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Perceived likeability and competence of simulated patients

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PERCEIVED LIKEABILITY AND COMPETENCE OF SIMULATED PATIENTS:

INFLUENCE ON PHYSICIANS' MANAGEMENT PLANS

by

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DISSERTATION

Submitted in partial satisfaction of the requirements for the degree of

DOCTOR OF PHILOSOPHY

in

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ABSTRACT

To assess whether physicians make attributions regarding psychological and personality characteristics of their patients and whether these attributions are used in treatment decisions regarding patients, 93 primary care physicians in three groups were shown three videotaped depictions of patients. These physicians completed both a Physician Attribution Survey and a Patient Management Problem describing their proposed treatment.

Based on a preliminary study of spontaneous attributions, three videotaped portrayals of simulated patients were created with actresses depicting a likeable-competent (L-C), an unlikeable-competent (U-C), and a likeable-incompetent (L-I) patient. These tapes were pre-tested with several samples of health professional students. These groups consistently rated the tapes as significantly different on the characteristics of likeability and competence.

There were significant differences in treatment on five of the nine treatment dimensions, depending upon the characteristics of the patient. First, the L-C patient would be encouraged significantly more often (p < .05) to telephone and return more frequently for follow-up than the L-I and U-C patient. Second, the staff would educate the likeable patients significantly more often than the unlikeable patients (p < .05). Third, the physician would offer significantly more (p <.05) patient education to the incompetent patient than to the competent one. Fourth, the unlikeable patient would receive significantly more (p <.05) interviewing regarding the psychological aspects of care than the likeable patients. Fifth, the L-C patient would receive augmented medica-

tion more frequently than either the U-C patient or the L-I patient. There were no differences in the use of the physical examination, referral to staff, frequency of return, or hospitalization based on the personal characteristics of the patient, although some of these variables were significantly affected by the attributed disease. There were no interactions between patient characteristics and disease as determinants of management.

This study demonstrated that physicians vary certain treatments according to patient attributes of likeability and competence. These findings have implications for medical education, studies of medical decision-making, and assessments of physicians' quality of care of patients. The methods developed provide a basis for more extensive and detailed studies of the explicit and implicit theories physicians have regarding the relationship between the personality characteristics of their patients and treatment decisions.

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- William Hargreaves, from whose standards and guidance this work benefited greatly.

- David S. Gullion, who also guided this work and assisted in implementing the study.

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INTRODUCTION

Interest continues to grow regarding the processes physicians use to make decisions in diagnosing and treating patients. This high level of interest is manifested in the number of conferences and published articles and books in this area. Several fields of study contribute to this push for knowledge. In undergraduate medicine, educators search for the qualities that distinguish "good" decision makers from "bad" in order to impart the positive qualities to medical students in their clinical years (Vu, 1980). In addition, there have been recent efforts to teach medical decision-making to medical students in the pre-clinical years (Margolis, Barnoon, & Barak, 1982). In Continuing Medical Education (CME), post-graduate medical educators also strive to learn the elements of clinical reasoning in order to provide quality education that maximizes the impact on decisions physicians reach; this emphasis is depicted by calls for measuring behavior change subsequent to CME (Abrahamson, 1968; Berg, 1979). Students of quality medical care investigate clinical decision-making for two reasons: (a) to differentiate physicians who provide adequate medical care from those who do not; and (b) to assist physicians who need to improve their practice of medicine by teaching them the decision-making process used by excellent physicians.

These various approaches to medical decision-making generally lead to the development of either a criteria list or an algorithm (criteria map, for example) of behaviors that a criterial or proficient physician (Elstein, Shulman & Sprafka, 1978) would use in the diagnosis and/or

treatment of patients. These criteria, developed from scientific evi-
evidence of efficacy and combined with clinical experience, attempt to
spell out good medical care. However, when physicians are shown this
list or algorithm, they often respond with "Yes, but..." leading to a
denial of the fit of the criteria for individual patients. These de-
nials stem from two sources...the physiological and the psychological.
Physiologically, patients with the same disease entity are not all
identical in their manifestation of symptomatology, exacerbation pat-
tern, response to treatment regimen, etc. Psychological differences
are also pronounced. There are individual differences among patients
in their personalities, attitudes, and intelligence, along with differ-
ences in cultural and social backgrounds. It is a principal hypothesis
of this work that the attributions physicians make about their percep-
tions of each individual patient are weighted heavily when they decide
upon a treatment plan for each patient and, further, that this aspect
of decision-making has not been adequately acknowledged or studied in
the literature on decision-making. Therefore, studies attempting to
teach or measure quality care as related to decision-making ignore a
vital component of the decision process.

This study attempted, first, to identify qualities physicians at-
tribute to patients and, then, to test whether these attributions influ-
enced decision-making regarding the diagnosis and treatment of each
patient.

This introductory chapter offers a brief overview of the litera-
ture on decision-making and the methodologies that have been used to
evaluate and measure physician decision-making, demonstrating that at-

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tributions are not taken into account. Then the theories and methodologies that have been used to describe and measure attributions made by individuals in settings other than the health care arena are reviewed. Finally, in subsequent chapters, research demonstrating both that physicians do, in fact, make attributions about their patients and, additionally, that these attributions do influence decision-making is presented.
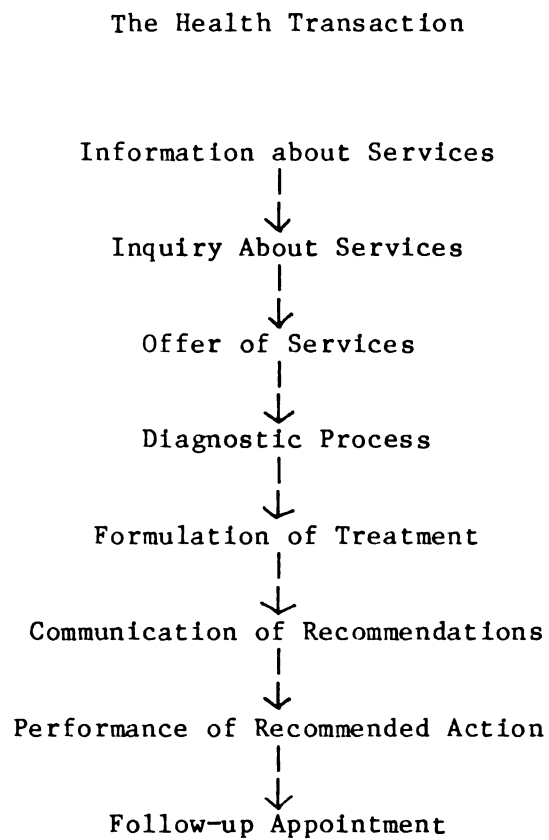
Review of Literature on Decision-making and Methodologies

A prototypical health care transaction moves through three major stages. The first is the entry of the patient into the provider's system. This stage includes gaining information about the services provided plus an offering of services by the provider. The second stage is the visit itself. Typically, this includes the diagnostic process, the treatment determination, and the communication of recommendations. The final stage is comprised of follow-up to the visit: the patient's performance or implementation of the recommended action, and any future appointments (Figure 1, Stone, 1981).

Each of these stages has been studied extensively. Within the second stage falls the treatment determination. The field of medical decision-making has emphasized diagnostic decision-making, to the exclusion of treatment formulation.

Since the mode of problems in American medicine has shifted from acute conditions to chronic conditions, the emphasis in the area of decision-making should be shifted to place greater emphasis on treatment. Jonas (1977) documented this shift in illness from a preponderance of

Figure 1*

The Health Transaction

Information about Services
|
↓
Inquiry About Services
|
↓
Offer of Services
|
↓
Diagnostic Process
|
↓
Formulation of Treatment
|
↓
Communication of Recommendations
|
↓
Performance of Recommended Action
|
↓
Follow-up Appointment

* Adapted from Stone, 1981.

infectious diseases to a higher ratio of chronic diseases such as hypertension, chronic obstructive lung disease, and cancer. Thus, physicians, rather than diagnosing infectious diseases at onset, are more likely to be called upon to make repeated decisions regarding adjustments in management plan as those chronic diseases either exacerbate or steadily worsen. These adjustments include treatment of drug side effects, complications related to the disease, and patient education to enhance adherence.

The current study focuses on psychological attributions in the context of management in order to address this changing emphasis in the practice of primary care physicians. Although this study is concerned with treatment decisions, the literature in this field is sparse. Therefore, the review below will summarize relevant work in diagnostic decision-making.

Medical Decision-Making

Several excellent reviews of the field of medical decision-making are available. Highlights of two of these reviews by Elstein and Bordage (1979) and Vu (1980), will be presented; the frameworks and their accompanying studies focus upon the physiological cues while ignoring the attributional cues.

Elstein and Bordage (1979) divided the research on medical reasoning into three areas: problem-solving, social judgment, and decision theory. The first of these—problem-solving—has developed from studies of information processing. Early studies in this field focused on the bounded or limited information-processing capabilities of individuals. As applied in medical reasoning, the approach included both

direct observation in naturalistic settings of the physician-patient interaction and a "thinking aloud" by the physician in an attempt to describe the thought processes. An advantage of this method is its external validity. Elstein et al. (1978), presenting exemplary research using this problem-solving paradigm, reported four components of decisions regarding patient diagnosis: cue acquisition, hypothesis generation, cue interpretation, and hypothesis evaluation. To date, the work of Elstein and his colleagues has not addressed the issues of physician attributions of patient characteristics as they relate to decision-making.

The second approach to the study of medical decision-making is the judgment approach, which focuses on the information or cues to which physicians attend when making judgments and, in addition, the relative weight or importance of those cues. Experts' judgments and literature reviews are used in the selection of variables. Standardized case vignettes provide the stimulus for physicians to select elements or variables to be included. These elements are then used to develop a multiple regression equation to depict the judgment process.

Elstein, Rovner, Holzman, Ravitz, Rothert and Holmes (1982) delineate the advantages and disadvantages of this approach. Some advantages noted are that: (a) the standardized case vignettes, as compared with actual cases, provide the opportunity to examine the physician variables without confounding them with the patient variables; (b) case vignettes allow for the use of a wide variety of cases in a briefer period of time than is possible with direct observation; and (c) through the use of vignettes, the judgment approach facilitates

learning since the physician's decisions can be compared with those of the experts and deficiencies noted and addressed.

However, this approach has drawbacks since it assumes that the relevant variables necessary to make the decision are known to the physician. This assumption does not conform to actual practice in which data may not all be available at any given time.

Decision theory, developed from applied mathematics, provided the third approach identified by Elstein and Bordage (1979) to the study of medical decision-making. The researcher using this paradigm would be interested in the conditional probabilities that physicians assign to certain states of nature (diagnosis) and the conditional probabilities of outcomes, given certain treatments. This paradigm addresses directly the uncertainties inherent in medical problems and infers that physicians attempt to minimize risks while maximizing benefits. Clinicians do not actually engage in such minimax behavior. However, decision theory is a useful tool for studying and improving the process of clinical decision-making (Elstein et al. 1982).

While the decision theory approach has the advantage of requiring specification of both the probability of a specific outcome and the utility or value of that outcome, concomitant disadvantages exist. For example, the probabilities given by clinicians are "guesses" at the true probabilities. The concordance between these guesses and the truth is not known. In addition, there may be conflict between the values of the provider and those of the patient and his/her family. The decision as to whose values to use is a difficult one. Finally, individual values are not consistent or stable and, therefore, may fluc-

tuate from one assessment period to the other.

More recently Elstein et al. (1982) divided decision-making stud-
ies into two major groups. Research in the first group assesses the
behavior of physicians in order to prescribe what should be done, what
choices are best in complex situations. Decision analysis research is
prescriptive. The second group are labeled descriptive. Testing of
three theories - social judgment, behavioral decision, and process trac-
ing - provide the descriptive analysis of the principles and facts and
the nature of their organization and retrieval that characterize physi-
cian decision-making.

Another view of medical decision-making is offered by Vu (1980),
who summarized several models (Andrews, 1974; Bashook, 1976; Elstein,
1974; Gorry, 1970; Kozielecki, 1972; Schwartz & Simon, 1976; Visonhaler,
Chan, Wagner & Elstein, 1975) and concluded that "although the termino-
logy differs, the processes [of diagnostic decision-making] generally
consist of the following activities: problem-sensing, hypothesis gene-
ration and evaluation" (Vu, 1980, p. 140). Studies to date have inves-
tigated only parts of this model, Vu contended. Those that have ad-
dressed the area of problem-sensing have measured how physicians col-
lect, interpret and integrate data or cues and have reported that
these skills are independent of each other but related to diagnosis
(Berner & Tremonti, 1976; Elstein et al. 1978; Neufeld, 1977). Stud-
ies investigating hypothesis-generation reported that physicians con-
sider an average of four to five hypotheses when making diagnoses, and,
in addition, that these hypotheses are triggered by combinations of
cues which lead to specific questions. As to what distinguishes an ex-

pert from a non-expert problem-solver, Vu concluded that efficient problem-solving depends upon the physician's acquired skills, plus mastery of the content of the problem to be solved. Thus, knowledge in the area of the problem is essential to effective problem-solving and, in addition, is case-related, i.e. effectiveness varied from case to case. Once again, the research reviewed by Vu emphasized the physiological cues utilized in decision-making such as laboratory or x-ray finding, medical history, and physical examination, while ignoring attributions of psychological characteristics of patients that enter into the process. It is worthy of note that Vu does not address treatment decision-making directly. Rather, she and others describing "decision-making" processes seem to imply that, once the patient's problem is diagnosed, the selection of appropriate treatment follows naturally.

It should also be noted that the work reviewed by Elstein, Vu, and others does not address psychological or personality characteristics of patients as they relate to medical decision-making. The implication here may be that these qualities are not integral to decision-making.

Methodologies for evaluation of decision-making. Numerous methods have been developed over the last ten years to appraise physician decision-making. The element of major importance in any method is the fidelity of the situation or the approximation to the reality of the doctor-patient interaction (Vu, 1979). Originally, the National Board Examination, Part III, designed to assess clinical competence, was conducted at the bedside of actual patients. This test had high fidelity; however, since problem-solving is case specific, the two cases present-

ed to each physician did not allow for adequate testing across diseases, patients, and situations. The format of this examination was changed to a series of Patient Management Problems, a methodology described below, which has moderate fidelity while providing higher reliability than the original test. Thus, in general, the lower the fidelity of the method, for example, paper-and-pencil tests, the higher the reliability; the higher the fidelity, as in observation of the physician at an actual patient's bedside, the lower the reliability. Vu (1979) has divided these methods into three general categories: chart review, observation, and simulations. A brief description of each of these categories of methods follows.

Several studies that used <u>charted data</u> abstracted directly from the record reported low conformance to criteria (Frazier & Brand, 1979; Hulka, Romm, Parkerson, Russell, Clapp, & Johnson, 1979); low conformance has been found even when the criteria were developed by the same practitioners who are being audited (Lewis, 1974; Novick, Dickinson, Asner, Maylan, & Lowenstein, 1976; Sommers, 1979), although Bush, Rabin, and Spector (1979) found criteria-setters to be more conforming than other physicians. Increased adherence has been found, however, when a new method of physician recording, such as structured checklist, has been implemented (Frazier & Brand, 1979) or when computerized feedback was given to physicians (Barnett, Winickoff, Dorsey, Morgan, & Lurie, 1978). Some persons question whether poor recording reflects poor practice; while some conclude that those who put more effort into recording will also practice better (Hulka et al. 1979; Lyons & Payne, 1974; Payne, 1979), others believe that heavy work loads create poor

recording, not poor process (Clute, 1963; Evans, 1979; Fessel & van Brunt, 1972). Only 48% of the physicians studied by Thompson and Osborne (1976) agreed that chart audit reflected the quality of care delivered. Sanazaro and Worth (1978) found no significant relationship between completeness of records and provision of correct treatment when objective confirmation of diagnosis and treatment were required. Others argued that regardless of their completeness, records do not reflect the more important aspect of care - decision-making (Christoffel & Loewenthal, 1977; Starfield, Seidel, Carter, Garvin, & Sedden, 1973). Algorithms or criteria maps have been suggested to correct this deficiency of chart audit (Frazier & Brand, 1979; Greenfield, Lewis, Kaplan, & Davidson, 1975). Several authors provided detailed presentation of the chart audit methodology, including description of the training of abstractors, the process of abstracting from records, and data analysis (Fleisher, Brown, Zeleznik, Escovitz, & Omdal, 1976; Hulka, et al. 1979; Thompson & Osborne, 1976).

The value of the chart audit is still a controversial topic. While Sanazaro (1979) and Payne (1979) reported that medical records remain the best source of data on the technical performance of physicians, Brook, Williams, and Avery (1976) discussed the problems of chart audit and concluded that other methods must be considered.

Thus, in general, chart review is a low fidelity, low reliability, method and, in addition, does not adequately reflect decision-making.

Observation has been suggested as another method to measure the process of patient care. Anderson, Roy, Looney, and Donnelly (1977) and Frazier and Brand, (1979) used observation in conjunction with

chart audit. Although both studies described methods in the developmental stages, the authors reported that initial results appeared encouraging. Audio-tape (Zuckerman, Starfield, Hochreiter, & Kovasznay, 1975), videotape (Palmer, 1976), and in-person observations (Clute, 1963; Peterson, Andrews, Spain, & Greenberg, 1956) have been used. Palmer reports that observation is the most direct method of measurement and is also flexible; however, it is difficult to standardize, is time-consuming and therefore expensive, and may alter physician and/or patient behavior. Sanazaro and Worth (1978) and McAuliffe (1978) also suggested benefits of using observation as a quality assurance methodology. However, Brook et al. (1976) discouraged its routine use on the basis of cost in general, and, more specifically, on the increased cost of monitoring multiple visits made necessary because of the episodic nature of illness in ambulatory settings, i.e., while multiple chart entries could be evaluated during one visit by the chart audit method, an observer would need to be present for each patient visit to capture the same data. Osborne and Thompson (1975) suggested that, in addition to the disadvantages of its expense, the method requires extensive training of observers and may not be reliable nor valid. However, the cost, reliability, and validity of this method have not been tested as a tool to evaluate physician performance in ambulatory care settings.

Elstein et al. (1978) added two aspects to the observation methodology in order to capture physician decision-making. First, the physician was asked to think aloud as he or she interviewed a simulated (actor) patient. This process was conducted with simulated sessions that

were video-taped and viewed by the physician at a later date. At that time the physician was assisted by the use of Interpersonal Process Recall (Kagan, 1979) to remember the thinking process used during the interview. Again, the physician was asked to think aloud to offer the reasoning used when diagnosing the patient.

In developing simulations, numerous methods have been developed to measure decision-making in a manner that will provide a favorable balance between fidelity and reliability. The search is for a method that is not as case-specific and, therefore, unreliable as a one-time observation in a real setting (the original method of the National Board Examination, Part III), nor as low in fidelity as traditional paper-and-pencil tests (Newble, 1975). Simulations of various types have provided this balance. Though the exact methodologies vary from a deck of cards to a specially-designed erasable paper-and-pencil technique to computer-based methods, the essential components are as follows: (a) a brief case presentation is followed by (b) a series of questions regarding history-taking, physical examination and laboratory and x-ray requests and (c) findings are sequentially presented as the physician makes each decision. These simulations attempt to limit cues given to the physician unless they are specifically requested by him or her.

Reviews by Vu (1979) and Newble (1975) have suggested that these simulations do succeed in providing approximations to real doctor-patient encounters with the added benefits of both standardizing the

stimulus and providing numerous cases in a shorter amount of time than would be necessary for face-to-face interviews.

The most commonly used simulation techniques are Patient Management Problems (PMP's) and modifications thereof. In general, a student completing a PMP proceeds as follows: (a) a chief complaint is presented; (b) the student chooses his/her first step from a list of options, i.e., obtain history, perform physical examination, order laboratory tests, etc.; (c) the student is directed to a section of the test booklet that responds to his choice and given further choices to make from among an elaboration of the options; (d) the student continues to work through the test booklet until the diagnosis or management plan is determined.

Reliability tests of PMP's coefficient alpha scores range from .85 to .94 (McGuire & Babbott, 1967) and test-retest reliabilities of .66 (Helfer & Slater, 1971). Scores of different components of ten PMP's were correlated (Donnelly, 1976). These produced high reliabilities for some categories; e.g. history (.86) and physical examination (.78); however, for other dimensions the reliabilities were low -- diagnosis (.44), management (.35).

The construct validity of PMP's has been demonstrated in several studies. (See, for example, Baker, Donnelly, Gallagher, Hogan & Vaitkenicius, 1972; Schumacher, 1971.) In these studies, examinees at higher levels of learning received higher scores than those at lower levels of learning.

Summary

The literature on evaluation of physician decision-making by chart

review, observation, and simulation has been reviewed. None of these methodologies has measured attributions regarding psychological characteristics of patients as components of the decision-making process. A discussion of attributions about persons, a field of study within the domain of social psychology follows.

Review of Literature on Attributions - Theories and Methods

Attributions

Attribution has been defined in social psychology as a word or statement used to represent how one (observer) perceives a person's (actor's) verbal or non-verbal behavior or the person (actor) himself (Fiske, 1978). Study in this area has developed along a variety of avenues under several different, yet related names: impression formation, person-perception, attributions, implicit personality theory. The basic assumption is that individuals do form impressions both to predict about the future behavior of the other and to decide upon one's own behavior in relating to him or her.

Attribution theory origins lie in Heider's seminal work published in 1958.

> "We interpret other people's actions and we predict what they
> will do under certain circumstances. Though these ideas are
> usually not formulated, they often function adequately. They
> achieve in some measure what a science is supposed to achieve:
> an adequate description of the subject matter which makes pre
> diction possible." (Heider, 1958, p. 5)

The field of attribution theory received extensive attention in the mid-1970's. However, it never has become one theory with one set

of assumptions or conclusions. Rather, it embraces a variety of research endeavors such as the study of motivation, achievement, emotion and equity, among others (Frieze & Bar-Tal, 1979; Harvey & Weary, 1981). Some individuals study the process of making attributions while others study the consequences of choosing a given attribution. Also, some researchers focus on the attributions one makes about other objects or individuals, while others focus on self-attributions (Bem, 1972; Kelley, 1967).

In their 1980 book, Nisbitt and Ross characterized the informal or quasi-scientist (identified by Heider, 1958), the attributor, as an inferior, inaccurate predictor of the attributes and potential actions of others, in comparison to a "true" scientist. They reviewed research documenting inferential errors made by this informal scientist because of the characterization of events, their sampling methods, prediction strategies and causal analyses. Among their delineations of inference problems were the following:

First, the lay person is unduly influenced by his prior beliefs or knowledge structures. Second, the informal scientist will ignore "pallid data summaries" in favor of an unrepresentative "vivid case". The vivid case has emotionally interesting information, is sensorally, spatially and temporally proximal and therefore easier to imagine and more available for decision-making.

Third, this "vivid case" phenomenon has been used to demonstrate that individuals think that the law of large numbers (Kahneman and Tversky, 1973) also applies to small numbers. Thus, generalizations are made based on biased sampling procedures. Fourth, people's own

accounts of their explanations for their behavior are often empirically wrong.

Most researchers exploring the relationship between perceptions and the accuracy of these perceptions report that accuracy does not generalize from one judgment to the next (See Gage, Leavitt, & Stone, 1956; and Krech, Crutchfield, & Balachey, 1962). Further, it is interesting to note that individuals who use many categories to distinguish other individuals, are less likely to view those individuals as similar to themselves, but are not more accurate judges as a result. Indeed, as research on clinical judgment shows, judges who use more categories may predict less well than those who rely on a couple of stereotypes (Sechrest & Jackson, 1961). However, though individuals may not be accurate in their perceptions, they continue to develop these perceptions and act upon them.

Fiske (1977) noted that various strategies have been used effectively to measure attributions aroused in the laboratory, but warns against generalizing from brief, contrived descriptions, made by subjects who are conforming to task requirements, to people in everyday interactions. Harvey and Weary (1981) stated that while in normal interactions attributions are not formulated, not expressed, and not brought to consciousness, all research on attributions brings these attributions to consciousness.

Thus, the investigator is asking the observer-actor to make attributions in response to instructions given by the investigator on a form provided by him or her. In most cases, the observer might not have made these judgments if the investigator had not intervened.

Therefore, it is an untested assumption that the judgments captured are those the individual would have made had there been no intervention. However, a method has not been, and may never be, developed which would eliminate the need for investigator intervention.

In general, a few basic techniques are commonly used to capture attributions. The investigator creates conditions in which one person is the observer; another, the actor. A situation or role play is created for the observer to view either in person, by video or audio. Then the observer is asked to record his or her perceptions of the actor on an instrument constructed for this task.

Various instruments have been used to measure the attributions solicited from the respondent. In this study, several commonly used methods will be applied to assess attributions physicians make about patients:

Adjective Check List. The Adjective Check List (ACL) of Gough and Heilbrun (Gough, 1960) provides a list of 300 adjectives which can be used to describe personality attributes of self or other. The subject can complete the check list in ten to fifteen minutes. These responses can be hand- or computer-scored to produce scores on 24 scales. Lake, Miles, and Earle (1973) recommend the check list for exploratory or supplementary research only, since test-retest reliability is low (range of median correlations .45 to .90) and validity questionable. Variants of the ACL are available.

Q-sort - A q-sort provides a subject with personality descriptors, each displayed on a card. The subject is asked to sort the cards into categories determined by the investigator. The most famous of this

type of test is the California Q-Set (CQ-Set) (Block, 1961). This instrument requires subjects to sort the cards into categories according to their salience as attributes of the person or situation to be described. The CQ-Set has high test-retest reliabilities (r = .80 - .90) and is a respected instrument (Lake et al. 1973).

Role Construct Repertory Test. This test attempts to elicit from the respondent the unique personal constructs he or she uses. The subject is asked to name individuals in various roles relative to one's self and then to compare and contrast these individuals three-at-a-time, in answer to the question, "In what important way are two of them alike but different from the third?" The scoring of such data is complex, requiring an understanding of Kelly's (1955) theory of the psychology of personal constructs. However, the technique is useful to derive the constructs, attributions and perceptions used by a given individual; and Kelly encouraged others to exercise flexibility in creating derivations and applications (Bannister, 1968).

Semantic Differential. Subjects completing a semantic differential instrument are asked to place a check representing their perception of another somewhere between two opposite descriptors such as "thoughtful/ thoughtless". The Person Description Instrument (PDIX, Harrison, undated) provides 27 contrasted pairs relevant to three factors: Interpersonal Warmth and Acceptance; Power and Effectiveness at Work; and Activity and Expressiveness. Though reliability and validity data are scarce, the instrument may be useful in exploratory studies.

Attributions and Health Care

Here the interest lies in identifying the attributions physicians make about patients and how these are incorporated into the decision-making process. As noted, little attention has been paid to physician's attributions of patient characteristics. One recent study addressed an aspect of this. Staudenmayer and Lefkowitz (1981) asked supervisors of allergy fellows to rate their students on a five-point scale as to "the degree to which each treated his patients as real, whole persons with feelings rather than a representative case of pulmonary pathology" (p. 78). The fellows were then divided into those with high sensitivity and those with low sensitivity. Staudenmayer and Lefkowitz also measured patients on their modes of coping with illness and divided their patient-subjects into patients with high, moderate, or low levels of panic-fear symptoms. They found that patients with different levels of panic-fear were treated differently by physicians and that differences in physician sensitivity led to differences in treatment. High-sensitivity physicians prescribed less steroids and hospitalized patients with high or low panic-fear symptoms longer in relation to patients with moderate panic-fear symptoms. However, physicians with low sensitivity prescribed more steroids and hospitalized for shorter periods for the more extreme groups.

