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The Relationship of Educational Attainment and Socioeconomic Factors in the Health Behaviors of an Urban Population

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THE RELATIONSHIP OF EDUCATIONAL ATTAINMENT AND
SOCIOECONOMIC FACTORS IN THE HEALTH
BEHAVIORS OF AN URBAN POPULATION

by
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Abstract

The Relationship of Educational Attainment and Socioeconomic Factors in the Health Behaviors of an Urban Population

The purpose of this study was two fold: 1) to investigate the effects that level of educational attainment and income have on the health behaviors of an urban population, and 2) to examine the effects the level of motivation and selected demographic characteristics (e.g., age, race, gender) have on the study sample's perceived satisfaction with the medical encounter. Based on the findings of the study, a model community health education program was proposed.

The study sample was comprised of 150 volunteers seeking health care for chronic conditions at a family practice clinic. The Krantz Health Opinion Survey (HOS) measured the two dependent variables of active behavioral involvement and desire to be medically informed (Krantz, Baum & Wideman, 1980). Motivation was measured by the Cox Self-Determinism Index (HSDI) (Cox, 1985). The Smith-Falvo Patient-Doctor Interaction Survey (PDSI) was used to measure patient's satisfaction with their medical encounter (Smith, Falvo, McKillip & Pitz, 1984). Sixty-two of the volunteers agreed to be videotaped during their medical interviews so their medical interactions could be analyzed using the Multidimensional Interaction Analysis (MDIA) instrument (Greene, Adelman & Charon, 1991).

Data analysis revealed the study sample had a mean age of 59.2

years, with a greater number of Caucasian, middle class, females as volunteers. Chi-Square tests reported that the desire to be medically informed was positively contingent with the level of educational attainment [$\chi^2(2, N = 150) = 9.052, p=.011$]. The level of patient satisfaction was positively contingent with the group's level of educational attainment [$\chi^2(2, N = 150) = 18.43, p<.001$]. A positive trend of contingency was reported between the group's level of income and their active behavioral involvement, as analyzed from the videotapes [$\chi^2(1, n = 62) = 3.337, p=.068$]. Multiple regression equations were developed to predict subject's active behavioral involvement, level of satisfaction with health care, and desire to be medically informed. A factor analysis was created to develop a theoretical model which could be used for explaining health seeking behaviors of larger populations. Total motivation in health seeking, perceived health judgement, and internal versus external cue responsiveness comprised the variables loading on the Health Care Decision Making factor. The Health Inquiry factor was created from the Krantz HOS total score and the Desire to Be Medically Informed score.

Based on the findings reported, a community health education program was proposed that emphasized local community involvement and clearly defined goals for curriculum development. A blueprint for program curricular development was presented incorporating the elements of resource identification, establishing terminal objectives for measurement and reassessing program success based on outcome.

CHAPTER ONE

Introduction

A significant problem facing our urban population centers over the past 30 years is the growing and ineffective utilization of health care services by the poorest sector of our society. Although this group represents only a fraction of the total population of health consumers in this country, it is responsible for consuming an ever increasing percentage of health care resources in our communities. The health care status of the urban poor is low, as measured by the parameters of quality of health, life expectancy and mortality figures, when socioeconomic indices and population densities are used as the variables of comparison (Ricardo-Campbell, 1982).

Provision for adequate health care for the poor has been seen by community leaders, civil rights advocates and government officials as a critical question of policy direction. Should existing health care resources continue to be managed by the private sector? Should the competition between free market forces be the differential in the distribution and allotment of health care resources? Should there be appropriate governmental intervention; can there be equity in health care provision while increasing the bureaucracy? At the present time, an imperfect model of resource allocation for the poor exists in our health care system. This model includes using the services and facilities of the private sector, while partially paying for these services through public funds. With the rising costs of

medical care, states are finding it increasingly difficult to meet acceptable standards of medical care for their indigent populations given the fiscal and physical resources at their disposal (Bannister, Allen, Fadl, Bhakthan, & Howard, 1988). Compounding this problem, Grant (1987) reports that in recent years the poor have begun utilizing the more expensive emergency room services of city owned hospitals as a back-up or substitute for treatment of uncomplicated medical problems. This situation has resulted in these facilities rapidly becoming the usual source of medical care for this population.

Community health researchers and city planners now understand that if we are going to be able to curb rising health care expenditures while still providing for adequate health care to the poor, health care behaviors of the urban poor need to be studied and changes in these present behaviors need to be fostered (Bates, 1984; Bedworth & Bedworth, 1978; DiMatteo & DiNicola, 1982).

Medical sociologists have addressed this issue from a number of directions. One theory has posited that the urban poor's current health status may be a result of poor distribution and limited access of adequate health care resources (Grant, 1987). An alternative theory hypothesizes that the current problem is a result of dysfunctional health seeking behaviors exhibited by the poor, possibly due to lack of education, societal factors or differences in value constructs (Banfield, 1970; Horton, 1967; Jenkins, 1982). The latter - value constructs - alludes to the

possibility that a "culture of poverty" exists in our society, where the poor demonstrate an inherent unwillingness or inability to plan for the future, including in this case adequate health seeking measures. When the need for medical intervention arises, these theorists hypothesize that the lack of prior health care planning among this population results in more costly, often unnecessary, use of medical resources because of the stated inability to plan for the future.

Justification For Patient Focused Research

Recent studies have focused on the interactions between patients and their health care providers as predictors of patient satisfaction, compliance with medical regimens and changes in health lifestyles (Harrigan & Rosenthal, 1988; Houton & Pasanen, 1972; Lebow, 1974; Mills & Krantz, 1979; Roghmann, Hengst, Zatowsky, 1979; Smith, Polis, & Hadac, 1981). These researchers propose that patients who have positive experiences with health care providers by taking a more active role during the medical interaction are more satisfied with the medical care received and become more responsible in their health maintenance and enhancement. Mechanic (1978) emphasized the importance of patient focused research in studying health care behaviors as follows:

If we are to understand the process of illness, it becomes necessary to consider what goes on even before a person sees a doctor or some other health worker. Thus the study of

patient's perspective is an indispensable aspect of the analysis of health and disease. (p. 249)

One key variable which has been investigated in patient focused research is the characteristic known as active behavioral involvement (Auerbach, Martelli, & Mercuri, 1983; Martelli, Auerbach, Alexander, & Mercuri, 1987; Smith, Wallston, Wallston Forsberg, & King, 1984). Active behavioral involvement may be evaluated at the time of the medical interaction by observing verbal and non-verbal cues of the patient. This behavior may also be evaluated through the indirect means of a questionnaire which measures the patient's intent to be actively involved at the time of the health care interaction. These patient focused studies have shown that study samples who have assumed a more active behavioral involvement during their interactions with health care workers have a greater sense of control, decreased negative responses about seeking health care and a greater sense of well being. No studies reported to date have investigated the relationship of the level of educational attainment or socioeconomic status on subject's level of active behavioral involvement or perceived satisfaction during a health care delivery session.

The Research Question

Several important questions relating specifically to the health care behaviors and health care education of the urban poor are raised by the patient focused research approach.

- Do factors such as socioeconomic status and level of educational attainment affect an individual's desire to be informed about medical decisions?
- Is there a relationship between these factors and the degree of active behavioral involvement during a medical session?
- Is there a positive correlation between the desire to be informed about medical decisions - often described as an intent on the patient's part - and the observed level of active behavioral involvement during a medical session?
- Is there a relationship between these same factors and the perceived satisfaction of the medical session by the patients?
- If there are differences found between the behaviors of the urban poor and middle class groups, can an educational model be created using this information to better assist the urban poor in becoming effective health care consumers?

The thesis of this study is that subjects who have low socioeconomic status and a low level of educational attainment will be less inclined to desire information about medical decisions, and less active in their behavioral involvement during the health care delivery session. Consequently it is hypothesized that this group will be less satisfied with the treatment session than a group of middle class subjects. This study will also examine the relationships selected demographic

(e.g., age, gender, race) and motivation variables (e.g. health judgement, perceived competence, internal versus external cue responsiveness) have on the perceived satisfaction of the medical encounter reported by the subjects.

The Health Education Model

Health education programs addressing the medical needs of the urban poor have met with varying success over the years. Those programs which have been perceived by the public as successful in achieving their objectives have exhibited common strengths. They have recognized the importance of identifying and reinforcing the specific needs and desires of the populations they have served.

This recognition may be in the form of minimizing physical barriers, by holding the education programs on scheduled evenings in accessible and familiar surroundings to the population and by communicating in language which is understood. The identification of specific needs of the population reinforces the concept that successful health education programs are client focused. Health behavior changes have been shown to occur only when the target population adopts attitude responses which in turn activate a desire to espouse the new behavior (Bordiga & Campbell, 1982).

The health education model developed specifically from this research is also client centered. Based on the findings of the study, the model presents a curriculum to be used by the urban

poor in local community centers to foster greater understanding and appreciation for the importance of the health behaviors discussed. The model and curriculum are designed to alter the target population's desire to be informed about medical decisions, enhance the active behavioral involvement of the urban poor during medical encounters and foster perceived satisfaction with the more active health consumer behaviors.

Justification For The Stated Research Problem

Studying the socioeconomic and demographic variables' relationships to the urban poor's health behaviors assist health care planners and educators in formulating and implementing programs designed to improve the quality of health and lifestyle among this population.

Policy planners recognize that, in spite of developing the most expensive and technologically sophisticated health care delivery system in the world, our country is facing a decline in the quality of health care among our urban poor. Increasing the amount of per capita expenditures for health care resources over the years has not reversed the decline in this population's standard of health. Further increases in expenditures are not available at any level of government at this time and, if they were, there is an argument against diverting funds from other needy programs such as public education and housing (U.S. Dept. of Health and Human Services, 1991b).

The key for success in addressing the health care needs of

the urban poor appears to focus on biobehavioral research. This research can then be applied to health education programs; identifying and changing specific dysfunctional health behaviors of subgroups in the urban communities. The improvement of current standards of health in the these communities can only occur through client focused health education programs since current fiscal resources directed toward health care are not likely to increase for the foreseeable future.

CHAPTER 2

Review of Literature

In studying the factors that effect the urban poor's health-seeking and health performance behaviors, researchers have investigated these phenomena from widely-varying points of reference. Much of the research has been anecdotal and descriptive in nature. Those studies which have sought to measure health behaviors of populations in quantitative terms have done so by isolating and reporting on the effects one or two independent variables have had on the health behaviors of a carefully defined population. This design methodology may have limited external validity because of the numerous variables which have the potential to affect the health behaviors of urban populations seeking and receiving health care. The common theme of these studies, however, is the acknowledgement of either role theory or the health belief model as the underlying theoretical framework from which health behavior is derived.

Theoretical Framework

One explanation of the inadequate health-seeking behaviors of the urban poor and their reported difficulties in expressing their concerns during medical encounters may lie in the concept developed by Parsons (1951) known as role theory. Essentially Parsons stated that individuals will react to their environments and other individuals in a predictable context and process by

assuming a predicable role. The definition and restraints inherent in the role theory are further clarified in the following passage:

Each of these statuses carries with it a set of rules of norms which prescribe how the person who occupies it should or should not behave under particular circumstances. That cluster of norms we call a role....) Status is a socially identified position; role is the pattern of behavior expected of persons who occupy a particular status.

(Chinoy, 1961, p. 29)

In his treatise, Parsons (1951) used role theory in analyzing illness behavior among a number of patients, and in a number of settings. He found the commonalities in behaviors, norms and status relationships to be ubiquitous and consistent over time and place. The sick role was developed as a clear example of the characteristics and attributes present in the role theory framework. These characteristics emphasized the unimodal nature of the sick person role relationship with the physician. In describing the sick role, Parsons defined the elements of role relationships, behavioral presumptions, and reactions to illness as modifying elements in this behavior.

The major dyadic role relationship in Parsons' framework is that between the physician and the patient. Family members may also play a critical role in their relationship with the sick person. Three behavioral presumptions are made and reinforced upon the sick person by society: 1) the sick person is exempt

from social responsibility; 2) the sick person cannot be expected to take care of himself; and 3) the sick person should want to get well. A fourth behavioral presumption - the sick person should seek medical advice and cooperate with the medical experts - is likewise included in situations where the illness behavior is manifested to such an extent that health-seeking is perceived by family and friends as the socially responsible action. The fourth presumption, according to Parsons, requires the role of the sick person to "become articulated with that of the physician in a complementary role structure." (p. 437)

Parsons (1972) stated that there are four criteria that must be met before an individual can assume the sick role with the endorsement and acknowledgement of society. These criteria are dimensions of the attributes of incapacity, which the individual possesses and displays:

- The incapacity cannot be overcome by willpower alone.
- The incapacity affords the individual legitimate exemption from normal task and role obligations.
- The incapacity is conditionally legitimized by the individual's recognition that "to be ill is inherently undesirable and that he, therefore, has an obligation to try to get well and cooperate with others to this end." (p. 107)
- Unless the incapacity is expected to resolve itself quickly, the sick individual has an obligation to seek and cooperate with competent help (usually medical).

Gordon (1966) sought to examine the validity of the Parsons' sick role concept with particular reference to the behavioral expectations relating illness within dyadic relationships. He interviewed a cluster sample of 808 subjects in New York City excluding transients and anyone under 21 years of age. His independent variables included ethnicity, socioeconomic status, family size, age, gender, education and religion. The findings reported a greater tendency on the part of respondents in the lower socioeconomic group to consider functional incapacity in and of itself as a valid criterion for defining someone as sick. Regardless of the independent variables studied, Gordon (1966) reported that the poorer or more uncertain the prognosis, the greater the tendency to define someone as sick and to expect them to assume the sick role. Even in the presence of physical impairment, the reaction toward the ill was reported as differing greatly depending upon the known versus unknown prognosis. Other studies in diverse medical settings have validated the elements of Parsons' sick role and the medical, social implications (Anderson, 1975; Apple, 1960; Gallagher, 1976; Mechanic, 1962).

Critique of Role Theory

While agreeing with the premise of role theory, some researchers have countered that the illness behavior of many patients resembles more a role conflict with the health care provider and the environment rather than the traditionally and clearly defined sick role originally described by Parsons

(DiMatteo & DiNicola, 1982; Thomas, 1966). Thomas (1966) suggested that "role conflict exists when there are two opposing expectations held for the behavior of an individual such that he cannot perform consistently with both at the same time or when contradictory role conceptions are held for the same person" (p. 8). When disabilities occur suddenly, or the environment of the sick person is unfamiliar, role conflict is more likely to occur. DiMatteo and DiNicola (1982) further explained patients' deviations from the classical sick role as variances that may be "attributed to biological sensitivities and also to differences in early experiences with illness and symptoms, expectations of other people, varying capacities of people to cope with their environment and varying solid definitions that they apply to symptoms" (p. 158).

One school of thought in medical sociology embraces the Parsonian model as an ideal theory, but flatly rejects its application to real life situations (Freidson, 1961; Mechanic, 1978; Szasz, & Hollender, 1956). These researchers posed that Parsons' sick role is a description of what should transpire in an optimal world, not what actually does. Their research offered an alternative, situational perspective - one in which reality negotiation takes place between the medical practitioners and patients rather than the formalized active dominance versus passive submissive roles described by Parsons. These researchers nevertheless reinforced the theoretical construct of role assumptions originally presented by Parsons. They disagreed with

his limited, circumscribed application of the sick role in medical encounters. The sick role is portrayed as "an ideal type in the sense that it is a theoretical model that attempts to depict the patients' behavioral orientations when he seeks medical care, but is not itself a description of an empirical reality" (Mechanic, 1978, p. 145). Role theory, as applied to illness, is constrained by ceremonial and bureaucratic forces. These forces are seen in the extent to which all role participants share a common interest in the role formats and the intent that the players are accountable for their actions and dependent upon outcomes. Strong (1979) studied these ceremonial roles of doctors, children and their parents in Scottish and American hospitals. He found a wider range of role formats than originally theorized by Parsons. This researcher hypothesized that the overt form of events (e.g., death, surgery, severity of injury) as well as one's relative ability to enforce an agreed upon, practical meaning of the rules of role format caused a wider range of behaviors exhibited and accepted than previously described in Parson's model. Rather than assuming a standard, traditional sick role when faced with illness, this researcher stated that individual's illness behaviors demonstrate greater variances as a result of their present condition, environment, and resources. The individuals' past experiences, attitudes, and societal expectations also played a pivotal role in the illness behaviors displayed by this population.

Health Belief Model

While one school of thought in medical sociology has searched for explanations for illness behaviors through role theory, another theoretical framework proposed by Rosenstock (1966), attempted to explain health-seeking behaviors in terms of environmental factors interacting with the target population's characteristics. Rosenstock (1966) derived the health belief model from the seminal work of Lewin (1944) who conceptualized the life space of man as being defined by negative, positive and neutral valence regions. Preventive health behaviors are strategies employed to avoid negative valued regions of illness and disease. The health belief model formulated by Rosenstock provides the researcher with a framework for exploring why some individuals and certain cohort populations readily seek health care on a preventive basis and are actively involved consumers during health care delivery, while others fail to take preventive measures from illness, and are passive, uninvolved consumers when placed in health care delivery situations. The health belief model was first formulated during a time of widespread reluctance on the part of certain sectors of society toward government sponsored screenings and inoculations to combat public health concerns.

The health belief model is a paradigm which assesses the impact the structural variables (e.g., access, past experiences, cost), demographic variables (e.g., age, gender, family size, socioeconomic status) and cognitive perceptual variables (e.g.,

health knowledge, motivation, perceived benefits and barriers) have on the likelihood for individuals to engage in health-seeking and health promotion behaviors (Pender, 1987). Rosenstock developed the health belief model with the premise that an overt behavior such as health seeking is a derivation of overall health behaviors of individuals and groups. Health behavior, like all behaviors, is learned and habitual. Old behavior patterns can therefore be eliminated if the variables affecting these patterns can be defined and new ones can be developed to supersede and substitute for the old ones (Rosenstock & Kirscht, 1979).

Using the health belief model as a theoretical framework, researchers have studied the specific variables' application to health care behaviors among diverse populations (Antonovsky, 1970; Atkins, 1984; Condiotte, 1981; DiClemente, 1981). These researchers have assessed patients' perceived susceptibility (individuals' estimated probability that they will encounter a specific health problem) with the degree and the fervor in which they successfully seek out and participate in the chosen health care delivery. Studies have also used the health belief model as a theory to assess perceived barriers to health seeking and participation (Antonovsky & Kats, 1970; Tash, 1969). Tash (1969) examined the barrier variables of cost, inconvenience, unpleasantness, and intent of life change, and their individual and collective efforts on health-seeking of patients for preventive versus actual symptomatic problems in dental care.

Task's conclusion was that the barrier variables displayed an indirect relationship with the health-seeking and the perceived susceptibility of the subjects in this study.

Critique of Health Belief Model

Using the health belief model, Kegelis (1969) hypothesized that "benefits minus barriers determine the likelihood of taking recommended preventive health actions" (p. 115). Other cognitive-perceptual variables comprising this model have been studied and hypothesized to have both negative and positive valence characteristics. Perceived seriousness, as defined by Becker (1974) "can be judged either by the degree of emotional arousal created by the thought of the disease or by the difficulties that individuals believe a given health condition would create for them" (pp. 46-47). According to Becker, perceived susceptibility combines with perceived seriousness, as used in the health belief model, to determine the total perceived threat of an illness to an individual.

Becker and others found no significant correlation between subjects perceived seriousness of illnesses, perceived threat, and their likelihood of action in seeking health care delivery in diverse medical situations (Becker, 1974; Becker, 1975; Champion, 1984; Fink, Shapiro, & Roester, 1972; Leventhal, 1965). They concluded that the health belief model provides an excellent paradigm from which to theorize patient behaviors in idealized situations, but clinical everyday applications rarely fit this

mold, and health behaviors cannot be predicted with any degree of reliability using the health belief model.

Pender (1987) suggested that the variable of perceived seriousness is an attitudinal trait that is influenced by other health model variables, such as knowledge, past experiences, even education, ethnicity and socioeconomic status. She stated that certain groups may draw contrasting conclusions from the same disease diagnosis which elicits the perceived seriousness attitude, drawing contrasting perceived threat conclusions while taking opposite likelihood of action responses (eg. approach, avoidance, acceptance, or denial and fear).

