ABSTRACT

AN EXPLORATIVE STUDY OF THE PERCEPTIONS
OF HEALTHY CHILDREN TOWARD ILLNESS

By

Barbara Marie Brodie

The major concern of this explorative study centered upon how healthy children perceive illness. A group of 408 school age children, selected from the first, third, and fifth grades, were tested in their classrooms by a set of true/false questionnaires. The first questionnaire, Sarason's et al. General Anxiety Scale for Children (GASC), consisting of forty-five items, was used to measure the general anxiety level in children. The second questionnaire, the Children's Illness Anxiety Scale (CIAS), consisting of eighteen items, was designed especially for this study to examine children's perceptions of illness.

This study was especially undertaken to ascertain if healthy children possessed the same perceptions of illness as ill children. The findings from research studies done with sick children served as the basic framework for the construction of the questions in the

CIAS. In particular, four major areas were explored: 1) the extent to which children viewed themselves responsible for their illness, 2) the attitudes and behavior parents displayed when their children were ill, 3) the extent to which children viewed illness as a disruptive force in their lives, particularly in regard to peers and school, and 4) the relationship between children's general level of anxiety and their anxiety towards illness. The study's seven hypotheses evolved from these four areas.

As an adjunct to the CIAS, a cartoon slide of a sick little boy and a short story about how he felt were used as stimulus material to enhance recall on the part of the children about their previous experience with illness.

The findings from this study did not support the hypotheses that healthy children view illness with a great deal of anxiety, or that they viewed illness as punishment for some misbehavior on their part. Furthermore, the children viewed their parents as being warm and supportive while they were ill and only minimally viewed illness as an interruption in their daily pattern of life. There was, however, a significant correlation between children who scored high on the general anxiety scale (GASC) and those who scored high on the illness anxiety scale (CIAS).

The age of the child did make a significant difference as to how he answered the questions on the illness anxiety scale but made no difference as to how he responded to the questions on the general anxiety scale. First grade children had a significantly different perception of illness than third or fifth graders on the Punishment and Life Pattern questions within the CIAS.

The sex variable did not play an important role in how the children viewed illness but did make a difference as to how they responded to the general anxiety scale (GASC). The fact that girls had a significantly higher GASC score than boys was consistent with previous research findings.[1]

The findings from this study on healthy children, in conjunction with previous studies done with ill children, suggest that it may be the actual experience of illness rather than the anticipation or even the memory of previous illness that elicits the greatest anxiety in children. The fact that this study's examination of healthy children's perceptions of illness did not support previous findings that indicate that children fear punishment and are anxious about parents, friends, and school when they are actually ill, suggests

---

[1]Seymour Sarason, Kenneth Davidson, Frederick Lighthall, Richard Waite, and Britton Ruebush, Anxiety in Elementary School Children (New York: John Wiley & Sons, Inc., 1960).

that these feelings are either not present or are so minimal that they are not consciously perceived by the children.

However, the finding of a significant correlation between children who score high on the general anxiety scale and children who score high on the illness anxiety scale supports the position that even the thought of illness is related to anxiety in some healthy children.

AN EXPLORATIVE STUDY OF THE PERCEPTIONS OF HEALTHY CHILDREN TOWARD ILLNESS

By

Barbara Marie Brodie

A THESIS

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

DOCTOR OF PHILOSOPHY

Department of Educational Psychology

1970

ACKNOWLEDGMENTS

The writer, in the first place, wishes to express her thanks and appreciation to her chairman, Dr. Don Hamachek, who kindly and patiently guided the writer along her entire doctoral odyssey and who accomplished the tour de force of making the dissertation an interesting and stimulating culmination of this odyssey.

She wishes to acknowledge, as well, the interest and encouragement given by the other members of her committee, Dr. Harvey Clarizio, Dr. Robert Ebel, and most especially, Dr. Isabelle Payne, in reviewing her dissertation and offering helpful suggestions.

The writer also wishes to thank David Wright for both his wise counseling during the statistical analysis of the data and his unflinching ability to rectify computer snares.

Finally, a special note of thanks to Dr. George Thompson and Dr. Linda Mitchell, who gave so generously of their time and knowledge to the writer on innumerable occasions.

TABLE OF CONTENTS

LIST OF TABLES

CHAPTER I

THE PROBLEM

Introduction

Illness is a part of man's heritage just as surely as his ability to think and reason. The unusual and threatening nature of illness, not only in homo sapiens but in all species, has made it a phenomenon that has always begged an explanation.[1] Every culture and society has grappled with the task of formulating an explanation and has devised various tentative reasons for its existence, ranging from the anger-of-the-gods to the presence of pathological organisms.[2] These reasons notwithstanding, within all societies, whether composed of men considered highly civilized or aboriginal, an aura of mystery or occultness surrounds illness. It is man's

---

[1] John Whiting and Irving Child, Child Training and Personality: A Cross-Cultural Study (New Haven: Yale University Press, 1953).

[2] Pál Fejos, "Man, Magic and Medicine," Medicine and Anthropology, ed. by I. Galdston (New York: International Universities Press, 1959), p. 35.

very inability to understand why he becomes ill or to control when he becomes ill that endows illness with the power to make man fearful.[3]

Illness, although an act of life experienced by all, is a phenomenon that is never deliberately explained to children. Contact with illness, either directly or indirectly, is the main source of knowledge provided the child; and from this he learns both overt and covert aspects of illness. The concept of illness, including what it means to the individual, appears to be a subtle, complex and slowly evolving process that utilizes the child's emotional and cognitive abilities as well as his growing experiential background. His perceptions of illness, then, reflect his ability at different ages to recognize, understand, and cope with the concrete and abstract factors or cues that make up the social matrix in which he exists.

Problem to be Investigated

All children, regardless of the quality of their care, experience physical illness. At such times, the child is subject not only to the physical discomfort caused by the illness but also to his thoughts and feelings about the entire phenomenon. Because his thought

---

[3]Bronislaw Malinowski, "Magic, Science and Religion," Science, Religion and Reality, ed. by J. Needham (New York: George Brazziller, 1955), pp. 25-88.

processes and emotional development are still immature, his notion of why his illness occurred tends to be subjective and irrational.[4] By the very nature of this immaturity, adults find themselves unsure of the kinds of perceptions children possess about illness.

This study is directed to exploring young school age children's perceptions of illness. Of particular interest is their view of the causality of illness and whether their own behavior plays a substantial role in this causality.

Overview and Kinds of Research Done

In attempting to examine how children view physical illness we find ourselves stymied by the paucity of data available on the reactions of healthy children to illness. The research that has included healthy children has tended to use few subjects and covers a wide age range, making the drawing of conclusions rather speculative.[5] The preponderance of research done on children and illness

---

[4] Thesi Bergmann, Children in the Hospital (New York: International Universities Press, Inc., 1965), p. 79.

[5] Elizabeth Gellert, "Children's Beliefs about Bodily Illness" (paper presented before Division 22 of the American Psychological Association, September 1, 1961); Hanna Marlens, "Study of Effect of Hospitalization on Children" (unpublished Doctoral dissertation, New York University, 1959); Raymond Sipowicz and David Vernon, "Psychological Responses of Children to Hospitalization," American Journal of Diseases of Children, CIX (1965), 228-231; David H. Stott, "Infantile Illness and Subsequent Mental and Emotional Development," Journal of Genetic Psychology, XCIV (1959), 233-340.

has concerned itself with the child who is not only currently ill but also hospitalized.[6] The addition of the variables of physical illness and hospitalization opens a Pandora's Box of inextricably intermixed factors such as: 1) separation of the child from his mother as well as separation from the family and home;[7] 2) placement of the child in a strange, alien environment filled with strange sights, smells, sounds, and people;[8] 3) traumatizing the child by subjecting him to strange, frightening and, at times, multiple physical intrusions

---

[6]Rose Marie Gibson, "An Exploratory Study of the Effects of Surgery and Hospitalization in Early Infancy on Personality Development" (unpublished Doctoral dissertation, University of Michigan, 1959); Hedley Dimock, The Child in Hospital: A Study of His Emotional and Social Well-Being (Philadelphia: F. A. Davis and Company, 1960); Katherine Jackson, Ruth Winkley, O. A. Faust, and Ethel Cermak, "The Problem of Emotional Trauma in the Hospital Treatment of Children," Journal of American Medical Association, CXLIX (1952), 1536-1538; Dane Prugh, Elizabeth Staub, Harriet Sands, Ruth Kirschbaum, and Ellenora Lenihan, "A Study of the Emotional Reactions of Children and Families to Hospitalization and Illness," American Journal of Orthopsychiatry, XXIII (1953), 70-106; Renee Spitz, "Hospitalism: An Inquiry into the Genesis of Psychiatric Conditions in Early Childhood," The Psychoanalytic Study of the Child, ed. by Otto Fenichel (New York: International University Press, I, 1945), pp. 53-74.

[7]J. C. Howells and J. Layng, "Separation Anxiety and Mental Health: A Statistical Study," Lancet, CCLXIX, No. 1 (1955), 285-288.

[8]Harry Bakwin, "The Hospital Care of Infants and Children," Journal of Pediatrics, XXXIX (1951), 383-390; Anne Godfrey, "A Study of Nursing Care Designed to Assist Hospitalized Children and Their Parents in Their Separation," Nursing Research, IV (1955), 52-70.

upon his body, such as surgery and enemas;[9] and 4) effects of the physical illness upon the child.[10]

Children's Views of Illness

In examining children's views on illness, many researchers have noted that children are likely to have distorted views about illness and that these ideas, or conceptions, may contribute to psychological upset. The idea that illness is punishment for some misdeed, either committed or merely thought about, is particularly prevalent in studies.[11] In Gips' interviews with 100 hospitalized children, she reports that 84 per cent of her subjects linked illness with punishment. She states: "Teeming through all the results of the study was found a central concept of crime and punishment; guilt

---

[9]Karl Kassowitz, "Psychodynamic Reactions of Children to the Use of Hypodermic Needles," Americal Journal of Diseases of Children, XCV (1958), 253-257; Lucie Jessner, Gaston Blom, and Samuel Waldfogel, "Emotional Implications of Tonsillectomy and Adenoidectomy on Children," The Psychoanalytic Study of the Child, ed. by R. S. Eissler et al. (New York: International Universities Press, VII, 1952), pp. 126-169.

[10]R. S. Illingsworth and K. S. Holt, "Children in Hospital: Some Observations on the Reactions with Special Reference to Daily Visiting," Lancet, CCLXIX (1955), 1257-1262.

[11]Bert Beverly, "The Effect of Illness Upon Emotional Development," Journal of Pediatrics, VIII (1936), 533-543; Helen Richter, "Emotional Disturbances of Constant Pattern Following Nonspecific Respiratory Infections," Journal of Pediatrics, XXIII (1943), 315-325.

and retribution."[12] Gellert found comparable results, with 67 per cent of her subjects attributing illness, partially or entirely, to the breaking of rules or to the omission of recommended acts.[13]

Effects of Specific Bodily Illness on Children

The effect of specific illness on the developing child has also been examined. Studies done on children with burns, diabetes, orthopedic problems, and tuberculosis, to name but a few, have clearly delineated not only the specific needs of these children but also the adjustments that have to be made by children and their parents.[14] Chronic illness or a physical handicap has been examined and found to be an extremely potent factor in the child's developing intelligence and self-image. Cruickshank found that cerebral palsied children viewed themselves as inferior to other children. They not only viewed themselves as damaged in the sight of others, but they also believed they were personally responsible for this state of

---

[12] Claudia Gips, "How Illness Experiences Are Interpreted by Hospitalized Children" (unpublished Doctoral dissertation, Columbia University, Teachers College, 1956), p. 95.

[13] Gellert, Children's Beliefs about Bodily Illness, p. 86.

[14] Sara Dubo, "Psychiatric Study of Children with Pulmonary Tuberculosis," American Journal of Orthopsychiatry, XVIII (1948), 65-73; Joan Woodward, "Parental Visiting of Children with Burns," British Medical Journal, I, No. 5128 (1959), 1009-1013.

damage and inferiority.[15] Ack et al., examining the relationship between diabetes and a child's intelligence, found a significant negative difference in the Stanford-Binet Intelligence Scale scores of diabetic children, as compared with their siblings. Their findings suggested two explanations: The first was that intelligence score differences were due to metabolic changes, and the second reason was that the differences were due to a disruption of self-image brought on by the diabetes, a condition for which they possessed feelings of responsibility.[16]

Physical Illness: Possible Cause of Mental Illness

From another perspective, psychoanalysis has often cited early physical illness as the start of deep-seated psychological upset.[17] Mood swings, changes in relationship to parents and siblings, temper tantrums, and loss of self-confidence often appear for

---

[15]William Cruickshank, "The Relation of Physical Disability to Fear and Guilt Feelings," Child Development, XXII (1951), 291-298.

[16]Marvin Ack, Irving Miller, and William Weil, "The Intelligence of Children with Diabetes Mellitus," Pediatrics, XXVIII (1961), 764-770.

