respect to administrative policies and provisions effective on the pediatric wards. The information reported here represents the stated administrative policy of each hospital. Other than information reported on the Additional Information Sheet, no attempt was made to evaluate the degree to which these policies generally were carried out. It was not possible to determine if there were differences in the quality of medical care. Data relative to rooming-in, staying with the child after admission, and being with the child before and after surgery are provided in Chapter IV from information on the Additional Information Sheet.

Both hospitals were located in a medium-sized midwestern community. Neither the names of the hospitals nor the name of the community were revealed because of the nature of the study.

Hospital I

Hospital I is a 460 bed general hospital. The pediatric ward contains forty-eight beds and admits children from birth to fourteen years.

A playroom near the end of one hall is open for use at any time. Open shelves and an unlocked cupboard contain play materials accessible to parents, hospital staff and children. Materials for the play program are stored in locked cupboards in the playroom. The play program is usually held in this room.

In this hospital there are no restrictions on the hours parents can visit. Unlimited visiting hours were first put into effect about ten months prior to the collection of data for this study. Visiting by other family members or friends is left to the discretion of the charge nurse; reasonable requests are usually granted.

Rooming-in parents are accommodated by placing a cot near the child's bed. There is no charge for this service; no child is deprived because of his parent's inability to pay. Although rooming-in was available in another part of the hospital for several years, it was not available on the pediatric unit until a move to a new

section of the hospital made it feasible in terms of space. This occurred approximately two months prior to the beginning of data collection.

A school teacher, appointed by the Board of Education of the city, has a full-time assignment at this hospital. She works with students from other floors of the hospital as well as with those from the pediatric unit. Teaching is usually on an individual basis.

The play program was established by the Medical Social Service Department of this hospital approximately ten months prior to the study. The researcher has been the Coordinator of this program for seven months prior to the study. Children of approximately two years and older are included. Children who are not ambulatory are brought to the program in wheel chairs or beds. Any child may be automatically included if his physical condition permits. Decisions about the children's participation are made jointly by the Coordinator of the program and the nurse in charge.

The program could be described as a non-directive approach to working with groups of children. At present it operates from 10:00 to 11:30 each weekday morning.

The purposes it serves for the children can be described as providing for emotional release, for contact with peers, for satisfying adult-child relationships, and for helping the child to have a constructive view of the hospital. The importance of play and activities as a child's way of learning and expressing himself is central to the program. The purpose of the program as stated in the proposal for the pilot project (first six months) is as follows:

> Purpose--The basic purpose will be to minimize the emotional trauma of hospitalization and to avoid possible resultant, severe and persevering emotional disturbances. This purpose may be accomplished by offering a special melieu for the hospitalized child to continue normal growth and development in a positive, creative atmosphere where he can 'play-out,' verbalize and/or discuss his anxieties, fears, anger, and other feelings caused by hospitalization, separation from parents and necessary medical procedures required to restore him to physical health.

A group of volunteer women have worked on the pediatric ward for many years. At present they work under the supervision of the Coordinator of the play program. They function with the group or with individual or small groups of children who are unable or uninterested in coming to the group program.

Hospital II

Hospital II is a religiously-affiliated hospital with 335 beds. The pediatric ward has a capacity of forty-six beds and admits children from birth to fourteen years.

The pediatric visiting hours in this hospital are from 11 to 1 and 4 to 7. Special arrangements can be made for parents who work or have other special problems in being able to visit during the stated hours. It is hoped that parents will leave in the evening by 7:30 so that the children may "settle down." Parents are not asked to leave at the end of visiting hours on the child's first day in the hospital.

There are no provisions for rooming-in on the pediatric ward.

Educational services are provided for individual cases through the Homebound Teaching Program of the city. There is no full-time teacher at the hospital.

The playroom is used for pre-and post-surgical cases and for children with non-infectious diseases. Children are allowed to be in the play room at any time during the day except from 3:00 to 3:30 when the nurse's report is given. Toys and play things are available.

Recreational facilities are provided by various groups. One adult group, a hospital auxiliary, provides puppets for each child. These are distributed by the auxiliary members who come to the ward three times each week. These women also assist the children with craft projects.

Two volunteer groups of high school students also work on the pediatric ward. One group works mainly during the summer, the other during the school year on weekends and after school. Both groups are supervised by the charge nurse. Their activities consist of entertaining children in the playroom, taking care of small children, and helping with cleaning or other ward tasks.

During their pediatric nursing experience, the student nurses (from the hospital's own nursing school) spend part of their time as "playladies." They plan activities to be carried out with the children.

Permission for the Study

Permission to collect data in each hospital was obtained from the respective administrative personnel and the governing bodies of physicians.

Permission to include children in the study was obtained from physicians who had patients on the respective pediatric wards. The physicians received a cover letter explaining the study (see Appendix F), a copy of the PBQ, and a permission sheet to return (See Appendix G).

In Hospital I general practitioners, pediatricians, and other specialists were included in the original mailing. In Hospital II only general practitioners and pediatricians were included in the original mailing. Other specialists were included in a second and third mailing. Several physicians practiced at both hospitals.

Two weeks following the original mailing approximately 50% of the permission forms had been returned. At this time follow-up was made by telephone and duplicates of the material mailed if necessary. This resulted in additional returns. Data collection began approximately two weeks after the follow-up. Only those children whose attending physician had granted permission were included in the study.

Data Collection

The following information was conveyed to the researcher by the Medical Records Department of each hospital:

1. Child's name
2. Sex
3. Birth date
4. Date of admission
5. Date of discharge
6. Admitting diagnosis
7. Attending physician
8. Parents' (or guardians') name
9. Address

The PBQ was mailed to the parents (or guardians) of all subjects six days following discharge from the hospital. A cover letter (see Appendix E), mimeographed on stationary of the hospital from which the child was discharged, accompanied the questionnaire. Both were mailed in hospital envelopes. A stamped envelope addressed to the researcher at her home was provided for return of the questionnaire.

The original intent of this study was to have two groups of thirty subjects each, one group from each hospital. For Hospital I, 60 questionnaires were mailed over a period of 37 days, resulting in 37 returned questionnaires. For Hospital II, 48 questionnaires were mailed

over a 57 day period. Twenty-seven questionnaires were returned. Data collection was begun on the same day for both hospitals; for Hospital II it extended 20 days longer than for Hospital I. Table I presents a summary of this information.

TABLE 1

NUMBER OF QUESTIONNAIRES MAILED, RETURNED, AND USED; LENGTH OF MAILING TIME

Factor	Hospital I	Hospital II
Total number of questionnaires mailed	60	48
Total returned	37	27
% returned	62%	56%
Unuseable returns	0	2
Returns included in data analysis	37	25
Length of mailing time	37 days	57 days

All questionnaires returned from Hospital I were used in the data analysis. Two questionnaires from Hospital II were not used. One was eliminated because the child had surgery; no other children from Hospital II had

surgery. Another was eliminated because the child was hospitalized for an extreme length of time (six weeks) and because there was a question as to whether the respondent had a sufficient command of English.

Sample

Criteria for inclusion in the study included: (1) the child must have been between the ages of 2.0 and 9.11 at the time of discharge. (2) the child must have been on the pediatric ward for the entire period of hospitalization, (3) the child's attending physician must have granted permission to study his patients, and (4) no child was included who was hospitalized solely for the purpose of a tonsillectomy and adenoidectomy.

Sixty-two questionnaires were returned from the two hospitals. The sample was divided into three groups on the basis of medical diagnosis: 15 medical patients from Hospital I, 25 medical patients from Hospital II, and 22 surgical patients from Hospital I. A surgical group from Hospital II could not be obtained. Placement in a medical or surgical group was based on the admission

diagnosis and on the parent's answer to question 30 of the Additional Information Sheet regarding visiting prior to surgery.

Information concerning the age, sex, length of hospitalization, PBQ total score, and admitting diagnosis for the three groups is presented in Tables 2, 3, and 4.

