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PHYSICIAN INTERACTIONS WITH PARENTS AND
CHILDREN AS PSYCHOLOGICAL DETERMINANTS OF
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PHYSICIAN INTERACTIONS WITH PARENTS AND CHILDREN AS PSYCHOLOGICAL
DETERMINANTS OF PARENT SATISFACTION

By

Anne B. Riley

A DISSERTATION

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ABSTRACT

PHYSICIAN INTERACTIONS WITH PARENT AND CHILD AS PSYCHOLOGICAL
DETERMINANTS OF PARENT SATISFACTION

By

Anne B. Riley

This study examined the effects of specific physician behaviors on parent satisfaction in an acute care pediatric clinic. Seven physicians agreed to have five of their pediatric visits videotaped. After each visit, parents were asked to choose and explain their most and least satisfied moments and to complete the Parent Medical Interview Satisfaction Scale (P-MISS). Hypotheses and questions were developed relating parent satisfaction to physicians' verbal and nonverbal behavior, physician-child interaction, and length of visit.

Qualitative analysis of the parent interviews found parents more influenced by physician verbal than nonverbal behavior when selecting their most and least satisfied moments. Diagnostic statements brought the most satisfaction. Relatedly, the majority of most satisfying moments occurred during the diagnosis and treatment of the visit; most of the unsatisfying moments occurred during the history-taking. Also, physician-parent interaction affected parents' satisfaction more than physician-child interaction.

Videotape data analyzed using Hierarchical Linear Model (HLM) calculations allowed the variation in P-MISS scores to be partitioned into within- and between-doctor differences. Eighty-seven percent of the score variation was attributable to within-doctor differences. To

explain within-doctor differences, variables, such as parent/child demographic data, visit length, and physician verbal and nonverbals behavior were used. Only one variable, visit length, correlated significantly with parent satisfaction; however, it explained only a small portion of the total observed variation. Shorter rather than longer physician visits increased parent satisfaction in this particular setting. The one between-doctor variable tested, years of experience, showed no correlation with parent satisfaction.

A comparison was done of the verbal and nonverbal behaviors of the doctors rated high and low by parents in satisfaction. For high rated doctors, verbal and nonverbal behaviors were cited equally in parents' explanations of their most satisfying moment. For low rated doctors, verbal behavior was mentioned more frequently. When high and low rated doctors were compared in number of dissatisfied moments, half of the parents rating doctors high experienced no dissatisfaction; all but one of the parents rating doctors low had such a moment.

A prototypic model of parent satisfaction was developed and implications were discussed.

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Chapter I
THE PROBLEM
Introduction

Parents' dissatisfaction with their children's medical care is a surprisingly common occurrence (Breslau & Mortimer, 1981; Korsch, Gozzi, & Francis, 1968). Although most parents leave the physician's office feeling satisfied, a sizable minority leave feeling dissatisfied, a puzzling phenomenon since medical treatment is far more effective today than even a few years ago (DiMatteo, 1979; Eisenberg, 1977). Because dissatisfaction frequently occurs in this "renaissance era" of medicine, the problem does not appear to be in technology but in the physician's relationship with the patient (Korsch & Aley, 1973; Pendleton & Hasler, 1983; Ware, Davies-Avery, & Stewart, 1978).

The importance of physician-patient communication was recognized as far back as the fourth century B.C. when Hippocrates preached to fellow physicians that even a dying "patient may recover his health simply through his contentment with the goodness of the physician" (1923 English Translation). Until the late nineteenth century, this "bedside manner" and placebos were virtually the only "medicines" available to physicians (Houston, 1938). Yet, despite useless and even harmful medications and procedures, physicians were held in high regard (Jones, 1982). Although it cannot be empirically proven, the consensus then and now is that this high regard came from the physician-patient relationship (Shapiro, 1960).

Although a physician's ability to communicate with patients has been considered an integral part of the healing process throughout medical history (DiMatteo, 1979; Wexler, 1976), it was not until 20 years ago that the medical profession realized that patient dissatisfaction was so prevalent. A classic article poignantly illustrated the lack of effective communication between physicians and parents by noting that only 24 percent of the parents' main worries were mentioned to the doctor (Korsch et al., 1968). Since then satisfaction with medical care has been a focus of scientific investigation; however, most of the research has been conducted on adult patients rather than parents.

Statement of the Problem

A host of problems currently plaguing the medical profession are linked to dissatisfaction with medical care (Friedman & DiMatteo, 1982; Pendleton, 1983). Problems, such as increasing malpractice litigation, high noncompliance rates, doctor-shopping, forgotten medical information and missed appointments are quite common, affecting not only the patients' health and medical costs, but also physicians' frustration. Good physician-patient communication is essential in determining patient satisfaction (Ley, 1979; Ware et al., 1978), but it has been difficult to identify which communicative behaviors impress patients. Research has not gone beyond identifying a few predictable but vague interpersonal qualities, such as friendliness, empathy, or respect.

The above problems affect not only adult patient care, but also pediatric care. The purpose of this study is to examine physician

communication in an initial pediatric visit to better understand the influence of physician verbal and nonverbal behavior on parent satisfaction. The impact of physician-child interaction on parent satisfaction will also be studied.

Justification for Medical Satisfaction Studies

Satisfaction studies predict a patient's future use of medical practitioners and facilities (DiMatteo & Hays, 1980; Roghmann, Hengst, & Zastowny, 1979). Relatedly, doctor-shopping (Cobb, 1954; Kasteler, Kane, Olsen, & Thetford, 1976), the use of nonmedical practitioners (Cobb, 1954), and malpractice suits (Blum, 1957; Vaccarino, 1977) all decrease when patient satisfaction increases. In addition, information learned from satisfaction studies has the potential to increase treatment effectiveness and reduce medical costs. Treatment effectiveness can be increased because of better compliance with treatment regimens. Compliance rates for adult patients are discouragingly low, 39 to 61 percent (Ley, 1982). Pediatric compliance rates are similarly low, about 54 percent (Jones, 1983). A direct link between compliance and patient satisfaction has been established (Francis, Korsch, & Morris, 1969; Hulka, Cassell, Kupper, & Burdette, 1976; Korsch et al., 1968). Compliance has also been linked to reduced medical cost, since noncompliance is estimated to be responsible for 20 percent of all hospital admissions (Ausburn, 1981). Satisfaction studies have also demonstrated that the doctor-patient relationship affects the length of hospital stay and patient recovery (Ley, 1977).

Realizing the need for more effective communication, the medical profession has put much effort into "re-humanizing" medical care (Zastowny, Roghmann, & Hengst, 1983). Today a majority of medical schools require coursework pertaining to interpersonal skills training (Kahn, Cohen, & Jason, 1979). Yet, problems in relating to patients still exist, in part, because of the need for better skill specification (Carter, Inui, Kukull, & Haig, 1982; Roter, 1983; Strecher, 1982). Carroll and Monroe (1979), in their review of over 70 interpersonal skills courses for physicians, found little agreement about content and suggested research that examines the effectiveness of specific interpersonal skills.

Finally, physicians benefit psychologically when patients leave feeling satisfied. Job satisfaction studies of primary care physicians show that effective patient communication and the resulting relationships are the most satisfying job aspects for these physicians (Ford, Liske, Ort, & Denton, 1967).

Justification for the Proposed Research

This study is important for three reasons:

(1) Dissatisfaction with pediatric care is a frequent occurrence. Although there are no current rates of parent satisfaction available, the classic study done twenty years ago found that approximately 25 percent of parents were dissatisfied with their pediatric visit (Korsch et al., 1968). Adult patient dissatisfaction rates are even higher. Koo's survey (1955) of 1,000 families found that 64 percent were critical of

the physician-patient relationship. More recent estimates indicate that the median range of dissatisfied patients is between 35 and 40 percent (Ley, 1982).

(2) Only a small percent of the medical satisfaction research deals with parent satisfaction, despite high utilization of medical facilities by children--89% of children under four see a physician at least once a year (National Center for Health Statistics, 1979). Parents are responsible for receiving the physicians' information and making key treatment decisions (Stewart, Pantell, Dias, Well, & Ross, 1981), so it is essential for them to have a comfortable relationship with their child's doctor. Pediatricians spend most of their time (60-80%) conversing with parents and the families of patients (Korsch & Aley, 1973), yet relative little emphasis is given to training medical students in interpersonal skills beyond taking a thorough history.

(3) Because research on parents satisfaction is still in the exploratory stage, obtaining the insiders' (parents') perspective is of value. This study will explore the parents' perceptions of the physicians' behavior and other aspects of a pediatric visit in order to develop a model of parent satisfaction.

Purpose

The purpose of this research is to examine the physician interaction in an initial pediatric visit to determine its effect on parent satisfaction. A specific focus will be on the impact of (a) the

physicians' verbal and nonverbal behavior, and (b) the physician-parent interaction and physician-child interaction.

Theoretical Perspective

This section discusses Talcott Parsons' social interaction theory as it relates to a medical encounter and a description of the structural approach to the study of communication. The Parsons' theory provides a rationale for structure within a medical encounter and divides physician behavior into two components, instrumental (technical competence) and expressive (psycho-social). Parsons' theory is a systems (or subsystem in the case of medical care) level interaction theory; the structural approach is an interaction theory of communication applied to individuals.

Parsons' Theory

Talcott Parsons saw health care as a subsystem of the larger structure of social action. He viewed the physician-patient interaction as a rigid, predictable exchange, an institutionalized role set revolving around the patient's medical needs (Parsons, 1951). Key to the Parsonian framework is the idea that illness is deviant behavior that disturbs the health functioning of the individual and, ultimately, the social system. Parsons believed in institutionalization of the physician-patient relationship to ensure the efficient functioning of society to which illness poses a major threat (West, 1984).

Parsons also believed in asymmetry in the physician-patient relationship, to promote the physician's control over patients in order to ensure the compliance needed for healing (Parsons, 1951). In essence, his concept of the physician-patient relationship "is predicated on institutionalized inequality between those who heal and those who must come to them for treatment" (West, 1984, p. 18). Although this description is not as directly applicable to a pediatric situation, the parent still is in the "sick-role" because the physician has sole possession of the knowledge with which to heal the child.

Parsons (1951) divided physician behavior into "instrumental" (that dealing with technical aspects of medical care) and "expressive" (that dealing with social-psychological aspects of the doctor-patient relationship). He recognized the "art of medicine"-- "All good medical practice. . . has been and is to some degree psychotherapy" (1951, p. 478). Unfortunately, his recognition of this more personal aspect of physician-patient interaction is "reinstitutionalized" when he defines psychotherapy as a mechanism of social control which must be regarded as "automatic."

Parsons' characterization of the physician-patient relationship as standardized behavioral expectations for both patients and practitioners was a powerful influence when first formulated, but his critics are now numerous. Critics, Bloom (1963) and Friedson (1970), attacked Parsons' neglect of significant others, such as family members, in the healing process. Szasz and Hollender (1956) have also taken issue with Parsons' idea that the patient must play a passive role (West, 1984). They

argued that patients both desire and need an active role in their treatment and point to patient involvement in controlling chronic diseases, such as diabetes.

Communication theories

The structural approach to communication can trace its roots to the beginning of this century when the idea of social interaction evolved. Anthropology and linguistics furthered the theory's development, so that structural linguistics (kinesis) came into being. Further refinements included incorporating the ideas of feedback and self-regulation. These concepts led to the realization that "communicating" is not an act in which one chooses to engage (Reusch & Bateson, 1951). Kendon, a leading proponent of this approach, further explains that " . . . so long as one is in the presence of another, all of one's behavior is a source of information for another, all of the time" (1979, p.70). Thus, one is always communicating or conversely; one cannot not communicate. Even when an individual chooses to remain silent, a "message" is being sent. Furthermore, communication flows in two directions because the behavior of each individual feeds back to and influences the other (Kendon, 1979).

These concepts evolved into a methodology called 'context analysis' (McQuown, 1971), which states that behavior is described by the contexts in which it occurs (Kendon, 1982) and is both continuous and reciprocal (Kendon, 1979). Although context analysis has many adherents, critics contend that it is fraught with problems of knowing what rules to apply

in identifying structural units and hierarchical organization (Scherer & Ekman, 1982).

Another approach to communication is based on the premise that communication is distinguished by intentionality (Ekman & Friesen, 1981). In other words, behavior is considered 'communicative' only if the person providing it intends to convey some message, regardless of whether anyone else receives the message. Ekman and Friesen's idea of communicative behavior is more restrictive than Reusch and Bateson's viewpoint that 'all behavior is communication.' This approach is not without its critics either. Kendon argues convincingly that "The question of intentionality is irrelevant because . . . to witness a behavioral event is to receive information. . ." (1981, p. 9). Furthermore, the intention of the speaker is often indeterminable.

The research proposed here examines the relevance of Parsons' instrumental/expressive dichotomy when applied to an acute care pediatric setting. Relating to the structural approach, this project will examine what is communicated by the physician to the parent, regardless of the physician's intention. Stated another way, what "messages" did the parent perceive from the interaction with the physician. The parent (or the physician), according to this approach, could not have been a participant in the interaction without forming some impression. The impression of interest here is parent satisfaction and the parents' explanation of their most and least satisfied moments will be examined.

There are four remaining chapters in this dissertation. Chapter Two contains the review of literature on both adult patient and parent

satisfaction. Chapter Three focuses on the qualitative and quantitative methodology. Chapter Four contains the results of the analyses and Chapter Five provides a discussion of the results with implications.

Chapter II

LITERATURE REVIEW

This chapter includes 1) a brief historical perspective of the verbal-nonverbal debate, 2) a review of research on physicians' verbal and nonverbal behavior related to both adult patient and parent satisfaction, 3) a review of research on physicians' interactions with children as it relates to parent satisfaction, and 4) a summary with implications for this study.

Verbal/Nonverbal Debate

Communication research has been a topic of interest only in the past 40 years with early emphasis on verbal behavior as it was "readily perceivable, codeable, and interpretable..." (Harrigan & Rosenthal, 1986, p. 41). Then, in the 50s and 60s theoretical approaches to the study of communication promoted the concept that all behavior (spoken and unspoken) is potentially meaningful and could be considered communication (Reusch & Bateson, 1951). Nonverbal behaviors then became the focus of much scientific attention.

Earliest interest in nonverbal language is traceable to Darwin's 1872 text, The Expressions of the Emotions in Man and Animals. Thirty years later Freud added credibility to the idea of a visual language by remarking about a patient, "if his lips are silent, he chatters with his fingertips; betrayal oozes out of him at every pore" (1905, p. 94). Interest in nonverbal behaviors waned during the next few decades, in

part, because they are difficult to define and quantify. However, during the past fifteen years nonverbal language has regained prominence and for some investigators surpassed the verbal communication in importance.

The importance of nonverbal communication relates to the point Freud was illustrating, that people may "leak" their true feelings through cues other than verbal (Ekman and Friesen, 1969). Acting on this premise, research on deception proposed the concept of a leakage hierarchy, which states that all channels, verbal and nonverbal, can be placed on a continuum of controllability. Nonverbal behaviors are usually less controllable and thus are considered 'truer' reflections of feelings (Ekman & Friesen, 1969; Zuckerman, DePaulo, & Rosenthal, 1986).

More recently, the primacy of nonverbal behavior has been questioned. [Primacy is defined as the "overwhelming importance" or "primary basis for communication" (Krauss, Apple, Morency, Wenzel, & Winton, 1981, p. 312)]. Even nonverbal advocates, Archer and Akert (1977) admit that nonverbal primacy "rests upon a highly specific experimental base, and the question (of primacy) has never been addressed more generally, using natural sequences of behavior" (p. 444), something this research attempts to do.

In line with questioning the primacy of nonverbal behavior is the movement away from making specific estimates of its influence as Mehrabian's (1972) often quoted studied does.

Research comparing verbal and nonverbal behaviors within the same study supported nonverbal primacy by a slight margin. However, as noted

by Archer and Akert (1977), the designs of many of these studies had contrived features, for example, the use of posed channel contradictions (positive content intentionally said in a negative voice), an uncommon occurrence outside a laboratory setting add other problems inherent in nonverbal research are the simultaneous nature of these behaviors and defining them operationally. To illustrate, a forward lean may vary from a 10 to 40 degree angle and it is the individual researcher who arbitrarily decides when such a behavior occurs (Harrigan & Rosenthal, 1986).

When examining the research done in natural settings with spontaneous dialogue (most of which pertained to psychotherapy), the predominance of nonverbal behaviors over verbal content did not hold (Fretz, Corn, Tuemmler, & Bellet, 1979; Seay & Altekruze, 1979). Other support for the importance of verbal behavior comes from a meta-analysis of studies in the communication of deception (Zuckerman, DePaulo, & Rosenthal, 1986). This study of studies proved to be an exception to the rule of nonverbal primacy when results are obtained in a laboratory setting. In a comparison of three single channels--face, body and speech--speech was the most accurate, followed by the body, and the face. The authors found that, at least in the communication of deception, verbal cues (words, written or spoken) were more important than the nonverbal channels. Zuckerman and his associates conclude that the assumption that the nonverbal channels are more important than verbal cues in the communication of deception is not true. Krauss and colleagues (1981) reached the same conclusion as Zuckerman with regard to affective communication.