[17]David Levy, "Psychic Trauma of Operations in Children," American Journal of Diseases of Children, LXV (1945), 7-25.

the first time during convalescence after a severe illness. In a longitudinal examination of the psychological sequelae within children following an acute illness, Green and Solnit found many of these same behavioral reactions. It was their opinion that these reactions reflected the child's tremendous sense of anxiety and guilt engendered by the whole ordeal of illness.[18]

Although it is true that changes of this kind may appear after an illness that has required hospitalization, it is equally true that they may happen as well when hospitalization doesn't occur, i.e., in children who were cared for at home.[19] Bergmann, referring to the overwhelming belief among children that illness is a form of punishment, concludes that in some instances, personality can be deeply distorted by an affliction of the body.[20]

These above findings strongly suggest that illness itself shapes, to different degrees, how the child views illness. But what is unanswered by these studies on chronically ill and mentally disturbed children is the question of whether the degree or number of

---

[18]Marvin Green and Albert Solnit, "Reactions to the Threatened Loss of a Child: The Vulnerable Child Syndrome," Pediatrics, XXXIV (1964), 58-81.

[19]H. Shrand, "Behavioral Changes in Sick Children Nursed at Home," Pediatrics, XXXVI (1965), 604-607.

[20]Bergmann, Children in the Hospital, p. 79.

illnesses experienced by a child also has an effect on how he perceives illness.

Anxiety and Children's Perceptions of Illness

The relationship between anxiety and a child's view of illness is not clearly understood and yet, that it must be an essential correlate to the phenomenon of illness is easily deduced from the various studies on hospitalized children.[21] Researchers have tended to view hospitalization, with all its concomitants, as a "natural crisis" situation fully laced with anxiety.[22] But what exactly is anxiety? How does it function and, more basically, how does one recognize it?

Theoretical Aspects of Anxiety

From the onset of psychoanalytic theory, anxiety has been viewed as a crucial construct in the developing individual. Anxiety

---

[21] George Clayton and James Hughes, "Variations in Blood Pressure in Hospitalized Children," Journal of Pediatrics, XC (1952), 462-467; Eli Levy, "Children's Behavior under Stress and Its Relation to Training by Parents to Respond to Stress Situations," Child Development, XXX (1959), 307-324.

[22] Florence Erickson, "Play Interviews for Four-Year-Old Hospitalized Children," Monograph Sociological Research and Child Development, XXIII, No. 2 (Whole No. 69, 1958).

is seen as both the force behind repression and the formation of neurotic symptoms. However, anxiety must not be regarded as invariably being neurotic.[23] Freud considered anxiety to have an inherited biological basis and, as such, genetically endowed man with the capacity for reacting with the psychological and physical manifestations which we label anxiety.[24]

Anxiety, then, is both a feeling or affect of a particularly unpleasant, painful nature which has distinctive physiological concomitants.[25] Although anxiety is not fully observable, it is assumed to be an entity or process that exists and gives rise to measurable phenomena.[26] Questionnaires are often times used as devices to measure some of the signs and symptoms of anxiety, such as Taylor's Manifest Anxiety Scale,[27] Castaneda, McCandless and Palermo's

---

[23]Charles Rycroft, Anxiety and Neurosis (New York: Penguin Books, 1969).

[24]Sigmund Freud, Inhibitions, Symptoms and Anxiety, Standard Edition, Vol. 20, edited and translated by James Strachey (London: The Hogarth Press, Ltd., 1959).

[25]Merton Krause, "The Measurement of Transitory Anxiety," Psychological Review, LXVIII (1961), 178-189.

[26]Raymond Cattell and Ivan Scheier, The Meaning and Measurement of Neuroticism and Anxiety (New York: Ronald Press, 1961).

[27]Janet Taylor, "A Personality Scale of Manifest Anxiety," Journal of Abnormal Social Psychology, XLVIII (1953), 285-290.

Children's Manifest Anxiety Scale,[28] and Sarason et al.'s General Anxiety Scale for Children,[29] use questions or statements that directly question the subject on how he feels about his bodily functions and illness. It is interesting to note the close association between the level of anxiety and bodily functions.[30] One could easily speculate that if an individual admitted to concern about his physical well-being and therefore gained a high anxiety score, a complete medical examination might be indicated to rule out the distinct possibility of organic illness.

Behavioral Learning Theory

Learning theorists agree with the psychoanalysts that the potential for becoming anxious is physiologically innate. One does not learn how to be anxious, one learns when to be anxious and about what. Miller states that "fear (or anxiety) is called learnable because it can be learned as a response to previously neutral cues; it is called

---

[28] Alfred Castaneda, Boyd McCandless, and David Palermo, "The Children's Form of the Manifest Anxiety Scale," Child Development, XXVIII (1956), 317-326.

[29] Seymour Sarason, Kenneth Davidson, Frederick Lighthall, Richard Waite, and Britton Ruebush, Anxiety in Elementary School Children (New York: John Wiley and Sons, Inc., 1960).

[30] M. Scherer and C. Nakamura, "A Fear Survey Schedule for Children (FSS-FC): A Factor Analytic Comparison with Manifest Anxiety (CMAS)," Behavioral Research and Therapy, VI (1962), 173-182.

a drive because it can motivate the learning and performances of new responses in the same way as hunger, thirst, or other drives."[31]

A child can be conditioned to react emotionally to previously neutral stimuli by pairing these stimuli with painful stimulation. The emotional state resulting from this pairing is labeled as fear or anxiety, and the stimuli producing the emotional state are designated as conditioned stimuli.[32]

As a result of past experiences of discomfort or pain when ill, children experience anxiousness as part of the illness syndrome. According to Mussen, anxiety is always the outcome of physical pain or discomfort, due to the innate bond between pain and anxiety.[33]

---

[31]N. E. Miller, "Learnable Drives and Rewards," Handbook of Experimental Anxiety, ed. by S. S. Stevens (New York: John Wiley and Sons, Inc., 1951), p. 436.

[32]David Mowrer, "A Stimulus Response Analysis of Anxiety and Its Role as a Reinforcing Agent," Readings in Learning, ed. by L. M. Stolurow (Englewood Cliffs, New Jersey: Prentice Hall, 1953), pp. 148-162. Although anxiety may be distinguished by fear on the basis that anxiety is a response to subjective danger and fear is a response to objective danger, in reality there is no difference in the physiological experience. It feels the same, the same somatic mechanisms are activated; and, besides, it is often difficult to delineate real danger from imagined danger within the individual. Thus, the terms "anxiety" and "fear" are used interchangeably. Jane Kessler, Psychopathology of Childhood (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1966), pp. 210-248.

[33]Paul Mussen, John Conger, and Jerome Kagan, Child Development and Personality (New York: Harper and Row, Publishers, 1963).

Secondary Drives

At first an infant is capable of experiencing only physical pain such as hunger contractions. As the child grows older he begins to develop secondary drives such as learning to love and be dependent on his parents. Anxiety is easily grafted onto this relationship and fear of losing or displeasing parents can now trigger off anxiety in the child. If a child suddenly becomes ill, he may associate this illness with behavior on his part in which he has been warned not to indulge. A cursory examination of the methods parents use to teach their children about taking care of their health, with all the proscriptive admonitions, reinforce the child's tendency to interpret his behavior as a direct cause of his illness. Any discomfort brought on by the illness itself only serves to intensify these feelings.

Cognitive Theory

Piaget describes a belief held by children that somehow events conspire so that one gets what one deserves and labels this belief "immanent justice." Drawing from one of his experiments that examined this belief closely, he found that particularly younger children believe that in some unknown way the physical universe functions like a policeman. Piaget states:

> In short, there is life and purpose in everything. Why then should not things be the accomplices of grown-ups in making sure that a punishment is inflicted where the parents' vigilance may have been evaded?[34]

This conviction, along with its concomitant anxiety, decreases as the child grows older; but it never completely dissipates. Remnants, especially of anxiety, extend into adulthood when illness or other misfortunes occur.

Anxiety and Illness Review

Anxiety is an innate characteristic of man that possesses both psychological and physical manifestations. It is an emotion that permeates many life experiences including illness. Whether it be acquired in the psychoanalytic or cognitive sense or learned in the behavioral sense, a certain degree of anxiety accompanies illness for the child. Research suggests that not only the physical discomfort attendant to illness, but also the child's very belief that his illness is a punishment for some wrongdoing on his part, makes up this anxiety.

Purpose of the Study

This study shall question healthy school aged children for the purpose of exploring their perceptions about illness. In

---

[34]Jean Piaget, The Moral Judgment of the Child, translated by Marjorie Gabain (New York: Free Press Paperback, 1969), p. 256.

particular, the following areas shall be explored: 1) What are some of the elements or factors involved in the development of a concept of illness? 2) What is it that a school age child understands about the cause of his illness? and, 3) Does the age of the child bear on this process?

There are numerous findings that suggest that hospitalized children view illness as punishment for some misbehavior. At the moment there is no composite of corroborative research available on the reactions of healthy children to illness. This dearth of research makes it difficult to understand what might be a basic or initial illness perception level for the child prior to hospitalization.

The second major purpose of the study was to ascertain whether a child's general anxiety level had a relationship to how he perceived illness. More precisely, do children who score high on a general anxiety scale also score high on an illness anxiety scale?

Parental Behavior

Although physical discomfort is one of the most obvious reasons for the generation of anxiety in a sick child, one wonders what other concomitant factors of illness can cause anxiety. Certainly, if a child believes he is being punished for some misdeed, this very belief generates feelings of anxiety. Speculating on various aspects of a child's life, particularly on the role parents play in

teaching a child what is good or bad, one wonders if the child views his parents as being in agreement with his belief that his illness is a punishment for some culpable act on his part.

Although both parents play a part in teaching the child what is right or wrong, it is usually the mother who provides direct care to the child when ill. Therefore, the child-mother relationship shall be closely explored.

Daily Pattern of Life

Psychoanalytic theory, implicitly or explicitly, covers the factors mentioned above; and previous investigations have directed attention to the child's sense of culpability for his illness. But what has not been investigated is how the child feels about missing school and his peers when he is ill. From an almost common sense view, one wonders if illness is most resented by the child because it interrupts his daily pattern of life. Is it possible that children see illness more as a disruptive force in their lives than as punishment? Anxiety still may be an outcome of this disruptive act, but its origin will be different than culpability.

Application of Findings

This study shall explore the perspectives of healthy children towards illness for the following reasons:

1. An investigation of beliefs as held by healthy children towards illness can serve as an integral part in the exploration of the psychological correlates of physical maladies. Possessing this knowledge, studies might be undertaken to determine what effects a child's basic perception about illness has upon the course and consequence of his disorder.
2. Children are sick and cared for at home far more frequently than they are hospitalized or even seen by a medical person. If parents had more knowledge about children's anxieties concerning illness, they could more constructively plan for either their home care or their preparation for hospitalization.
3. Although the various nursing, medical, and surgical procedures employed by health professionals in the care of children have been examined in the light of previous research findings, this is an ongoing process; and, as such, further information is sought. Of extreme interest is the development of methods to lessen the child's anxiety about painful procedures, such as hypodermic injections, especially if he believes himself culpable for the illness.
4. If a relationship exists between a child's general anxiety and his anxiety towards illness, this information could help

serve as a basis in developing assessment techniques that would identify children on hospital admission who may require special psychological support.

Objectives of the Study

The primary objective of the present study was to explore healthy children's perceptions about illness. A questionnaire that attempted to explore children's perceptions was constructed. Children who are essentially healthy were sampled in order to examine their base-line feelings and understandings about illness. In this fashion the variable of current illness with all its possible dimensions was avoided.

Using psychoanalytic theory as a framework for the construction of the questionnaire, this study focused on healthy children's answers to four major questions:

1. To what extent does the child view himself responsible for his illness?
2. How do children view their parents' behavior/reactions to them when they become ill?
3. Do children view illness as a disruptive force in their lives, particularly in regard to peers and school?
4. Is there a relationship between the child's general level of anxiety and his perception of illness?

Theoretical Considerations

Psychoanalytic Theory

Almost all of the research previously cited, either explicitly or implicitly, refers to psychoanalytic theory. In general, this theory suggests that the young child's immaturity (physical, psychological, and cognitive) and his close and dependent relationship with his mother provide the basis for the traumatic effects of the experience of illness.[35] The child is inclined to interpret illness in terms of his own "egocentric dependency" and seeks parental support to cope with the environment and his impulses. Failure to provide or satisfy the primitive and basic need for security and the child's resulting feelings of insecurity are seen as important sources of anxiety.[36]

Need to be Wanted

Steuart proposed that man has an instinctive need to be wanted, to belong, and to be socially acceptable. Illness, however, only enhances the opposite pull of force within man, the fear of being

---

[35]Anna Freud, "The Role of Bodily Illness in the Mental Life of Children," The Psychoanalytic Study of the Child, ed. by R. S. Eissler et al. (New York: International Universities Press, VII, 1952), pp. 69-81.

[36]Erik Erikson, Childhood and Society (New York: W. W. Norton and Company, Inc., 1950).

deserted and left alone. Viewing the development of children, Steuart sees that children must learn to cope with the feelings of helplessness and dependence in a world that demands autonomy, initiative, and independence. He suggests that illness itself in a child stimulates the emergence of anxiety about, and defends against, loss of love and desertion.[37]

Psychosexual Period

Psychoanalytic theory also stresses the psychosexual period of early development as being primary in the child's life. Erikson refers to this period as one of Initiative versus Guilt.[38] During this phase the child, physically able to do a great deal for himself, indulges in fantasies in which he is the aggressor or the controller. During this "Oedipal Stage" he experiences a "castration complex" which is an intensified fear of finding his genitals harmed as a punishment for his fantasies and feelings of aggression.