Wallston and Wallston (1984) proposed that the health belief model is lacking in operational definitions and application and is merely a collection of variables rather than a well-articulated model specifying the nature of the relationship among variables. As such, they feel that this model is not a valid or reliable paradigm from which to base hypotheses or achieve conclusions on illness behaviors among individuals or populations.

Mechanic (1978) concluded that "much of the behavior of sick persons is a direct product of three specific symptoms they experience: their intensity, the quality of discomfort they cause, their persistence, and so on" (p. 276). He went on to argue that, regardless of assessing the effects and interactions of the numerous variables presented in the health belief model, the level of intensity of pain and discomfort is the overwhelming

reason why individuals and populations seek health care.

Pender (1987) stated that a fundamental shortcoming of the health belief model is its emphasis on health-seeking as the behavior that accurately reflects the degree or the state of health behavior measures among target populations. She argued that health promotion behaviors of individuals and groups are more overt signs of actual health behavior changes than health-seeking practices and therefore they should be the focus of the health belief model. Health promotion is a more sensitive measure of health status since it requires forethought and planning; health-seeking is often an inevitable reaction to disease or events which are outside the control of the individual. Pender noted that "the current national emphasis on prevention and health promotion has had less impact on persons of lower socioeconomic status than on persons who are highly educated, have high incomes, or are in managerial or professional positions" (p. 4). She concluded that the likelihood of engaging in health promoting behaviors is a result of factors such as self-efficacy, perceived control, perceived benefits versus barriers to health promotion, health definition, and importance of health. These factors in turn may be modified by demographic, biologic, behavioral, situational and interpersonal influences.

The Pender health promotion model places greater emphasis on the individual's or group's perceptions of health promotion versus the more interactional emphasis of classes of variables' effects on health seeking seen in the Rosenstock health belief

model.

Health Behaviors

Health behaviors are not discrete, clearly defined characteristics or attributes. Specific behaviors, such as perceived susceptibility to illness, often influence and are influenced by other related behaviors. Fishbein and Aijzen (1975) grounded the health-seeking behavior of individuals in a theory of reasoned action. They proposed that human social behavior, including preventive health measures and cooperation with medical regimens, is not a simple product of unconscious motives and influences. People decide whether or not to engage in a given action based on conscious motives and understood consequences. In reviewing a large number of studies to support their theory of reasoned action, the authors concluded that "in order to change behavior, an influence attempt should be directed at the intention to perform that behavior. To change that intention, however, it will be necessary to focus on the attitude 'toward' the behavior and on subjective norms" (p. 406).

In the process of studying health seeking behavior, a number of researchers have attempted to identify and rank the antecedent or causative factors which activate this behavior among individuals (DiMatteo & DiNicola, 1982; Grant, 1987; Mechanic, 1978; Zola, 1966). Mechanic (1978) established ten determinants he believed may act solely or in tandem to activate the health seeking behavior among individuals or groups:

1. Visibility, recognizability, or perceptual salience of deviant signs and symptoms
 2. The extent to which the symptoms are perceived as serious (that is, the person's estimate of the present and future probabilities of danger)
 3. The extent to which symptoms disrupt family, work and other social activities
 4. The frequency of the appearance of the deviant signs or symptoms, their persistence or their frequency of reoccurrence
 5. The tolerance threshold of those who are exposed to and evaluate the deviant signs and symptoms
 6. Available information, knowledge and cultural assumptions and understandings of the evaluator
 7. Basic needs that lead to denial
 8. Needs competing with illness response
 9. Competing possible interpretations that can be assigned to their symptoms once they are recognized
 10. Availability of treatment resources, physical proximity and psychological and monetary costs of taking action.
- (pp. 268-269)

Mechanic stated that there are four recognized and accepted methodological approaches used to understand individuals' responses to symptoms and choice of pathways for care. In the first approach, health-seeking is viewed as a dispositional variable. The researcher isolates a dispositional trait such as

the socioeconomic status of the health seeker. By direct measurements via verbal reports and observation, or indirect analysis through surveys, the examiner correlates this trait with health-seeking and other social development variables. The second approach, observing the interaction of the independent variables, is performed through epidemiological survey measures of target populations seeking specific health care measures. The third approach examines health-seeking from the vantage of the structure of the health delivery system; the extent to which the organizational culture encourages or imposes barriers to health-seeking. The final methodological approach views health-seeking as a step in the process of illness attribution. This method investigates the attribution process itself and the ways in which patients make sense and give significance to their experiences.

Because health-seeking is a behavior which has come to be viewed by medical sociologists as a trait that is strongly influenced by a number of determinants, studies investigating its significance in diverse populations have shown different, often contradictory results over time. In an epidemiological study of social class and health seeking behavior during the 1950s, Koos (1954) observed that upper class persons were more likely than lower class persons to view themselves as ill when they had specific symptoms. Upper class individuals were also more likely to seek medical care and the doctor's advice sooner and more often than lower class individuals. One research study reported the opposite findings in a study of health seeking behaviors

during the mid-1970s in an urban ambulatory medical care facility (Garfield, Colleen, Feldman, Soghikian, Richart, & Duncan, 1976). These researchers attributed the gradual systematic and publicized reduction of the financial barrier to health care due to federally-sponsored programs for the poor and elderly to the increase in health behaviors of the study sample. This public policy had lowered this social class' thresholds for health-seeking behaviors; encouraging both those who have serious manifestations of illness and those who are exhibiting vague symptoms and are unclear as to their health status to seek medical care.

A number of studies isolating health-seeking and the dispositional variables of socioeconomic status and ethnicity have reported findings that indicate a utilization of clinical services beyond commonly recognized medical needs (Cormick, Cormier, DiMatteo, & DiNicola, 1982; Grant, 1987; Kark, 1881; Shuval, 1978; Weisser, 1984). These research reports found that patients frequently seek health care for reasons other than acute distress or directly related to their primary diagnosis. Misuse of the health delivery system, in the form of over or under utilization of services, is attributed in no small part to the discontinuity between patients' seeking health services for psychological and personal needs which are not clearly enunciated and physicians failing to answer these needs because of their over reliance on scientific methods of diagnosis/treatment, and preference for a bureaucratic, formal interaction. Medical

literature is replete with discussions on this topic, ranging from vocal frustration to concerned, scientific inquiry (Cormier, Cormier, & Weisser, 1984; Mechanic, 1978; Preston, 1986).

Preston (1986) stated

It is estimated that 70-80% of the people who go to doctors have nothing wrong with them that wouldn't be cleared up by a vacation, a pay raise or relief from everyday emotional distress....) Most ill persons get well through the natural recovery mechanisms of the body, without which even the fittest wouldn't survive. (pp. 20-21)

Other researchers acknowledge that the failures seen in health-seeking and health utilization are also credited to weaknesses or shortcomings in the health care system (DiMatteo & DiNicola, 1982; Kark, 1981; Mechanic, 1978). One author states:

The reasons why medicine has been unsuccessful in eliminating use of nontraditional forms of health care and motivating patients to seek timely health care is scientific medicine frequently clashes with patients' cultural beliefs and viewpoints and with their psychological needs and thus scientific medicine does not always take full advantage of the treatment context for bringing about patient improvement through encouragement, support and suggestion. (Mechanic, 1978, pp. 418-419)

Researchers have reported findings that indicate this confusion between consumer and provider in health-seeking and utilization is more commonly seen in socially disadvantaged

populations due to the maladjustment, isolation and the transience of this class of people (Grant, 1987; Kark, 1981; Mechanic, 1978; Shuval, 1978).

Motivation

Health-seeking behavior and health behaviors during care delivery affect and are influenced by the character trait known as motivation. The health belief model suggests that motivation should be viewed as a construct which is multiplicative of two variables: the value of the outcomes that could follow from the behavior times the subjective probability or expectancy that the behavior will potentially lead to those outcomes (Rosenstock, 1974). Using the Health Belief Model as the framework for their study, Becker et al., (1972) operationally defined motivation as a behavior which manifests four characteristics among patients:

- the belief that one is vulnerable to the health problem
- the belief that the illness is a perceived threat
- the belief that recommended health action will reduce the threat without substantial inconvenience
- an overt behavior which expresses general concern over health matters and a willingness to accept advice.

Researchers have attempted to further clarify those variables which evoke or cue an individual's motivation to seek and become active behavioral participants in health care delivery by defining stimuli that are external or internal forces to the individual (Becker, Drachman, & Kirscht, 1972; Bedworth &

Bedworth, 1978; Cox, 1985; Galli, 1978; Pindur, 1987; Sorrentino & Higgins, 1986). This literature suggested that the intrinsic traits of individuals such as personal capabilities of adequacy, competency, self-determined health behaviors and judgement, and cue responsiveness are equally important as the external forces of severity of illness, access to care and cost. External cultural mores also include a feeling of belonging and social approval and acceptance among one's peers, feelings of security and a sense of familiarity with the surroundings.

Cox (1985) stated that health behavior is a function of antecedent factors, "age, sex, race, education, socioeconomic status and other background variables may well contribute to how an individual makes choices about health behavior" (p. 204). She hypothesized that the motivation of individuals or their manifested ambivalence affects the active behavioral involvement of the lower socioeconomic and inadequately educated class during health care delivery.

Motivation as a Concept of Locus of Control

The construct known as motivation has also been studied from the viewpoint of the individual's locus of control. Rotter (1966) developed a social learning theory which established the assumption that individuals have an internal or external locus of control and orientation toward themselves and their environment. This theory was expanded by medical sociologists to define individuals as presenting a health locus of control when

receiving health care services (Walston, Kaplan, & Maides, 1976; Walston & Walston, 1981). The health locus of control paradigm includes the concept trait of motivation or general expectancy on the part of patients as being important in health seeking, promotion and consumption of health care. A patient exhibiting a high or increased internal locus of control is hypothesized to be more likely to take initiative in health care, demonstrate greater knowledge about health and be more likely to adhere to prescribed regimens, resulting in greater satisfaction and compliance. In contrast, a patient exhibiting a greater tendency toward an external locus of control is hypothesized to attribute his or her health status to fate, luck, or powerful factors beyond the patient's control.

Initial field testing of the health locus of control scale found correlations of only .42 to .54 between sample subjects' loci of control tendencies and their predicted health behaviors. Wallston, Wallston and DeVellis (1978) refined the health locus of control scale to a more detailed multidimensional assessment; identifying three dimensions: 1) the original internal locus; 2) an external locus attributing health to powerful others (i.e. health professionals); and 3) the other locus attributing health to chance or luck.

Controlled clinical studies testing these hypotheses have met with conflicting results. Lowery and DuCette (1976) hypothesized that diabetics (independent of disease severity) who were more internal in their locus of control would know more

about their disease, be more active in seeking information about diabetes and its management, be more compliant with their regimens and demonstrate better outcomes (e.g., decreased serum glucose levels). Their hypotheses were accepted, but only for those patients who had been diagnosed and treated for three years or less. Long term diabetics, with high internal locus of control orientation, proved to be less compliant with their regimens and demonstrated poorer outcomes than did their external locus controlled counterparts. The researchers concluded that once the novelty of the illness had worn off, factors other than how people view themselves in relation to their environment motivates and governs health behavior.

Studies examining social class distinctions in the motivation of health behaviors of parents found that middle class parents were more likely to become active participants in preventive health regimens for their children than those parents from the lower class. A powerful motivating factor among the middle class, however, was the cultural norm of attempting to satisfy other's expectations of "what a good parent should do" (Pindur, 1987, p. 49) (Becker, Radius, & Rosenstock, 1978; Gray, Kesler, & Moody, 1966; Heinzelman, 1962).

Effects of Sociocultural Characteristics on Health Behaviors

DiMatteo and DiNicola (1982) proposed that the active behaviors and orientation toward illness are attributes which are also defined and influenced by social class, economics and

education. They stated that active participation and involvement in health care matters is "an expectation held by a relatively advantaged sector of our society - those who are comfortably housed, well fed, educated and employed" (p. 164). Maladaptive health-coping behaviors may be viewed as an end result of sociocultural influences, peer or social class pressures, social isolation and the frequent uprooting and resultant insecurities of poor individuals and families in the urban environment (Hamburg, Elliot, & Parron, 1982). In studying human behavior trends found in our cities, much of the research has been presented in a descriptive case study format. Those studies which have sought to define statistically health behaviors of the urban poor and disadvantaged have reported differing, even conflicting reports. Sofiliros-Rothchilds (1970) stated that the urban poor's dominant health behavior during health care delivery is a tendency to show deference to authority figures and follow orders in a passive manner when placed in unfamiliar surroundings. Medical sociologists propose that the underlying factors producing disease may start with an occupational or social peer group "drawn typically but not necessarily from a given social class, which may engage in a pathogenic pattern of behavior" (Freeman, Levine, & Reader, 1972, pp. 70-71). Mechanic and Volkart (1960) stated that when illness is of a kind that has familiarity to it, with predictable symptoms and prognosis, health-seeking and utilization is highly correlated to an index of demographic variables (e.g., age, gender, socioeconomic

status, education). As symptoms become less familiar and the prognosis more uncertain, the role of these situational variables in prompting the health promotion responses becomes less significant, and perceived threat and susceptibility have more weight in decision making.

Over the past 35 years there has been a reversal in the correlation between socioeconomic status and health care utilization of the urban populations reported in the medical literature. Koos (1954) reported that the frequency and amount of utilization of health care services in our urban centers was directly correlated to the income of the subjects interviewed. More recent reports document the fact that the urban poor are heavier consumers of health care resources because of their reliance on expensive emergency room and hospital services which could have been dealt with in a preventive and less expensive manner (National Center for Health Statistics, 1982). While health care utilization and costs for the poor sector of our cities have surpassed that of the middle class, the standards of health status quality, as measured by infant mortality, morbidity and life span, actually declined for the urban poor during the 1980's (HHS National Medical Care Utilization and Expenditure Survey, 1980; National Center for Health Statistics, 1990; Reissman, 1986).

Sharp, Ross and Cockerham (1983) developed a causal model assessing the effect social status (e.g., race, level of education and income) had on the symptom levels and attitudes

about visiting the doctor. In 1980 they surveyed through telephone interviews a cross sectional sample of 707 healthy subjects in the greater Chicago area. Their findings reported that African Americans and the less educated have developed positive attitudes toward visiting physicians and are more likely than Caucasians and the better educated to think certain symptoms were serious enough to consult a physician. They also found that neither attitudes nor symptoms alone affect utilization - an individual must have the symptom, evaluate its perceived threat and assess the efficacy of professional treatment before seeking a doctor's care. The researchers theorized that, since African Americans and less educated persons have gained more equitable access to the health care system since the 1960s, their beliefs and attitudes about health care access and utilization have changed accordingly.

People of lower socioeconomic status have been reported to be less likely to engage in preventive health behaviors than their middle class counterparts (Rosenstock & Kirscht, 1979; Rundell & Wheeler, 1979). Consistent evidence exists over the years that the lower classes have higher mortality, morbidity and disability rates (Brown & Harris, 1978; Cypress, 1979; Hamburg, Elliot, & Parron, 1982; Jenkins, Tuthill, Tannenbaum, & Kirby, 1877; National Center for Health Statistics, 1979; Syme & Berkman, 1986).

Rundell and Wheeler (1979) studied the effect family income level has on the use of preventive health care services. In

their 800 interviews with individuals from middle and lower income groups, urban and suburban environments, they discovered no direct effect of socioeconomic status on preventive care among their study sample, but a positive indirect effect of income via attitudes about illness and health-seeking. Income affected subjects' perceived susceptibility toward illness which in turn affected their motivation to use preventive care. Low income subjects also believed themselves to be less susceptible to illness and disability than they really are. They reported that, unlike middle class subjects, they are more likely not to have a usual source of care that might convince them otherwise. Urban poor in fact are more likely to consider someone ill based on the observation of an individual's need to seek and receive on-going health care services (Gordon, 1966).

Cost of Health Care

The cost of health care, once thought of as the primary deterrent to effective health care participation among the poor, is no longer viewed in that manner (Pindur, 1987). DiMatteo and DiNicola (1982) researched the effect cost of care had as a barrier to health behaviors involved in health-seeking, utilization, and compliance with recommended regimens. Their findings indicate that cost should be viewed as an antecedent variable, affecting individual's intentions and changes in health behaviors, not as a primary determinant of the health behaviors mentioned. Once patients have made up their minds to seek health

care, cost is not reported by them as being an obstacle in seeking, utilization or compliance.

Race/Age/Family Role

Race has been used as a variable in determining inequities in health care delivery and health care utilization among the urban populations. Over the years since a large percentage of the urban poor have been minorities, race has been used by earlier researchers as one of a number of tracer variables in determining societal behaviors among the poor. Research has shown that African Americans and other minorities residing in American cities have cancers diagnosed at later stages of the disease process than Caucasians (Howard, 1982; National Center for Health Statistics, 1990), are less likely to receive such preventive services as blood pressure checks, PAP smears and breast exams (Cypress, 1979) and have been found to receive health services of lesser quality and comprehensive scope than do Caucasians of equivalent socioeconomic status (Howard, Lund, & Bell, 1980). The recently released national report on the health status of United States citizens residing in this country reveal that the average life span for African American males has declined one half of one percent since 1984, while Caucasian male and female average life spans continue to advance (National Center for Health Statistics, 1990).

These researchers are quick to point out that, while there is a high correlation between minority representation and

socioeconomic disadvantage, it would be a moral, as well as statistical, error to conclude that all minorities are poor and consequently their poor health status is due to ineffective health-seeking and health promotion skills. The health care system and providers have far more control over the dispensing of information, diagnostic studies and regimens than do the patients. Only to assess the limiting characteristics of the minority patients, while ignoring the input and interaction of the more informed and powerful health care delivery system is tantamount to blaming the victim for the failure of the system (Greene, 1989; Hamburg, 1982). In studying the effects that economics and race have had on the success of medical encounters, as measured by patient satisfaction and compliance to treatment regimens, Raffler-Engel (1989) concluded that cultural values and beliefs espoused by the differing socioeconomic and racial classes have a profound influence on the interaction between doctors and patients, ultimately influencing diagnostic interpretation and medical care. He stated that:

When white doctors deal with lower class blacks they should be very careful listeners and probably have a black nurse who can interpret. Middle class black people present no such language problem....No data seem to be available on the interaction between the black physician and lower class whites. (p. 18)

The situational variable of patient age has recently been studied as it influences the individual in health-seeking,

prevention or promotion behaviors and its influence in biasing the interaction of the medical encounter with the physician. Researchers have suggested that certain times of life - adolescence, middle years, and old age - are associated with "particular kinds of vulnerability, as reflected in unique patterns in the burden of illness" (Hamburg, Elliot, & Parron, 1982, p. 308).

Schnall and Keru (1986) studied the interactive effects of socioeconomic status and age on the prevalence of hypertension among a sample of urban patients seeking health care. They found that for the 35-49 year age group hypertension is three times greater in the lower socioeconomic, African American group than the higher socioeconomic middle class. They stated that chronic diseases, such as hypertension have an age, social, racial and economic basis of cause. Greene, Adelman, Charon and Hoffman (1986) audiotaped medical encounters between physicians and sets of youthful (ages less than 45) and elderly (ages over 65) patients. Patients were matched for gender and race. Findings indicated that there were more medical and fewer psychosocial issues discussed in the elderly patient interviews. The researchers concluded that these differences were largely attributed to physician behavior. The physicians preferred and responded better to topics they raised when dealing with the elderly. The doctors were more respectful and engaged with the younger patients. The elderly patients stayed on the medical topics, were highly respectful of authority and did not bring up

psychosocial issues unless they (the elderly) "perceived it was acceptable, by the doctor bringing the topic up first" (p. 118).

In a similar study researchers attempted to discern if the age of patients affected the amount of mutual agreement (ie. level of concordance) between patients and doctors over topics discussed during the medical encounters (Green, Adelman, Charon, & Friedman, 1989). They found that younger patients were more assertive and better communicators , providing more comprehensive information. Medical encounters between doctors and elderly patients did, however, result in a larger number of medical topics being raised per session. While there was greater discussion and resolution of the medical topics discussed with the younger patients, the researchers concluded that the significantly fewer concordant topics witnessed with the elderly patients could have been due to the fact that there was a greater chance of no resolution due to the greater number of topics raised per session and not solely based on age discrimination against the elderly patients. These studies did not factor in the effects of socioeconomic status or level of educational attainment of the subject sample.