TABLE 2

HOSPITAL I MEDICAL PATIENTS

Age	Sex	Days of Hospital-ization	PBQ Total Score	Admitting Diagnosis
2.1	F	3	68	observation-fell from 2nd story window
4.11	F	7	68	fever of undetermined origin
2.0	M	10	69	Pneumonia
2.6	M	6	69	pneumonia
3.3	F	4	69	inflamation of bowels
4.7	F	9	69	right lobar pneumonia
5.10	M	4	69	swollen knee
8.0	M	2	70	concussion
5.8	M	2	75	cellulitis right calf

Table 2, cont'd.

Age	Sex	Days of Hospitalization	PBQ Total Score	Admitting Diagnosis
5.1	F	4	76	convulsions, cellulitis of forearm, cerebral palsy
2.2	M	6	77	gastroenteritis, dehydration
3.9	F	2	81	upper respiratory infection
2.4	F	5	83	upper respiratory infection and difficulty breathing
4.9	M	9	84	infected asthma
6.3	F	5	91	acute rheumatic fever

TABLE 3

HOSPITAL II--MEDICAL PATIENTS

Age	Sex	Days of Hospitalization	PBQ Total Score	Admitting Diagnosis
6.6	F	12	65	pneumonia
4.10	M	17	66	fever of undetermined origin
5.8	M	12	67	chronic nephritis
5.2	F	8	68	fever of undetermined origin
2.3	F	7	69	diarrhea, vomiting
3.0	M	8	69	pneumonitis
5.3	F	7	69	possible appendix
5.4	F	8	69	upper respiratory infection
5.11	M	2	69	concussion
7.1	F	8	69	possible meningococcus septicemia
7.2	M	7	69	bronchial pneumonia
5.10	F	6	70	possible appendicitis
8.2	F	7	70	nephritis

Table 3, cont'd.

Age	Sex	Days of Hospital-ization	PBQ Total Score	Admitting Diagnosis
8.11	F	10	70	upper respiratory infection, nephritis
5.6	M	2	71	bronchial asthma
7.6	M	9	71	flu, muscular dystrophy*
2.1	M	3	72	laryngo tracheo bronchitis
2.7	F	15	73	acute gastroenteritis
5.1	F	9	73	acute pharyngitis, possible pneumonitis
2.8	F	8	75	skull fracture
3.8	M	7	77	ingestion gasoline
6.5	F	14	77	tracheal bronchitis
3.5	M	5	78	diarrhea, dehydration
3.6	M	4	78	hives
2.4	M	11	84	pneumonia

* from Additional Information Sheet.

TABLE 4

HOSPITAL I--SURGICAL PATIENTS

Age	Sex	Days of Hospitalization	PBQ Total Score	Admitting Diagnosis
3.3	M	8	67	mass left knee
8.4	M	7	67	appendicitis
4.5	F	3	69	strabisms right eye
5.5	M	5	69	cataract left eye
5.9	M	7	69	bilateral tympanoplasty
5.10	M	1	69	possible torsion
5.11	F	2	69	paracentesis of tubes
6.2	M	3	69	undescended testicle right
9.8	M	3	69	otitis media, adenoids
2.1	M	3	70	dermoid cyst upper left lid
6.0	M	4	70	appendicitis
2.3	F	2	71	strabisms
5.1	M	2	71	umbilical hernia, wart left third finger

Table 4, cont'd.

Age	Sex	Days of Hospitalization	PBQ Total Score	Admitting Diagnosis
6.11	M	6	71	burn scar right angle mouth
7.2	M	10	71	possible appendicitis, bilateral otitis media
9.7	M	3	71	urinary tract infection
4.6	M	4	73	tympanoplasty
4.8	F	3	73	recurrent urinary tract infection
2.1	M	9	74	right inguinal hernia
3.0	M	2	79	right inguinal hernia
3.4	M	6	80	abdominal pains
4.3	F	5	84	right bronchial cleft, tonsillectomy, adenoidectomy

An analysis of the total sample shows that both medical groups had an approximately equal distribution between the sexes. Hospital I surgical group, however, consisted of more than three times as many boys as girls. The average age ranges of the three groups were within one year

and one month of each other. Hospital I medical patients were hospitalized for an average of three days less than Hospital II medical patients. Table 5 presents a summary of this data.

TABLE 5

SUMMARY OF SAMPLE: SEX, AGE, LENGTH OF STAY

Factor	Hospital I Medical	Hospital II Medical	Hospital I Surgical
Number of boys	7	12	17
Number of girls	8	13	5
Age range	2.0-8.0	2.1-8.11	2.1-9.7
Average age	4.2	5.0	5.3
Range of length of stay	2-10 days	2-17 days	1-10 days
Average length of stay	5.2 days	8.2 days	4.5 days

Research Instrument

The PBQ (see Appendix) was developed by Vernon, Schulman, and Foley to assess changes in behavior following hospitalization. Items in the questionnaire represent symptoms mentioned in two or more of the following studies dealing with hospitalization and illness: Beller and Neubauer (5), Eckenhoff (21), Jackson et al. (36), Levy (44), and Schaffer and Callender (57). The twenty-eight questions assess behavior which would be commonly observed by the parents. For each item the parent compares the child's typical behavior before hospitalization with his behavior during the first week after hospitalization. The five response categories and their numerical scores are as follows: (a) "much less than before"--scored 1, (b) "less than before"--scored 2, (c) "same as before"--scored 3, (d) "more than before"--scored 4, and (e) "much more than before"--scored 5.

The results of factor analysis showed that the items fell into six groups. The researchers have made interpretations of these groups (69).

Factor I General Anxiety and Regression
(Items 4,5,6,8,12,13,22,28)

Questions 5 (afraid of leaving the house) and 12 (afraid of new things) reflect the tendency of the child to remain in familiar surroundings and reduce the exposure to new and presumably threatening experiences. Item 12 (afraid of new things) was not scored, however, because it also loaded highly on Factor VI. The three habit disturbances (Item 4--need for a pacifier; Item 8--nail biting; Item 28--thumb sucking) may be considered as evidence of anxiety and regression. A fourth habit disturbance (Item 22--irregular bowel function) may be variously interpreted as evidence of anxiety, of psychosomatic disturbance, or of a change in routine. General anxiety or fear of punishment may be reflected in Item 13 (difficulty in arriving at decisions). Lack of interest (Item 6) loaded poorly and was difficult to interpret; it was not included in the scoring because of its low loading on all factors. In summary, the following questions were scored for Factor I: Items 4, 5, 8, 13 22, and 28.

Factor II Separation Anxiety
(Items 9,17,18,19,21)

Three items (Item 9--upset when left alone; Item 18--following parent; Item 19-trying to get attention) are clear expressions of separation anxiety or the desire to remain near familiar adults. Bad dreams and night awakening (Item 21), although commonly evidence of anxiety, may have reflected a manipulative attempt on the part of the child for reunion with the parents. Item 17 (upset in relation to mention of the doctor or hospital) suggests fear of a traumatic experience in which separation is usually a prominent feature. Item 17 was not included in the scoring because of low loadings on all factors. In summary, items scored for Factor II including Items 9,18,19, and 21.

Factor III Anxiety About Sleep
(Items 1,20,23)

Items I (fuss about going to bed), 20 (complaining about the dark), and 23 (having trouble getting to sleep) indicate either fear or reluctance in relation to going to bed. Items 1,20, and 23 were all scored.

Factor IV Eating Disturbance
(Items 2,3,25)

Fuss about eating (Item 2) and poor appetite (Item 25) were interpreted as being centrally involved with feeding disturbances. Item 3 (doing nothing) is not directly related, but it was hypothesized that an eating disturbance tends to be accompanied by a degree of apathy or lassitude. Items 2, 3, and 25 were all scored.

Factor V Aggression Toward Authority
Items 14, 26)

Both Item 14 (temper tantrums) and Item 26 (tending to disobey) reflect an active rebelliousness directed primarily at parents. Reasons for this reaction may be because of the reinforcement of discipline relaxed during illness and because of hostility and resentment toward the parent for permitting the hospital experience to occur. Both Items 14 and 26 were scored.