To summarize the current state of affairs, the dominance of nonverbal over verbal behaviors is being reconsidered, in large part, because of the artificiality of the research. Evidence is accumulating to suggest that in research with less contrived interactions, verbal behaviors may have a greater impact than nonverbal behaviors. The remainder of this review of literature examines the physicians' communication with adult patients and with parents.

General Factors Influencing Adult Patient Satisfaction

Factors identified in the adult patient satisfaction research include: 1) art of care, 2) technical competence, 3) availability, 4) continuity of care, and 5) treatment outcomes; the factor making the greatest impact is art of care or, in layman's terms, "bedside manner" (Bartlett, Grayson, Barker, Levine, Golden, & Libber, 1984; Young, Wasserman, McAuliffe, Long, Hagan, & Heath, 1985; Ware et al., 1978). Researchers have had difficulty specifying which physician behaviors best convey "art of care," and although interpersonal traits, such as empathy, understanding, and friendliness are frequently listed, they are rarely defined behaviorally (DiMatteo, Prince, & Taranta, 1979; Francis, Korsch, & Morris, 1969; Freemon, Negrete, Davis, & Korsch, 1971; Young et al., 1985).

Technical competence is also influential (Ware et al., 1978) and has been closely linked to art of care by both physicians and patients (Ben-Sira, 1976; DiMatteo & Hays, 1980). Technical competence increased in importance for high SES patients and for those anxious about their

illness (Ben-Sira, 1980; DiMatteo & Hays, 1980). Availability and continuity of care were also influential factors in predicting satisfaction, but more so for chronically ill patients (Breslau & Mortimer, 1981; Shortell, 1976).

As can be seen, there are many determinants of satisfaction and no theorist has fit them into a working model that predicts satisfaction. Moreover, most studies deal with only a few aspects at one time, so it is difficult to compare findings. It is probably correct to say that all the determinants of satisfaction have not been identified, although the review article by Ware and associates (1978) makes a creditable attempt.

The next two sections review the literature on physician verbal and nonverbal behavior, integral parts of "art of care."

Physician Verbal Behaviors in Adult Patient Visits

One physician verbal behavior appearing to relate to satisfaction is the amount of information patients receive about their illness (Carter et al., 1982; Roter, 1983; Waitzkin, 1984). Receiving such information not only increases compliance (Putnam et al., 1985) but has also been shown to improve post-operative healing (Waitzkin, Stoeckle, Beller, & Mons, 1978). Yet in more than half of their office visits, physicians underestimate patients' interest in receiving information (Roter, 1983; Waitzkin, 1984), and this misattribution may be one of the most common errors in clinical practice (Waitzkin, 1984). In one study, doctors were averaging only a little more than one minute out of a twenty minute encounter to impart knowledge, yet estimated that they were spending

considerably more time than that (Waitzkin, 1984). The situation is exacerbated because patients routinely fail to communicate their need for more information (Roter, 1983).

Using medical jargon is another verbal behavior negatively related to patient satisfaction. Although patients are more familiar with medical terminology than physicians think, patients still do not know very much (McKinlay, 1975). Mutual understanding is not achieved when doctors fail to communicate in terms understandable to their patients (Ley & Spellman, 1967). Patients respond best when communication about their illness is in simple language (Bartless, Johnston, & Meyer, 1973; Schwartz, 1970), and, not surprisingly, simplifying information for patients also enhances patient recall (Bradshaw, Ley, Kincey, & Bradshaw, 1975; Ley, Goldman, Bradshaw, Kincey, & Walker, 1972).

Physician Nonverbal Behaviors in Adult Patient Visits

Nonverbal communication is divided into decoding and encoding skills. Decoding skills involve "reading" an individual; encoding skills relate to the transmission of nonverbal cues. According to DiMatteo (1979), physician decoding skills are crucial because patients may attempt to monitor and control their own verbal messages of dissatisfaction to a high status professional. (Nonverbal behavior being more difficult to control relates to the "leakage hierarchy" discussed earlier.) If the physician decodes or recognizes such cues, problems can be dealt with immediately and minimized (DiMatteo, 1979; Vaccarino, 1977). A patient's nonverbal cues can also indicate the level of

understanding and willingness to comply with the recommended treatment (DiMatteo, 1979). Not surprisingly, physicians who were more sensitive to body movement and posture cues received higher ratings from their patients in "art of care" than physicians who were not as adept at decoding nonverbal behavior (DiMatteo & Hays, 1980).

The nonverbal cues projecting empathy or caring and concern have been studied most frequently (Harrigan & Rosenthal, 1986), with correlations noted between patient satisfaction and distance from physician (Byrne & Heath, 1980; Larsen & Smith, 1981; Weinberger, Greene, & Mamlin, 1981). Physician gaze and body orientation were also important (Byrne & Heath, 1980; Larsen & Smith, 1981). Higher satisfaction was particularly associated with a forward lean, directly facing the patient, open arm positions, and nodding head movements; a physician's backward lean was associated with lower satisfaction (Larsen & Smith, 1981).

In another study of high and low rapport doctors, distance, body orientation, and arm and leg and gaze position continued to be significant discriminators (Harrigan & Rosenthal, 1986). However, contrary to previous findings, high rapport doctors maintained less mutual gaze because they were looking at the patient's chart, which was felt to convey interest in the patient's condition.

Another physician behavior appearing to relate to satisfaction is listening, although it has rarely been a focus in the research. [Listening, though not classified as either verbal or nonverbal behavior, appears to be nonverbal because it "excludes the specifically linguistic" (Reber, 1985)]. Patients want the physician to listen to

their comments and questions, and when this occurs both patient satisfaction and compliance increase (Stiles, Putnam, Wolf, & James, 1979). Physicians who take the time to listen to their patients give them a sense that adequate time has been spent. Interestingly, DiMatteo and colleagues (1979) found that perceived time with the physician was more important than actual time, that is, the patients' perception that enough time had been taken to talk with the doctor was more important than the actual time spent.

Confounding the issue of how much time should be spent listening to the patient is the need for a thorough medical history. Traditionally, the history is taken at the beginning of the visit with the doctor asking specific questions. In West's (1984) analysis of questions and answers during a medical visit, she found 91 percent of the questions were doctor-initiated. In four out of the five visits involving adolescents, all of the questions were asked by the physician. Concerning talking in general, one estimate is that 75 percent of the statements are doctor-initiated (Byrne & Long, 1976). A delicate balance needs to be struck between the patient's need for medical information and the need for the doctor to listen, competing needs both of which enhance satisfaction.

Parent Satisfaction Research

The classic study on parent satisfaction was done 20 years ago in an acute care setting, the Emergency Clinic at Children's Hospital of Los Angeles, on 800 parents who brought their children for treatment of

common pediatric problems (Korsch, Gozzi, & Francis, 1968). Since there were no long-standing relationships between parents and physicians, the study focused on the initial medical interview. The participating physicians were residents or fellows. Data was collected by tape recording the physicians' visits, reviewing the charts, and conducting follow-up interviews with the parents. Only the physicians' verbal communication was studied. The results of the study are succinctly expressed in the article title, "Gaps in Doctor-Patient Communication."

Using Parsons' divisions of physician behavior--"instrumental" (technical aspects of medical care) and "expressive" (psychological and social aspects of care), Korsch and her colleagues (1968) found that parent satisfaction was almost entirely influenced by the expressive component. This finding has also been supported by others (Deisher, Engel, Spielholz, & Standfast, 1965; Liptak, Hulka, & Cassel, 1977). In general, mothers specifically expressed a wish for more warmth and friendliness, and a greater show of concern, (Francis et al., 1969; Korsch et al., 1968). A link between parents' expectations, compliance, and satisfaction was noted (Francis et al., 1969).

Physician Verbal Behavior in a Pediatric Visit

Looking first at verbal behavior, one "gap" uncovered in the doctor-patient relationship was the physicians' frequent use of technical terms (Korsch et al., 1968; Young et al., 1985). In more than half the cases, pediatricians used difficult technical language (Korsch et al., 1968). Oddly enough, although the use of medical jargon blocks effective

communication, Korsch and her associates found it did not always lead to dissatisfaction, a finding contradicting that in the adult patient satisfaction literature. Korsch explained that some mothers, even though they could not understand the physician, were impressed with the quantity and technical nature of the explanation and were flattered.

Another "gap" in the doctor-patient relationship was the mothers' intense need for an explanation of their child's illness (Korsch et al., 1968). Speculating that parents have a universal tendency to blame themselves for their child's illness, Korsch found that almost half of the 800 mothers did blame themselves. Others expressed this self-blame indirectly through defensive statements or feelings of guilt. Yet the physicians rarely explored these feelings or made any attempt to relieve the mothers' fears, and in a few isolated cases they specifically blamed the mother even though she had not blamed herself. Finding out the cause of the illness was central to meeting parental expectations. In adult patient visits, the expectation for a medical encounter is usually to obtain symptom relief. In pediatric visits, however, parents have a need to learn the cause of their child's illness in order to feel satisfied and relieved of guilt (Korsch et al., 1968).

A third "gap" in physician-parent communication was found in the physicians' limited use of civilities and social commentary. Korsch and Negrete (1972) found "less than 6 percent of the doctor's communication to the mother carried positive affect in the form of friendly remarks, joking, agreement or support" (pp.73-74), yet the authors found that social commentary produced favorable impressions in the parents.

Although it is helpful to know why parents feel dissatisfied in an initial pediatric visit, it is also important to know when parents "reach their breaking point" and decide to change pediatricians. A study of dissatisfied parents found they left their regular pediatricians for reasons very similar to those causing dissatisfaction in an initial visit, that is, unhappiness over personal components of care. In these situations, dissatisfaction with the personal component spilled over into questioning the physician's technical competence (Young et al., 1985).

Physician Nonverbal Behavior in a Pediatric Visit

No research was found that examined physicians' nonverbal behavior in a pediatric visit. However, in Korsch's discussion of parents' comments, she stressed the need for the physician to listen to the parent. Listening, as previously mentioned, will be considered a nonverbal behavior for purposes of this study.

Listening to the parent was not directly addressed in the Korsch study, but the limited amount of time given to parents by the doctors for asking questions was a complaint (Korsch et al., 1968). Yet, most pediatricians felt they offered adequate opportunity for questions. In actuality, 10 percent of the mothers asked no questions and an additional 27 percent asked only one or two questions that did not relate to the presenting problem, for example, "Where is the hospital pharmacy?" In postvisit interviews, one out of four mothers stated they would have liked more time to question the doctor. For those who did ask questions,

Korsch found the doctor frequently ignored them, gave a vague answer, or changed the subject (Korsch et al., 1968).

Related to parents' not having time to ask questions was the finding that 76 percent of the parents' main worries were not mentioned to the doctor during the medical visit. Better educated parents had a significantly larger proportion of their concerns and expectations met than did parents who had not finished high school (Korsch et al., 1968).

Limited time is often mentioned by pediatricians as one cause for ineffective communications with parents during the medical visit; however, Korsch and her colleagues (1968) found no correlation between diagnosis and interaction time or between diagnosis, interaction time, and satisfaction. Korsch concluded that the physician-parent communication can be satisfactory in as short a time as five minutes. Since the average time spent with a pediatric patient ranges from a low of 8.4 minutes with adolescents to 11.7 minutes with infants younger than six months, satisfaction should easily be achievable (Reisinger & Bires, 1980).

Physician-Child Interaction

In a pediatric visit most of the physician's communication is with the parent, regardless of the age of child. Traditionally, the feeling was that relatively little could or should be directly communicated to the child after limited involvement in the history-taking and physical exam. Therefore, discussion of the treatment was usually aimed at the parents (Stewart et al., 1981). Logically, children's participation

during the visit, especially in the interview and treatment segments, is limited not only by their cognitive level and parental controls, but also by accepted medical norms (Pantell et al., 1982). The child's participation is further limited by the physicians' knowledge of children's cognitive levels (Campbell, 1978; Stewart et al., 1981).

Physicians' communication with children is not well researched, but even pediatricians sometimes do not have adequate knowledge of children's cognitive development. Perrin and Cerrity (1981) found that physicians, when asked to evaluate children's statements, were poor judges of children's ages. Also, physicians' knowledge of a child's understanding of basic health concepts is limited (Pantell et al., 1982). There is a growing body of literature on a child's conception of health, illness, and bodily functions, concepts which develop in a fashion similar to other concepts (Pantell et al., 1982) and are well developed by adolescence (Campbell, 1975).

Recently more interest has been shown in increasing the physicians' involvement with children. In 1968, as Korsch and her colleagues noted, only 12.5% of all interactions were between the physician and child and most of the statements to the child were social rather than medical. In 1982, Pantell and his coworkers found physician-child interaction had increased to 45.5% of the total interaction in a pediatric visit. But surprisingly, the number of previous medical visits or the seriousness of the illness had no bearing on the extent of communication. The noted increase in physician-child communication suggests that children can assume more responsibility than either physicians or parents give them

(Campbell, 1978; Stewart et al., 1981), and have an inherent interest in doing so, especially for certain medical problems, such as enuresis and encopresis (Vaughn, 1957).

Concerning the content of physician-child communication, Stewart and his associates (1981) found that 35 percent of the physicians' statements related to the physical exam, 20 percent to the presenting problem, 15 percent to social exchange, and 12 percent to encouragement and reassurance. Substantive communication increased with the child's age, and boys received more information than girls (Pantell et al., 1982). The American Academy of Pediatrics (1977) has stated that preventive pediatrics is one of the main goals of quality medical care for children, yet little time is devoted to illness prevention and good health promotion even in well-child visits (Reisinger & Bires, 1980; Stewart et al., 1981). One encouraging finding by Reisinger and Bires (1980), however, is that recently trained physicians were more likely to spend time talking to children about general health issues.

Many questions are raised when it comes to assessing the impact of physician-child interaction on parent satisfaction. Freemon, Negrete, Davis, and Korsch (1971) noted that physicians who talked more extensively with children were rated higher in parent satisfaction and compliance with treatment regimens. Yet, a recent study (Scott, 1985) that compared the impact of physician-parent to physician-child interaction on parent satisfaction found a stronger correlation to the physician's ability to communicate with the parent.

Extrinsic Factors

When it comes to the impact of extrinsic factors related to the visit--length of waiting time, courteousness of office staff, proximity to doctor's office, problems with parking and billing--the research suggests that some factors have a more direct impact on parent satisfaction than others. Although length of waiting time was mentioned by 25 percent of the parents in the Korsch study (1968), a long waiting time apparently did not negatively influence their impressions about other aspects of the visit. In another study, communication skills of the office staff were judged to be important in determining parent satisfaction. (Charney, 1972; Young et al., 1985).

Critique of the Literature

Some basic limitations of the research just reviewed should be noted. Satisfaction studies lack definitions, models, and theories, which makes comparisons of the results confusing and difficult (Locker & Dunt, 1978). Only one researcher attempted a definition of patient satisfaction--"the individual's positive evaluation of the health care he or she experienced" (Linder-Peltz, 1982) which provides little conceptual enlightenment. Researchers frequently mention the multi-dimensional nature of patient satisfaction (Linder-Peltz, 1982; Pendleton & Hasler, 1983; Ware et al., 1978), which is explained as the evaluation of different aspects of the care as well as an overall evaluation of the health care event. It is not clear whether all aspects or dimensions of satisfaction have been clearly identified. In

addition, many of the methods used to measure satisfaction were single-item measures and in many instances, reliability data was not reported (Ware et al., 1978).

This project attempts to overcome some of the above limitations. A definition of satisfaction is offered. Parent satisfaction refers to the fulfillment of expectations about the delivery and outcome of pediatric care. A model of parent satisfaction is one purpose of this project and will be described in the last chapter. It will be multi-dimensional based on the findings of this research, yet at this developmental point in the parent satisfaction literature, can only be considered prototypic. Finally, the methods of data collection will go well beyond the single-item measures frequently used in the past. Both qualitative and quantitative methods will be used, and the one quantitative measure used will have reliability data reported.

Summary and Implications for this Project

The following is a summary of the main points of this review of literature:

1. Controversy exists as to the relative impact of verbal and nonverbal behavior in communication, in part, because of the methodological limitations in the nonverbal research.
2. Verbal and nonverbal behavior have not been examined in the same study in a medical setting. In other naturalistic settings, verbal behavior appears to have more impact than nonverbal behavior.
3. Art of care or "bedside manner" is the most influential aspect of the physician-patient interaction in predicting adult patient satisfaction, but it is not well defined.

4. The following types of statements by physicians have been singled out as impactful in adult patient satisfaction:
 - a. medical information (positive)
 - b. medical jargon (negative)
5. In the adult patient satisfaction literature, certain physician nonverbal behaviors are beginning to emerge as most impactful: physical distance between patient and doctor, trunk position and orientation, arm and leg positions, gaze, and listening.
6. An adult patient's perceived quality time with the physician is more important in determining satisfaction than actual time with the physician.
7. In a pediatric setting, physician verbal behaviors linked to parent satisfaction are:
 - a. medical information (positive)
 - b. medical jargon (negative)
 - c. social commentary and humor (positive)
8. No research could be located on physician nonverbal behavior in a pediatric visit, but listening is speculated to have a positive effect.
9. The impact of physician-child interaction has only recently been a focus of interest and its impact on parent satisfaction is unclear.
10. Related to length of the medical visit, parents wanted more time to question the doctor, although little correlation between length of visit and satisfaction was noted. Most parents (76%) did not express their main concerns to the physician during their medical visit.