Stemming from years of work with ill children, Bergmann believes that in many children's minds there is a firmly fixed belief that illness is a self-induced, well-deserved punishment for all sorts

---

[37]G. W. Steuart, "Emergency Hospitalization of Young Children," South African Medical Journal, XXVI (1952), 472-476.

[38]Erikson, Childhood and Society, p. 157.

of badness, disobedience, disregard of rules, or neglect of prohibition. She states: ". . . parental warnings against foolhardiness and self-indulgence, cautionary tales, and religious teachings about sin and retribution, whenever they occur, give authoritative backing to these convictions which are rooted in guilt about the common sexual-aggressive impulses of childhood. . . ."[39] Freud emphasized that the response of the child to illness does not depend on the type of seriousness of the illness but on the depth and type of fantasies aroused by it.[40] Illness, then, takes on a symbolic value--for it appears to the child as a confirmation of the belief that wrongdoing, whether secretly performed or merely contemplated in fantasy, will be followed by retribution. This idea intensifies all the anxieties which in any case accompany childhood development, and it arouses intolerable pangs of conscience--irrespective of whether fate metes out "supposed punishment" in the form of serious illness or its lighter forms.[41] Gips commented that even if the "Oedipus Complex" ("Electra" for girls) is not fully accepted as the origin of fantasy fears, "It may still be assumed that anything that encroaches upon

---

[39]Bergmann, Children in the Hospital, p. 80.

[40]Anna Freud, "The Role of Bodily Illness in the Mental Life of Children," p. 70.

[41]Bergmann, Children in the Hospital, p. 80.

a child's newly found sense of physical self is a threat at this age when he is forming a concept of himself as a physical being, is being identified with his own sex, and is concerned with his own physical powers and limitations.[42]

Summary

An aura of mystery seems to surround man's understanding of illness, and there is little direct knowledge available as to what it is that children understand about it. Illness, either directly or indirectly, is superimposed upon the developing child, and this experience appears to provide the primary knowledge from which the child develops his perceptions about illness. Lacking research involving healthy children, one has to turn to the research findings obtained from ill and hospitalized children to gain some understanding of how different age children perceive illness. These findings suggest that children feel very responsible for their own illness and view it as a punishment for a wrongdoing on their part. These same sources suggest that illness is an anxiety-provoking experience in the developing child as he progresses toward maturity.

As is often the case, previous research findings pose many questions that need to be explored. The first question is, do healthy

---

[42]Gips, "How Illness Experiences Are Interpreted by Hospitalized Children," p. 103.

children perceive illness the same way as ill children, or do they possess different perceptions towards illness? Secondly, does a child's level of anxiety have any relationship as to how he views illness? The following hypotheses are designed to answer the two major questions raised above.

General Hypotheses

1. Children perceive personal illness as punishment for misbehavior on their part.

2. Children perceive parental reaction to their becoming ill as a form of parental displeasure.

3. Children perceive illness as a disruptive force in their lives, particularly in relation to school and peers.

4. A relationship exists between children who score high on a general anxiety scale and those who score high on the illness anxiety scale.

5. The age of the child makes a difference as to how he perceives illness and anxiety.

6. Children who are frequently ill (absent for more than five days in a five-month period of time) have a different perception of illness than children who are not frequently ill.

7. The perception of illness and general anxiety is the same for boys and girls.

CHAPTER II

REVIEW OF THE LITERATURE

Illness: An Experience of Childhood

It is rare for a child to grow into maturity without having gone through one or more episodes of physical illness. When a child becomes ill many things happen to him which are strange, new, and are poorly understood. He does not feel well, understands little of why he is sick, is irritable, and may wish to be left alone. Anna Freud speaks of the young child's inability to distinguish between feelings of suffering or discomfort caused by the disease inside the body and suffering imposed on him from outside for the sake of curing the disease.[1] Bergmann also notes that because of the child's tenuous grasp on the concept of time, illness can seem interminably long. She states, "All periods of illness are painfully long for the child, whatever their objective length."[2]

---

[1]Anna Freud, "The Role of Bodily Illness in the Mental Life of Children," p. 69.

[2]Bergmann, Children in the Hospital, p. 139.

The particular meanings which children attribute to illness have been given considerable attention by psychiatric and medical personnel who deal with mentally ill and hospitalized children. In their research studies the conceptions of punishment, death, mutilation, and abandonment dominate their findings.[3] The child's idea that he is being punished is the most ubiquitous and has been mentioned in conjunction with illness, pain, the hospital, treatments, separation from parents, and surgery.[4]

Who Is the Guilty Party?

In the child's fledgling ability to establish causal relationships, he seeks to explain everything that occurs with a reason. Fineman suggests that impelling curiosity makes children "eager

---

[3]Helene Deutsch, "Some Psychoanalytic Observations in Surgery," Psychosomatic Medicine, IV (1942), 105-115; F. E. James, "Behavior Reactions of Normal Children to Common Operations," Practitioner, CLXXXV (1960), 339-352; John Bowlby, "Separation Anxiety," International Journal of Psychoanalysis, XLII (1961), 318-340.

[4]David Vernon, Jeanne Foley, Raymond Sipowicz, and Jerome Schulman, The Psychological Responses of Children to Hospitalization and Illness (Springfield, Illinois: Charles Thomas Publishers, 1965).

that their world shall be complete"; and they, therefore, fill in gaps and modify reality as best as they can.[5]

The crucial question always is, "Who is the guilty party?" Many investigations provide data on the frequency with which children relate illness to punishment. Kessler draws attention to the fact that one of the most frequent responses to the question on the Stanford-Binet about why children should obey their parents is "So you won't get hurt or sick."[6] In a study done with children hospitalized with diabetic and cardiac conditions, Beverly reported that the idea of punishment was very evident in the children. When directly asked, "Why do children get sick?" 90 per cent responded with "because they were bad."[7]

In another study done with diabetic children, Falstein and Judas found that many children related their disease to their own oral excesses, "eating too many sweets," something which all

---

[5]A. D. Fineman, "The Utilization of Child Psychiatry on a Children's Surgical Service," American Journal of Surgery, VC (1958), 64-73.

[6]Kessler, Psychopathology of Childhood, p. 334.

[7]Beverly, "The Effect of Illness upon Emotional Development," p. 537.

children are warned against.[8] Obedience and illness thus seems to assume a causal relationship.

Parental Admonitions

Langford found that many children ill with rheumatic heart disease subscribed to the belief that their illness was, at least in part, caused by disobedience of parental commands. On closer examination of the children's comments about their culpability, he recognized many parental admonitions to which the growing child is daily subjected. Colds occur because the child disobeys and does not wear his boots. A leg is broken because the child does not heed his mother's cautionary advice not to roller skate in the street. Upset stomachs could be avoided if the child would only eat what he is supposed to. These are common statements made by almost all parents and contribute to the child's idea that when he is sick he is being punished. Langford draws further attention to the all-too-common practice among some parents of threatening the child with the doctor, nurse, or hospital if he continues to be bad (which to many parents is disobedience), which lends further reality to the

---

[8]Eugene Falstein and Ilse Judas, "Juvenile Diabetes and Its Psychiatric Implication," American Journal of Orthopsychiatry, XXV (1955), 330-343.

child's fear when he becomes sick.[9] Numerous other studies have also spoken of parental threats as being an important factor in making the child feel responsible for his illness and the belief that he is being punished.[10]

Beverly has also noted the frequency in children in pediatric medical clinics who express fears. He states that when a child feels that there is something wrong with him, he is normally frightened and fearful, and his feelings of security and self-confidence are disrupted. Speaking directly to the anxiety generated by illness, he cites what he believes are the two major determinants. First, illness has a background of mystery and magic and its concomitant connotation of sin and punishment. Drawing from history to bolster this position, he notes that until less than a century ago dieases and death were linked with supernatural powers and that illness was generally considered evidence of punishment for sin.[11]

---

[9]William Langford, "The Child in the Pediatric Hospital: Adaptation to Illness and Hospitalization," American Journal of Orthopsychiatry, XXXI (1961), 667-684.

[10]Edith Jackson, "Treatment of the Young Child in the Hospital," American Journal of Orthopsychiatry, XII (1942), 56-62; A. H. VanderVeer, "The Psychopathology of Physical Illness and Hospital Residence," Quarterly Journal of Child Behavior, I (1949), 55-71; Gips, "How Illness Experiences Are Interpreted by Hospitalized Children," p. 89; Barbara Korsch, "Psychologic Reactions to Physical Illness in Children," Journal of Medical Association of Georgia, L (1961), 519-523.

[11]Beverly, "The Effect of Illness upon Emotional Development," p. 536.

Bergmann concurs in the belief that parental warnings against foolish behavior and self-indulgence, disobedience, and religious teachings about sin and retribution serve as authoritative backing for the child's belief that in some way his behavior would be punished by illness of some sort. She draws particular attention to the fact that fantasies, especially psychosexual, are considered by the child as subject to retribution.[12]

The research of Wagenheim concerning the possibility of residual damage in the areas of learning and intelligence quotients from early illness also suggests that children view illness as punishment for hostile feelings. She maintains that as the child experiences the occurrences of aggressive feelings and illness strikes, he causally links illness with badness. Primarily because of the child's limitation in thought and language, Wagenheim sees these fantasies as difficult to correct.[13]

Hospitalized Children

A number of studies have attempted to quantify and qualify the child's behavioral reactions to illness. Prugh's early systematic

---

[12] Bergmann, Children in the Hospital, p. 80.

[13] Lillian Wagenheim, "The Effect of Childhood Diseases on IQ Variability," Journal of Consulting Psychology, XVIII (1954), 354; Lillian Wagenheim, "Learning Problems Associated with Childhood Diseases Contracted at Age Two," American Journal of Orthopsychiatry, XXIX (1959), 102-109.

study of the emotional reactions of children, now considered a classic contribution to the understanding of hospitalized children, extensively documents children's and parents' behavior during the stress situation of illness. Overt manifestations of anxiety were widespread among the children, revealing themselves in periods of crying, apprehension, outbursts of screaming, irritability, depression disturbances in eating, including anorexia, changes in toilet behavior, including enuresis, and sleep disturbances. Qualitative differences were noted most readily in terms of age, with the children under four years of age expressing themselves more dramatically and openly. However, children over four, in varying degrees depending on the individual child, did present many of the same symptoms of fear and anxiety.[14]

Examining children between the ages of six and ten years as to the why of their illness, once again one is impressed with the degree to which children accept responsibility for their illness. Prugh states,

> Many children in this age group tended to interpret their illnesses as a type of magical retribution for unacceptable impulses or acts. One boy of seven, a diabetic child, said in regard to the causation of his illness, "I think it was something bad I did."

---

[14]Prugh et al., "A Study of the Emotional Reactions of Children and Families to Hospitalization and Illness," p. 98.

> A girl of six said, "God makes you sick because you're bad; I'm not bad!"[15]

It was Prugh's opinion that many children tended to react as if they were responsible for their own illness.

Subsequent studies have tended to support many of the observations and conclusions drawn by Prugh's work.[16] Jessner, Blom, and Waldfogel, working with children undergoing tonsillectomies, noted that for some children the operation was interpreted as atonement for guilt feelings.[17] Using play interviews as a method of communicating to young children, Erickson observed many children acting out their belief that their illness was a punishment for misbehavior. Often the child would express his inner feelings by striking a doll and stating, "You are bad girl, you sick!"[18]

---

[15] Ibid., p. 20.

[16] Katherine Jackson, Ruth Winkley, O. Faust, Ethel Cermak, and Marjorie Burtt, "Behavior Changes Indicating Emotional Trauma in Tolsillectomized Children," Pediatrics, XII (1953), 23-27; A. H. Chapman, Dorothy Loeb, and Mary Jane Gibbons, "Psychiatric Aspects of Hospitalizing Children," Archives of Pediatrics, LXXIII (1956), 77-88; Zarko Mick, "Psychological Stress in Children in Hospital," International Nursing Review, IX (1962), 23-31.

[17] Jessner et al., "Emotional Implications of Tonsillectomy and Adenoidectomy on Children," pp. 152-156.

[18] Erickson, "Play Interviews for Four-Year-Old Hospitalized Children," p. 48.

Studies Dealing with Causality

While most studies have only indirectly sought out children's perceptions about why they are ill, a few studies have more directly probed this region. Richter, Gips, and Gellert were particularly interested in these perceptions and all reported that children, by and large, interpreted their illness as punishment for some ill-understood misdeed.[19] Using a projective technique, Gellert interviewed 102 children from four to sixteen years of age. After viewing a picture of a child in bed, each child was asked several questions concerning how he became ill. An overwhelming proportion of the responses seemed to reveal a central concept of transgressions against rules of to the omission of expected behavior on the part of the child.[20] Gips, also using a projective technique, reported that 84 per cent of the children interviewed blamed the pictured child's behavior for his illness.

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

---

[19]Richter, "Emotional Disturbances of a Constant Pattern Following Nonspecific Respiratory Infections," pp. 315-325; Gips, "How Illness Experiences Are Interpreted by Hospitalized Children," pp. 149-161; Gellert, "Children's Beliefs About Bodily Illness," pp. 1-6.