Factor VI Apathy-Withdrawal
(Items 7,10,11,15,24,27)

Item 11 (difficult to interest in doing things) implies apathy or lassitude. Needing help in doing things (Item 10) and difficulty in getting the child to talk to the mother (Item 15) may imply regression or apathy.

Fear of strangers (Item 24) may reflect reluctance to interact with strangers as a result of apathy. Wetting the bed (Item 7) had low loadings on all factors and was not scored. Items used in the scoring for Factor VI included 10, 11, 15, 24, and 27.

Total Score (the sum of all Factor scores)

This score indicated the direction of change as reflected by the scored test items.

Item 16 (fighting with brother and sisters) was not scored because of inconsistency with other items.

In summary, 23 of the 28 items were used for the scoring. The scoring system used for this research was that used by Vernon et al. (69). It is included in Appendix C.

Reliability

The researchers (69) stated that preliminary studies, although not conclusive in all respects, suggested that the total score is stable over a one month interval. A form of the questionnaire (three response categories instead of five) was used by Cassell (14) who

studied 37 children three to eleven years of age undergoing cardiac catherization. Total scores from the two administrations of the questionnaire (three days after discharge and one month after discharge) were positively correlated ($r=0.95$, $P < 0.0001$ by two-tailed test).

Validity

The validity of the questionnaire was supported by comparison of total scores with independent ratings of nondirective interviews with parents. The correlation between total test score and independent ratings of a child psychiatrist who briefly interviewed the parents at a routine examination approximately one week after hospitalization was 0.47 ($0.05 > P > 0.02$ by two-tailed test). The parents were asked about changes in the child's behavior following hospitalization, but particular symptoms (as those in the PBQ) were not discussed unless brought up first by the parent. A clinical psychologist's independent ratings of tape recordings of the interviews showed high agreement with the ratings of the psychiatrist ($r=0.95$, $P < 0.001$).

A comparison of questionnaire scores for three groups of children who underwent tonsillectomy (i.e., parent interviewed, parent not interviewed but filled out the questionnaire in the hospital, and parent not interviewed and mailed the questionnaire) suggested that the interview and the fact of filling out the questionnaire in the hospital did not bias the questionnaire scores in any fashion.

Additional Information Sheet

In order to determine what differences parents would report when asked about ameliorative measures, an Additional Information Sheet was developed. The two forms (see Appendix B) were identical with the exception of an additional question for Hospital I which asked whether the parent and roomed-in with the child and for how many nights.

The first two sets of questions (remaining with the child following admission and visiting on the day of surgery) were asked because they both reflect changes in pediatric care. Although it did not appear that there should be differences on the basis of the administrative

policy, it seemed necessary to collect this data from the parents.

A question on visiting was included to determine how visiting patterns differed as a result of the restricted vs. unrestricted visiting policy.

A question concerning previous hospitalization was included to determine if this variable had an effect on the PBQ scores of children from either hospital.

Two general questions about how the child reacted and how the parents felt about having the child in the hospital were included. Their purpose was to assess how parents viewed the hospital experience. They were included with no expectations as to how the answers would be categorized but as exploratory questions which would be analyzed according to the pattern of responses.

CHAPTER IV

RESEARCH FINDINGS

The seven hypotheses of this study were tested by statistical methods. A descriptive technique was used to analyze data pertinent to the research questions. Other findings were also analyzed by means of a descriptive technique.

Statistical Tests of the Hypotheses

The Kruskal-Wallace one-way analysis of variance by ranks was used to test the hypotheses. A nonparametric statistic was chosen because of the skewed distribution of the data and because the samples were not distributed with equal variance. "The Kruskal-Wallace technique tests the null hypothesis that k samples came from the same population or from identical populations with respect to averages" (60, p. 184). To compute to Kruskal-Wallace test all scores are replaced by ranks; the value of H is then computed. It has a chi square distribution with df = k - 1.

To be significant at the .05 level of confidence an H value of 5.99 with df = 2 was needed.

Hypothesis 1

Children discharged from Hospital I will manifest less General Anxiety and Regression than children discharged from Hospital II.

Table 10 (see Appendix D) shows the distribution of scores on Factor I.

Calculation of the Kruskal-Wallace one-way analysis of variance resulted in an H value of 1.45. With df = 2, this value was not significant at the .05 level. Hypothesis 1 of this study was not supported.

Hypothesis 2

Children discharged from Hospital I will manifest less Separation Anxiety than children discharged from Hospital II.

Table II (See Appendix D) shows the distribution of scores of Factor II.

Calculation of the Kruskal-Wallace one-way analysis of variance resulted in an H value of 3.88. With df = 2, this value was not significant at the .05 level. Hypothesis 2 of this study was not supported.

Hypothesis 3

Children discharged from Hospital I will manifest less Anxiety About Sleep than children discharged from Hospital II.

Table 12 (see Appendix D) shows the distribution of scores on Factor III.

Calculation of the Kruskal-Wallace one-way analysis of variance resulted in an H value of 1.28. With df = 2, this value was not significant at the .05 level. Hypothesis 3 of this study was not supported.

Hypothesis 4

Children discharged from Hospital I will manifest less Eating Disturbance than children discharged from Hospital II.

Table 13 (see Appendix D) shows the distribution of scores on Factor IV.

Calculation of the Kruskal-Wallace one-way analysis of variance resulted in a H value of 4.06. With df = 2, this value was not significant at the .05 level. Hypothesis 4 of this study was not supported.

Hypothesis 5

Children discharged from Hospital I will manifest less Aggression Toward Authority than children discharged

from Hospital II.

Table 14 (see Appendix D) shows the distribution of scores on Factor V.

Calculation of the Kruskal-Wallace one-way analysis of variance resulted in an H value of 1.63. With df = 2, this value was not significant at the .05 level. Hypothesis 5 of this study was not supported.

Hypothesis 6

Children discharged from Hospital I will manifest less Apathy-Withdrawal than children discharged from Hospital II.

Table 15 (see Appendix D) shows the distribution of scores on Factor VI.

Calculation of the Kruskal-Wallace one-way analysis of variance resulted in an H value of .88. With df = 2, this value was not significant at the .05 level. Hypothesis 6 of this study was not supported.

Hypothesis 7

Children discharged from Hospital I will manifest less total upset than children discharged from Hospital II.

Table 16 (see Appendix D) shows the distribution of scores for the total score.

Calculation of the Kurskal-Wallace one-way analysis

of variance resulted in an H value of .51. With df = 2, this value was not significant at the .05 level. Hypothesis 7 of this study was not supported.

In summary, none of the hypotheses of this study were supported. Those children discharged from Hospital I did not manifest less upset than children discharged from Hospital II. This finding seemed to be a result mainly of the problems and limitations encountered in this study. These are discussed in Chapter V.

Descriptive Analysis of the Additional Research Questions

In order to determine what differences existed between the two hospitals in relation to remaining with the child following admission, visiting on the day of surgery, daily visiting patterns, and the parents' view of the hospital experience, parents were asked to fill out the Additional Information Sheet. The following section uses a descriptive technique to analyze this information which was collected to answer the research questions.

Research Question 1

What differences between Hospital I and II were apparent in the length of time a parent stayed with the child following admission?

Data pertaining to this question were obtained from parents' answers to the following set of questions:

> What time was your child admitted to the hospital?
>
> What time did you leave the child on the day of admission?

The number of hours a parent remained with the child was determined from those responses which could be scored for a specific number of hours. For example, a response of 1 p.m. for admitting time and 3 p.m. for the parent leaving would be counted as remaining with the child for two hours. In all groups there were responses which could not be scored. Included were illogical responses (7 p.m. to 2 p.m.), some of which indicated that the parent had been in the hospital overnight but had not roomed-in (the child was in Hospital II or the parent from Hospital I responded negatively to the question regarding rooming-in). Hours from 10:00 A.M. to 11:30 A.M. were frequently mentioned as the time the parent left. This would be a usual time for discharge and it is suggested that the parent may have responded according to the time the child was discharged.