Summary

Attribution theory and research is a field with multiple perspectives. One way of depicting the area is to delineate the various stages of the attribution process. The following is such a diagram:

```
                                    views
Step  1.  Observer ------------------------------------> X


                              makes attributions about        accurate*
Step  2.  Observer -----------------------------------> X↗
                                                         X↘
                                                           inaccurate*


                           predicts action/behavior of
Step  3.  a. Observer ------------------------------------> X


                           acts based on predicted behavior
          b. Observer ------------------------------------> X
```
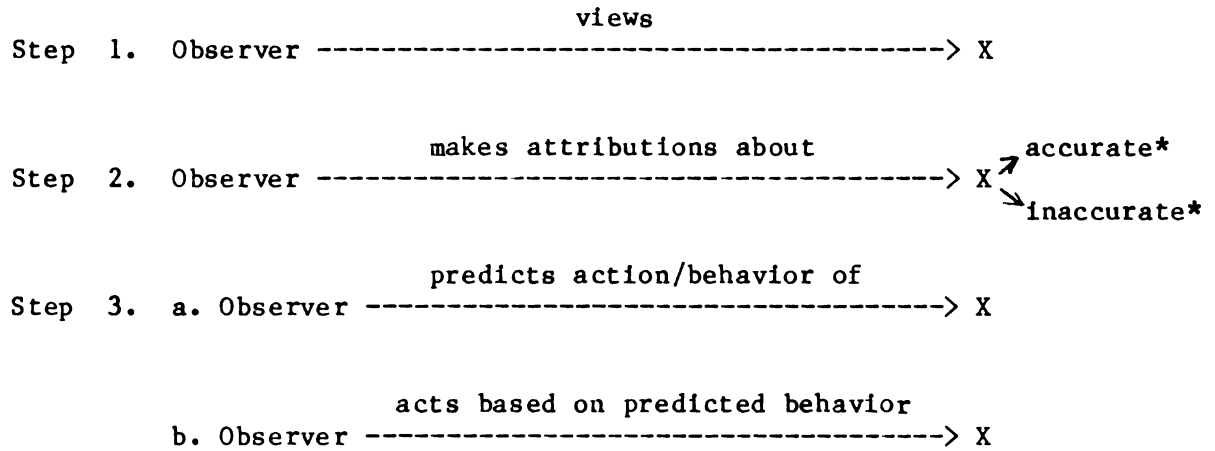
*Whether or not observers are accurate in their percep-
tions of the other's characteristics or subsequent be-
havior, observers utilize these attributions. Accuracy
is seldom confirmed by observers either by asking the
other or by administering the applicable psychological
tests.

Research in attributions has been focused for the most part on
step 2, the accuracy of the attribution, and step 3a, the observer's
prediction of the action of others.

To date, attributions made by physicians regarding their patients
have not been studied. Nor has research been conducted to assess the
relationship, if any, between physicians' attributions about patient
characteristics and their subsequent treatment decisions.

Study Rationale

The current study will be a first effort in understanding this im-
portant process. It is hypothesized that the patient's personality
serves as significant input into the choice of treatments physicians
select for their patients.

In order to test for this relationship, three groups of physicians were shown videotaped depictions of three actresses portraying three types of patients, representing attribution clusters anticipated on the basis of these preliminary studies described in the next chapter. It was decided to confound actresses and intended attributions, so that three videotapes sufficed for the stimuli. In addition, to test for treatment differences between diseases, three diseases were used. This latin squares anova design can be depicted as follows:

	Group 1	Group 2	Group 3
Disease 1	Tape 1	Tape 3	Tape 2
Disease 2	Tape 2	Tape 1	Tape 3
Disease 3	Tape 3	Tape 2	Tape 1

This design measured aspects of the three-step attribution process depicted above. The videotaped depictions were the stimulus material for Step 1.

The physician viewed the simulated patient. Then the physician was asked to complete a questionnaire—the Physician Attribution Survey—recording his/her attributions about the "patient". This is Step 2 on the diagram. Finally, the physician is asked to describe his/her treatment plan by completing a series of Patient Management Problems (Step 3b).

This study did not address the question as to whether the treatment decisions of the physician (Step 3b) were based upon the physi-

cian's predictions of the action of the patient, e.g., that the patient would comply (Step 3a). Instead, the study measured only the physician's predictions of his own actions, such as the extent of patient educaton, or the frequency of follow-up.

In order to measure physicians' attributions about their patients and their treatment decisions, three instruments were developed: a series of videotapes (a) depicting patient characteristics to use as a stimulus for two pencil-and-paper questionnaires: a Physician Attribution Survey (b) and Patient Management Problems (c). The development of these instruments is described in the following chapter.

DEVELOPMENT OF INSTRUMENTS

INTRODUCTION

In this section I discuss the development of three instruments. The first instrument is a series of videotapes to be used as stimuli for responses to the remaining two instruments. The second is a Physician Attribution Survey (PAS) to be used to assess how physicians perceive the attributions of patients.

The development of the videotapes and the Physician Attribution Survey were related. Attributions that were used by physicians in the early stages of development of the Survey served as the basis for developing attributes to be depicted on the stimulus videotapes. After the videotapes were developed, they served as stimulus for subjects completing later versions of the Survey.

The third instrument is a questionnaire in the form of patient management problems (PMP's) regarding treatment decisions within three diseases: hypertension, diabetes and asthma. The items of these PMP's were designed to capture treatment variations that might arise from attributional differences perceived by physicians.

THE VIDEOTAPE STIMULI: CREATION AND PRE-TESTING

For an experiment such as this, the stimuli for the physicians must be standardized so that they do not vary from administration to administration. Three categories of options are available for this purpose: (a) a written vignette describing the attributes of the individual; (b) a live actor with a script; or c) a filmed presentation of a real or simulated patient.

The latter option was chosen. The written vignette was not used for two reasons. First, terms have different connotations for different individuals. For example, "attractive" brings up very different images among subjects. Words such as "bossy", "talkative", "appreciative" and "rational" also have widely varying interpretations. These are the types of attributions to be included in this study. Secondly, written descriptors are not as vivid as the film—a picture is worth a thousand words. Live depictions were discarded as too costly and not flexible enough for multiple uses in various settings. Additionally, live portrayals also leave room for fluctuations in "performance" from one time to the next and, therefore, would be unreliable as a stimulus.

Videotaped presentation of the attributes was thus chosen both for its realism and fidelity to the actual situation and for its relatively low cost. From data collected during intensive interviewing of physicians (see Part II of this Chapter), it appeared that treatment decisions might vary depending upon characteristics falling along two dimensions—the competence of the patient and the likeability of the

patient.

For the three group latin squares design three of the four possible combinations of these two dimensions were to be tested. The three combined attribute clusters chosen were the Likeable and Competent patient (L-C), the Likeable but Incompetent patient (L-I), and the Unlikeable but Competent patient (U-C). In this design, treatment decisions regarding the Unlikeable-Incompetent (U-I) patient were not tested. A major goal in making the tapes was to present believable patient types, not caricatures. Although each of the four combinations of qualities had the potential for providing a blatant sterotype, the U-I portrayal had the greatest possibility. It was decided, therefore, to use an L-C portrayal, along with the U-C and L-I depictions, rather than portray the Unlikeable-Incompetent type.

Logistic factors also contributed to this decision. Creation and pre-testing of additional videotapes would have increased the need for resources, both monetary and time. In addition, the administration of tapes representing four attribute clusters would have increased both the number of subjects necessary for the subsequent experiment and the difficulty of locating and enrolling such subjects.

In order to test for actor and attribution effects, nine tapes were needed—three for each actor portraying each attribution cluster. It was decided to choose 3 diseases that did not have physical manifestations so that 9 tapes rather than 27 tapes would be needed. That is, the same tape could be used to portray patients with a variety of disease states. The cost of filming 27 tapes plus the number of subjects and length of time needed to complete such a design

```
TABLE 2.1

Physician's Role for Stimulus Videotapes


Sample of choices for open-ended questions from patients, disease
non-specific.

        "Hi, what brings you in today?"

                        or

        "How have you been feeling?"

        "Have the meds helped?"

        "Have these symptoms hampered you in any way?"

        "Other than these symptoms, how is your life going?"

        "Give me information about....................."


If any questions to you from patient,

        "We'll get back to that after I get more information from

        you."

        "I'll come back to that after I find our some more about

        ...................."

        "I'll come back to that in a minute.  First, let me ask

        about..............."

Put off making treatment statements.

If non-medical information or small talk is discussed, be agree-

able, but move interview along without rudeness or insensitivity.
```

TABLE 2.2

Three Patient Roles for Stimulus Videotapes

All of these women have returned to the doctor today because their symptoms have been worse the past two weeks and they would like to alleviate these symptoms. In addition, they are more fatigued, slightly dizzy, and are having headaches - new symptoms since the last visit.

Character 1: Likeable-Incompetent

The woman is not very intelligent, but is warm and good-natured. However, in her relationship with the doctor, she does not pay close attention to the instructions given her, nor does she try to understand the treatment. Therefore, she does not follow the instructions competently and does not appear conscientious. People find her very likeable, however.

Character 2: Unlikeable-Competent

This woman is intelligent and capable. However, some people describe her as hostile and headstrong. In her relationship with the doctor she appears capable and understands the treatments suggested, but complains and is demanding, does not follow his instructions and, therefore, seems uncooperative.

Character 3: Likeable-Competent

This woman is warm and good-natured and, in general, people like her. In her relationship with the doctor, she is appreciative and appears capable. She understands the treatments prescribed and follows the instructions.

These descriptions were to be used by each individual actress to develop her "script". While the physician was given examples of suitable statements, the actresses were to ad-lib the doctor-patient interview in the manner of her character.

In order for the tapes to be utilized to depict patients with any of three diseases (diabetes, asthma, and hypertension), the women were

to use three symptoms to describe their problems at that visit: head-aches, fatigue, and dizziness. It was determined by a group of physi-cians that this symptomatology could result from any of the three cho-sen diseases, from side effects, from the medications or be unrelated to any of those possibilities.

First, the actresses each role-played the Likeable-Incompetent (L-I) patient. The first taping of this role was discarded because the actresses' portrayal of incompetence was determined to be too com-petent: they understood and followed instructions and answered ques-tions coherently and articulately. The second taping of the L-I pa-tient went smoothly, as did the taping of the U-C patient and the L-C patient. The nine tapes ranged from three to five minutes in length.

Pre-testing of the videotapes

Subjects

Five groups participated in the pre-test of the videotapes. The total number of subjects was 68. The groups represented several dif-ferent domains: (a) members of the California Medical Association at-tending a continuing medical education meeting, (b) two separate groups of second-year medical students from UCSF, (c) podiatric sur-geons, academicians and their residents-in-training from the California College of Podiatric Medicine (CCPM), San Francisco, and (d) third- and fourth-year podiatric medical students, also from CCPM. Table 2.3 displays the number of subjects in each group and the number of PAS forms completed.

TABLE 2.3

Number of Subjects Within Groups by Number of Videotapes Viewed
and Number of PAS Forms Completed: Pre-test

	Number of Subjects	Number of Tapes Viewed	Number of PAS Forms Completed
CMA	10	6	33
Med Students (Group 1)	12	5	70
Med Students (Group 2)	8	6	48
Podiatric Surgeons	10	5	50
Podiatry Students	25	5	110
Miscellaneous Individual Administrations	3	3	4
Total	68		315

For each group, participation was voluntary. The CMA members completed the study during breaks in the seminar. The medical students responded to an announcement regarding the data collection. The podiatrists completed their participation during their monthly residency education meeting while the podiatry students participated during grand rounds.

After each videotape was shown, the subjects completed the 36-item Physician Attribution Survey (PAS) to be described in the next section. Each group viewed from three to six tapes, completing a PAS for each tape viewed. The 68 subjects completed 315 PAS. (See Table 2.4 for the number of subjects viewing each of the nine tapes.)

TABLE 2.4

Number of PAS Forms Completed for Each of Nine Videotapes: Pre-test

Attribution	Actress			Total
	I	II	III	
I	42	11	54	107
II	22	45	43	110
III	34	45	19	98
Total	98	101	116	315

Analyses

In order to test for homogeneity of role-playing among actresses, a one-way analysis of variance was performed for each item of the PAS. The question to be answered with this analysis: Did observers perceive Actresses I, II, and III as similar on each item when the actresses were portraying an L-C patient? An L-I patient? A U-C patient?

To test for heterogeneity of the three role performances of each actress, a series of one-way analyses of variance was performed for each item. The question answered with these analyses was: Did subjects perceive Actress I's (II and III) portrayal of an L-C patient as being significantly different from her portrayal of an L-I and a U-C patient?

To test this latter question further, a discriminant analysis was performed separately on the data of each actress to identify those items that contributed significantly to differentiating those roles.

Results

Heterogeneity between roles. In her three portrayals, Actress I
yielded good discrimination (p >.005) on all 36 items. Actress II
yielded good discrimination (p > .05) on all items except upper class
and spendthrift. Actress III yielded good discrimination (p >.01) on
all items (see Appendix B for complete description of these results).

Homogeneity between actresses. For the Likeable-Competent portray-
al, seven of 36 items indicate significant differences (p <.05) between
the three actresses: "unconcerned about care", "passive", "provincial",
"cold", "self-sufficient", and "introverted". A review of the means
indicates that the outlier for most of these items is Actress I, who
comes across as more extroverted, active, warm and self-sufficient,
but less provincial than Actresses II and III. For the remaining 29
attributions, the characterizations were rated as similar (see Table
2.5). Figure 2.1 shows the similarities and differences among the
three actresses in their portrayal of an L-C patient.

For the Unlikeable-Competent patient, 16 of the 36 attributions
are significantly different (p <.05) between the actresses. For the
most part, Actress III was perceived as a better coper and as being
more pleasant, good-natured, and cooperative than Actresses I and II.
Although Actress III did not differ significantly from the other two
actresses on competency-linked items, she did depart from them on like-
ability. Thus, while Actresses I and II's tapes could be used to por-
tray a U-C patient, Actress III's tapes could not (see Table 2.6).
Figure 2.2 shows the similarities and differences between the actresses
in the portrayal the similarities and differences between the actresses

in the portrayal of a U-C patient.

Fifteen of the 36 items in the PAS were significantly different (p <.05) for the actresses in the Likeable-Incompetent portrayal. The differences for the most part are accounted for by Actress II, who was rated as being more intelligent, bossy, socially skilled, articulate, and capable, but as liking the physician's supervision less. Actresses I and III, therefore, appeared more incompetent, and, on a few items, more likeable than Actress II (see Table 2.7). Figure 2.3 shows the similarities and differences between the three actresses in the portrayal of an L-I patient.

In comparison with colleagues, Actress III was not perceived as an unlikeable patient and Actress II was not perceived as an incompetent one.

Discriminant Analysis. A discriminant analysis was performed for each actress by attribute. The discriminant analysis assisted in distinguishing between the three depictions for each actress. The test identifies the variables (or PAS items) that discriminate between the three roles by forming two "discriminant functions". The functions formed maximize the separation of the groups. In addition to identifying the variables that distinguish the two groups, the discriminant analysis classifies the cases to determine if the characteristics or functions selected do in fact succeed in predicting group membership.

For each actress two discriminant functions were derived--one containing variables representing the likeable dimension and a second composed of variables in the competence dimension.

Table 2.5

Comparison of Three Actresses

for Likeable-Competent Portrayal

NAME	PVAL	FVAL	MEAN1	MEAN2	MEAN3
INTROVERTED	0.000323	8.70517	21.8571	36.2222	35.9444
SELF_SUFFICIENT	0.012957	4.53481	65.5000	40.7000	54.9815
COLD	0.024348	3.85397	17.4634	27.4000	25.6481
PROVINCIAL	0.033729	3.50574	27.0000	37.5000	37.5094
PASSIVE	0.039135	3.34487	38.5714	54.2000	47.3704
UNCONCERNED_ABOUT_CARE	0.040529	3.30763	15.7381	29.1000	18.5741
ARTICULATE	0.055900	2.96649	80.9286	68.4000	75.1667
DOES_NOT_UNDERSTAND_TREATMENT	0.097677	2.37995	25.4146	21.3000	33.3333
UNCOOPERATIVE	0.111059	2.24573	17.6429	27.5556	21.0185
DENIES	0.116020	2.20059	18.6585	25.9000	25.5849
RATIONAL	0.124774	2.12388	79.8095	70.7000	77.0556
UNRESPONSIVE_TO_ME	0.155507	1.89510	16.2857	19.4000	21.8148
INTEGRATED_INTO_SOCIETY	0.168689	1.81143	74.1220	71.2000	67.3019
SPENDTHRIFT	0.177766	1.75778	51.2250	47.3333	45.5472
COPES_POORLY	0.182720	1.72873	23.6341	29.2000	30.5660
SOCIALLY_UNSKILLED	0.226902	1.50502	22.2195	27.8000	28.6111
UNDEMANDING	0.230047	1.49064	60.4286	71.7000	59.1111
GOOD_NATURED	0.252494	1.39493	79.5714	73.6000	75.8889
CAPABLE	0.270985	1.32255	78.3571	71.2222	74.0926
LOW_SELF_ESTEEM	0.296937	1.22880	29.1905	38.1111	33.2407
HAPPY	0.354639	1.04737	69.0732	59.4000	64.6604
UNSTABLE	0.376070	0.98733	24.0476	28.6000	29.3148
ALERT	0.408673	0.90274	75.5000	68.3333	75.6296
POORWORKER	0.449059	0.80562	24.2683	30.7000	27.6226
CONSCIENTIOUS	0.464821	0.77189	82.0476	77.2000	79.0755
INTELLIGENT	0.527975	0.64268	76.5476	70.8000	74.3889
BOSSY	0.529605	0.63960	34.2195	29.9000	36.8704
PLEASANT	0.537939	0.62376	82.6667	77.7000	80.5556
POOR_LISTENER	0.556877	0.58878	34.7619	30.0000	29.3889
TIMID_ABOUT_TREATMENT	0.592354	0.52632	34.0952	40.6000	34.8333
FOLLOWS_INSTRUCTIONS	0.693755	0.36694	84.1667	80.2000	81.5741
HEADSTRONG	0.794146	0.23101	23.0476	25.4000	21.3704
APPRECIATIVE	0.802253	0.22060	69.0238	72.9000	68.6852
FAMILY_ORIENTED	0.877745	0.13057	68.6000	67.0000	66.7115
UPPER_CLASS	0.890834	0.11573	66.3333	65.2000	64.7593
LIKES_MY_SUPERVISION	0.932791	0.06962	75.9286	76.0000	77.0741

Table 2.6

Comparison of Three Actresses

for Unlikeable-Competent Portrayal

NAME	PVAL	FVAL	MEAN1	MEAN2	MEAN3
LIKES_MY_SUPERVISION	0.000001	15.9494	21.7727	27.3778	48.6279
GOOD_NATURED	0.000002	14.7998	17.6818	18.4889	37.3571
UNRESPONSIVE_TO_ME	0.000003	14.5708	71.6667	67.3778	42.9302
PLEASANT	0.000009	12.9247	25.1364	29.1111	49.5116
UNSTABLE	0.000045	11.0322	50.7727	59.2273	36.2619
RATIONAL	0.000276	8.8570	39.2727	53.1111	66.8140
UNDEMANDING	0.000696	7.7921	12.0909	14.4222	25.4762
POOR_LISTENER	0.000988	7.3967	61.2727	54.5682	38.5476
UNCOOPERATIVE	0.002041	6.5709	71.4545	67.4222	52.3095
COPES_POORLY	0.005338	5.5027	64.8182	65.8664	50.4286
APPRECIATIVE	0.008166	5.0304	18.1818	20.0222	29.2791
FAMILY_ORIENTED	0.011590	4.6582	36.6818	48.5116	52.7000
HAPPY	0.014774	4.3837	24.3636	22.2955	34.0714
COLD	0.023205	3.9016	77.4091	70.1778	62.8537
DOES_NOT_UNDERSTAND_TREATMENT	0.024108	3.8580	65.5909	63.0222	52.0698
HEADSTRONG	0.041025	3.2908	80.6364	80.7111	69.0233
ARTICULATE	0.057996	2.9245	72.6818	72.3556	80.9302
PROVINCIAL	0.070965	2.7134	29.3636	33.7045	42.5238
INTEGRATED_INTO_SOCIETY	0.084014	2.5367	32.6364	42.7727	45.7805
SPENDTHRIFT	0.111013	2.2452	37.2273	42.7955	33.9512
INTROVERTED	0.116908	2.1908	33.2727	32.5111	41.5122
CAPABLE	0.152752	1.9130	62.7273	62.4667	70.7317
BOSSY	0.210697	1.5804	80.1364	81.4222	74.7619
PASSIVE	0.277440	1.2973	18.5000	15.4444	20.7381
FOLLOWS_INSTRUCTIONS	0.285828	1.2671	26.2727	34.7333	35.2326
ALERT	0.391986	0.9449	68.3182	70.7333	74.2381
CONSCIENTIOUS	0.501160	0.6953	52.8636	60.7556	57.4186
DENIES	0.513298	0.6712	47.5000	48.4545	42.1463
UNCONCERNED_ABOUT_CARE	0.526333	0.6457	26.2273	23.9111	29.5814
LOW_SELF_ESTEEM	0.541426	0.6171	41.9545	41.7727	36.7143
UPPER_CLASS	0.554388	0.5932	64.1364	59.4222	62.0952
POORWORKER	0.564896	0.5742	33.6818	37.4884	32.7442
INTELLIGENT	0.689176	0.3736	70.1818	66.5333	69.0698
SELF_SUFFICIENT	0.789739	0.2366	67.0455	70.4000	71.8372
SOCIALLY_UNSKILLED	0.869423	0.1173	36.0000	37.2273	34.9762
TIMID_ABOUT_TREATMENT	0.904861	0.1001	32.9091	30.5333	30.3810

Table 2.7

Comparison of Three Actresses

for Likeable-Incompetent Portrayal

NAME	PVAL	FVAL	MEAN1	MEAN2	MEAN3
SOCIALLY_UNSKILLED	0.000035	11.5016	60.7941	45.6429	69.2632
CAPABLE	0.000107	10.0707	28.6286	44.8667	28.6316
PROVINCIAL	0.000152	9.6650	57.5000	46.2273	71.3684
SELF_SUFFICIENT	0.000180	9.4456	17.4000	36.7333	19.9474
UPPER_CLASS	0.000328	8.7321	42.4286	54.7333	38.8947
ARTICULATE	0.000898	7.5542	23.1714	42.6000	30.3684
INTELLIGENT	0.001003	7.4264	36.1143	50.1556	36.7368
INTROVERTED	0.001680	6.8383	52.4857	50.8864	71.4737
BOSSY	0.003378	6.0455	29.9143	38.4545	21.6316
FAMILY_ORIENTED	0.003437	6.0598	52.3125	51.4872	66.5789
LIKES_MY_SUPERVISION	0.014282	4.4446	66.4706	53.1556	64.2632
RATIONAL	0.017804	4.1992	34.5588	47.4667	41.9474
HEADSTRONG	0.021673	3.9905	36.3824	49.4667	52.3684
UNDEMANDING	0.022777	3.9367	65.4571	56.2955	73.1053
ALERT	0.036157	3.4374	31.8286	39.8589	27.5789
PASSIVE	0.057972	2.9340	77.2857	72.8222	63.0000
UNCONCERNED_ABOUT_CARE	0.061176	2.8778	57.5714	54.4000	41.7222
TIMID_ABOUT_TREATMENT	0.064969	2.8132	68.8857	65.2000	77.2632
UNRESPONSIVE_TO_ME	0.096141	2.4000	47.4571	54.9333	41.5789
CONSCIENTIOUS	0.101033	2.3479	22.0571	31.7778	32.8947
COPES_POORLY	0.113567	2.2265	69.1765	63.1818	73.7895
SPENDTHRIFT	0.159794	1.8709	51.6667	50.1395	41.4737
GOOD_NATURED	0.167305	1.8217	67.0286	61.0222	68.3158
LOW_SELF_ESTEEM	0.187724	1.7026	71.7941	65.1111	73.2632
DENIES	0.326549	1.1326	67.4706	62.4773	69.6842
APPRECIATIVE	0.339085	1.0930	44.7143	42.6222	50.6316
DOES_NOT_UNDERSTAND_TREATMENT	0.345075	1.0735	82.5143	75.6667	85.6316
POORWORKER	0.308021	0.9565	63.6364	58.4651	56.6642
POOR_LISTENER	0.425425	0.8624	64.2000	65.1818	72.3158
HAPPY	0.448093	0.8096	39.6765	35.3102	33.8947
UNCOOPERATIVE	0.660237	0.4170	57.1714	60.9333	57.2105
PLEASANT	0.670128	0.4020	63.8857	65.2222	68.5789
FOLLOWS_INSTRUCTIONS	0.726755	0.3202	18.8571	17.5778	20.6316
INTEGRATED_INTO_SOCIETY	0.840123	0.1745	48.5588	47.1667	44.7368
COLD	0.865225	0.1450	41.0857	39.7273	38.8947
UNSTABLE	0.933313	0.0691	65.4857	66.0667	64.2105

Figure 2.1

Profile of a Likeable-Competent Patient - Three Portrayals
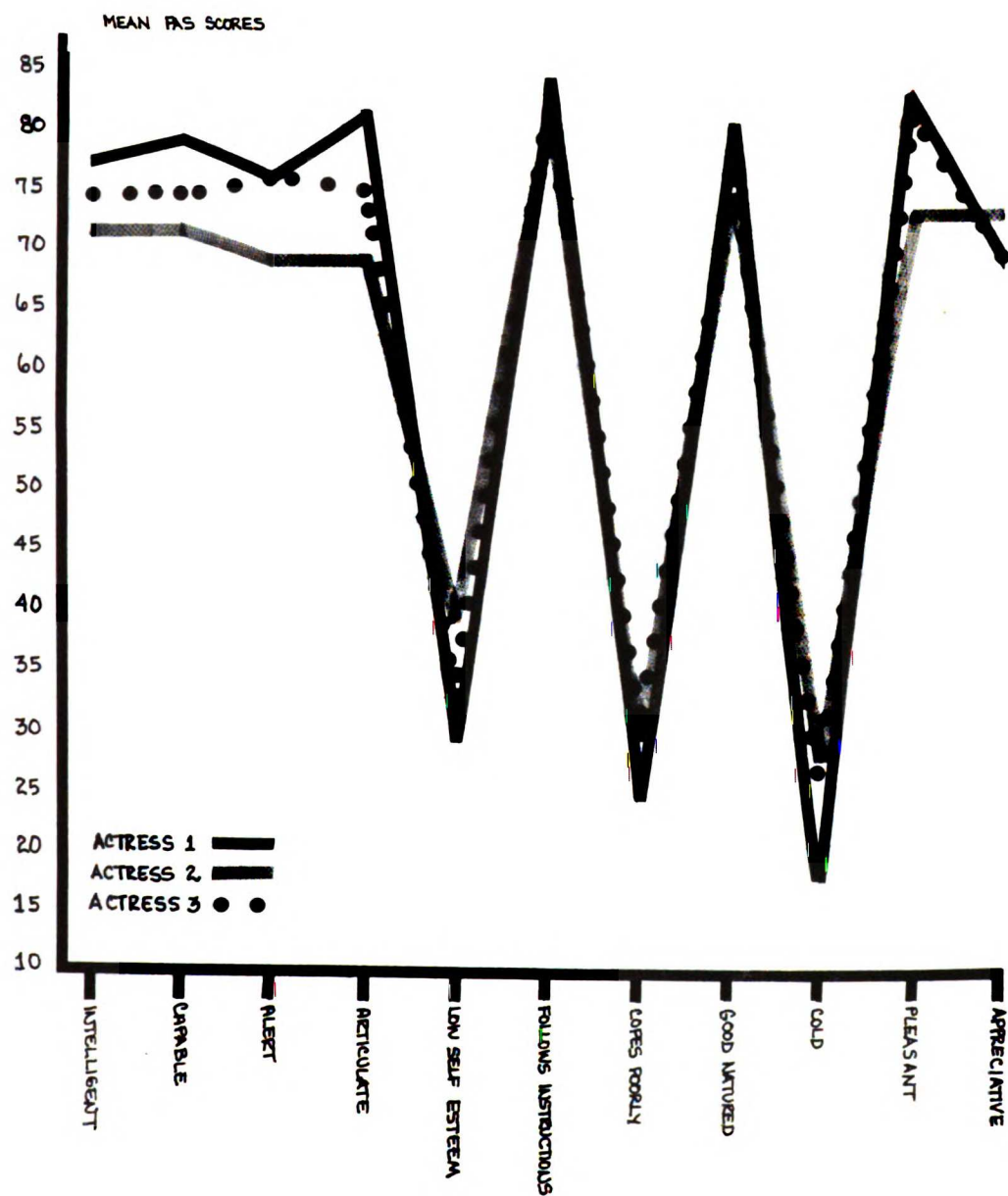
Figure 2.2

