MIRANSKY, LIBBY JEREMY

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by

LIBBY JEREMY MIRANSKY

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Executive Officer

Professor Ellen Langer

Professor Morton Bard

Professor David Glass

Supervisory Committee

The City University of New York

Abstract

EXERCISING AND RELINQUISHING CONTROL:

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by

Libby Jeremy Miransky

Advisor: Professor Ellen Langer

The research reported here investigated some conditions under which people would prefer to relinquish rather than to exercise control. The medical setting was chosen for the study of these conditions because both relinquishing control and exerting control in the form of noncompliance take place regularly in this environment. Two dichotomized variables (1) Severity of disease, and (2) Degree of stabilization of disease were chosen for study in addition to a third independent variable, Instructions, which encouraged subjects either to participate in their own care by obtaining information (responsibility condition) or to strictly follow the doctors' orders (obedience condition). Thus, the experimental design was a 2 x 2 x 2 factorial with the following levels of each factor:

(1) Severity of Disease: severe versus mild

(2) Degree of Stabilization of Disease: unstabilized versus stabilized

(3) Instructions: responsibility versus obedience.

It was assumed that individuals, in situations important to

them, would prefer to relinquish control when they would feel responsible for potential failure. However, because it was unclear under what circumstances failure would be most salient to patients, two possibilities were considered. The first was that patients with severe unstablized illnesses would prefer the obedience instructions because they would not want to take responsibility for an important (severe) negative (unstabilized) situation by asking questions and participating in their own care. Severe stabilized patients would prefer to exert control because their (important) situation was relatively benign.

On the other hand, the negative situation of the severe unstabilized patients is not due to their own failure, but can be attributed to their physicians. Accordingly, the second possibility was that severe unstabilized patients would prefer the responsibility message, while the severe stabilized patients, who by participating in their own care would be taking responsibility for any future failure, would prefer the obedience instructions. Because the assumption was that failure would only be relevant in important situations and patients with mild cases of the illness did not fall into that category, no predictions were made for them.

One hundred and eighty two hypertensive and diabetic patients were interviewed in the General Medical Clinic of a major New York Hospital. After the interview, the patients were randomly assigned to either the responsibility or the obedience condition and the relevant message was read to them. Patients were recontacted approximately two weeks later by telephone to answer a short

questionnaire. Ratings of severity and degree of stabilization of the illnesses as well as medical information which served as a dependent measure were obtained from the medical records of the patients after contact with them was completed.

The results indicated some support for the second possibility discussed. That is, the patients with severe and stabilized illnesses chose to relinquish control by showing a preference for the obedience message. The unstabilized patients chose to exercise control by opting for the responsibility message. In addition, regardless of the severity and degree of stabilization of their illnesses, most patients knew very little about their conditions. The implications of these results for the fields of psychology and medicine were discussed.

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I - INTRODUCTION

Despite the fact that the psychological literature has concluded that control is beneficial to people and despite the proliferation in the last decade of "how to" books aimed at helping people take charge of their own lives, it is evident that there are numerous situations in which individuals do not exercise control. Large percentages of people, for example, do not vote in elections, do not use the locks on their doors to keep out burglars, do not ask their doctors questions, or seek second opinions when the situation would seem to warrant it. Social psychologists examining this evidence would probably conclude that people are not exercising enough control. A very different conclusion would probably be elicited if we asked physicians for their opinions, since a major problem for medical doctors is the large number of patients who do not comply with the treatment prescribed for them. Physicians would probably conclude that patients, by noncompliance, are exercising too much control, or at least, exercising control in a way which is not beneficial to themselves.

How are these seemingly contradictory opinions to be reconciled? It seems likely that some people may prefer to exercise control more than others. However, rather than conclude that physicians and psychologists are looking at different populations, it seems probable that at any one time, any person may prefer to exercise or to relinquish control depending on variables within the situation. The

basic hypothesis of this dissertation is that individuals in situations important to them will prefer tc exercise control when the possibility of failure is remote, and will relinquish control when failure appears likely; in other words, people will prefer to exercise control when their control attempts will lead to positive results and tc relinquish control when their attempts will lead to negative outcomes.