The mean number of hours as determined from the scorable responses showed that there was .66 hours

difference between the three groups. In order of increasing number of hours, the parents stayed for 2.96 hours (Hospital I surgical), 3.3 hours (Hospital II medical), and 3.5 hours (Hospital I medical).

The parents who indicated that they had remained the longest were those in Hospital II medical group in three cases where the child was admitted at 10:00, 10:30, and 11:00. These parents remained respectively 9, 10, and 8.5 hours. In Hospital I no child was admitted in the morning before noon.

In some cases the responses indicated that the parent had stayed, even though the specific number of hours could not be determined. For instance, the parent answered the second question with "after he was settled" or "shortly afterward and then returned." In Hospital I, 3 of 15 medical parents, and 5 of 22 surgical parents had responses of this type. In Hospital II, 1 out of 22 parents responded in this manner. A discussion of the possible meaning of this type of response is delayed until visiting patterns are discussed.

A summary of this information is provided in Table 6.

TABLE 6

REMAINING WITH THE CHILD
AT THE TIME OF ADMISSION

Factor	Hospital I Medical N = 15	Hospital II Medical N = 25	Hospital I Surgical N = 22
Mean number of hours from scorable responses	3.5	3.3	2.96
Time range	.25-6.5 hours	.5-10 hours	.5-7.2 hours
Scorable responses	8	22	14
Unscorable responses	7	3	8
Responses unscorable numerically but indicating a parent remained with the child	3	1	5

Research Question 2

What differences between Hospital I and II were apparent in the time spent with the child prior to and following surgery?

Data pertaining to this question were obtained from parents' answers to the following set of questions:

Did your child have surgery?
If yes, were you with the child on that day?
For how long before the surgery?
Were you present when the child returned
from surgery?
If yes, how long did you remain with the child?
What prompted you to leave?

Because no surgical patients from Hospital II are included in the sample, no comparison could be made. Analysis of the data from Hospital I showed that all children had parents present at some time during the day of surgery. Twenty of the twenty-two children had a parent (or parents) present both before and after surgery.

Research Question 3

What differences between Hospital I and II were apparent in the visiting patterns of parents and other family members or friends?

Data pertaining to this question were obtained from parents' answers to the following questions:

What hours was the child usually visited:
by the child's mother?
by the child's father?
by other family members or friends?

TABLE 7

VISITING PATTERNS

Factor	Hospital I Medical N = 15	Hospital II Medical N = 25	Hospital I Surgical N = 22
Mean number of hours visited by the mother	6.8	3.7	6.8
Mean number of hours visited by the father	3.0	2.4	1.7
Mothers: responses scorable for mean number of hours	9	19	4
Responses not scorable for mean number of hours but indicating mother visited	6	6	16
Mother visited "all day" "nearly all the time," or "constantly"	4	1	7
No indication of mother visiting	0	0	2
Mother split visiting time	3	15	4
Number of children visited by friends or other family members	7	6	10

The hours visited by the mother were determined by using those responses which indicated an arrival and departure time. A response of "11-1, 4-7" would be counted as 5 hours of visiting time. According to this criteria, mothers in Hospital II visited a mean of 3.7 hours per day and mothers of both groups in Hospital I visited a mean of 6.8 hours per day. It would appear the mothers from Hospital I took advantage of the unrestricted visiting hours and did visit their children for a longer period of time.

Only those responses which indicated an arrival and departure time were used to determine the mean hours of visiting. These figures resulted from 19 of 25 (76%) cases of the Hospital II medical group, 9 of 15 (60%) of the cases of Hospital I surgical group. The remaining responses are accounted for by no indication of the mother visiting (two cases in Hospital I surgical) or by responses which could not be scored for the exact number of hours. Included in the unscorable, but visited category were such responses as "all day," "morning and evening," "at different times," "at night," etc. Included also in this category were responses which were inappropriate or incomplete but which seemed to indicate that the mother had been

there at some time (2 a.m. to 9 p.m.; 11 in a.m.). In the unscorable, but visited category were 6 of 15 (40%) of the cases in Hospital I medical group, 6 of 25 (24%) of the cases in Hospital II medical group, and 16 of 22 (73%) of the cases in Hospital I surgical group.

Looking further at the unscorable category, another division emerges, those mothers who visited "all day," "nearly all the time," "most of the time," or "through the day." Four of 15 (27%) cases in Hospital I medical group, 1 of 25 (4%) of the cases in Hospital II medical group, and 7 of 22 (32%) of the cases in Hospital I surgical group fell into this group.

From the unscorable responses, and especially from those in the "all day" category, we might conclude that the mean hours of visiting by the mothers in Hospital I was possibly even greater than was indicated by the numerical data.

A question is raised regarding why a higher percentage of responses were scorable from Hospital II. Why did the respondents from Hospital II have a greater tendency to write a specific number of hours? A possible explanation may be related to the fact that in Hospital I there are

no stated visiting hours. It may have been easier for parents from Hospital II to remember the time they visited because the hours were specifically stated; they would not have visited at other times except by special permission. Parents from Hospital II may have been more poignantly reminded of time because they had to be present during the stated time in order to visit. It seems possible that parents from Hospital I may have been less concerned with the specific hours of the day they visited; they perhaps felt less regulated by having to see the child during specific hours. Instead, they visited "during the morning," "all day," etc., being only casually aware of the time.

The number of mothers who split their visiting time revealed differences between the two hospitals. Split visiting time was indicated by specific times ("11-1, 4-7," "10 a.m.-5, 6:30-10 p.m.") or by unscorable general responses ("morning and evening," "at lunch time and sometimes in evening"). Three of 15 (20%) of mothers from Hospital I medical group, 15 of 25 (60%) of mothers from Hospital II medical group, and 4 of 22 (18%) of mothers from Hospital I surgical groups reported visiting at more

than one time. Although mothers from Hospital II came more often, previous data showed that they visited the child for fewer mean number of hours per day than mothers from Hospital I. In other words, mothers from Hospital I were more likely to come once and remain longer for that visit. Since they were free to visit as they desired, the question was raised as to why they chose this pattern. It may be suggested that it was more convenient for some mothers to come once and remain than to make two separate trips. Also, if either the mother or child was distressed over separation, the mother may have sought to have only one such experience per day rather than two.

The parent was asked to indicate visiting by friends or other family members. Approximately one half of both groups at Hospital I and approximately one quarter of the group at Hospital II indicated that a friend or relative had visited at some time. This included those who visited only once as well as those who visited more often. It appeared that a more liberal visiting policy for parents also resulted in more liberal visiting by other friends and family members. It could not be determined from these data

whether this resulted from fewer refusals from the hospital staff for permission to visit in Hospital I or whether parents in Hospital I asked for special permission more frequently.

Visiting patterns of the fathers showed more similarity between hospitals: Hospital I medical--9 scorable responses, mean of 3.0 hours; Hospital II medical--13 scorable responses, mean of 2.4 hours; Hospital I surgical--3 scorable responses, mean of 1.7 hours. It might be expected that fathers would be less affected by visiting hours as most would be able to visit only in the evening unless the child were very seriously ill. In all groups in this study the majority of fathers visited during the evening.

Research Question 4

What differences were apparent between Hospital I and II in how parents viewed the hospital experience?

Data pertaining to this question were obtained from parents' answers to the following questions:

In general, how do you feel your child reacted to being in the hospital?
How did you feel about having your child in the hospital?

From answers to these two questions an indication of how the parents viewed the hospital experience was suggested. Those responses which indicated that the parents tended to regard the hospital in a positive (approving, helpful) manner seemed to fall into two categories: responses which referred to the hospital as an institution in general, and responses which referred to the specific hospital in which the child was hospitalized and to the personal care he received.