Profile of an Unlikeable-Competent Patient - Three Portrayals
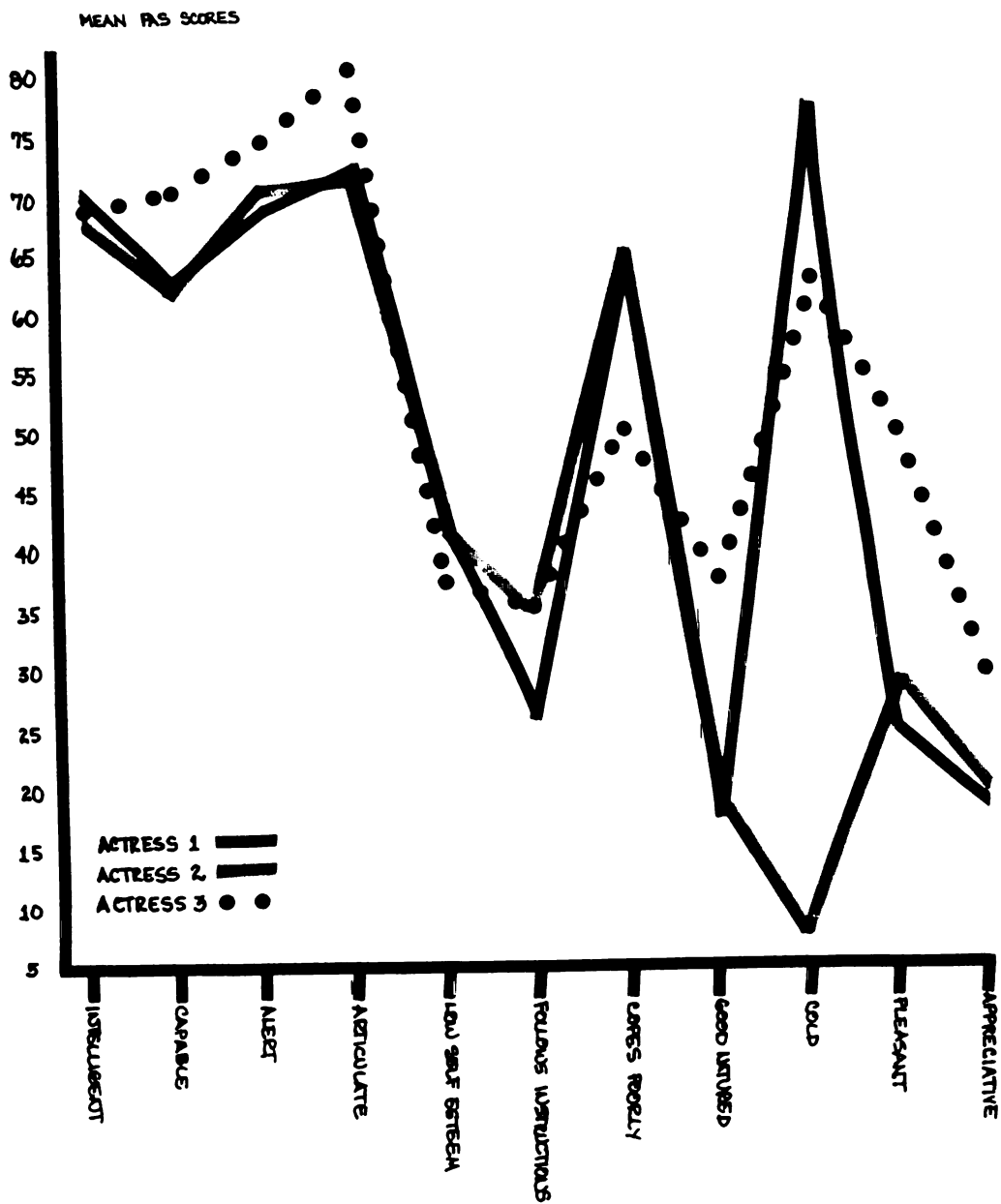
Figure 2.3

Profile of a Likeable-Incompetent Patient - Three Portrayals
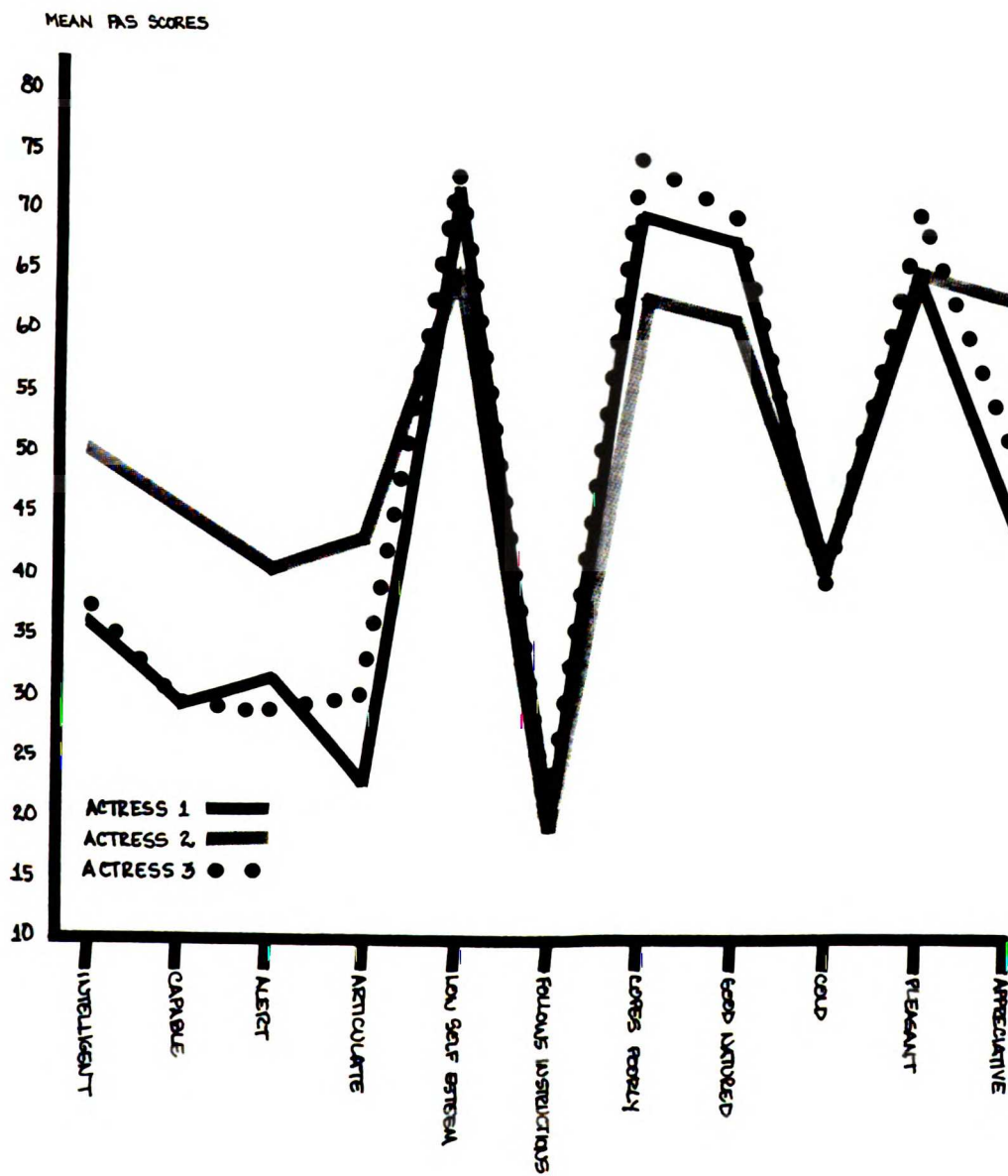
The results of the analysis for each actress follows:

Actress I. Variables contributing most to the discrimination between the three portrayals in order of entry into the step-wise regression are "good-natured", "follows instructions", "articulate" and "timid about treatment". Function 1 accounts for 62.14% of the variance with a canonical correlation of 0.920. "Good-natured" has a standardized canonical discriminant function coefficient of -.94 on this function, indicating that the function is concerned with likeability.

Function 2 accounts for 37.86% of the variance, with a canonical correlation of 0.878. "Articulate", with a standardized canonical discriminant function coefficient of -.517, and "follows instructions", with a standardized canonical discriminant function coefficient of -.68, comprise the second function. This function includes variables from the competence dimension.

Figure 2.4 illustrates that function 1, "likeability", discriminates the L-C and L-I competent portrayal from the U-C patient. Additionally, this figure shows that the competence dimension differentiates the L-C patient from the L-I one.

Actress II. Variables contributing to the discrimination among the three portrayals in order of entry in the step-wise regression for this actress are "passive", "follows instructions", "appreciative", "does not understand therapy", "conscientious", and "good-natured".

Function 1 accounts for 79.46% of the variance with a canonical correlation of 0.929. "Passive", with a standardized canonical discriminant function coefficient of 0.749 contributes most to the discrimination of this function. "Conscientious" and "good-natured" also con-

Figure 2.4
Discrimination Among Three Roles
Actress 1

TERRITORIAL MAP * INDICATES A GROUP CENTROID

CANONICAL DISCRIMINANT FUNCTION 1

```
        -8       -6       -4       -2        0        2        4        6        8
        +..........+..........+..........+..........+..........+..........+..........+..........+
     8 +                                                                    332              +
       .                                                                    3322              .
       .                                                                    3322              .
       .                                                                    3322              .
       .                                                                    3322              .
       .                                                                    3322              .
     6 +         +         +         +         +         +    +3322      +              +
C      .                                                          3322              .
A      .                                                        3322              .
N      .                                                        3322              .
O      .                                                        322              .
N      .                                                        332              .
I    4 +         +         +         +         +    3322+      +              +
C      .                                                      3322              .
A      .                                                      3322              .
L      .                                                      3322              .
       .                                                      3322              .
D      .                              *              3322              .
I    2 +         +         +         +    3322      +         +              +
S      .                                        3322              .
C      .3333333                                 3322              .
R      .111111133333333333333                   322              .
I      .    11111111111111133333333333333       332              .
M      .            1111111111111133333333333333 3322              .
I    0 +         +         +    111111111111111133322 +    +         +         +
N      .                              11112              *              .
A      .                              122              .
N      .                              112              .
T      .                              12              .
       .                              122              .
F   -2 +         +         +    112+      +         +         +         +
U      .                              122              .
N      .                              112              .
C      .                              12              .
T      .                              122              .
I      .                              112              .
O   -4 +         +         +    12      +         +         +         +
N      .                              122              .
       .                              112              .
2      .                              122              .
       .                              112              .
       .                              12              .
    -6 +         +         +    + 122      +    +         +         +
       .                              112              .
       .                              122              .
       .                              112              .
       .                              12              .
       .                              122              .
    -8 +                              112                             +
       +..........+..........+..........+..........+..........+..........+..........+..........+
        -8       -6       -4       -2        0        2        4        6        8
```
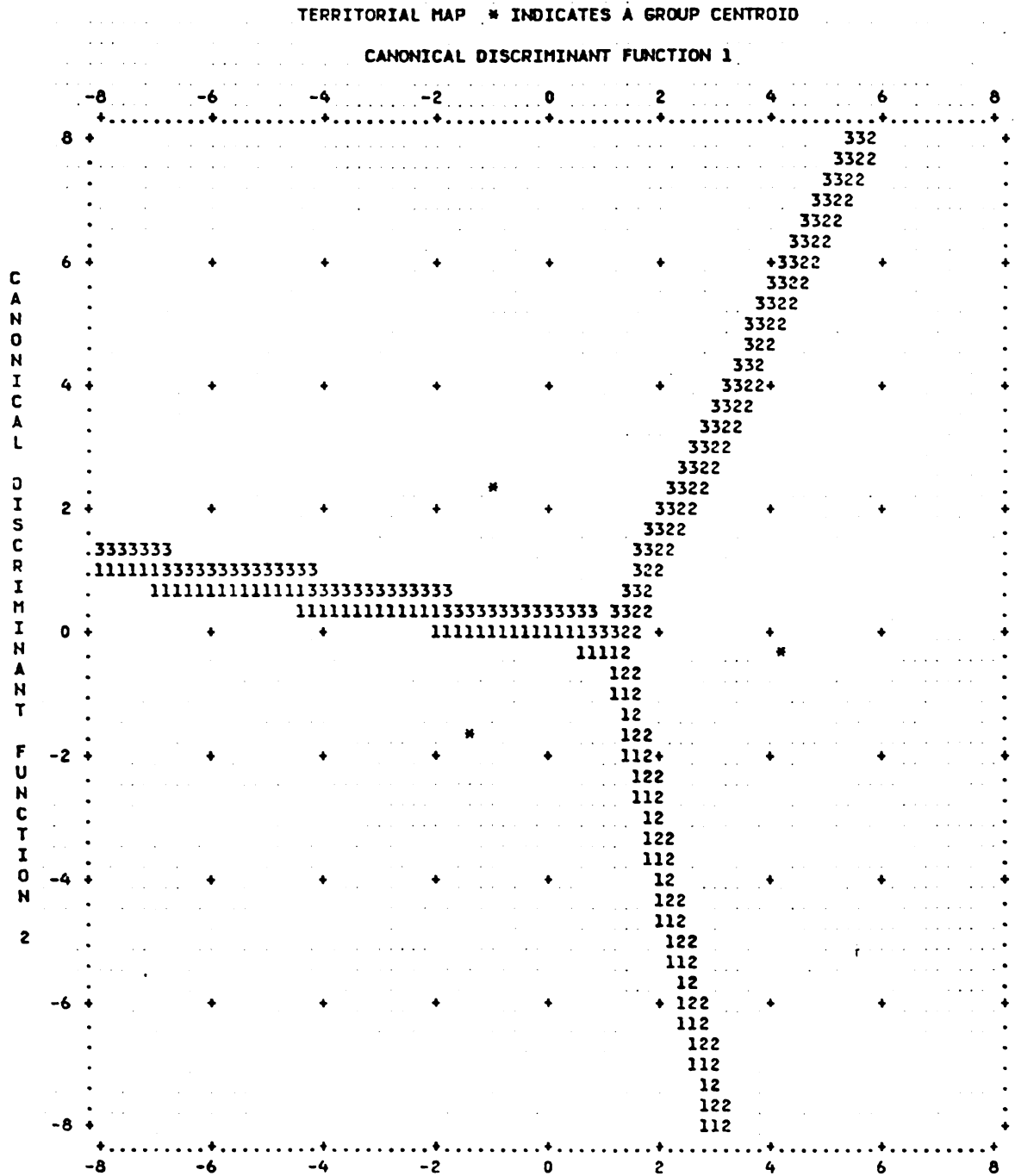
(Axis label at left: CANONICAL DISCRIMINANT FUNCTION 2)

tribute to this function.

Function 2 accounts for 20.54% of the variance, with a canonical correlation of 0.787. "Follows instructions" and "appreciative", with standardized canonical discriminant function coefficients of -0.59 and -0.52 respectively, comprise the second function.

Figure 2.5 shows that, for Actress II, "passivity" discriminates her U-C portrayal from her L-I one. On the second function, "follows instructions" and "appreciation" discriminate her U-C and L-I portrayals from her L-C portrayals. This discrimination is not as congruent with the intent of the portrayals as Actress I's. It seems that passivity is highly associated with competence in this actress's portrayal of an incompetent patient. Both functions contain items from both the likeability and competence dimensions.

Actress III. Items discriminating the three roles in order of entry in the step-wise regression are "follows instructions", "passive", "good-natured", "alert", "integrated with society", and "headstrong".

Function 1 accounts for 53.12% of the variance, with a canonical correlation of 0.86. "Good-natured", "passive" and "alert", with standardized canonical discrimination function coefficients of -0.498, -0.490, and 0.545, contribute to the first function. This function concerns likeability. Function 2 is comprised of competence items such as "follows instructions" (standardized canonical discriminating function of -0.656) and "alert" (standardized canonical discriminating function coefficient = -0.460). This function accounts for 46.88% of the variance and has a canonical correlation of 0.848.

Figure 2.6 illustrates this discrimination. The "good-natured",

Figure 2.5
Discrimination Among Three Roles
Actress 2

TERRITORIAL MAP * INDICATES A GROUP CENTROID

CANONICAL DISCRIMINANT FUNCTION 1
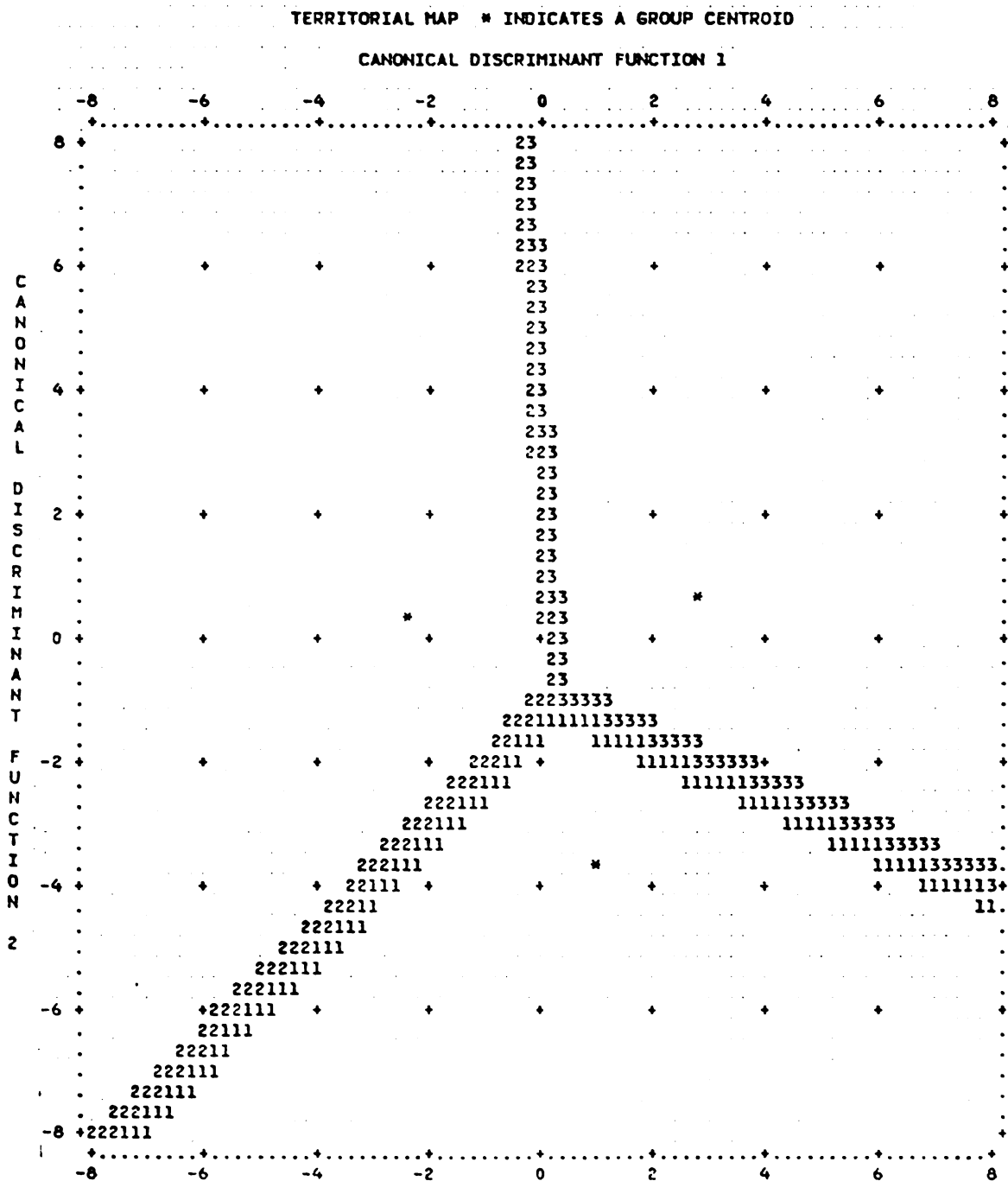
"active" and "alert" combination distinguishes Actress III's portrayals of an L-I and L-C patient from a U-C one. The second discrimination, of the alert patient who follows instructions, discriminates her L-C role from her L-I one.

The scatterplots for the three roles for each actress (Figures 2.7, 2.8, 2.9) indicate good discrimination among the three roles on the functions.

After analyzing the data to determine the functions, a set of three classification functions or three groups, in this case one for each videotape is developed. Each case (each PAS) is then assigned to the group for which it has the greatest probability of membership. This tests the fit between the actual and predicted group membership of each PAS.

The classification results show excellent correspondence between the predicted scores and the actual scores. For Actress I, 95% of the grouped cases were correctly classified; for Actress II, 96%; and for Actress III, 96%.

Selection of Three Tapes

Although, for the most part, the videotapes are homogeneous with respect to the three roles, certain depictions conformed more closely to the desired profile for each attribution cluster. For this reason, and in order to avoid the complication of actress-by-portrayal interactions, which are not of interest to this study, it was determined to select the best portrayal for each attribution cluster, with one tape per actress. Choosing one tape per actress does confound the attribu-

45

Figure 2.6
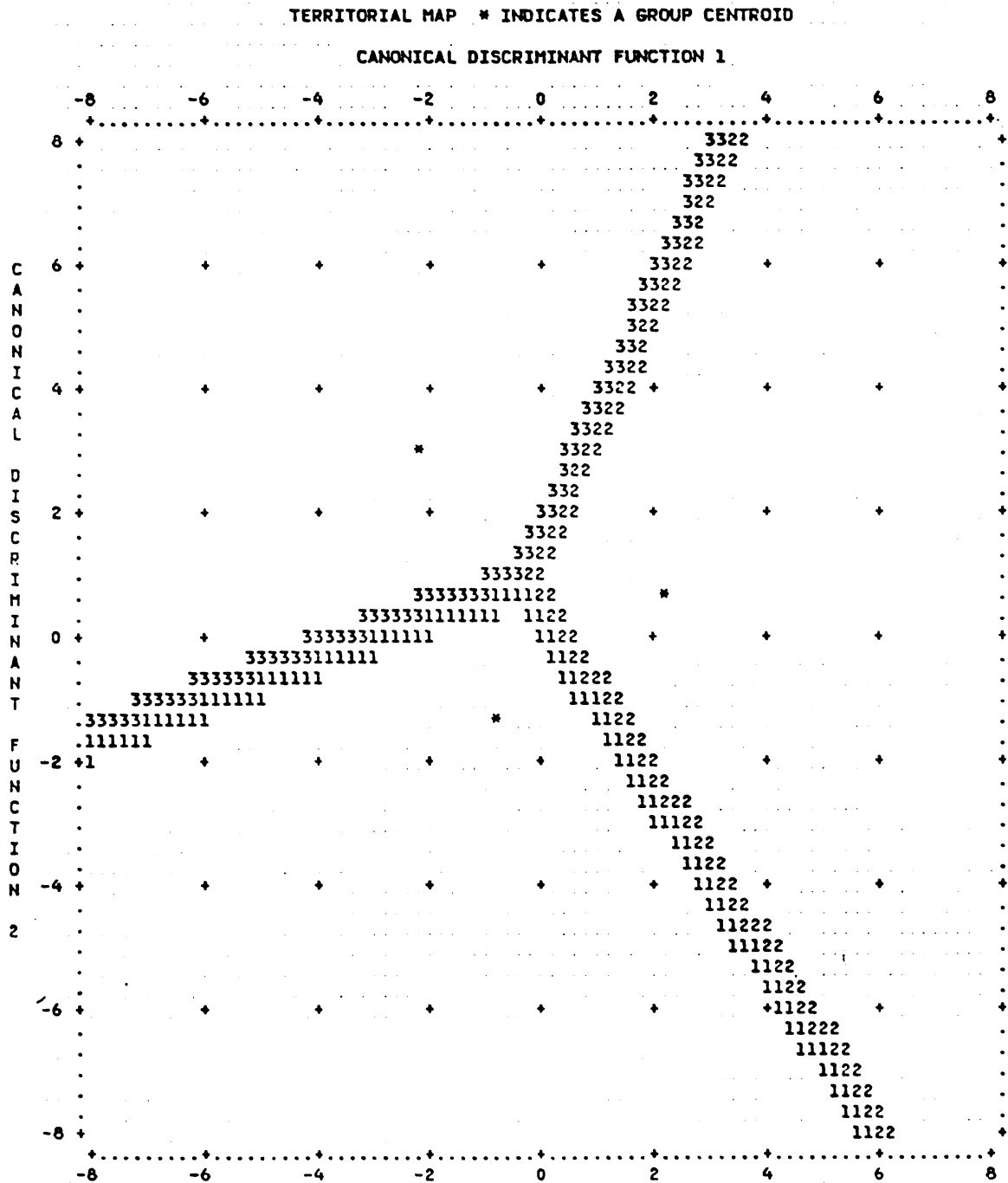Discrimination Among Three Roles
Actress 3

TERRITORIAL MAP * INDICATES A GROUP CENTROID

CANONICAL DISCRIMINANT FUNCTION 1

```
          -8          -6          -4          -2           0           2           4           6           8
          +...........+...........+...........+...........+...........+...........+...........+...........+.
      8 +.............................................................3322.............................+.
      .                                                               3322                              .
      .                                                               3322                              .
      .                                                                322                              .
      .                                                                332                              .
      .                                                               3322                              .
C     6 +           +           +           +           +            3322          +           +         +
A     .                                                              3322                               .
N     .                                                              3322                               .
O     .                                                               322                               .
N     .                                                               332                               .
I     .                                                              3322                               .
C     4 +           +           +           +           +           3322 +         +           +         +
A     .                                                             3322                                .
L     .                                                             3322                                .
      .                                   *                         3322                                .
D     .                                                              322                                .
I     .                                                              332                                .
S     2 +           +           +           +                       3322         +           +           +
C     .                                                             3322                                .
R     .                                                             3322                                .
I     .                                                           333322                                .
M     .                                                    3333333111122          *                     .
I     .                                                 3333331111111   1122                             .
N     0 +           +                       333333111111             1122         +           +         +
A     .                                  333333111111                1122                               .
N     .                            333333111111                      11222                              .
T     .                      333333111111                            11122                              .
      .33333111111                                        *          1122                               .
F     .111111                                                        1122                               .
U    -2 +1          +           +           +           +            1122         +           +          +
N     .                                                              1122                                .
C     .                                                              11222                               .
T     .                                                              11122                               .
I     .                                                              1122                                .
O     .                                                              1122                                .
N    -4 +           +           +           +           +         +  1122 +         +           +        +
      .                                                              1122                                .
2     .                                                              11222                               .
      .                                                              11122                               .
      .                                                               1122                               .
      .                                                               1122                                .
     -6 +           +           +           +           +           +1122          +           +          +
      .                                                              11222                               .
      .                                                              11122                               .
      .                                                               1122                               .
      .                                                               1122                               .
      .                                                               1122                               .
     -8 +                                                             1122                               +
          +...........+...........+...........+...........+...........+...........+...........+...........+.
          -8          -6          -4          -2           0           2           4           6           8
```