Family and Gender Roles

The role of family support and gender of the individuals are two variables which have been shown to have significant effects on the health-seeking behaviors of patients and their compliance with medical regimens (Aho, 1977; Osterweis, Bush, & Zuckerman,

1979). The family has been shown to impose norms for the health behaviors of the ill family member, which determine the family member's role, responsibility toward participating in socially correct remedies, treatment regimens and medication consumption (Osterweis, Bush, & Zuckerman, 1979). These family norms, in turn, are hypothesized to be effective as inter-generational expectations based on the families' health knowledge, past experiences, race and socioeconomic status. Aho (1977) found that, in the family unit, the head female - wife or mother - is usually the source of illness definition, establishing the norms for decisions regarding illness onset, the need for medical care, and the degree of participation of the family in health matters.

Education

The effects of level of educational attainment on the health behaviors of individuals has been shown to be a significant interactive variable in the health behavior literature (DiMatteo & DiNicola, 1982; Gordon, 1966; Jenkins, 1982; Jenkins, Tuthill, Tannenbaum, & Kirby, 1977; Kitagawa & Hauser, 1973; Sharp et al., 1983). The inadequate resources of the urban poor, including low status, occupationally risky jobs, social stigma and inadequate education interact with changes in immunity, nutrition and environmental styles to create a "circle of disadvantage" (Jenkins, 1982, pp. 3-4). When the level of educational attainment is used as the variable in analyzing mortality figures those individuals at lower education levels have age-adjusted

mortality rates significantly higher, regardless of race or gender (Kitagawa & Hauser, 1973). Caucasian males at low education levels have age-adjusted mortality rates reported to be 64% higher than Caucasian males in higher education categories. Caucasian women of comparable education disparities demonstrated a 105% rate difference; while African American male and female mortality rates likewise are reported to have significant differences when education levels were used as the variable of study.

Sharp et al., (1983) stated that the less educated have developed more positive attitudes in recent years toward visiting physicians and are more likely than the more highly educated to think certain symptoms warrant the attention of formal, professional health care services. They theorize that, perhaps as this group has gained more access to health care services in recent years, they have altered their beliefs and behaviors toward health-seeking and promotion, since the financial burden of health care expenses is now covered through federal program subsidies. While research has reported a strong correlation between level of educational attainment and socioeconomic status (Jenkins, 1982; DiMatteo & DiNicola, 1982), Gordon (1966) reported that less educated individuals had a greater perception of sickness than do individuals who, while having greater education, were likewise found to be in the lower socioeconomic status group. Gordon concluded that possibly some of the subjects in his study, while reporting low socioeconomic status,

were actually socially mobile educated respondents whose social status reference group was higher, affecting their beliefs and behaviors toward health care.

One study assessed the extent parents' socioeconomic status, income and level of education had on the health habits, morbidity, and mortality indicators of adults (DiMatteo & DiNicola, 1982). The researchers analyzed cross sectional census data from a random household survey in Alameda County, California of non-institutionalized adults 20 years and older. The dependent variables of smoking, heavy consumption of alcohol, obesity, eating habits, and amount of physical exercise were analyzed in canonical correlations and multiple regression analyses. Parental and subjects' level of educational attainment proved to be the most important determinants of the measured social variables in explaining health practice and health behaviors of the sample. Parental socioeconomic status had little effect on the health behaviors of the young adults or in later adulthood.

Coping Strategies in Health Behavior

Many authors conclude that the ineffective health behaviors of the socially disadvantaged sectors of our society are a result of illness coping strategies which are counterproductive to wellness behavior. The delayed, reactive health behaviors of the urban poor may be due to the poorer class being overwhelmed by a large number of competing survival needs such as inadequate

housing, low income, poor nutrition, and joblessness. These findings have been reported in repeated studies for the past 30 years with conclusions describing a culturally entrenched attitude of passivity and avoidance in health matters due to this population's focus on the more important survival needs (Cornely & Begman, 1961; Hamburg, Elliot, & Parron, 1982; U.S. Dept. of HEW, 1976b; U.S. Dept. of Health and Human Services, 1980b). The urban disadvantaged are reported to handle competing stresses through coping mechanisms which are counterproductive to healthy lifestyles such as cigarette smoking, poor diet, alcohol and drug consumptions, and lack of exercise (DiMatteo & DiNicola, 1982). Rather than alleviating societal burdens, these strategies have only compounded the health risks of this population.

The Center for Disease Control (1990) has estimated that 50% of morbidity and mortality from the 10 leading causes of death in the United States can be traced to the previously mentioned maladaptive coping mechanisms. Hamburg et al., (1982) suggested that the best hope for changing maladaptive coping strategies among the socially disadvantaged population is through developing relationships between patients and their doctors to expand the coping mechanism in a more positive direction.

The Doctor-Patient Dyad Interaction

Friedson (1961) proposed that the doctor-patient relationship is one of perpetual tension and conflict; a "clash of perspectives" (p. 23) because each party brings to the dyad

encounter their personal perceptions, expectations and preconceived notions of what to expect. The tension is further solidified as the encounter model is recognized as one of superior versus subordinate roles, with the physician assuming the power position; using various techniques to maintain this dominance. Kleinman and Eisenberg (1978) reinforced this observation by noting that this power-subordinate role, known as the guidance-cooperation model, has become the dominant mode of practice among American physicians, despite the conclusion that this model fails to include patients in decision making about their care. This model has also led in part to the growing public dissatisfaction with current medical practices. At the core of the guidance-cooperation model of dyad interaction is the concept of trust; patient trust in the skills of the physician and the doctor's trust in his own medical infallibility and altruistic dedication (Danziger, 1986; Doyle & Ware, 1977; Preston, 1986). Katz (1984) expanded upon this construct further by stating:

The trust relationship that doctors prefer in interactions with their patients mirror the one that prevailed at the first stage of parent-child interaction....). Doctors embraced (this trust model) because it called for unquestioning compliance, unilateral trust and verbal silence. (p. 100)

In the guidance-cooperation model, the medical practitioner carries the greater responsibility for effective communication at

all times, thus leading to fundamental flaws in the application of this model. The first problem is that physicians are people and as people they bring their own biases to any interaction in spite of their attempts to remain value neutral. Physicians, who represent middle class standards, have been shown to be more condescending to patients of lower socioeconomic status, with greater use of medical jargon in their presence (Raffler-Engel, 1989), demonstrate an intolerance for psychosocial problems, characterizing such patients as trivial or crocks (Mechanic, 1978), and tend to use heroic measures and be biased toward the provision of better care toward middle class and wealthy patients than the poorer sector of society (Crane, 1975).

Because of the inequity in medical decision-making in this model, there has been a tendency noted in the literature that the attitudes of the physicians are altered as witnessed by their medical encounters and their perceptions of their roles. Molde (1986) stated that the purpose of the medical history performed in the traditional model is to separate persons afflicted with disease from those who are presenting erroneous afflictions. She stated that doctors use interrogative style questioning, frequently interrupting the patient, to control the flow of conversation. Rapid fire questions, which often appear illogical to the patient, interrupt the patient's train of thought preventing him or her from inquiring in depth about the issues that are of most concern to the client. This pattern of interaction is reported to increase the dissatisfaction of

patients ultimately leading to noncompliance in medical regimens. In a text used in medicine to educate residents, one physician instructs as follows; "Patients want doctors they can believe in, doctors who are available, doctors who are helpful and satisfying,"(Bates, 1972, p. 23) and later, "(...) one of the principal requirements for the establishment of rapport is a self-confident doctor" (Bates, 1972, p. 26).

More recently educators and physicians alike have expressed dissatisfaction with the traditional guidance-cooperation model (DiMatteo & DiNicola, 1982; Eraker, Kirscht, & Becker, 1984; Katz, 1984; Kleinman & Eisenberg, 1978; Preston, 1986). They felt this method stifles interaction and communication between the dyad participants. These researchers propose and encourage the use of a mutual participation model in medical encounters; one in which the patient is expected to play a more active role in communication and decision making. Eraker et al., (1984) stated the mutual participation model was an absolute necessity for the ethical practice of medicine. They contend that the reliance on a traditional guidance-cooperation model is problematic since, "physicians who do not involve patients in significant decisions assume considerable responsibility for therapeutic outcomes for compliance and put themselves in a difficult ethical position," (Eraker, Kirscht, & Becker, 1984, p. 264) when these outcomes are not achieved. Recent studies have further emphasized the necessity of using a mutual participation model to improve the active role of the patient in medical dyad

interactions. When professional consultation is sought in primary care situations the presenting complaints are simply used to initiate the medical encounter and are a poor predictor of the principal problem of the patient (Burrack & Carpenter, 1986; Freidin, Goldman, & Cecil, 1980; Weyraugh, 1984).

In one walk-in clinic it was noted that 79.5% of the patients visiting reported a specific underlying agenda or purpose in health-seeking that was not linked to the presenting symptoms initially discussed (Cranwell, 1986). A successful medical encounter, as measured by patient satisfaction and compliance on the prescribed medical regimen hinges on the successful communication and interaction during the physician-patient encounter. Katz (1984) while urging the use of a mutual participation model, stated that sharing the burden of medical decision-making with patients creates new, added tensions:

- a tension of authority since joint decision making removes control from the physicians
 - a tension of autonomy since patients are likely incapacitated and not always able to make informed, logical decisions
 - a tension of uncertainty since medical outcomes are never certain and decisions are therefore not truly informed.
- (pp.85-86)

Nevertheless, the mutual participation model expands the role for patient involvement increasing the likelihood of satisfaction with the medical encounter. Eisenthal and Lazare

(1976) evaluated the effect a mutual participation model had on the patients receiving care in a large, urban general acute care hospital over a three month period. Their model stressed the importance of eliciting and understanding patient requests as to how they hoped to be helped and mutually negotiating a treatment plan with the patients. This model was employed on 106 out-patients seeking care in the urban clinic. The results showed positive correlations between this approach and patient satisfaction of outcome ($r=.63$) as being more significant than with feeling better ($r=.26$). The researchers concluded that patients are prepared for and desire productive negotiation in medical decision-making.

Communication Patterns Between Patients and Their Physicians

At the core of the dyad interaction in medical encounters is the method, style and outcome of the communication between the doctor and the patient. Purtillo (1990) established the principle that the purposes of communication during these sessions is to establish mutual rapport, obtain, share and relay important information concerning the medical condition to the participants, and to give instructions regarding treatment regimens to the patient and family members. A successful communication session is dependent upon the manner in which the material is presented, the verbal and non-verbal cues presented by the speakers, and the degree to which both speakers effectively listen and receive the information.

Various studies have shown that the physicians by nature of their role as health care providers control the interaction patterns and communication during the medical encounter (King, Novik, & Citrenbaum, 1983; Peitchinis, 1976; Preston, 1986; Strong, Rouledge, & Paul, 1979; Waitzkin, 1979). These studies reported that while recognizing the importance of the role of physicians in orchestrating and focusing the medical encounter toward achieving a successful diagnosis and treatment regimen, there was increasing concern that this communication pattern does not allow for patients to voice their personal concerns and report the obstacles toward medical compliance. Waitzkin (1979) reported the results of a pilot study involving the direct recording and analysis of 336 doctor-patient encounters using the variables of time spent in verbal exchange, the numbers of explanations imparted to the patient, and technicality of jargon used by the physicians. During medical encounters lasting over 20 minutes, the actual time allotted for patient-doctor verbal exchange had a mean of 1 minute and 20 seconds. Doctors were found to communicate on average less than 1 minute when providing the patients with information about some aspect of the medical treatment or diagnosis. Doctors over estimated the time allotted to mutual discussion and information-providing to the patient when the respondents reported; believing it to be on average 7 minutes and 30 seconds in length. In less than one third of the encounters did the physicians correctly assess the patients' desires for discussion or interest in obtaining medical

information. Raffler-Engel (1989) stated that physicians pay too little attention to what patients say about their illnesses, "underestimating their patients' desire for information and overestimating their patient's desire to make decisions" (p. 10).

In a study observing the clinical interview techniques of over 300 internal medicine physicians, Platt and McMath (1979) found defects in communication by the physicians as being a combination of five syndromes: 1) a failure on the part of the physicians to establish any rapport, resulting in encounters of low therapeutic content, 2) inattentiveness to discovering primary data (e.g., symptoms), 3) a high control style on the part of physicians during the interviews, 4) omission of patient-centered information, resulting in incomplete data bases to establish conclusions, and 5) thoughtless interview styles, with no working hypotheses available for diagnosis.

Similar findings have been reported in the medical literature addressing the physicians' roles in the failure of effective communication during medical encounters and the subsequent effects on patient satisfaction and compliance (Bennett, Knox, & Morrison, 1978; Fletcher, 1980; Ley, 1982). More recent trends in medical education curricula have sought to improve communication in the medical encounter by instructing physicians to refrain from excessive talking and use of jargon, encourage patients to express their concerns and thoughts, allow

for silence, and reassure and acknowledge patients' attitudes (Cormier, Cormier, & Weisser, 1984; Fletcher, 1979).

Failures in communication have been reported in the literature to be more exacerbated when the patients present with chronic ailments (Greene, Adelman, Charon, & Freidman, 1989), are different in age from their physicians (Greene, Adelman, Charon, & Hoffmann, 1986), have uncertain or bleak prognoses (Auerbach, Martelli, & Mercuri, 1983; McIntosh, 1979), or are of a lower socioeconomic class (Sasano & Shepard 1973; Waitzkin, 1979; DiMatteo & DiNicola, 1982). While various social classes have reported an unwillingness of doctors to listen to them (Raffler-Engel, 1989), the working class poor and unemployed have been shown by Waitzkin (1979) to have received less opportunity to discuss their medical concerns or receive information and dialogue during the medical encounter. Researchers report that this phenomena may be due to the practitioner's feelings of helplessness and pessimism for poor people because of the poor group's lack of preventive care (Pratt, 1970; Wills, 1978). The practitioners also have reported a belief that the poor are unresponsive to changing behaviors to enhance their health status. Safilios-Rothschilds (1970) countered, pointing to the failure of communication as a manifestation of the different mores of social class. The urban poor express a tendency to show deference to authority figures, follow orders and remain verbally passive when seeking sources in new and unfamiliar surroundings.

Patients do not always provide health care practitioners with a thorough account of their symptoms and medical concerns. Korsch et al. (1968) found in their study of parents seeking health care for their children that 65% of the expectations voiced by the subjects regarding their children's welfare were not mentioned to the physicians during the medical encounter, nor were 76% of the patients' main worries. The researchers attributed this failure in communication to patients' and parents' diffidence and reluctance coupled with poor interviewing techniques of the physicians studied.

Roter (1977) conducted an experiment aimed at addressing patient diffidence during interaction with their physicians. Patients were interviewed prior to their consultation to ascertain what information they wished to acquire from their doctors. They were coached by the researcher as to how to word these questions to achieve satisfactory responses. The results of the study showed there was an increase in the number of questions asked, leading to increases in anxiety and even anger during the consultation, but resulting in greater overall compliance in attending follow-up consultations.

The importance of the agreement between verbal communication patterns and non-verbal cueing of both participants in the medical encounter toward achieving patient satisfaction and compliance has been reported in the literature (Cormier, Cormier, & Weisser, 1984; DiMatteo & DiNicola, 1982; King, Novik, & Citrenbaum, 1983; Raffler-Engel, 1989). Patient satisfaction and

compliance with medical regimens have been reinforced only when congruence exists between verbal and non-verbal cueing (Raffler-Engel, 1989). Ivey and Simek-Kowning (1980), in studying the non-verbal communication patterns of the middle class and selected other cultures in the United States, reported contrasting interaction styles of non-verbal behavior. Middle class individuals expect direct eye contact when listening to a person but demonstrate less eye contact when speaking. Some African Americans in the United States exhibit patterns directly opposite, demonstrating and expecting greater eye contact when speaking, less when listening. Peitchinis (1976) hypothesized that the levels of dissatisfaction of patients toward their health care delivery may be due to the lack of comprehension of verbal and non-verbal cues between participants brought on by the differences in age, gender, diagnosis, social class and cultural norms.

The active orientation toward health-seeking and health behaviors during the medical encounter may be a desirable trait that is a social class phenomenon. DiMatteo and DiNicola (1982) stated that "it is an expectation held by a relatively advantaged sector of our society - those who are comfortably housed, well fed, educated and employed" (p. 164). The importance of active patient orientation toward illness has been shown to be directly correlated with positive outcomes in health care. Schulman (1979) studied the effects of inducing active orientation by various methods of treatment, questionnaires, interviews and

using a self-reporting device on 99 hypertensive patients. Subjects who exhibited a high active orientation in on-going care were more likely to have their blood pressure under control, exhibit fewer side effects, adhere to the treatment regimen and engage in health enhancing behaviors (e.g. reduced salt in-take, stop smoking). These subjects also reported greater feelings of self-efficacy and a greater belief in the benefits and cost of the medical regimen.

Patient Satisfaction

Korsch et al. (1968) reported that patients often have difficulty establishing communication and rapport because their doctors either use excessive medical jargon, talk down to their patients or do not bother to include them in discussions and decision-making early on in the care. This inevitably leads to patient dissatisfaction and non-compliance with prescribed medical regimens. Failure in communication is reported to be more pronounced when the patient attempts to address the personal and psychological components of an illness or disease; issues which are more likely to come up in chronic disease cases (Fletcher, 1980). While patients have been shown to be able to explicitly state their expectations of practitioners' responsibilities and roles in communication during clinic visits, the issue of patients' requests of health care workers was largely ignored in the literature on practitioner-patient interaction as recently as the 1970s (Lazare, Eisenthal, Frank, &

Stoeckle, 1978). Studies evaluating levels of dissatisfaction of hospital based patients have been found to express dissatisfaction with the medical information they received (Hawkins, 1979; Reynolds, 1978). Upon follow-up investigation through interviews, researchers have reported that the information was indeed provided by the medical staff, leading one to conclude that there must be something wrong in the way the information was delivered.

Correlational and multiple regression studies using patient satisfaction as the independent variable have found that patient satisfaction in communication with their physician was a strong determinant of a more general sense of satisfaction with the medical encounter (DiMatteo, Prince, & Taranta, 1979; Doyle & Ware, 1977; Mangelsdorff, 1979; Roghmann, Hengst, & Zastowny, 1979; Ware & Snyder, 1975). Patient satisfaction with the medical encounter has also been reported in the literature as being influenced by variables such as socioeconomic status (Smith, Polis, & Hadoc, 1981), gender of the physician (Harrigan & Rosenthal, 1988), race (Raffler-Engel, 1989) and discordance between patient's and physician's age (Greene, Adelman, Charon, & Freidmann, 1989).

By viewing verbal and non-verbal cueing of the dyad participants through the use of videotape, Smith et al., (1981) found significant correlations between patient satisfaction and the amount of time spent by the doctor in giving information, discussing prevention with the patient, understanding what had

been communicated, and time spent within three feet of proximity to each other. Roghmann, Hengst and Zastowny (1979) employed a multiple regression model to predict patient utilization of medical care services. They found that patient satisfaction positively influences future medical care utilization.

Utilization of care however was found to have no influence on patient satisfaction. DiMatteo and Hays (1980) through surveying patients in a family practice setting found that three dimensions of physician's behavior - communication skills, affective care and technical care - demonstrated strong positive correlations with each other and with overall patient satisfaction. All of these correlations were reported to be $r = .64$ and higher.

Eisenberg (1985) investigated the effects socioeconomic status and selected demographic variables have on patients' general satisfaction with health services in various medical practice settings. Results indicated that general satisfaction of subjects with higher socioeconomic status depend more on the technical skills, capacity and quality of their physician's care than does the satisfaction of patients with lower socioeconomic status. A common attribute of patient satisfaction, regardless of socioeconomic status, was reported to be the patient's feelings that the physician communicated with them (exchanged information in terms they could understand) as well as cared about them as people by showing warmth and compassion during the medical encounter. Eisenberg hypothesized that the higher socioeconomic status subjects perhaps included technical quality

as a factor in determining satisfaction because they are more likely to have been exposed to more varied practice settings where medical resources were more abundant. Consequently the middle class were more apt to compare and include these observations in any equation for determining satisfaction.