Little doubt exists that effective physician communication increases adult patient satisfaction. Defining effective communication is an ongoing process and this study attempts to make a contribution by using qualitative and quantitative methods to judge the effectiveness of specific verbal and nonverbal physician behavior.

The findings related to adult patient satisfaction will be examined as they relate to parent satisfaction. The impact of physician-child interaction and length of the visit on parent satisfaction will also be examined. Finally, the relative impact of both physician verbal and

nonverbal behavior will be studied, something that has not been done either in adult patient or parent satisfaction investigations.

Implications of this research pertain to utilization of health care services, compliance with treatment regimens, and ultimately children's health risks and costs. Other implications relate to teaching future physicians interpersonal skills.

Chapter III

DESIGN OF THE STUDY

This chapter presents the plan of operation for this study, beginning with descriptions of the setting and the samples--physicians, parents, and children. Subsequent sections include procedures for collecting data, selection and description of the instruments, explanations of the research hypotheses and question, the design, and finally, the procedures for analyzing data.

Description of the Setting

The setting was a local hospital's acute care pediatric clinic called the After-Hours Clinic, which is open only after regular office hours. The clinic is staffed on a rotating basis by 18 Board Certified pediatricians, with each physician acting in the capacity of attending physician approximately twice a month. These staff physicians also work in private or group pediatric practices. Medical students and residents are part of the staff, but neither were included in the physician sample. During winter when data for this project was being collected, approximately 30 pediatric patients were seen per day.

Description and Selection of the Samples

Physicians

Of the attending physicians, seven (41%) agreed to participate--six males and one female. Their ages ranged from late twenties to early

sixties with an average of fifteen years experience in private practice. Five were Caucasian; two were Asian. According to their medical supervisor, the physicians who volunteered for this project were representative of the interpersonal skill level of the entire staff.

Parents

The 35 parents participating in this study were a volunteer sample of those who brought their children to the After-Hours clinic between the months of January and April. Although no attempt was made to control for demographic data, it was collected so an accurate description of the sample could be written. Eighty-eight percent were mothers. Eighty-three percent of the parents were married; three percent were divorced; fourteen percent were single. The mean age of the sample was 32. Parents' education ranged from a high school diploma to a Ph.D. with the average education level being two years of college.

Children

The children ranged in age from six months to 16 years with a slight majority (51%) being younger than four. Fifty-four percent were male. Due to the purpose of the After-Hours clinic, all pediatric visits were for acute medical problems. Acute illnesses, those with symptoms severe enough to limit activity or require a doctor's attention, account for nearly half of the patient volume of pediatricians in any setting. Children under 5 have about 3.5 acute illnesses per year with 8.8 days of restricted activity (Haggerty & Green, 1984). As in most pediatric

settings, ear infections were the most common presenting problem (60%) in this research.

Procedures for Collecting Data

Pediatricians employed at the After-Hours Clinic were sent a cover letter and a consent form (see Appendix A), which explained the procedures and nature of the project. Parents were first approached by a nurse, who briefly explained the procedures and asked if the parents would consider participating. If they agreed, the nurse put them in one examination room designed for videotaping behind a one-way mirror. (This meant that the physicians were always aware of the possibility they were being taped.) After the nurse took a brief history, I entered and explained the procedures in detail. If the parent(s) was still interested (and the child four or older gave his or her verbal agreement) a written explanation of the project and consent form were given to the parent to read and sign (see Appendix B). The parent was also asked to fill out a brief demographic data sheet (adapted from Scott, 1985) prior to seeing the physician (see Appendix C).

To insure confidentiality, all subjects were assigned a code number which was then the only identification used on the research instruments. The letter of consent, the only document containing the name of the parent, was then separated from other documents to prevent identification of subjects.

The visit with the physician was then videotaped from behind a one-way mirror. The permanently-placed microphone hung from the ceiling

so that the only equipment added during the taping was an extra light in one corner.

At the conclusion of the physician visit, the parents were escorted to another room where a VCR, black and white TV, and audiotape recorder were set up. They were asked to recall two moments during their visit--the most and least satisfying. These two moments were then viewed on the TV and the parents were asked for comments with a focus on the physicians' behavior. This idea for viewing and having the parents comment was adapted from Erickson's work (1982) on social interactions. The insiders' viewpoint was essential for a more complete understanding of what helped parents form impressions of the doctor. Having them view and comment on the videotapes was felt to be the most accurate way of helping them recall what they were seeing and feeling at a particular moment. Viewing the tapes was also thought to be helpful in remembering nonverbal behaviors. Parents' comments were audiotaped for later transcription. Parents then completed a satisfaction rating scale, the Parent Medical Interview Satisfaction Scale (P-MISS).

Instruments

Three instruments were used in this project--two checklists, one each for coding verbal and nonverbal behaviors and a parent satisfaction rating scale, (P-MISS).

Checklists for Physician Behaviors

Verbal Checklist. Although a few categories on the verbal coding checklist were taken from available checklists (Bales, 1950; Roter, 1977), the one used for this research is much more extensive (see Appendix D). It includes six major categories--1) Phatic, 2) Requests for Information, 3) Statements Conveying Information, 4) Evaluating Statements, 5) Requests for Action, and 6) Requests for Questions. With the exception of the Phatic category, each of the other major categories has five subcategories--current symptoms/problems, sociopersonal considerations, generalized health care, treatment, and follow-up. The three subcategories under Phatic are general, humor, and empathic. Phatic language contributes to the establishment and maintenance of communicative contact, e.g., "Great day, isn't it." (Lyons, 1988, p. 53). The major categories, again with the exception of the Phatic category, were established on the principle of function as opposed to form. Function refers to how verbal expressions are used and does not rely on a specific syntactical order or form. An example of this is when the physician says, "Give this medicine to her every four hours." This sentence has two functions--convey information about the medicine and request an action from the parent. The syntactical form of the sentence classifies it not as a request or question, but as a command-- "(You) Give this medicine to her every four hours." To correctly classify the function of a sentence, it is necessary to examine it in the context in which it occurs. This project was more interested in the function of the physicians' statements than their syntactical form.

Nonverbal Checklist. The nonverbal coding checklist was adapted from a checklist by Harrigan and Rosenthal (1986) for doctor-patient interactions (see Appendix E). It was one of two nonverbal checklists located and the only one specifically designed for analyzing physician behavior. The checklist adapted for use in this project includes the nonverbal categories of body orientation, trunk angle, arm position, leg position, head movement, facial expression, listening, and writing. Most of these categories had subcategories of behaviors. The adaptations of the checklist included omitting the categories of proxemics and gaze. The placement of the camera and limited lighting made it difficult to judge distance between physician and parent, i.e., proxemics, and direction of gaze.

Parent Medical Interview Satisfaction Scale (P-MISS)

Although numerous scales exist for measuring adult patient satisfaction, the Parent Medical Interview Satisfaction Scale (P-MISS) is the only known scale for measuring parent satisfaction (see Appendix F). It assesses one aspect of satisfaction: parents' impression of physician conduct during the medical visit (Lewis, Scott, Pantell, & Wolf, 1986). The 26 statements on the scale were generated from parent and physician interviews and from revised items on the Medical Interview Satisfaction Scale (MISS) (Wolf, Putnam, James, & Stiles, 1978), a measure of adult patient satisfaction. All statements are rated on a seven-point Likert scale, with a 1 signifying Very Strong Disagreement and a 7 Very Strong Agreement. Nine of the 26 statements are negatively worded to reduce the potential of an acquiescence response set (Lewis et al., 1986). The

P-MISS statements are divided into four subscales--1) Physician Communication with the Parent, 2) Physician Communication with the Child, 3) Distress Relief, and 4) Adherence Intent, that is, intent to adhere or comply with the recommended treatment regimen.

Reliability. The P-MISS is considered a highly reliable, internally consistent scale and has demonstrated a total score alpha reliability of 0.95 (with or without Adherence Intent items); for the four subscales, the alpha reliabilities have ranged from 0.81 to 0.93 (Lewis et al., 1986). Lewis states that these reliability coefficients compare favorably with the 0.90 suggested by Helmstadter (1964) for scales designed to compare individuals. The distribution of scores was moderately negatively skewed, with 60% falling in the top point interval--the mean satisfaction score was 6.0 with a range from 3.5 to 7 and a standard deviation of 0.82 (Scott, 1985). This score distribution compares favorably with other patient satisfaction measures (Korsch et al., 1968; Ware, Snyder, Wright, 1976; Wolf et al., 1978), which have found that patients are hesitant to give strongly negative evaluations of physicians (Wolf et al., 1978). Finally, demographic characteristics did not affect either the total satisfaction score or any of the subscale scores (Lewis et al., 1986).

Validity. Both concurrent and construct validity of the P-MISS have been assessed (Lewis et al. 1986). Concurrent validity is the relationship between test scores and indices of criterion status obtained at approximately the same time (Anastasi, 1982), and was gathered by videotaping the actual pediatric visits for which parents

later completed the P-MISS (Scott, 1985). These videotapes were then coded for physician behavior reflecting empathy and respect. Scales developed by Carkhuff (1969) were used to check validity. Parent satisfaction showed an acceptable correlation (0.56) between the objective ratings of the physician interpersonal skills and the pediatric visit (Scott, 1985).

Construct validity refers to the extent to which the test measures a "theoretical construct" or trait (Anastasi, 1982). Preliminary evidence of the P-MISS's construct validity comes from significant correlations of the P-MISS and all subscales with objective ratings of physicians' interpersonal skills during the medical interviews (Lewis et al., 1986; Scott, 1985).

Design

This study is basically descriptive, the purpose being to explore parent satisfaction in an acute care setting. The natural setting for this project limits possibilities for manipulating variables, yet possibilities for ecological validity are increased.

The design of this study can best be understood by picturing a chart in which the seven doctors are listed across the top and the five visits (by individual parents) to each doctor are listed down the side. This is a repeated measures design--the five visits to each doctor being the repeated measures. The visits (observations) each involving a different patient are nested within doctors.

Research Hypotheses

This study investigated several factors in an initial pediatric visit felt to be associated with parent satisfaction. As mentioned earlier, parent satisfaction is defined as the fulfillment of expectations about the delivery and outcome of pediatric care. Most of the hypotheses focus on the physicians' behavior, but the impact of physician-child interaction and length of the physician visit were also studied.

The first hypothesis deals with the parents' impression of whether the physicians' verbal or nonverbal behavior was more important in their selection of most and least satisfied moments.

Hypothesis 1: Parents will choose more physician verbal behaviors than nonverbal behaviors as influencing their selection of most satisfied and least satisfied moments.

The next hypothesis compares the impact of physician-parent interaction to physician-child interaction on the parents' choice of a most and least satisfied moment.

Hypothesis 2: Parents will choose more physician-parent interactions rather than physician-child interactions when selecting their most and least satisfied moments.

The next question examines the impact length of visit had on parent satisfaction.

Research Question 3: Will length of physician visit have an effect on parent satisfaction (P-MISS)?

The next set of hypotheses relates to specific physician verbal behaviors.

Hypothesis 4a--Certain physician verbal statements, i.e., (a) caring and concern, including sociopersonal considerations, (b) medical information, and (c) requests for questions, will have a positive effect on parent satisfaction (P-MISS).

Hypothesis 4b: Certain physician verbal statements, i.e., (a) requests for information, and (b) technical language or medical jargon, will have a negative effect on parent satisfaction (P-MISS).

The final set of hypotheses examines specific physician nonverbal behaviors.

Hypothesis 5a: Certain physician nonverbal behaviors, i.e., (a) direct facing toward parent, (b) forward leans toward parent, (c) open arm positions, (d) open leg positions, and (e) listening, will have a positive effect on parent satisfaction (P-MISS).

Hypothesis 5b: Certain physician nonverbal behavior, i.e., (a) time with trunk oriented away from the parent, (b) closed arm positions, and c) crossed leg positions, will have a negative effect on parent satisfaction (P-MISS).

Variables

Outcome Variables

This study has two outcome variables. For Hypotheses 1 and 2, the outcome variable is the parent-selected most and least satisfying moments explained in the procedures for collecting data section. For Question 3 and Hypotheses 4 and 5, the outcome variable is the parent satisfaction rating scale (P-MISS). Further discussion of the P-MISS is needed.

NP-MISS. The P-MISS yields both a total scale score and four subscales scores. I decided not to figure any of the subscales scores for two reasons--1) obtaining a more global impression of satisfaction was the purpose of this research; and 2) all subscales could not be used with all parents as will be explained in the next paragraph. In this project, the total parent satisfaction score was based on 22 items--the four adherence intent items were not included. According to Lewis et al. (1986), the Adherence Intent Subscale may be omitted and this was done because it measures compliance, an outcome factor of satisfaction rather than a contributing factor.

The P-MISS was designed for use with parents who had children four or older because it contains physician-child communication items, such as "The doctor talked to my child about what (s)he can do to become more healthy" and "The doctor listened closely to my child talk." For those parents of children under four, the 10 items in the Physician Communication to Child subscale were omitted in figuring the total score. To make an appropriate composite variable, given this situation, I used the mean score of the answered items as the representative composite variable and called this variable, NP-MISS. Cronbach's alpha, a measure of reliability referring to generalizability, was high (.94).

Finally, the P-MISS version used in this project varies slightly from the one published by Lewis and associates (1986). The wording of one item in the most recent revision has been changed slightly from "The doctor listened closely to my child" to "The doctor listened closely to my child talk." The word "talk" was added so the parent would focus on

the physician communicating with the child rather than listening to the child through the stethoscope.

Predictor Variables

There were several predictor variables, some relating to visit or within doctor differences, others relating to between doctor differences.

Visit variables. Preliminary analysis, correlations, indicated that Length of Physician Visit should be used in an attempt to explain within-doctor variance.

In order to have more reliable measures of the physicians' verbal and nonverbal behavior, scaled variables, both verbal and nonverbal, were created. After examining the correlation matrices, intercorrelated items were chosen to create scale variables. Since individual behaviors were measured in frequencies and the behaviors are believed to differ from one another in their chance of occurrence, those selected items (behaviors) were standardized first and added together. The behaviors in the new verbal variable differ slightly from the ones listed for Hypothesis 4a. Verbal behaviors in Hypothesis 4b could not be tested due to low counts. The new verbal variable is comprised of physician verbal behaviors of requests for questions, caring and concern, and medical information. Reliability of this variable was moderate (.55).

Two nonverbal variables differing slightly from behaviors listed in Hypotheses 5a and 5b were formed due to conceptual similarities and intercorrelations--nonverbal 1 ("positive" behaviors) and nonverbal 2

("negative" behaviors). Nonverbal 1 is the behaviors of forward lean, arms open, listening, head nodding, and smiling. Legs crossed was omitted because of insufficient data; three others were added, listening, head nodding, and smiling. These five behaviors were standardized and added together resulting in Nonverbal 1, which had a reliability of .46.

Nonverbal 2 consists of sitting upright, trunk oriented away from parent, arms closed, head shaking, and writing. Again, behaviors comprising Nonverbal 2 vary from those listed in the hypothesis for similar reasons. The same computation used to form Nonverbal 1 was used for Nonverbal 2. Reliability was low (.24).

Doctor variables. There was only one doctor variable, years of experience.

Procedures for Analyzing Data

The data was analyzed both qualitatively and quantitatively. For Hypotheses 1 and 2, a combination of quantitative and qualitative techniques were applied. For the three remaining hypotheses, only quantitative techniques were used.

Data from the Post-visit Parent Interview

The audiotaped data from the post-visit interview was subjected to both quantitative and qualitative analysis. The parents' comments explaining their choice of a most and least satisfied moment were transcribed from the audiotapes. This data was used to test Hypothesis 1

which compares the impact of physicians' verbal behavior to nonverbal behavior in the parents' explanation of a most and least satisfied moment. It was also used for Hypothesis 2, which compares the impact of physician-parent to physician-child interaction in the parents' choice of a most and least satisfied moment. The following steps were used for this analysis, with steps 6 and 7 adapted from Qualitative Methods in Research on Teaching (Erickson, 1985).

1. Parents' responses were categorized under two headings--most and least satisfied moments.
2. The responses were then divided into physician interactions with the parent or child.
3. Under the two interaction categories, each response was then further classified as either verbal, nonverbal, or both.
4. The number of responses in each of these categories was tabulated.
5. The responses were then examined for typical patterns. A pattern was said to exist if 20% of the responses in a category expressed similar ideas.
6. Direct quotes from the parents' responses were used to illustrate the various patterns.
7. Finally, an interpretive commentary explains each pattern of a parent response. (Chapter V will contain further interpretive information, but of a more general nature.)