[20]Gellert, "Children's Beliefs About Bodily Illness," pp. 4-5.

> 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.[21]

Alleviation of Guilt Feelings

Recognition of the children's sense of responsibility for their own illness has led to several experimental studies that attempted to lessen or remove these guilt feelings. Psychiatric counseling was given to an experimental group of ill children which focused on providing a realistic explanation of why the child was ill. This experimental therapy reduced the level of observed anxiety in the children and shortened their hospital stay as compared to a control group of children.[22] Cassel, using puppets, attempted to lessen children's anxiety about undergoing cardiac catheterization. The puppets served as an effective medium through which children could express their anxiety and the staff could deal with the individual child's fantasies.[23]

---

[21]Gips, "How Illness Experiences Are Interpreted by Hospitalized Children," pp. 95-96.

[22]Karl Minde and Leon Maler, "Psychiatric Counseling on a Pediatric Medical Ward: A Controlled Observation," Journal of Pediatrics, LXXII (1968), 452-460.

[23]Sylvia Cassel, "The Effect of Brief Puppet Therapy Upon the Emotional Responses of Children Undergoing Cardiac Catheterization" (unpublished Doctoral dissertation, Northwestern University, 1963).

Play therapy has been recognized and utilized by most children's hospitals as an effective agent in encouraging emotional expression and of helping children understand particular situations or experiences.[24] It is thought that through play, many of the children's misconceptions and fears have been alleviated and their excessive anxiety dissipated.

The hospital has served as the locus for the majority of research done on children's perceptions of illness. Either mental or physical illness has been the catalyst for professional interest in the entire question of how children of different ages view illness. As revealing as the findings from these studies are, one is faced with the difficult task of teasing out from the montage of variables inherent in hospitalization what portion of the child's anxiety and behavior stems directly from the illness.

Illness Versus Hospitalization

Richter and James, in the course of treating ill children in their own homes, noted that anxious behavior, such as irritability,

---

[24] J. M. Baty and Veronica Tisza, "The Impact of Illness on the Child and His Family," Child Study, XXXIV (1956-1957), 15-19; Martha McCranie, "Reducing Emotional Trauma from Elective Surgery of Children," Journal of the Medical Association of Georgia, LI (1962), 222-225; Emma Plank, Working with Children in Hospitals (Cleveland: Western Reserve University, 1962).

nightmares, somnabulism, enuresis, fear of the dark and being left alone, is an integral part of physical illness.[25] A more systematic research study by Shrand attempted to quantify exactly what kinds of reactions children experienced during the course of an acute physical illness treated at home in their mother's care. Examination of the children during the acute and convalescent periods revealed many of the same behavioral reactions so typified by the hospital studies, i.e., expression of fear at being left alone or having to go to bed, enuresis, and nightmares. Shrand sees this behavior as reflecting the child's fantasies and fears that illness is being inflicted upon him because of some transgression. Furthermore, he suggests that these feelings are the result of both the current malady and the child's previous experience with illness.[26]

Stott's study also attempted to tease out the effects of separation versus illness by examining two groups of young children. One group was made up of children who underwent periods of separation from their homes and families for other reasons than illness. The second group was composed of children whose illness necessitated

---

[25]Richter, "Emotional Disturbances of a Constant Pattern Following Nonspecific Respiratory Infections," pp. 316-317; James, "Behavior Reactions of Normal Children to Common Operations," pp. 339-352.

[26]Shrand, "Behavioral Changes in Sick Children Nursed at Home," pp. 604-607.

their being separated from their families. After examining both groups of children in nursery schools after the experience of separation, Stott concluded that early illness more than separation was responsible for poor social adjustment, i.e., tendency to be dependent and fearful of new situations and people.[27]

Age and Sex Differences

Considerable attention has been devoted to the possibility that psychological upset associated with illness and hospitalization is a function of age, but one is again faced with the montage of variables inherent in hospitalization, which include the physical malady, parental separation, a foreign environment, and multiple painful and threatening physical procedures. Studies exploring ill children's ideas about the causality of illness have indicated that the focus of blame varies with age. For example, in Gips' study the percentage of children who blamed themselves for illness increased with age.[28] In contradiction to these findings, Gellert's results, although the self-blame factor is not as clearly delineated, suggest

---

[27]Stott, "Infantile Illness and Subsequent Mental and Emotional Development," pp. 233-251.

[28]Gips, "How Illness Experiences Are Interpreted by Hospitalized Children," p. 94.

that older children were better able to recognize other factors that may have caused bodily illness than themselves.[29]

Although evidence concerning age differences within children on the General Anxiety Scale for Children appears equivocal, a sex difference has been noted. Girls obtain significantly higher anxiety scores than boys.[30]

Limitations of the Literature

Although the research findings do suggest that current illness has an effect on children's perceptions of illness, one can only speculate what children perceive illness to be when not subjected to its physical assault. Little is known about the prehospital or pre-acute illness period of time in the child's life in regard to his concept of illness. Freud discusses this point when she draws attention to the fact that all the researchers interested in this area of development have come solely from those professions who see children only when they are in some kind of crisis situation.[31]

---

[29]Gellert, "Children's Beliefs About Bodily Illness," p. 4.

[30]F. N. Cox and P. Leaper, "General and Test Anxiety Scales for Children," Australian Journal of Psychology, XI (1952), 9-15.

[31]Anna Freud, "The Role of Bodily Illness in the Mental Life of Children," p. 69.

Studies that Include Healthy Children

A few studies done with hospitalized children have included healthy children in the sample, usually siblings of the hospitalized child. By and large these studies have had the following limitations: 1) They tend to examine very few healthy children compared to the number of ill children in the sample. 2) They do not examine them as closely on all the variables on which they examine the ill children. 3) The few healthy children included in the sample population cover such a wide age range, any conclusions drawn from their responses remain more speculative than factual.

Age and the Ill Child

Every study done with ill children has included the variable of age, but the vast majority of studies have dichotomized age between the preschool child and all children over five years of age. Recognizing the developmental changes, cognitive and affective, that children undergo between the ages of five and the adolescent years, it appears that this stratification is artificial and may be misleading. What is needed are studies that attempt to examine, particularly in the school age child, what effect the age of the child has on his perception of illness.

Projective Techniques

The studies that have most attempted to systematically quantify the children's beliefs about the cause of their illness have solely relied on projective techniques in attempting to gain answers from the children.[32] Although the results from this technique are revealing and considered valid, they are subject to some of the limitations interwoven in this approach.

The interviewing procedures were not standardized for the children in each study. Different periods of time and techniques were found to be necessary to establish rapport with the children. Anastasi believes "such differences may affect response productivity, defensiveness, stereotype, imaginativeness, and other basic performance characteristics.[33]

Effort was expended to objectify the scoring the the children's responses, but one wonders how much of the evaluation and categorization of the raw data depended on the skill and clinical experience of the examiner. This fact makes replication of results rather difficult.

---

[32]Gips, "How Illness Experiences Are Interpreted by Hospitalized Children," pp. 149-161; Gellert, "Children's Beliefs About Bodily Illness," pp. 1-6.

[33]Anna Anastasi, Psychological Testing, 3rd Edition (New York: Macmillan Company, 1968), p. 511.

Lastly, there is little statistical analysis beyond descriptive analysis. The reliability of the different instruments used was not examined nor was there any effort made to examine for retest reliability.

Summary

This chapter has reviewed the literature and research findings which are pertinent to the study. It can be seen that illness is a fear-provoking experience that is often interpreted by the child as a direct punishment for some transgression on his part. Age, especially for the preschool child, has been seen to be a contributing factor to his belief, but what is not understood is what role age plays in the developing school age child's perception of illness. It is also unclear as to how children perceive illness who are not hospitalized or currently afflicted by an acute illness. Nor is it known what other factors are involved in the formation of the child's concept of illness. More specifically, does the child's level of anxiety have any relationship to his perception of illness?

CHAPTER III

METHODOLOGY

Design

This was an explorative study that attempted to elicit children's responses on questionnaires designed to examine their perception of illness and its relationship to anxiety.

Both psychoanalytic and learning theories view anxiety as a conscious experience which can be communicated to another person. In part this consciousness is due to either vague unpleasant or painful sensations or by the more concrete bodily sensations, i.e., increased heart rate experienced by the individual. However, children are often unaware of the unconscious significance of the anxious reaction and may be unable to relate the reaction to external factors. The important point is that he is aware of what to him is an unpleasant and/or painful state which is tinged with more or less vague anticipations of danger.

The choice of the questionnaire reflected the hope that in objectifying and standardizing the questions and responses, some

of the subjectivity inherent in projective techniques could be avoided or lessened. It was further hoped that if children possessed perceptions of illness as punishment, or viewed their parents' reaction to their becoming ill as a form of parental displeasure, or viewed illness as a disrupting force in their lives, that these attitudes would exhibit themselves in their responses to standardized questions. Group testing allowed for the gathering of many children's responses to these questions over three distinct age groupings.

Population

The sample was drawn from two suburban school districts adjoining a large metropolitan area. The total sample size was 408 students, comprised of 114 first graders, 135 third graders, and 159 fifth graders. These age groups were selected to test whether there were differences among children in their expressed perceptions of illness and anxiety at different grade levels. The sex composition of the total group included 205 girls and 203 boys.

Both school districts represented rather typical middle to upper middle class social and economic backgrounds. The fathers of these children are predominately white collar workers, mostly in professional and managerial positions. Both schools and the community within which they reside are almost exclusively composed of Caucasians.

Setting for Testing

The collection of data was done via group testing. The classroom setting provided the grouping of children within which the examiner collected the individual child's responses to the various questions, which were read aloud. Group testing precluded the random selection of individuals, but individual classrooms were randomly chosen. However, randomly selecting classrooms was only a secondary safeguard method, for a basic assumption of the testing procedure was that the particular classroom setting the child happened to be in had little or nothing to do with his particular attitudes of illness or general anxiety.

A total of eighteen classrooms were included in the sample population. Each of the three grade levels was represented by six classrooms. Both school districts were represented by nine classrooms and they each contributed an approximately equal number of children to the sample population: 208 versus 200 students.

Questionnaires

The Sarason General Anxiety Scale for Children (GASC) was developed as a measure of general anxiety. Consisting of forty-five questions, it ranges over a variety of content areas commonly thought to generate anxiousness within children; e.g.,

"Are you frightened by lightening and thunderstorms?"; "Do you sometimes get the feeling that something bad is going to happen to you?"; "Are you sometimes frightened when looking down from a high place?" Originally this scale was developed to investigate the relationship between anxiety in a specific situation (test taking) and anxiety in a variety of other settings. Its theoretical origins are psychoanalytic and the items were selected to be consistent with Freud's definition of anxiety.

Reliability and Validity

Since its construction a variety of studies, either directly[1] or indirectly,[2] have attested to the GASC's validity and reliability.[3] Reliability coefficients have tended to range from .97 to .82.[4]

---

[1]Kenneth Davidson and Seymour Sarason, "Test Anxiety and Classroom Observations," Child Development, XXXII (1961), 199-210; A. Grams, A. Hafner, and William Quast, "Children's Anxiety Compared with Parents' Reports and Teachers' Rating of Adjustment" (paper read at meeting of American Psychological Association, 1962).

[2]J. Hafner et al., "Children's Anxiety Scales in Relation to Self, Parental, and Psychiatric Rating of Anxiety," Journal of Consulting Psychology, XXVIII (1964), 555-558.

[3]Sarason et al., Anxiety in Elementary School Children, pp. 125-157.

[4]Cox and Leaper, "General and Text Anxiety Scales for Children," pp. 70-80; Seymour Sarason and George Mandler, "Some Correlates of Test Anxiety," Journal of Abnormal and Social Psychology, XLVII (1952), 810-817.

It has been frequently incorporated into cross-cultured studies of anxiety in young children.[5]

Selection of the GASC

The GASC was selected for this study for several reasons. It was an objective, easy-to-score, group administered test that had been successfully used with young school children. Its instructions were easily understood and youngsters at the first grade level possessed the necessary test-taking skills to participate.

Lastly, the psychoanalytic framework within which the GASC was developed was consistent with this study's major theoretical viewpoint.

Children's Illness Anxiety Scale

The Children's Illness Anxiety Scale (CIAS) was specifically constructed by the author to explore young children's perceptions of illness. First, a period of time was spent interviewing young children in an attempt to ascertain children's feelings about illness.

---

[5] I. Sarnoff, Frederick Lighthall, Richard Waire, Kenneth Davidson, and Seymour Sarason, "A Cross-Cultural Study of Anxiety Amongst American and English School Children," Journal of Educational Psychology, XIL (1958), 129-137; E. Cowen, M. Zax, R. Klein, L. Izzo, and M. Trost, "The Relation of Anxiety in School Children to School Record, Achievement and Behavioral Measures," Child Development, XXXVI (1965), 685-695.

Next, the results of previous studies done with hospitalized children were used as a guide in formulating questions. Finally, an eighteen item true-false questionnaire, using the same format as the GASC, was devised. These items were selected to tap three different, though not mutually exclusive, areas of potential anxiety within a child in the realm of illness. These three major areas were: 1) the child's perception of illness as punishment; 2) the child's perception of his parents' reaction to his illness as a form of parental displeasure; and, 3) the child's perception that illness is a disruptive force in his life, particularly in his relationship with peers and school. There were six questions in each of these three areas, and they were randomly placed within the total questionnaire.