DiMatteo and Hays (1980) found no significant correlations between the socioeconomic status of patients and their general satisfaction with medical care or, in particular, their perceptions and feelings of various aspects of the physicians' conduct. Through surveying 300 walk-in patients in a family practice, these researchers did find that the longer the time a patient spent with the doctor (for one visit or through follow-up visits) the more positive was the patient's perceptions of the quality of affective care given, communication, technical care given, and interest in the patient's family and job. Older patients were reported to have greater satisfaction in their doctor's affective and technical care than younger patients.

In an exhaustive review of the literature, Haynes, Taylor and Sackett (1979) concluded that there are no stable relationships between demographic variables (e.g., sex, age, income) and compliance with medical care, but positive relationships between patient satisfaction and medical regimen compliance have been established. Bedworth and Bedworth (1978) reinforced these findings, stating, "Satisfaction of the primary [health care] needs can alter not only the attitudes and behavior of the individual, but also the approaches necessary to satisfy

these needs later in life" (p. 106). DiMatteo and Hays (1980) emphasized the increasing importance of active participative involvement and improved interaction behaviors of the patient and doctor as being critical to the success of the medical encounter:

Patients' (perceived) needs for the interpersonal aspects of medical care are so strong that they are willing to reject the established technical advantages of the modern medical system in order to receive such care...We should expect our already technically advanced system of health care would be considerably more effective if physicians understand and put into practice the interpersonal behavior necessary for patient satisfaction. (p. 29)

Health Education

A review of the health education literature concedes that past attempts at changing health behaviors of the urban poor through formal health education programs have met with limited success at best with very little long term carryover noted. Those successes reported in community health education programs highlight the difficulties in educating individuals to take responsibility for their own health promotion. Robinson and Alles (1984) reported that, after a 20 year campaign of public health warnings and education regarding behaviors leading to heart disease, 33% of the general population continue to smoke, over 60% are considered to be clinically obese, while fewer than 33% exercise on a regular basis. The authors concluded that,

"perhaps comfort, convenience and immediate gratification are more important (...) and all they perceive as health is knowing who to go to to patch themselves up after self-destructive tendencies" (p. 47).

The failures seen in health education programs developed in previous years have been attributed to flaws in program designs, implementation and lack of formal evaluation. Hingson, Scotch, Sorenson and Swazey (1981) concluded that public health and public school oriented education programs have had the potential to teach preventive health behaviors on a wide scale. However, because of their proselytizing a middle class morality and alarmist rhetoric on issues such as substance abuse, sex education and pregnancy, they have lost their credibility and power to influence behavior changes among their target populations. Various program planners contend that the failures of public health education models are also due to the lack of program specificity in planning, emphasis on too many facts when discussing pathologies, attempts to force the clients to embrace the practitioner's set of values, and limited access to the education resources and facilities (Bates & Winder, 1984; Bedworth & Bedworth, 1978; Hingson et al., 1981; Polgar, 1962).

Planning of Health Education Programs

While authors promote differing models and approaches in program planning of health education models, they agree with the stated aim that, "the goal of health education is to maintain,

promote and improve individual and community health through education process," (Rubinson & Alles, p. 45). The planned program consequently "should be undertaken only when it is found that a need exists and that this need can be at least partially fulfilled through the education process" (Bedworth & Bedworth, 1978, p. 250).

Behavior change is acknowledged as being the most difficult goal of a health education model. DiMatteo and DiNicola (1982) conceded that what individuals think tends to influence the achievement and maintenance of behavior change. They feel that a successful health education program aimed at behavior changes incorporates a combination of cognitive factors and positive behavior modification principles. Long term maintenance of behavior changes of target populations however have been shown in research to require reinforcements that are self-generated in order to stabilize the new behaviors; external rewards being found to be less effective modifiers as the time increases from the initial health education experience (Bellak, Rozensky, & Schwartz, 1974; Mahoney, 1974; Mahoney, Moura, & Wade, 1973). Program failures have also been the result of not acknowledging the importance of the social, medical and psychological needs of the target population (Bates & Winder 1984; Galli, 1978; Mechanic, 1978).

A successful health education program requires extensive planning of the resources available, a clear understanding of the population targeted for instruction, clearly defined objectives

and a means by which the program outcomes can be measured. One classic paradigm for health education curriculum development incorporates these attributes into its model (Bedworth & Bedworth, 1978). The blueprint employs a flow chart which develops a guide of human, school, community and material resources which are identified prior to developing the overall aim or mission of the health education program. A set of clearly defined and measurable goals of health education are formulated from the overall program aim. Following this step, the program planner "establishes both terminal and enabling objectives related to the learners" (p. 251). These objectives are used to define the scope and sequence of health content and the learning experiences developed which will best suit the target population. The results of the content and experiences can subsequently be measured to assess outcome successes and possible areas requiring redesign of the curriculum during the program review stage of the paradigm.

Bates and Winder (1984) contend that a comprehensive, successful health care delivery system concerned with the caring and health promotion of its clients must serve three functions. The first function involves the providing of services relevant to the somatic, psychic and social health problems of the patients. The second function is served by providing these services in a manner which allows for individual opportunity to change attitudes and behaviors related to those aspects of one's life, where control may be employed. The successful health care

delivery system should ultimately promote a "survival wisdom" (p. 59); promoting change in the clients' environment, such as in diet, safe housing and employment conditions, and health care practices. At the most basic level, these authors propose the following formula to explain the variables involved in health education programming:

$$HS = (f)E + ACHS + B + Ls$$

Where the health status of an individual is a function of the individual's environment, access to health services, biology and lifestyle. (p. 50)

Health educators agree that the specific relevance of the health to the consumers and the access to the resources are two of the most critical features in achieving success (DiMatteo & DiNicola, 1982; Galli, 1978; Kark, 1981). In urban settings participation of clients has been shown to be dependent upon the convenience and high visibility of the health education program as well as the identification of the socioeconomic and cultural circumstances of the community. The methods of communication as well as the availability of the services should closely match the health education consumers' attributes if success is to be realized.

One group of researchers reported on the characteristics of a successful health education program aimed at detecting high blood pressure and implementing a long term corrective health program for hypertensive adults in an inner city poor neighborhood (Authors unlisted, Hypertensive detection and follow-up program cooperative group, 1979). The results of the

study were reported following the five year program and follow-up screening. The success of the program, which overcame psychosocial factors exhibited by the sample, was attributed to vigorous and early detection, treatment and follow-up of patients by health professionals, on-going patient education and group counseling, social support functions, free transportation to the clinic, expanded hours of operation, and the same quality of care provided at equal cost to all clients.

Health educators emphasize that before any successful health education program may be implemented, the client population must be motivated to at least explore the possibility of change in health behavior and beliefs (Bedworth & Bedworth, 1978; DiMatteo & DiNicola, 1982; King & Novik, 1983). These researchers also emphasize the importance of designing the learning environment, methodologies of instruction and teaching aids to be consistent with the consumers' past similar learning situations.

The successful program is also the result of trained health educators who demonstrate expertise in the specific topic, expressing confidence and enthusiasm in the delivery of the persuasive message. Research has shown that physical attractiveness of the presenter, manifested through verbal and nonverbal behaviors, is critically important in achieving the goals of changing attitudes and behaviors. The presenter must demonstrate a trustworthiness and an altruistic motive to communicate unbiased information free of value judgements for the

client population to be willing to consider changes in health behaviors (DiMatteo & DiNicola, 1982).

Johnson and Matross (1975) reported that, once health behavior attitudes have changed through the use of a health education program additional work is needed to stabilize these new beliefs into a new value system. They suggest frequent on-going reinforcement of the new beliefs with constant reiteration of the positive consequences derived from the new behaviors. They also believe that the health professional should initially minimize outside exposure of the client to forces which might attempt to revert or regress these changes to old behaviors. The educator must work to enhance the client's sense of personal responsibility, by embedding these new beliefs into individual's sense of self image and esteem.

Using these characteristics in program planning, Kark (1981) reported on a successful multifactorial health preventive program developed in a free standing family medicine practice in an urban neighborhood health center. The health educators determined that the most critical health concerns of the clients using the health center were cardiac disease, hypertension, diabetes and atherosclerosis. The program successfully addressed these issues through establishing community diagnoses, developing specific intervention strategies, and assisting the outcomes through longitudinal surveillance of the health status of the neighborhood. Finally the program planners reevaluated their

goals and continually modified their programs based on the health status of the clients served.

Chapter 3

Methodology

Purpose

As noted in the review of the literature, the health behaviors of the urban poor, when compared to those same behaviors and beliefs of the middle class, have been shown to be different, resulting in altered levels of patient satisfaction following health care delivery. This past research has employed anecdotal descriptions and indirect survey methods in reporting these findings. No research employing a combination of questionnaires and direct observational methods in measuring the urban poor's active behavioral involvement during a medical encounter has been reported in these studies. The purpose of this study is two fold:

- 1) to assess the effect that socioeconomic status and level of educational attainment have on the active behavioral involvement of a group of urban poor and middle class subjects during a medical encounter and
- 2) to examine the effects level of motivation and selected demographic variables (e.g., age, gender, race, family size) have on both group's perceived satisfaction with the medical encounter.

Hypotheses

With respect to the sample for this study, the following

hypotheses are posed:

Hypothesis 1

There is a relationship between socioeconomic status and the desire to be informed about medical decisions.

Hypothesis 2

There is a relationship between level of educational attainment and the desire to be informed about medical decisions.

Hypothesis 3

There is a relationship between socioeconomic status and the active behavioral involvement of subjects during the interview sessions.

Hypothesis 4

There is a relationship between level of educational attainment and the active behavioral involvement of subjects during the interview sessions.

Hypothesis 5

There is a correlation between the desire to ask questions about health care decisions and the observed active behavioral involvement during the interview sessions.

Hypothesis 6

There is a relationship between socioeconomic status and the perceived satisfaction of health care delivery.

Hypothesis 7

There is a relationship between the level of educational attainment and the perceived satisfaction of health care delivery.

Hypothesis 8

There is a relationship between the level of motivation toward health and the perceived satisfaction of health care delivery.

Hypothesis 9

There is a relationship between selected demographic variables and the perceived satisfaction of health care.

These hypotheses were developed from research presented by Gordon (1966) in his study of role assumption and attitudes toward illness behaviors expressed by the urban poor. Hypotheses 1 through 4 are developed from both Gordon's findings and research conducted by DiMatteo and DiNicola (1982). The supposition is that subjects of lower socioeconomic status and educational attainment would demonstrate less active behavioral involvement in health matters and be less interested in being informed about medical decisions than subjects of higher socioeconomic status and higher educational attainment levels.

The theoretical support for hypothesis 5 has not been substantiated in the literature; proposing that subjects whose intent to be informed about health care decisions is realized by their actions of active behavioral involvement during the medical encounter. Patients' desires in being involved in decision making may not translate into greater active behavioral involvement during the medical encounter despite their preferences, due to the controlling influences of the physician.

Hypotheses 6 through 9 reflect general findings in the medical literature addressing patient satisfaction and its

relationship with motivation toward seeking health care. It is hypothesized that patients with higher socioeconomic and educational level status will derive greater satisfaction with their health care delivery because of their tendency to be more informed and actively involved during the medical encounter.

Data obtained to test these hypotheses are reported at the ordinal level. Analyses of these data will include the use of frequencies for the demographic characteristics of the sample. The Chi-Square test for 2 independent samples will be used to address hypotheses 1, 3, 6 and 8. Hypotheses 2, 4, and 7 will be analyzed by the Chi-Square test for independent samples ($k=3$). Data addressing hypothesis 5 will be analyzed using the Spearman Rank-Order Correlation (ρ) statistic with the intervening variable of length of medical consultation being controlled for its effects related to the observation videotape results. Three multiple regression equations will be developed to predict models for patient satisfaction (Hypothesis 9), active behavioral involvement and desire to be medically informed, utilizing the demographic data collected on the subjects. Finally a factor analysis of the variables' relationships will be explored as a means of identifying possible constructs which will assist in explaining the health behaviors of the urban poor population.

Operational Definitions

The following terms are operationally defined as they will be used in this study:

1. Motivation is defined as "an action or desire performed or expressed by a subject based upon biological states, emotions or unconscious drives" (Biddle, 1979, p. 4). For purposes of this study, motivation will be measured on the Cox Health Self-Determinism Index (Cox 1985; Cox, Miller, & Mull, 1987).
2. Active behavioral involvement is defined as "any overt, recognizable, observable and relatively transitory action of a human being" (Biddle, 1979, p. 24). Behavior will be measured through interview format using the Krantz Health Opinion Survey (Krantz, Baum, & Wideman, 1980), and through videotaped observation of medical encounters between patients and their physicians, using the Multidimensional Interaction Analysis Instrument (Greene, Adelman, Charon, & Hoffman, 1986).
3. Urban poor is defined as any individual whose primary domicile is located in Norfolk, Portsmouth, Hampton, Chesapeake or Newport News, or any individual who has no permanent domicile but uses the services of any of these cities may be classified as urban. Any individual whose annual income is reported as at or below the poverty line for 1991, or is dependent upon another individual who meets this description, will be classified as a member of the urban poor category (Federal Register, 1991) (Appendix A).

4. Urban middle class is defined as any individual whose primary domicile is located in Norfolk, Portsmouth, Hampton, Chesapeake or Newport News. Any individual whose income is reported to be above the poverty line for 1991, or is dependent upon another individual who meets this description, will be classified as a member of the middle class category (Federal Register, 1991) (Appendix A).
5. Patients with chronic diseases: for purposes of this study, patients with chronic diseases are individuals who meet the following criteria:
 - have sustained the pathology, signs and symptoms of the illness for more than 6 weeks duration.
 - have been placed on a medical regimen for the disease or illness for more than 6 weeks
 - are returning for follow-up care, evaluation, and/or adjustment of the prescribed medical regimen pertaining to the disease or illness

Study Sample: Patients

Two samples, one containing urban poor subjects and the other including middle class subjects, comprised the sample units for this study. Sample size for the study was 150 subjects who completed the indirect, questionnaire methods of measurement; 62 of whom volunteered to allow their medical consultation to be videotaped for later observation by the researcher. Subjects for

this study were drawn from a sample of urban middle class and poor patients using the health care services of a walk-in clinic serving the out-patient health care needs of the urban population of Portsmouth and the surrounding cities. To be acceptable candidates for this study, subjects had to be seeking health care or medical consultations for chronic diseases (e.g. hypertension, arthritis, diabetes, heart disease). This exclusive criterion for entry into the study was used to increase the homogeneity of the subjects' desires for health-seeking as a product of the urgency of the diagnoses. It was also presumed that, because of the nature of medical care in chronic diseases, there was a greater likelihood of opportunity for patient-doctor interaction and mutual decision making among all participants.

Subjects also had to meet the following criteria for accepted study participation: 1) age was between 15 and 85 years; 2) subjects had voluntarily sought health care; 3) subjects were willing to participate in the study; and 4) subjects demonstrated no receptive or expressive aphasia.

Sample Selection

The focus of the study - assessing the health behaviors of the population - precluded the use of randomness in sample selection, since the criteria of illness or perceived threat of illness and need for preventive measures were prerequisite requirements for entry into the study sample.

Additionally, the focus of the study was comparing

individuals receiving health care services in an urban setting. This design necessitated the selection of an urban health care clinic that possessed a sufficiently large patient base and one on which there was a known percentage of less educated and economically disadvantaged patients. The use of the Multidimensional Interaction Analysis instrument required a practice setting designed for unobtrusive taping of practitioner-patient interaction. After all measurement and demographic issues were considered, the Portsmouth Family Practice Center affiliated with the local medical school was agreed upon.

Potential subjects meeting the criteria for this study were identified through a review of their medical records by one of the three licensed practical nurses (LPN's) working at the family practice clinic. As the patient's appointment date drew near, a research assistant telephoned the prospective candidate at home. The patient was informed that research was being conducted at the center and asked the patient if they would consider participating. If the patients could not be reached at home, the research assistant approached prospective candidates in the waiting room of the clinic, asking them if they would consider participating in the project. If the patients asked for clarification and greater detail, they were told that the research involved "surveying patients as to their satisfaction with medical care and their opinions about health in general."

If the patient agreed to consider participating in the study over the telephone, they were asked to arrive at the clinic

20 minutes before their scheduled appointment for further information. Upon arrival, the patient was greeted by either the primary researcher (the author) or the research assistant, an individual who had recently completed the first year of medical school. Any additional questions about the purpose of the research were answered at this time; care being taken not to bias the responses or health behaviors of the patients. Patients were informed by verbal and written manner of the confidentiality of data collection prior to obtaining written informed consent (Appendix B). Patients were informed that participation in the study was strictly voluntary on their part, would not affect their medical care provided at the facility, brought with it no financial enticements, and allowed them to withdraw from the study at any point during data collection. Patients were excluded from the study if they were deemed by the physician as too ill to participate or if the data collection method was considered an obstacle and interference in the effectiveness of providing medical care to the patient.

Physicians

The physicians participating in this study were family practice physicians. Obtaining an equal representation of age, gender, or race was not possible due to the limited size of the medical practice. Five faculty family medicine physicians (3 males and 2 females), 15 family practice residents (5 females and 10 males) comprised the physician staff. All of the faculty

physicians were Caucasian. Two of the residents were African American, 3 were Asian American, and 10 were Caucasian. One of the faculty physicians was over 45 years of age; all other physicians and residents were under 45.

The patients of the faculty physicians and 3rd (final) year residents were the only individuals selected for the videotape portion of the study. These physicians appeared to have established a stronger rapport and familiarity with their patients over the years, enhancing the potential for dialogue and active involvement by the patients during the consultation. Likewise the faculty and final year residents had developed more predictable and consistent consultation styles, thereby minimizing any effect widely disparate interview methods might have on the sample's active behavioral involvement or desire to be medically informed. Using the same reasoning, the researcher excluded patients receiving care from 1st year residents from both the videotape and survey portions of the study.

Setting

Data collection for this research was conducted in a walk-in family practice center used as a training site for a medical school's family practice residents. The staff includes 5 family practice physicians, 3 LPN's, a lab technician, an x-ray technician and a registered nurse, who's assigns the duties of clerical supervisor. The center also employs a dietician, nurse practitioner, osteopath and a clinical psychologist. Eighteen

residents are in training at the FPC - 6 residents for each of the three years of medical training in family practice.

Approximately 60-70 patients are seen daily at the FPC. The clinic is able to provide routine medical services, minor surgery, limited emergency procedures and radiology. There are 15 examining rooms; two of which are specifically designed for videotaping medical encounters for training and research purposes. These rooms are 10' X 12' with built-in, relatively small and inconspicuous video tape cameras mounted near the ceiling. The cameras do not move, have any lights or emit any sound. The controls for videotaping are located in a video room, away from and separate from the examining rooms.

Instruments and Variable Measurements

The demographic data sheet was administered to all subjects in the study (Appendix C). Unless specifically requested by the subject, the demographic information and all subsequent questionnaires were completed by having the researcher or a paid research assistant read the items to the subject and score their responses. Item 7 (family income) was the response item applied to the Federal Register's 1991 poverty income guidelines to determine the subject's socioeconomic status. Item 3 (education) was used as the response in determining level of educational attainment. Item 6 (occupation status) was a response collected to ascertain the subject's degree of security or stability in their current socioeconomic status. All other response items

were collected to be used as the demographic variables of the study sample.

Krantz Health Opinion Survey

The questionnaire used to measure subjects' desire to be medically informed and their active behavioral involvement during the encounter was the Krantz Health Opinion Survey (HOS) (Krantz, Baum, & Wideman, 1980) (Appendix D). The Krantz HOS is a 16 item questionnaire requiring a nominal response (agree/disagree) from the subject. By administering the instrument prior to the medical encounter, the HOS reflected the subjects' immediate intent to be active and informed during the upcoming health care interview.