Of the above steps, only the last two pertain to qualitative analysis. The quantitative analysis for Hypothesis 1 and 2 was limited to calculating percentages made more meaningful when complemented by qualitative illustrations and interpretation. I felt that the essential information to be learned from the first two hypotheses could be obtained best by examining direct quotes. Although the frequency with which

verbal and nonverbal behaviors is mentioned is important, the parents' description of the physicians' behavior could be even more informative.

Data from Coders' Checklists of Most and Least Satisfied Moments and Entire Visit.

The verbal and nonverbal behaviors analyzed were taken from the most and least satisfied moments and from samplings of the entire visit. Three one-minute samplings of physician verbal behavior were taken, one each from the history-taking (first third), physical exam (middle third), and diagnosis and treatment (last third). The three one-minute samplings of each visit were combined to obtain summary indicators. In some visits, a "pure" sampling from each of the three segments was not possible because some of the segments were too short.

The verbal behavior was transcribed and coded by two trained coders. The coders received several hours of instruction, including practice sessions. All the verbal coding was done before the nonverbal coding was introduced. The coders had a written transcript of the physician's statements and worked from the videotape so the statements were heard in context. The coders were not aware of the parents' comments or ratings made during the post-visit interview. The coders coded independently, but were told they could discuss ambiguous statements and change their coding, if they chose. The proportion of agreement between the two coders was .90.

For nonverbal behavior, one ninety-second sampling was taken during the last third of the visit, the diagnosis and treatment segment. This

segment was chosen because the longest physician-parent interaction is likely to occur here. Although two coders were used for the nonverbal coding, they were coding different behaviors as they simultaneously viewed the tape, so no proportion of agreement could be figured. The nonverbal coding was more difficult to learn than the verbal coding.

As mentioned earlier, quantitative analyses was done on all five hypotheses. For Hypotheses 1 and 2, percentages were calculated to identify various response patterns; Pearson correlation coefficients were figured for Question 3; the Hierarchical Linear Model (HLM) (Bryk, Raudenbush, Seltzer, & Congdon, 1976) was used for Hypotheses 4 and 5.

HLM is built around the idea that "parameters estimated at one level in the model become the outcome variables at the next level" (Raudenbush & Bryk, 1986, p. 3). This method enables separate specification of within- and between-doctors models and allows intercepts and within-doctor regression coefficients to be either fixed or random.

In general, there are two steps in HLM analysis. First, I used the model in which no predictor variables are included in order to get the information of variance decomposition. This tells how much variation lies either within or between doctors, given the total observed variation. After identifying the proportion of variation at each level, the next step is to specify the within-doctor and between-doctor models so the related hypotheses can be tested.

The within-doctor model as applied to this research specifies the relationships among physician characteristics, such as physician verbal and nonverbal behavior and length of visit, and the outcome variable,

the parent satisfaction scale (P-MISS). The within-doctor model is as follows:

$$Y_{ij} = B_{0i} + B_{1i}X_1 + B_{2i}X_2 + \dots + B_{pi}X_p + e_{ij}$$

for $i = 1, \dots, I$ doctors, $j = 1, \dots, J$ visits and $p = 0, 1, \dots, P$, where Y_{ij} is the NP-MISS score of doctor i in visit j , B_{pi} is the effect of the predictor variable, X_p , on the NP-MISS across the five visits, and e_{ij} is the random error term that is normally distributed with mean 0 and variance σ^2 . This is a standard linear model except the within-doctor regression coefficients are allowed to vary across doctors. If we set the variables to have fixed effects on NP-MISS, then HLM becomes the traditional regression model.

For the between-doctor model, I used each slope of the within-doctor model as an outcome variable whose variation can be explained by doctor level variables, such as years of experience. Thus, the between-doctor model allows a direct representation of the effects of doctor variables on parent satisfaction and a simultaneous investigation of effects on parent satisfaction (NP-MISS) and within-doctor regression coefficients. The between-doctor model is:

$$B_{0i} = \theta_{00} + \theta_{01}Z_1 + \theta_{02}Z_2 + \dots + \theta_{0q}Z_q + a_{0i}$$

for $i = 1, \dots, I$ doctors, B_{0i} is the slope of the within-doctor model; θ_{0q} are the coefficients of between-doctor variables, Z_q ; and a_{0i} is the

error term that is assumed normally distributed with a mean 0 and a variance T_0 . In other words, the slope of the within-doctor model is the function of doctor level variables, such as years of experience, plus the error (a_{0i}). Here the variance, T_0 , can be seen as a parameter variance, because the parameter value of B_{0i} varies around some fixed unknown, θ_{00} .

If there are no predictor variables in both within and between doctor models, we just have the models containing only base slopes. Since we use two-level models we need to decompose the variation of outcome variable. In other words we need information on how much variation of NP-MISS lies within doctors and how much lies between doctors. We can get the information from the base only models where no predictors are used. To figure the proportion of between-doctor variance, this formula was used:

$$P = \frac{T}{T + \sigma^2}$$

where the values of T and σ^2 come from the models using only base slopes for both within and between doctor models. The percent of between-doctor variation equals the variation between-groups divided by the total observed variance, that is, the sum of between doctor variance, T , and within doctor variance, σ^2 .

The advantage of the HLM model allows the use of both within-doctor information and between-doctor information. That is, we can specify

within-doctor model with information of each visit and specify between-doctor model with information of doctors, such as years of experience.

The next chapter presents results based on the analysis explained in this chapter.

Chapter IV

RESULTS

Overview

The primary purpose of this research was to analyze the interaction between physicians and parents in an initial pediatric visit in order to better understand parent satisfaction. This chapter presents the results of those analyses.

The results reported here are organized around the presentation of each of the hypotheses, and the research question with the results from the quantitative analysis presented first. For Hypotheses 1 and 2, the quantitative analysis includes only percentages with data coming from the parent interview. For Research Question 3, data comes from the timing of each of the visits; Pearson correlation coefficients are calculated. Data for Hypotheses 4 and 5 comes from coded information taken from the videotapes of physicians' verbal and nonverbal behavior and HLM analysis is used.

The second part of this chapter is the qualitative analysis of the parents' post-visit interview. It includes descriptions, quotes, and interpretations of patterns in the parents' explanations of their most and least satisfied moments.

Hypotheses Relating to the Parent Interview

The data analyzed for Hypothesis 1 and 2 comes from parents' responses to two specific questions in the post-visit interview

concerning their choice of most and least satisfied moments. The parents were asked the following two questions:

Most Satisfied Moment--What was the high point of the visit, that is, when were you feeling most satisfied and comfortable in your interaction with Dr. _____ and why?

Least Satisfied Moment--Again, remembering everything that happened in your visit with Dr. _____, and in comparison to the high point, there must be a low point. When did the low point or least satisfied moment occur and why?

Although 35 parents participated in this project, only 30 post-visit parent interviews were obtained. Five interviews were not completed. In these 30 interviews, one parent was unable to choose a most satisfying moment, and three parents made comments related solely to the physical exam, which could not be construed as either verbal or nonverbal behavior of the physician. So a total of 26 interviews were analyzed for reasons why a certain moment was chosen as most satisfying.

The data on least satisfied moments for Hypothesis 1 is based on eleven interviews. Of the 30 interviews completed, eight parents could or would not select a least satisfied moment, and nine interviews contained parent responses that did not relate specifically to the physician visit just completed. Of the remaining 13 interviews, two contained comments relating again to the child's physical exam and could not be categorized as either verbal or nonverbal.

Hypothesis 1: Parents will choose more physician verbal behaviors than nonverbal behaviors as influencing their selection of both most and least satisfied moments.

Of the 26 interviews analyzed for most satisfied moments, sixteen (62%) stated that their choice was due to reasons attributed to verbal behavior; five (19%) said it was due to reasons relating to physicians' nonverbal behavior; and five (19%) mentioned reasons that included both verbal and nonverbal behavior. There was a statistical significance between the two proportions ($z = 4.43$; $p < .05$).

Of the 11 interviews containing comments specific to a least satisfied moment, seven (64%) contained reasons relating only to verbal behaviors; four (36%) mentioned nonverbal behaviors. Again there was a statistical significance between the two proportion ($z = 2.15$; $p < .05$). Thus, Hypothesis 1 is supported.

Hypothesis 2: Parents will choose more physician-parent interactions rather than physician-child interactions when selecting both their most and least satisfied moments.

Of the 29 parents who had a most satisfied moment, twenty-two (76%) selected an interaction between physician and parent; five (17%) selected an interaction between physician and child; and two (7%) included both types of interactions. A significant difference existed between the two proportions, physician-parent and physician-child ($z = 6.48$; $p < .05$). Of the 22 parents who had a least satisfying moment, ten (45%) cited physician-parent interactions, two (9%) selected physician-child interactions, and one (5%) mentioned both interactions with herself and her child. A significant difference was also noted here ($z = 2.71$; $p < .05$). Nine parents (41%) did not select a least satisfying moment related to the current physician visit. Thus, Hypothesis 2 is supported.

Length of Physician Visit

Research Question 3: Will length of physician visit have an effect on parent satisfaction (NP-MISS)?

The relationship between the Length of Visit and the NP-MISS Scores was determined by computing the Pearson product-moment correlation. The correlation was negative ($r = -.36$; $p = .017$). In other words, longer visits with the physician resulted in lower parent satisfaction scores, or conversely, shorter visits resulted in higher parent satisfaction scores. In this study, the average visit length was 8:45 with the range being from 4:57 to 14:23.

Hypotheses Relating to the Parent Satisfaction Scale

Within- and Between-Doctor Variation

As explained in Chapter III, the repeated measures design used in this project allows the variation in the NP-MISS scores to be partitioned into within- and between-doctor variation. The within-doctor variation refers to the differences in satisfaction scores across the five visits to each doctor. The between-doctor variation refers to the differences in mean satisfaction scores across the seven doctors.

The first, within-doctor variation, was calculated using the following equation:

$$Y_{ij} = B_{0i} + e_{ij} \quad (1)$$

where Y_{ij} is the NP-MISS score of doctor i in visit j , B_{0i} is the effect of the predictor variable on the NP-MISS across the five visits, and e_{ij} is the random error term that is normally distributed with mean 0 and a variance σ^2 . The estimated within-doctor variance, σ^2 , was 0.473. The equation simply shows that satisfaction scores vary around the doctor's mean with variance, σ^2 .

At the next higher level, between-doctor variation was calculated using this equation:

$$B_{0i} = \theta_{00} + a_{0i} \quad (2)$$

where B_{0i} is the slope of the within-doctor model, θ_{00} is the grand mean of NP-MISS and a_{0i} is the random error term that is normally distributed with a mean 0 and a variance T_0 . The estimated between-doctor variance, T_0 , was 0.0725. This equation simply states that the doctor's mean satisfaction scores is normally distributed across a population of doctors with a grand mean θ_{00} and with a variance of T_0 .

To figure the proportion of between doctor variance given the total observed variance, this formula was used:

$$P = \frac{T_0}{T_0 + \sigma^2} = \frac{0.0725}{0.0725 + 0.473} = 0.133$$

P = proportion of between-doctor variance

T_0 = estimated between-doctor variance

σ^2 = estimated within-doctor variance

This means that only thirteen percent of the total variation in parent satisfaction is between the seven doctors, so doctor variables, such as years of experience, can possibly contribute only minimally to the explanation of the overall NP-MISS score variation. This leaves 87% of the variation attributable to differences across the 35 visits. Similarly, the range in the average NP-MISS score for the seven doctors was quite small (5.34 to 6.49); whereas the overall range was from 4.58 to 7.00. A chi-square test was also done to test for significant differences between the seven doctors in how satisfying they are to parents. There were no significant differences between doctors ($\chi^2 = 10.603$; $df = 6$; $p = .10$), but this may be an artifact of the small sample size (seven doctors) or the limited number of visits to each doctor (five). Nevertheless, between doctors differences in patient satisfaction are small in this research.

The focus of the remaining analysis will be to explain the within-doctor variation, the differences among the five visits to one doctor, using visit variables. These variables included parent-child demographic data, such as parent age, family size, income, education, child's sex and age, and other factors, such as visit length and type of ailment (see Appendix G). In the correlation matrix, only one significant correlation with the parent satisfaction score (NP-MISS) was found--Visit Length ($r = -.358$; $p = .017$). Visit Length will be used as a covariate in the HLM analysis to help explain within-doctor variation.

Table 4.1 shows the results of the HLM analysis when Visit Length was used as a fixed within-doctor variable. At this step no between-doctor variables were used in the between-doctor model.

Table 4.1

<u>Fixed Effects</u>	<u>gamma</u>	<u>se</u>	<u>t-statistic</u>	<u>p-value</u>
Length of Visit	-0.0014	0.00065	-2.108	0.054

Physician Verbal and Nonverbal Behaviors

Having specified the within-doctor model with one covariate and the between-doctor model without predictors, elaboration of the within-doctor model is needed in order to explain the within-doctor variation. In other words, we are ready to test the hypotheses that relate to the physicians' behavior and parent satisfaction. Only Visit Length was employed as a covariate in this model with the other variables relevant to the research hypotheses. Again, these variables were fixed and no predictors were used in the between-doctor model. Table 4.2 shows the full results of that HLM analysis:

Table 4.2

<u>Fixed Effects</u>	<u>gamma</u>	<u>se</u>	<u>t-statistic</u>	<u>p-value</u>
Visit Length	-0.0016	0.000657	19.844	0.001**
Verbal	0.0568	0.0562	1.011	0.183
Nonverbal 1	0.0702	0.0423	1.658	0.085
Nonverbal 2	0.0054	0.0349	0.154	0.348

It was predicted that much of the variation in parent satisfaction would be explained by increases and decreases in specific verbal behaviors of the physicians. The hypotheses were:

Hypothesis 4a--Certain physician verbal statements, i.e., (a) caring and concern, including sociopersonal considerations, (b) medical information, and (c) requests for questions, will have a positive effect on parent satisfaction (NP-MISS).

Hypothesis 4b--Certain physicians verbal statements, i.e., (a) requests for information, and (b) technical language or medical jargon will have a negative effect on parent satisfaction (NP-MISS).

In other words, the verbal behavior of physicians rated higher on the NP-MISS should differ significantly from those rated lower. The verbal factor referred to in Table 4.2 included statements requesting information, expressing caring and concern, and imparting medical information. HLM analysis using this factor as a predictor did not yield significant results ($t = 1.011$; $p = 0.183$), meaning it does not help explain the within-doctor variation. Therefore, Hypothesis 4a is not supported.

There was insufficient data on the verbal behaviors predicted to have a negative correlation with satisfaction ratings so Hypothesis 4b could not be tested. The insufficient data was due to low counts.

Table 4.2 also provided the results of the following two hypotheses:

Hypothesis 5a--Certain physician nonverbal behaviors, i.e., (a) direct facing toward parent, (b) forward leans toward parent, (c) open arm positions, and (d) open leg positions will have a positive effect on parent satisfaction (NP-MISS).

Hypothesis 5b--Certain physician nonverbal behavior, i.e., (a) time with trunk oriented away from the parent, (b) closed arm positions, and (c) crossed leg positions will have a negative effect on parent satisfaction (NP-MISS).

Another tenet guiding this research was that physicians' nonverbal behavior would explain variation in parent satisfaction scores (NP-MISS). As in the hypotheses for verbal behaviors, it was predicted that variations in the NP-MISS could be explained, in part, by increases and decreases in specific nonverbal behaviors of the physicians. To reiterate, nonverbal 1 is comprised of the "positive" behaviors of forward lean, arms open, listening, head nodding, smiling, listening, head nodding, and smiling. Nonverbal 2 is comprised of the "negative" nonverbal behaviors of sitting upright, trunk oriented away from parent, arms closed, head shaking, and writing. These two variables are not correlated ($r = -.238$; $p = .084$). Table 4.2 shows that neither nonverbal 1 or 2 was significant. Thus, neither Hypothesis 5a nor 5b is supported.

A brief discussion is in order to explain what appears to be a contradiction when the findings of Hypotheses 4 and 5 are compared to Hypothesis 1. Keep in mind there are two data sets; one from the parent interviews, the other from the coders' judgments about the physicians' verbal and nonverbal behavior. The results for Hypothesis 1 came from the parent interview data, specifically from the question to the parents about their most and least satisfied moments. To recall, the parents mentioned more physician verbal behavior than nonverbal in explaining their high and low satisfaction points. For Hypthoses 4 and 5, the data

came from the coders' checklists for physician verbal and nonverbal behavior and the satisfaction rating scale.

So far I have described the effect of individual variables on the parent satisfaction scale. Information was also needed about the model as a whole in order to know how effective the specified model was in explaining the NP-MISS variation. Based on Table 4.2, the model developed is:

$$Y_{ij} = 6.770 - .0016 (\text{Visit Length}) + 0.0568 (\text{Verbal}) \\ + 0.0702 (\text{Nonverbal 1}) + 0.0054 (\text{Nonverbal 2}) \quad (3)$$

as the within-doctor model and all predictor variables were treated as fixed. Since there are no between doctor variables, the between-doctor model is:

$$B_{0i} = 6.770$$

Visit Length showed significant fixed effects, meaning it predicts a statistically significant portion of the variation in the NP-MISS scores. The calculation below indicates that about 10.5% of the total variation in NP-MISS scores can be attributed to visit length.

$$R^2 = \frac{V_0 - V_1}{V_0} = \frac{0.5455 - 0.4884}{0.5455} = 0.105$$

R^2 = proportion of explained variance

V_0 = total observed variance of e_{ij} & T_0

V_1 = unexplained variance

The term, V_0 , in this formula comes from the total variance of errors, e_{ij} , plus T in the base-only model (see equation (1) and (2)); the term, V_1 , comes from the total variance of errors, e_{ij} , plus T in the model using the variable, Visit Length.