Figure 2.7
Scatterplot of Cases for Three Roles - Actress 1

ALL-GROUPS SCATTERPLOT - * INDICATES A GROUP CENTROID

CANONICAL DISCRIMINANT FUNCTION 1
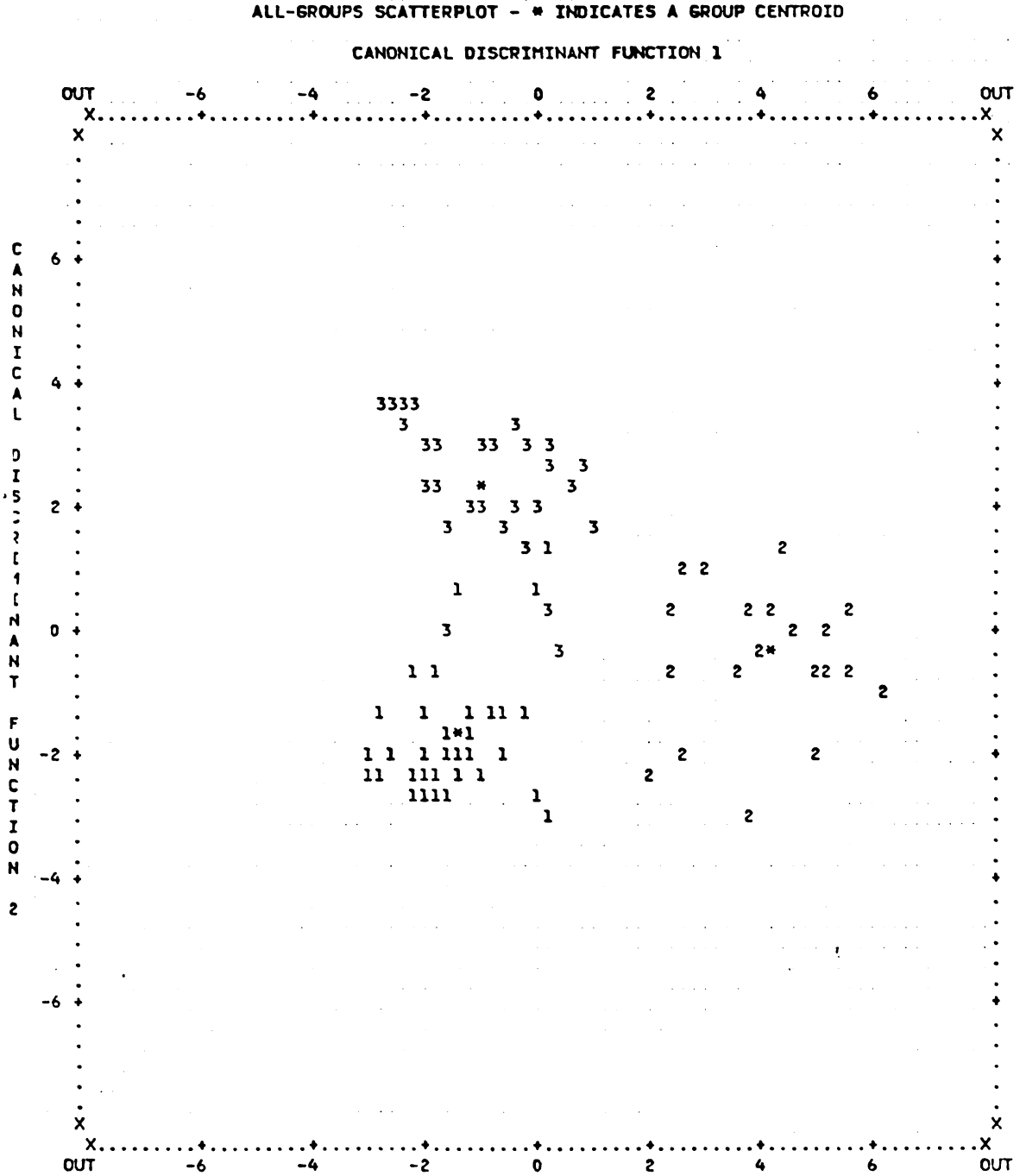
Figure 2.8
Scatterplot of Cases for Three Roles – Actress 2

ALL-GROUPS SCATTERPLOT – * INDICATES A GROUP CENTROID

CANONICAL DISCRIMINANT FUNCTION 1
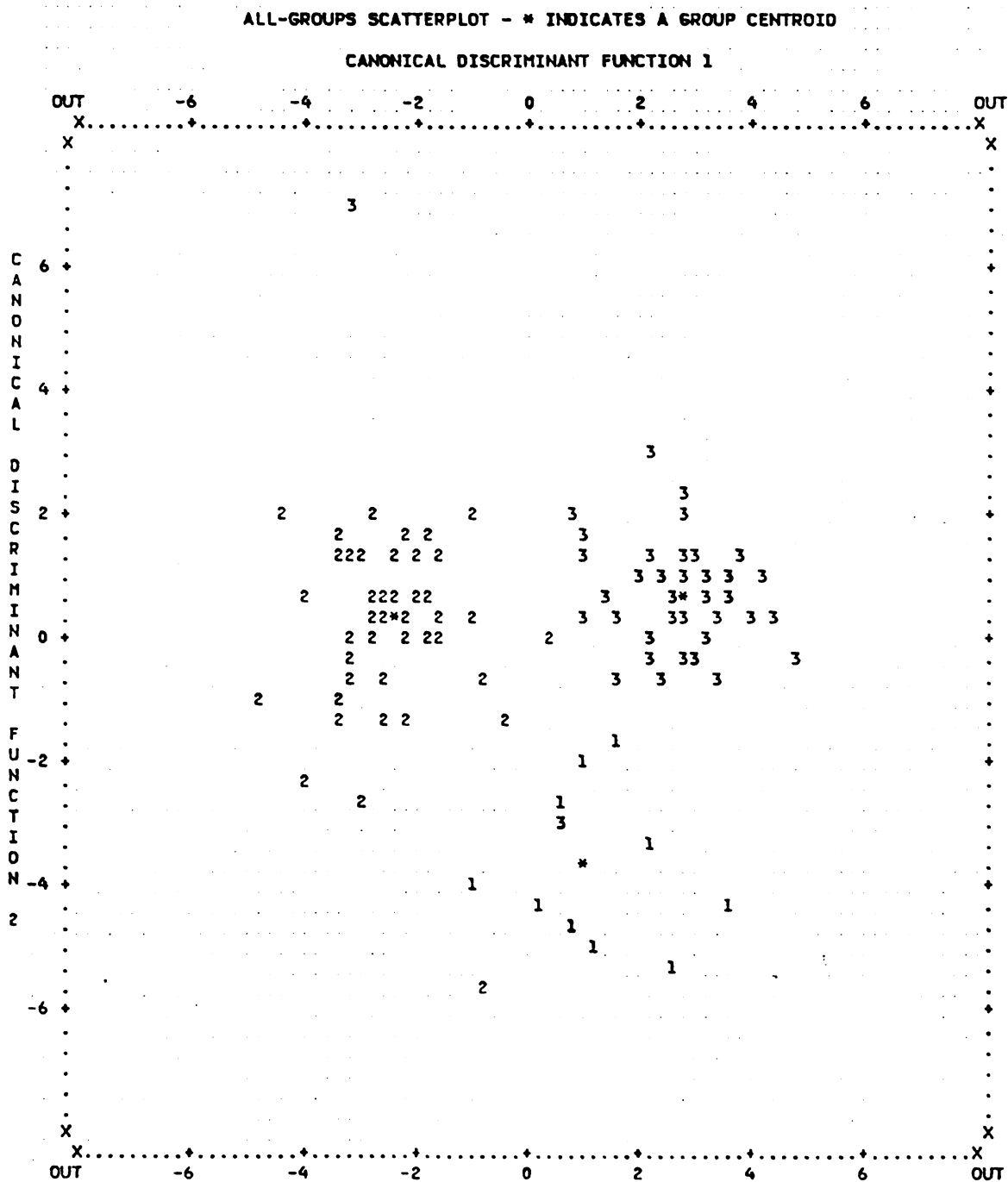
Figure 2.9
Scatterplot of Cases for Three Roles - Actress 3

ALL-GROUPS SCATTERPLOT - * INDICATES A GROUP CENTROID

CANONICAL DISCRIMINANT FUNCTION 1
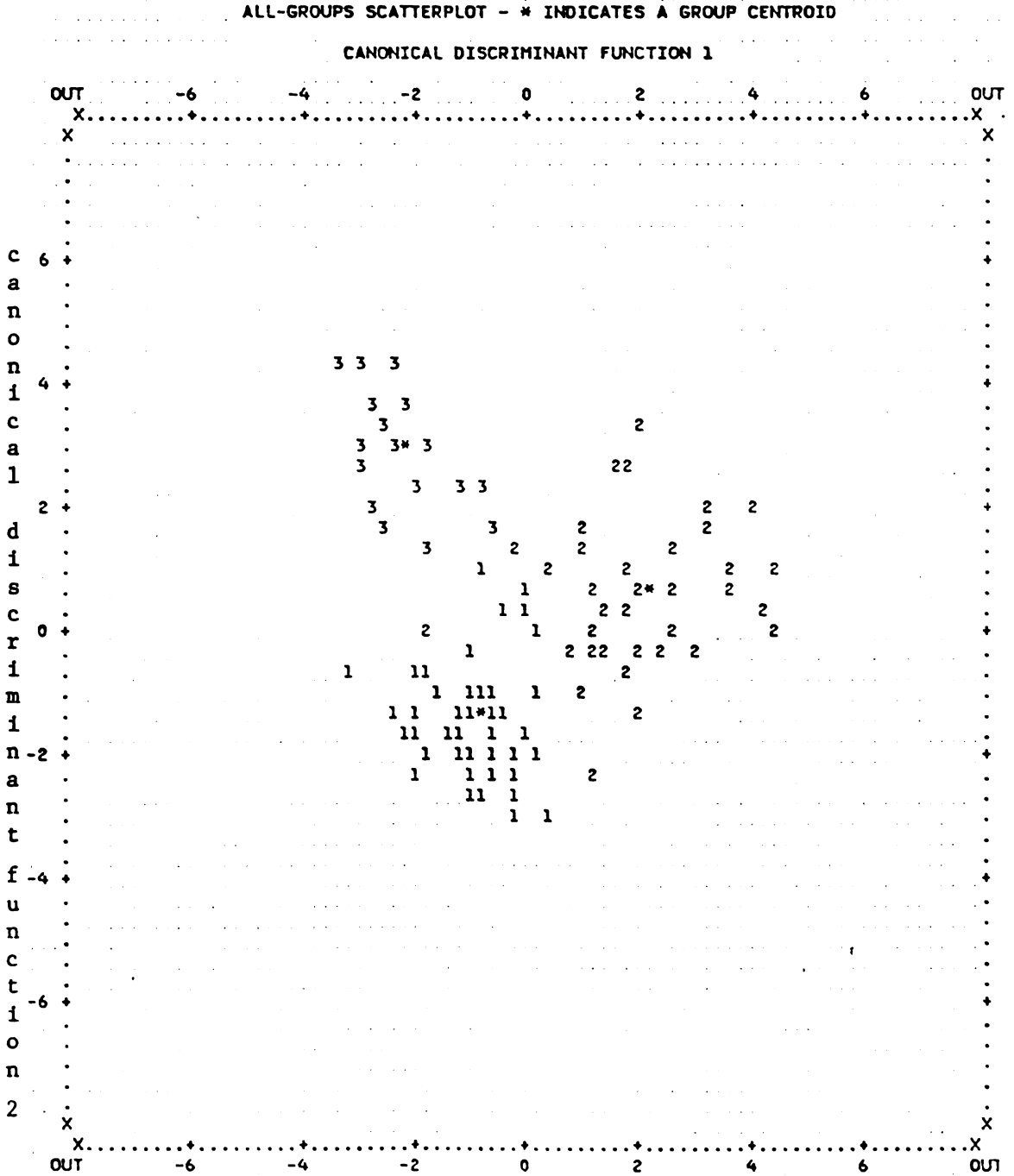
tion with the actress, her physiognomy, attractiveness, posture ,voice, apparent age, etc.

Using the data illustrated in Figures 2.1, 2.2, and 2.3 in the Appendix, the following tapes were chosen for this experiment:

Actress I	L-I
Actress II	U-C
Actress III	L-C

It should be noted that the six additional tapes would be useful both for testing the questions addressed in this paper and in other settings as well. Utilization of the videotapes will be addressed in the discussion section.

Each of the three tapes is a unique profile of a white, middle-aged, female patient. A brief description of each tape follows. An asterisk denotes tapes selected for use in this study.

Tape I: Actress I (L-C)

Physicians find this woman articulate, warm, good-natured and in-telligent. She is very aware, copes well and is rational. In the doctor-patient interaction, physicians describe her as conscientious, cooperative, and capable. She appears to like the physician's supervision and follows instructions.

Tape II: Actress II (L-C)

Physicians describe this woman as pleasant, intelligent, stable and capable. She is also appreciative and undemanding in the extreme. She is integrated into society. In the portrayal of her relationship to the physician, they find that she is responsible and conscientious, understands and follows treatment. In addition, she copes well.

*Tape III: Actress III (L-C)

Physicians describe this woman as articulate and alert, warm and pleasant, compliant, capable and rational. Regarding her medical care, she is concerned, responsible and follows instructions. She likes her physician's supervision.

Tape IV: Actress I (U-C)

This woman is described as articulate, assertive and intelligent. However, she is also unpleasant, cold, headstrong and hostile. She is demanding and bossy and appears to be unhappy. Though she is capable and concerned about care, physicians feel she does not understand her treatment, is not cooperative, and does not follow instructions. In addition, they do not think that she likes the physician's supervision.

*Tape V: Actress II (U-C)

This woman is extremely demanding, hostile, and headstrong. She is also alert, assertive, and articulate. She is self-sufficient but unhappy. While she is concerned about her medical care, she does not like this physician's supervision.

Tape VI: Actress III (U-C)

This woman is self-sufficient and a little headstrong. She is articulate, capable and alert. She also appears to be unappreciative and somewhat demanding or bossy.

*Tape VII: Actress I (L-I)

Physicians describe this woman as pleasant and undemanding. She is inarticulate and does not understand, nor follow instructions. Physicians also report her to be low in capability and dependent. Finally, in describing her internal psychological composition, they report that she

is irrational, unstable, and low in self-esteem.

Tape VIII: Actress II (L-I)

This tape portrays a woman who is passive, has low self-esteem, is moderately pleasant. She definitely does not understand treatment, appears timid in this area, and is not conscientious in following through on her treatment regimen. However, she also appears moderately capable, articulate and intelligent.

Tape IX: Actress III (L-I)

This patient does not understand nor follow instructions. She is timid about treatment. She is extremely passive and undemanding. While she is warm and pleasant, she is also low in self-esteem, capability and listening skills. Sociologically, she appears provincial.

THE DEVELOPMENT OF THE PHYSICIAN ATTRIBUTION SURVEY (PAS)

A paper-and-pencil instrument was to be developed to assess physi-
cians' attributions regarding their patients. The instrument would be
utilized in the current study to allow physicians to describe their
perceptions of videotaped depictions of simulated patients. In addi-
tion, the intention of the development of the instrument was to have
a brief, easily-completed questionnaire that could be administered in
a variety of settings with actual as well as simulated patients. Bre-
vity was to be achieved by identifying underlying dimensions of charac-
teristics using factor analysis in order to eliminate items that were
redundant.

PAS Development: Part I

Part I of the PAS development was designed to elicit the words and
phrases physicians use to describe their patients. The objective was
to gather these descriptions in the words of the physician, to have the
subject be proactive rather than reactive to a list determined by the
researcher. Two of the three procedures described below are designed
to achieve this objective.

Subjects

Four physicians participated in the initial developmental stage.
Two were primary care physicians, one a pulmonologist, one an oncolo-
gist. Each physician participated in a three-part process. The dura-
tion of the entire process was approximately two hours per participant.

Procedure 1

The stimulus was a videotape of each physician interacting with

one of his actual patients at a regular visit. A modified Inquiry Technique (Kagan, 1979) was used, with the author serving the role of Inquirer. The physicians were instructed to view the tape and to stop it at any time they recalled thoughts or feelings they had had that went unexpressed while interviewing the patient. The inquirer used open-ended questions to draw out additional thoughts the physician had. To achieve this flow of material from the physician, the inquirer used two response modes from Kagan (1979) to assist the physician with remembering: exploratory responses and listening responses. Exploratory responses of the inquirer are open-ended, brief questions that encourage the speaker to continue. They ask for an essay answer rather than a true or false ressponse. Examples are: What were you thinking at that time? Did you have any plan of where you wanted the interview to go next?

Listening responses are used by the inquirer to check out his/her understanding of what the speaker is saying. This can be accomplished by paraphrasing the speaker and by asking relevant questions for clarification. These Inquiry interviews were recorded on audiotape and transcribed. A content analysis was performed by two judges (George Stone, Professor of Psychology, University of California, San Francisco, and the author) on this data. Each physician's statement was analyzed for the presence of medical attributions regarding the patient as well as for statements and inferences concerning psychological or personality aspects of the patient. In addition, the raters classified statements into categories representing any actions the physician planned regarding care of the patient and the physician's predictions

of outcomes for the patient, if any.

The two judges content-analyzed the transcriptions independently; then they compared their data. For purposes of the PAS, the personality/psychological characteristics were of interest. The psychological attributions were adapted into words and phrases suitable for the first draft of the PAS. The words and phrases concerning the personality and psychological characteristic of the patient obtained by the modified Inquiry Method are presented in Appendix C.

Procedure 2

A modified Kelly Repertory Test (Kelly, G. A., 1955) was employed. The physicians were asked to think of three patients in their practices. They were then asked to describe ways in which two patients were alike while the third was different. The interviewees were allowed time to provide as many comparisons as they could. Then the interviewer prompted for the following categories of descriptors: physical, psychological, social, sociological, and health-related. The words and phrases derived by this method were recorded. They are presented in Appendix D.

Procedure 3

Gough's (1960) 300-word Adjective Check List (ACL) was administered. The physicians completed the instrument for two to four patients (11 patients in all). The frequency of selection of words from the ACL are presented in Appendix E. The frequency of words most commonly chosen are presented in Table 2.8.

Table 2.8		
Frequency of Words Commonly Chosen from Adjective Check List		
Adjective	Number of Times Chosen (out of 11 opportunities)	Number of Physicians Choosing
active	5	3
appreciative	6	3
capable	5	3
cheerful	6	3
considerate	5	3
energetic	5	2
friendly	8	4
honest	6	4
outgoing	6	3
talkative	5	3

PAS Development: Part II

This second part of the PAS instrument development had two objectives. The first was to form consensus among raters regarding categorization of each item on the PAS. The categories thus derived could provide a basis for determining both redundant items and major areas of attributions. Subsequently, the categories could be utilized to analyze the importance of each category to physician decision-making.

Secondly, in order to eliminate unimportant items, physicians were asked to rate the importance of each item to treatment decision-making.

Classification

The words and phrases most frequently nominated from procedures 1, 2, and 3 in Part I were included in a developmental form of the PAS. Each word and its antonym were then placed at ends of a line representing the continuum of the "dimension" between the word pairs. These pairs were categorized by the researcher into items that were health behavior-related descriptors, social interactive descriptors, patient-

in-the-world descriptors, and patient internal states.

To check on one set of categories thus formed, the following pro-
cedure was performed. Each item continuum was placed on an index card,
and seven psychologists were asked to sort the items into four to sev-
en categories of their choosing. Then they were instructed to sort
them into the four classes listed above. The classifications chosen
by the sorters were similar to those chosen by the researchers; ther-
fore, the four original categories were retained.

Items with at least 71% (5 of 7) agreement as to assignment to one
of the four categories were retained. Table 2.9 indicates how the 62
words and phrases were distributed into each category.

Importance Rating

As a separate basis for evaluation of the items, twelve primary
care physicians were asked to rate the 62 dimensions as to the impor-
tance of those characteristics in a patient in the treatment decision-
making process. The question asked for each pair of words or phrases
was: How important to you is this characteristic in a patient when
making a decision about treatment? Physicians were asked to rate the
importance of each characteristic on a scale of one to ten, ten being
of utmost importance.

The ratings of importance of specific attributions to the treat-
ment decisions of physicians reflected the prevalence of individual
differences in this area. An item such as "listens well", rated "9"
or "10", by one physician, might be rated as unimportant, "1", by an-
other respondent. Appendix F records all responses and demonstrates
the variance.

Table 2.9
Categorization of Patient Attributions

GROUP 1
SOCIAL INTERACTIVE (adaptation)

bossy/not bossy
conscientious/not conscientious
considerate/inconsiderate
appreciative/unappreciative
socially skilled/
           socially unskilled
likeable/not likeable
nice/nasty
social/anti-social
warm/cold
responsive to me/
           unresponsive to me
outgoing/introverted
hostile/good-natured
demanding/undemanding
assertive/passive
listens well/poor listener
talkative/quiet
articulate/inarticulate
cooperative/uncooperative
complains/appreciative
wants sympathy/doesn't
      express need for sympathy
irritating/easy to be with

GROUP 2
PATIENT'S INTERNAL STATES (psy-
chological or personality traits)

carefree/worried
optimistic/pessimistic
volatile/steady
enthusiastic/unenthusiastic
cheerful/glum
feelings of failure/
            feelings of success
emotionally disturbed/
            emotionally stable
alert/not alert
anxious/calm
emotional/unemotional
high self esteem/low self esteem
happy/unhappy
secure/insecure
rational/irrational
denies/aware
defensive/open

GROUP 4
PATIENT IN THE WORLD (patient
      in society)

good worker/poor worker
lower class/upper class
integrated into society/loner

family-oriented/
            not family oriented
religious/not religious
dependent/independent
poor/wealthy
economically self-sufficient/
            economically dependent
active/inactive
frugal/spendthrift

GROUP 3
HEALTH CARE-RELATED CHARACTERISTICS
      cosmopolitan/provincial

wants vigorous therapy/
      timid about therapy
understands therapy/
   doesn't understand therapy
concerned about care/
      unconcerned about care
likes my supervision/
   does not like my supervision

NOT GROUPED

lonely/not lonely
headstrong/compliant
energetic/lethargic
pleasant/unpleasant
stable/unstable
intelligent/unintelligent

follows instructions/
   doesn't follow instructions
copes well/copes poorly
capable/not capable
self-sufficient/dependent

It was decided to consider words with six or more ratings over "5" as being items of importance. Table 2.10 indicates the 24 word pairs selected for their importance.

These items were compared with the category ratings. Eight items were from Group I, Social Interaction; four each from Group II, Patient's Internal States, and Group III, Health Care-Related Characteristics; only two from Group IV, Patient in Society. Six important items were not grouped by the category criteria of 5/7 or 71% agreements.

PAS Development: Final Version

These 24 important characteristics/attributions provided the core of the PAS. In addition, twelve other items from the original 62 items were retained for the first draft of the PAS. The purpose of retaining these items was twofold: (a) to validate the items nominated for their importance, and (b) to assess the importance of items within each category.

Twelve relatively unimportant items were included in the pretesting of the PAS (see Table 2.10). It was hypothesized that these words would not survive the elimination procedure of the pre-testing if they were, in fact, not important. If they did survive the pre-testing, then their relationship to decision-making might be tested. The twelve additional words were selected in this way:

First, seven items that did not reach the criterion for inclusions based on their importance ratings were added as follows: (a) three of the additional items were selected because they were rated very import-

Table 2.10

Items on the Physician Attribution Survey

Chosen from importance - 3 or more over "5" in importance.

		Group #
1. articulate	inarticulate	1
2. wants vigorous therapy/	timid about therapy	3
3. alert	not alert	2
4. conscientious	not conscientious	1
5. family-oriented	not family-oriented	4
6. headstrong	compliant	5*
7. hostile	good-natured	1
8. denies	aware	2
9. complains	appreciative	1
10. capable	not capable	5*
11. rational	irrational	2
12. understands therapy	doesn't understand therapy	3
13. demanding	undemanding	1
14. stable	unstable	5*
15. likes my supervision/	doesn't like my supervision	3
16. copes well	copes poorly	5*
17. good listener	poor listener	1
18. cooperative	uncooperative	1
19. high self-esteem	low self-esteem	2
20. integrated into society	loner	4
21. follows instruction	doesn't follow instructions	5*
22. concerned about care	unconcerned about care	3
23. assertive	passive	1
24. intelligent	unintelligent	5*

Also high on importance

25. responsive to me	not responsive to me	1
26. self-sufficient	dependent	5*
27. happy	unhappy	2

Least important

28. frugal	spendthrift	4
29. outgoing	introverted	1
30. bossy	not bossy	1
31. socially skilled	socially unskilled	1

To round out group 4

32. cosmopolitan	provincial	4
33. good worker	poor worker	4
34. lower class	upper class	4

To round out likeable/unlikeable

35. warm	cold	1
36. pleasant	unpleasant	5*

*5 Group 5 words were not categorized.

ant by two physicians (responsive to me/unresponsive to me; self-suf-
ficient/dependent; happy/unhappy); (b) four of the least important
items were also retained (frugal/ spendthrift; outgoing/introverted;
bossy/not bossy; socially skilled/ socially unskilled). Since these
latter words were rated as unimportant in treatment decision-making,
patient variations in these qualities should not affect decisions.

Second, because only two words represented Group IV, three others
were added from the original list of 62 items (cosmopolitan/provincial;
good worker/poor worker; lower class/upper class) to round out that
category. In addition, to increase the number of items measuring like-
ability or niceness attributes, "warm/cold" and "pleasant/unpleasant"
were added.

Half of the items on the PAS were placed so that the positive at-
tribute was on the right of the continuum, while the other half were
placed with the negative item on the right.

The placement of the items on the PAS was randomly determined.
For each item of the PAS, the values for the continua ranged from "0"
for the left-hand column attribution to "100" for the right-hand col-
umn attribution. These values did not appear on the instrument but
were superimposed during scoring using a template that bore the scale
values.

Pre-testing the PAS

Five groups participated in the pre-test of the instrument. The
total number of subjects was 68; the number of PAS's completed was 315.
These are the identical subjects and ratings reported in the section on
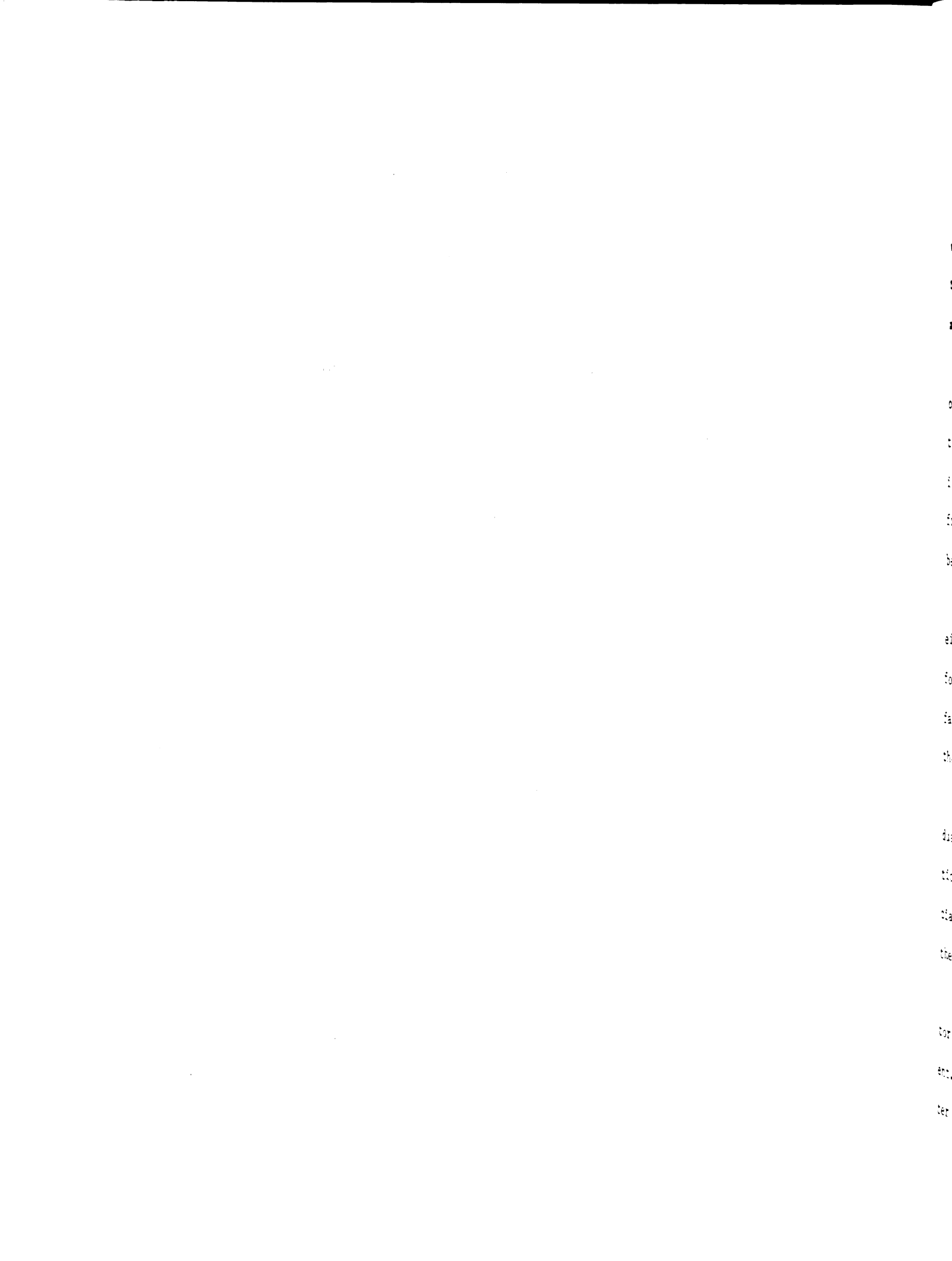
the pre-testing of the videotapes. The data from the PAS were used to validate the tapes. The participants viewed videotaped depictions of actresses simulating three types of patients. After each videotape was shown, the subject completed the PAS. Each subject thus rated three to six tapes. The length of time needed to complete the instrument for each tape varied from three to ten minutes.