The HOS was designed by Krantz specifically to assess individual differences among patients in preferences for information from health care personnel and behavioral involvement in self-care. The HOS consists of two dimensional constructs:

a behavioral involvement scale that is concerned with attitudes toward self-care and with taking an active role in medical care, and an information scale that evaluates desire to ask questions and to be informed of and involved in medical decisions (Auerbach, Martelli, & Mercuri, 1983, p. 1287).

Krantz's intent is that eventually this instrument can be employed as a means of matching patients a priori with particular practitioners or treatment approaches that are concordant with

their mutual interaction styles (e.g. participative, guidance-cooperation).

The steps in the scale development of the HOS involved the initial identification of an item pool of 40 statements relating to aspects of medical care used to encompass the domain of preferences for an active and informed versus a relatively inactive and trusting role in the health care process. The second step in the scale development analyzed the face validity of the items, addressing the following attributes in the scale: 1) belief in the efficacy and benefits of self-care; 2) frequency of information seeking and questioning of medical personnel; 3) beliefs about the benefits or disadvantages of making one's own medical decisions; 4) attitudes toward the use of physicians versus oneself in health care; and 5) frequency of self-diagnosis (Krantz, Baum, & Wideman, 1980).

The third step involved administering the 40 item test to 200 undergraduate psychology students, applying the results to item analysis. Krantz eliminated 14 items with correlations of less than $r = .20$ since these items exhibited a narrow distribution of response set by the students. The remaining 26 items were re-administered to 159 undergraduate students. Factor analysis identified two sub-scales: 1) a behavioral involvement scale (nine items) concerned with active behavioral involvement during health care and preference for self treatment, and 2) an information scale consisting of 7 items that assessed patient's desire to ask questions and be informed about medical decisions.

The total HOS scale reported a Kuder Richardson 20 reliability estimate of .77 (the behavioral sub-scale reporting a reliability estimate of .74 and the information sub-scale estimate was .76). Test-retest reliability estimates for the total scale over a 7 week period were .74, .71 and .59 (Smith, Wallston, Wallston, et al., 1984). The two sub-scales of behavioral involvement and information correlated slightly with each other, sharing 9% of the estimated variance. The HOS shows only a moderate correlation ($r = .31$) with the Wallston Health Locus of Control Scale, a questionnaire designed to measure expectancies about abilities to control one's health. Validation of the HOS scale was performed using the criterion group method, where groups exhibiting extremes in behavior are identified and their responses are predicted using the instrument. One hundred forty-nine students seeking medical care in an out-patient clinic completed the HOS scale. The score accurately predicted those students who had attempted self-treatment prior to seeking medical care ($p < .01$) and those students who actively engaged the health care professional in medical information exchange during the treatment session ($p < .03$).

The Health Self-Determinism Index

Motivation of the subjects in seeking health care was determined prior to the medical encounter through the administration of the Cox Health Self-Determinism Index to the 150 subjects (HSDI) (Appendix E). The HSDI is comprised of 20

Likert scaled items which measure four sub-scales of motivation: self-determined health judgments, self-determined health behavior, perceived sense of competency in health matters, and responsiveness to internal-external cues (Cox, 1985; Cox & Wachs, 1985). The four sub-scales of the HSDI are reported to correspond to the theoretical descriptions seen in the components of an intrinsically motivated person. In format, no two consecutive items are from the same sub-scale and no two consecutive items are keyed in the same direction. Table 1 displays the factor pattern and factor loading of the HSDI following its statistical analysis. The objective in developing the HSDI was to create an instrument which, while short enough for clinical trial use, captured the sensitivity and multidimensional traits in individual's type and strength of current motivation status.

Scale development of the HSDI was accomplished through a two stage process. Initially, 20 items were written as face valid items for the attribute of intrinsic motivation in health behaviors. This scale was administered to 31 volunteers of whom nine were health professionals, 16 were professionals in unrelated fields and six were skilled laborers. A Chronbach alpha estimate of .82 was obtained for the entire scale. Items that demonstrated low item-total correlations were eliminated and new ones were developed (Cox, 1985).

Kerlinger (1986) stated that items whose item-total correlations fall below an alpha level of .30 for criterion

Table 1

Factor Pattern and Factor Loading for the HSDI
(N = 199)

HSDI Item	<u>Factors</u> I	II	III	IV
<hr/>				
Self-determinism in health judgement				
3	.35	--	--	--
7	.81	--	--	--
9	.36	--	--	--
12	.43	--	--	--
19	.52	--	--	--
Self-determinism in health behavior				
2	--	.46	--	--
8	--	.63	--	--
9	--	.38	--	--
14	--	.40	--	--
18	--	.66	--	--
20	--	.61	--	--
Perceived competency in health matters				
10	--	--	.70	--
12	--	--	.44	--
15	--	--	-.68	--
Internal/External Cue Responsiveness				
5	--	--	--	.62
13	--	--	--	.42
17	--	--	--	.47
19	--	--	--	.30
4	--	--	--	--

Minimal acceptable factor loading, $r = .30$ ($p < .01$) (Cox, 1985, p. 181; Kerlinger, 1986, p.189)

acceptability do not represent the criterion trait measured and should be dropped from the scale thereby enhancing scale reliability.

The second step involved a psychometric evaluation of the revised instrument obtained from a mail survey of a larger, more diverse, randomly selected population ($n = 345$). Mail survey response was 51.9% ($n = 202$). Upon analysis of these responses, four additional items with alpha estimates below .30 were dropped, increasing the alpha estimate of the revised 16 item survey to .84. Respective alpha coefficients for each sub-scale were as follows: self-determined health judgments = .75, self-determined health behaviors = .75, perceived competency in health matters = .67, and internal versus external cue responsiveness in health seeking = .69. The internal consistency of the sub-scales demonstrated inter-item correlations of .52, .51, .51, and .49 respectively (Cox, 1985).

In a related study assessing the reliability and validity of the HSDI, Cox, Miller and Mull (1987) measured the motivation of a homogeneous population of elderly patients residing in four specialized residences in a large Midwestern city. The results indicated that the HSDI is a "sensitive, multidimensional, and internally consistent instrument that demonstrates logical associations with the practice or non-practice of selected health behaviors" (Cox, Miller, & Mull, 1987, p. 4). The study did report lower, albeit acceptable, alpha estimates of reliability of the four sub-scales, leading to the conclusion among the

authors that the elderly, and female samples studied showed decreased variance in their response tendencies on the HSDI scale.

Observation Analysis of the Medical Encounter

Following the completion of the HOS and HSDI scales, 62 of the 150 subjects were videotaped during the medical encounter with their physicians. The subjects' interactions during the videotape were then analyzed for verbal and nonverbal responsiveness traits. The instrument used in the analysis of the subject's verbal responses was the Multidimensional Interaction Analysis (MDIA) (Greene, Adelman, & Charon, 1991) (Appendix F). Analysis of the non-verbal responses of the subjects was accomplished using the procedures and scoring outlined by Auerbach, Martelli and Mercuri (1983). The MDIA was developed by Greene and associates as a means of studying in a quantifiable sense the interactions between physicians, elderly patients, and third parties in attendance (Greene, Adelman, Charon & Hoffman, 1986; Greene, Adelman, Charon & Friedmann, 1989; Adelman, Greene, Charon, & Friedman, 1990). The researchers also note that the MDIA is an appropriate instrument for analyzing dyadic relationships with no need for modification of the scale. As noted by Harris (1990):

The MDIA offers several advantages over other interaction analysis systems. The system provides for the assessment of verbal behaviors of both participants in the consultation.

It also allows the coder to do this directly from a tape which saves the time and energy required to transcribe the conversations. A particular strength of the MDIA is its capacity to assess both the quantity and the quality of certain aspects of the interaction. Assessments made from the MDIA reveal specific as well as global qualities of the interaction being analyzed. The MDIA also focuses on giving and requesting information as centrally important in physician-patient interaction. (p. 37)

The MDIA has been used to analyze patient-physician encounters through the use of audio and videotapes. The topics that arise during a medical encounter are assigned by the coder to one of 36 possible categories. The 36 content categories are subsequently assigned in aggregate form to five major content areas: medical, personal habits, psychosocial, physician-patient relationship, and other. The responses of both parties during the encounter are rated, using a four point ordinal scale, for three interactional constructs: questioning, informing and supportiveness. The coder is instructed to also keep tallies on behaviors such as shared laughter, social amenities and mutual decision-making, open-ended questions, questions asked in the negative, and frequency of visit intrusions by outsiders. Using percent agreement between raters in assessing both quantity and quality of interaction content, inter-rater reliability with the MDIA has a reported alpha coefficient of .83, intra-rater reliability was .89 (Greene, Adelman, Charon & Friedmann, 1989).

Greene (1991) also reported on the limitations seen in the use of this observation instrument in analyzing medical dyad interactions. Inter-rater reliability was tested by the subjectivity involved in the coding of the interaction. Observers must have a sensitivity to the vocabulary of medicine. Observers and coders must understand the context and content of the medical encounters in order to score accurately. Finally the coding and scoring of the instrument is labor intensive, requiring the repeated playing of the tapes. This activity is necessary in order to understand and code all interactions correctly.

Analysis of Subject - Physician Verbal Interaction

Analysis of the subject's verbal encounter with their physician was scored solely by one rater (the author). The construct variable, desire to be informed about medical decisions, was quantitatively measured directly off the tape by counting the number of topics raised by the patient and the number of questions posed to the physician during the medical encounter, divided by the length of time of the encounter. A question was defined as an interrogative statement or directive containing information about illness state, symptoms, signs, diagnosis, evaluation tests, prognosis or treatment, and prescription. A patient posed social amenity (e.g., "How are you today, Doctor?") was not scored as a patient posed question.

The construct variable, active behavioral involvement, was

measured quantitatively directly off the tape by counting the number of informative statements made by the patient to the physician during the medical encounter, divided by the length of time of the encounter. An informative statement was defined as a complete declarative sentence or phrase made to the doctor pertaining to the illness state, diagnosis, symptoms, evaluation test results, prognosis, or prescribed treatment. Introductions and responses to initial social amenities (e.g., "I'm fine today, thank you.") were not tallied. Comments indicating patient supportiveness of the physician's interview were scored under the rubric of active behavioral involvement only if they applied to the medical problem being discussed.

The qualitative measurements of the two variables under study, desire to be informed about medical decisions and active behavioral involvement, were scored directly from the videotape of the consultation. The coder received training in coding both audio and videotaped medical encounters at a Northeastern university medical facility by the principle developer of the MDIA prior to data collection. The test re-test intra-rater reliability was established by reanalyzing a random sample of 11 percent (7 interactions) of the videotaped medical encounters within a 60 day period of time from initial coding. Intra-rater coding accuracy in percent agreement for the measure of desire to be informed about medical decisions was .79. Intra-rater coding accuracy for the measure of active behavioral involvement, was .80.

Inter-rater reliability was tested, comparing a random sample of 11 percent (7 medical encounters) of the videotapes' scored measurements by the primary coder with the scored measurements of the same videotapes completed by the research assistant, a medical student trained by the author in the use of the MDIA. Inter-rater reliability for the observation measures, desire to be informed in medical decisions was .76, active behavioral involvement was .81.

The qualitative measurement for patient's questioning, informing and supportiveness are scored from a four (high) to one (low), with zero representing not applicable. In evaluating the process (qualitative) scores of patients, the MDIA authors ask the coder to consider the following:

1. Patient questioning - How useful are the questions as ways to promote patient empowerment? Indicates patient involvement and participation. How good are the patient's interviewing and information-gathering skills?

Scoring Guide:

- 4: looking-forward questions; requests for new information
an assertive, complete request
questions that will empower the patient and result in an egalitarian sharing of information
- 3: some assertiveness, possibly with hitches or qualifiers

- 2: 'bids' for clarification only
includes questions asked in the negative
limited, dependent questioning
does not really empower the patient
- 1: no questions at all, when questions are needed
- 0: no questions are required/not applicable
2. Patient informing - How clear and comprehensive is the information that the patient is giving? Do we (the listeners) understand the patient's issue? Evaluate the patient as historian. How much detail is given? Given the opportunity to furnish details, does the patient provide the information?
- Scoring Guide:
- 4: complete and clearly understandable information
detailed description with easy to understand examples
- 3: moderate levels of information
satisfactory, adequate information
some detail, but not complete
- 2: inadequate, insufficient information
use of terms is not clear
confusing information
- 1: no information is offered at all, when information is needed
- 0: no information is required/not applicable
3. Patient supportiveness - Does the patient support and

encourage the physician? Does the patient show empathy, understanding, gratitude? Does the patient validate the doctor's work? Consider this a symbolic (and literal, perhaps) gift to the doctor. Support from patient to physician will probably be a relatively rare occurrence. Include when a patient says "thank you" regarding the topic under discussion; score with a 3. Compliments can be used as part of the support score.

Scoring Guide:

- 4: extensive gratitude and support
- 3: moderate, appropriate gratitude
- 2: minimal support
- 1: no support offered at all, when support is needed
patient expresses lack of support
- 0: no support is required/not applicable."

(Greene, Adelman & Charon, 1991, pp. 11-12)

The qualitative measurement scores are arrived at by dividing the total raw scores for all the topics by the total number of topics raised during the medical encounter.

Qualitative Analysis of Subjects' Non-verbal Interaction

The observation instrument used for the qualitative measurement of the nonverbal behavior of the 70 subjects during the medical encounter was taken from the study by Auerbach and associates (1983) investigating patients verbal and non-verbal

responses to stressful health care situations. Table 2 denotes the non-verbal attributes studied, operational definitions, and the ordinal measurement scale.

The observation scale instrument was employed by one coder (the author). The coder measured the non-verbal behavior of patients by rating the subjects on each of the five categories listed for non-verbal behaviors every five minutes of the consultation. This form of interval recording is an accepted method of observation measurement where the target subject's behavior under study has the potential for being displayed at any point throughout the total observation time (Borg & Gall, 1983). Test-retest intra-rater reliability was established by reanalyzing a random sample of 11% (7 videotaped interactions) of the consultations within a 60 day period of time from the initial coding. Coding test-retest accuracy was .74. Inter-rater reliability estimates of the measurement of the non-verbal cues instrument was obtained by comparing the scoring results of the consultations between the primary coder (the author) and the research assistant on a random sample of 11% (7 videotaped interactions) of the medical encounters. Inter-rater reliability was established to be .65. The minimally acceptable percent agreement of accuracy in reliability for observational research is reported to be .70 (Borg & Gall, 1983). Therefore the data derived from the measures of non-verbal performance of the subjects during the medical encounters were dropped from the study since the inter-rater reliability did not meet an

Table 2

Non-verbal Cues Instrument

<u>BEHAVIOR</u>	<u>PERSONAL (1point score)</u>	<u>IMPERSONAL (0 score)</u>
1. Smiles	Facial expression denoting a smile	No facial expression
2. Eye Contact	Scored as a point if eye contact/direction is maintained with physician 50% or more of the observed time.	Scored as 0 if eye contact/direction is held 20% or less of observed time.
3. Voice Tone	Variable, engaged, enthusiastic	Monotonous, flat
4. Body Orientation & Body Lean	Direct, open, forward or arms open at side	Angled, closed, or arms closed
5. Hand Movement	Used to emphasize content	Used as an interruptive tool (i.e. rubbing of eyes)

Taken from Auerbach, Martelli, Mercuri, 1983, p. 1288

acceptable level of significance.

Measurement of Patient Satisfaction

Following the medical encounter, the 170 subjects were asked to respond to the Patient-Doctor Interaction Scale (PDIS), a 19 item questionnaire designed by Smith and Falvo to measure patient satisfaction with medical care following consultation (Falvo & Smith, 1983; Smith, Falvo, McKillip, & Pitz, 1984) (Appendix G). The PDIS measures subject responses on a five point ordinal scale, using descriptors such as strongly agree, agree, unsure, disagree and strongly disagree. There is a sixth choice, does not apply, which is also presented as a possible choice to the patient. The purpose of the PDIS development was to construct a valid and reliable instrument of patient satisfaction using empirical measures as opposed to anecdotal evidence of medical personnel's perceptions of what constitutes patient satisfaction. The authors performed this task in three stages. Stage one, identification of patient satisfaction descriptors, was completed by choosing a random sample of 22 patients out of a population of 100 patients on a consumer advisory council. Through open answer interviews at the patients' homes the sample generated 1540 negative and positive descriptors of physician behaviors affecting patient satisfaction that were each assigned to one of 80 possible categories. Inter-rater reliability in assigning statements to the categories had a Cohen's kappa coefficient of .81 agreement. In Stage two, 30 randomly selected subjects were

asked to rate the 80 categories of physician behaviors by order of preference on a nine point scale. In all, 30 physician behaviors which did not overlap existing descriptors were identified through cluster analysis. The resultant 30 behaviors were then used in scaling the preference ratings of the subjects in the development of the PDIS. In the final stage, 115 randomly selected patients seeking health care in an out-patient family practice setting were asked to complete the PDIS to measure its validity and reliability. The test for convergent validity was performed by correlating scores of the PDIS with the Medical Interview Satisfaction Scale (MISS), with the resulting r value of .74 indicating scale congruence. Concurrent validity was performed by correlating the PDIS with the Doctor Shopping Sub-scale, resulting in an r value of .73, indicating acceptable levels of concurrent validity of the PDIS. A correlation of .41 between the PDIS and the Family Practice Center sub-scale, and .31 with the Cost/Convenience Sub-scale in testing for discriminant validity, indicated that the PDIS did discriminate in patient satisfaction (Falvo & Smith, 1983; Smith, Falvo, McKillip & Pitz, 1984).

The Cronbach alpha coefficient for the PDIS was reported by the authors to be .85, indicating that 85% of the total variance of the PDIS is composed of true score variance. In assessing test-retest intra-rater reliability, a smaller sample ($n = 23$) completed the PDIS twice within a four week period of time. The reliability co-efficient for this test was .76. The authors

conclude that the strength of the PDIS lies in its empirical development, validity and reliability, its brevity when administering the scale in clinical situations, and its ability over other instruments in capturing data on patient satisfaction which often was lost when using other scales (Smith, Falvo, McKillip, & Pitz, 1984).

Institutional and Practice Center Permission

Approval for this research was obtained through the institutional review boards (IRB) of Old Dominion University, Eastern Virginia Medical School and the administration of the Portsmouth Family Practice Center. All data, including questionnaires, demographic information, videotapes and consent forms were handled according to the policies of the medical school, family practice center and Old Dominion University Human Subject's Committee. Only those individuals listed as co-investigators on the medical school's IRB proposal had access to the data. Data collection was conducted between May, 1991 and September, 1991.

Chapter 4

Results

Frequency Data of Study Sample

Data collection of the 150 volunteer subjects occurred between May and September of 1991. Table 3 represents an overview of the demographic characteristics of the subjects using the variables of age, income status, level of educational attainment, gender, race, employment, and health insurance status. The study sample displayed a wide range in age (25-89) as well as a large standard deviation ($SD = 16.4$). The older mean age of 59.2 years may be attributed to the study requirement that only subjects diagnosed with a chronic disease or condition and have a history of repeated visits to the same physician be candidates. In reviewing the sample's income status, the 2:1 ratio of middle class to poor may be due to the use of the strict guidelines set in the Federal Register when determining the poverty level. As an example, an individual earning \$6,281.00 during 1991 would not fall below the poverty line using these guidelines, and would therefore be considered above poverty level and middle class as defined for this study. Gender and race frequencies indicate that the volunteer sample is comprised of a larger number of Caucasian, female subjects.