Perceptions of illness were assessed through the true-false responses to a series of questions such as: "When you are home sick, do you worry about the other kids in school learning more than you?" The perceptions dealt primarily with missing friends, parental behavior during the child's illness, and fears about illness. The children's responses to these questions were regarded as measures of their level of concern/anxiety generated by the thought of illness. These questions were selected so that they would be appropriate for the entire age range of the sample. (See Appendix.)

Ill Child Picture

As an adjunct to the CIAS, a pictorial slide depicting an ill young boy was shown to the children. As they viewed the cartoon slide, the children were told the simple tale: "This little boy awakened early this morning feeling sick with a sore throat, a stomach ache, and feeling very hot. When his mother saw him she said he had a fever and he must stay home from school and remain in bed."

The picture and story were employed as a device to stimulate the child to think of himself when he was ill and thus improve retrieval of his perceptions from memory. (See Appendix.)

Administration

The instructions given to the children were brief and concise. After listening to the question read aloud the child was instructed to decide whether it was true or false for him, and to circle on the answer sheet his response. The children were told that these questions were somewhat different than their usual test questions because they dealt with how he felt about many things. It was stressed that there were no right or wrong answers, for these questions concerned how people felt and different people felt different ways.

It was thought by the examiner, from observing the attentiveness of the children and their lack of questions when given an opportunity to ask them, that the youngsters understood the instructions well enough to answer the questions appropriately.

Answer Sheets

Two differently colored answer sheets, one for the GASC and one for the CIAS, were distributed to the children. On the top of each they wrote their names and then the letter "B" or "G" for their sex. On the second line they were asked to indicate their grade level. The answer sheets were color-coded for easier manageability by the children.

Sequence of Questionnaires

The General Anxiety Scale for Children was given first; this was immediately followed by the Children's Illness Anxiety Scale. This sequence of presentation, adopted as the result of Sarason's research,[6] was adhered to in all eighteen classrooms.

Testing Time

The questionnaires were administered within the scheduled classroom program, following a brief instruction by the individual

---

[6] Sarason et al., Anxiety in Elementary School Children, p. 94.

classroom teacher. The tandem of questionnaires plus their instructions and the viewing of the slide took approximately thirty minutes. First graders, however, took a little more time, primarily because directions had to be repeated and questions read more slowly. Their testing time averaged thirty-five to forty minutes. Third and fifth graders, possessing better test-taking skills, were able to complete both questionnaires in twenty to twenty-five minutes.

Pilot Study

A pilot study, using both questionnaires, was done with a sample of school children that included first, third, and fifth graders. The total sample size was 107 children, comprised of 36 first graders, 36 third graders, and 35 fifth graders. Following the exact protocol later to be employed with the experimental population, the children were presented the two questionnaires and shown the cartoon slide of the ill young child.

The children's answers were transferred from the colored answer sheets to IBM scoring sheets. These answers were item analyzed for item difficulty, item discrimination, and internal homogeneity. The Kuder-Richardson #20 formula, a test for internal consistency, was used on a nineteen-item pilot CIAS and revealed a .57 reliability coefficient. A Kuder-Richardson #20 test

was also done on the GASC and a .89 reliability coefficient was found.

Through the use of the item analysis, the nineteen-item pilot CIAS was reduced to eighteen questions. Within these eighteen questions, six items were retained in each of the three major areas of investigation: 1) the child's perception of illness as punishment; 2) the child's perception of his parents' reaction to his illness as a form of parental displeasure; and 3) the child's perception that illness is a disruptive force in his life, particularly in relationship with his peers and school. A new Kuder-Richardson #20 test was done on these eighteen items, resulting in a .63 reliability coefficient.

Retesting

One week later the CIAS was re-given to these same children. The Test-Retest reliability coefficient for the group of eighty-two students was .73. Because the GASC was an established test with reliability already procured,[7] further retesting with the pilot group was considered unnecessary.

Absenteeism as a Variable

An examination of the teachers' attendance records for each of the eighteen classrooms afforded the researcher the

---

[7] Sarason et al., Anxiety in Elementary School Children, pp. 290-295.

opportunity of assigning each child an absenteeism score. Taking a five month time period, from September 1 to January 31, as the unit of examination, any child who was absent from school five days or less was given a not absent score. Conversely, any child missing school for more than five days during this time period was given an absent score. Dichotomizing the absenteeism scale eliminated the task of dealing with the entire range of actual absenteeism found in the children's records. This range included many children who were never absent to one child who was absent twenty-five days.

Although it was recognized that children could be absent for other reasons than illness, it was assumed that most parents do not regularly keep a child home from school unless he is ill. It was felt that the number of parents who consistently kept a child home from school for other reasons than illness was quite small. It was also assumed that the allowance of five absent days included those special occasions necessitated by unusual circumstances that might cause the child to be away from school.

Hypotheses

With the combined use of scores from the GASC and CIAS plus an absenteeism score, the following hypotheses were tested.

1. Children perceive personal illness as punishment for misbehavior on their part.

2. Children perceive parental reaction to their being ill as a form of parental displeasure.

3. Children perceive illness as a disrupting force in their lives, particularly in relation to school and peers.

4. A relationship exists between children who score high on a general anxiety scale and those who score high on the illness anxiety scale.

5. The age of the child makes a difference as to how he perceives illness and anxiety.

6. Children who are frequently absent (more than five days in a five month period of time) have a different perception of illness than children who are not frequently ill.

7. The perception of illness and general anxiety is the same for both boys and girls.

Statistical Analysis

The significance level for this study was established at the .05 alpha level.

H_1: Children perceive personal illness as punishment for misbehavior on their part.

H_2: Children perceive parental reaction to their becoming ill as a form of parental displeasure.

H_3: Children perceive illness as a disruptive force in their lives, particularly in relation to school and peers.

H_y: There is no difference in the mean scores of children's perceptions in regards to their beliefs of illness as punishment, parental displeasure, and as disruption in their lives and a 50/50 chance distribution.

A Chi Square One Sample Test was used to test these hypotheses. The computed X^2 was examined for significance.

H_4: A relationship exists between children who score high on a general anxiety scale and those who score high on the illness anxiety scale.

H_y: There is no relationship between children who score high on a general anxiety scale and those who score high on the illness anxiety scale.

A Pearson Product Moment Correlation was used to examine the relationship between general anxiety scale scores and illness anxiety scale scores. The computed correlation value was tested for significance.

H_5: The age of the child makes a difference as to how he perceives illness and anxiety.

H_y: The age of the child does not make a difference as to how he perceives illness and anxiety.

A Multivariate Analysis was used to examine whether the child's age makes a difference as to how he perceived illness and

anxiety. When the computed F value was significant, post-hoc analysis was employed.

H_6: Children who are frequently ill (absent for more than 5 days in a 5 month period of time) have a different perception of illness than children who are not frequently ill.

H_y: There is no difference among children, whether frequently ill or not, and their perceptions of illness

A Repeated Measure Analysis of Variance was used to examine whether there was a difference among children who were frequently ill versus not frequently ill and their perceptions of illness. The computed F value was tested for significance.

H_7: The perception of illness and general anxiety is the same for boys and girls.

H_y: The perception of illness and general anxiety is not the same for boys and girls.

A Multivariate Analysis was used to examine whether the child's sex made a difference as to how he perceived illness and general anxiety. The computed F value was tested for significance.

Summary

The study was undertaken to explore the perceptions of healthy children towards illness. A group of 408 school age children,

first, third, and fifth grade levels, were tested in their classrooms by a set of true/false questionnaires. The first questionnaire, Sarason's et al. General Anxiety Scale for Children (GASC), consisted of forty-five items designed to measure the general anxiety level in children. The second questionnaire, the Children's Illness Anxiety Scale (CIAS), consisting of eighteen items, was especially designed for this study to examine how children felt about illness. As an adjunct to the CIAS, a cartoon slide depicting an ill child was shown to the children. While viewing the slide the children were told a story about the little boy being ill. Immediately after this viewing, they then were asked questions about themselves when they were ill.

All the questions were read aloud to the children. After listening to the question, each child decided if it was true or false for him and circled a yes or no on his answer sheet.

The questions within the questionnaires were designed to test the following hypotheses. 1) Children perceive personal illness as punishment for misbehavior on their part. 2) Children perceive parental reaction to their becoming ill as a form of parental displeasure. 3) Children perceive illness as a disruptive force in their lives, particularly in relation to schools and peers. 4) A relationship exists between children who score high on a general anxiety

scale and those who score high on the illness anxiety scale. 5) The age of the child makes a difference as to how he perceives illness and anxiety. 6) Children who are frequently ill (absent for more than 5 days in a 5 month period of time) have a different perception of illness than children who are not frequently ill. 7) The perception of illness and general anxiety is the same for boys and girls.

Analysis planned to examine these hypotheses included: Pearson Product Moment Correlations, Chi Square One Sample Test, Multivariate Analysis, Repeated Measure Analysis of Variance, and some Post-hoc testing. A .05 level of confidence will be used in all statistical analysis

CHAPTER IV

ANALYSIS OF RESULTS

Introduction

Chapter IV is a report of the analysis of the research data based upon the methodological and statistical procedures outlined in Chapter III. The analysis of the data is divided into two parts: 1) an examination of the study's seven hypotheses, and 2) an examination of the children's responses to the specific questions in the Children's Illness Anxiety Scale questionnaire.

Coefficients of Correlation

Essential to the success of every study is the need to possess instruments, i.e., questionnaires, which have proven reliability. Reliability refers to the degree of consistency with which the instrument measures those variables under investigation. Lacking a reliable instrument, one has difficulty determining the true relationship between variables in the study.

Pilot vs. Sample
Reliability Coefficient

Although a Kuder-Richardson #20 analysis resulted in a .63 reliability coefficient on the Children's Illness Anxiety Scale (CIAS) with the pilot group of 107 children, the sample population of 408 children produced a Kuder-Richardson correlation of only .49. Cognizant of the implications of working with an instrument of low reliability, the decision was made to examine the reliability coefficients for each grade level within the population sample and for each subscale within the CIAS: 1) Punishment subscale, 2) Parental subscale, and 3) Life Pattern subscale.

Table 1

Kuder-Richardson Reliability Coefficients
for the Children's Illness Anxiety Scale
(CIAS) by Grade and Subscale

Scales	First Grade (n = 113)	Third Grade (n = 136)	Fifth Grade (n = 159)	Total (n = 408)
Punishment[a]	.47	.48	.43	.45
Parental[a]	.00	.19	.25	.15
Life Pattern[a]	.57	.31	.39	.44
Total CIAS[b]	.59	.46	.45	.49

[a]Six items

[b]Eighteen items

General Anxiety Scale for Children Reliability

The reliability coefficient for the General Anxiety Scale for Children was .89.

Examination of the Hypotheses

H_1: Children perceive personal illness as punishment for misbehavior on their part.

H_2: Children perceive parental reaction to their becoming ill as a form of parental displeasure.

H_3: Children perceive illness as a disruptive force in their lives, particularly in relation to school and peers.

Each of the above hypotheses was examined in the study by a six-item subscale. These subscales were labeled: 1) Punishment, 2) Parental, and 3) Life Pattern. The testing of each of these hypotheses rested upon how the children responded to the individual items in the subscale. If the child agreed with the question, he got a point; if he disagreed with it, he did not. (Two items in the Parental subscale, #7 and 10, were negatively scores. In these instances if he disagreed with the question, he gained a point.)

If the child scored more than three points on any subscale, this was interpreted as being in agreement with the hypothesis.

Conversely, if he scored less than three points, this was interpreted as not being in agreement.

The scores were dichotomized in this fashion to test whether the observed scores were different from those scores that might be expected on 50/50 chance distribution.

A Chi Square One Sample Test was used to test these hypotheses. This technique is of the goodness-of-fit type, in that it is used to test whether a significant difference exists between children who score more than three (agreement with hypothesis) on each scale and the expected number of children who score three or less (not in agreement with hypothesis).

Table 2

Chi Squares of the Subscales on the Children's Illness Anxiety Scale

Subscale	Total Score Over 3	Total Score Less Than 3	X^2	p
Punishment	50	358	228.0	< .01*
Parental	14	394	341.5	< .01*
Life Pattern	36	372	271.4	< .01*

*Significant < .01

The computed X^2 on the CIAS subscales were: 228.0 on the Punishment subscale, 341.5 on the Parental subscale, and 271.4 on the Life Pattern subscale. All were significant at less than a .01 alpha level and indicated overwhelming rejection of the hypotheses.

H_4: A relationship exists between children who score high on the general anxiety scale and those who score high on the illness anxiety scale.

Table 3

Correlations between the General Anxiety Scale for Children and the Children's Illness Anxiety Scale by Grade and Subscale

Grade	Punishment	Parental	Life Pattern	Total CIAS
First (n = 113)	.33*	.39*	.51*	< .59*
Third (n = 136)	.25	.01	.28*	< .29*
Fifth (n = 159)	.27*	-.23	.42*	< .38*
All (n = 408)	.28*	.05	.40*	< .41*

*Significant < .01

The total sample had a .41 correlation coefficient; but when examined by grade level, different correlation coefficients are noted. First graders have a .59, third graders a .29, and fifth graders have a .38 correlation coefficient. All of these coefficients are significant at the .01 alpha level.