Results. In order to test for dimensions underlying this group of items and to reduce the number of items, a principal components factor analyses, rotated to varimax solutions, was performed on the 36 items of the PAS, using all 315 PAS forms. Since each rater completed from three to six PAS forms, the results of this factor analysis may be slightly distorted because of non-independence of ratings.

Two factors accounted for 61.6% of the variance. Factor 1 has an eigenvalue of 14.230; factor 2, 7.96. A plot of eigenvalues for the four factors with eigenvalues over 1.0 suggested that the first two factors were the major ones. In the unrotated analysis, the items that comprise Factor 1 appeared to represent competence.

Factor 2 characteristics appeared to represent a likeable individual who is also passive and undemanding in the doctor-patient relationship. The interpretation of this relationship might be that physicians like patients who are undemanding. It was not the intention of the role playing for the likeable individual to also be passive.

After rotation, Factor 1 also represents a competence factor. Factor 2, however, now represents likeability without the passive component. An item showing a major shift in the rotation is "passive". After rotation, Factor 2 becomes representative of a likeable patient

without the passive dimension. It was decided to utilize the varimax rotated version when choosing words for the modified PAS.

Based on the factor analysis, it was determined that a modified PAS, containing eleven salient items, would be constructed for use in the experimental phase of this study. The eleven items retained and their loadings on the two factors are given in Table 2.11.

TABLE 2.11

Modified Physician Attribution Survey
With Items Loading High on PAS Factors
Rotated

High on both factors

	Factor I	Factor II
follows instructions	-.55	.59
copes poorly	.60	-.51

High on Factor I - over .80

intelligent	-.87	
capable	-.88	
alert	-.87	
articulate	-.83	
low self-esteem	.83	

High on Factor II - over .80

good-natured		.93
cold		-.88
pleasant		.88
appreciative		.83

Reviewing the developmental input for the PAS, all eleven items had been rated as important in the importance survey. Thus, the results of the importance survey were confirmed by the pre-testing. Four of the words retained represent Group I, the Social Interactive cate-

gory; two represent Group II, descriptions of patients' internal states; five represent ungrouped words. Group III (Health Care-Related Characteristics) and Group IV (Patient in Society) are not represented in the modified PAS.

DEVELOPMENT OF PATIENT MANAGEMENT PROBLEMS

Practicing physicians were consulted to participate in the development of a questionnaire that would capture common treatment decisions for hypertension, diabetes and asthma. The objective of the collaborative effort was to identify management choices that could be posed to physician-subjects with verisimilitude for each of the individual diseases. Within this constraint, we attempted to have similar items for each disease. As with the PAS, brevity and ease of completion was also an objective.

In the first step toward these goals, a preliminary list of the types of treatment decisions that might be affected by physician attributions of patient characteristics was developed. From this list an initial draft of the physician management problem (PMP) was created by David S. Gullion, M.D. One draft was designed for each of three diseases: chronic obstructive pulmonary disease (COPD), diabetes mellitus, and hypertension.

Draft 1

The first draft presented a series of multiple choice questions. This draft was administered to physicians attending a continuing medical education seminar sponsored by the California Medical Association. These physicians viewed a videotape and then completed the PMP's and the PAS. Each participant viewed one or more tapes. Responses were not coded for identification so it is not known how many videotapes each physician watched. However, the total number of PMP's completed per videotape is as follows:

	L-C	L-I	U-C	Total
Hypertension	Actress III = 1	Actress I = 4	Actress III = 7	12
Diabetes	Actress I = 7		Actress II = 7	14
COPD		Actress II = 6	Actress I = 3	9
				35

Approximately 30 minutes were needed for completion of each tape plus the two instruments.

From this small sample, it appeared that the instrument, because of its multiple choice format, was not pulling for treatment differences based on patient attributions, but rather was encouraging respondents to describe "appropriate" or "textbook" care.

Draft 2

Two major changes were made in the second draft of the PMP. First, each of the answer choices from the multi-choice questions became its own question with possible responses on the following 5-point scale: (a) definitely would, (b) probably would, (c) might, (d) probably would not, and (e) definitely would not. This revision allowed for more variation between respondents. Their answers would describe what they would or would not do for all the items. Thus, for example, rather than simply choosing one action from five given alternatives as the preferred choice, with the revised format physicians could respond by indicating that they definitely would do a test, might educate the patient, and definitely would not refer. These multiple decisions conform more closely to actual practice than a single selection of a multi-choice item. The second change made on the new draft was to add

an open-ended question after each item: "Briefly describe why you would do as you indicated." This question was designed to make explicit the decision-making logic of the subject. From this information we hoped to assess whether the item was relevant to our basic question regarding the relationship of physicians' attributions of patient characteristics to decision-making.

This revised form was administered to 11 physicians and physicians-in-training (eight third- and fourth-year medical students and three residents) at medical attending rounds at the University of California, San Francisco (UCSF). These participants were shown three videotapes and completed one PMP for each portrayal. From these data, it appeared that the revised PMP's did encourage more individualized responses than did the earlier draft, but still did not allow respondents a full range of expression regarding their treatment of the patients portrayed.

Draft 2 was also administered individually to one specialist for each of the three diseases—Dr. Martha Nolte, a diabetologist, Dr. Stephen Schroeder, a hypertension specialist, and Dr. Michael Stulbarg, a pulmonologist, all on the faculty at UCSF. Their advice was utilized in revising the instrument further, particularly with regard to Dr. Stulbarg's declaration that the patients did not appear to be COPD patients and that another diagnosis should be utilized. Drs. Stulbarg and Schroeder also felt that the questionnaire did not sufficiently elicit psychological and social information.

The search for a third disease involved the consideration of other diagnoses which had no physical manifestation that would be noticeable on a videotape: arthritis, heart disease, angina, etc. Asthma was cho-

sen from among these as conforming most closely with the characteristics needed for the project—the tapes would fit, the PMP's could be constructed, primary care physicians would treat asthmatics.

Concerning the inadequacy of the PMP's to capture the necessary psychological and social sequelae, a further consultation was held with Dr. Albert R. Martin, Professor of Internal Medicine, UCSF, who suggested additional items for the instruments.

Draft 3

The final draft contained new items questioning the physicians about their attention to the psychological components of the data presented by the simulated patients in the tapes. In addition, the open-ended items after each question were deleted. Instead, respondents were asked first to list briefly the principal problems of the patient on the videotape, then to complete the PMP's, and then to indicate any other relevant areas of care and to comment on the appropriateness of the items of the PMP's. The three PMP's as used in the experiment are provided as Table 2.12.

These instruments can be described as follows: the PMP's for each disease have three parts. For each part, additional description was provided regarding physiological findings of the patient. All items for the three PMP's are identical except in the following instances: (a) a disease-specific medication question is included; (b) office staff education is relevant only for diabetes and hypertension, while home monitoring and ordering glycosated hemoglobin are only applicable to diabetes.

Table 2.12
Patient Management Problems

DIAGNOSIS: HYPERTENSION
PATIENT: 39 year old woman
DURATION UNDER YOUR CARE: 6 weeks
MEDICATIONS: Mild sedative
low salt diet

Based on the visit depicted on the videotape, please list briefly the principle
problems of this patient and how you would proceed with treatment.

Your possible action choices for this patient are:

1. definitely would do this
2. probably would do this
3. might do this
4. probably would not do this
5. definitely would not do this

Please circle one answer for each item (A - E).

I. The 39-year-old woman just observed was referred because a routine screening
discovered a blood pressure of 150/100. On a previous visit, a history and
physical revealed a positive family history, a blood pressure of 160/102, and
mild retinal changes. A low salt diet and symptomatic treatment, tranquilizers,
etc., were prescribed. Today her symptoms are as observed and her blood
pressure is 160/106. You would:

		def.	prob.	might	prob. not	def. not
A.	Get more historical information, including social and psychological information.	1	2	3	4	5
B.	Do a complete physical examination.	1	2	3	4	5
C.	Initiate hydrochlorothiazide therapy.	1	2	3	4	5
D.	Explore with the patient her feelings about the disease.	1	2	3	4	5
E. 1.	Instruct her yourself regarding compliance, low-salt diet, chronicity and complications of the disease.	1	2	3	4	5
2.	Have your office staff give instruction regarding compliance, low-salt diet, chronicity and complications.	1	2	3	4	5
3.	Refer her to the Hypertension Clinic for further evaluation and on-going care.	1	2	3	4	5

F. Have her return in __ weeks for another blood pressure check. (Circle one.)

1	2	3	4	5
one week	two weeks	three weeks	four weeks	five or more weeks

II. She returns after a few weeks, claiming she lost weight, eliminated salt and took the medications as prescribed. However, her blood pressure is 165/110. At this point you would:

	def.	prob.	might	prob. not	def. not
A. Hospitalize her for control.	1	2	3	4	5
B. Question her about her compliance.	1	2	3	4	5
C. Increase her medications and/or add another agent with a different mechanism of action.	1	2	3	4	5
D. Instruct her yourself, reinforcing low salt diet and therapy regimen.	1	2	3	4	5
E. Have her return for a series of patient education activities conducted by the office staff.	1	2	3	4	5
F. Refer her to Hypertension Clinic or specialist for care at this point.	1	2	3	4	5

III. With this patient, in this setting (your office), with this disease, you would:

	def.	prob.	might	prob. not	def. not
A. Encourage her to telephone you at any time if there is a problem or question.	1	2	3	4	5
B. Have her return to your office very frequently for care.	1	2	3	4	5
C. Refer her to a hypertensive clinic or specialist.	1	2	3	4	5

IV. Are there other relevant areas of care we haven't asked you about? Please list.

V. Do you have any comments on the appropriateness of our questions?

DIAGNOSIS: DIABETES
PATIENT: 42 year old woman
DURATION UNDER YOUR CARE: 6 weeks
THERAPY: Oral hypoglycemic agents, diet

Based on the visit depicted on the videotape, please list briefly the principle problems of <u>this</u> patient and how you would proceed with treatment.

Your possible action choices for this patient for the questions below are:

1. definitely would do this
2. probably would do this
3. might do this
4. probably would not do this
5. definitely would not do this

Please circle one answer for each item (A - E).

I. The patient observed was recently diagnosed as having diabetes mellitus and was instructed as to a proper diet and was started on oral hypoglycemic agents. A random blood sugar was 275. In view of her reported symptoms you would:

		def.	prob.	might	prob. not	def. not
A.	Get more historical information, including social and psychological information.	1	2	3	4	5
B.	Do a complete physical examination.	1	2	3	4	5
C.	Reassure her that she is doing well.	1	2	3	4	5
D.	Explore with the patient her feelings about her disease.	1	2	3	4	5
E.	1. Reinforce her medications and diet yourself.	1	2	3	4	5
	2. Have your office staff reinforce her medications and diet.	1	2	3	4	5
	3. Have her medications and diet reinforced at an intensive patient education training center for diabetics.	1	2	3	4	5
	4. Refer her to a diabetologist who would assume her care.	1	2	3	4	5

F. Have her return in __ weeks. (Circle one)

1	2	3	4	5
one week	two weeks	three weeks	four weeks	five or more weeks

II. The above program was implemented for six weeks. Today her blood sugar is 300, and she's still symptomatic. You would:

			def.	prob.	might	prob. not	def. not
A.	Order a Hgb A$_1$C (glycoslated hemoglobin).		1	2	3	4	5
B.	Utilize a home monitoring system of <u>blood</u> glucose levels.		1	2	3	4	5
C.	Initiate insulin therapy.		1	2	3	4	5
D.	Question her about her compliance.		1	2	3	4	5
E.	Hospitalize her for control.		1	2	3	4	5
F.	Reinforce the importance of diet, urine testing or home blood glucose monitoring and timing of therapeutic regimen						
	1. yourself		1	2	3	4	5
	2. by your office staff		1	2	3	4	5
	3. by referral to a diabetic training center or specialist		1	2	3	4	5

III. With <u>this</u> patient, in <u>this</u> setting (your office), with <u>this</u> disease, you would:

		def.	prob.	might	prob. not	def. not
A.	<u>Encourage</u> her to telephone you at any time if there is a problem or question.	1	2	3	4	5
B.	Have her return to your office very frequently for care.	1	2	3	4	5
B.	Refer her to a diabetic specialist.	1	2	3	4	5

IV. Are there other relevant areas of care we haven't asked you about? Please list.

V. Do you have any comments on the appropriateness of our questions?

DIAGNOSIS: ASTHMA
PATIENT: 40 year old woman
DURATION UNDER YOUR CARE: 3 months
THERAPY: Inhaler prn
eliminate allergens

Based on the visit depicted on the videotape, please list briefly the principle problems of this patient and how you would proceed with treatment.

Your possible action choices for this patient are:

1. definitely would do this
2. probably would do this
3. might do this
4. probably would not do this
5. definitely would not do this

Please circle one answer for each item (A - E).

I. The 40 year-old woman just observed has a history of episodic asthma and has been relatively free of symptoms until the past 3-4 weeks. In addition to an increasing number of wheezing episodes, she complains of current symptoms. You would:

	def.	prob.	might	prob. not	def. not
A. Get more historical information, including social and psychological information.	1	2	3	4	5
B. Do a complete physical examination.	1	2	3	4	5
C. Add a long-acting bronchodilator.	1	2	3	4	5
D. Explore with patient her feelings about the disease.	1	2	3	4	5
E. 1. Instruct her yourself regarding medications.	1	2	3	4	5
2. Have your office staff instruct her regarding medications.	1	2	3	4	5
3. Refer her to a pulmonologist who would assume her care.	1	2	3	4	5

F. Have her return in ___ weeks for another blood pressure check. (Circle one.)

1	2	3	4	5
one week	two weeks	three weeks	four weeks	five or more weeks

II. She returns in three weeks complaining of almost continual wheezing and shortness of breath. Her FEV$_1$ has decreased by 25%. You would:

		def.	prob.	might	prob. not	def. not
A.	Add steroids.					
B.	Hospitalize her for control.	1	2	3	4	5
C.	Question her about her compliance.	1	2	3	4	5
D.	Teach her the proper use of inhalers.	1	2	3	4	4
E.	Refer her to a chest physician.	1	2	3	4	5

III. With this patient, in this setting (your office), with this disease, you would:

A.	Encourage her to telephone you at any time if there is a problem or question.	1	2	3	4	5
B.	Have her return to your office very frequently for care.	1	2	3	4	5
C.	Refer her to a chest physician.	1	2	3	4	5

IV. Are there other relevant areas of care we haven't asked you about? Please list.

V. Do you have any comments on the appropriateness of our questions?

Please indicate your year of graduation from medical school _____.
                                                                    year
Please check appropriate space: _____male _____female.

SUMMARY

Three instruments were extensively pre-tested and revised for use in this study. Nine videotaped depictions of patients with three attribution clusters—Likeable-Competent, Unlikeable-Competent, and Likeable-Incompetent—were created, pre-tested and the data analyzed for accuracy of portrayals. The best portrayal from each category was selected for the experimental phase.

A Physician Attribution Survey was developed from words and phrases provided by physicians using a modified Inquiry Technique, a modified Kelly Repertory Test, and an Adjective Check List. The 62 items provided from these sources were sorted into four content categories and rated as to their importance in treatment decision-making. The resulting 36 item PAS was extensively pre-tested. A factor analysis provided 11 salient words and phrases representing the two factors, likeable-unlikeable, competent-incompetent. These 11 items comprised prised a short form of the PAS for the experiment.

Patient Management Problems questionnaires were developed and pre-tested both for their ability to discriminate treatment for different attributions and for their medical accuracy. These three instruments were utilized in the study to be described in Chapter 3.

CONDUCT OF THE MAJOR EXPERIMENT

The principal study of this research was designed to test the re-
lationship, if any, between the attributions physicians make regarding
patient characteristics and subsequent treatment decisions. In order to
test for this relationship, participants were shown videotapes of ac-
tresses portraying three types of patients--a Likeable-Competent pa-
tient, and Unlikeable yet Competent patient, and a Likeable but Incom-
petent patient. After viewing the tapes, subjects completed two in-
struments, an 11-item Physician Attribution Survey (PAS) and a treat-
ment decision-making questionnaire, Patient Management Problems (PMP's),
for three separate diseases (asthma, hypertension, and diabetes).

The hypothesis to be tested is whether treatment decisions vary
relative to the attributes of the actress depicted in the videotapes.
The test of choice for this design is repeated measures latin square
analysis of variance. Three groups of subjects were used for this
design:

	Gr.I	Gr.II	Gr.III
Hyperten-sion			
Diabetes			
Asthma			

In order for results of this study to generalize to treatment of
chronic conditions, it was necessary to present more than one disease.
Each group of variables in a latin square design must have an equal

number of variables. Three attribute clusters were being used; therefore, to complete the nine cells of the latin square design, three diseases were selected.

The three diseases that were chosen are chronic conditions requiring ongoing care. They also were selected because they do not have physicial manifestations that would require the actresses to alter their appearance. The videotapes were pre-tested to assess the actresses' ability to elicit distinctly different responses to the three portrayals.

The PAS consisted of two sub-scales, items representing competence and those representing likeability. The PAS items were pre-tested also, and the number of items reduced as a result of a factor analysis. The PMP's were developed with the assistance of both primary care physicians and specialists in the three diseases.

The target population for this study was primary care physicians who provide direct treatment care to patients with asthma, hypertension, and diabetes. The types of treatments being studied were those that would be appropriate for a primary care physician to render to patients requiring chronic care. The treatments are consistent with both the medical care and relationship aspects of a "primary" provider. These treatments might also be appropriate for specialists—either a diabetologist, pulmunologist or hypertension specialist—who had assumed care of the patient, but possibly not for a specialist acting in a consulting role.

It was decided to use a latin square design for this study. This design allows the experimenter to minimize both the number of groups and

subjects needed to study the effects of two or more sets of variables. In the current study, the full use of three sets of variables — disease, actress, and attribution—each having three levels, would have required 27 groups of subjects.

In order to reduce the number of groups necessary, it was determined that three, rather than the nine video tapes available, would be utilized. The nine tapes represented each actress portraying each attribution cluster: likeable-competent (L-C), likeable-incompetent (L-I), and unlikeable-competent (U-C). The three tapes that, in the pre-test, conformed most to the desired profile were chosen for the major experiment. In addition, for completion of the latin square design, each group was presented the three diseases in the same order. Thus, the design of the experiment was implemented as follows:

Disease	Group I - Day 1	Group II - Day 2	Group III - Day 3
Hypertension	L-C	L-I	U-C
Diabetes	U-C	L-C	L-I
Asthma	L-I	U-C	L-C

With this design, three groups of subjects, rather than 27, were needed.

While the latin square design has much to offer for this experiment, it does not permit the analysis of several important factors. The order of tapes shown is confounded with the effect of the group (day) in which the subject participated. This design also confounds the order of the tapes and the disease. In addition, since a different actress portrayed each attribution cluster, actress and attributions are confounded.

Subjects

Physicians attending a five-day conference on Topics in Primary

Care were invited to "participate in a workshop". This "invitation" was presented as follows: each participant had either a blue, orange, or green dot affixed to his/her name tag. The color of the dot represented the day of participation, either the first, second or third day of the five-day seminar. Each of the three mornings, David S. Gullion, M.D., course director of the Conference, announced that those with the appropriate colored dot would be participating in a special workshop during the noon recess of the meeting. He stated that participation would be interesting and educational; in addition, he told physicians that a free box lunch would be provided for their participation. As the noon break was reached each day, a final reminder was announced for "those with _____ colored dots to remain". A proctor from the course stood at the exit and again reminded those with the appropriate colored dots to remain.

The 180 paid registrants at the seminar were randomly assigned to participate in one of the data collection sessions scheduled on three consecutive days. One hundred and twenty-nine individuals (72%) completed the study, 43 on the first day, 49 on the second and 39, the third. Ninety-three of these were physicians. Eight participants are known to have attended the workshop on a day other than the one assigned in the randomization process. The seminar participants who did not attend the workshop/experiment probably differed from those who did in important ways. However, because course records on attendees is sparse, it is difficult to assess the representativeness of experiment participants, or indeed, the representativeness of course participants in relation to the population of primary care physicians.

Of the physicians, 19 women and 73 men participated; one individual did not indicate gender. Men and women physicians were evenly distributed between the three groups (Chi-square= 3.123, df = 2, p > .05). Six participants received their professional degrees between 1922 and 1939; 12 in the 1940's; 16, 1950's; 16, 1960's; 60, 1970's; and 18 in the 1980's. One individual did not indicate year of graduation. With year of graduation collapsed into two groups (< 1970 vs. $\geq$ 1970) earlier and more recent graduates of medical school were evenly distributed among the days (Chi-square = 3.439, df = 4, p > .05).

Ten subjects were internists; 45 family practitioners; 6 general practitioners; 3 pediatricians; 2 emergency physicians; 1 preventive medicine specialist; and 26 physicians, specialty unspecified. Of the non-physician health care providers who participated, 10 were physician assistants and 3 were nurse practitioners or registered nurses. Twenty-three respondents did not indicate their degree or specialty. Physicians and non-physicians were not evenly distributed among the days (Chi-square = 19.3840, df = 4, p < .001).

Procedure

Participants in the experiment were instructed to remain in the conference hall while non-participants filed out for lunch. Participants were also requested to move to the front three rows in order to be able to view one of the two video monitors arranged at the front of the room.

Dr. Gullion then gave a brief overview of how the next 40 minutes would be spent. He stated that participants would view three videotapes. After each tape they would be asked to complete both a Physi-

cian Attribution Survey (PAS) and patient management problems (PMP). They were also told that lunch would be served following completion of the workshop.

Dr. Gullion and the experimenter instructed participants in detail through each step of the process. They answered questions for individuals and the group. As participants completed a portion of the instruments, they were asked to wait for the others to finish also. The procedure of videotape-PAS-PMP was repeated three times so that each group viewed three tapes and completed three PAS's and three PMP's. Data were collected anonymously; however, participants who wanted to receive the results of the study were asked to put their names and addresses on the instruments. Table 3 depicts the procedure of data collection for each of these three groups.

A complete transcript of instructions to participants is offered in Appendix G.

The participants were quiet and seemingly attentive when watching the videotapes. There was some laughter, both when the incompetent patient was being extremely incompetent and when the unlikeable patient was bossy and angry. Very few questions were asked by participants while completing the instruments. A couple of comments after the workshop seem noteworthy. One woman said the study should be abandoned as sexist. She said physicians already have problems with females and that this study perpetuates negative stereotypes of women. A man said of the unlikeable patient, "That woman's anger was really coming out." Dr. Gullion remarked that, after viewing the tapes numerous times, "I still get clammy watching her." Another physician said that in his

Table 3

DATA COLLECTION METHODOLOGY

```
┌─────────────────────────────┐
│ 129 PRIMARY CARE PHYSICIANS │        Procedure of Data Collection
└─────────────────────────────┘
                                        for Each of the Three Groups
            ┌─────────────────────────────┐
DAY 1  <----│ 43 PRIMARY CARE PHYSICIANS  │
            └─────────────────────────────┘
                    WATCHED 3 VIDEOTAPES
                            ↓
        ┌─────────────────────────────────────────────┐
        │ LIKEABLE-COMPETENT/HYPERTENSIVE PATIENT      │
        │ UNLIKEABLE-COMPETENT/DIABETIC PATIENT        │
        │ LIKEABLE-INCOMPETENT/ASTHMATIC PATIENT       │
        └─────────────────────────────────────────────┘
                 COMPLETED TWO QUESTIONNAIRES
                            ↓
        ┌─────────────────────────────────────────────┐
        │ 1.  PHYSICIAN ATTRIBUTION SURVEY - 11 ITEMS  │
        │ 2.  PATIENT MANAGEMENT PROBLEM SURVEY        │
        └─────────────────────────────────────────────┘


            ┌─────────────────────────────┐
DAY 2  <----│ 49 PRIMARY CARE PHYSICIANS  │
            └─────────────────────────────┘
                    WATCHED 3 VIDEOTAPES
                            ↓
        ┌─────────────────────────────────────────────┐
        │ LIKEABLE-INCOMPETENT/HYPERTENSIVE PATIENT    │
        │ LIKEABLE-COMPETENT/DIABETIC PATIENT          │
        │ UNLIKEABLE-COMPETENT/ASTHMATIC PATIENT       │
        └─────────────────────────────────────────────┘
                 COMPLETED TWO QUESTIONNAIRES
                            ↓
        ┌─────────────────────────────────────────────┐
        │ 1.  PHYSICIAN ATTRIBUTION SURVEY - 11 ITEMS  │
        │ 2.  PATIENT MANAGEMENT PROBLEM SURVEY        │
        └─────────────────────────────────────────────┘


            ┌─────────────────────────────┐
DAY 3  <----│ 37 PRIMARY CARE PHYSICIANS  │
            └─────────────────────────────┘
                    WATCHED 3 VIDEOTAPES
                            ↓
        ┌─────────────────────────────────────────────┐
        │ UNLIKEABLE-COMPETENT/HYPERTENSIVE PATIENT    │
        │ LIKEABLE-INCOMPETENT/DIABETIC PATIENT        │
        │ LIKEABLE-COMPETENT/ASTHMATIC PATIENT         │
        └─────────────────────────────────────────────┘
                 COMPLETED TWO QUESTIONNAIRES
                            ↓
        ┌─────────────────────────────────────────────┐
        │ 1.  PHYSICIAN ATTRIBUTION SURVEY - 11 ITEMS  │
        │ 2.  PATIENT MANAGEMENT PROBLEM SURVEY        │
        └─────────────────────────────────────────────┘
```

practice he would "do _something_ with her." The implication was that he would get rid of her, ignore her, or confront her.

RESULTS OF THE MAJOR EXPERIMENT

In this chapter I present the results from three analyses. First, I demonstrate that the physician subjects of the experiment were consistent in rating the three videotaped portrayals as distinctly different from each other. Second, the creation of nine treatment scales is described. These scales, developed from the patient management problems using factor analytic techniques, are: referral to a specialist, encouragement to contact office, patient education by physicians themselves, interviewing for psychological data, patient education by staff, physical examination, frequency of return, hospitalization, and use of medication. And, finally, I present the results of analyses testing the relationship between both diagnosis, as identified to the physician-subjects, and attributes, as depicted in the videotaped portrayals, and the physicians's subsequent treatment decisions on the nine treatment scales. Data are given indicating that treatment decisions differed significantly ($p < .05$) on five of the nine scales based on the patients' personality characteristics, and on eight of the nine scales depending upon the disease of the patient.