To calculate the effectiveness of the final model (see equation 3) in explaining the within-doctor variation of the NP-MISS, the following was performed:

$$R^2 = \frac{V_0 - V_2}{V_0} = \frac{0.5455 - 0.475}{0.5455} = 0.13$$

R^2 = proportion of explained variance by final model

V_0 = total observed variance of NP-MISS

V_2 = unexplained variance by model

This indicates that about 13% of total observed variance of the NP-MISS is explained by the model.

As stated previously, the within-doctor predictors were treated as having fixed effects. Therefore, the conceptualization of explained within and between-doctor variation does not have substantial meaning in this analysis, but it is of methodological interest. The proportion of explained between-doctor variance due to visit length, verbal, nonverbal 1, and 2, is:

$$R^2 = \frac{T_0 - T_1}{T_0} = \frac{0.0725 - 0.00226}{0.0725} = 0.969$$

R^2 = proportion of explained between-doctor variance by this model

T_0 = variance between doctors

T_1 = unexplained between-doctor variance

Thus, 97 percent of the between-doctor variation (i.e., 13% of the total observed variation) is explained by the final model.

Summary of Quantitative Analysis

Parents cited reasons attributable to physician verbal behaviors more often than reasons pertaining to nonverbal behaviors for choosing both most and least satisfied moments. In addition, physician interaction with the parent rather than the child was more influential in the choice of both moments. Length of visit was negatively correlated with parent satisfaction. To analyze the remaining hypotheses about physician verbal and nonverbal behaviors, it was necessary first to convert the original parent satisfaction scale (P-MISS) to a new scale

(NP-MISS), which took into account unanswered items. Cronbach's alpha on the NP-MISS was high (.94). Hierarchical Linear Model (HLM) analysis was then used to help explain between- and within-doctor variation in the NP-MISS scores. Initially, I divided the NP-MISS variance into a ratio of between and within-doctor variance, given total observed variance. Only 13 percent of the total variation in NP-MISS scores was between doctors; the remaining 87 percent was within doctors. This suggests that visit variables are more influential than doctor variables in determining parent satisfaction.

As a next step, I elaborated on the within-doctor model to explain the within-doctor variation of NP-MISS. Of the possible covariates, only Visit Length correlated significantly with parent satisfaction. The results indicated that parents who had shorter physician visits were more satisfied. This variable explained approximately 10.5% of the total observed variance according to HLM analysis.

It was hypothesized that specific physician verbal and nonverbal behaviors would explain some of the NP-MISS variation. From the originally specified behaviors, three new variables were created, one verbal and two nonverbal. Using HLM analysis, none of the three new variables yielded significant results, that is, affected parent satisfaction. After including these variables, using visit length as a covariate, the model explained 13% of the total variation in NP-MISS.

The remainder of this chapter is devoted to a qualitative analysis of the parent interview data, which provides an elaboration of the quantitative analysis of Hypotheses 1 and 2.

Patterns, Quotes, and Interpretive Commentary from the Parent Interviews

An analysis of parents' comments related to physician verbal and nonverbal behavior, showed that parents seldom mentioned the specific terms of verbal, nonverbal behavior, or body language. Instead, the parent mentioned a behavior that could be construed as verbal or nonverbal behavior. For example, when a parent explained that the choice of a most satisfied moment was because "he (doctor) said . . . ," this was categorized as verbal behavior. When a parent mentioned any behavior other than spoken words, this was interpreted to mean nonverbal behavior, for example, "I like the way the doctor smiled at my child. . . ."

When a parent gave more than one reason for choosing a most or least satisfied moment, all reasons were categorized. If both verbal and nonverbal behaviors were mentioned, each reason was counted. The parent was not asked to make a forced-choice decision either between verbal and nonverbal behavior for Hypothesis 1 or between physician-parent and physician-child interaction for Hypothesis 2.

Parents' Responses To Physician Verbal Behavior

By far the most typical parent response to the question of what made a particular moment most satisfying were reasons referring to physician verbal behavior. Comments illustrating the impact of physician verbal behavior were stated in a variety of ways: (1) exact words of the doctors, (2) paraphrased words of the doctors, or (3) general comments about the verbal interaction. Examples are listed below:

1. Exact Words--"When he said, 'Yes, they're both still red.'"; "When he said, 'Yes there is drainage coming out. . . '";
2. Paraphrased Words--"When he told me that it wasn't a virus."; "When he told me he was going to find out the cause of the continuing strep infections."
3. General Comments--"The doctor's instructions were so specific. . ."; "My questions were answered. . ."; "She explained it (diagnosis) so well."

Diagnosis. In examining physician verbal behavior for the predominant reason in choosing a most satisfied moment, it was found that almost four out of five parents cited statements pertaining to the diagnosis. Parents seemed relieved to hear a diagnosis of the problem, which did not need to be stated in medical terms for the parent to be satisfied, for example, otitis media (middle ear infection). Indeed, the fact that the doctor does not use medical jargon may have something to do with parents associating understandable language with a satisfied moment.

Diagnostic Confirmation. In the quotes below, the doctor does not actually label the illness, but confirms that there is a problem by describing a symptoms seen: red ears, infected ears--symptoms which an informed parent knows can be associated with otitis media. In fact, in the doctor's explanation of the diagnosis, it was rare to hear terms more technical than viral and strep. Examples of these responses are:

4. 'When he (doctor) looked and said, "Yeah, they're both still red." It was satisfying because what was wrong with her was no longer a mystery. He seemed very sure when he said, "The right ear is red and this one is, too."
5. "When he told me her ears were infected, not that I want them to be infected, but that I hadn't overreacted and brought her in for no reason because she really doesn't act very sick, but I think it just made me feel satisfied to know."

Some parents need just the diagnosis, "my child is sick," confirmed as illustrated below:

6. "When he (doctor) looked in his ears and did find something. . . It's just that he actually did find some wrong."

Some parents needed a more specific diagnosis, as they perceived it, to feel satisfied. See below:

7. "I guess what I was trying to do was to see if the doctor came up with the same idea that I did although I'm not a medical doctor. And when he said that he had a dull ear, I figured we, he's got it figured out."

Once again this is a case in which the parent's satisfaction did not depend on the physician using specific diagnostic terminology. In the above quotes, what was most important was the doctor's confirmation of the parents' suspicions that all was not right with their child. Parents frequently do not have a specific diagnosis in mind, but they are able to list the symptoms the child has. Whether the ear infection was the major problem or a symptom of another problem, e.g., respiratory infection, it seemed to make little difference as long as the doctor confirmed the impression that the child's condition required medical attention. Parents then knew the actions they took were warranted.

As for the most satisfied moments, more physician verbal than nonverbal behaviors were cited when choosing a least satisfied moment. Examples of these reasons are as follows:

8. "He kept repeating questions. . . wanted to know exact amounts (of fluid intake, number of urinations and stools, etc.); . . . too much teaching."

9. "When he said allergies that bothered me."
10. "When he told me she had an ear infection, because she's got tubes in her ears and we just started on a special medicine."

The last two quotes relate directly to the child's diagnosis and are similar to earlier quotes cited as reasons for choosing a most satisfying moment. Although parents often feel satisfied to hear a diagnosis, this is not always the case. Allergies in the second quote was cited as a probable cause for the child's history of respiratory problems, and came as a complete surprise to the mother. Her reaction was one of disbelief. In the last quote, mentioning an ear infection, the mother was despondent because her daughter had already received two medical interventions--one surgical, one medicinal--to reduce the incidence of reoccurring ear infections. This last quote illustrates the difficulty in knowing if the dissatisfaction is caused by the doctor or by the situation, in general.

Parents' Responses to Physician Nonverbal Behavior

Interestingly, of the eight parent responses mentioning nonverbal behavior as the sole or partial reason for a most satisfying moment, three (38%) described the one female physician in the sample of seven doctors. The two quotes below are examples of responses that cite both verbal and nonverbal behaviors as reasons for choosing a most satisfying moment:

11. "When she was diagnosing and treating. . . It's just that she listened to what I said and she knew what I meant about his earaches and then diagnosed. She was very warm."

12. "Her (doctor's) tone of voice. . . It was pleasing when I heard that his ears weren't as red as I thought they would be. . . I thought she was good at listening; she made me feel comfortable, she seemed like she was concerned, that she cared."

Although 'tone of voice,' was not studied in this research, it is classified as nonverbal behavior, specifically, a paralinguistic effect. 'Listening' mentioned twice in the two quotes, was a behavior studied in this research.

When choosing a least satisfying moment, most parents cited reasons relating to physician verbal behavior; however, over a third (36%) gave reasons relating directly to nonverbal behavior. This is similar to the rate cited by parents when choosing a most satisfied moment, although this figure includes responses listing verbal and nonverbal reasons. No reasons offered for the least satisfying moments included both verbal and nonverbal behavior. Examples of parent responses explaining a least satisfied moment and citing nonverbal behavior are:

13. "He (child) began as a name on a record versus Dan as a person, like you're trying to force a relationship, trying to give more and in the beginning I just felt like he (doctor) wasn't as natural as perhaps he could have been. . . a little awkward."
14. "It (low point) was the doctor took a long time to write down all of his _____ (inaudible), that was the time I was sort of the only one there."
15. "When he's writing everything else down."

In the responses mentioning the physicians' writing as the least satisfying moment, the parents did refer to the brief writing of the prescribed medicine on the prescription pad. Instead, they referred to the physicians' writing on the child's chart the symptoms noted during

the exam, the diagnosis, and recommended treatment. While most doctors in this project did this recordkeeping after the parent and child left, one doctor did this extensive writing immediately following the physical exam. On two occasions, this detailed recording took a quarter of the total visit time. In both of the above cases, the parent was given no indication of the seriousness of the child's condition, the treatment recommendations, or what or how long the doctor would be writing. In fact, the doctors did not communicate at all with the parents during this "writing," thus, the comment, ". . . I was sort of the only one there."

Occurrence of Most and Least Satisfied Moments

The majority of the parents' most satisfying moments occurred in the diagnostic and treatment portion of the visit which is not too surprising since the doctor's diagnostic statements often brought the most satisfaction. See quotes 1, 2, and 3.

More than half of the least satisfying moments occurred during the first third of the visit, the history-taking portion. Typical responses illustrating this dissatisfaction are:

16. When he first walked in he looked like he was going to be a real stiff man who wasn't that good with children. . . when he first walked in, he looked real stonefaced. . . he didn't have a smile on his face. ."
17. "The low (point) was the history-taking portion when he kind of repeated back vomiting and diarrhea on Monday and I had said no, it was just vomiting. . ."
18. "He (child) was getting so fussy and he (doctor) was asking, it seemed like he repeated some questions. It seemed like he wanted to know exacts (amounts) of everything. . ."

Keeping in mind that these are initial pediatric visits and that the physician and parent have usually had no previous contact, it is not surprising that most of the low points (45%) occurred within the first few minutes. Furthermore, in an acute care setting where this research was conducted, the parents' stress level is felt to be higher because (1) the child's illness is perceived as requiring immediate medical care, (2) the physician is usually unfamiliar to them, and (3) the timing of the visit is early or late evening when stress tolerance is usually lower due to normal fatigue. Trust in the physician has not yet developed during the visit's first few minutes, so the parent may be more apprehensive and critical than later in the visit.

Responses Indicating Reluctance to Criticize Physicians

In choosing their least satisfying moment, not quite half (41%) of the parents mentioned factors extrinsic to the physicians' interaction. Some parents denied experiencing dissatisfied feelings by focusing on their own self-perceived inadequacies in determining when their child's condition is serious enough to require medical attention. These responses were given when parents were asked to choose a least satisfied moment and seemed reluctant to do so:

19. "I hate to say that, but when I take my children out (to the doctor), they'd better be sick. I'm doing this for you (child). I thought maybe I was jumping the gun, hoping that she would be more sick before she was. . ."
20. "I guess I felt anyone looking at this child is not going to think that she's really sick. You hope you didn't spend all this time waiting in the waiting room and then have your baby be okay."

21. "I was uncomfortable just having him sick, but that doesn't have anything to do with the visit."
22. "Maybe right at the beginning when he (child) was acting a little spryer than what he probably should be feeling."

All of the above quotes relate to the parents' feelings about having a sick or not-sick-enough child. The high incidence of parents choosing a least satisfying moment relating to concerns about their child's health rather than to physician behavior could have occurred for two reasons. First, adult patients (and probably parents) are known to be reticent to criticize their physicians so choosing a least satisfying moment unrelated to the physicians' interaction may have seemed the "safe" thing to do. Second, parents are quick to blame themselves for things that go wrong, as pointed out in the Korsch study (1968), when parents blamed themselves for their child's illness. Although this type of blame may be contained in the above comments, parents blaming themselves for possibly overreacting to their child's illness was obvious.

High and Low Rated Doctors

The statistical analysis of NP-MISS revealed there are no significant differences between the doctors. (The seven average NP-MISS scores ranged from 5.34 to 6.49.) However, the qualitative analysis revealed some very meaningful differences. High and low rated doctors were chosen by taking the doctors with the three highest and three lowest average NP-MISS scores. None of the parents visiting the three highest rated doctors refused to be interviewed, but one third (5/15) of the parents visiting the three lowest rated doctors refused to participate in the

post-visit interview; however, all agreed to complete the rating scale. As a result, the data for the lowest rated doctors is based on ten interviews as opposed to fifteen for the highest rated doctors.

Reasons Cited for Most Satisfying Moments. Patterns were evident in parent responses explaining a most satisfied moment when comparing the three highest rated to the three lowest rated physicians. In responding to what made a particular moment most satisfying when visiting the high-rated doctors, 33% (5/15) of the parents mentioned only the physicians' verbal behavior, specifically the diagnosis; another 33% cited only nonverbal behavior. Twenty percent (3/15) mentioned both verbal and nonverbal behavior as their reason for a most satisfying moment. For the three lowest doctors, one of the parents did not have a most satisfying moment, while 2 (13%) cited the physical exam, in general. Seventy-eight percent (7/9) gave reasons related to physician verbal behavior; 11% (1/9) cited reasons attributable to nonverbal behavior and another 11% cited both verbal and nonverbal behavior. See the quotes below:

23. "I had to ask questions and they were answered satisfactorily. . ."
24. "When he was giving me advice on what to do with her like when she wakes up in the middle of the night, like with the oil. . ."

Reasons Cited for Least Satisfying Moments. Almost half (47%) of the parents visiting the three highest rated doctors denied having a least satisfying moment, yet all but one of the parents visiting lowest rated doctors experienced a least satisfying moment.

Forty percent (6/15) of the parents for the high rated physicians cited reasons for a least satisfied moment that related to factors extrinsic to physician behavior, e.g., parents' attitudes about the child illness, medical visits in general, and medical instruments. Only 13% (2/15) of the comments explaining a least satisfying moment for the high rated doctors pertained directly to the doctor, for example, "his accent. . .", "I felt he wasn't as natural as perhaps he could have been." So for the highest rated physicians, 87% of the parents (13/15) were unable to find anything to criticize in the just completed physician visit.

This was not the case for parents visiting the three lowest rated doctors. Only one out of the ten (10%) denied having a least satisfying moment as compared to 47% denying a least satisfying moment for the highest rated doctors. Only 20% (2/10) listed reasons attributable to extrinsic causes--both of these related to the long time spent waiting to see the doctor--as compared to 40% for the parents of high rated doctors. But the most remarkable difference in parents visiting low rated doctors, is that 70%, as opposed to 13% for the high rated doctors, stated reasons for their dissatisfaction which were directly attributable to physician behavior. Examples are:

25. ". . . when he was talking about a potential sinus infection . . because he wasn't really thinking he had a sense of the infection, but he was still saying how to treat it."
26. "When he's writing everything down."
27. "When he said allergies, that bothered me."

In the first quote, the parent felt the doctor made a hasty, unconfirmed diagnosis. The second quote as explained earlier referred to

the doctor's attending to the child's chart. For the quote on allergies, it is speculated that this parent was dissatisfied because allergies can be a chronic, potentially serious ailment.

Physician-parent vs. Physician-child Interaction

Physical exam. Parent comments concerning physician-child interaction focused on the physical exam for both most and least satisfying moments. Typical comments illustrating concern about the exam are:

Most satisfied moments--

28. "When he started examining her he was real easy with her. He was nice; he didn't frighten her and he asked if she had 'potatoes' (wax) in her ears . . ."
29. ". . . when he was looking into her ears and being very gentle."
30. ". . . the physical (exam) was best because I know what to expect."

Least satisfied moments--

31. "I felt funny when she (child) wrestled with the throat culture..."
32. "When the doctor was holding him down. . ."