H_5: The age of the child makes a difference as to how he perceives illness and general anxiety.

Table 4

Multivariate Test of Equality of Means of the Children's Illness Anxiety Scale (CIAS) and the General Anxiety Scale for Children (GASC) by Grade

Scales	Between Means Sq	F	df	p
CIAS	29.092	5.519	2, 392	< .004*
GASC	13.758	0.208	2, 392	< .813
Combination		3.122	4, 782	< .014*

*Significant < .01

A multivariate analysis was used to analyze the data to discover if there were any systematic differences in perceptions between

children in terms of their grade. In order to utilize this method of analysis the sample size was reduced from 408 to 398 subjects. Reduction was accomplished through the use of a table of random numbers. This new subsample was composed of ratio-data: 54 boys and 54 girls in the first grade; 68 boys and 68 girls in the third grade; and, 77 boys and 77 girls in the fifth grade.

The computed F values for the CIAS and the Combination score were significant at less than the .01 alpha level.

Table 5

Multivariate Test of Equality of Means of Subscales in the Children's Illness Anxiety Scale (CIAS) by Grade

Scales	Between Means Sq	F	df	p
Punishment	7.761	4.374	2,392	< .013*
Parental	2.829	2.009	2,392	< .135
Life Pattern	11.653	8.890	2,392	< .0002*
CIAS Total		4.657	6,780	< .0002*

*Significant < .01

The computed F values for the Punishment subscale, the Life Pattern subscale, and the CIAS total were significant at less than a .01 alpha level.

Table 6

Least Square Estimates of Effect of Subscales in the Children's Illness Anxiety Scale by Grades

Difference by Grades	Scales		
	Punishment	Parental	Life Pattern
Between 1st and 3rd grades	.429	.100	.463
Between 3rd and 5th grades	.031	-.186	-.054
Between 1st and 5th grades	.463	-.286	.517

Post-hoc analysis was undertaken to determine if these comparison values were significantly different from one another. A Scheffé test was adopted because of unequal sample size. Using the following formula, confidence intervals were established.[1]

$$X_1 - X_3 \pm \sqrt{2 \text{ F value at .05 alpha 2, 392 df}} \sqrt{\text{MSE}\left(\frac{1}{n_1} \quad \frac{1}{n_3}\right)}$$

With the exception of the confidence interval for the Parental subscale, the computed confidence intervals indicate that there were significant differences between the first graders' responses and the third graders' responses on the Punishment and Life Pattern subscales.

[1]William Hays, Statistics for Psychologists (New York: Holt, Rinehart and Winston, 1963), p. 484.

Table 7

Mean Scores of Grades and Subscales of the Children's Illness Anxiety Scale

Grade	Punishment	Parental	Life Pattern
First (n = 108)	2.25	1.47	2.05
Third (n = 136)	1.82	1.57	1.49
Fifth (n = 154)	1.79	1.76	1.54

Table 8

Confidence Intervals of Mean Scores of the Children's Illness Anxiety Scale by Grades and Subscales

Between Grade Differences	Punishment	Parental	Life Pattern
1st and 3rd grades	.01 to .95*	-.08 to .48	.71 to 1.43*
3rd and 5th grades	-.35 to .41	-.50 to .12	-.36 to .24
1st and 5th grades	.05 to .87*	-.65 to .07	.61 to 1.41*

*Significant (confidence interval does not contain 0)

None of the confidence intervals between the third and fifth graders are significant, indicating that there were no significant differences between how these two grade levels responded on the three subscales.

The confidence levels between the first graders and fifth graders on the Punishment and Life Pattern subscales are statistically significant, indicating that there were significant differences between the first graders' responses and the fifth graders' responses. The computed confidence interval for this group on the Parental subscale was not statistically significant.

H_6: Children who are frequently ill (absent for more than 5 days in a 5 month period of time) have a different perception of illness than children who are not frequently ill.

Table 9

A Repeated Measures Analysis of the Children's Illness Anxiety Scale by Absenteeism

Source	df	Sum of Squares	Mean Squares	F	p
Groups	1	1.0335	1.0335		
S-Groups	406	733.855	1.8075	.57	> .05
Rep. Meas.	2	24.491	12.2459		
RG	2	2.5521	1.2760		
RS-G	812	983.6226	1.2113	1.05	> .05
Total	1223	1,745.5555	1.4272		

The computed F value for the S-Group (main effects) was .57 and RS-G (interaction) was 1.05. Neither computed F value was statistically significant.

H_7: The perception of illness and general anxiety is the same for boys and girls.

Table 10

Multivariate Test of Equality of Means of the Children's Illness Anxiety Scale (CIAS) and the General Anxiety Scale for Children (GASC) by Sex

Scales	Between Means Square	F	df	p
CIAS	1.108	0.210	1, 392	< .647
GASC	4995.226	75.417	1, 392	< .000*
Combination		45.048	2, 391	< .000*

*Significant < .01

The computed F values for the GASC and the Combined score were significant at less than a .01 alpha level.

Table 11

Multivariate Test of Equality of Means of Subscales in the Children's Illness Anxiety Scale (CIAS) by Sex

Scales	Between Means Square	F	df	p
Punishment	1.329	0.749	1, 392	< .387
Parental	4.432	3.148	1, 392	< .077
Life Pattern	10.616	8.099	1, 392	< .005*
CIAS Total		4.686	3, 390	< .003*

*Significant < .01

The computed F values for the Life Pattern subscale and the CIAS total were significant at less than a .01 alpha level.

Table 12

Mean Scores on the Life Pattern Subscale of the Children's Illness Anxiety Scale by Grade and Sex

Grade	Boys (n = 199) Mean	Girls (n = 199) Mean
First (n = 108)	1.70	2.41
Third (n = 136)	1.49	1.49
Fifth (n = 154)	1.36	1.71

Table 13

Mean Scores on the General Anxiety Scale for Children by Grade and Sex

Grade	Boys (n = 199) Mean	Girls (n = 199) Mean
First (n = 108)	20.02	27.03
Third (n = 136)	19.53	26.25
Fifth (n = 154)	19.62	27.08

Table 14

Multivariate Test of Equality of Means of Interaction Effects by Grade and Sex for the Children's Illness Anxiety Scale (CIAS) and the General Anxiety Scale for Children (GASC)

Scales	Between Mean Square	F	p
CIAS	15.909	3.018	< .051
GASC	4.946	0.075	< .928
Combination		1.890	< .110

The computed F values were: 1.890 for the Combined scores; 3.018 for the CIAS; and, .075 for the GASC. None of the computed F values were statistically significant.

Table 15

Multivariate Test of Means of Interaction Effects by Grade and Sex for the Subscales of the Children's Illness Anxiety Scale (CIAS)

Scales	Between Means Square	F	df	p
Punishment	1.221	0.688	2,392	< .50
Parental	3.984	2.830	2,392	< .06
Life Pattern	3.744	2.857	2,392	< .16
CIAS Total		1.884	6,780	< .08

The computed F values were: 1.884 for the CIAS total; .6888 for the Punishment subscale; 2.830 for the Parental subscale; and, 2.857 for the Life Pattern subscale. None of the computed F values were statistically significant.

Item Analysis of the Children's Illness Anxiety Scale (CIAS)

An item analysis was done on the eighteen items within the CIAS by subscale and grade. The computed proportions were tested for significance.

Table 16

Item Analysis of the Punishment Subscale of the Children's Illness Anxiety Scale by Grade Levels

Total Response		First Grade		Third Grade		Fifth Grade	
Yes	No	Yes	No	Yes	No	Yes	No
#4. When you are sick do you have to be good in order to get better?							
61%	39%	82%	18%*	58%	42%*	49%	51%
#6. When you are sick are you ever scared that you won't get better?							
15%	85%*	22%	78%*	9%	91%*	13%	87%*
#12. Do you think boys and girls who misbehave get sick more often than those who are good?							
24%	76%*	39%	61%*	25%	75%*	14%	86%*
#13. If you play more than you should can you get sick?							
53%	47%	47%	53%	52%	48%	58%	42%*
#15. If you fight with other children can you get sick?							
30%	70%*	24%	76%	34%	66%	30%	70%*
#17. Can children get sick because they tell lies?							
8%	91%*	8%	92%*	7%	93%*	9%	91%*

*Significant < .05

Table 17

Item Analysis of the Parental Subscale of the Children's Illness Anxiety Scale by Grade Levels

Total Response		First Grade		Third Grade		Fifth Grade	
Yes	No	Yes	No	Yes	No	Yes	No
#2. When you tell your mother that you are sick, does your mother get mad at you?							
9%	91%*	9%	91%*	9%	91%*	9%	91%*
#3. Does it cost your parents very much money to get you well?							
35%	65%*	56%	44%	34%	66%*	21%	79%*
#7. Are your mother and dad extra nice to you when you are sick?							
83%	17%*	92%	8%*	87%	13%*	83%	17%*
#8. Are you a lot of extra work for your mother when you are sick?							
43%	57%	42%	58%	42%	58%	44%	56%
#10. When you are sick does your mother fix your favorite kinds of food?							
53%	47%	73%	27%*	50%	50%	42%	58%*
#18. Does your mother scold you about being sick?							
7%	93%*	7%	93%*	2%	98%*	12%	88%*

*Significant < .05

Table 18

Item Analysis of the Life Pattern Subscale of the Children's Illness Anxiety Scale by Grade Levels

Total Response		First Grade		Third Grade		Fifth Grade	
Yes	No	Yes	No	Yes	No	Yes	No
#1. If you were as sick as this little boy would you be worried about missing school?							
40%	60%	58%	42%	36%	64%*	31%	69%*
#5. When you are kept home sick, do you worry that your friends won't play with you when you go back to school?							
10%	90%*	20%	80%*	8%	92%*	5%	95%*
#9. When you are sick and kept in bed, are you treated like a baby?							
8%	92%*	6%	94%*	4%	96%*	9%	91%*
#11. When you are home sick, do you worry about the other kids in school learning more than you?							
29%	71%*	45%	55%	26%	74%*	22%	78%*
#14. Are you ever afraid to go back to school after you have been sick?							
7%	93%*	5%	95%*	7%	93%*	8%	92%*
#16. When you are home sick, do you miss playing with the kids?							
71%	29%*	73%	27%*	61%	39%*	79%	21%*

*Significant < .05

Summary of Results

Statistical analysis of the children's responses to the General Anxiety Scale for Children and the Children's Illness Anxiety Scale supported some of the hypotheses and rejected other hypotheses.

H_1: Children perceive personal illness as punishment for misbehavior on their part.

H_2: Children perceive parental reaction to their becoming ill as a form of parental displeasure.

H_3: Children perceive illness as a disruptive force in their lives, particularly in relation to school and peers.

A Chi Square analysis rejected these three hypotheses.

H_4: A relationship exists between children who score high on the general anxiety scale and those who score high on the illness anxiety scale.

A Pearson Product Moment Correlation was used to test this hypothesis. The computed correlations were found to be significant and supported the hypothesis.

H_5: The age of the child makes a difference as to how he perceives illness and general anxiety.

A Multivariate Analysis was used to analyze the children's responses. The computed F value was not significant for the general anxiety scale (GASC) and therefore failed to support the hypothesis. However, the computed F value was significant for the illness anxiety scale (CIAS). Subsequent testing revealed that age made a significant difference in the children's responses on the Punishment and Life Pattern subscales. Post-hoc analysis further revealed that the age differences were most significant between the first and third graders on the Punishment and Life Pattern subscales and the first and fifth graders on all three subscales.

H_6: Children who are frequently ill (absent for more than 5 days in a 5 month period of time) have a different perception of illness than children who are not frequently ill.

A Repeated Measures Analysis of Variance was employed to test this hypothesis. The computed F value was not significant and failed to support the hypothesis.

H_7: The perception of illness and general anxiety is the same for boys and girls.

A Multivariate Analysis was used to analyze the children's responses. The computed F value was not significant for the illness anxiety scale (CIAS) but was found significant for the Life Pattern subscale within the illness scale. The computed F value was significant for the general anxiety scale (GASC). In both cases of significance, it was the girls who gained the highest anxiety scores.

CHAPTER V

SUMMARY, CONCLUSIONS, AND DISCUSSION

Summary of the Study

The major concern of this explorative study centered upon how healthy children perceive illness. A group of 408 school age children, selected from the first, third, and fifth grades, were tested in their classrooms by a set of true/false questionnaires. The first questionnaire, Sarason's et al. General Anxiety Scale for Children (GASC), consisting of forty-five items, was used to measure the general anxiety level in children. The second questionnaire, the Children's Illness Anxiety Scale (CIAS), consisting of eighteen items, was designed especially for this study to examine children's perceptions of illness.

Using findings from research studies done with sick children as the basic framework for the construction of the illness scale (CIAS), the perceptions of healthy children in four major areas were explored. These areas included: 1) The extent to which children viewed themselves responsible for their illness. 2) The

attitude and behavior parents displayed when their children were ill. 3) The extent to which children viewed illness as a disruptive force in their lives, particularly in regard to peers and school. 4) The relationship between children's general level of anxiety and their anxiety towards illness. The study's seven hypotheses evolved from these four areas.

Conclusions

The first three hypotheses, which follow, could not be supported by this study's results.

H_1: Children perceive personal illness as punishment for misbehavior on their part.