Comparison of PAS: Pre-test and Experimental Groups

The Physician Attribution Survey (PAS) data from the experimental group confirmed the profiles of the likeable-competent, unlikeable-competent and likeable but incompetent portrayals of patients. Figure 4.1 depicts the profiles of the three videotapes used in the experiment. This figure shows that the three profiles are distinctly different.

Figure 4.1

Profile of Three Portrayals:

Likeable-Competent, Unlikeable-Competent, Likeable-Incompetent
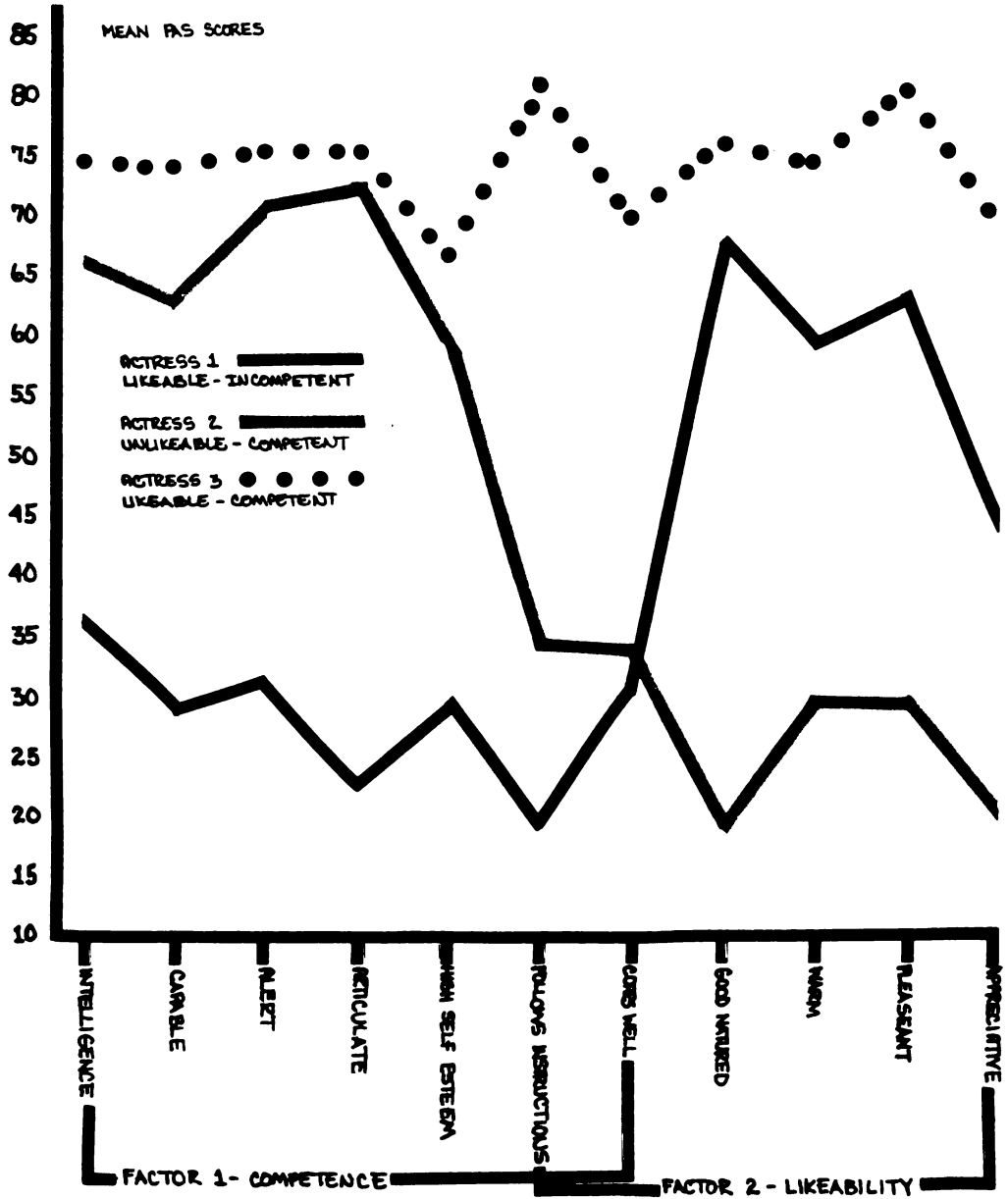
The means for the portrayals are significantly different (p< .05) for each of the eleven characteristics. Appendix H contains the profiles for each of the three portrayals from both the pre-test group and the experimental group. These graphs indicate that the three personality portrayals were seen as consistently different both at pre-test and in the main study.)

Since the attribution effect is significant in subsequent analyses of the relationship between patient characteristics and treatment decisions, this confirmation of the videotapes makes it plausible to assume that the differences are based upon differing perception by physicians regarding the three patients on these dimensions of likeability and competence.

Dimensions of Treatment Decisions from the Patient Management Problems Questionnaire

In order to determine dimensions of treatment care as captured by the Patient Management Problems (PMP) a factor analysis of the items from the three sets of problems (representing the three diseases) was performed. The items used in this analysis were the 15 items from the problems that had verisimilitude for all three diseases. There was thus a total of 45 items. Only the data collected from the 93 physician-subjects were used in this analysis.

Criteria were established for inclusion of an item on a scale. For subsequent analyses of the relationship between patient attributes and treatment decisions to be meaningful, the scale had to include the equivalent items for all three diseases. Yet, the importance of certain treatments varied depending upon the disease. Therefore, to acknowledge this phenomenon, while creating meaningful scales, the follow-

ing criteria were developed by the researcher: (a) if an item for one disease loaded high on a factor (over .38), then corresponding item loadings for the other two factors would be inspected; (b) if a second corresponding item loaded over .20 on the same factor, then the item for all three diseases would be placed on that scale, even if the item loading for the third disease were low (less than .20). An additional goal was to place each of the 45 items on one, and only one, scale.

Eleven factors with eigenvalues over 1.0 resulted from the analysis of the 45 items. These factors accounted for 56% of the variance.

Table 4.1 depicts the results of the application of the criteria to developing the treatment scales. Factors 4, 10 and 11 did not contain items meeting the criteria. The remaining eight factors did satisfy the criteria. Description of these eight factor-based scales follows:

1. **Referral to a Specialist**. Contains three items from each PMP, each representing referral:

    Refer her to a diabetologist* who would assume her care.

    Reinforce her regimen by referral.

    Refer her to a diabetic specialist*

2. **Encouragement to Contact Office**. Contains two items as follows:

    Encourage her to telephone you at any time if there is a problem or question.

    Have her return to your office very frequently for care.

3. **Patient Education by Physicians Themselves**. Contains three items as follows:

* other specialists inserted as appropriate.

Table 4.1

Factor Loadings of Items Included on 8 Constructed Treatment Scales

Item	Factor 1			Factor 2			Factor 3			Factor 4			Factor 5			Factor 6			Factor 7			Factor 8			Factor 9			Factor 10			Factor 11		
	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A	H	D	A
1. Psychological History													.446	.162	.233																		
2. Physical Examination																			.403	.565	.782												
3. Explore Feelings Re: Disease													.567	.636	.542																		
4. Reinforce Regimen Yourself							.276	.017	.441																								
5. Reinforce Regimen Yourself																.578	.600	.745															
6. Refer to Specialist	.553	.372	.696																														
7. Frequency of Return																						.688	.325	.625									
8. Use of Medication																																	
9. Question Compliance							.293	.634	.550																								
10. Hospitalization																									.483	.269	.738						
11. Reinforce Regimen Yourself							.391	.095	.234																								
12. Reinforce Regimen by Referral	.655	.127	.820																														
13. Encourage to Phone				.651	.584	.639																											
14. Return Frequently				.700	.514	.700																											
15. Refer to Specialist	.689	.851	.779																														
Scale	1			2			3			-			4			5			6			7			8			-			-		

Reinforce the importance of her regimen yourself (from Part I)**.

Reinforce the importance of her regimen yourself (from Part II)**.

Question her about compliance.

4. <u>Interviewing for Psychological Data</u>. Contains two items as follows:

Get more historical information, including social and psychological information.

Explore with the patient her feelings about her disease.

5. <u>Patient Education by Staff</u>. Contains one item from each PMP:

Reinforce the importance of her regimen*** by your office staff.

6. <u>Physical Examination</u>. Contains one item:

Do a complete physical examination.

7. <u>Frequency of return</u>. Contains one item:

Return in ____ week(s). (Options were 1 week, 2 weeks, 3 weeks, 4 weeks and 5 or more weeks.)

8. <u>Hospitalization</u>. Contains one item:

Hospitalize for control.

** for each disease a specific regimen was indicated.

***regimen specified for each disease.

Using the criteria for factor loadings, the goal of including all 45 items on a scale was not achieved. The items representing medication treatments of bronchodilators, insulin, and hydrochlorothiazide did not meet the criteria. Therefore, it was decided to group these three medication items into one dimension to create scale 9.

9. <u>Use of medication</u>. Contains one item specific to each disease:

Prescribe medication (hydrochlorothiazide for hypertension, bronchodilator for asthma, insulin for diabetes).

The intercorrelations of the nine scales are given in Table 4.2. It should be noted that while, for the most part, the scales are orthogonal, there is an overlap of significance (p < .05) for a few combinations. Factor 2, Encouragement to Contact Office, for example, is related to Hospitalization, Physical Examination, Patient Education by the Physician, Interviewing for Psychological Data, and Frequency of Return. Three additional dimensions are each related to two other scales: (a) Referral to a Specialist with Hospitalization and Patient Education by Staff; (b) Hospitalization with Physical Examination and Use of Medication; and (c) Patient Education by Physicians Themselves with Interviewing for Psychological Data, and Use of Medications.

Analyses of Relationship Between Disease, Patient Attributes, and Treatment Decisions

A series of nine three by three latin square analyses of variance (Winer, 1971) were performed using SAS program for repeated measures latin square analyses (Barr, Goodnight, Sall, & Helwig, 1976). Results are presented in Tables 4.3 through 4.11.

These analyses indicated four major results: first, for five of the nine scales the portrayal effect was significant; physicians did in fact report varying treatment depending upon the personality characteristics of the patient. To assess which variables contributed to the measured differences for portrayal, post hoc Duncan Multiple Range Tests were performed. The results of these tests are presented in the next section.

Second, the group or day of participation did not exhibit signifi-

Table 4.2
Intercorrelation Matrix Among 9 Constructed Treatment Scales

| | Scales | | | | | | | | |
	1	2	3	4	5	6	7	8	9
Scale 1 - Refer to Specialist	1.00								
Scale 2 - Encourage to Contact Office	.01	1.00							
Scale 3 - Hospitalization	.30**	.27**	1.00						
Scale 4 - Physical Exam	.10	.22*	.26**	1.00					
Scale 5 - Patient Education by Physician	-.11	.31**	.03	.07	1.00				
Scale 6 - Patient Education by Staff	.32**	-.08	.01	-.06	.06	1.00			
Scale 7 - Interviewing for Psychological Data	-.04	.21*	.06	.17	.39**	.16	1.00		
Scale 8 - Frequency of Return	.07	.20*	.06	.01	.07	.05	.16	1.00	
Scale 9 - Use of medications	.07	.15	.29**	.15	.20*	.10	.04	-.02	1.00

* significant, $p < .05$
** significant, $p < .01$

Table 4.3

Variation in <u>Referral to a Specialist</u> Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Ac- counted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject cohorts	2	4.098	2.049	0.14	0.871		
Subjects within groups	90	1332.065	14.801				
Within Subjects	186						
Portrayal	2	3.431	1.7155	0.70	0.66	0.521	
Disease	2	21.690	10.845	4.29	4.14	0.017	D, A > H
Disease X Portrayal	2	9.545	4.7725	1.89	1.82	0.161	
Error (Within)	180	471.334	2.6185	93.10			

Table 4.4

Variation in <u>Encouragement to Contact Office</u> Based Upon Patient Portrayal

Source	df	SS	MS	Within Subjects' Variance Ac- counted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	32.914	16.457		2.48	0.089	
Subjects within groups	90	596.917	6.632				
Within Subjects	185						
Portrayal	2	46.322	23.161	13.1	14.61	0.001	L-C > U-C, L-I
Disease	2	23.436	11.718	6.6	7.9	0.001	D > H
Disease X Portrayal	2	1.060	.53	0.3	0.33	0.716	
Error (Within)	179	283.683	1.585	80.0			

Table 4.5

Variation in Patient Education by Physicians Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	1.497	..749		2.04	0.137	
Subjects within groups	90	33.100	.368				
Within Subjects	180						
Portrayal	2	1.936	.968	5.112	5.09	0.007	L-I > U-C, L-I
Disease	2	1.667	.834	4.402	4.38	0.014	H, D > A
Disease X Portrayal	2	0.022	.011	0.581	0.06	0.943	
Error (Within)	186	34.245	.184	90.428			

Table 4.6

Variation in Interviewing for Psychological Data Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	0.043	.022		0.01	0.994	
Subjects within groups	90	322.717	3.586				
Within Subjects	186						
Portrayal	2	14.362	7.181	5.9	5.81	0.004	U-C > L-C, L-I
Disease	2	2.717	1.359	1.1	1.10	0.336	
Disease X Portrayal	2	5.618	2.809	2.3	2.27	0.106	
Error (Within)	180	222.637	1.237	90.7			

Table 4.7

Variation in <u>Patient Education by Staff</u> Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Groups	2	16.443	8.222		2.460	0.091	
Subjects within groups	90	300.975	3.344				
Within Subjects ·	172						
Portrayal	2	23.482	11.741	12.9	13.73	0.001	L-I, L-C > U
Disease	2	8.651	4.3255	4.8	5.06	0.007	D, H > A
Disease X Portrayal	2	2.423	1.2115	1.3	1.42	0.245	
Error (Within)	166	147.110	.886	81.0			

Table 4.8

Variation in <u>Physical Examination</u> Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	0.819	.410		.080	0.452	
Subjects within groups	90	170.616	1.896				
Within Subjects	184						
Portrayal	2	0.274	.137	0.3	0.27	0.766	
Disease	2	4.976	2.488	5.0	4.85	0.009	H, D > A
Disease X Portrayal	2	2.116	1.058	2.1	2.06	0.130	
Error (Within)	178	91.301	.513	92.5			

Table 4.9

Variation in Frequency of Return Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	2.419	1.910		0.74	0.4813	
Subjects within groups	90	147.618	1.640				
Within Subjects	178						
Portrayal	2	0.493	0.247	0.484	0.45	0.6381	
Disease	2	3.892	1.95	3.821	3.56	0.0306	D > A
Disease X Portrayal	2	0.046	0.023	0.045	0.04	0.9588	
Error (Within)	172	97.402	0.566	95.649			

Table 4.10

Variation of Hospitalization Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	9.948	4.974		2.38	0.0979	
Subjects within groups	90	187.724	2.086				
Within Subjects	179						
Portrayal	2	0.332	.166	0.2	0.20	0.819	
Disease	2	20.534	10.267	12.4	12.40	0.001	A, D > H
Disease X Portrayal	2	0.898	.449	0.5	0.54	0.582	
Error (Within)	173	143.235	.828	86.8			

Table 4.11

Variation in <u>Uses of Medication</u> Based Upon Patient Portrayal

Source	df	SS	MS	% Within Subjects' Variance Accounted For	F	P	Duncan Multiple Range Test
Between Subjects	92						
Subject Cohorts	2	3.796	1.898		1.16	0.317	
Subjects within groups	90	146.972	1.633				
Within Subjects	177						
Portrayal	2	8.297	4.149	3.017	3.54	0.031	L-C > U-C
Disease	2	54.283	27.14	19.739	23.15	0.001	H > A, D
Disease X Portrayal	2	4.942	2.471	1.797	2.11	0.125	
Error (Within)	.171	207.478	1.213	75.447			

cant effects. Therefore, variations in scores on treatment decision scales on different days cannot be attributed either to random differences in physician participants or to variation in the implementation of the experiment.

Third, eight of the nine scales indicated significant differences in treatment based upon differences in diagnosed disease. Thus, physicians reported that they would vary most treatments based upon the patient's diagnosed disease.

The fourth finding was that the interaction between attribute and disease scores was not significicasnt; therefore, the portrayal effect need not be qualified according to the disease used in the patient management problems.

In order to measure the overall probability of the eight outcomes, an estimate of the experiment-wise significance level was constructed. Using the Chi-square formula for combining several independent tests on the same hypothesis (Winer, 1971, pp. 49-50), Chi-square $= 2 \sum u_i$ where $u_i = -\ln P_i$, the experiment level was less than .001. Table 4.12 illustrates this analysis. These findings of experiment-wise significance are based on the assumption that the nine dependent variable scales are orthogonal. As demonstrated by the intercorrelations of Table 4.2, the scales are somewhat related. Therefore, the Chi-square calculation combining these related probabilities is only an approximation of the experiment-wise level of significance. The actual significance level is probably not as low as the level calculated (.001).

Scale	Probability	-ln (probability)

Table 4.12

Test of Experiment-wide Alpha Level of Eight Anova Analyses
Relating Treatment to Personality Characteristics

Scale	Probability	-ln (probability)
1	.5210	.6520
2	.0001	9.2103
3	.0071	4.9477
4	.0036	5.6268
5	.0001	9.2103
6	.7661	.2664
7	.6381	.4493
8	.8185	.2003
9	.0311	3.4705

Chi-square = 2(34.03) = 68.06
Chi-square $(_{18})$.001 = 42.31
df = 18

The results of the Duncan Multiple Range Test are given in Tables 4.2 - 4.11, identifying attributes and/or diseases that contributed to the significant main effects. The means presented in Table 4.13 are the averages of the means of the items within the scale. The values, on a scale of one to five, represented the original values from the PMP. "One" indicates the physician definitely would perform the treatment, while "five" indicates that the physician definitely would not use the treatment. An alpha level of .05 was used for each of the analyses.

In general the results suggest that, more than other patients, a) the incompetent patient would receive more patient education by physicians themselves; b) patients who are unlikeable would be interviewed for psychological data; and c) likeable patients who are also competent would be encouraged more to contact the office and would receive more

Table 4.13

Mean Values for Significant* Portrayal and Disease Effects by Treatment

	L-C	U-C	L-I	H	D	A
Referral to Specialist				4.24	3.60	4.07
Encouragement to Contact Office	1.83	2.36	2.17	2.30	1.94	2.12
Patient Education by Physician	1.46	1.42	1.26	1.32	1.32	1.49
Interviewing for Psychological Data	1.75	1.56	1.82			
Patient Education by Staff	3.26	3.76	3.02	3.24	3.18	3.62
Physical Exam				1.54	1.60	1.84
Frequency of Return				1.98	1.90	2.19
Hospitalization				3.99	3.40	3.35
Use of medications	2.46	2.80	2.66	2.03	3.04	2.85

* significant, p < .05

medication. In addition, unlikeable patients would receive the least patient education by the physician's staff.

Although the main effect for disease is not the emphasis of this study, the results indicating significance of this effect for eight of the nine treatment scales is of interest as an indication of the validity of these treatment options since the fluctuations in care are appropriate for variations in disease states.

In summary, on five of the nine treatment scales, physicians did vary their treatment decisions based upon whether the patient was likeable and competent.

DISCUSSION

This study was designed to investigate the relationship, if any, between patients' personality characteristics, as perceived by physicians, and those physicians' subsequent treatment decisions. Variations in patient characteristics of likeability and competence were represented by simulated patients in three videotaped segments, one each of a likeable-competent patient, a likeable-incompetent patient and an unlikeable-competent patient. Physicians were requested to complete patient management problems for these three characterizations with each "patient" designated as having a different disease, either hypertension, diabetes, or asthma. The patient management problems contained nine dimensions of treatment for patients with chronic illness: referral to a specialist, encouragment to contact office, patient education by physicians themselves, interviewing for psychological data, patient education by staff, physical examination, frequency of return, hospitalization, and use of medication.

Physicians in this study chose different approaches on five of nine treatments, critical ones in the chronic conditions of asthma, hypertension and diabetes, depending upon the likeability and competence of the patients presented to them.

Specifically, physicians would vary treatment as follows: first, physicians would more frequently discuss compliance and educate the patient regarding his/her diet and medications (Patient Education by Physicians Themselves) with patients who are incompetent than with competent patients.

A second area of treatment variation regards Interviewing the Patient Regarding Psychological Data, such as feelings about the disease and psychosocial history. This data would more frequently be gathered for an unlikeable patient than for likeable patients. Third, physicians would encourage likeable-competent patients to maintain Close Contact with the Office more often than they would encourage unlikeable or incompetent patients.

A fourth treatment that would vary is the employment of staff assistants to educate the patients regarding their regimen (Patient Education by Staff). Likeable patients would receive education of this type more frequently than unlikeable patients. And, finally, medications (Use of Medications) would be prescribed more frequently for likeable-competent patients than for unlikeable-competent patients. Implications of each of these treatment variations will be discussed more fully later.

Prior to exploring the findings, I discuss some methodological issues that are relevant to an understanding of the effect of the design of the study upon the results. In addition, I present secondary findings, describing a profile of the treatment patterns for a return visit as represented by frequency of physicians' selection of management options from the patient management problems.

Methodological Qualifications

Experiments such as this one should be examined for characteristics in design and implementation that may have led to certain results rather than others. In this study several design elements are worthy of note.

First, since the study was conducted with videotaped simulated patients as stimuli, and paper-and-pencil responses, rather than actual behavior, as assessment tools, the generalizability, or external validity, must be addressed. Although the "patients'" personalities and symptoms were contrived to meet the needs of the study, anecdotal and other empirical evidence indicates that the "patients" were perceived as similar to actual patients. In addition, the paper-and-pencil patient managment problems were created by physicians to represent a variety of treatment options that are commonly employed with chronicly ill patients. Results indicating that eight of the nine treatment dimensions created from the patient management problems would be used differently for different diseases validate, in part, the representativeness of the treatment options. The important next step would be to assess physician behavior in the office to discover whether these treatment dimensions are utilized under the conditions described in the study.

Second, the social psychological relationship of the experimenter and the participants, specifically the demand characteristics (Orne, 1962) of the study, may have played a role in the results. Physicians were asked to view tapes of three dissimilar individuals and to indicate how they would treat a patient with the characteristics portrayed. This sequence of events possibly cued physicians to the experimenter's hypothesis that individual patients may be treated differently based upon characteristics portrayed in the tapes. Variations in subsequently reported care may have resulted from participants' desire to respond as they perceived the experimenter to wish them to respond. Again, fur-

ther investigation in naturalistic settings might provide answers to questions raised by the demand characteristic aspects of this study.

Third, specific characteristics of the tapes may have shifted the emphasis of results from real world occurences. For example, "patients" in each of the three videotapes discussed compliance with the pre-scribed regimen. Thus, issues revolving around adherence were salient as physicians completed the Patient Management Problems. Adherence issues were contained on the two patient education treatment scales.

Profile of a Return Visit

An important secondary finding of this study, available by examin-ation of the means of each of the nine treatment dimensions, is the emergence of a profile of a return visit to a primary care physician of a chronically ill patient with moderate symptomatology.

This profile provides information about the frequency of applica-tion of the nine treatment dimensions, to answer the question: In general, what treatments do primary care physicians use at a visit of a chronically ill patient? Several interesting findings emerge. For example, the most common treatment at this type of visit is education of the patient by the physicians themselves. With all the emphasis on patient education and its importance in ongoing care of the chronically ill, this finding suggests that physicians are oriented to giving pa-tients the education they need. On the other hand, one of the least frequently selected treatment options was the use of staff to educate the patients. This finding is surprising in view of the push toward use of physicians' assistants and nurse practitioners to augment physi-cian's care. Further study would be necessary to explore whether

these physicians simply did not have available staff to provide this care or whether physicians may be reluctant to relinquish an essential aspect of care to others.

The link between patient education and both patient knowledge and adherence is an interesting one. It has been reported that efforts at educating patients are often unsuccessful because the approach of the health care professional is inadequate (Ley & Spelman, 1965). These researchers demonstrate that the methods used to educate may not be at a level that patients can understand. They further demonstrate that, if patients do not have adequate knowledge regarding their disease or regimen, patients can not comply. The data in the present study is not sufficient to suggest whether the educational effort by physician or staff would be adequate to achieve the corresponding appropriate behavior by the patient.

Additional treatments that would occur at most return visits with a patient with moderate symptoms would be a physical examination and interview for psychological and other historical data. While history and physical as routine aspects of care provides no new or surprising data, the inclusion of the psychological and social aspects of history are revealing. Physicians may be acknowledging at most visits the psychological sequelae to chronic physical illness. This, too, is worthy of further investigation.

"Patients" in this study were encouraged to contact the office and to return in an average of two weeks. These results are also not surprising. However, close follow-up and a feeling that care will be available as needed are essential aspects of care of the chronically

ill; it appears that patients are given reason to feel secure regarding availability of services. These feelings can lead to improved outcomes (DiMatteo, 1979).

An additional feature of the average return visit is that new medication _might_ be prescribed. The "patients" in this study had only moderate symptomatology, and, therefore, their physiological condition might not have suggested the need for treatment by medication. However, this finding is of interest since physicians have been faulted for ending most visits by writing a prescription (Lee, 1980). It appears that, in this study, physicians evaluated the "patients" as in need of treatments other than medications.

The two least frequently selected treatment for this return visit were referral to a specialist and hospitalization. For the most part physicians reported that they would manage their patients themselves and have them remain as ambulatory patients. It is of interest to note that these physicians reported they might hospitalize a patient more often than they might refer. Since the symptomatology of the patients was moderate, we may wonder at the preference to hospitalize rather than consult. Are primary care physicians worried that they may "lose" a patient to another specialist? Why do they prefer to attempt to control their patients' symptoms by subjecting them to hospitalization rather than sending them to a colleague?

The profile developed from paper-and-pencil instrumentation presents a positive view of the doctor-patient visit. Interpersonal aspects of care, patient education, history and physical examination are emphasized; hospitalization, medication and referral are de-emphasized.

These findings correspond to the original concept of the primary care physicians' role, especially in the presence of patients with chronic disease. The next step in validating this profile would be to measure actual care. Several methods might be used to accomplish this: chart audit, direct observation or observation by videotape, and interviews with patients and physicians.

Specific Findings and Their Implications

Specific characteristics of the study may have influenced results suggesting a greater frequency of adding medications to the regimen of the L-C patient rather than the U-C or L-I patients. Of the three patients, the only one who admitted to being compliant with her current regimen was the L-C patient. Therefore, physicians more frequently reported that the L-C patient needed additional medications for control of her symptoms and also would comply. The symptomatology of the L-I and U-C patients, on the other hand, might be a result of these patients' non-compliance. Addition of medications to the regimen would lead to neither increased compliance nor reduction in symptoms. Thus, the findings that L-C patients are more likely to have medications increased than are the L-I or U-C patients probably is a result of the specific characterization in this study rather than the likeability or competence of the patient. Rather than concluding that likeable-competent patients receive more medications than other patients, we can infer that physicians, most appropriately, do not prescribe additional medications for patients who admit to being non-compliant. In addition, the unlikeable patient makes a series of statements that could be interpreted as anti-medication. She says "I want to work within my body,

to use my meditations and such," and "I think a lot of this (medication) business is monkey business". Again, appropriately, the physician does not add medication to the regimen of such a patient.

Four treatments other than Use of Medication varied from patient-to-patient depending upon their likeability and competence. First, concerning patient education, participants in this study reported that, if a patient is incompetent, the physician would spend more time with her (Patient Education by Physicians Themselves) than with a likeable-competent patient on patient education topics such as enforcement of diet and medication regimen. This finding suggests physicians' sensitivity to incompetent patients' obvious need for increased attention regarding their regimens. Reinforcement by repetition and simplification are often necessary to improve patient's knowledge regarding their disease and regiment. This increased knowledge results in improved compliance outcomes (Ley & Spelman, 1965).

Second, concerning Patient Education by Staff, physicians reported that likeable patients would receive more of this type of help than unlikeable patients. This finding was surprising since it was suspected that physicians might wish to avoid unlikeable patients and delegate this function to their staffs. Instead, it may be, for example, that physicians either attempt to protect their staffs from these patients or do not feel that staff members are competent at this task.