Table 4 displays fairly homogeneous frequencies of educational attainment levels according to subjects' gender. Table 5, however, indicates that a larger percentage of female

Table 3

Demographic Data of
Study Sample: Characteristics
(N = 150)

<u>Variable</u>	<u>Descriptor Category</u>				
	<u>M</u>	<u>SD</u>	<u>Range</u>		
Age (in years)	59.2	16.4	25-89		
Income Level (in \$)	<u>Poor</u>	<u>Middle Class</u>			
	49	101			
Race	<u>African American</u>	<u>Caucasian</u>			
	51	99			
Educational Attainment Level	<u>Less Than High School</u>	<u>High School/ GED</u>	<u>Beyond High School</u>		
	53	46	51		
Gender	<u>Female</u>	<u>Male</u>			
	111	39			
Employment Status	<u>Full Time Employment</u>	<u>Part Time Employment</u>	<u>Unemployed</u>	<u>Retired</u>	<u>Disabled</u>
	36	9	33	58	14
Health Insurance Status	<u>Medicare/ Private</u>	<u>Medicaid</u>	<u>Both</u>	<u>None</u>	
	48	47	51	4	

Table 4

Frequency Data of
Study Sample: Education by Gender
(N = 150)

<u>Gender</u>	<u>Educational Attainment</u>		
	<u>Less Than High School</u>	<u>High School/ GED</u>	<u>Beyond High School</u>
Female (<u>n</u> = 111)	40	34	37
% of Female	36	30.7	33.3
Male (<u>n</u> = 39)	13	12	14
% of Male	33.3	30.7	36

Table 5

Frequency Data of
Study Sample: Income by Gender
(N = 150)

<u>Gender</u>	<u>Income Level</u>	
	<u>Poor</u>	<u>Middle Class</u>
Female (<u>n</u> = 111)	45	66
% of Female	40.5	59.5
Male (<u>n</u> = 39)	4	35
% of Male	10.2	89.8

subjects (40.5%) than male subjects (10.2%) are below the poverty level and would be considered poor. When educational attainment is viewed from the perspective of race (Table 6), the Caucasian subjects demonstrated greater numbers and percentages in the more educated categories. African American subjects had greater numbers ($n = 27$) and percentages of total (52.9%) at the less than high school level category than the Caucasian subjects. Table 7 displays the frequency data of income by race. African American subjects had slightly greater numbers of subjects below poverty guideline levels ($n = 27$) than above ($n = 24$). Caucasian subjects were reported as having far fewer subjects below the poverty level ($n = 22$) and far more subjects classified as middle class ($n = 77$). Table 8 displays the relationship between the level of educational attainment and income level for the study sample. Over half of the poor subjects (57.1%) reported less than a high school education, while the middle class subjects reported greater educational attainment percentages for high school (35.6%) and beyond high school (39.6%) than for less than a high school education (24.8%).

Addressment of Research Questions

Univariate analysis procedures were performed on the dependent measures of active behavioral involvement, desire to be medically informed, and levels of motivation and satisfaction. The results confirmed that these measures were not normally distributed and should therefore be considered nonparametric data

Table 6

Frequency Data of
Study Sample: Education by Race
(N = 150)

<u>Race</u>	<u>Educational Attainment</u>		
	<u>Less Than High School</u>	<u>High School/ GED</u>	<u>Beyond High School</u>
African American (<u>n</u> = 51)	27	11	13
% of African American	52.9	9.9	37.2
Caucasian (<u>n</u> = 99)	25	35	39
% of Caucasian	25.3	35.3	39.4

Table 7

Frequency Data of
Study Sample: Income by Race
(N = 150)

<u>Race</u>	<u>Income Level</u>	
	<u>Poor</u>	<u>Middle Class</u>
African AMerican (<u>n</u> = 51)	27	24
% of African American	52.9	47.1
Caucasian (<u>n</u> = 99)	22	77
% of Caucasian	22.2	77.8

Table 8

Frequency Data of
Study Sample: Education by Income
(N = 150)

<u>Income</u>	<u>Educational Attainment</u>		
	<u>Less Than High School</u>	<u>High School/ GED</u>	<u>Beyond High School</u>
Poor (<u>n</u> = 49)	28	10	11
% of Below Poverty	57.1	20.4	22.5
 Middle Class (<u>n</u> = 101)	 25	 36	 40
% Above Poverty	24.8	35.6	39.6

when statistical analysis is performed.

1. There is a relationship between socioeconomic status and the desire to be informed about medical decisions.

A Chi Square test was performed using the desire to be medically informed subscale scores of the Krantz Health Opinion Survey (HOS) for the 150 subjects (Table 9) [$\chi^2(1, N = 150) = .729, p=.393$]. The reported p value of .393 did not exceed the .05 alpha level of acceptance set for this study. Therefore it cannot be concluded that the sample's desire to be medically informed is contingent upon socioeconomic status. The categories are considered independent of each other and hypothesis one is rejected.

2. There is a relationship between level of educational attainment and the desire to be informed about marital decisions.

A Chi Square test was performed using the previously discussed normalized subscale scores to test hypothesis two (Table 10) [$\chi^2(2, N = 150) = 9.052, p=.011$]. The statistical test resulted in a probability value of .011 which exceeded the .05 level of acceptance established for this study. Therefore hypothesis two is accepted. The desire to be medically informed is contingent upon the subject's level of educational attainment. Closer analysis of Table 10 reveals that the influence of contingency is positive. The more educated subjects are more likely to express a desire to be medically informed, while less educated subjects are least likely to express this desire.

Table 9

Chi-Square Test
of Income by Desire to be
Medically Informed Using Krantz Survey
($N = 150$)

Level of Income Frequency Percent(%)	Level of Desire to be Medically Informed		
	Low Medical Desire	High Medical Desire	Total
Poor	26	23	49
	17.3	15.3	32.7
Middle Class	61	40	101
	40.7	26.7	67.3
Total	87	63	150
	58	42	100

$$\chi^2(1, N = 150) = .729, p = .393$$

Table 10

Chi-Square Test
of Educational Attainment by
Desire to be Medically Informed Using Krantz Survey
(N = 150)

Level of Educational Attainment	Level of Desire to be Medically Informed		
	Frequency	Percent (%)	
	Low Medical Desire	High Medical Desire	Total
Less Than High School	36	17	53
	24	11.3	35.3
High School/GED	30	16	46
	20	10.7	30.7
Beyond High School	21	30	51
	14	20	34
Total	87	63	150
	58	42	100

$$\chi^2(2, \underline{N} = 150) = 9.052, p=.011$$

3. There is a relationship between socioeconomic status and the active behavioral involvement of subjects during the interview sessions.

Tables 11 [$\chi^2(1, N = 150) = 1.444, p=.23$] and Table 12 [$\chi^2(1, n = 62) = 3.337, p=.068$] are contingency tables and the Chi-Square statistics performed to test hypothesis three. The Chi-Square test represented as Table 11 analyzed the active behavioral involvement of the 150 subjects as measured on the subscale of the Krantz HOS. The Chi-Square test displayed in Table 12 analyzed the same active behavioral involvement construct, as reported from the videotapes of the 62 subjects, using the Multi-Dimension Interaction Analysis (MDIA) as the instrument of measure. Both Chi-Square tests reported probability values that did not exceed the .05 level of acceptance for this study (Table 11, $p=.23$; Table 12, $p=.068$). Therefore the hypothesis that there is a relationship between socioeconomic status and the active behavioral involvement of the subjects is rejected. It is noted that the Chi-Square analysis of the videotaped subjects did demonstrate a tendency toward contingency with the middle class being viewed as being more actively involved in the medical encounter than the poor ($p=.068$), but this result did not meet the .05 level of significance set for this study.

4. There is a relationship between the level of educational attainment and the active behavioral involvement of subjects during the interview sessions.

Table 11

Chi-Square Test
of Income by Active Behavioral Involvement
Using Krantz Survey
($N = 150$)

Level of Income Frequency Percent (%)	Level of Active Behavioral Involvement		
	Low Active Behavioral Involvement	High Active Behavioral Involvement	Total
Poor	39	10	49
	26	6.7	32.7
Middle Class	88	13	101
	58.7	8.6	67.3
Total	127	23	150
	84.7	15.3	100

$$\chi^2(1, N = 150) = 1.444, p=.23$$

Table 12

Chi-Square Test of
Income by Active Behavioral Involvement
Using MDIA of Videotapes
(n = 62)

Level of Income Frequency Percent(%)	Level of Active Behavioral Involvement		
	Low Active Behavioral Involvement	High Active Behavioral Involvement	Total
Poor	14	6	20
	22.6	9.7	32.3
Middle Class	19	23	42
	30.6	37.1	67.7
Total	33	29	62
	53.2	46.8	100

$$\chi^2(1, \underline{n} = 62) = 3.337, \underline{p} = .068$$

Table 13 [$\chi^2(2, N = 150) = 1.376, p=.503$] and Table 14 [$\chi^2(2, n = 62) = .641, p=.726$] display the contingency tables and Chi-Square statistics used to test hypothesis four. Table 13 represents the active behavioral involvement construct obtained from the Krantz HOS. Table 14 analyzes this attribute employing the data obtained from the 62 videotapes using the MDIA instrument. The probability values obtained from the Krantz HOS results ($p=.503$) and the MDIA results ($p=.726$) failed to support hypothesis four. Active behavioral involvement of the subjects is not contingent upon educational attainment levels, whether measured by survey or during the medical interview using videotape and the MDIA.

5. There is a correlation between the desire to ask questions about health care decisions and the observed active behavioral involvement during the interview sessions.

Two correlation procedures using the Spearman Rank-Order Correlation Coefficient (ρ) were performed to assess the degree of association with the desire to be medically informed construct and the active behavioral involvement construct. The first correlation measured the degree of association of the two variables as measured on the Krantz HOS. Since this data was obtained through self-reporting, the first correlation measured the 150 subjects' perceived active behavioral involvement and desire to be medically informed. The Spearman Rho statistic reports a p value of .0004 and a positive value of .2853. The shared variance (r^2) between the two variables is 8.14%. The

Table 13

Chi-Square Test of
Educational Attainment by Active Behavioral
Involvement Using Krantz Survey
(N = 150)

Level of Educational Attainment Frequency Percent(%)	Level of Active Behavioral Involvement		
	Low Active Behavioral Involvement	High Active Behavioral Involvement	Total
Less Than High School	47	6	53
	31.3	4	35.3
High School/GED	39	7	46
	26	4.7	30.7
Beyond High School	41	10	51
	27.3	6.7	34
Total	127	23	150
	84.6	15.4	100

$$\chi^2(2, \underline{N} = 150) = 1.376, p=.503$$

Table 14

Chi-Square Test of
Educational Attainment by Active Behavioral
Involvement Using the MDIA
($n = 62$)

Level of Educational Attainment	Level of Active Behavioral Involvement		
	Frequency	Percent(%)	
	Low Active Behavioral Involvement	High Active Behavioral Involvement	Total
Less Than High School	12	8	20
	19.4	12.9	32.3
High School/GED	11	12	23
	17.7	19.4	37.1
Beyond High School	10	9	19
	16.1	14.5	30.6
Total	33	29	62
	53.2	46.8	100

$$\chi^2(2, n = 62) = .641, p=.726$$

results indicate that one can accurately state with a very high level of probability, that these two variables present only a .2853 correlation using the KHOS measures.

The second correlation coefficient assessed the amount of association between the two designated variables, as measured from the 62 videotapes by one researcher using the MDIA. The p value of .0007 and r value of .4207 were obtained. The shared variance (r^2) between the two variables was determined to be 17.7%. With these results, one can report with high degree of probability that the observed correlation between the two variables is .4207, which is approximately twice that of the correlation obtained using the Krantz HOS measure. Although subjects self reporting scores on the Krantz HOS demonstrate little correlation between the two variables, active behavioral involvement and the desire to be medically informed showed a far greater correlation when the actual medical encounter took place with the 62 subjects and their respective physicians.

6. There is a relationship between socioeconomic status and the perceived satisfaction of health care delivery.

A contingency table was developed and a Chi-Square test was employed to test hypothesis six. Perceived satisfaction with health care delivery was measured using the Smith-Falvo Patient-Doctor Interaction Scale. The results of this test reported in Table 15 [$\chi^2(1, N = 150) = 1.47, p = .225$] demonstrate that the obtained probability value does not exceed the .05 alpha level of significance. Hypothesis six is not supported. Subjects'

Table 15

Chi-Square Test of
Income by Level of Satisfaction
(N = 150)

Level of Income Frequency Percent(%)	Level of Satisfaction		
	Low Satisfaction	High Satisfaction	Total
Poor	22 14.7	27 18	49 32.7
Middle Class	35 23.3	66 44	101 67.3
Total	57 38	93 62	150 100

$$\chi^2(1, \underline{N} = 150) = 1.47, p=.225$$

satisfaction with health care is independent of their socioeconomic status. The 150 subjects' responses to the survey instrument were extremely narrow. The vast majority of subjects expressed high degrees of satisfaction with their physicians and the medical services rendered regardless of their demographic features such as income, education, race, age, or gender.

7. There is a relationship between the level of educational attainment and the perceived satisfaction of health care delivery.

A contingency table was established and a Chi-Square statistic applied to test hypothesis seven. The results reported in Table 16 [$X^2(2, N = 150) = 18.43, p < .001$] supported this hypothesis. The level of perceived satisfaction with health care is contingent with the subject's level of educational attainment. Upon inspection of the contingency table, the relationship is shown to be positive; greater satisfaction is linked with greater educational attainment. Caution again must be taken in concluding that the less educated were dissatisfied. The narrow response of the raw scores indicated that this group was satisfied generally, but the more educated were very satisfied with the health care they received.

8. There is a relationship between the level of motivation toward health and the perceived satisfaction of health care delivery.

A contingency table was developed and a Chi-Square statistic was employed to test hypothesis eight. The normalized subjects'

Table 16

Chi-Square Test of
Educational Attainment by
Level of Satisfaction
(N = 150)

Level of Educational Attainment Frequency Percent (%)	Level of Satisfaction		
	Low Satisfaction	High Satisfaction	Total
Less Than High School	31 20.7	22 14.7	53 35.4
High School/GED	17 11.3	29 19.3	46 30.6
Beyond High School	9 6	42 28	51 34
Total	57 38	93 62	150 100

$$\chi^2 (2, \underline{N} = 150) = 18.43, p < .001$$

scores on the Cox Health Self-Determination Index (HSDI) were used as a measure of motivation toward health. The results reported on Table 17 [$\chi^2(1, N = 150) = .561, p=.454$] indicates a probability value of .454 was obtained. Hypothesis eight is not supported. The level of satisfaction with health care among subjects is independent of their level of motivation in health matters.

Multiple Regression Analysis

9. There is a relationship between sexected demographic variables and the perceived satisfaction of health care.

A multiple regression procedure was developed to determine if the demographic variables could be placed in an equation to predict the subjects perceived satisfaction with health care. If the coefficients of the variables (b weights) were significant at the .05 level and the shared variance of the model was substantial, hypothesis nine would be supported. The dependent variable was the level of subjects' satisfaction with health care received. The independent predictor variables entered into the equation were age, gender, educational attainment level, race, employment status, income, and form of health insurance. A stepwise procedure for predictor variable selection developed the following equation:

$$y_1 = 415.32 + 17.01x^1 + 11.13x^2 \quad \text{where}$$

y^1 = subjects' level of satisfaction

415.32= intercept constant

x^1 = educational attainment level

Table 17

Chi-Square Test of
Motivation by Level of Satisfaction
(N = 150)

Level of Motivation Frequency Percent(%)	Level of Satisfaction		
	Low Satisfaction	High Satisfaction	Total
Low Motivation	33	48	81
	22	32	54
High Motivation	24	46	69
	16	30	46
Total	57	93	150
	38	62	100

$$\chi^2(1, \underline{N} = 150) = .561, p=.4549.$$

x^2 = race of subject

Analysis of the significance of the coefficients of the predictor variables determined that the x^1 coefficient was significant at the .0001 level. The significance level of the x^2 variable however reported a p value of .1015 and was therefore rejected. The new equation developed is:

$$y^1 = 419.87 + 18.4x$$

The variance explained by this regression model is 13.9%. Hypothesis nine therefore cannot be supported considering only one demographic variable loaded into the regression equation and the amount of variance in predicting subject satisfaction using this model is only 13.9%

A second multiple regression equation was formulated to develop a predictive model for the attribute of active behavioral involvement as measured on the Krantz HOS. The predictor variables considered for the equation included the previously discussed demographic variables, the satisfaction survey measure and the motivation survey measures (HSDI), including total score and the subscale scores of health judgement, health behavior, perceived competency and internal versus external care responsiveness. A stepwise procedure was calculated to identify those variables which loaded significantly into the active behavioral involvement model. The equation was:

$$y^1 = -26.92 + 21x^1 + .06x^2 + (-.06)x^3 \text{ where}$$

y^1 = subject's active behavioral involvement

-26.92 = intercept constant

x^1 = motivation scale total score

x^2 = health behavior subscale score

x^3 = perceived competency subscale score

Analysis of the coefficients of the predictor variables indicated the b weight for x^1 was significant at the .0001 level and the b weight for x^3 was significant at the .0018 level. The level of significance for the b weight of x^2 was .0986. The x^2 variable was therefore rejected. The new equation is:

$$y^1 = -27.05 + .28x^1 + (-.07)x^2$$

Where x^2 is assigned to represent the perceived competency subscale score. The total variance explained by this equation is 30%. While this model accounts for 30% of the variance in explaining subject's active behavioral involvement characteristic, caution must be observed. Seventy percent of the variance in predicting this behavior remains unaccounted for in this model.

A third multiple regression equation was formulated to predict the sample's desire to be medically informed. The dependent variable, desire to be medically informed, was obtained from the subscale measurements of the Krantz HOS. The independent predictor variables included the previously discussed demographic variables, the motivation variables measures on the Cox HSDI, and the measurements from the Smith-Falvo Patient-Doctor Satisfaction scale. A stepwise procedure was employed to identify the predictor variables, in descending order, that accounted for the greatest amount of variance when explaining the

model. The resulting multiple regression equation developed was as follows:

$$y^1 = 7.05 + .13x^1 + (-.48)x^2 + .08x^3 + (-11.43)x^4 + 5.23x^5$$

where:

y^1 = subject's desire to be medically informed

7.05 = intercept constant

x^1 = subject's health judgement

x^2 = subject's age

x^3 = subject's perceived competency in health matters

x^4 = subject's race

x^5 = subject's level of educational attainment

An analysis of the reported coefficient of the predictor variables indicates that they are all significant at the .05 level. The shared variance of predictor variables for this model is 37.1%, with a reported p value of .0001. All b weights and variances meet the required .05 level of significance using this model. This multiple regression equation accounts for over 37% of the variation of the subjects' desire to be medically informed.

Factor Analysis Finding's

A factor analysis initially loading 13 variables from the study was developed to ascertain if these variables acting as items could be organized into discreet factors. These factors in turn would be used to construct a new theoretical model which could be used to describe the health seeking behaviors of this

study sample. The factor analysis was used to test the validity in deciding which items could be included in the discrete factors and which factors should be included in the formation of the theoretical model. The items included all demographic variables, the total scores, and subscale scores obtained from the survey instruments. The sample size of 150 subjects exceeded the recommended five to one ratio of subjects to item variable for factor analysis construction if one plans on generalizing the results to a wider population (Monroe, Visintainer, & Page, 1986).

Because of the nature of this pilot study, only factors with eigenvalues greater than unity (1.0), would be considered as meeting the requirements of acceptance in the study. Principle component analysis without iteration was performed and generated two factors with value greater than unity. A varimax orthogonal rotation of the factor matrix produced the final results reported in Table 18. The first Factor has been tentatively labelled as "Motivation in Health Care Decision Making," with three variables: 1) total motivation, 2) health judgement; and 3) internal versus external cue responsiveness, loading on it. Factor I accounted for 13.9% of the total variance. Factor II, tentatively labelled "Health Care Inquiry," had two variables: 1) the health opinion survey; and 2) the desire to be medically informed, loading on it. Factor II accounted for 10.3% of the total variance. The total variance of 24.2% is reported by combining individual variances of Factor I and Factor II. The

Table 18

Varimax Rotation of Factor
Scores for Study Variables
(N = 150)

Variable	Factor		
	I	II	h^2
Age	-.26	-.32	.17
Educational Attainment Level	.17	.22	.08
Employment Status	-.09	-.02	.01
Income Level	.04	-.07	.01
Health Opinion Survey	.22	.62 ^b	.43
Active Behavioral Involvement	.19	.15	.06
Desire to be Medically Informed	.22	.85 ^b	.77
Satisfaction Survey	-.02	.07	.01
Health Self Determination	.60 ^a	.18	.39
Health Judgement	.66 ^a	.18	.39
Health Behavior	.28	.01	.08
Perceived Competency	.13	.11	.03
Internal/External Cue Responsiveness	.78 ^a	.16	.63
Total % of Variance	13.9	10.3	.25

^a Scores which loaded highest on Factor I

^b Scores which loaded highest on Factor II

communality values of the variables ranged from a low of .01 (income, employment status, and satisfaction) to a high of .77 (desire to be medically informed). The mean commonality value for the 13 variables was .25.