This dissertation will focus on the medical setting with the aim of isolating the situational variables which may influence the perception of success and failure and therefore affect the preferences for control. A brief review of the related medical and psychological literatures will elucidate the conflict between the two fields.

The issue of noncompliance has long been seen as a problem by the medical profession. Estimates of the number of patients who drop out of treatment or do not follow prescribed regiments have ranged from fifteen to ninety-three percent (e.g. Caldwell, Cobb, Dowling & deJonghe, 1970; DiMatteo, 1979; Kaufman, 1972; Strain, 1978). The loss of such a sizeable proportion of patients obviously interferes greatly with the efficacy of medical treatment and much research into this behavior has therefore been carried out over the past two decades. A recent review by Baekeland and Lundwall (1975) identified over three hundred and fifty studies dealing with this critical area.

Noncompliance "refers to an inability or abject refusal on the part of the patient ... to comply with the medical regimen prescribed by his physician or to continue in treatment " (Strain, 1978, p. 27). The patient apparently is often aware that noncompliance may have

detrimental effects, including such consequences as delay of recovery, a poor outcome to the illness or being dropped by the physician involved in his or her care. However, such considerations do not appear to affect the patient's behavior.

Some of the variables which have been studied in connection with this behavior (i.e. noncompliance) include demographic factors, such as age (e.g. Cancro, 1968; Sethna & Harrington, 1972), sex (e.g. Cartwright, 1955; Dodd, 1971; Raynes & Patch, 1971; Rickels, 1968), and socioeconomic status (e.g. Lowinger & Dobie, 1968; Perkins & Block, 1971; Quatrone, 1973), social factors such as isolation (e.g. Muller, 1962; Williams & Johnson, 1972) and stability (e.g. Heilbrunn, 1971; Raynes & Patch, 1971), personality factors such as aggression (e.g. Kendig, 1956; Williams & Johnson, 1972) and motivation (e.g. Altman, Brown, & Sletten, 1972; Goldfried, 1969) and social psychological factors such as therapist attitudes (e.g. Caracena, 1965; Donnen, 1971; Moos & Schwartz, 1972), and patient expectations (e.g. Heine & Trosman, 1960; Rickels & Anderson, 1969). Most of the above research has been carried out in the area of psychotherapy, although a few investigations of noncompliance have also studied hypertensive patients, alcoholic patients, tubercular patients, drug abusers and patients participating in double-blind drug studies.

According to Baekeland and Lundwall (1975), social isolation, therapist attitudes and behaviors, and discrepancies between patients' and therapists' expectations of treatment were found to be predictors of noncompliance in 100 percent of the studies dealing with these variables which they reviewed (57 in all). In general, patients who

were single, separated or divorced were more noncompliant than those who were married, and patients whose expectations of therapy differed from those of their therapists were more noncompliant than patients whose expectations were congruent with those of their therapists. Some of the characteristics of therapists who tended to have noncompliant patients were ethnocentrism, permissiveness, introversion and detachment. Such therapists were apt to be male, to instruct their patients inadequately and to be bored with or to dislike their patients.

Motivation, aggression, family attitudes and dependence were found by Baekeland and Lundwall (1975) to be associated with noncompliance in 80-90 percent of the studies reviewed (62 in all). Noncompliant patients were found to be poorly motivated and either aggressive or passive-aggressive, while the relationship of dependence and family attitudes to noncompliance was unclear.

Other variables such as age, sex, sociopathic tendencies and drug dependence were found to be associated with noncompliance in 30-70 percent of the studies reviewed. Thus, 31.4 percent of 51 studies found age to be a factor, 45 percent of 29 studies found sex to be a factor, while approximately 70 percent of the 25 studies reviewed found sociopathic tendencies and drug dependence to be factors in noncompliance. Age tended to be inversely related to noncompliance, while more men than women were found to comply with medical treatment.

The research in this area then, appears to have been aimed at identifying the noncompliant patient, and isolating patient, setting and therapist traits associated with noncompliance. A commonly agreed upon assumption of the research seems to be that noncompliance is a

negative trait, one that is helpful neither to the patient nor to the therapist or physician involved. That is, the patient may prolong the course of the illness or delay recovery by noncompliance, while the physician may undergo hostility and anger in response to the patient's noncompliant behavior (Strain, 1978). If the patient obeyed the physician's orders, recovery from the illness would be faster and more complete, while the doctor would achieve a greater sense of satisfaction from a more compliant, healthier patient.