For parents to focus on the physical exam is not surprising since most of the physician-child interaction takes place then. For infants and toddlers it is the only time of interaction; for children old enough to communicate verbally, the physician has limited involvement with them in the history-taking and the physical exam.

Parents also realize that some physical exams may be more intrusive than others, depending on the presenting problem and the physician's

approach to the exam. In the quotes from the most satisfied moments, the parents seemed relieved that the doctor exhibited such finesse. Knowing that some exams are not accomplished without the child experiencing physical or mental discomfort, parents are relieved when the exam can be completed with a minimum of discomfort or without using physical restraints, e.g., holding the child's arms, legs, or head. Moreover, it is not uncommon for the physician to request that the parent physically restrain the child, which may put some parents in the double bind of wanting to assist the doctor, but not wanting to make their child uncomfortable.

Responses Relating to Time

Time as a determinant of satisfaction, either waiting to see the doctor or the length of the doctor's visit, is not clear from these parent interviews. Of the 29 responses explaining a most satisfying moment, only four (14%) made a reference to time:

33. "He's right to the point on his things, but he doesn't have one hand on the door."
34. "He seemed to care that she had a lot of ear infections, that he wasn't just someone else that walked in--'her ears are fine, see you later.'"

Of the 13 responses explaining a least satisfying moment, five (38%) mentioned time:

35. ". . . you hope you didn't spend all this time waiting in the waiting room and then have your baby be okay."

36. "All the teaching that he did was nice, but I already knew all of that. I just wanted his (child's) ears and throat and nose checked and let's go."

The responses citing time refer to several aspects of time. For some parents, more time with the doctor symbolizes the doctor's feelings of care and concern (quote 33 & 34). Other parents are concerned about time spent before they see the doctor (quote 35), rather than actual time with the doctor. For still other parents, more time with the doctor is considered an annoyance or aggravation (quote 36).

Responses Considered Difficult to Interpret

Occasionally, when a parent gave an explanation for a most or least satisfying moment, both negative and positive comments were included, making it difficult to determine what had influenced their choice of a moment. I used probes to clarify the parents' responses but it was still difficult to judge what physician behavior was most influential in their visit and to tell when the parent was referring to the physician they had just seen or doctors in general. Here are two illustrations of ambiguous quotes:

37. "When he was talking to me, he explained things. He didn't act like he was talking down to me. I felt he treated me like an intelligent human being. . . some of them take more time to talk to my children and to really make them feel more comfortable."
38. "Everything was done much too quickly. . . because the exam was over, that confirmed it right there--that it was an ear infection... He talked. . . it was gentle."

In the first quote, the parent begins with obvious compliments about the verbal ("... he explained things") and nonverbal ("He didn't act

like he was talking down to me") behavior of the doctor. Yet the last statement appeared to be a criticism ("some of them take more time to talk to my children. . .") as if she had wanted him to interact more with her child because this had happened in previous visits.

The second quote is equally confusing. Although the parent seems relieved to have confirmation of a suspected illness (verbal) and mentions the doctor's manner of speaking (nonverbal), she also makes a comment indicating she felt 'hurried' through the visit.

Both of the above quotes were given in response to the question of why a particular moment was most satisfying and, therefore, classified as such. Yet the parents also focused on negative aspects either of this visit or previous visits giving an impression of the doctor which does not sound convincingly satisfying.

Summary of Qualitative Results

Physician verbal communication that parents found most satisfying usually mentioned physician statements about their child's diagnosis. These statements usually occurred in the final third of the visit, the diagnostic and treatment portion. Parents were more concerned whether the doctor would confirm their impression that their child was sick, rather than hearing a technical diagnosis. Concerning parents' choice of a least satisfying moment, about one-fourth denied having such a moment and about 40 percent mentioned factors extrinsic to the physicians' visit just completed. Of those parents choosing a least satisfying moment, it usually occurred during the history-taking portion of the

visit (first third). Again, for their choice of a least satisfying moment, most parents cited reasons that could be attributed to physician verbal behavior, although about a third mentioned nonverbal behavior.

In comparing high and low rated physicians, one third of the parents rating their physician low refused to participate in the post-visit interview. In explaining a most satisfying moment for high rated doctors, parents felt verbal and nonverbal behavior were equally important. For low rated physicians, verbal behavior was mentioned far more frequently than nonverbal. In comparing high and low rated doctors in least satisfied moments, almost half of the parents rating doctors high experienced no such moment; in contrast, all but one of the parents visiting the low rated doctors had a least satisfying moment.

Relating to physician-child interaction, the physical exam was the focal point of parents' comments. Finally, some parent responses were difficult to interpret because both positive and negative comments were given as to why a particular moment was either most or least satisfying.

Final Summary of Hypotheses Testing

Below is a listing of the results of the hypotheses testing:

Hypothesis 1: Parents will choose more physician verbal behaviors than nonverbal behaviors as influencing their selection of both most and least satisfied moments.

Hypothesis 1 was supported.

Hypothesis 2: Parents will choose more physician-parent interactions rather than physician-child interactions when selecting both their most and least satisfied moments.

Hypothesis 2 was supported.

Research Question 3: Will length of physician visit have an effect on parent satisfaction (NP-MISS)?

A significant negative correlation was found.

Hypothesis 4a: Certain physician verbal statements, i.e., (a) caring and concern, including sociopersonal considerations, (b) medical information, and (c) requests for questions, will have a positive effect on parent satisfaction (P-MISS).

Hypothesis 4b: Certain physician verbal statements, i.e., (a) requests for information, and (b) technical language or medical jargon will have a negative effect on parent satisfaction (NP-MISS).

Hypothesis 4a was not supported; Hypothesis 4b could not be tested due to insufficient data.

Hypothesis 5a: Certain physician nonverbal behaviors, i.e., (a) direct facing toward parent, (b) forward leans toward parent, (c) open arm positions, (d) open leg positions, and (e) listening will have a positive effect on parent satisfaction (NP-MISS).

Hypothesis 5b: Certain physician nonverbal behavior, i.e., (a) time with trunk oriented away from the parent, (b) closed arm positions, and c) crossed leg positions will have a negative effect on parent satisfaction (NP-MISS).

Neither Hypotheses 5a nor 5b was supported.

The quantitative and qualitative meanings of these results are discussed in Chapter V.

Chapter V

DISCUSSION AND CONCLUSIONS

This study was undertaken in an effort to understand the relationship between specific physician behaviors and parent satisfaction in an initial pediatric visit. Knowledge of parent satisfaction has psychological and financial benefits for both physicians and parents, and health benefits for the child.

Summary of Results

Four hypotheses and a research question relating parent satisfaction to physician behavior were formulated and tested. The first hypothesis was supported - the parents' choice of both most and least satisfied moments was influenced more by physician verbal than nonverbal behavior. Specifically, parents seemed most satisfied when given a diagnosis for their child's ailment or at least confirmation that their child was sick. Predictably then, the majority of satisfied moments occurred in the final third, diagnosis and treatment segment. Parents' explanations for most and least satisfied moments of the high- and low-rated doctors were compared. All parents rating physicians high agreed to participate in the post-visit interview, but one third of the parents rating physicians low "refused" to participate. Parents rating doctors high mentioned nonverbal behavior as frequently as verbal in describing their most satisfying moments; parents visiting the low-rated doctors cited verbal behavior seven times more than nonverbal behavior. Almost half of the parents visiting physicians rated high denied having a least satisfying

moment and another 40% attributed their dissatisfied feelings to extrinsic factors, leaving only 13% who directly criticized the physicians' interaction. In contrast, parents rating their physician low attributed 70% of their reasons for a least satisfying moment to physician interaction. The majority of least satisfying moments (46%) occurred during the first third of the visit.

The second hypothesis, which predicted that the impact of physician-parent interaction would be greater than physician-child interaction in choosing both most and least satisfied moments, was also supported. For most satisfied moments, the ratio was over four to one in favor of the physician-parent interaction; for least satisfied moments, it was three to one. Not surprisingly, the child's physical examination was the focal point of parents during the physician-child interaction.

The analysis of the research question and the two remaining hypotheses required converting the original satisfaction scale, P-MISS, to a new scale, NP-MISS, to take into account items that were inappropriate due to a child's young age. Reliability of the NP-MISS was .94. The research question dealt with the relationship between the length of the physician visit and parent satisfaction. A significant negative correlation was found, indicating that shorter physician visits increased parent satisfaction or conversely, longer visits decreased parent satisfaction.

Hierarchical Linear Model analysis was used for the two remaining hypotheses so that the variation in parent satisfaction scores (NP-MISS) could be partitioned into within- and between-doctor variation. Of the

total observed variation, 87% was attributable to within-doctor variation or visit variables; only 13% was attributable to between-doctor variation. Of the possible covariates, only Visit Length correlated significantly with parent satisfaction and it explained approximately 10.5% of the total observed variance.

It was hypothesized that certain physician verbal and nonverbal behaviors would explain some of the variation in NP-MISS. From the originally specified behaviors, three new variables were created, one verbal and two nonverbal. None of these variables yielded significant results. After including these variables, using visit length as a covariate, the model explained 13% of the total variation in NP-MISS.

Possible Reasons for Negative Quantitative Results

Setting. One purpose of this study, identifying specific verbal and nonverbal physician behaviors that influence parent satisfaction, was only partially accomplished. The insignificant findings for several of the hypotheses may reflect the situation in this study, but the literature indicates otherwise; that is, both verbal and nonverbal physician behaviors affect patient satisfaction. One explanation for the insignificant results may lie in the nature of the setting with its emphasis on treatment delivery in a relatively short time. Although shorter visits actually increased parent satisfaction scores, on the other hand they may have limited the range and number of observable physician behaviors.

Sample Size. Other possible reasons for the negative quantitative findings may relate to the sample sizes. Small sample size is frequently a problem in naturalistic research, but considering the indepth nature of qualitative inquiry, it was necessary to keep the numbers manageable. A larger physician sample was hoped for but was not available since the sample depended on volunteers. That volunteer physicians were used actually enhances the study because it is assumed that only those physicians feeling comfortable with their communication skills would have volunteered. Since problems were uncovered in this self-selected sample, the findings of this study are even more meaningful.

Low Reliability. Due to the small sample size, many of the verbal and nonverbal behaviors originally specified in the hypotheses had frequencies too low to be reliable. Variables were created by combining specific verbal and nonverbal behaviors, yet most of the reliabilities obtained for the new variables were still quite low.

Technology. Technological limitations, such as the limited camera position and the permanently placed microphone, lessened the quality and quantity of the audio and visual signals. It was necessary to work within these technological bounds to preserve the naturalistic setting, the tradeoff being that a few feet of the room were out of the camera's range and that some verbal interactions were inaudible.

Parents' reluctance to criticize. Parents' reluctance to criticize may also account for some of the insignificant results and was corroborated by both numerical and personal observations, even though no one stated their reluctance directly. Numerical observations include

the fact that only one parent out of thirty was unable to select a most satisfying moment, but over half the parents (17/30) were unable to select a least satisfying moment. Furthermore, none of the parents rating their physicians high refused to be interviewed but one third of the parents rating their physicians low "did not have the time" to be interviewed.

The above numerical observations are telling, but other personal observations are just as revealing. One family saw a physician who coincidentally happened to be their former pediatrician. Their dissatisfaction with the physician soon surfaced during the post-visit interview--their main complaint being that the doctor always used physical restraint when examining their son, which occurred again during the just completed visit. Moreover, although the parents candidly expressed their dissatisfaction in their oral comments, when it came time to commit their opinions to paper, they gave him the highest possible rating.

That parents are reluctant to criticize their physicians could be interpreted as telling evidence that the asymmetry in the physician-patient relationship that Parsons advocated still exists.

The following sections discuss the significance and meaning of the results of the research questions. Implications for understanding and increasing parent satisfaction and future research questions are also discussed.

Discussion of the Hypotheses

Physician Behavior and Parent Satisfaction

Impact of verbal behavior. Although the quantitative analysis yielded no significant results concerning specific verbal statements that affected parent satisfaction, the qualitative analysis did. The parents' choice of most and least satisfying moments was more influenced by physician verbal than nonverbal behavior. This finding of verbal primacy is consistent with the research done in unstaged interaction, such as psychotherapy.

In acute care settings, and perhaps other settings, the parents' overriding need is to be informed about the cause of their child's symptoms. This, of course, is done verbally. Furthermore, it is logical to assume that parents are not as interested in establishing a long term relationship with the physician in an acute care setting because in most cases the child already has a regular physician. The manner in which the doctor relates to the parents appears to be secondary to learning the child's diagnosis and relieving the symptoms.

Impact of receiving the diagnosis. In exploring why the diagnosis was so important to parents, several reasons are offered. One is the parents' need to feel competent in recognizing their child's need for requiring medical attention. They need to have their suspicion that something is wrong confirmed. Feeling competent and medically informed lessens parent guilt. In the Korsch study (1968), parents often felt they were to blame (or were blamed) for their child's illness; in this

study, self-blame was rarely expressed openly. This change could be attributed to 1) parents being better informed about the source and course of childhood illnesses, and 2) most physicians now receive interpersonal skills training.

Occurrence of most and least satisfied moments. The majority (62%) of the most satisfied moments occurred in the final third of the visit, the diagnostic and treatment segment, a finding consistent with that in the adult patient literature (Stiles et al., 1979). Most of the least satisfied moments occurred at the beginning of the visit, the history-taking portion. When the history-taking portion was unsatisfying, learning the child's diagnosis in the visit's final phase of the visit did not compensate for the dissatisfaction that had already occurred in the initial phase of the visit. It appears that physicians who made "mistakes" in the history-taking portion could not alleviate the parent's dissatisfaction by giving the diagnosis or by anything else. Were any of the low-rated physicians' initial interactions filled with such egregious errors that they overshadowed any subsequent positive interaction? This did not appear to be the case. Perhaps "mistakes" by the high-rated physicians in the first segment of the visit were alleviated by their nonverbal behavior. To recall, physicians rated high had their nonverbal behavior mentioned as often as their verbal behavior.

Further examination of the various phases of the medical interview has been suggested (Carter et al., 1982) and it should explore the needs of both the parents and doctors.

Physician-Parent vs. Physician-Child Interaction and Parent Satisfaction

Another major finding of this study concerns the impact of physician-parent as opposed to physician-child interaction on parent satisfaction. As predicted, most parents chose physician-parent interaction as more influential in explaining both their most and least satisfying moments. Physician-child interaction was used to explain only 5 percent of the most satisfying moments and 9 percent of the least satisfying moments. The finding that physician communication with the parent rather than the child was more influential in explaining satisfaction is consistent with the findings of a previous study (Scott, 1985).

Although the content of the physicians' dialogue with children was not a focal point in this study, some informal observations consistent with those in the literature were noted. Social conversation, directives for the physical exam, questions about the current medical problem, and reassurances comprised the majority of the physician's communication with children. Most statements to the parent dealt with the explanation and resolution of the illness. This pattern of statements is typical of physician conversation even when there has been previous contact with the child or in well-child visits (Pantell et al., 1982). Of concern is that valuable opportunities for the doctor to instruct children about the nature of their illness and proper health habits are being lost. To illustrate, in one study of 300 well-child visits, less than 10 percent or less than one minute was spent in anticipatory guidance, defined as

issues relating to feeding, sleeping, safety, development, etc.
(Reisinger & Bires, 1980).

Length of Visit and Parent Satisfaction

The finding that the length of the physicians' visit influenced parent satisfaction is not surprising; the finding that the shorter the visit the greater the satisfaction is surprising--until the setting is considered. Evidently, parents attending an acute care setting expect a "quick fix" to be satisfied. This finding is relevant to another finding that parents are most satisfied when receiving the diagnosis, an integral part of the "quick fix." In subsequent research, length of the wait before the visit should be examined as a possible influence.

Between- and Within-Doctor Variation

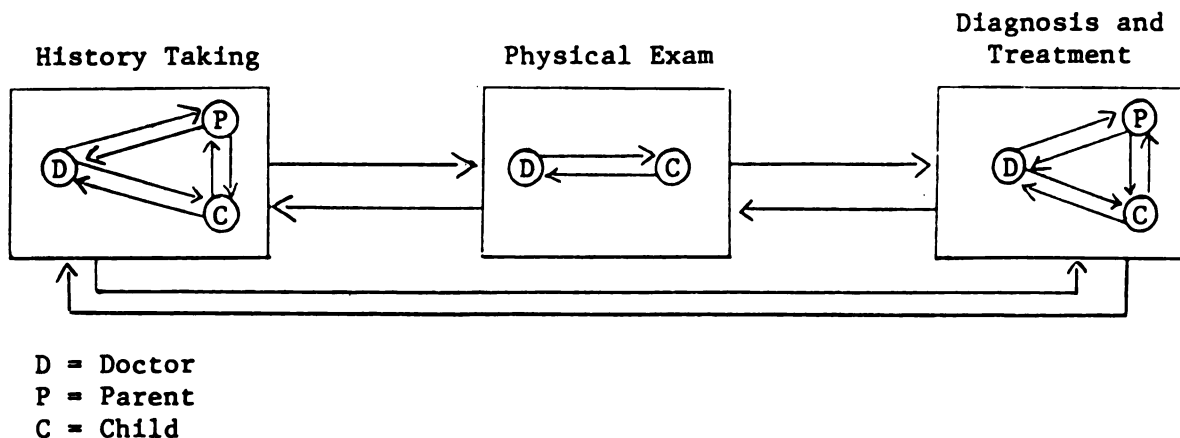
Finally, the ratio of between- and within-doctor variation deserves mention. It is possible the small sample of seven physicians affected the ratio. To recall, 13 percent of the variation in parent satisfaction rating scores was attributed to between-doctor differences while 87 percent was attributed to within-doctor variation. In hindsight, using HLM analysis may not have been the most effective method to determine which physician behaviors were influencing parent satisfaction. It is also possible that this particular medical setting with its emphasis on rapid treatment delivery did not allow adequate time for the differences between physicians to develop fully. Differences in physicians may still

exist in other settings where the physician-parent exchange has more time to unfold.