Included in the institutional category were the following types of responses: the child is "better off" where he can get help; the child will have the "care of experts" or "professional care"; hospitalization is "necessary" and "best" for the child; the child was unable to get the care he needed at home; as long as the child "needed to be there it was fine"; or the parent is "glad to have the hospital available even though no one likes to go there." These comments all appeared to refer to

hospitals and medical care as a generality, not to the specific care their child received within a specific hospital.

Another category of responses seemed to refer to the specific hospital experience which the family had just undergone. This category included such responses as: the child received "good care," "the best care possible," or was "well taken care of"; the child was treated "very well" or "real good"; "they" give the "best of care"; the parent was "satisfied with the treatment given the child"; the parent was "confident" about the "Doctor and staff nurses" or "had confidence in the Doctor and the hospital."

Table 8 presents data regarding the number of comments in each category from the three groups.

TABLE 8

PARENTS' VIEW OF THE HOSPITAL EXPERIENCE

Factor	Hospital I Medical N = 15	Hospital II Medical N = 25	Hospital I Surgical N = 22
Favorable comments: Referring to hospitals as institutions	5	12	3
Favorable comments: Referring to the specific hospital in which the child was hospitalized	7	9	13
Others: not applicable	3	4	6

In both Hospital I groups, more parents made favorable comments about Hospital I rather than about hospitals in general. On the contrary, in Hospital II more parents made comments referring to hospitals as institutions rather than to Hospital II specifically.

It was suggested that a possible explanation for this finding may be related to the amount of access parents are allowed at the two hospitals. Robertson states: "Parental satisfaction is closely correlated with the amount

of access that is given" and that this also "holds true for parents' experience of hospital staff . . . When mothers live in the hospital or can visit without restriction their impression of all grades of staff tends to be good; but the greater the restrictions that are imposed the more likely are staff to be viewed with frustration, apprehension and criticism" (56, p. 71). Robertson classified restricted visiting policies as those policies which allow visiting two hours or less per day. Hospital II allowed five hours of visiting per day; consequently, one would not expect as much criticism as hospitals which allow only two hours per day. In fact, two to four negative comments were recorded for all 3 groups. They did not have any consistent pattern, but rather seemed to represent idiosyncratic criticisms or complaints of individual parents. Included were comments about eating, the food served, lax sleeping hours, uncooperative or harsh nurses, and the hospital being short of help.

Thus, differences in comments between the two hospitals were not the result of parents from Hospital II being more critical, but were the result of their tending

to view the hospital experience less in terms of the personal care the child received. As indicated previously by the hours of visiting, these parents visited their children less time than parents from Hospital I. Consequently, they would have had less opportunity to observe how their child was being cared for. Mothers from Hospital I not only spent more time with their child, but could visit the child at any time if they had concerns about the care their child was receiving. The idea of being able to see for oneself is reflected in a comment by a mother from Hospital I who said, "Through my own observations I felt certain she received the very best of care."

A difference was also apparent within the Hospital I medical group. For the five parents who wrote institutional type comments, the children's PBQ total scores were 75, 76, 81, 83, and 84. The seven parents who wrote favorable comments about the specific hospital had children with PBQ total scores of 68, 69, 69, 69, 70, 77 and 91. This same pattern of higher PBQ total scores for parents who viewed the hospital as an institution was not reflected in the other two groups. In seeking a cause for the finding

of the Hospital I medical group, the interactional effects between parents and children might be questioned. Is the child's reaction partially a reflection of the parents' feelings, so that parents who view the hospital less favorably have an affect on the child which leads to more upset? Or conversely, do the parents regard the care given by the hospital less personally because their child reacted with more upset? Because of the small number of cases, these findings must be regarded as tentative and indicative of the need for further research.

Other Findings

The variables which it was hypothesized would affect PBQ scores were visiting, rooming-in, and participation in the play program. In order to evaluate the results of this study, it was necessary to determine the extent to which these variables differed between the two hospitals.

The differences in visiting patterns between the hospitals have been discussed with the research questions.

With regard to rooming-in, data from the Additional Information Sheet (Did you room-in [stay overnight] with

your child? If yes, for how many nights?) revealed that in only one case in each of the Hospital I groups did someone room-in with a child. A girl in the surgical group had a grandmother stay with her. The respondent to the questionnaire wrote, "We especially appreciated the playroom and the fact that someone could stay all night as she did wake up during the night." There was no indication who had roomed-in with the child from the medical group. Although rooming-in was one of the ameliorative measures available in Hospital I, this factor cannot be viewed as having been represented in the sample because of the small number of children who had someone room-in with them.

Data on the child's participation in the play program were kept by the researcher. The child was considered to have been in the play program for one day of participation if he remained with the group for at least one half hour. Five out of 15 of the medical patients and 9 of 22 of the surgical patients participated in the play program at some point in their hospital experience. The percentage of time spent in the play program was determined by

dividing the number of days of participation in the play program by the total days of hospitalization. This revealed that the highest participation record was 50%. One medical patient participated two out of four days and one surgical patient participated three out of six days. The remaining children ranged in their participation records from 10% to 43%, with the most usual participation ranging from 20% to 33% (9 cases). Thus, the children in both groups had limited participation in the play program.

In examining the cases which showed a high degree of upset, the distinguishing feature can be mentioned which may have been a contributing factor. In the Hospital I medical group two parents mentioned their child being "spoiled." One parent wrote, "Being in the hospital was a real good experience for her. She is spoiled so bad that it brought her out of it a little." In view of her high PBQ total score (81), one wonders what was "good" about the experience. One questions what other problems may have been added even though she no longer exhibits the behavior which caused her to be labeled "spoiled." Another parent wrote about the child (PBQ total score 91), "I think she is rather bewildered by the whole idea. She resents

the fact that we left her there. She does know that we did it for her own good. However, she will do things to try and punish us for leaving her, like being defiant and not eating her meals, because she knows this bothers us. But we are trying to get back on a normal routine and not spoil her by allowing her to have her own way." It may be suggested that the child "knows" why she was left at the hospital but it is questionable if she also "feels" the same reasons. One might wonder whether the extreme reaction of this child was not in part precipitated by her parents' lack of understanding of the needs of a child who has been hospitalized, i.e., by their trying to get her "back to normal routine" as quickly as possible.

It appeared from the data that a higher proportion of those children admitted after 11:30 at night showed a high degree of upset than those children who were admitted during the day. The time of admission was obtained from the first question of the Additional Information Sheet, although for a more accurate evaluation it is suggested that admission time be obtained from the hospital records. The following table shows the PBQ total scores of those

children who were admitted after 11:30 p.m. This hour was selected because of differences revealed in the data.

TABLE 9

PBQ TOTAL SCORES FOR CHILDREN ADMITTED AT 11:30 p.m. OR LATER

Factor	Admission Time	PBQ Total Score
Hospital I - Medical	middle of the night	70
	2 in the a.m.	81
	2:20 a.m.	83
Hospital II - Medical	11:45 p.m.	69
	11:30 p.m.	72
	2:30 a.m.	77
	2:00 a.m.	78
Hospital I - Surgical	11:30 p.m.	77

One can suppose that admission to the hospital during the night may have been particularly stressful both for the parents and for the child. Besides indicating the serious nature of the child's medical condition, one can imagine that having to come to the hospital in the middle of

the night was upsetting to family routine, particularly if there were other children in the family. Using two groups of children with equally serious medical conditions, a study is needed which would compare children admitted during the day as opposed to those admitted at night.

CHAPTER V

DISCUSSION

Summary of Results

The purpose of this study was to investigate the effects of unlimited visiting, rooming-in, and a play program on the posthospital behavioral responses of children discharged from two selected hospitals. Hospital I allowed unrestricted visiting, rooming-in, and had a play program. Hospital II allowed visiting five hours per day, and no play program, and did not have provisions for rooming-in. The Posthospital Behavior Questionnaire, developed by Vernon, Schulman, and Foley was used to collect the data. An Additional Information Sheet, developed by the researcher, was used to determine the extent to which participation in the ameliorative measures varied between the hospitals. Returns from the two hospitals resulted in three samples: 15 children with a medical diagnosis from Hospital I, 25 children with a medical diagnosis

from Hospital II, and 22 children with a surgical diagnosis from Hospital I.