The third treatment difference is that physicians would discuss psychological and social history and feelings regarding disease with the unlikeable patient. This patient, more so than the other two, did demonstrate her anger, anxiety, distress and disappointment with her

disease, physician and medical care in general. Rather than avoiding this patient, by referral or use of staff, as hypothesized, physicians would discuss this woman's feelings and probe for their causes and sequelae. This physician behavior seems appropriate and might result in better communication, a better relationship, a more suitable regimen—one which the patient would follow—and improved patient outcomes.

Fourth, the likeable-competent patient was encouraged to contact the office more frequently than the incompetent or unlikeable patients. This finding, in contrast with the previous one, conforms with the author's hypothesis that physicians might wish to avoid contact with certain patients. An in-depth exploration of this finding might answer questions regarding whether physicians are aware of their efforts to avoid certain patients. How do physicians themselves feel about incompetence? Do they feel hopeless regarding their efforts to improve the patient's health when the patient herself is not helping? Would they like to feel more competent in working with these patients? If so, how might this be achieved?

It seems understandable that physicians might avoid an unlikeable individual. Yet do physicians feel guilt if they do not treat the unlikeable person equally? In one study, 80% of physicians stated they treated all patients alike, regardless of their characteristics (Davis, 1968). In this study they reveal that they do not treat all patients alike. Further research of this discrepancy might provide valuable information to assist physicians with their own coping.

In conformance with the results of the profile of care, findings from the testing of the hypothesis of this study suggest that primary

care physicians are attentive to patients' special needs for attention, follow-up education, and medications. As presented in their self-reported paper-and-pencil responses, physicians report that they would vary treatment depending upon the likeability and competence of the patient. As previously suggested, these results are worthy of validation by direct observation of the doctor-patient visit.

Summary

Physicians vary treatment of chronically ill patients based upon differences in their likeability and competence. These variations in care, for the most part, are appropriate alterations in attention to meet the needs of the patients. Patients appear to be receiving care that is sensitive to subtle variations among patients.

This study has provided a basis for further exploration of the important dynamics of the patient-provider relationship and its association with treatment decisions. Improved understanding of these complex relationships will lead to continued improvement in patient care and subsequent patient outcomes.

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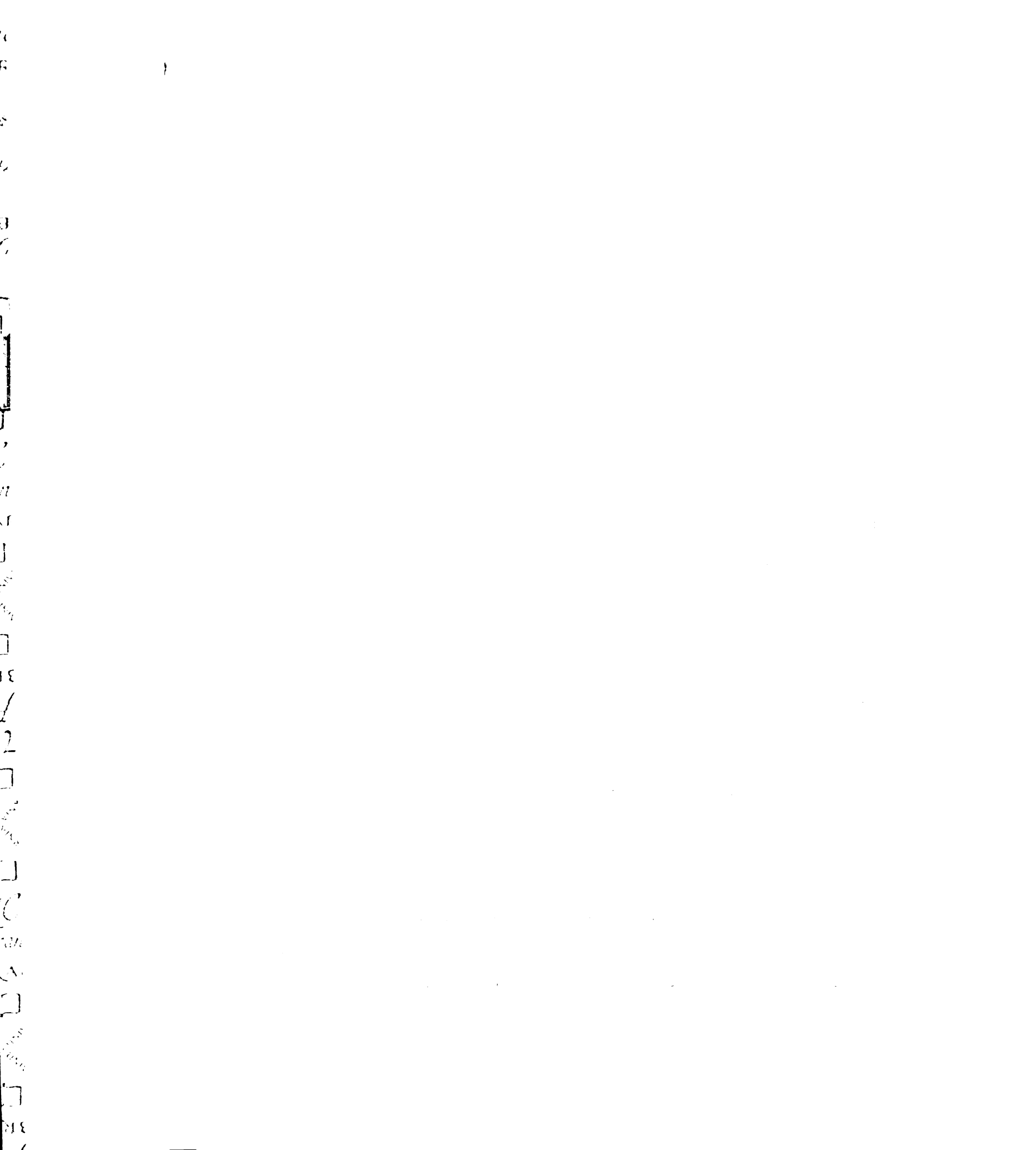
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APPENDIX A

DESCRIPTIONS OF ROLES PORTRAYED ON VIDEOTAPES

DESCRIPTION OF LIKEABLE-COMPETENT ROLE

good-natured
warm
pleasant
likeable
cheerful
optimistic
appreciative

intelligent
secure
copes well

understands therapy
rational
capable
likes's the M.D.'s supervision
follows instruction

middle class
articulate
concerned about care you are given
alert
family-oriented--mother, wife
working in an administrative/clerical job
economically self-sufficient

She has returned to the doctor today because her symptoms have been worse the past two weeks and she would like to alleviate these symptoms. In addition, she is more fatigued, slightly dizzy, and has some headaches--new symptoms since the last visit.

This woman is warm and good-natured and, in general, people like her. In her relationship with the doctor, she is appreciative and appears capable. She understands the treatments prescribed and follows the instructions.

DESCRIPTION OF UNLIKEABLE-COMPETENT ROLE

complains
irritating
hostile
cold
unpleasant
not likeable
headstrong
glum
bossy
pessimistic
overly talkative
morose
demanding

intelligent
secure
copes well

understands therapy
rational
capable
doesn't follow instructions
uncooperative

middle class
articulate
concerned about care given
alert
family-oriented—mother, wife
working in an administrative/clerical job
economically self-sufficient

She has returned to the doctor today because her symptoms have been worse the past two weeks and she would like to alleviate these symptoms. In addition, she is more fatigued, slightly dizzy, and has some headaches—new symptoms since the last visit.

This woman is intelligent and capable. However, some people describe her as hostile and headstrong. In her relationship with the doctor, she appears capable and understands the treatments suggested, but complains and is demanding, does not follow his instructions, and, therefore, seems uncooperative.

DESCRIPTION OF LIKEABLE-INCOMPETENT ROLE

good-natured
warm
pleasant
cheerful
optimistic
happy
appreciative
likeable

unintelligent
insecure
copes poorly
unstable

likes's the M.D.'s supervision
not conscientious
not completely capable nor rational
doesn't follow instructions
doesn't understand treatment

middle class
articulate
concerned about care given
alert
family-oriented--mother, wife
working in an administrative/clerical job
economically self-sufficient

She has returned to the doctor today because her symptoms have been worse the past two weeks and she would like to alleviate these symptoms. In addition, she is more fatigued, slightly dizzy, and has some headaches--new symptoms since the last visit.

This woman is not very intelligent, but is warm and good-natured. However, in her relationship with the doctor, she does not pay close attention to the instructions given to her, nor does she try to understand the treatment. Therefore, she does not follow the instructions competently and does not appear conscientious. People find her very likeable, however.

APPENDIX B

COMPARISONS OF PORTRAYALS ON CHARACTERISTICS

Comparison of 3 Portrayals

of 36 Characteristics for Actress 1

NAME	PVAL	FVAL	MEAN1	MEAN2	MEAN3
UNRESPONSIVE_TO_ME	0.00000000	60.760	16.2857	71.6667	47.4571
ARTICULATE	0.00000000	115.595	80.9286	72.6818	23.1714
CONSCIENTIOUS	0.00000000	87.130	82.0476	52.8636	22.0571
RATIONAL	0.00000000	69.701	79.8095	39.2727	34.5568
DOES_NOT_UNDERSTAND_TREATMENT	0.00000000	93.620	25.4146	65.5909	82.5143
LIKES_MY_SUPERVISION	0.00000000	60.426	75.9286	21.7727	66.4706
PLEASANT	0.00000000	86.451	82.6667	25.1364	63.8857
FOLLOWS_INSTRUCTIONS	0.00000000	135.204	84.1667	26.2727	18.8571
COPES_POORLY	0.00000000	60.731	23.6341	64.8182	69.1765
COLD	0.00000000	122.651	17.4634	77.4091	41.0857
GOOD_NATURED	0.00000000	165.491	79.5714	17.6818	67.0286
PASSIVE	0.00000000	79.611	38.5714	18.5000	77.2857
UNCOOPERATIVE	0.00000000	71.798	17.6429	71.4545	57.1714
CAPABLE	0.00000000	72.865	78.3571	62.7273	28.6286
INTELLIGENT	0.00000000	56.834	76.5476	70.1818	36.1143
HEADSTRONG	0.00000000	55.199	23.0476	80.6364	36.3824
ALERT	0.00000000	54.402	75.5000	68.3182	31.8286
APPRECIATIVE	0.00000000	53.110	69.0238	18.1818	44.7143
BOSSY	0.00000000	51.016	34.2195	80.1364	29.9143
UNDEMANDING	0.00000000	49.780	60.4286	12.0909	65.4571
SELF_SUFFICIENT	0.00000000	49.643	65.5000	67.0455	17.4000
DENIES	0.00000000	49.652	18.6585	47.5000	67.4706
HAPPY	0.00000000	49.051	69.0732	24.3636	39.6765
LOW_SELF_ESTEEM	0.00000000	45.571	29.1905	41.9545	71.7941
UNCONCERNED_ABOUT_CARE	0.00000000	44.565	15.7381	26.2273	57.5714
UNSTABLE	0.00000000	42.739	24.0476	50.7727	65.4857
POORWORKER	0.00000000	42.964	24.2683	33.6816	63.6364
TIMID_ABOUT_TREATMENT	0.00000000	42.238	34.0952	32.9091	68.8857
SOCIALLY_UNSKILLED	0.00000000	34.046	22.2195	36.0000	60.7941
INTEGRATED_INTO_SOCIETY	0.00000000	33.434	74.1220	32.6364	48.5588
INTROVERTED	0.00000000	28.071	21.8571	33.2727	52.4857
FAMILY_ORIENTED	0.00000000	24.001	68.6000	36.6818	52.3125
PROVINCIAL	0.00000001	23.444	27.0000	29.3636	57.5000
UPPER_CLASS	0.00000008	19.554	66.3333	64.1364	42.4286
POOR_LISTENER	0.00001364	12.618	34.7619	61.2727	64.2000
SPENDTHRIFT	0.00349850	6.018	51.2250	37.2273	51.6667

Comparison of 3 Portrayals

of 36 Characteristics for Actress 2

NAME	PVAL	FVAL	MEAN1	MEAN2	MEAN3
UNDEMANDING	0.000000	59.809	71.7000	14.4222	56.2955
BOSSY	0.000000	70.391	29.9000	81.4222	38.4545
GOOD_NATURED	0.000000	70.419	73.6000	18.4889	61.0222
PASSIVE	0.000000	157.186	54.2000	15.4444	72.8222
FOLLOWS_INSTRUCTIONS	0.000000	46.632	80.2000	34.7333	17.5778
PLEASANT	0.000000	41.083	77.7000	29.1111	65.2222
COLD	0.000000	40.256	27.4000	70.1778	39.7273
APPRECIATIVE	0.000000	39.717	72.9000	20.0222	42.6222
HEADSTRONG	0.000000	34.045	25.4000	80.7111	49.4667
ALERT	0.000000	32.666	68.3333	70.7333	39.8889
LIKES_MY_SUPERVISION	0.000000	27.976	76.0000	27.3778	53.1556
TIMID_ABOUT_TREATMENT	0.000000	27.533	40.6000	30.5333	65.2000
CONSCIENTIOUS	0.000000	24.103	77.2000	60.7556	31.7778
UNCONCERNED_ABOUT_CARE	0.000000	22.157	29.1000	23.9111	54.4000
ARTICULATE	0.000000	20.741	68.4000	72.3556	42.6000
SELF_SUFFICIENT	0.000000	20.314	40.7000	70.4000	36.7333
UNRESPONSIVE_TO_ME	0.000000	17.423	19.4000	67.3778	54.9333
HAPPY	0.000002	15.327	59.4000	22.2955	35.3182
LOW_SELF_ESTEEM	0.000007	13.574	38.1111	41.7727	65.1111
POORWORKER	0.000007	13.547	30.7000	37.4884	58.4651
DOES_NOT_UNDERSTAND_TREATMENT	0.000007	13.444	21.3000	63.0222	75.6667
UNCOOPERATIVE	0.000009	13.167	27.5556	67.4222	60.9333
UNSTABLE	0.000012	12.829	28.6000	59.2273	66.0667
INTELLIGENT	0.000012	12.735	70.8000	66.5333	50.1556
COPES_POORLY	0.000017	12.342	29.2000	65.8864	63.1818
CAPABLE	0.000032	11.544	71.2222	62.4667	44.8667
DENIES	0.000035	11.465	25.9000	48.4545	62.4773
INTROVERTED	0.000251	9.056	36.2222	32.5111	50.8864
POOR_LISTENER	0.000287	8.904	30.0000	54.5682	65.1818
INTEGRATED_INTO_SOCIETY	0.001693	6.840	71.2000	42.7727	47.1667
RATIONAL	0.019523	4.100	70.7000	53.1111	47.4667
SOCIALLY_UNSKILLED	0.022489	3.954	27.8000	37.2273	45.6429
PROVINCIAL	0.039422	3.346	37.5000	33.7045	46.2273
FAMILY_ORIENTED	0.047386	3.158	67.0000	48.5116	51.4872
UPPER_CLASS	0.115067	2.211	65.2000	59.4222	54.7333
SPENDTHRIFT	0.175253	1.775	47.3333	42.7955	50.1395

Comparison of 3 Portrayals

of 36 Characteristics for Actress 3

NAME	PVAL	FVAL	MEAN1	MEAN2	MEAN3
ARTICULATE	0.0000000	63.715	75.1667	80.9302	30.3684
FOLLOWS_INSTRUCTIONS	0.0000000	115.005	81.5741	35.2326	20.6316
HEADSTRONG	0.0000000	58.576	21.3704	69.0233	52.3684
APPRECIATIVE	0.0000000	63.348	68.6852	29.2791	50.6316
UNDEMANDING	0.0000000	59.076	59.1111	25.4762	73.1053
BOSSY	0.0000000	84.073	36.8704	74.7619	21.6316
GOOD_NATURED	0.0000000	76.604	75.8889	37.3571	68.3158
PASSIVE	0.0000000	77.834	47.3704	20.7381	83.0000
ALERT	0.0000000	89.638	75.6296	74.2381	27.5789
CAPABLE	0.0000000	56.948	74.0926	70.7317	28.6316
COLD	0.0000000	50.096	25.6481	62.8537	38.8947
UNCOOPERATIVE	0.0000000	46.030	21.0185	52.3095	57.2105
DOES_NOT_UNDERSTAND_TREATMENT	0.0000000	43.046	33.3333	52.0698	85.6316
TIMID_ABOUT_TREATMENT	0.0000000	41.201	34.8333	30.3810	77.2632
PLEASANT	0.0000000	39.570	80.5556	49.5116	68.5789
CONSCIENTIOUS	0.0000000	39.648	79.0755	57.4186	32.8947
DENIES	0.0000000	36.540	25.5849	42.1463	69.6842
INTELLIGENT	0.0000000	35.894	74.3889	69.0698	36.7368
COPES_POORLY	0.0000000	34.421	30.5660	50.4286	73.7895
LOW_SELF_ESTEEM	0.0000000	34.223	33.2407	36.7143	73.2632
HAPPY	0.0000000	33.153	64.6604	34.0714	33.8947
SOCIALLY_UNSKILLED	0.0000000	32.315	28.6111	34.9762	69.2632
LIKES_MY_SUPERVISION	0.0000000	31.848	77.0741	48.6279	64.2632
SELF_SUFFICIENT	0.0000000	29.192	54.9815	71.8372	19.9474
POOR_LISTENER	0.0000000	28.962	29.3889	38.5476	72.3158
RATIONAL	0.0000000	24.936	77.0556	66.8140	41.9474
UNSTABLE	0.0000000	23.560	29.3148	36.2619	64.2105
INTROVERTED	0.0000000	21.238	35.9444	41.5122	71.4737
UPPER_CLASS	0.0000001	18.158	64.7593	62.0952	38.8947
PROVINCIAL	0.0000002	18.053	37.5094	42.5238	71.3684
POORWORKER	0.0000002	17.737	27.6226	32.7442	56.6842
INTEGRATED_INTO_SOCIETY	0.0000007	16.147	67.3019	45.7805	44.7368
UNRESPONSIVE_TO_ME	0.0000019	14.859	21.8148	42.9302	41.5789
UNCONCERNED_ABOUT_CARE	0.0001697	9.391	18.5741	29.5814	41.7222
FAMILY_ORIENTED	0.0003247	8.661	66.7115	52.7000	66.5789
SPENDTHRIFT	0.0109771	4.702	45.5472	33.9512	41.4737

APPENDIX C

PSYCHOLOGICAL ATTRIBUTIONS OBTAINED

FROM MODIFIED INQUIRY TECHNIQUE

PSYCHOLOGICAL ATTRIBUTIONS OBTAINED FROM MODIFIED INQUIRY TECHNIQUE

Examples from Categories

Patient as historian

She's always difficult to get to describe and elaborate her symptoms, requires a lot of prompting.

Some people are very good and they can schpiel off .

People are not observant.

Very passive, very difficult to get information from, could be better historian.

Difficult to get them on to whatever you want to talk about.

Patient as Complier or Adherer

She'll hardly even talk then because of the embarrassment that she's been bad.

Most people aren't that fussy about having it done. The majority of people will submit to exam as part of the deal. Some people put on a defensive mask, wisecracking, and this is what she does (re blood-drawing at each visit).

The reality of her getting lighter (losing weight) is approaching zero. (Decision making - don't even talk about it.)

Doctors need to develop follow-up plan. Patients don't always keep it. Send reminder cards.

The longer people go without reinforcement, the less they think there's a problem.

There is backsliding at times.

He knows what he should take, but he's not sure what they are.

.....He does take what's prescribed.

Flabbergasted that people pay money to see the doctor, pay for the drugs, pay for the tests, then within a few weeks stop the medications.

Diet Modification is a tremendous imposition.

Though you may be able to generate enthusiasm for that, the amount of effort to maintain that enthusiasm over any period of time is inordinate.

It's hard enough to get people to do simple, straight-forward things like take the medication.

If I can get them to identify the heart medicine and describe it physically, that's about as far asd you can get.

They don't like to follow treatment plans if they don't feel sick so the selling job often with chronic illness is that you'll do better over the long run. One of the most unattractive processes people do—find it really hard to connect in emotionally with the long run. But frequently this is basically what we're trying to sell.

Many people want to believe that they will be well and don't need medication. But every patient's difficult. That's the problem.

Patient as Receiver of Information

She understood pretty clearly what I was saying.

I usually write out the list (of medications) and ask the patient to bring back the list, try to get them to recite the name of the medication.

If you don't give clear instructions to people they won't remember.

The amount of information which had to be given to that lady was huge. You can't be comprehensive.

Because he's a little passive and doesn't say too much, I need to explain clearly.

General

....has a lot of problems, emotional problems which probably contribute to his asthma and his asthma contributed to them. He's unhappy, feels like a failure. He's a nice guy, smart enough. There's no reason why he shouldn't do okay. He's lonely (decision-making). I try to be fairly encouraging to....

It's (medications) costly.

It's human nature. People in general don't care to come to the doctor, the majority of people. They don't like to take medicine if they don't feel sick.

He was really upset they didn't _do_ something for him.

If he needs a refill, he doesn't want to come down here; costs a lot more to come down here.

He looks emaciated.

He's sort of going that downhill route of weight loss, more shortness of breath, Prednisone not really helping maybe, even getting side effects from it.

He could be a lot more aggressive in dealing with his problem and look for jobs. He doesn't try very hard. My main responsibility is to let him know if he's disabled or not, and he's not at this point, so I thought, well, shit, let's go!

She was asking not only for a Vitamin B12 shot but wanted to talk about it (lack of energy).

I was more concerned with his getting a job and getting back on his feet economically. Would also help his self-esteem.

She may want a little sympathy from me. I basically give her encouragement rather than sympathy (decision-making) - live within her limits.

She gets a lot out of seeing me separate from whatrever I do for her.

Normal for her to be not having enough energy.

It's weird that she doesn't care about money. This new preparation is many times cheaper but convenience was more important to her than cost (decision-making).

She gets so uptight about the test. I'm almost afraid to do it on her anymore (decision-making).

There were a lot of times when one of us wasn't listening.

APPENDIX D

PSYCHOLOGICAL ATTRIBUTIONS OBTAINED

FROM KELLY REPERTORY TEST

PSYCHOLOGICAL ATTRIBUTIONS OBTAINED FROM KELLY REPERTORY TEST

Physician 1

irritating (bugs me, calls all
    the time)
not happy about lives
tgerrible poor
black
sophomoric
emotionally very disturbed
forty years old
from Bolivia
obese
lots of skills
oppressed as a woman
pretty bright
lower class
fairly well-off
very smart
brains in the family
loner
dependent
not resourceful in terms of hand-
    ling difficulties of the world
complaining
never satisfied
pretty appropriate
grateful
bossy

Physician 2

excited
flustered
calm, even during crisis
wants action, drugs
hyperexcitable
compliant
absolutely non-compliant
volatile, boils up
personable
listens to me
appreciates my care
very pleasant
more difficult
socially integrated
anti-social
can't cope
sees a couple of people (friends)
not cosmopolitan
you'd think she'd be "hicky"
self-sufficient

wife is total support system
no other friends
outgoing in community
lives in_____(city)
socialized
takes care of daughter
depends on daughter
not integrated
friends similar to self
never a friendly interchange
hard gat attitude
treated friend badly
emotional problems borders on ad-
    justment reaction or patholo-
    gical diagnosis
not responsive to treatment
angry and hostile to me
pathological
well-compensated

Physician 3

warm
friendly
bitchy
bright
insecure
kind, generous
I like
I trust
I feel comfortable with
white
like me
intelligent
bit manipulative
insecure about problems
frightened
religious
no income
money problems
particularly cooperative
demanding
makes me uncomfortable

Physician 4

difficulties in maintaining contact
very conscientious
compulsive
comes on time
follows directions

watches diet
watches blood pressure, cholesterol
young
uncomfortable with hospital
denies
finds it difficult to maintain emotional
    response to an abstract idea
emotional
anxious about health
older
active
sunny disposition
married to ill man
husband distrusts medical establishment
female
overweight
lower-middle-class black
raises kids alone
struggle to keep it together
single parent
attractive, young
likes to play
not keeping eye on future
typical middle-class white
educated
very intelligent
artriculate
not religious
bound to home
connected to family
stable
carefree
compulsive

APPENDIX E

FREQUENCY OF SELECTION OF ITEMS FROM

ADJECTIVE CHECK LIST

FREQUENCY OF SELECTION OF ITEMS FROM ADJECTIVE CHECK LIST

Adjectives	Tally	Adjectives	Tally
Absent-minded	2	Cowardly	0
Active	5	Cruel	0
Adaptable	3	Curious	1
Adventurous	2	Cynical	0
Affected	2	Daring	1
Affectionate	0	Deceitful	0
Aggressive	3	Defensive	1
Alert	4	Deliberate	0
Aloof	1	Demanding	3
Ambitious	0	Dependable	3
Anxious	4	Dependent	4
Apathetic	1	Despondent	0
Appreciative	6	Determined	2
Argumentative	1	Dignified	0
Arrogant	0	Discreet	0
Artistic	0	Disorderly	0
Assertive	4	Dissatisfied	3
Attractive	4	Distractable	0
Autocratic	0	Distrustful	1
Awkward	0	Dominant	0
Bitter	1	Dreamy	0
Blustery	2	Dull	0
Boastful	0	Easy-going	1
Bossy	0	Effeminate	0
Calm	0	Efficient	1
Capable	5	Egotistical	0
Careless	1	Emotional	1
Cautious	1	Energetic	5
Changeable	0	Enterprising	1
Charming	3	Enthusiastic	3
Cheerful	6	Evasive	0
Civilized	1	Excitable	1
Clear-thinking	3	Fair-minded	1
Coarse	0	Fearful	1
Clever	2	Fault-finding	0
Cold	0	Feminine	1
Commonplace	0	Fickle	0
Complaining	1	Flirtatious	0
Complicated	2	Foolish	1
Conceited	1	Forceful	0
Confident	3	Foresighted	0
Confused	0	Forgetful	1
Conscientious	2	Forgiving	1
Conservative	2	Formal	0
Considerate	5	Frank	3
Contented	1	Friendly	8
Conventional	1	Frivolous	1
Cool	0	Fussy	1
Cooperative	4	Generous	3
Courageous	2	Gentle	2

Adjectives	Tally	Adjectives	Tally
Gloomy	0	Mild	1
Good-looking	1	Mischievous	0
Good-natured	4	Moderate	1
Greedy	0	Modest	1
Handsome	0	Moody	0
Hard-headed	1	Nagging	0
Hard-hearted	0	Natural	1
Hasty	0	Nervous	1
Headstrong	4	Noisy	0
Healthy	0	Obliging	1
Helpful	1	Obnoxious	1
High-strung	3	Opinionated	1
Honest	6	Opportunistic	0
Hostile	1	Optimistic	3
Humorous	3	Organized	1
Hurried	1	Original	2
Idealistic	0	Outgoing	6
Imaginative	0	Outspoken	1
Immature	1	Painstaking	0
Impatient	3	Patient	0
Impulsive	3	Peaceable	1
Independent	3	Peculiar	0
Indifferent	0	Persevering	1
Individualistic	2	Persistent	2
Industrious	2	Pessimistic	2
Infantile	2	Planful	0
Informal	2	Pleasant	4
Ingenious	0	Pleasure-seeking	3
Inhibited	0	Poised	1
Initiative	1	Polished	0
Insightful	0	Practical	2
Intelligent	1	Praising	1
Interests narrow	1	Precise	0
Interests wide	2	Prejudiced	1
Intolerant	0	Preoccupied	1
Inventive	1	Progressive	1
Irresponsible	2	Prudish	0
Irritable	0	Quarrelsome	0
Jolly	3	Queer	0
Kind	3	Quick	1
Lazy	0	Quiet	0
Leisurely	0	Quitting	0
Logical	1	Rational	0
Loud	3	Rattlebrained	0
Loyal	3	Realistic	2
Mannerly	0	Reasonable	1
Masculine	2	Rebellious	0
Mature	1	Reckless	0
Meek	0	Reflective	0
Methodical	0	Relaxed	0
		Reliable	2
		Resentful	0