Models

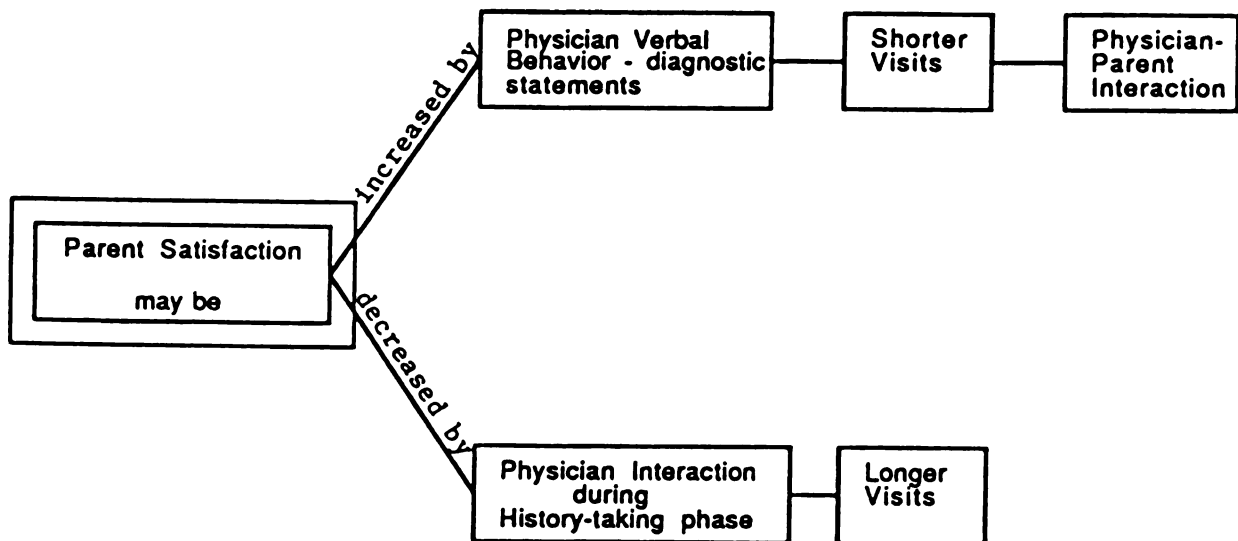
Two models are proposed--the first, a pediatric visit in an acute care setting; the second, the components of parent satisfaction based on the findings of this study. The first model depicts the three phases of a pediatric visit and the possible interaction among the individuals present. Although most visits can be divided into three distinct segments, history-taking, physical exam, and diagnosis and treatment, there are frequent interactions in each segment that may relate to one of the other phases. For example, a physician after the physical exam may find that a more thorough understanding of the child's medical history is warranted. Thus, the physician would initiate an interaction, in this case questions, that is more typical of the history-taking phase.

Model 1



The second model illustrates the components of parent satisfaction in an acute care setting based on the findings of this study. It is presented here with the understanding that parent satisfaction is a complex concept with many determinants, only a few of which were examined in this study.

Model 2



It is hoped that future research will provide a model incorporating reciprocal interaction of the determinants of parent satisfaction. However, before that can be accomplished, all determinants must be identified and weighed according to the influence they exert. This research has examined specific physician behaviors and identified some of the factors influencing parent satisfaction.

Limitations of the Study

Generalizability is limited because of the specific medical setting, acute care, and by the fact that only initial physician encounters were studied. A majority of children are cared for by physicians in private practice, but acute care settings, such as after-hours clinics, hospital emergency rooms, and docs-in-the-box, are becoming more prevalent. The findings in this study may have limited relevance for longstanding physician-parent relationships, such as those in private pediatric practices, but the results do have relevance for all initial pediatric visits regardless of the setting, private practice or acute care.

In addition to the above limitations, this study, as with all investigations in natural settings, had little control over many possible confounding variables. One of the drawbacks of medical satisfaction studies is the impossible task of trying to control all the people, setting, and treatment variables. This study attempted to focus on physician behavior and its impact on parent satisfaction, but even so the number of factors that could have influenced the physician-parent interaction was difficult to contain.

Implications of this Study

Theoretical Implications

Parsons' Theory. Two implications relate to Parsons' view of structure of the medical system. The first has to do with Parsons' instrumental versus expressive acts in a medical encounter.

"Instrumental" acts are the technical aspects of medical care;
"expressive" acts are the social-psychological aspects of medical care.
In this study, the parents' choice of a most and least satisfying moment was influenced by both instrumental and expressive functions of the physician. Parents were most concerned about receiving a diagnosis (instrumental), yet many also mentioned the manner in which the doctor related to them (expressive). The Korsch study (1968), perhaps because satisfaction was measured differently, strongly supported the expressive function as being most influential in parent satisfaction.

Relating the difference in between- and within-doctor variations to Parsons' view that the physician-patient (in this case parent) interaction is a rigid, predictable exchange, appears, at first glance, to hold up. That is, the differences in mean satisfaction ratings between doctors were small. These ratings were based on the parents' judgment of the doctors' behavior, so it is assumed that, on the whole, doctors were viewed similarly by parents in terms of satisfaction. Does this mean Parsons was correct in his assumption of an institutionalized role for physicians? Not really, because the concept of standardized physician behavior breaks down when visits to the same doctor were compared to one another. The large variation in satisfaction ratings of the same doctor was a surprising result, since it seems reasonable to assume that individuals will differ more when compared to other individuals than when compared to themselves.

Knowing the large within-doctor variation encourages speculation about visit variables. To recall, specific clusters of verbal and

nonverbal behavior of the physician did not explain the differences. Visit length showed a negative correlation with parent satisfaction and accounted for some of the within-doctor variation. Other visit variables which may be influential are the seriousness of the illness, especially the presence of a high fever, chronicity of the ailment, child's general health, length of time spent waiting to see the doctor, parents' diagnostic and treatment expectations, and interaction with other medical personnel, for example, nurses, receptionists, and laboratory technicians.

Communication Theory--Two Approaches: Structural and Intentional.

The structural approach to the study of communication posits that an individual is always communicating and that all behavior is communication, even silence. In contrast, another approach states that communication is distinguished by intentionality; that is, only behavior intended to convey some message can be considered communicative.

Intentionality is the key concept distinguishing these two views. Relating to the structural approach, physicians would probably be surprised at some of the behaviors parents mentioned in explaining their most and least satisfying moments. What sometimes appeared to be inconsequential physician behavior was capable of causing parents to be either most or least satisfied. Here is an example: A doctor was writing his findings and treatment recommendations on the chart for several minutes and did not converse with the parent. A couple of parents stated that this was the low point (least satisfying moment) of

the visit. As one parent explained, "...that was the time I was sort of the only one there." The physician's behavior was having a significant negative impact on the parents' satisfaction at a time when the doctor was not consciously communicating.

The approach based on the idea of intentionality did not hold up as well as the structural approach. Taking again the example of the "silent" doctor who was writing, it is quite likely that the doctor did not consciously intend to exclude the parent. Yet as shown by the parent's comments, that is exactly how she felt.

Another physician behavior, teaching the parent, obviously intended to help, was viewed by two parents quite differently. One doctor's effort to inform the parent came across as intended and was chosen as the most satisfying moment--"She explained it so well." Another doctor's attempt to inform was chosen as the least satisfying moment--". . . too much teaching." The intention of the two doctors was presumably the same, to inform the parents. Yet because the second doctor was oblivious to signals given by the parent or chose to ignore them; his detailed teaching, as the parent commented later, actually increased her stress.

Although some of the ideas of the intentional approach have appeal, the idea that behavior is not communicative unless that is the intention requires reexamination. Kendon (1981) called the idea of intentionality irrelevant. That judgment may be a bit harsh, because in some situations the study of what is intended as opposed to what is communicated is a proficient way to learn more about why communication mixups occur. In conclusion, it appears that most, if not all, physician behavior has

communicative potential and the 'message' intended is not always the one received.

Practical Implications

The results of this research have implications for physicians, parents, and children who are involved in medical care delivered at acute care settings. The major qualitative finding of this study was that when parents chose a most and least satisfying moment, physician verbal behavior was cited most frequently as the reason for their choice. Physician verbal behavior created the greatest satisfaction during the treatment and diagnosis segment of the visit and the lowest satisfaction during the history-taking segment. Physician interpersonal skills training should emphasize the parents' needs vary from the beginning to the end of the medical visit. More research on the various phases of a medical visit is needed. Although most of the burden for effective communication in a medical interview falls on the physician, educating parents (and adult patients) to communicate their needs to medical professionals is important. The uniqueness of this study in directly asking the parents to explain their satisfaction should be replicated in future research and become an integral part of the medical students' interpersonal skills training.

Attempts to identify specific physician verbal and nonverbal behaviors influencing the degree of parent satisfaction were unsuccessful. Although the findings in this study were probably influenced by methodological problems inherent in any study of

communication, other methods to study communication might have proved more effective. For instance, rather than focusing on either individual in the dyadic exchange, in this case, the doctor, perhaps the emphasis should have been on the interaction between the two for a clearer understanding of the context in which the exchange took place. Warnings have been issued not to become too microscopic in the investigation of medical exchanges (Carter et al., 1982); although this project did not conduct the microanalysis characteristic of some researchers (Frankel, 1984), perhaps it was still too fragmented. The impression gained from this research is that more ethnographic research is needed to provide a clearer understanding of what is essential, then quantitative methods can be applied. Using qualitative results to assist in forming hypotheses for quantitative analysis which are then further refined using qualitative measures is a method that deserves further consideration. Analysis using both methods has the best chance to offer the reciprocal complementation necessary to understand communication complexities. Finally, interviewing the doctors would have been helpful in understanding whether they felt they met the parents' needs, but in a setting designed for rapid treatment delivery, doctors are rarely available immediately after seeing the patient.

Although methodological limitations may, in part, explain the lack of significant results for verbal and nonverbal behavior, it was surprising to find that physician variables, such as years of experience, did not predict satisfaction either. Interestingly, Scott (1985) found a correlation between younger physicians and ability to convey empathy and respect to both parents and children. He further noted that previous

research has found decreases in empathy as medical education increases, although this was not supported by his own research because he used a sample of physicians with a limited range of experience. If it is true that some younger physicians may have more effective communication skills than older physicians, this may be due to medical school curricula that now require interpersonal skills training. Implications are that experienced physicians may also benefit from courses on patient relationships in their continuing education.

There are several implications of the finding that physician-parent interaction had a greater influence than physician-child interaction in choosing both a most and least satisfied moment. According to two pediatricians, Korsch and Aley (1973), much of a child's medical workup must be done through the parent, making the relationship with the parent extremely important. Put more specifically, they state that a fraction of an hour is spent with the child but it is the parent who will carry out the advice . . . all day long, every day of the week. (p. 5). Evidently, the parents in this study agreed with the conclusion; that is, exchanges with the parents were more important than with their children.

Yet the importance of physician-child interaction should not be overlooked. In the findings here, parents focused on the physical exam for both their most satisfied and least satisfied moments. One implication is that pediatric training should include specific child management techniques that cover both invasive and noninvasive exams. In this study, for example, some doctors routinely completed a physical exam while the infant was in the security of its mother's lap; other

doctors had the infant lie on the examination table and then requested the parent restrain the child's head or arms sometimes causing both the parent and child distress. Learning techniques to reassure both the child and parent during this time is important. Although communication courses in medical school stress thorough, efficient history-taking, techniques that facilitate good communication with parents and children are neglected (Hornsby, 1983).

Finally, physicians may find it reassuring to learn that at least in acute care settings parents can be satisfied and, in fact, sometimes are more satisfied with a short rather than a long visit. Korsch and her colleagues (1968) also found no relationship between interaction time and satisfaction and concluded that communication can be satisfactory in as short a time as five minutes. Since limited time is often mentioned by pediatricians as one cause for ineffective parent communication, it is encouraging to find that parents can have their expectations met in a short visit while in acute care settings.

Directions for Future Research

The present study examines only a few aspects of the vast complexities in a medical exchange. The results indicate a need for further investigation of the physician-parent dialogue, physician-child interaction, and parent expectations for these visits. Such research may help identify the variables responsible for the within-doctor differences. This study also poses questions for researchers concerning the appropriate level of communication analysis.

More information is needed regarding the physicians' perception of satisfaction with the parent interaction. For example, what are the physicians' expectations for a satisfactory pediatric visit, how do these change depending on the medical setting, the age of the child, and the diagnosis and treatment? How are these expectations communicated to the parent and the child? Do pediatricians and family practitioners differ from other specialists in the importance placed on patient communication? Interpersonal skills training for physicians is effective in the short run (Engler, Saltzman, Walker, & Wolf, 1981; Quirk & Babineau, 1982), but is it effective in the long run or does the emphasis shift back to efficient treatment delivery?

A second line of inquiry is needed in the physicians' interaction with children. Although in this study physician-parent communication had a greater impact on parent satisfaction, the literature suggests a growing need for more effective communication between physician and child. Pantell and his colleagues (1982) are leading advocates of increased involvement of children in all phases of the pediatric visit. As they state, communication with children is not just an amenity but an actual therapeutic lever. Benefits include reduced surgical complications, increased parent satisfaction, and adherence to treatment regimens.

The question does not appear to be whether physicians' involvement with children should be increased, but rather, what kind of involvement would be most appropriate at various ages? Stewart and his associates (1981) found the physicians communication with the child often lacked

medical substance. The task now is to define the goals for more effective communication and to learn what and how medical information can be conveyed at various stages of child development.

Research on parent satisfaction and its contributing factors is still exploratory in nature. Although much can be learned from the adult patient literature, the pediatric visit presents a challenge to both practitioners and researchers because of the unique situation of the patient (the child) not being the main communicator. Further research on physician communication is necessary to determine the content and balance between parent and child that is most effective.

Conclusions

The American Academy of Pediatrics (1977) has stated that "discussion and counseling is the most important element of child health care." The results of qualitative analysis agree, highlighting the physicians' verbal behavior, especially diagnostic statements, and its impact on parent satisfaction. Attempts to identify other specific verbal and nonverbal behaviors using quantitative methods were largely unsuccessful. In future research, capitalizing further on the interplay between qualitative and quantitative methods will be useful. Each method has the capability of further refining the other until the desired level of analysis is achieved.

As in this study, most analyses of physician-patient (and parent) interactions have been confined to the short-term effects of a single interaction. Such knowledge now needs to be supplemented by longitudinal

studies that examine changes occurring over time in a physician-parent relationship. Knowing what evolves out of these long term interactions will provide further insight into the composition of effective physician communication.

APPENDIX A

John C. Doe, M.D.
125 Medical Arts Building
Lansing, MI 48921

Dear Dr. Doe:

Dr Solomon and I are requesting your participation in a research project. I am a doctoral student, who is examining parent satisfaction in a pediatric visit. Participants will be chosen from the attending staff physicians at the After-Hours Clinic, who volunteer for this project. The only procedure necessary for your participation is to allow five to six of your clinic visits to be videotaped. It is anticipated that most of the videotaping could be completed by mid December.

While there will probably not be any immediate benefits to you, i will be most willing to discuss with you the final project results, which should be available by next April or May. If you have other questions about the project before you decide whether or not to participate, please feel free to call me at 355-7821 or Dr. Solomon at 332-2310.

Your participation would be greatly appreciated and if you should decide to be a part of this project, a physician consent form is enclosed along with a stamped envelope addressed to me at my MSU address.

Sincerely,

Anne Riley

PHYSICIAN CONSENT FORM

Ms. Anne Riley, MSU doctoral student, under the direction of Dr. Richard Solomon and MSU Professor Don Hamachek, is conducting a research project on patient satisfaction in a pediatric visit. Ms. Riley and Dr. Solomon would like to ask your permission to videotape some of your After-Hours Clinic visits for this study.

1. Your participation in making the videotapes is voluntary and can be withdrawn at any time. You may have the tapes erased at any time.
2. The tapes will be analyzed by Ms. Riley, and 3-4 trained research assistants from MSU. To aid in analysis the tapes may also be viewed privately by appropriate members of Ms. Riley's dissertation committee. The tapes will not be viewed by anyone else in the Lansing area without your written consent.
3. The results of the research will be treated with discretion and confidence. The tapes will not be loaned to others without your written consent and will only be shown to scientific audiences outside the Lansing area where it is unlikely you would be recognized. If it is shown, all names will be erased first. Your name and others will be disguised in all written materials based on the tapes, such as notes, transcripts, papers, or publications.
4. Ms. Riley and Dr. Solomon would be pleased to talk further with you about this project as well as share the results with you which should be available in April or May, 1988. They can be reached at (517) 355-7821 or (517) 332-2310.