However, another body of literature appears to suggest that compliance is not always a satisfactory mode of behavior. A great deal of the recent work in social psychology has focused on personal control as an important and beneficial variable in human behavior and in general, the literature in this area has concluded that control is associated with behaviors and attitudes typical of good mental and physical health, while a lack of control is associated with anxiety, poor task performance and eventual passivity and proneness to reactive depression (Wortman & Brehm, 1975). Indeed, Langer (1975) has found that control is so important to people, that when certain cues are present, they tend to act as if they had control even in totally uncontrollable situations.

Control appears to be a rather nebulous concept. It has been operationally defined in various ways by social psychologists. Researchers in this area have given subjects choice versus no choice (e.g. Langer, 1975; Langer & Rodin, 1976; Schultz, 1976), information versus no information (e.g. Glass & Singer, 1972; Langer, Janis & Wolfer, 1975; Lanzetta & Driscoll, 1966; Staub & Kellett, 1972), have

let subjects self administer aversive stimuli or have had someone else do it (e.g. Staub, Tursky & Schwartz, 1971), have given subjects the possibility of stopping an aversive stimulus versus no possibility (e.g. Bowers, 1968; Donnerstein & Wilson, 1976; Glass & Singer, 1972). In addition to these varied operational definitions, Averill (1973) has formulated a typology which distinguishes between behavioral, cognitive and decisional control. However, despite the diversity of types and definitions, it appears that all kinds of control have one thing in common: the sense that they give an individual that one is in charge of one's outcomes.

Typically in studies dealing with the effects of control, a group which is given control is compared with a group which is given no control over a specific stimulus or situation. In the majority of cases, the group with control has been found to perform better than the group without control. The dependent measures have been varied. Thus, the group with control has been found to be less stressed (e.g. Geer, Davidson & Gatchel, 1970; Glass & Singer, 1972; Staub, Tursky & Schwartz, 1971) and to recover from illness faster (e.g. Egbert, Battit, Welch & Bartlett, 1961; Langer, Janis & Wolfer, 1975; Langer & Rodin, 1976) than the group with no control. Groups with control have reported fewer physical symptoms (Pennebaker, Burnam, Schaeffer & Harper, 1977), expressed less anxiety (e.g. Bowers, 1968; Houston, 1972; Langer & Saegert, 1977; Staub & Kellett, 1972), less aggression (Donnerstein & Wilson, 1976) and have tolerated more pain (e.g. Bowers, 1968; Staub & Kellett, 1972; Staub, Tursky & Schwartz, 1971) than groups without control. Subjects who have been given control have

also reported being happier and more active (e.g. Langer & Rodin, 1976; Schultz, 1976) and have consumed less medication (e.g. Langer, Janis & Wolfer, 1975) than subjects who have not been given control. Finally, subjects with control have made fewer errors in performance than subjects with no control in various situations (e.g. Glass & Singer, 1972; Langer & Saegert, 1977).

Although studies dealing with noncompliance have not analyzed the situation in terms of the control variable, it appears obvious that the doctor-patient relationship is usually one in which the physician has a lot of control and the patient relatively little. Typically, a patient enters this relationship and relinquishes control to the person in the position of authority, the physician. Admittedly, the physician is the individual with more knowledge, and, of the two, the one more qualified to achieve the goal which the patient wishes -- the relief of illness. Still, one would expect patients to at least want to know about their illnesses. Most patients, however, rarely ask questions about their medical conditions or about the treatments suggested. There are very real consequences to this relinquishing of control. A number of articles (New York Times, 1975, 1976) have been published, indicating that many unnecessary surgicial operations are carried out as a result of failure on the part of patients to seek information, whether from their own physicians or through second opinions. Indeed, a major insurance company has recently begun to pay for second opinions as a way of reducing the costs of unnecessary surgery.*

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*Blue Cross, Blue Shield.

Since control is apparently important to people, it is surprising that they do not attempt to exercise it in the medical setting.