Adjectives	Tally	Adjectives	Tally
Reserved	0	Sulky	0
Resourceful	2	Superstitious	0
Responsible	3	Suspicious	2
Restless	1	Sympathetic	1
Retiring	0	Tactful	1
Rigid	0	Tactless	0
Robust	0	Talkative	5
Rude	0	Temperamental	0
Sarcastic	0	Tense	1
Self-centered	1	Thankless	1
Self-confident	2	Thorough	0
Self-controlled	0	Thoughtful	1
Self-denying	0	Thrifty	0
Self-pitying	2	Timid	0
Self-punishing	0	Tolerant	2
Self-seeking	0	Touchy	0
Selfish	1	Tough	2
Sensitive	0	Trusting	3
Sentimental	0	Unaffected	1
Serious	0	Unambitious	0
Severe	0	Unassuming	0
Sexy	1	Unconventional	0
Shallow	1	Undependable	1
Sharp-witted	2	Understanding	0
Shiftless	0	Unemotional	0
Show-off	1	Unexcitable	0
Shrewd	2	Unfriendly	1
Shy	0	Uninhibited	0
Silent	0	Unintelligent	0
Simple	1	Unkind	0
Sincere	2	Unrealistic	0
Slipshod	0	Unscrupulous	0
Slow	1	Unselfish	0
Sly	0	Unstable	0
Smug	0	Vindictive	0
Snobbish	0	Versatile	1
Sociable	2	Warm	3
Soft-hearted	2	Wary	0
Sophisticated	1	Weak	0
Spendthrift	0	Whiny	0
Spineless	0	Wholesome	0
Spontaneous	3	Wise	0
Spunky	3	Withdrawn	0
Stable	0	Witty	1
Steady	1	Worrying	3
Stern	1	Zany	0
Stingy	0		
Stolid	0		
Strong	2		
Stubborn	3		
Submissive	0		
Suggestible	0		

APPENDIX F

RATINGS OF IMPORTANCE OF 36 ATTRIBUTION PAIRS

RATINGS OF IMPORTANCE OF 36 ATTRIBUTION-PAIRS

Item	Rater Number											
	1	2	3	4	5	6	7	8	9	10	11	12
intelligent-unintelligent	5	9	9	9	8	8	5	6	5	9	8	10
lower class-upper class	3	5	5	5	1	3	5	3	5	6	3	3
articulate-inarticulate	3	9	8	7	6	2	1	6	7	6	5	1
follows instructions-doesn't follow instructions	10	10	9	10	10	7	10	8	8	9	9	10
high self esteem-low self esteem	6	8	8	3	1	2	1	6	5	5	4	1
integrated into society-loner	5	10	3	2	1	1	1	7	5	3	7	4
talkative-quiet	0	4	3	1	1	1	1	4	5	4	2	1
cooperative-uncooperative	10	9	10	9	7	8	5	7	9	7	8	10
secure-insecure	5	8	3	2	1	2	1	3	5	4	3	2
cosmopolitan-provincial	0	4	1	1	1	1	1	1	5	6	2	1
listens well-poor listener	7	5	8	10	7	3	1	3	9	7	5	3
copes well-copes poorly	8	8	6	7	1	4	5	4	5	7	4	5
happy-unhappy	3	3	7	2	1	3	1	5	5	4	4	5
good worker-poor worker	-	1	7	7	1	1	1	4	6	3	2	3
assertive-passive	5	8	6	0	1	3	1	6	5	3	3	5
concerned about care-unconcerned	2	7	6	0	5	3	1	3	6	3	4	5
emotional-unemotional	2	7	6	0	5	3	1	3	6	3	4	5
stable-unstable	9	9	9	10	5	4	1	3	5	4	5	8
demanding-undemanding	7	8	6	5	5	4	1	7	7	4	6	8
understands therapy-doesn't understand therapy	10	10	10	8	9	5	3	8	3	7	8	10

Item

Rater Number

Item	1	2	3	4	5	6	7	8	9	10	11	12
pleasant-unpleasant	4	6	3	7	5	4	1	4	7	4	3	1
energetic-lethargic	6	6	7	5	1	2	1	4	5	5	4	6
likeable-not likeable	2	8	3	7	2	3	1	4	7	4	3	1
headstrong-compliant	9	8	7	8	3	2	1	6	4	5	6	9
cheerful-glum	6	5	3	6	1	3	1	3	6	2	3	3
carefree-worried	8	5	5	5	1	5	1	3	5	2	4	7
outgoing-introverted	8	5	0	5	1	2	1	3	5	2	3	2
family-oriented-not family-oriented	0	3	2	3	1	3	1	3	5	5	2	3
bossy-not bossy	0	4	2	4	1	2	1	3	4	4	2	1
lonely-not lonely	3	8	4	8	1	2	1	3	5	3	3	1
optimistic-pessimistic	3	8	7	8	1	3	1	3	6	3	2	4
conscientious-not conscientious	6	10	10	10	6	3	1	5	6	6	3	10
considerate-inconsiderate	3	4	1	4	1	3	1	3	7	3	3	1
religious-not religious	0	-	1	-	1	1	1	1	5	1	2	1
appreciative-unappreciative	3	7	5	7	1	3	1	3	7	3	3	2
volatile-steady	7	10	7	10	5	3	1	3	3	4	4	7
wants vigorous therapy-timid about therapy	5	10	7	10	5	7	1	8	5	8	6	8
enthusiastic-unenthusiastic	3	5	7	5	2	4	1	3	6	3	4	3
socially skilled-socially unskilled	2	2	6	2	1	2	1	3	5	2	5	1
dependent-independent	0	8	8	8	1	3	1	4	5	3	4	8

Item

Rater Number

Item	1	2	3	4	5	6	7	8	9	10	11	12
rational-irrational	8	10	9	10	8	5	1	6	8	7	6	10
capable-not capable	10	7	7	5	8	4	1	4	9	3	4	8
wants sympathy-doesn't express need for sympathy	3	6	6	2	2	2	1	3	3	3	4	3
denies-aware	10	10	5	8	5	4	1	4	7	6	6	2
self-sufficient-dependent	10	10	5	8	3	2	1	3	3	4	5	6
irritating-easy to be with	4	7	7	7	6	3	1	5	5	3	4	2
likes my supervision-doesn't like my supervision	10	10	10	8	5	3	3	8	3	4	2	8
defensive-open	8	5	5	8	3	2	1	3	5	4	4	5
frugal-spendthrift	9	2	0	0	1	3	1	1	3	3	2	1
hostile-good-natured	10	5	5	8	3	4	3	5	3	7	3	6
responsive to me-unresponsive to me	5	10	6	8	8	4	5	4	3	6	4	7
anxious-calm	10	7	5	5	3	3	1	4	4	4	5	8
poor-wealthy	10	5	3	4	1	3	1	1	5	2	3	5
social-anti-social	5	5	8	6	1	2	1	4	7	2	3	1
feelings of failure-feelings of success	-	7	5	5	1	1	1	3	5	3	5	1
economically self-sufficient-economically dependent	10	5	2	4	5	1	1	2	5	2	2	10
warm-cold	6	5	1	6	1	2	1	4	5	3	4	1
emotionally disturbed-emotionally stable	10	8	10	8	6	3	1	3	3	6	3	10
active-inactive	-	5	8	5	1	3	1	3	5	3	3	5
nice-nasty	4	5	3	9	7	4	1	4	7	4	3	1
alert-not alert	10	8	7	7	5	3	1	3	5	3	5	6

APPENDIX G

TRANSCRIPT OF DR. GULLION'S PRESENTATION
AT PRIMARY CARE SEMINAR, 1/25/82

Transcript of

Dr. Gullion's presentation at

Primary Care Seminar, 1/25

This is a special workshop that is part of Extended Programs in Medical Education's activities and projects. We're trying to look at other aspects of continuing education, how physicians practice, and what the management is. What we're going to do is use simulated patients on videotape that have three different diagnoses. We're going to try to relate these to actual patient management.

So I'd like to go through the process so you'll understand the process and work through it.

This is not a test, and I want to make that very clear because it's going to look like a test on patient management problems. But each of the responses are within an appropriate range which you may or may not do in your practice.

The first thing we'll do is view a videotape. This takes about three minutes. They're not too laborious, and you should pick up on the things we want in the three minutes.

The patient, as I mentioned, has the disease I tell you. That is given. We don't have to try to diagnose these patients. They don't look like they have diabetes or

hypertension -- they're patients with a variety of symptoms who are on a variety of medication, which is relatively symptomatic treatment, some specific for the disease, and that becomes clearer later.

At the top of the sheet of paper that we give you, we want you to list the major problem. How do you view this patient in terms of problem? The first one I'll give you is dia-betes, or whatever the disease is, and then there'll be some other problems that you'll notice in the videotape.

I want you to complete a patient management problem, which many of you are familiar with from taking certification and re-certification. It's where you work through a little vig-nette, and pick out the things that you want to do with the patients. We've changed this to give you five different choices within each option. You probably would do it, you probably wouldn't do it, you might do it, and there's a range -- definitely would, probably would, might, probably wouldn't, definitely would not. And that will become clear when I give you the papers. Again, it's not a test, and there's a variety of responses, and it's what you do in your office, with your practice, if you had this patient. It's not textbook care -- whatever you do. Your office staff, your office situation, your type of practice are all influential on how you practice medicine.

Then, the second major part of each videotape in the vignette is an attribution survey. I didn't know what an attribution was either -- that's a personality trait basically -- if we look at a person, and he looks hostile, and we label that person "you're hostile," we're giving them an attribution. So on a list of various personality traits, we're going to want you to judge, is the patient compliant or non-compliant, hostile, or not hostile?

Now, that's the process. Any questions?

Yes, if anyone was here yesterday, it's a different sequence of videotapes, but the same process.

What we're going to do is watch the first videotape and then pass the materials, only because it is a temptation to read what's in front of you rather than watching the videotape, so it's only a logistic thing that we're keeping it from you for three minutes. We'll give you the packet and then we'll go through it. And there are seats in the front -- anyone who wants a better view of the videotapes can come on to the front, and Bob, if you'd maybe douse at least half the lights back there.

Okay -- what this patient has is hypertension, and we're going to pass out the patient management problems now. She's 39 years old; she's been under your care for 6 weeks; she's on mild sedatives, symptomatic treatment, and she is on a low-salt diet.

The blood pressure is on the list here. Before we get into the details, would you just list at the top of this page -- and there'll be some more coming around -- just what you think the principal problems of the patient are, and possibly how you would generally proceed with treatment. You can raise your hands for more.... Does everyone have a packet?

Okay, I'll give you about a minute to jot down the problems and how you would generally start to proceed with treatment.

Okay, the patient management problems which follow will allow you to use five different possible actions. First, as you notice, is "definitely would do this"; the next is "probably would do this," "might do this," "probably would not do this," and the fifth, way over at the side, is "definitely would not do this." (Reads the problem, and points out the different possibilities.) I'd like you to remember the woman's portrayal on the tape. Again, this is not a test. It's not textbook -- none of these things are particularly esoteric -- they're sort of what you would do when you first encounter such a patient. So think of this woman in this setting across the desk from you, and just proceed as quickly as you can with your first thoughts. Don't try to analyze it. As we all know, whenever you go back over a test and change your answers, they're always wrong anyway. Whatever you wanted to do initially is probably what you would do.

Most of you I see are flipping to the second page. As you see there, it just goes on with more of the patient management problems. She comes back, and says she (Reads problem) and then what would you do? And then the third part is .... what are these three things that you would do with the probabilities I mentioned. And then the rest of it is generally open-ended questions. (Goes briefly over them.)

I'm going to keep going on. Don't feel rushed if you haven't finished the PMP part. Just keep going. The next part is the attributions. The line which is drawn across the page is to represent form one side on the left of one characteristic to the other side on the right in a continuum. So it's the patient's continuum. So if the patient appeared to be carefree put it right over that area at carefree. If you thought that she was more worried and not carefree, you'd put it on the right-hand side. If you felt that she was relatively carefree, where it's indicated on this, and not on the worried side, you might put it a third or a quarter of the way across that continuum.

So I'll let you just continue on through the pages at your own speed.

On the attributions scale, this obviously is your perception of this woman on this videotape -- there's no right and wrong answers. Everybody individually perceives different ways, so, just as an indication of that.

Looks like most people are just about done.   Do people need

one more minute?

Just keep working. I'm going to introduce the next one to

keep things moving along so you have time for lunch. The

next is another videotape of a simulated patient with dia-

betes.   Rather than getting yourself caught up in trying to

read, can I ask everybody to just take your papers and turn

them upside down.   It's like a test, but it's not a test.

That's just to keep your focus on the tapes and not to read

through the management as you go. There's no need to do

that.

So, we'll start with the next videotape.   The   patient has

diabetes; she's 42 years old; she's been under your care for

6 weeks, and she's on diet and oral agents.

Okay -- fairly similar vignette, but a different disease at

this point, different patient, different characteristics.

If you'd write at the top of the page the problems that you

see in this patient. The major problem is diabetes, which

here is a given. If you'd briefly state the principal prob-

lems and how you would generally proceed. And then, because

you've done it before, I don't have to give you all the

instructions.   You just go through the patient management

problems again. There are no right or wrong answers -- it's

just what you would do in your practice and the probability

of whether you would do it or definitely not do it in the

continuum of the probabilities there.

As you finish up the patient management problems, mention any relevant areas we haven't asked about and any comments on the questions. And then the attributions' survey is similar to the first attributions' survey, and we'd like you to fill it out in the same way along the continuum with an "x" -- with this patient that you just saw, what are her personality traits that you observed, or characteristics.

(Answering question) -- just as you saw her. In other words, like "doesn't follow instructions" and "follows instructions" does not imply down the line in patient management -- just what you saw and what she said to you on the tape.

I notice that some of you are finished. There are a couple people who need another minute, so we'll just delay for a second here.

Okay, so that you don't get too hypoglycemic, we'll move right along, and get the lunches here for you.

This patient has asthma; she's 40 years old; she's been under your care for 3 months; she's on an inhaler, and you've tried to eliminate some allergens. Like the other patients, she's on a couple medications that don't relate to her asthma and so, when you view this, she is on a couple of medicines, but primarily the inhaler and the elimination of

allergens for the asthma. Again, will you turn your papers upside down or at least not look at them while we play the videotape.

(audience laughed)

Based on this visit, this videotape and this patient, what are the problems you perceive? How would you begin to treat them?

The 40 year old women just observed has a history of episodic asthma, and has been relatively free of symptoms until the past three or four weeks. In addition to an increasing number of wheezing episodes, she has the complaints of her current symptoms. You would in your practice with this patient .... and you can work through this -- I will tell you when you get to it, on "F" it says "another blood pressure check" -- that should be another "office visit."

And I don't want to break your train of thought, but as you get to the next page, and it says "add steroids," there's no numbers corresponding to that line -- a typo, also, so you can either write in 5 numbers and circle them, or you can use the boxes above and use the "def., probable" boxes, whichever is most convenient. Just realize that there's no numbers in that first IIa.

Some of you are getting close to getting finished, so, if you would like the data from this workshop, if you'd put your name and address, we'll send it to you. We don't need your name, but if you'd like the data as feedback as to what the group did, we'll be glad to do that.

We'd like also on that second page of the last patient management problems, the page before the last page, there's some questions about the date of graduation, and also, if you would put your degree, whether you're an M.D., R.N., N.P.P.A., whatever degree you practice under, and if you have a specialty -- IM, FP, if you're certified or board eligible in a specialty, there's not a place for that, but just put it down there. And I believe it asks for your gender. And last instructions down there somewhere, if you did not have a green dot, in other words, if you're a blue dot or a no dot or some other reason that you're here today rather than other days, just put down that you had an orange dot or no dot or whatever. WE just need to keep the randomization.

Then as you finish, feel free to come on up and turn in your packet, pick up a lunch. There's a couple different options -- "H" I think means ham, "T" -- turkey, "B" means brown bread.
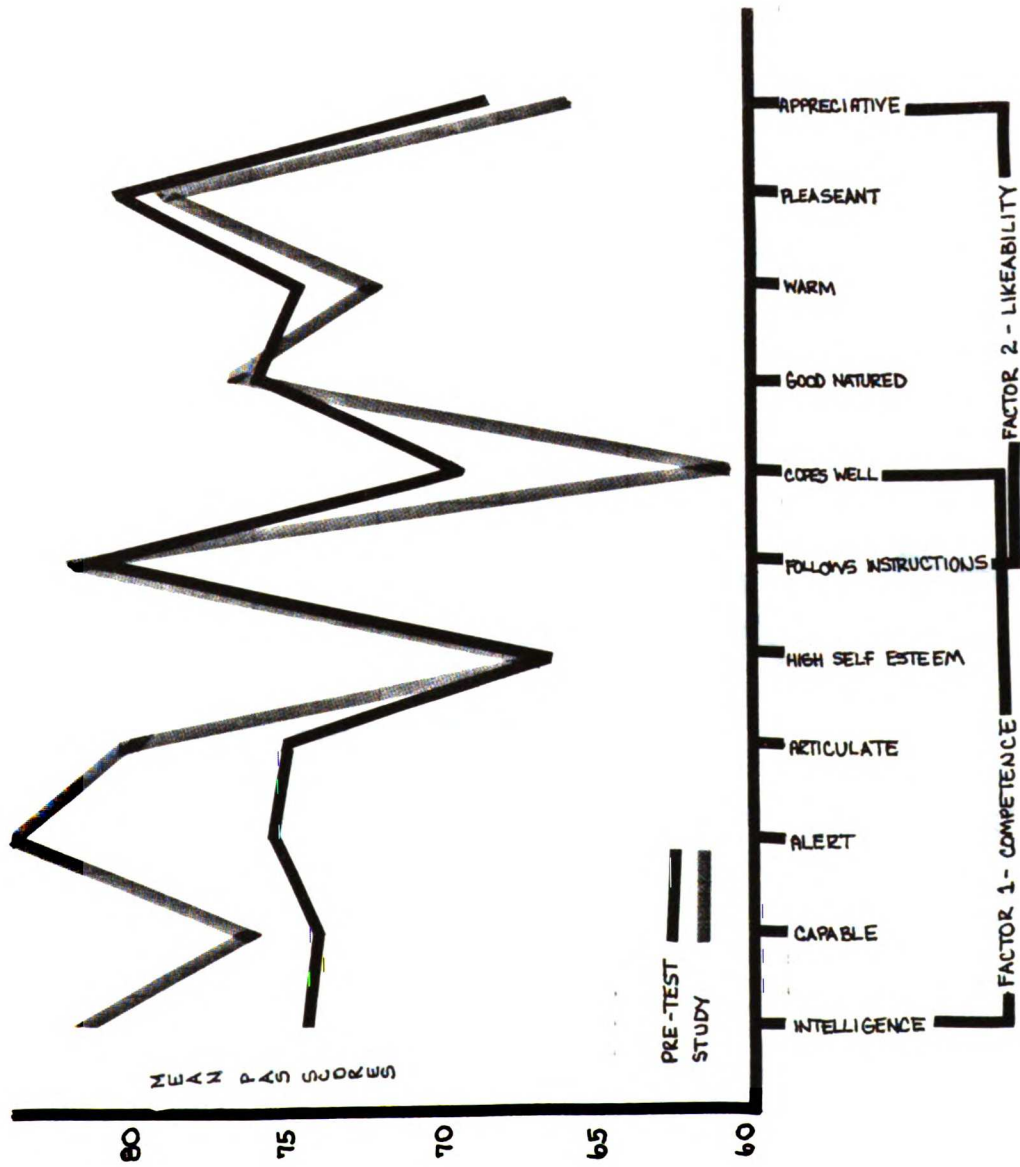
The names can be on the top or on that page with your date of graduation. The rest of you take your time; feel free.

You still have about 15 or so minutes. I appreciate your involvement in this. The lunch does not compensate your time, but it's a token of our appreciation, and allows a convenient way for us to have you participate in the workshop and not have to eat.
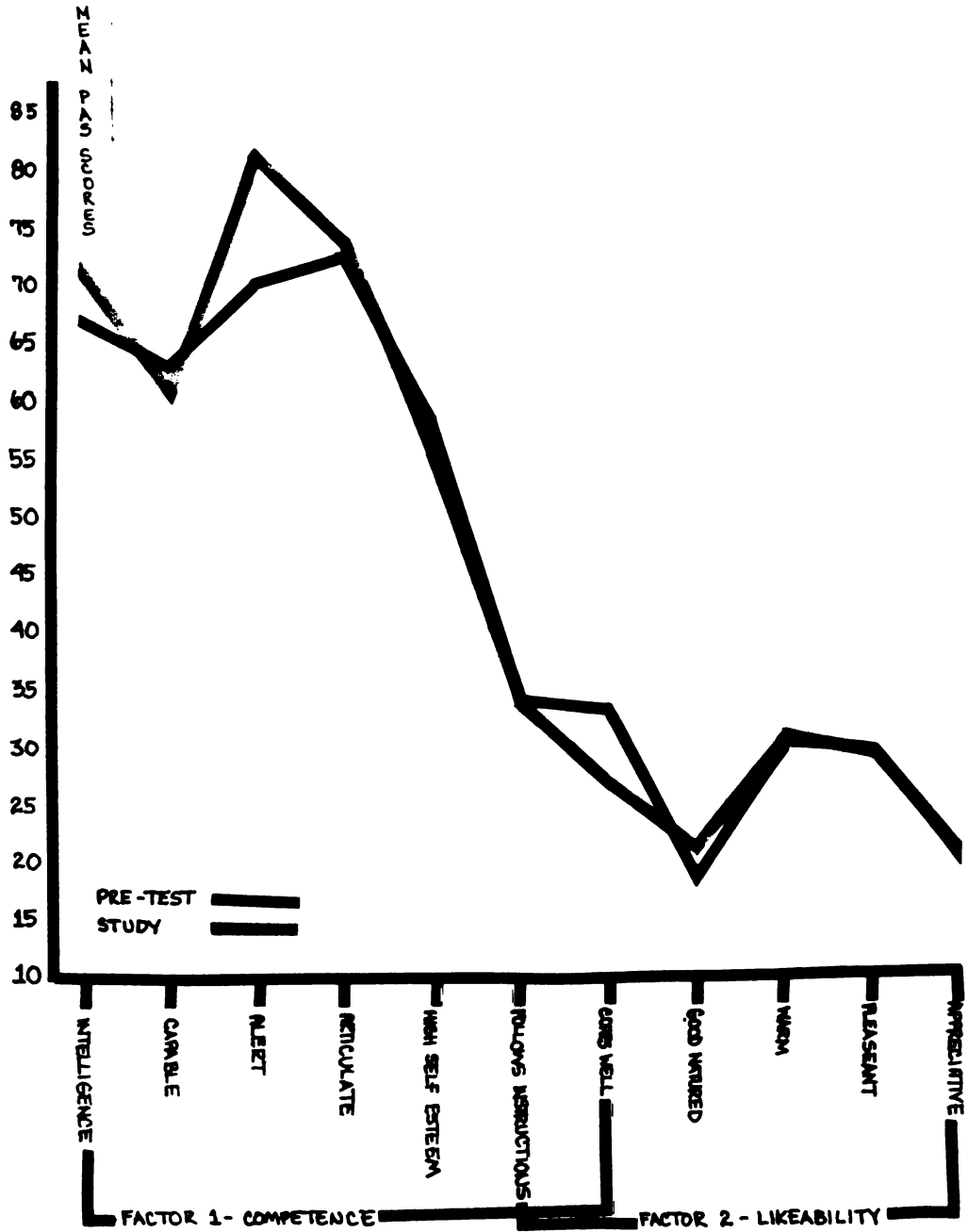
APPENDIX H
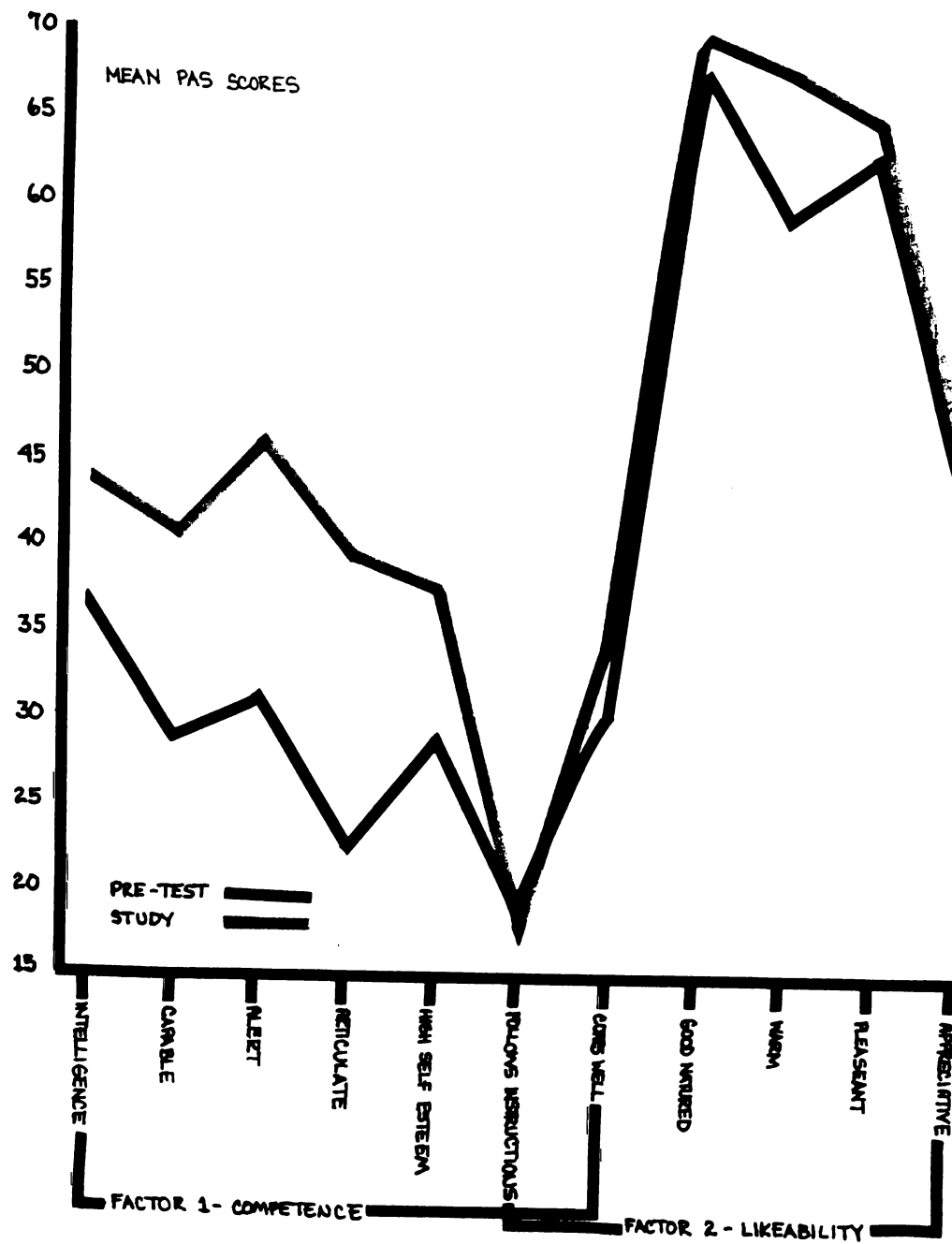
PROFILES OF PORTRAYALS,

PRE-TEST AND EXPERIMENTAL
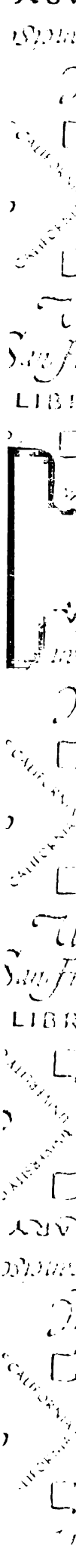
Profile of a Likeable–Competent Patient
Pre-test and Experimental Data

Profile of an Unlikeable-Competent Patient

Pre-test and Experimental Data

Profile of a Likeable-Incompetent Patient
Pre-test and Experimental Data