The hypotheses stated that children from Hospital I would manifest less General Anxiety and Regression, Separation Anxiety, Anxiety About Sleep, Eating Disturbance, Aggression Toward Authority, Apathy-Withdrawal, and total upset than children discharged from Hospital II. Calculation of the Kruskal-Wallace one-way analysis of variance showed that there was no significant difference between the three samples on the total score or any of the factor scores. Thus, the hypotheses of this study were not supported. This finding seemed to relate primarily to problems and limitations of the study.

Data collected from the Additional Information Sheet suggested some differences between the two hospitals. A minimal difference was reported in the amount of time a parent remained with the child following admission. A parent remained for a mean of 3.5 hours in the Hospital I medical group, 3.3 hours in the Hospital II medical group, and 2.96 hours in the Hospital I surgical group.

No comparison was made regarding parents being with the child on the day of surgery because no surgical patients from Hospital II were included in the sample. In Hospital I, however, all children had a parent present at some time during the day of surgery; 20 of 22 had a parent present both before and after surgery.

Visiting patterns appeared to differ between the two hospitals. The mean number of hours visited per day by the mother was 6.8 hours in Hospital I and 3.7 hours in Hospital II. Mothers from Hospital I had a greater tendency to reply that they had visited "all day." There was a greater tendency for mothers from Hospital II to split their visiting time, to visit the child at two different times during the day. Visiting by friends and relatives showed a greater frequency in Hospital I than in Hospital II. There was less difference between the two hospitals in the mean number of hours visited by the father, with fathers in all groups visiting mainly in the evening.

A difference was suggested in how parents viewed their hospital experience. Written comments to the last two questions of the Additional Information Sheet revealed

that parents from Hospital I had a greater tendency to comment on the personal care their child received in Hospital I. Parents from Hospital II had a greater tendency to comment on hospitals and medical care in general.

Data on the incidence of rooming-in showed that only 2 out of 37 children from Hospital I had a member of the family room-in with them.

In Hospital I 14 of the 37 children had some participation in the play program. The highest participation records were obtained by two children who were in the play program for 2 out of 4 and 3 out of 6 days of hospitalization. Nine children participated in the play program for 20 to 33% of the days they were hospitalized.

The interactional effects of parent and child upon each other were brought into question. In the Hospital I medical group, those children with high PBQ total scores had parents who tended to view the hospital in institutional terms rather than in terms of the personal care their child received. Reference to the child being "spoiled" in two different contexts also indicated that the parents might be affecting the child's reactions.

Problems Encountered in This Study

Obtaining the consent of individual physicians to include patients under their care in the study was a problem encountered prior to data collection. In order to obtain a sufficient number of permissions follow-up was necessary.

One unanticipated factor was the large number of physicians who practiced at both hospitals. It was not indicated in the cover letter that individual permissions were needed for each hospital, even though those who practiced at both hospitals received two sets of information. Many of the follow-ups were necessary because a permission form from only one hospital was returned. Had the necessity for permission for both hospitals been stated, some confusion might have been avoided. It might also have been possible to use a permission form which would have allowed the physician to give his consent for both hospitals on one form.

An alternative plan, when consent of individual physicians is needed, might be to send a letter indicating that a study will be done. All patients would be

included in the study unless the physician returned a form indicating that he preferred his patients not be included. Unless the form was returned by a stated date (about two weeks following receipt of the letter), patients of the physician would automatically be included in the study. Thus, only the physician who objects to his patients being included would need to return a form; receipt of no communication from the physician would be taken as permission to study his patients.

Selection of the sample presented methodological problems. The original design was to have two groups of thirty subjects each, one group from each hospital. Because only one surgical case was obtained from Hospital II, it was decided that the groups from Hospital I and II would be more comparable if surgical patients from Hospital I were considered separately.

Because of the delay in obtaining surgeon's permissions in Hospital II, no surgical patients were included and a longer period of time was needed to draw the sample from Hospital II than from Hospital I.

The sample in both hospitals was drawn by starting on a selected day and taking consecutive discharges who met the sample criteria. It was expected that this would result in children from Hospital I who differed from children in Hospital II with respect to the ameliorative measures available in Hospital I. A study of the returns indicated that the greatest difference was evident in the visiting patterns of mothers. Despite a large number of children under five in Hospital I, only two had a family member room-in with them. Participation in the play program was also limited. This may have been due partially to the time of year the data was collected. During the winter and early spring many children with pneumonia and similar disorders are admitted. These children are put into isolation and are thus unable to participate in the play program.

Limitations of This Study

The Instrument

The PBQ was fully reported in the literature in June 1966 (69). Studies of its reliability and validity and use of the questionnaire were carried out at Children's

Memorial Hospital in Chicago. No studies have been reported from any other hospital.

Indications of the validity and reliability are given only for the total score, not for the factor scores individually.

It may be possible that differences in children's responses under varying hospital conditions cannot be accurately reflected by the use of this instrument. Are there other, perhaps more subtle, types of behavior which are affected by hospital conditions?

The general limitations of using mailed questionnaires must also be recognized. There is the possibility that those children whose parents did not return the questionnaire show different responses. The results of this study are dependent upon the adequacy of responses by parents to this instrument. All respondents would not have viewed the questionnaire or their children's behavior from the same viewpoint. Definitions of "more than before" and "much more than before" probably varied between respondents. The orientation a parent had concerning general expectations of children and perception of their own child

would affect responses on the questionnaire. Although we may feel we can basically rely on a parent's judgment. some concerns are naturally raised about using questionnaires filled out by the parents as the sole source of research data.

For this study it was necessary to develop the Additional Information Sheet. Since no attempts were made to establish its validity and reliability, findings from this source can be considered as only suggestive.

Research Design

Some limitations were inherent in the research design. A basic problem related to the global nature of the design. Vernon et al. state a weakness of many studies in this area is a "confounding of theoretical implications." "In a number of studies, several aspects of hospitalization were varied simultaneously and no arrangements were made to isolate the effects of the different conditions in the analysis" (67, p. 163). The results of the samples obtained showed that each sample differed within itself on important variables. Yet the sample was not large enough to test the

significance of these variables within the small group.

The manner in which subjects were selected for study resulted in groups which proved not to be entirely comparable. The study would have been more definitive if the groups could have been more closely matched on such characteristics as age, sex, diagnosis, length of hospitalization, etc. Furthermore, the groups needed to have been more carefully selected so that variables which it was hypothesized would affect the responses were better represented.

The hospitals from which the samples were drawn did not represent extremes on the independent variables. Although Hospital II did not have a play program, some play was provided by volunteer workers and student nurses. At the time of study the play program functioned for only one and a half hours on the week days in Hospital I. The need for an expanded program to include other hours of the day has been recognized by hospital staff. Rooming-in was the newest of the ameliorative measures in this hospital. It is possible that the few families rooming-in resulted not from conscious choice, but as a result of not knowing

that they could room-in. Hospital II allows visiting five hours per day, which cannot be considered extremely restrictive. It is possible that more definite results would have been obtained had the researcher been able to select hospitals which showed more extreme variation.

Implications

The purpose of this study was to investigate the effects of three ameliorative measures on children's post-hospital behavioral responses. Analysis of the data showed that the hypotheses were not supported, that is, that there was no significant difference between Hospital I and II on the factors measured by the PBQ. This finding seemed most importantly to point to problems of research design and methodology.

Although the results can be considered only suggestive, some of the data did tend to support findings from other research and from clinical observations. Mothers did tend to visit their children longer in the hospital permitting unrestricted visiting. They also had less

tendency to split their visiting time. It would appear that visiting within 5 hours of the day and at 2 times is not chosen by parents who are allowed to visit at any hour. The data would lead one to expect that change to unrestricted visiting on a pediatric ward would result mainly in changes in visiting patterns of the mothers, with fathers still visiting primarily in the evening.