H_2: Children perceive parental reaction to their becoming ill as a form of parental displeasure.

H_3: Children perceive illness as a disruptive force in their lives, particularly in relation to school and peers.

In examining the children's responses to the Punishment, Parental, and Life Pattern subscales, it was found that healthy children do not view illness as do sick children. In place of perceiving illness as a punishment, or that their parents are displeased with them when they are ill, or even that illness is seen as a

disruptive force in their personal lives, healthy children display the following general views towards illness:

Although a significant majority of children on the Punishment subscale felt they had to be good in order to get better, they rejected the possibility that their lies, fighting, and misbehavior caused illness. They also significantly rejected the possibility that they were ever scared they wouldn't get better. (Table 16, p. 71).

The impression from the Parental subscale is that the majority of children do not perceive their mothers' reaction to their becoming ill as reflecting displeasure or anger. Most children see their parents as being extra nice to them when they are ill and reject the possibility that it costs a great deal of money to get them well when they are ill. (Table 17, p. 72).

From the children's responses on items on the Life Pattern subscale, one finds that although a significant majority of children do miss playing with their peers when ill, they do not fear that their friends will reject them upon returning to school after being away. They reject the possibility that they would worry about other children learning more than they or that they would be fearful of returning to school after an illness. They also overwhelmingly reject the possibility that they are treated like babies when ill. (Table 18, p. 73).

H_4: A relationship exists between children who score high on the general anxiety scale and those who score high on the illness anxiety scale.

The study's results do indicate that there is a relationship between children who score high on the GASC and the CIAS, as illustrated by the correlations in Table 3, p. 61. Although the overall correlation was .41 and significant at the .01 alpha level, it is possible that the true relationship may be higher but was attenuated due to the low reliability of the CIAS. This belief gains credence when one notes the higher reliability coefficient for the first graders, at .59, and their generally higher correlations on the subscales within the CIAS. It should also be noted that these subscales are composed of only six items. (Table 3, p. 61).

The positive nature of this correlation serves as an indirect validity measure for the CIAS, since it indicates that children who score high on a general anxiety scale are similar to those children who score high on the illness anxiety scale. This relationship would suggest that high-anxious children are more apt to be anxious about illness than low-anxious children.

H_5: The age of the child makes a difference as to how he perceives illness and anxiety.

The variable of age played no part in how healthy children responded to the general anxiety scale (GASC). (Table 4, p. 62). Age, however, did play an important part in how the children responded to the illness anxiety scale (CIAS), as illustrated by the computed F values in Table 4, p. 62. An examination for possible interaction effects by sex and grade level was done for both the CIAS and the GASC, but it was found to be nonsignificant. (Tables 14, p. 69; 15, p. 70).

Examination of the three subscales within the CIAS (Table 5, p. 63) revealed that the child's age made a difference on how he responded to the Punishment and Life Pattern subscales. There was, however, too much agreement among all the children on their responses to the Parental subscale to account for any significant age difference.

The computed confidence intervals of Table 8, p. 65, serve to test whether the observed differences in how the children responded to the three subscales are significantly different from one another. It can be seen that the first graders' responses to the questions are quite different from both the fifth and third graders on all subscales with the exception of the Parental subscale. On this subscale the first graders responded more like the third graders. The lack of significant differences between the third and fifth graders

on any of the three subscales indicates that there was a great deal of agreement among these two groups on how they responded to the illness questions.

This last statement would suggest that there are no differences between third and fifth graders in how they perceive illness, but it is also possible that these results are due to the low reliability of the CIAS. (Table 1, p. 58). The lower reliability coefficients for the third and fifth graders may indicate that the questions are too easy for the third and fifth graders and, therefore, a "ceiling effect" is in operation.

H_6: Children who are frequently ill (absent for more than 5 days in a 5 month period of time) have a different perception of illness than children who are not frequently ill.

This hypothesis was not supported by the findings of the study. That is, the frequency of recent illness for which a child is absent from school seems to have no relationship to how he perceives illness. This is illustrated by the data in Table 9, p. 66. It may well be that measuring absenteeism only in the last five months, without taking into account the child's previous health, is not sensitive enough of a measure to test for perceptual differences among children regarding illness.

H_7: The perception of illness and general anxiety is the same for boys and girls.

The statistical analysis of this hypothesis yielded mixed results. The child's sex had no significant effect on how he responded to the total Children's Illness Anxiety Scale (Table 10, p. 67), but did make a difference in how he responded to the Life Pattern subscale (Table 11, p. 68). That is, on the total eighteen questions in the CIAS it didn't make any difference in the child's response whether he was a boy or girl. However, when an attempt was made to identify which sex seemed to be making the difference on the six-item Life Pattern subscale, it was found that the girls were obtaining the higher scores. (Table 12, p. 68).

For the General Anxiety Scale for Children, the children's sex proved to be very much related to how they responded to the questions. (Table 10, p. 67). As noted in Table 13, p. 69, the data shows that girls, in all three grade levels, have higher anxiety scores than do boys. This finding is highly consistent with previous studies.[1] Sarason suggests that this is due primarily to a cultural artifact that makes it easier for girls than boys to admit to anxiety.

---

[1]Cox and Leaper, "General and Test Anxiety Scales for Children," pp. 14-15; Davidson and Sarason, "Test Anxiety and Classroom Observations," pp. 208-210.

His own findings lead him to reject the possibility that girls are more anxious than boys, but he suggests that boys and girls are anxious about different things. He hypothesizes that, in general, boys are more concerned about bodily harm and personal inadequacies, whereas girls are more concerned about the establishment and maintenance of social relationships and with how others perceive them.[2]

The results of the children's responses to the Life Pattern subscale (Tables 11, p. 68; 12, p. 68) would tend to corroborate Sarason's findings for girls. This subscale, which emphasized social relationships, was the only subscale in the CIAS on which sex made a difference as to how children responded to the questions.

Discussion

Although a significant body of literature and research supports the belief that children perceive illness with anxiety and fear and view it as punishment for some form of misbehavior on their part, these were not the findings of this study's investigation of healthy children's views about illness. Furthermore, although this same literature also suggests that children develop these beliefs in large part because of the role parents play in teaching them what is

---

[2]Sarason et al., Anxiety in Elementary School Children, p. 259.

acceptable versus nonacceptable behavior, the results from this study indicate that children perceive their parents as being warm and supportive when they are ill. At first glance this study's results appear in direct contrast to previous findings, until one recognized that previous research has concerned itself almost exclusively with ill children and this study examined only healthy children.

Phenomenon of Illness

This apparent disparity between research findings seems best explained by the phenomenon of illness. It appears that it is the actual experience of illness, rather than the anticipation or even the memory of previous illness, that elicits the greatest anxiety in the child. Previous research studies abound with results that indicate that the child fears punishment and is anxious about parents, friends, and school when he is actually sick. The fact that this study's examination of healthy children's perceptions of illness did not support these views indicates that when the child is enjoying good health these feelings are either not present or are so minimal that they are not consciously perceived by the child.

However, the finding of a significant correlation between children who score high on the general anxiety scale (GASC) and children who score high on the illness anxiety scale (CIAS) supports

the position that the thought of illness is related to anxiety in some healthy children. What remains unanswered is the question of why the thought of illness elicits anxious responses among these children?

Examination of Specific Questions

In many ways this study's results are encouraging because it indicates that under normal conditions children are not anxious about illness. But there are some questions within the illness anxiety scale (CIAS) that drew responses from individual children that indicate there are potential areas of anxiety for the specific child. These questions bear a closer examination.

Three questions from the Punishment subscale, #4, 6, and 12 (Table 16, p. 71), and three questions from the Life Pattern subscale, #1, 5, and 11 (Table 18, p. 73), which follow, drew an affirmative response from a number of children, particularly first graders.

#4. When you are sick do you have to be good in order to get better?

#6. When you are sick are you ever scared you won't get better?

#12. Do you think that boys and girls who misbehave get sick more often than those who are good?

#1. If you were as sick as this little boy would you be worried about missing school?

#5. When you are kept home sick, do you worry that your friends won't play with you when you go back to school?

#11. When you are home sick, do you worry about the other kids in school learning more than you?

All of these questions, to a greater or lesser extent, struck a responsive chord in a number of children and indicate some of the things in a child's life that can generate anxiety in relation to illness.

Recommendation for Future Study

A longitudinal study could best help to explore many of the questions raised by this study. Initially children would be examined to ascertain what basic perceptions they have toward illness and anxiety. Subsequent testing would then be done with each child as he became ill. The initial measurement would be compared with the second measurement not only for quantitative differences but also to see if different dimensions of anxiety began to appear. Of special interest in this comparison would be whether the severity of the child's illness had any effect on his level of anxiety during illness. It would also be interesting to examine the question of whether children who score high on the initial measurement examination also score higher on the second measurement when they are ill.

This longitudinal study should be conducted over a long enough period of time, at least two or three years, to obtain repeated measures on all the children whether they had been ill or not. These repeated measures will help determine whether changes from one grade level to the next are a function of the growing maturity of the child or other factors.

Application of Findings

For today's changing concept of health care, with its strong emphasis on preventive care, all professional health workers need to know and understand as much as possible about the principles of normal growth and development. Furthermore, recognition of the need for better health care has caused us, albeit slowly and hesitantly, to expand our competencies and roles in working with parents and children.

The nurse practitioner is one of the new roles nurses have begun to develop to meet society's need for more pediatricians. The nurse practitioner has emerged as the individual who most closely works with parents and children in providing health examinations, evaluations, and health guidance. Her close relation with the family affords her ample opportunity to observe its health habits and practices. The research findings from this study, coupled with

the work done with sick children, can help the nurse understand not only how a child reacts to illness while ill, but also which areas of concern serve as potential sources of anxiety. By sharing this information with parents, particularly mothers, the parents would be better able to teach their own children about health care and also be better able to cope with the possible fears of their children when ill.

BIBLIOGRAPHY

BIBLIOGRAPHY

Articles and Periodicals

Ack, Marvin; Miller, Irving; and Weil, William. "The Intelligence of Children with Diabetes Mellitus." Pediatrics, XXVIII (1960), 764-770.

Bakwin, Harry. "The Hospital Care of Infants and Children." Journal of Pediatrics, XXIX (1951), 383-390.

Baty, J. M., and Tisza, Veronica. "The Impact of Illness on the Child and His Family." Child Study, XXXIV (1956-1957), 15-19.

Beverly, Bert. "The Effect of Illness Upon Emotional Development." Journal of Pediatrics, VIII (1936), 533-543.

Bowlby, John. "Separation Anxiety." International Journal of Psychoanalysis, XLII (1961), 318-340.

Castaneda, Alfred; McCandless, Boyd; and Palermo, David. "The Children's Form of the Manifest Anxiety Scale." Child Development, XXVIII (1956), 317-326.

Chapman, A. H; Zoeb, Dorothy; and Gibbons, Mary Jane. "Psychiatric Aspects of Hospitalizing Children." Archives of Pediatrics, LXIII (1956), 77-88.

Clayton, George, and Hughes, James. "Variations in Blood Pressure in Hospitalized Children." Journal of Pediatrics, XC (1952), 462-467.

Cox, F. N. "Educational Streaming and General and Test Anxiety." Child Development, XXXIII (1962), 381-390.

Cox, F. N., and Leaper, P. "General and Text Anxiety Scales for Children." Australian Journal of Psychology, XI (1952), 70-80.

Cruickshank, William. "The Relation of Physical Disability to Fear and Guilt Feelings." Child Development, XXII (1951), 291-298.

Davidson, Kenneth, and Sarason, Seymour. "Test Anxiety and Classroom Observations." Child Development, XXXII (1961), 199-210.

Deutsch, Helene. "Some Psychoanalytic Observations in Surgery." Psychosomatic Medicine, IV (1942), 105-115.

Dubo, Sara. "Psychiatric Study of Children with Pulmonary Tuberculosis." American Journal of Orthopsychiatry, XVIII (1948), 65-73.

Erickson, Florence. "Play Interviews for Four-Year-Old Hospitalized Children." Monograph Sociological Research and Child Development, XXIII, No. 3 (Whole No. 69, 1958).

✓Falstein, Eugene, and Judas, Ilse. "Juvenile Diabetes and Its Psychiatric Implications." American Journal of Orthopsychiatry, XXV (1955), 330-343.

Fineman, A. D. "The Utilization of Child Psychiatry on a Children's Surgical Service." American Journal of Surgery, VC (1958), 64-73.

Godfrey, Anne. "A Study of Nursing Care Designed to Assist Hospitalized Children and their Parents in their Separation." Nursing Research, IV (1955), 52-70.

Green, Marvin, and Solnit, Albert. "Reactions to the Threatened Loss of a Child: The Vulnerable Child Syndrome." Pediatrics, XXXIV (1964), 58-81.

Howells, J. G., and Layng, J. "Separation Anxiety and Mental Health: A Statistical Study." Lancet, CCLXIX, No. 1 (1955), 285-288.

Illingsworth, R. S., and Holt, K. S. "Children in Hospital: Some Observations on the Reactions with Special Reference to Daily Visiting." Lancet, CCLXIX, No. 1 (1955), 1257-1262.

Jackson, Edith. "Treatment of the Young Child in the Hospital." American Journal of Orthopsychiatry, XII (1942), 56-62.