Summary of Data Analysis

This chapter presented the results achieved from the data collection of 150 subjects which were analyzed to address the nine hypotheses. The data analysis was presented in four sections. The first section presented the demographic characteristics of the study sample through the use of frequency tables. Section two addressed hypotheses one through nine with bivariate analyses using contingency tables and correlation studies. Three multiple equations in section three dealt with developing predictive models for subject's satisfaction, active behavioral involvement, and desire to be medically informed. Finally section four presented a factor analysis of the behavioral constructs and demographic variables of the sample to develop a theoretical model which could be employed when explaining health-seeking behaviors of larger populations. The three factors of total motivation in health seeking, perceived health judgement, and internal versus external cue responsiveness in health decisions, comprised the "Motivation Health Care Decision Making" factor. The total score on the Health Opinion Survey and the Desire to be Medically Informed score comprised the two variables of the Health Inquiry factor.

Chapter 5

Conclusions

Discussion

This study has been concerned principally with the effects of income and level of educational attainment on the health seeking behaviors of an urban population. The two dependent variables of active behavioral involvement and desire to be medically informed were the constructs chosen to depict the health behaviors of the study sample. The study investigated the relationships among 18 variables measured from a sample size of 150 volunteers seeking medical care at a free standing family practice center. Seven variables measured demographic characteristics, and nine variables measured the subjects' total and subscale scores on the self reporting survey instruments. The remaining measures were derived from the observation analysis of the 62 videotapes of the actual medical encounters. Each videotaped interaction was viewed four times to assure accuracy and reliability in scoring.

The study sample's demographic variables presented significant frequency differences within each category. These differences were most evident among the variables of age, income, race and gender. The study attempted to eliminate the effect patient diagnosis would have on health behaviors by only accepting those subjects diagnosed with chronic conditions into the study. Therefore, it is not surprising that the mean age of

the study sample was 59.2 years of age. Chronic conditions more commonly affect the elderly than the young. Additionally the elderly population had a larger cohort of females due to the fact that women live longer than men. Two thirds of the total sample size were female. Middle class Caucasian subjects volunteered approximately at a 2:1 ratio compared to poor African American subjects. This trend has been observed in past research involving volunteers and is a phenomenon that has been reported in the literature (Rosenthal & Rosnow, 1975).

A post hoc review of those individuals who refused to participate in the study was performed to determine if their demographic characteristics varied significantly with those of the study sample. Eight subjects refused to participate in any portion of the study. Two subjects were eliminated when their expressive aphasia interfered with their ability to communicate their responses. No significant differences in demographic characteristics were observed between the study sample and those who refused to participate. The disparity in the number of poor and middle class participants may be due to the criterion used to assign subjects to either the poor or middle class status categories. The other demographic variables of educational attainment level, employment, and health insurance status appeared to be equally distributed among the stratified groups.

The subjects' level of educational attainment had a positive relationship with their intended desire to be medically informed [$\chi^2(2, N = 150) = 9.052, p=.011$]. The most educated group also

reported significantly greater levels of satisfaction with the medical encounter than the least educated group. Apparently the more educated an individual is, the more likely that person will express a desire to be informed of medical decisions. Since the medical staff of this clinic setting employed a mutual participation model in health care, it is understandable that the most educated group expressed the greatest satisfaction in their interactions with the medical staff. The most educated group's intent to be medically informed was in concordance with the interaction style of the setting. It should be emphasized that the dispersion of raw scores on the satisfaction scale was quite narrow. The least educated subjects did not express active dissatisfaction with the encounters with their physicians. Rather the degree of satisfaction was reported as being far greater with the most educated group. The most highly educated group's satisfaction may be due to their better understanding of the medical decisions being applied, their greater social ease in attending a private family practice clinic, or their perceived affiliation, through formal education, with the residents, faculty physicians and medical staff.

Perhaps the physicians employed a guidance cooperation style instead of the mutual participation model of interaction with the least educated group because of a bias toward this group's limited educational background. The use of the guidance cooperation model might explain that group's reticence in expressing the desire to be medically informed and their less

than universal satisfaction with the medical encounter. This phenomenon, however, was not observed by the research team to be taking place at the time of data collection, nor is there any evidence on the videotapes of the physicians employing different interaction styles with subjects with differing educational attainment levels. The least educated group's lowered satisfaction scores may be due to discomfort with the setting, the group's diminished expressiveness, or a reticence among this group in reporting their encounters to the research team.

The level of educational attainment among subjects did not translate into any relationship with the active behavioral involvement variable, either in the survey or observed on the videotapes. The lack of significant differences among groups for this variable may be due to the fact that all subjects regardless of their educational attainment had achieved a level of trust and deference toward their personal physicians which translated into a more passive role during the encounters. This variable may also be more sensitive to the influences the physicians play during the interactions. Some researchers have proposed that the control of patient's active behavioral involvement ultimately resides with the physician (Briggs, 1986; McGuire, 1985; McLaughlan, 1979; Molde, 1986). Again, the observed interactions between subjects and their physicians during data collection did not demonstrate an overt action on the part of the physicians to discourage active involvement of their patients in the encounter. The relatively low active behavioral involvement levels and lack

of statistical significance reported in Tables 10-13 may be the result of having a study sample of older patients who prefer to assume a more passive level of involvement during the medical encounter.

The socioeconomic status variable did not affect subjects' desire to be medically informed, their active behavioral involvement, or their level of satisfaction with the medical encounter. A relationship between the two groups' income level and observed active behavioral involvement on the videotapes revealed the development of a positive tendency [$X^2(1, n = 62) = 3.337, p=.068$], but this did not reach an acceptable level of significance to support the hypothesis. Perhaps increasing the sample size for the videotape portion of the study would result in achieving an acceptable level of significance.

In categorizing subjects as being either poor or middle class, the use of the 1991 Federal Register's Poverty Guideline as the criterion became problematic. By solely basing socioeconomic status on one figure representing annual earned income, the researcher was unable to take into account in-kind transfers such as Medicaid health entitlements, Aid to Families With Dependent Children, social security, housing subsidies, or home ownership. This element became compounded with the age variable, since older citizens frequently have a greater likelihood of qualifying for federal assistance programs which in turn may mask actual socioeconomic status. In contrast, the 1991 guidelines may be viewed as too draconian. An individual living

alone making one dollar over the poverty level, in this case \$6,281.00, would be classified as middle class in this study. The guidelines clearly do not reflect the current cost of living in an urban area of the United States.

The perception that income is an indicator of an individual's socioeconomic status and that status carries with it certain attitudes, values and beliefs may be faulty reasoning. Classifying individuals as poor or middle class according to annual income does not take into account the changing face of poverty in the United States, particularly during a recession. An individual may drop from middle class status to poor status because of temporary social or economic changes in one's life, such as unemployment, the death or divorce of the principal wage earner in the family, or a dramatic increase in size of the family unit. Their attitudes, values or beliefs regarding health care would not necessarily change overnight to reflect their new socioeconomic status. A panel study supported by the University of Michigan conducted over a 10 year period in the 1970s concluded that one third of the 5,000 families surveyed for their sample lived in poverty during some portion of the time the study was conducted. Moreover, the researchers found, "virtually no evidence that such personal attitudes as self-confidence, ambition and motivation have much to do with economic improvement" (Reinhold, 1977, p. 36). Therefore, cross-sectional studies using income as a measure of class behavior may have limited validity to real life situations in our cities.

The modest correlations reported between the dependent variables of active behavioral involvement and desire to be medically informed may be due to the exclusive nature of these two attributes. During the instrument development of the Health Opinion Survey (HOS), Krantz (1980) reported that these two variables demonstrated limited shared variance in the factor analysis. The correlation of these two variables did improve somewhat when measured on the observed subjects using the Multidimensional Interaction Analysis (MDIA) instrument. As mentioned earlier, the dialogue and pace of the medical encounter is controlled for the most part by the physician. This may have influenced one or both of the dependent variables during the medical encounter resulting in the modest variance being observed.

The failure to demonstrate a positive relationship between subjects' motivation for health seeking and satisfaction with health care delivered runs counter to the results previously reported in the literature. These results may have been affected by the sample selection or a reflection of distinctive characteristics of this setting. While the raw scores on the Health Self-Determinism Index (HSDI) were widely dispersed, this was not the case on the Smith-Falvo Patient-Physician Interaction Scale (PDIS). Since the volunteers selected for the study were patients reporting for their follow-up appointments, they were already demonstrating a high degree of satisfaction and compliance with their health seeking. It was quite rare to have

subjects report a significant amount of dissatisfaction with their care, since they would likely fail to continue reporting for their appointments if this were the case.

Because this setting is closely affiliated with the local medical school, the care that is provided is of the highest caliber with the most contemporary services and medical approaches provided to the community. Patients are generally satisfied in this particular setting because of the value placed on individual concern and time spent with the client.

The total motivation score and the subscale scores on the Cox HSDI did play a crucial role in developing the regression models for active behavioral involvement, desire to be medically informed, and the Factor I of the factor analysis used in developing a health seeking model. There appears to be many variables that affect patients' satisfaction levels, which may account for the lack of significance in the singular relationship between motivation and satisfaction [$X^2(1, N = 150) = .561, p = .4549$]. Indices of patient motivation in health matters, such as judgement, behavior, perceived competency and cue responsiveness, do demonstrate a critical function when predictive models for health seeking behaviors are formulated.

The level of educational attainment of subjects strongly influenced their satisfaction with their physicians as reported in the Chi-Square test of Table 16 and the simple regression equation. While the variance accounted for the regression model is modest, it should be noted that one variable, educational

attainment level, accounts for 13.9 percent of the total variance in predicting the multi-faceted behavioral construct of patient satisfaction with their health provider. The probability value of less than .001 for the Chi-Square test analyzing the relationship of educational status of the subjects to their satisfaction is remarkable. This level of significance may be the result of the most educated subjects' better understanding of the events of the clinic and the dialogue of the physicians, and expressing their appreciation through a higher reported satisfaction score. The physicians may have unconsciously altered or biased their interactions to employ a mutual participation model with their most educated clientele and a more authoritarian model with the least educated patients. This phenomenon was not observed on the videotapes, nor is it likely that the physicians were aware of the formal education backgrounds of the 150 volunteers in the study.

Study Limitations and Recommendations

The clinical setting chosen for data collection and the sample selection criteria may account for the modest amount of variance presented in the regression equations and the factor analysis. The identification of the motivation variables for Factor I in the health seeking model was predictable, since a factor analysis was employed in the instrument development of the Cox HSDI. Rather than identifying a new construct in describing health seeking behaviors of the study sample, Factor I may be

viewed as reinforcing the external validity of the HSDI as a measure of perceived motivation in health care matters.

To strengthen the internal validity of the study, the decision was made to control for the effects that the urgency of acute diagnoses may have had on the study sample's health-seeking behaviors during the medical encounters. By only accepting chronically diagnosed subjects who regularly attended the clinic, the researcher may have eliminated from study a portion of the sample population and sacrificed a degree of external validity. That segment of the sample not studied may have health-seeking behaviors that are significantly effected by socioeconomic status, education, and the other demographic variables studied. By using a volunteer sample of chronically ill and older patients this group as a whole might prefer a less active role in medical decision making and are more satisfied with their family physicians than the larger, more diverse, urban population. Future studies should investigate an urban sample that uses emergency hospital services as their primary means of health care and treatment. These data might shed further light on the factors affecting health behaviors of the urban poor.

The site chosen for data collection minimized the intrusive nature of this research project. Because the clinic is a teaching facility, the staff and patients were accustomed to having research activities in their midst. Patients were periodically asked to fill out surveys, interact with research personnel and voice their opinions on medical matters. The

clinic was equipped to unobtrusively film medical encounters and did so on a regular basis to assess medical students' clinical performances. The level of satisfaction expressed by the study sample may be a product of the rapport between individuals and this particular practice setting and not reflective of the current status of medical interactions with the urban poor in other settings. Perhaps the factor analysis and regression equations would be more predictive if samples were included from other practice settings and other urban centers. Socioeconomic status and educational attainment may have greater influence on health behaviors if the data set were expanded in size.

Data collection of dissatisfied, non-compliant patients would be difficult to accomplish. Issues of privacy and patient's prior consent prevent using these subjects in an experimental research project. Mailed questionnaires assessing the non-compliant patients' health behaviors could be undertaken, but would likely have a limited response rate, given this sample's propensity toward non-compliance.

One area of promising research is in determining the importance of physician-patient concordance of values and demographic characteristics toward promoting positive health behaviors among the urban poor. Would physicians who are of the same age, gender, race or social class origins engender greater active behavioral involvement among their poor, less educated patients? Greene and associates contend that often the health behaviors and attitudes of patients are a reflection of the

interaction and concordance between the patient and the physician (M. Greene, personal communication, March 10, 1991; Greene, Adelman, Charon, & Freidmann, 1989). Health behaviors are influenced by the medical interactions and may best be studied when the health provider-consumer concordance dynamic is factored into the analysis.

The Community Health Education Proposal

Health behaviors, attitudes and values have been shown to be difficult to affect unless the target population can be motivated to change and assume responsibility for their actions. The proposed community health education model is a reflection of programs previously reported on in the literature incorporated with the findings in this study. While few of the hypotheses were accepted, the variables of level of educational attainment, patient satisfaction with their physicians, motivation attributes and active behavioral involvement bear consideration in the program planning.

The Community Health Education Setting

To insure the success of the community health education concept, the programs must be located in the local community institutions frequented by the urban poor population. The programs must be easily accessible in a physical sense and available on a consistent basis. The center should be open on a consistent basis during early evenings and weekends. The programs

would require the vocal on-going support of the community leaders for success. Services would be supported by a consortium of local clubs, churches and businesses and be located in a local community center, assembly halls or church facilities. The financial support would be derived in part from the local community organizations and consumers to instill a sense of continuing investment and commitment in the goals and objectives of the community health center. This commitment and connection could be reinforced with the periodic sponsoring of health education programs at various churches throughout the community. Volunteer workers and supplies could be donated by the churches to add to the sense of affiliation. Volunteer workers and faculty instructors from area health care institutions and medical schools could develop program affiliations with the center as a partial fulfillment of their clinical education requirements for their students. While one central setting would be established, out-reach programs would be developed to target and match the health care needs of the population throughout the community.

Development and Planning of the Curriculum

The content of the health education program would be based on the determined need for health services as reported by the program planners and the surveyed consumers. The planning would initially require input from the local community leaders and the health care providers involved in carrying out the education

programs. A standing board or committee would be established to manage the policies and goals of the community education programs. The committee would be comprised of the health provider representatives, local community leaders and at-large representatives of the local consumers. A community health educator would supervise the implementation of the programs, would have a seat on the board, and would be the liaison between the community and the board when program and policy development takes place.

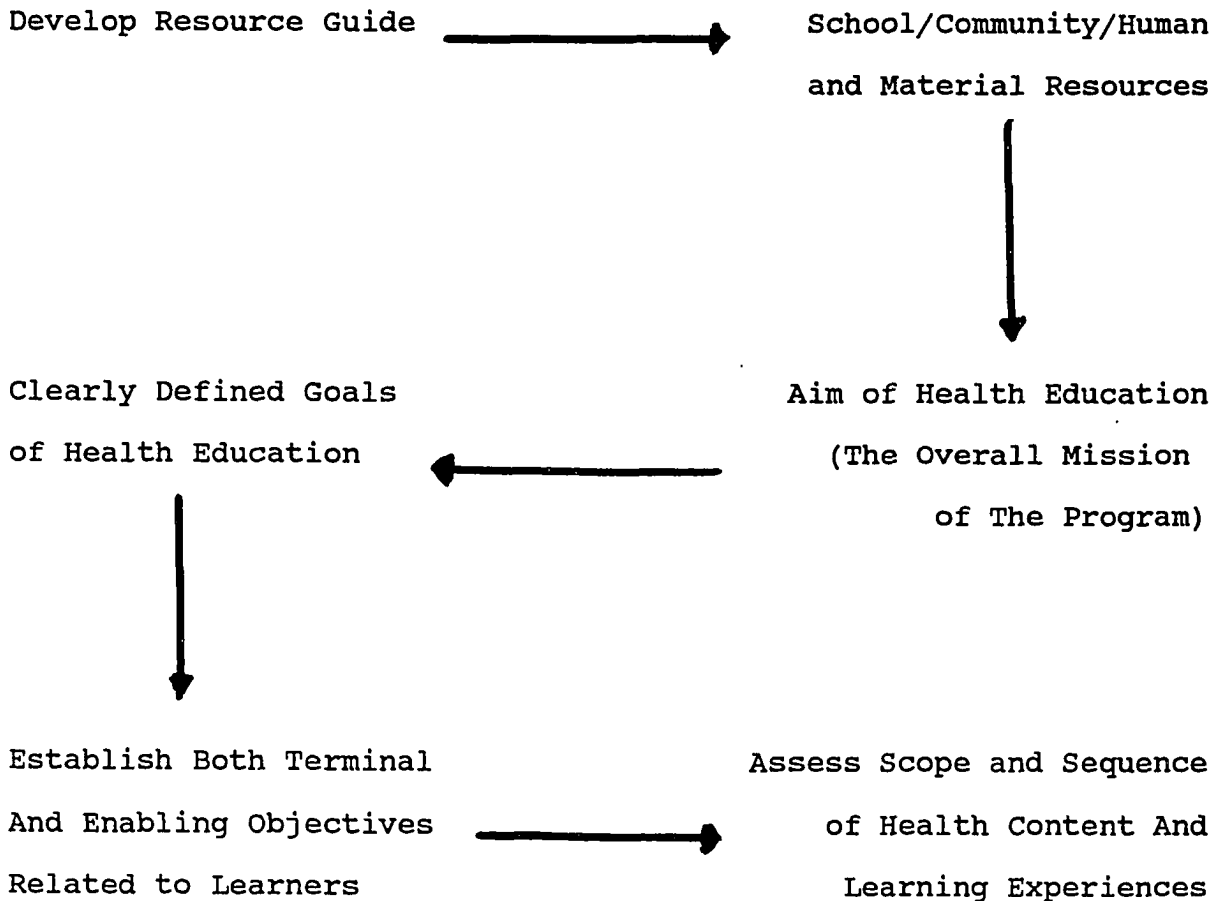
The curriculum content would be dynamic and responsive; only being implemented when the need is identified by the planners and could be met through the educational process. The curricular content would represent the general philosophy of the community health center by emphasizing the importance of self - motivation, health care knowledge and personal responsibility in developing health seeking skills. These skills will address the value of developing an active involvement in the medical decision making and reinforcing a preventive approach when dealing with chronic health conditions. As the program matures, it should develop a mechanism of continuous review and evaluation so as to be responsive to newly discovered health care needs of the community. Likewise programs which have met their objectives or are found to be ineffective would be scaled down, reformed or curtailed as the case may indicate. This determination would be accomplished through the surveying of participants, observing attendance records, interviewing local health care center's

coordinators, and assessing the changing pattern of health care consumption. This may not capture that audience of non-compliant subjects that the program wishes to reach. Brief surveys could be distributed and collected at local social or church functions periodically to see if any health education programs could be developed to address unanswered needs or attract a greater audience. Telephone surveys may also provide insight into program evaluation. Figure 1 is a blueprint for curricular development of a health program reported in the literature which would apply to this program proposal (Bedworth & Bedworth, 1978, p. 251). While somewhat dated, the blueprint does address the need for local community input, resources and clear identification of goals and objectives. The blueprint would be expanded upon to be iterative; with the final assessment step resulting in a readjustment of the clearly defined goals.

Based on the findings of this research study, educational programs would be planned to assist the urban poor in developing a greater degree of active behavioral involvement in their interactions with their health care providers. This task would be accomplished by educating the consumers as to why physicians ask certain questions during a medical history, why certain tests are performed, what certain test results signify, etc.. The instructional training would emphasize both the basic content of the medical interview, content questions which provide information specific for certain medical conditions, and the context in which the medical encounter is taking place.

Figure 1

Blueprint For Health Education Program Curricular Development



Note. Adapted from Health Education A Process For Human Effectiveness (p. 251) by D.A. Bedworth & A.E. Bedworth, 1978, New York: Harper & Row Publishers.