Parents in Hospital I tended to view the hospital more in terms of the personal care their child received rather than in terms of the hospital as an institution. One might imagine that these parents would be more inclined to speak favorably about their hospital experience to others. Although having the parents gain a favorable personal impression of the hospital should not be a primary goal in instituting some of the ameliorative measure, it would not be an unexpected outcome.

Some implication may be made concerning the need for education of the public regarding new trends in pediatric care. The low incidence of rooming-in, despite a large number of children under five, may be indicative that parents are at present unaware that they have this

choice. It is notable that in neither hospital did parents comment about the visiting hours. No parent from Hospital II expressed the desire to be able to visit more. No parent from Hospital I indicated a recognition of the uniqueness of having unrestricted visiting. In Hospital I changes in the pediatric program came, not from parental pressure, but from a recognition of the needs by hospital staff.

Suggestions for Further Research

Although this research did not establish statistically significant results on the PBQ, it has led to some suggestion for further study. Hopefully, the future researcher can seek to avoid some of the problems encountered in this study. A review of these problems is included in this chapter.

It is suggested that future studies focus on a narrower range of variables. Subjects need to be selected carefully for the extent to which they vary in regard to the independent variables. A carefully controlled study of even one of the independent variables would be sufficient. For instance, a study of the effects of a play

program alone would be a valuable contribution to the field.

Controlled studies on the effects of ameliorative measures are needed. At this point it is possible that more exploratory type of research is applicable. For instance, the possibility of conducting semi-structured interviews with parents of children who have been hospitalized under varying conditions should be explored. An in-depth exploration of some of the interactional effects of parents and children in relation to the ameliorative measures could be proposed.

Further study of visiting patterns of parents who are allowed unrestricted visiting as opposed to those who are allowed fairly liberal visiting but during specified hours would help to clarify some of the implications of the research for clinical practice.

Suggestions that those children who are admitted late at night as well as those whose parents tend to view the hospital experience in institutional terms show a higher degree of upset are also worthy of further study.

The importance of research in this area is underscored not only because of the contributions that can be made to theoretical understanding, but also because of the applications that can be made to clinical practice. In the end, our goal must be to provide supportive care in order that children may be able to use hospitalization as a constructive, growth-producing experience, rather than as an experience leading to trauma and upset.

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(PHBQ AD)
Instruct

APPENDIX A

POSTHOSPITAL BEHAVIOR QUESTIONNAIRE

Instructions

Please answer each of the questions on the following pages by comparing the way your child has been behaving in the first week after coming home from the hospital with the way he (or she) usually behaved before coming to the hospital.

Mark the one square following each question which best describes your child's behavior since his return home. The headings at the top of the page show what the different boxes mean. If your child has shown some change in the behavior, even if only a little bit, put a check mark (✓) in the square that indicates the change most true of your child. Use a middle square ("same as before") only if your child has shown no change at all in the area, or if the question does not apply because your child is either too young or too old.

Appendix A. (cont'd.)
PHBQ-AD)

Example

	Much less than before	Less than before	Same as before	More than before	Much more than before
1. Does your child want a favorite toy or animal with him at bedtime?				✓	
2. Does your child need help getting dressed?			✓		

For the first example, the child wanted an animal at bedtime more than before coming to the hospital so a check was placed in the fourth square.

For the second example, the child dressed himself without help for some months before hospitalization and continued to do this after his return home so the middle square, "same as before," was checked.

Appendix A. (cont'd.)
(PHBQ-AD) 1

Hospital_____

Name_____

	Much less than before	Less than before	Same as before	More than before	Much more than before
1. Does your child make a fuss about going to bed at night?					
2. Does your child make a fuss about eating?					
3. Does your child spend time just sitting or lying and doing nothing?					
4. Does your child need a pacifier?					
5. Does your child seem to be afraid of leaving the house with you?					
6. Is your child uninterested in what goes on around him (or her)?					
7. Does your child wet the bed at night?					

Appendix A. (cont'd.)
(PHBQ-AD) 2

	Much less than before	Less than before	Same as before	More than before	Much more than before
8. Does your child bite his (or her) finger nails?					
9. Does your child get upset when you leave him (or her) alone for a few minutes?					
10. Does your child need a lot of help doing things?					
11. Is it difficult to get your child interested in doing things (like playing games, with toys, and so on?)					
12. Does your child seem to avoid or be afraid of new things?					
13. Does your child have difficulty making up his (or her) mind?					
14. Does your child have temper tantrums?					
15. Is it difficult to get your child to talk to you?					

Appendix A. (cont'd.)
(PHBQ-AD) 3

	Much less than before	Less than before	Same as before	More than before	Much more than before
16. Does your child quarrel or fight with brothers or sisters? (Note: leave blank if has no brothers or sisters.)					
17. Does your child seem to get upset when someone mentions doctors or hospitals?					
18. Does your child follow you everywhere around the house?					
19. Does your child spend time trying to get or hold your attention?					
20. Is your child afraid of the dark?					
21. Does your child have bad dreams at night or wake up and cry?					
22. Is your child irregular in his (or her) bowel movements?					

Appendix A. (cont'd.)
(PHBQ-AD) 4

	Much less than before	Less than before	Same as before	More than before	Much more than before
23. Does your child have trouble getting to sleep at night?					
24. Does your child seem to be shy or afraid around strangers?					
25. Does your child have a poor appetite?					
26. Does your child tend to disobey you?					
27. Does your child break toys or other objects?					
28. Does your child suck his (or her) fingers or thumbs?					

APPENDIX B

ADDITIONAL INFORMATION SHEET

Form for Hospital I

(PHBQ-last)

We would also like your answers to the following questions. Fill in the appropriate answers.

29. What time was your child admitted to the hospital? _____ What time did you leave the child on the day of admission?_____

30. Did your child have surgery? _____

If yes, were you with the child on that day?_____

For how long before the surgery?_____

Were you present when the child returned from surgery?

_____

If yes, how long did you remain with the child?_____

_____

What prompted you to leave?_____

Appendix B (cont'd.)
(PHBQ-last)

31. What hours was the child usually visited:

by the child's mother?_____

by the child's father?_____

by other family members or friends?_____

32. Has your child ever been hospitalized before?_____

If yes, how many times (not including birth)?_____

At what age?_____

33. Did you room-in (stay overnight) with your child?

_____

If yes, for how many nights?_____

34. In general, how do you feel your child reacted to being in the hospital?

35. How did you feel about having your child in the hospital?

Appendix B (cont'd.)
(PHBQ-last)

Form for Hospital II

We would also like your answers to the following questions. Fill in the appropriate answers.

29. What time was your child admitted to the hospital?

_____ What time did you leave the child on the day of admission?_____

30. Did your child have surgery?_____

If yes, were you with the child on that day?_____

For how long before the surgery?_____

Were you present when the child returned from surgery?_____

If yes, how long did you remain with the child?

_____

What prompted you to leave?_____

31. What hours was the child usually visited:

by the child's mother?_____

by the child's father_____

by other family members or friends?_____

Appendix B (cont'd.)
(PHBQ-last)

32. Has your child ever been hospitalized before?_____

If yes, how many times (not including birth)?_____

At what age?_____

33. In general, how do you feel your child reacted to being in the hospital?

34. How did you feel about having your child in the hospital?

APPENDIX C

SCORING PROFILE FOR THE POSTHOSPITAL BEHAVIOR QUESTIONNAIRE

(The scoring system used in this research is the same as that used by Vernon et al. [69]).

The responses are scored as follows:

"Much less than before" -- scored 1.
"Less than before" -- scored 2.
"Same as before" -- scored 3.
"More than before" -- scored 4.
"Much more than before" -- scored 5.

Factor I General Anxiety and Regression

Items 4, 5, 8, 13, 22, 28
Mean indicative of no change - 18

Factor II Separation Anxiety

Items 9, 18, 19, 21
Mean indicative of no change - 12

Factor III Anxiety About Sleep

Items 1, 20, 23
Mean indicative of no change - 9

Appendix C (cont'd.)