Jackson, Katherine; Winkley, Ruth; Faust, O. A.; Cermak, Ethel; and Burtt, Marjorie. "Behavior Changes Indicating Emotional Trauma in Tonsillectomized Children." Pediatrics, XII (1953), 23-27.

Jackson, Katherine; Winkley, Ruth; Faust, O. A.; and Cermak, Ethel. "The Problem of Emotional Trauma in the Hospital Treatment of Children." Journal of American Medical Association, CXLIX (1952), 1536-1538.

James, F. E. "Behavior Reactions of Normal Children to Common Operations." Practitioner, CLXXXV (1960), 339-352.

Kassowitz, Karl. "Psychodynamic Reactions of Children to the Use of Hypodermic Needles." American Journal of Diseases of Children, XCV (1958), 253-257.

Korch, Barbara. "Psychologic Reactions to Physical Illness in Children." Journal of the Medical Association of Georgia, L (1961), 519-523.

Krause, Merton. "The Measurement of Transitory Anxiety." Psychological Review, LXVIII (1961), 178-189.

Langford, William. "The Child in the Pediatric Hospital: Adaptation to Illness and Hospitalization." American Journal of Orthopsychiatry, XXXI (1961), 667-684.

Levy, David. "Psychic Trauma of Operations in Children." American Journal of Diseases of Children, LXV (1945), 7-25.

Levy, Eli. "Children's Behavior Under Stress and Its Relation to Training by Parents to Respond to Stress Situations." Child Development, XXX (1959), 307-324.

McCranie, Martha. "Reducing Emotional Trauma from Elective Surgery of Children." Journal of the Medical Association of Georgia, LI (1962), 222-225.

Micic, Zarko. "Psychological Stress in Children in Hospital." International Nursing Review, IX (1962), 23-31.

Minde, Karl, and Maler, Leon. "Psychiatric Counseling on a Pediatric Medical Ward: A Controlled Observation." Journal of Pediatrics, LXXII,

Prugh, Dave; Staub, Elizabeth; Sands, Harriet; Kirschbaum, Ruth; and Lenihan, Ellenora. "A Study of the Emotional Reactions of Children and Families to Hospitalization and Illness." American Journal of Orthopsychiatry, XXIII (1953), 70-106.

Richter, Helen. "Emotional Disturbances of a Constant Pattern Following Nonspecific Respiratory Infections." Journal of Pediatrics, XXIII (1943), 315-325.

Scherer, M., and Nakamura, C. "A Fear Survey Schedule for Children (FSS-FC): A Factor Analytic Comparison with Manifest Anxiety (CMAS)." Behavioral Research and Therapy, VI (1962), 173-182.

Shrand, H. "Behavioral Changes in Sick Children Nursed at Home." Pediatrics, XXXVI (1965), 604-607.

Sipowicz, Raymond, and Vernon, David. "Psychological Responses of Children to Hospitalization." American Journal of Diseases of Children, CIX (1965), 228-231.

Steuart, G. W. "Emergency Hospitalization of Young Children." South African Medical Journal, XXVI (1952), 472-476.

Stott, David. "Infantile Illness and Subsequent Mental and Emotional Development." Journal of Genetic Psychology, XCIV (1959), 233-340.

Taylor, Janet. "A Personality Scale of Manifest Anxiety." Journal of Abnormal Social Psychology, XLVIII (1953), 285-290.

VanderVeer, A. H. "The Psychopathology of Physical Illness and Hospital Residence." Quarterly Journal of Child Behavior, I (1949), 55-71.

Wagenheim, Lillian. "Learning Problems Associated with Childhood Diseases Contracted at Age Two." American Journal of Orthopsychiatry, XXIX (1959), 102-109

Woodward, Joan. "Parental Visiting of Children with Burns." British Medical Journal, I, No. 5128 (1959), 1009-1013.

Books

Anastasi, Anne. Psychological Testing. 3rd Edition. New York: Macmillan Company, 1968.

Bergmann, Thesi. Children in the Hospital. New York: International Universities Press, Inc., 1965.

Cattell, Raymond, and Scheier, Ivan. The Meaning and Measurement of Neuroticism and Anxiety. New York: Ronald Press, 1961.

Dimock, Hedley. The Child in Hospital: A Study of His Emotional and Social Well-Being. Philadelphia: F. A. Davis & Co., 1960.

Erikson, Erik. Childhood and Society. New York: W. W. Norton & Company, Inc., 1950.

Fejos, Pál. "Man, Magic and Medicine." Medicine and Anthropology. Edited by I. Gladston. New York: International Universities Press, 1959.

Freud, Anna. "The Role of Bodily Illness in the Mental Life of Children." The Psychoanalytic Study of the Child. Edited by R. S. Eissler, et al. New York: International Universities Press, 1952.

Freud, Sigmund. Inhibitions, Symptoms, and Anxiety. Standard Edition, Volume 20, Edited and Translated by James Strachey. London: The Hogarth Press, Ltd., 1959.

Hays, William. Statistics for Psychologists. New York: Holt, Rinehart and Winston, 1963.

Jessner, Lucie; Blom, Gaston; and Waldfogel, Samual. "Emotional Implications of Tonsillectomy and Adenoidectomy on Children." The Psychoanalytic Study of the Child. Edited by R. S. Eissler, et al. New York: International Universities Press, 1952.

Kessler, Jane. Psychopathology of Childhood. Englewood Cliffs, New Jersey: Prentice Hall, 1966.

Malinowski, Bronislaw. "Magic, Science and Religion." Science, Religion and Reality. Edited by J. Needham. New York: George Brazziler, 1955.

Miller, N. E. "Learnable Drives and Rewards." Handbook of Experimental Anxiety. Edited by S. S. Stevens. New York: John Wiley & Sons, Inc., 1951.

Mowrer, David. "A Stimulus Response Analysis of Anxiety and its Role as a Reinforcing Agent." Readings in Learning. Edited by L. M. Stolurow. Englewood Cliffs, New Jersey: Prentice Hall, 1953.

Mussen, Paul; Conger, John; and Kagan, John. Child Development and Personality. New York: Harper and Row, Publishers, 1963.

Piaget, Jean. The Moral Judgment of the Child. Translated by Marjorie Gabain. New York: Free Press Paperback, 1969.

Plank, Emma. Working with Children in Hospitals. Cleveland: Western Reserve University, 1962.

Rycroft, Charles. Anxiety and Neurosis. New York: Penguin Books, 1969.

Sarason, Seymour; Davidson, Kenneth; Lighthall, Frederick; Waite, Richard; and Ruebush, Britton. Anxiety in Elementary School Children. New York: John Wiley & Sons, Inc., 1960.

Spitz, Rene. "Hospitalism: An Inquiry into the Genesis of Psychiatric Conditions in Early Childhood." The Psychoanalytic Study of the Child. New York: International Universities Press, 1945.

Vernon, David; Foley, Jeanne; Sipowicz, Raymond; and Schulman, Jerome. The Psychological Responses of Children to Hospitalization and Illness. Springfield, Illinois: Charles Thomas Publishers, 1965.

Whiting, John, and Child, Irving. Child Training and Personality: A Cross-Cultural Study. New Haven: Yale University Press, 1953.

Unpublished Material

Cassel, Sylvia. "The Effect of Brief Puppet Therapy Upon the Emotional Responses of Children Undergoing Cardiac Catheterization." Unpublished Doctoral dissertation, Northwestern University, 1963.

Gellert, Elizabeth. "Children's Beliefs About Bodily Illness." Paper presented before Division 22 of the American Psychological Association, September 1, 1961.

Gibson, Rose Marie. "An Exploratory Study of the Effects of Surgery and Hospitalization in Early Infancy on Personality Development." Unpublished Doctoral dissertation, University of Michigan, 1959.

Gips, Claudia. "How Illness Experiences Are Interpreted by Hospitalized Children." Unpublished Doctoral dissertation, Teachers College, Columbia University, 1956.

Marlens, Hanna. "Study of the Effect of Hospitalization on Children." Unpublished Doctoral dissertation, New York University, 1959.

APPENDIX

INSTRUCTIONS AND INSTRUMENTS

APPENDIX

INSTRUCTIONS AND INSTRUMENTS

Instructions for the Administration of the GASC

My name is Barbara Brodie. I'm going to be asking you some questions that are different from the usual kinds of questions you are asked in school. These are questions about how you feel and so they have no right or wrong answers, because everyone feels differently. First let me pass out the answer sheets and I'll tell you how to mark them.

The first thing I want you to do is write your name on the top line of the green sheet, both your first and last name. On the next line under your name, write the grade you are in. The third thing I want you to do is write a B if you're a boy or a G if you're a girl next to your name. When you are done with the green sheet, please fill out the pink sheet the same way. Now you are ready to answer the questions.

These questions are about how you think and feel about many things, such as school or being sick. I will read a question aloud,

and you are to answer the question by circling either "yes" or "no" on your paper. Remember, I am very interested in finding out how you think and feel about each question, and so there are no right or wrong answers--just your answers.

Let's start by everyone putting his finger on number 1. Listen carefully to each question, think about it, and then circle either "yes" or "no."

General Anxiety Scale for Children (GASC)

by
Seymour Sarason, Kenneth Davidson, Frederick Lighthall, Richard Waite, and Britton Ruebush

1. When you are away from home, do you worry about what might be happening at home?
2. Do you sometimes worry about whether
   (other children are better looking than you are?)
   (your body is growing the way it should?)
3. Are you afraid of mice or rats?
4. Do you ever worry about knowing your lessons?
5. If you were to climb a ladder, would you worry about falling off it?
6. Do you worry about whether your mother is going to get sick?
7. Do you ever get scared when you have to walk home at night?
8. Do you ever worry about what other people think of you?
9. Do you get a funny feeling when you see blood?

10. When your father is away from home, do you worry about whether he is going to come back?

11. Are you frightened by lightning and thunderstorms?

12. Do you ever worry that you won't be able to do something you want to do?

13. When you go to the dentist, do you worry that he may hurt you?

14. Are you afraid of things like snakes?

15. When you are in bed at night trying to go to sleep, do you often find that you are worrying about something?

16. When you were younger, were you ever scared of anything?

17. Are you sometimes frightened when looking down from a high place?

18. Do you get worried when you have to go to the doctor's office?

19. Do some of the stories on radio or television scare you?

20. Have you ever been afraid of getting hurt?

21. When you are home alone and someone knocks on the door, do you get a worried feeling?

22. Do you get a scary feeling when you see a dead animal?

23. Do you think you worry more than other boys and girls?

24. Do you worry that you might get hurt in some accident?

25. Has anyone ever been able to scare you?

26. Are you afraid of things like guns?

27. Without knowing why, do you sometimes get a funny feeling inside your stomach?

28. Are you afraid of being bitten or hurt by a dog?

29. Do you ever worry about something bad happening to someone you know?

30. Do you worry when you are home alone at night?

31. Are you afraid of being too near fireworks because of their exploding?

32. Do you worry that you are going to get sick?

33. Are you ever unhappy?

34. When your mother is away from home, do you worry about whether she is going to come back?

35. Are you afraid to dive into the water because you might get hurt?

36. Do you get a funny feeling when you touch something that has a real sharp edge?

37. Do you ever worry about what is going to happen?

38. Do you get scared when you have to go into a dark room?

39. Do you dislike getting in fights because you worry about getting hurt in them?

40. Do you worry about whether your father is going to get sick?

41. Have you ever had a scary dream?

42. Are you afraid of spiders?

43. Do you sometimes get the feeling that something bad is going to happen to you?

44. When you are alone in a room and you hear a strange noise, do you get a frightened feeling?

45. Do you ever worry?

Instructions for the Administration of the CIAS

Now that we have finished all the questions for the green answer sheets, please put the pink answer sheet on top.

Before we begin with these questions, I want to show you a picture of a little boy and tell you something about him. (Flash on slide.) "This is a little boy who woke up this morning feeling very hot and sick. He told his mother that he had a sore throat and a stomach ache. After his mother saw the boy she told him he had a fever and that he better stay in bed today."

Let's start by everyone putting his finger on number one. Listen carefully to each question, think about it, and then circle "yes" or "no."

Children's Illness Anxiety Scale (CIAS)

This is a little boy who woke up this morning feeling very hot and sick. He told his mother that he had a sore throat and a stomach ache. After his mother saw the boy she told him he had a fever and would have to stay in bed.

1. If you were as sick as this little boy would you be worried about missing school?

2. When you tell your mother that you are sick, does your mother get mad at you?

3. Does it cost your parents very much money to get you well?

4. When you are sick do you have to be good in order to get better?

Picture of Sick Young Boy

5. When you are kept home sick do you worry that your friends won't play with you when you go back to school?

6. When you are sick are you ever scared that you won't get better?

7. Are your mother and dad extra nice to you when you're sick?

8. Are you a lot of extra work for your mother when you are sick?

9. When you are sick and kept in bed, are you treated like a baby?

10. When you are sick does your mother fix your favorite kinds of food?

11. When you are home sick, do you worry about the other kids in school learning more than you?

12. Do you think boys and girls who misbehave get sick more often than those who are good?

13. If you play more than you should can you get sick?

14. Are you ever afraid to go back to school after you have been sick?

15. If you fight with other children can you get sick?

16. When you are home sick, do you miss playing with the other kids?

17. Can children get sick because they tell lies?

18. Does your mother scold you about being sick?