Before this formal course is started, a rapport between the clients and the instructors would need to be established so that honest and open discussion may occur. This rapport could be promoted through the offering of free or minimal cost medical screenings, free inoculations for flu, blood pressure and cholesterol checks, school physicals, etc., throughout the year.

The health education programs would match the services being provided. Instruction would likewise be presented in a manner that matched the formal education and other demographic characteristics of the clients in attendance.

When addressing the content specific elements of the program, classes would include cognitive information on specific diseases and conditions to improve the urban poor's awareness of the expected course of progression. Instruction would focus on the advantages of early detection and compliance in medical matters to prevent more extensive, costlier medical intervention from occurring later on in the disease progression.

The importance of the clients' active involvement in medical decisions would be addressed during the instruction focused to the context of the medical encounter. The use of role playing and observation of simulated medical encounters viewed on videotape would be used to encourage a more mutual participation model of doctor-patient interaction for this population.

The factor analysis results indicated that the variables of health judgement, internal cueing and overall health motivation are factors which should be developed in the urban poor to

promote constructive health behaviors. These factors, in addition to the subject's age and educational attainment were shown to be formative factors in predicting patient's desire to be medically informed. During the implementing of the health education program, the strengthening of these attributes would be stressed as being crucial toward achieving the overall goal of improving the health seeking behaviors of the urban poor.

Whenever possible classes would be run for individual groups categorized by age, educational attainment, and diagnosis. Educational attainment as a defining characteristic for group affiliation could be stigmatizing and would require discretion and tact if it was employed. While the community health center would not be capable of providing formal education classes aimed at achieving a degree, information about obtaining high school degrees and higher education opportunities could be provided. Support services such as academic or career counseling and day care services could be developed if the need became apparent and the resources could be obtained. The primary goal of this local health education program would be the self-determinism and assumption of personal responsibility in the health matters of the urban poor population served.

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APPENDIX A

POVERTY INCOME GUIDELINES

Each year the Federal Register publishes an update on the poverty income guidelines, used by the Health and Human Services Department in the determination of eligibility criterion for federal aid and subsidy programs. The poverty income guidelines apply to all states, except Alaska and Hawaii, and the District of Columbia. Income ceilings are present in table format. Both income, family and family unit size are operationally defined as follows:

Income: This item means total annual cash receipts before taxes from all sources. As defined here income does not include capital gains, any assets drawn down as withdrawals from a bank, the sale of property, gifts, lump sum inheritance, insurance payments or noncash benefits.

Family: A family is a group of two or more persons related by birth, marriage or adoption who live together. All such related persons are considered as members of one family.

Family Unit Of Size One: A family unit of size one is an unrelated individual (as defined by the Census Bureau), 15 years or older, who is not living with any relative.

1991 Poverty Income Guidelines for All States (Except Alaska and
Hawaii) and the District of Columbia

Size of Family Unit	Poverty Guideline
1.....	\$6,280
2.....	\$8,420
3.....	\$10,560
4.....	\$12,700
5.....	\$14,840
6.....	\$16,980
7.....	\$19,120
8.....	\$21,260

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APPENDIX B

PATIENT CONSENT FORM

THE RELATIONSHIP OF EDUCATIONAL ATTAINMENT AND SOCIOECONOMIC
FACTORS IN THE BEHAVIOR OF THE URBAN POOR DURING HEALTH CARE
DELIVERY

Investigators: Alex Berger, M.D. (Principal)
George Maihafer, Old Dominion Univeristy

Description: The purpose of this study is to investigate the degree of active behavioral involvement patients exhibit during a medical consultation. The investigators are particularly interested in the effects that this active behavioral involvement has on the conversations of patients with their doctors and the patients' degree of satisfaction with the consultation. I understand that my participation involves the completion of three brief questionnaires designed to measure my opinions about health issues and my attitudes about communicating with my doctor. I also understand that my meeting with my doctor will be videotaped for use in this study. I understand that the only people who will see this tape are the investigators listed at the top of this consent form. The videotape of my meeting will be treated as confidential medical information and securely stored by the Clinical Supervisor of this clinic.

Exclusionary Criteria: I understand that my signature indicates that I agree to participate in this research study. I understand that I am not eligible to participate in this study if I am requesting to see a physician for immediate treatment following violent trauma, sexually transmitted diseases, routine physical exams or if I am accompanied by someone else when I see the Doctor. My doctor may also decide that I am not eligible to participate in this study.

Risks and Benefits: My participation will not involve any risk to my health. My participation will not require additions to, subtractions from, or changes of any kind to the medical care my doctor decides is appropriate. I understand that the results of this study may contribute to improving the training in communication between doctors and their patients. I also understand that there are no specific benefits to me personally for my participation in this study.

Costs and Payments: I understand that my participation involves no costs to me or payments of any kind. I will neither pay to participate nor receive any payments for participating.

Confidentiality Issues: I understand that any information obtained about me from the research, including answers to questionnaires, history, laboratory data findings, or physical examinations will be kept strictly confidential. I also

understand that the data derived from this study may be used in reports, presentations and publications, but that I will not be individually identified. I do understand that my records may be subpoenaed by court order or may be inspected by the federal regulatory authorities. I understand that in order to ensure that the Food and Drug Administration (FDA) regulations are being observed, it may be necessary for representative of the FDA to review my medical records.

Withdrawal Privilege: I understand that I am free to refuse to participate in this study or to withdraw at any time and that my decision will not adversely affect my care at this institution or result in any penalty or loss of benefits to which I am otherwise entitled.

Compensation For Illness or Injury: I understand that in the unlikely event of a physical injury or physical illness resulting from the research protocol no monetary compensation will be made but any immediate emergency medical treatment which may be necessary will be made available to me without charge by the investigators. I am advised that should an injury result from my participation in this research project, the Medical College of Hampton Roads (MCHR) provides no insurance coverage, compensation plan or free medical care plan to compensate me for such injuries. In the event that I believe that I have suffered an injury as a result of my participation in the research program, I

may contact Dr. William J. Cooke (804) 446-6015, an employee of the MCHR who will review the matter with me.

Voluntary Consent: I certify that I have read the preceding information or it has been read to me, that I understand its contents and that any questions I have pertaining to the research have been answered by Dr. Alex Berger (804) 397-6344. My signature means that I have freely agreed to participate in this experimental study.

DATE

SIGNATURE

DATE

SIGNATURE

I certify that I have explained to the above individual the nature and purpose of the potential benefits, and possible risks associated with participation in this study. I have answered any questions that have been raised and have witnessed the above signature. I have explained the above to the volunteer on the date stated on this consent form.

DATE

INVESTIGATOR'S SIGNATURE

Appendix C

DEMOGRAPHIC DATA SHEET

DIRECTIONS: Fill in the blanks of circle the correct answers where appropriate. For the questions about your doctor or nurse practitioner, answer them as they apply to your regular doctor or nurse practitioner. If you do not have a regular doctor or nurse practitioner, answer the questions in reference to the last doctor or nurse practitioner you saw.

1. AGE _____

2. GENDER: 1. MALE
2. FEMALE

3. EDUCATION:
1. LESS THAN HIGH SCHOOL GRADUATE OR GRADUATE EQUIVALENT DIPLOMA (G.E.D.)
 2. HIGH SCHOOL GRADUATE OR G.E.D.
 3. EDUCATION BEYOND HIGH SCHOOL

4. RACE:
1. BLACK
 2. WHITE
 3. ASIAN
 4. ASIAN
 5. HISPANIC
 6. OTHER

5. RELATIONSHIP STATUS: 1. SINGLE/LIVING ALONE
2. SINGLE/LIVING WITH ANOTHER
3. MARRIED
4. SINGLE PARENT LIVING WITH
CHILD/CHILDREN

6. OCCUPATION 1. UNEMPLOYED (MORE THAN 3 MONTHS)
2. EMPLOYED FULL TIME
3. EMPLOYED PART TIME
4. STUDENT
5. RETIRED
6. DISABLED

7. FAMILY INCOME \$ _____/year

8. INSURANCE 1. NONE
2. MEDICAID/MEDICARE
3. BCBS/HMO/CHAMPUS/STUDENT HEALTH
4. BOTH PRIVATE AND MEDICAID/MEDICARE
4. OTHER _____

Appendix D

Krantz Health Opinion Survey

The following questions ask for your opinions about different kinds of health care. For each statement below, decide whether you agree or disagree and circle the answer which best fits your opinion. Each person is different, so there are no "right" or "wrong" answers. Please try to circle an answer for each question, and don't leave any blank. Even if you find you don't completely agree or disagree with a statement, choose the one answer that comes closest to what you believe.

Your answers are confidential and will be used for research purposes only. Thank you for your assistance.

For each question, circle
only one that comes
closest to what you believe!

- | | | |
|---|-------|----------|
| 1. I usually don't ask the doctor or nurses many questions about what they're doing during a medical exam. | AGREE | DISAGREE |
| 2. Except for serious illness, it's generally better to take care of your <u>own</u> health than seek professional help. | AGREE | DISAGREE |
| 3. I'd rather have doctors and nurses make the decisions about what's best than for them to give me a whole lot of choices. | AGREE | DISAGREE |

4. Instead of waiting for them to tell me, I usually ask the doctor or nurse immediately after an exam about my health.	AGREE	DISAGREE
5. It is better to rely on the judgments of doctors (who are experts) than to rely on "common sense" in taking care of your own body.	AGREE	DISAGREE
6. Clinics and hospital are good places to go for help since <u>it's best for medical experts to take responsibility</u> for health care.	AGREE	DISAGREE
7. Learning how to cure some of your illness without contacting a physician is a good idea.	AGREE	DISAGREE
8. I usually ask the doctor or nurse lots of questions about the procedures during a medical exam.	AGREE	DISAGREE
9. It's almost always better to seek professional help than to try to treat yourself.	AGREE	DISAGREE
10. It's better to trust the doctor or nurse in charge of a medical procedure than to question what they are doing.	AGREE	DISAGREE
11. Learning how to cure some of your illness without contacting a doctor may create more harm than good.	AGREE	DISAGREE
12. Recovery is usually quicker under the care of a doctor or than when patients take care of <u>themselves</u> .	AGREE	DISAGREE
13. If it costs the same, I'd rather have a doctor or nurse give me treatments than to do the same treatments myself.	AGREE	DISAGREE
14. It's better to rely less on doctors and more on your own common sense when it comes to caring for your body.	AGREE	DISAGREE

- | | | |
|--|-------|----------|
| 15. I usually wait for the doctor or nurse to tell me about the results of a medical exam rather than asking them immediately. | AGREE | DISAGREE |
| 16. I'd rather be given many choices about what's best for my health than to have the doctor make the decisions for me. | AGREE | DISAGREE |

Appendix E

Cox Health Self-Determinism Index

The following statements are about health and health-related issues. Please circle one number to indicate how much you disagree or agree with each statement.

	Strongly			Strongly	
	<u>Disagree</u>	<u>Disagree</u>	<u>Undecided</u>	<u>Agree</u>	<u>Agree</u>
1) For me, it takes more willpower than I have to do the things that I know are good for my health	1	2	3	4	5
2) Most of the time I know what to do for my health without needing to contact a doctor	1	2	3	4	5
3) Only a doctor really knows whether or not I am in good health....	1	2	3	4	5
4) Some people think that a doctor should decide about their health care, but I feel that I should decide.	1	2	3	4	5
5) I worry about my health	1	2	3	4	5
6) Whatever a doctor suggests about my health is OK for me to do	1	2	3	4	5
7) I know, without someone else telling me, when I am in good health	1	2	3	4	5

	Strongly			Strongly	
	<u>Disagree</u>	<u>Disagree</u>	<u>Undecided</u>	<u>Agree</u>	<u>Agree</u>
8) I more often agree with what doctors and nurses think instead of my own opinion.	1	2	3	4	5
9) I feel good about how I take care of my health	1	2	3	4	5
10) I do things to help my health even though a doctor or nurse has not suggested these things to me	1	2	3	4	5
11) I'm really never sure that I'm doing the right things for my health until I've checked it out with a doctor.	1	2	3	4	5
12) My own ideas about taking care of my health are often better than the ideas which doctors and nurses have.	1	2	3	4	5
13) I don't do as well at taking care of my health as other people I know	1	2	3	4	5
14) I prefer that doctors and nurses help me plan my health practices	1	2	3	4	5
15) I know, without a doctor telling me, that I'm doing the right thing for my health	1	2	3	4	5

	Strongly				Strongly
	<u>Disagree</u>	<u>Disagree</u>	<u>Undecided</u>	<u>Agree</u>	<u>Agree</u>
16) What a doctor thinks about my health is more important than what I think	1	2	3	4	5
17) I know what I'm doing when it comes to taking care of my health.	1	2	3	4	5

Appendix F
MDIA Scoring Sheet

Raised by:

		Topic	#	Cat Question- ing		Informative ness		Supportive- ness	
MD	PT			MD	PT	MD	PT	MD	PT
		1.							
		2.							
		3.							
		4.							
		5.							
		6.							
		7.							
		8.							
		9.							
		10.							
		11.							
		12.							
		13.							
		14.							
		15.							
		16.							
		17.							
		18.							
		19.							

MDIA CODING FORM
FOR DYADIC ENCOUNTERS

TAPE # _____

SOCIAL AMENITIES BY MD: _____ PT _____

COMPLIMENTS BY MD: _____ PT: _____

NEGATIVE REMARKS BY MD: _____ PT _____

SHARED LAUGHTER: _____

ALLOWANCE FOR FUNCTIONAL DEFICITS BY MD:

A GREAT DEAL (3); SOMEWHAT (2); NOT AT ALL (1); NA (0)

JOINT DECISION MAKING BY MD & PT

A GREAT DEAL (3); SOMEWHAT (2); NOT AT ALL (1); NA (0)

PT ADDRESSED BY MD USING 1ST NAME _____

PT ADDRESSED BY MD USING LAST NAME _____

PT ADDRESSED BY MD AS GIRL/BOY OR YOUNG LADY/MAN _____

MD ADDRESSED BY PT USING 1ST NAME _____

MD ADDRESSED BY PT USING LAST NAME _____

MD ADDRESSED BY PT USING AN ENDEARMENT _____

MD ADDRESSED AS GIRL/BOY OR YOUNG LADY/MAN BY PT _____

PT GLOBAL: ASSERTIVE.....PASSIVE

5 4 3 2 1

CAN'T TELL _____

PT GLOBAL: RELAXED.....TENSE

5 4 3 2 1

CAN'T TELL _____

PT GLOBAL: FRIENDLY.....HOSTILE

5 4 3 2 1

CAN'T TELL_____

PT GLOBAL: EXPRESSIVE.....WITHDRAWN

5 4 3 2 1

CAN'T TELL_____

PT GLOBAL: THERAPEUTIC OPTIMISM.....PESSIMISM

5 4 3 2 1

CAN'T TELL_____

ENCOUNTER GLOBAL: WARM.....COLD

3 2 1

ENCOUNTER GLOBAL: DEEP.....SUPERFICIAL

ENCOUNTER GLOBAL: TRUSTING.....SUSPICIOUS

ENCOUNTER GLOBAL: BONDING.....AVERSION

DO THE PARTICIPANTS SEEM TO REACH ONE ANOTHER?

A GREAT DEAL_____ SOMEWHAT_____ NOT AT ALL_____ NA_____

IS THERE ANY DIALOGUE CHARACTERIZED BY NATURAL SPONTANEOUS
CONVERSATION?

A GREAT DEAL_____ SOMEWHAT_____ NOT AT ALL_____ NA_____

PT MAJOR TOPIC #1_____

HOW WELL DID MD DEAL WITH PT MAJOR TOPIC #1?

VERY WELL_____

ADEQUATELY_____

INADEQUATELY_____

PT MAJOR TOPIC #2_____

HOW WELL DID MD DEAL WITH PT MAJOR TOPIC #2?

VERY WELL_____

ADEQUATELY_____

INADEQUATELY_____

PT MAJOR TOPIC #3_____

HOW WELL DID MD DEAL WITH PT MAJOR TOPIC #3?

VERY WELL_____

ADEQUATELY_____

INADEQUATELY_____

MD MAJOR TOPIC #1_____

HOW WELL DID MD DEAL WITH MD MAJOR TOPIC #1?

VERY WELL_____

ADEQUATELY_____

INADEQUATELY_____

MD TOPIC #2_____

HOW WELL DID MD DEAL WITH MD TOPIC #2?

VERY WELL_____

ADEQUATELY_____

INADEQUATELY_____

MD TOPIC #3_____

HOW WELL DID MD DEAL WITH MAJOR TOPIC #3?

VERY WELL_____

ADEQUATELY_____

INADEQUATELY_____

HOW MANY MATCHES OF MD AND PT TOPICS (NOT CATEGORIES)?

0 1 2 3

SENTINEL EVENTS: CODE THE FREQUENCY OF EACH SENTINEL EVENT. IF
THE EVENT DID NOT OCCUR, THE SPACE MAY BE LEFT EMPTY.

PATIENT ATTRIBUTION_____

PATIENT CRYING_____

PATIENT GIVES GIFT_____

PATIENT UNUSUAL BEHAVIOR_____

GOOD PPR TEACHING TAPE_____

MD FEATURES WHICH PREDOMINATE A VISIT_____

PROBABLE OR POSSIBLE MISINFORMATION_____

NO TALKING_____ (FOR > 30 SECONDS)

TP ENTERS FOR A BRIEF TIME_____

> 5 INTRUSIONS _____

PATIENT PROMISES_____

DIFFICULT TO CODE_____

OTHER_____

DESCRIBE:

Appendix G

Smith-Falvo Patient-Doctor Interaction Scale

It is important to our doctors to know what you feel about your interactions with them. Only with your help can the doctors know in what areas they should try to improve and in what areas they are good. Please give us this feedback by filling out this questionnaire. Your physician will not see this questionnaire nor be aware what you, as an individual, said about him/her, but only what the group said. Complete confidentiality will be maintained.

	<u>Strongly</u> <u>Agree</u>	<u>Agree</u>	<u>Unsure</u>	<u>Strongly</u> <u>Disagree</u>	<u>Does Not</u> <u>Apply</u>
1) The Doctor went straight to my medical problem without first greeting me	_____	_____	_____	_____	_____
2) The doctor greeted me pleasantly	_____	_____	_____	_____	_____
3) The doctor seemed to pay attention as I described my problem	_____	_____	_____	_____	_____
4) The doctor made me feel as if I could talk about any type of problem	_____	_____	_____	_____	_____
5) The doctor asked questions that were too personal	_____	_____	_____	_____	_____
6) The doctor handled me roughly during the examination	_____	_____	_____	_____	_____
7) The doctor gave me an explanation of what was happening during the examination	_____	_____	_____	_____	_____

	<u>Strongly</u>			<u>Strongly</u>	<u>Does Not</u>
	<u>Agree</u>	<u>Agree</u>	<u>Unsure</u>	<u>Disagree</u>	<u>Apply</u>
8) The doctor explained the reason why the treatment was recommended for me	_____	_____	_____	_____	_____
9) I felt the doctor diagnosed my condition without enough information	_____	_____	_____	_____	_____
10) The doctor recommended a treatment that is unrealistic for me	_____	_____	_____	_____	_____
11) The doctor considered my individual needs when treating my condition	_____	_____	_____	_____	_____
12) The doctor seemed to rush	_____	_____	_____	_____	_____
13) The doctor behaved in a professional and respectful manner toward me	_____	_____	_____	_____	_____
14) The doctor seemed to brush off my questions	_____	_____	_____	_____	_____
15) The doctor used words I did not understand	_____	_____	_____	_____	_____
16) The doctor did not give me all of the information I thought I should have been given	_____	_____	_____	_____	_____

	<u>Strongly</u>			<u>Strongly</u>	<u>Does Not</u>
	<u>Agree</u>	<u>Agree</u>	<u>Unsure</u>	<u>Disagree</u>	<u>Apply</u>
17) The doctor criticized me for not taking care of myself	_____	_____	_____	_____	_____
18) I would recommend this doctor to a friend	_____	_____	_____	_____	_____
19) I would return to this doctor for future health care	_____	_____	_____	_____	_____