I give my consent to be videotaped as part of this project relating to parent satisfaction. I have read this consent form and understand the tapes will only be used as described above.

Signed: _____

Date: _____

Clinic: _____

Witness: _____

APPENDIX B

RESEARCH PROJECT ON PARENT SATISFACTION IN A PEDIATRIC VISIT

Dear Parent:

Researchers from Michigan State University are conducting a project at our After-Hours Clinic. The project is about communication between the doctors and patients and its purpose is to better understand what factors in the visit with the doctor contribute to parent satisfaction.

If there is time tonight, the researchers will come to talk to you to invite you to participate in the project. If you are willing to participate, you will be asked to fill out a brief questionnaire before your visit with the doctor, to have your visit with the doctor videotaped, and then to take a few minutes after the visit to be interviewed.

This project is completely voluntary. You do not have to participate if you do not want to.

If you agree, however, the researchers will be most grateful. They will keep information about your visit strictly confidential and you will receive a small gift for your time.

After-Hours Clinic Staff

PARENT/CARETAKER CONSENT FORM

Ms. Anne Riley, MSU doctoral student, under the direction of Dr. Richard Solomon and MSU Professor Don Hamachek, is conducting a research project on patient satisfaction in a pediatric visit. Ms. Riley and Dr. Solomon would like to ask your permission to videotape your child's visit with the doctor. They are also asking your permission to record a brief post-visit interview and to complete a 5-minute rating scale on parent satisfaction.

1. Your child's care will not be affected if you decline to participate in this study.
2. Your participation is voluntary and can be stopped at any time without and repercussions. You can request that the tape be erased at any time.
3. The tape, interview, and rating scale will be analyzed by Ms. Riley, trained research assistants from MSU, and appropriate members of Ms. Riley's dissertation committee. It will only be shown to scientific audiences outside the Lansing area where it is unlikely you would be recognized. If it is shown, all names will be identifiable by code only. In all written materials based on the use of these tapes, such as notes, transcripts, papers, or publications, no names will be used. In summary, the results of this study will be treated with strict confidence and you will remain anonymous in all written or oral reports based on this study.
4. Ms. Riley and Dr. Solomon would be pleased to talk further with you about this project at any time. They can be reached at (517) 355-7821 or (517) 332-2310. The results from this project should be available in April or May, 1988.

I give my consent to have a videotape made of my child's clinic visit, to participate in a brief post-visit interview with Ms. Riley, and to complete a rating scale on parent satisfaction. I have read this consent form and understand that the videotape, interview and rating scale will only be used as described above.

Signed: _____

Date: _____

Clinic: _____

Witness: _____

APPENDIX C

Parent Code: _____ Doctor Code: _____

Date: _____

THE FOLLOWING INFORMATION WILL BE USED FOR STATISTICAL PURPOSES
AND NO INDIVIDUALS WILL BE IDENTIFIED.

Parent Information Survey

1. How old is your child? _____ What grade is your child in? _____
3. What is your relationship to this child? Mother _____ Father _____
Grandmother _____ Other _____
4. Have you ever seen today's doctor before? Yes _____ No _____
of times _____
5. What is your age? _____
6. What is your sex? M _____ F _____
7. What is your child's sex? M _____ F _____
8. Race: Caucasian _____ Black _____ Asian _____ Hispanic _____ Other _____
9. Marital Status: Single _____ Married _____ Divorced _____ Separated _____
10. Does this child live in a single parent family? Yes _____ No _____

ANSWER ITEMS 12-16 ONLY IF YOU ARE THE PARENT OR GUARDIAN OF THE CHILD

Parents Education (circle the number of years completed):

11. Yourself: 7 8 9 10 11 12 13 14 15 16 17 18 19 20
12. Other Parent: 7 8 9 10 11 12 13 14 15 16 17 18 19 20
13. What is your occupation? _____
Kind of business/organization _____
14. What is other parent's occupation? _____
Kind of business/organization _____

15. What is your family's approximate gross yearly income?
- \$0--10,000 _____ \$10,000--20,000 _____ \$20,000--30,000 _____
- \$30,000--40,000 _____ \$40,000--50,000 _____ \$50,000--60,000 _____
16. How many people are dependent on this income? _____
17. What is the main reason for today's doctor visit?
- Illness _____ Type _____
- Accident _____ Type _____
- Other _____
18. Has your child been seen anywhere for this problem in the past 4 weeks? Yes _____ No _____ How many times? _____
19. How many times has you child seen any doctor in the last 6 months?
20. What is your child's birth order? (circle the answer)
- oldest 2nd 3rd 4th 5th 6th or more
21. Please describe your child's general health in the last 3 months.
- Very Good _____ Good _____ Fair _____ Poor _____
22. Does your child have an illness or medical condition that has contained for more than 3 months? Yes _____ Illness _____
- No _____
23. Is this visit related to the above illness? Yes _____ No _____
24. Briefly describe your expectations for today's visit with the doctor. _____
- _____
- _____
- _____
- _____

APPENDIX D

VERBAL CATEGORIES

I. Phatic

- A. General---utterances that keep an interaction going, i.e., the "glue", e.g., How are you, Uh-huh, M-m-m-m, I see, Well..., Interesting, Okay.
- B. Humor, including laughter.
- C. Empathy---statements indicating an awareness and understanding of the emotions and feelings of another person, e.g., I understand (know) what you're going through right now, I have felt that way, too.

II. "Requests" for information

- A. Symptoms/medical---requests related specifically to the presenting problem, e.g., Tell me about your symptoms; How long have you been feverish?; So you've been feeling sick?
- B. Sociopersonal---requests related to nonmedical factors that may have an influence on the presenting problem, e.g., How are you doing in school now that you're receiving speech therapy; I don't understand why you aren't happy with medicaid; What else are you doing besides holding down one and a half jobs?; You look depressed so what's going on?
- C. Generalized health care---requests relating to general health habits and health maintenance, e.g., How often do you take your child for a general checkup; Are his immunizations up to date?; You are drinking plenty of fluids and getting eight hours of sleep, right?
- D. Treatment
 - a. Treatment preferences---requests for patient's preference of various treatments, e.g., Would you prefer oral or intravenous form?; For your treatment, would you prefer chemotherapy, surgery, or both, which do prefer?; Have you had better luck with amoxicillin or meladrine? How effective was the medication? Do you understand why I want to see her in two weeks?
 - b. Treatment possibilities---requests for patient factors that may limit treatment possibilities, e.g., Are you allergic to penicillin as that is usually what is prescribed; We recommend physical therapy three times a week and this can be done at home with an OT or you may come to the hospital.

III. "Statements" conveying information/explanations

- A. Symptoms/Medical---statements related specifically to the presenting problem, e.g., articulation problems are common in children who have a history of ear infections; Using a cane or walker for several hours a day will lessen the chances of the

problem reoccurring; Studies have shown that for this particular condition that . . .

- B. Sociopersonal---statements related to nonmedical factors that may have an impact on the treatment, e.g., You'll need to consider working only halftime; A private school should be considered until he's better; Marital therapy may relieve some of your anxiety; Because of his small size, he should not be enrolled in kindergarten until he's six
- C. Generalized health care---statements related to longterm or preventive health maintenance, e.g., Are you aware of the well-baby clinics on every fourth Saturday of the month; Studies have shown that... ; In my experience, overweight infants grow into overweight children and adolescents;
- D. Treatment---statements conveying information regarding treatment, e.g., These are our options for treatment at this time, continue with the medication or minor outpatient surgery; We have this medication in oral or intravenous form. For her weight and age, two teaspoons of amoxycillin is appropriate, I'm going to need to do a throat culture since I suspect strep.
- E. Follow-up---statements related to medical instructions after the completion of this particular treatment regimen, e.g., I'm going to refer you to a specialist; Dr. Johns and Dr. Will are the pediatric surgeons to consider; A prosthetic will need to be considered depending on the results of the surgery.

IV. Evaluating Statements

- A. Medical---general statements of opinions/judgements specifically relating to the presenting problem or illness.
 - 1. Approval---That's great, ; He looks really healthy now; Yes, that's a good idea; Of course; That's right.
 - 2. Disapproval---I told you not to . . . ; How could you do that; it makes no sense.
- B. Sociopersonal---evaluative statements concerning nonmedical factors that may affect the presenting problems, e.g., I believe a private school would provide the best setting for Johnny right now; I really think the best thing for you to do is take a short medical leave; You really have not attended to the stressors in your life very well.
- C. Generalized health care---opinions/judgements regarding general health care, including preventive measures, e.g., I'm disappointed that you've not been attending the well-baby clinics on a regular basis; I'm so pleased you've been consistently keeping his inoculations current; How could you have let his general health deteriorate to this point without getting concerned? You must take care of your body--it's the only one you'll have.
- D. Treatment---opinions/judgements concerning compliance with the recommended course of treatment, e.g., You must not have

followed the recommended course of treatment; You've done a fine job of following the recommended course of treatment.

V. "Requests" for action

- A. Medical---requests for action regarding the presenting problem, including the related physical exam, e.g., Help me hold her arms so I can examine her ears; Lie still while I'm examining you; Try to get a urine sample from her;
- B. Sociopersonal---requests for action related to nonmedical considerations that relate indirectly to the present problem, e.g., Check with your school district's special education director to see what services are available while she's recuperating; Why don't you use the health department's free clinic for immunizations; Please consider marital counseling to reduce your stress level; Can you keep her home from school tomorrow.
- C. Generalized health care---requests for action concerning general health care and preventive measures, e.g., Bring him back in six months for his regular checkup; You will need to watch her development more closely and bring her in as soon as you suspect a delay in any of her skills; Make sure he eats a balance diet most of the time.
- D. Treatment---requests for action relating to the specific treatment regimen, e.g., call the lab tomorrow for the results of his tests; Try to get her to take capsules, if possible; Take two teaspoons three times a day; Stop at the pharmacy downstairs, if you can, to have this prescription filled; Start this medication immediately; If his fever goes above 101 in the next 24 hours, please bring him in again.
- E. Follow-up---requests for action related directly to medical care after the treatment regimen has been concluded, e.g., Can you bring her back in 10 days so I can recheck her ears; You know what the usual symptoms are now for this condition, call me anytime they reappear.

VI. "Requests" for questions

- A. Medical---requests for questions concerning the presenting problem and related symptoms, e.g., Do you have any questions about the diagnosis or the procedures used to make a diagnosis; Ask me about anything that we've just discussed that you don't understand; Would you like to ask anything?
- B. Sociopersonal---requests for questions relating to nonmedical factors, which may or may not impact the presenting problem, e.g., Don't be afraid to ask me about other stressors in your life that may be of concern to you; I know being unemployed is difficult for you and the family, so ask any questions that are on your mind, It looks like something is bothering you, do you want to ask me something.
- C. Generalized health care---requests for questions about general health care, including preventative measures, e.g., Do you have

any questions concerning the general care of the baby; Feel free to ask me or the nurse any questions regarding the necessity of regular checkups; You look puzzled, is there something about the immunizations you don't understand.

- D. Treatment---requests for questions regarding the recommended course of treatment, including possible alternatives and preferences, e.g., Do you have any questions about why I chose ampecylin over mylantin; Feel free to ask me anything related to the treatment regimen, surgery, etc.; I'm sure you must have somequestions because the directions are rather complicated.

VII. Medical Jargon---any word, phrase, or statement containing specialized language not readily understood by nonmedical individuals.

VIII. Miscellaneous/Unintelligible

VERBAL CATEGORIES

Video tape #: _____ Code #: _____ Segment: 1 2 3 Sat or Dissat
 Counter #: _____ to _____

Instructions: Put the number of the physician's statement in the box corresponding to the category chosen. More than one category may be used to categorize the function of the statement.

I. Phatic

- A. General
- B. Humor
- C. Empathic

II. "Requests" for information

- A. Current symptoms/problem
- B. Sociopersonal
- C. Generalized health care
- D. Treatment
 - 1. Possibilities
 - 2. Preferences

III. "Statements" conveying information

- A. Current symptoms/problem
- B. Sociopersonal
- C. Generalized health care
- D. Treatment
- E. Follow-up

IV. Evaluating statements

- A. Current symptoms/problem
 - 1. Approval
 - 2. Disapproval
- B. Sociopersonal
- C. Generalized health care
- D. Treatment

V. "Requests" for action

- A. Current symptoms/problem
- B. Sociopersonal
- C. Generalized health care
- D. Treatment
- E. Follow-up

VI. "Requests" for questions

- A. Current symptoms/problem
- B. Sociopersonal
- C. Generalized health care
- D. Treatment
- E. Follow-up

VII. Medical JargonVIII. Miscellaneous/Unintelligible

APPENDIX E

NONVERBAL BEHAVIOR CATEGORIES

Total Time ____ secs

Tape # ____ Code: ____ Segment: 1 2 3 Sat Dissat
Counter: ____ to ____

-
1. Body Orientation Toward Parent
forward 20 toward parent
upright
backward 20 away from parent
could not tell
-

2. Trunk Angle
directly facing--0
turned away from parent--45
perpendicular to parent--90
could not tell
-

3. Arm/Hand Position
symmetrical open arms w/o hands touching
symmetrical closed arms w/ hands touching
could not tell
-

4. Leg Position
crossed
uncrossed
could not tell
-

5. Head Movement
nodding
shaking
could not tell
-

6. Facial Expression
smiling
could not tell
-

7. Other
listening
writing

-

APPENDIX F

PARENT REACTION QUESTIONNAIRE

Instructions: We want to know how you feel about today's visit with your child's doctor. Please answer carefully and honestly. There are no "right" or "wrong" answers to these items. Your personal answers will not be shown to the doctor. Each of the items contains a statement describing your visit with the doctor.

Example:

	Very Strongly Disagree	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Very Strongly Agree
The doctor was neatly dressed	1	2	3	4	5	6	7

If you very strongly disagree, mark "1". If you very strongly agree, mark "7". If your opinion is somewhere in between, circle the number under the words which reflect your opinion.

Please try to answer all of the items.

	Very Strongly Disagree	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Very Strongly Agree
1. The doctor listened very carefully to what I said	1	2	3	4	5	6	7
2. The doctor seemed to think about my child's problem carefully	1	2	3	4	5	6	7
3. The doctor seemed to feel it was important for my child to understand the visit	1	2	3	4	5	6	7
4. The doctor did not really give me a chance to say what was on my mind	1	2	3	4	5	6	7
5. The doctor used words and ideas too difficult for my child to understand	1	2	3	4	5	6	7
6. After talking with the doctor, I feel that I am handling my child's illness well,	1	2	3	4	5	6	7

	Very Strongly Disagree	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Very Strongly Agree
7. The doctor seemed to care about my child's feelings	1	2	3	4	5	6	7
8. The doctor talked to my child about what (s)he can do to become more healthy	1	2	3	4	5	6	7
9. The doctor encouraged my child to talk ...	1	2	3	4	5	6	7
10. The doctor failed to understand my main reason for coming	1	2	3	4	5	6	7
11. The doctor listened closely to my child	1	2	3	4	5	6	7
12. The doctor made me feel I've done a good job of caring for my child	1	2	3	4	5	6	7
13. The doctor excluded my child from most of the discussion	1	2	3	4	5	6	7
14. The doctor knows how to talk to children	1	2	3	4	5	6	7
15. My child could not understand most of what the doctor said	1	2	3	4	5	6	7
16. After talking with the doctor, I feel much better about my child's problems	1	2	3	4	5	6	7
17. The doctor seemed to have other things on his mind	1	2	3	4	5	6	7
18. The doctor really understood how my child feels	1	2	3	4	5	6	7
19. The doctor seemed to know just what to do for my child's problem	1	2	3	4	5	6	7
20. The doctor gave me a poor explanation of my child's illness	1	2	3	4	5	6	7
21. The doctor explained things very well to my child	1	2	3	4	5	6	7

	Very Strongly Disagree	Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	Very Strongly Agree
22. I really felt understood by my child's doctor	1	2	3	4	5	6	7
23. It may be too difficult for us to do exactly what the doctor told us to do	1	2	3	4	5	6	7
24. I intend to follow the doctor's instructions	1	2	3	4	5	6	7
25. I expect that it will be easy for me to follow the doctor's advice	1	2	3	4	5	6	7
26. It will be too much trouble to follow the doctor's advice	1	2	3	4	5	6	7

APPENDIX G

Demographic Data

<u>Parent and Child</u>		<u>NP-Miss</u>
Parent's Age	.1177	p - .250
Parent's Income	.0767	p - .331
Parent's Education	-.1394	p - .212
Family Size	.0924	p - .299
Child's Sex	.0608	p - .364
Child's Age	.1466	p - .200
Ailment	.1027	p - .279
Length of Visit	-.3581	p - .017

Doctor

Years of Experience	-.0108	P - .475
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