Factor IV Eating Disturbance

Items 2, 3, 25
Mean indicative of no change - 9

Factor V Aggression Toward Authority

Items 14, 26
Mean indicative of no change - 6

Factor VI Apathy-Withdrawal

Items 10, 11, 15, 24, 27
Mean indicative of no change - 15

Total Score

Items 1, 2, 3, 4, 5, 8, 9, 10, 11, 13, 14, 15, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28
Items 6, 7, 12, 16, 17 are not scored.

APPENDIX D

POSTHOSPITAL BEHAVIOR QUESTIONNAIRE SCORES

TABLE 10

DISTRIBUTION OF PBQ FACTOR I SCORE

General Regression and Anxiety

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
16			1	(1)		
17			1	(2.5)	1	(2.5)
18	11	(27)	20	(27)	16	(27)
19	3	(53)			2	(53)
20	1	(58.5)	2	(58.5)	3	(58.5)
21			1	(62)		

Appendix D. (cont'd.)

TABLE 11

DISTRIBUTION OF FACTOR II SCORES

Separation Anxiety

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
10			2	(1.5)		
11			1	(3)		
12	8	(20)	10	(20)	15	(20)
13			3	(39.5)	3	(39.5)
14	2	(47.5)	4	(47.5)	2	(47.5)
15	1	(53)	2	(53)	2	(53)
16	2	(57.5)	2	(57.5)		
17			1	(60)		
18	2	(61.5)				

Appendix D. (cont'd.)

TABLE 12

DISTRIBUTION OF PBQ FACTOR III SCORES

Anxiety About Sleep

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
7			2	(2)	1	(2)
8	1	(4)				
9	9	(27)	18	(27)	18	(27)
10	2	(52)	2	(52)	1	(52)
11			1	(55)		
12	1	(57.5)	2	(57.5)	1	(57.5)
12	2	(61)			1	(61)

Appendix D. (cont'd.)

TABLE 13

DISTRIBUTION OF FACTOR IV SCORES

Eating Disturbance

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
5			1	(1)		
6			1	(2)		
7						
8	2	(5.5)	3	(5.5)	1	(5.5)
9	7	(26.5)	16	(26.5)	13	(26.5)
10	3	(48)	1	(48)	3	(48)
11	1	(54.5)	2	(54.5)	3	(54.5)
12			1	(59)	2	(59)
13	1	(61)				
14	1	(62)				

Appendix D. (cont'd.)

TABLE 14

DISTRIBUTION OF FACTOR V SCORES

Aggression Toward Authority

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
6	7	(18)	16	(18)	12	(18)
7	1	(41)	2	(41)	8	(41)
8	4	(50)	2	(50)	1	(50)
9			3	(55.5)	1	(55.5)
10	3	(59.5)	1	(59.5)		
11			1	(62)		

Appendix D. (cont'd.)

TABLE 15

DISTRIBUTION OF FACTOR VI SCORES

Apathy-Withdrawal

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
10			1	(1)		
11						
12						
13	2	(3.5)			2	(3.5)
14	1	(8)	2	(8)		
15	6	(27.5)	17	(27.5)	15	(27.5)
16	1	(48.5)			3	(48.5)
17	4	(53.5)	2	(53.5)		
18	1	(59.5)	3	(59.5)	2	(59.5)

Appendix D. (cont'd.)

TABLE 16

DISTRIBUTION OF PBQ TOTAL SCORE

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
65			1	(1)		
66			1	(2)		
67			1	(4)	2	(4)
68	2	(7)	1	(7)		
69	5	(18)	7	(18)	7	(18)
70	1	(30.5)	3	(30.5)	2	(30.5)
71			2	(37)	5	(37)
72			1	(41)		
73			2	(43.5)	2	(43.5)
74					1	(46)
75	1	(47.5)	1	(47.5)		
76	1	(49)				
77	1	(51)	2	(51)		
78			2	(53.5)		
79					1	(55)

Appendix D. (cont'd.)
Table 16. (cont'd.)

Score	Hospital I Medical		Hospital II Medical		Hospital I Surgical	
	Frequency	Rank	Frequency	Rank	Frequency	Rank
80					1	(56)
81	1	(57)				
82						
83	1	(58)				
84	1	(60)	1	(60)	1	(60)
--						
91	1	(62)				

APPENDIX E

COVER LETTER FOR PARENTS

(Hospital I) or (Hospital II) Letterhead

Dear

The enclosed questionnaire concerns your child,
who was recently hospitalized at (Hospital I) or (Hospital II). We would like to know if the behavior of children changes after they have been in the hospital. By returning the questionnaire you will help us in understanding how being in the hospital affects a child.

The questionnaire is being used in a study by Miss Jane Bopp, a Master's candidate in Child Development at Michigan State University. Her deep interest in the hospitalization of children has prompted her to undertake this study. If you have questions or concerns, Miss Bopp could be reached at 351-9191.

You may be assured that neither your child's name nor the name of the hospital will be revealed in the study.

A stamped addressed envelope is provided in order that you may easily return the questionnaire.

Since the questionnaire deals with behavior immediately following hospitalization, it is important that you promptly fill it out. Please return the completed form as quickly as possible.

Your cooperation will be greatly appreciated.

Jane Bopp
Graduate Student
Michigan State University

Administrative Official
(Hospital I) or (Hospital II)

Robert Lance
Instructor
Department of Home Management
and Child Development

APPENDIX F

COVER LETTER FOR PHYSICIANS

MICHIGAN STATE UNIVERSITY EAST LANSING • MICHIGAN 48823

COLLEGE OF HOME ECONOMICS • DEPARTMENT OF HOME MANAGEMENT AND CHILD DEVELOPMENT

HOME ECONOMICS BUILDING

February 1967

Dear Dr.

A study of children's behavioral responses following hospitalization is being planned. Using the Posthospital Behavior Questionnaire (American Journal of Diseases of Children, June 1966), a comparison will be made between children hospitalized at (Hospital I) and those hospitalized at (Hospital II). Variables which it is believed will affect the responses include differences in visiting privileges, rooming-in provisions, and the provision of a play program.

Your permission is sought in order to include children under your care in this study. The enclosed permission sheet is provided for your reply.

The study will be conducted by Miss Jane Bopp, the "World of Childhood" (Pediatric Play Program) Coordinator at (Hospital I) and Master's candidate in Child Development at Michigan State University.

The questionnaire (enclosed) will be mailed to the child's parents six days following discharge from the hospital. It will be returned by mail. The sample will consist of seventy-five children from each hospital: children between the ages of six months and twelve years will be included. The comparative nature of the study will not be revealed to the parents of either group. In the research report neither the names of the hospitals nor of individual children will be revealed.

If you have further questions or concerns, Miss Bopp can be contacted each weekday morning (9-12) on the Pediatric Unit of (Hospital I) or by phone (351-9191) at other times.

Your prompt return of the permission form is requested in order that data collection may begin. You are asked to return the form whether or not your permission is granted to insure that the information has been received. Note that you may obtain copies of the returned questionnaire for your patients if you desire.

Your cooperation will be greatly appreciated.

Robert Lance
Instructor
Department of Home Management
and Child Development
Michigan State University

Jane Bopp
Graduate Student
Michigan State University

Administrative Official
(Hospital I)

Administrative Official
(Hospital II)

APPENDIX G

PHYSICIAN'S PERMISSION SHEET

A Comparison of Children's Behavioral

Responses Following Discharge

from Two Selected Hospitals

I _____ GRANT PERMISSION FOR ANY
signature

CHILD UNDER MY CARE TO BE INCLUDED IN THIS STUDY.

yes no I would be interested in knowing those children under my care who have been included in this study.

yes no I would be interested in seeing the returned questionnaire for those children under my care.

I _____ WOULD PREFER THAT THOSE
signature

CHILDREN UNDER MY CARE NOT BE INCLUDED IN THIS STUDY.

Reason: _____

_____

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