What are some of the factors existing in a medical situation which would make a patient feel not in control? A fundamental aspect of the situation is that it is the doctor rather than the patient who has medical expertise. The patient has to depend on the doctor to conduct a thorough examination, to discover any problems which may exist, and if possible to effect a cure. To this extent at least, it is the doctor rather than the patient who is in control of the situation. Yet there are factors over and above this necessary condition which increase the patient's seeming lack of control. These factors have to do with the setting and the role in which the individual is placed as a patient.

A visit to the doctor is not a very frequent event for most people, and as an infrequent event, it is relatively unfamiliar. The novelty of the event is likely to increase the patient's feeling of not being in control since most people would tend to feel less control in an unfamiliar situation than in a familiar one. There are several other aspects of the medical setting which would tend to increase the unfamiliarity of the situation for the patient and thus reduce a sense of control.

Medical language is fairly technical and not readily understandable to the average patient. The equipment used in doctors' offices is also fairly complicated and unfamiliar. Even if the equipment (such as a stethoscope, sterilizer, or sphygmomanometer) is recognized by the patient, it is unlikely that its function will be

understood. The chemical odors of the office are very distinctive. Finally, the formality of the event, typified by the uniforms worn by doctors and nurses and the protocol followed in doctors' offices (e.g. the presence of a female nurse when a female patient is being examined by a male doctor) is likely to add to the novelty of the event for the patient (Emerson, 1970).

Other factors which may add to a patient's sense of no control have to do with the role of patient. From the moment that a patient enters the doctor's office, s/he becomes a passive recipient of services rather than an initiator of events. If it is the first visit, there will be a medical history taken, but often, rather than being asked to fill out the card alone, the patient will be asked questions to be written down by the secretary or nurse. After a waiting period, which on the average will tend to be fairly lengthy, s/he will be ushered into an examining room where all the normal accoutrements of every day life will be discarded (e.g. clothes, briefcase, etc.), s/he will be given a short undignified gown to wear and again told to wait for the doctor. During this period, there is nothing to do but wait. When the doctor does arrive, their interaction will consist mostly of orders which the patient will be expected to follow. S/he will be told to cough, breathe deeply, yawn, get up on the table, turn over, get dressed, and so on. It is unlikely that the doctor will explain very much of what is going on or what purpose it serves, even if the patient asks. By this point, it is even more unlikely that the patient will ask. Added to this sense of uninvolvement in important activities, is the relative worth placed on the value of

the patient's versus the value of the doctor's time. Even if the patient has an appointment, it is very unlikely that the doctor will be on time. The patient may be left in the waiting room for hours at a time, and even worse, in the examining room where there is absolutely nothing to do. Meanwhile, the doctor's time is booked to the utmost and there will be at the most only a few minutes to spare with the patient after the examination to discuss the treatment or deal with any concerns or worries which s/he may have.

Langer in 1975 showed that familiarity and active involvement are indeed important for the perception of control, yet these seem absent from the medical setting.* Perhaps, given the structure of the physician-patient relationship, noncompliance is the only way that the patient may exercise control in the medical setting. Indeed, it has been suggested that patients may not comply as a result of reactance to the lack of control in the medical setting (Rodin & Janis, 1979). If this is the case, then the surprising finding, given the importance of control in behavior, is not that so many patients <u>do not</u> comply with prescribed treatments, but that so many <u>do</u>.

In any case, if noncompliance can be viewed as a means of exerting control in a largely uncontrollable setting, it becomes evident that there are some patients who prefer to exercise this control (i.e. the noncompliers) and some who prefer to relinquish control to their physicians (i.e. those patients who comply with the medical regimens prescribed). If this is the case, it would be useful to identify some

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*Other factors shown by Langer (1975) to be important to the perception of control--choice and competition--are absent from the medical setting in a much more obvious way and so were not discussed in the above analysis.

of the predictors of this preference for exercising control in the medical setting so that a way may be found for these patients to exert control in a fashion which is less destructive to themselves.

Since the major characteristic which differentiates a patient from any other individual is the fact that the patient is suffering from an illness, it is possible that certain aspects of that illness may have something to do with whether or not a patient prefers to exercise or to relinquish control in the medical setting.

Medical conditions can be differentiated according to various criteria. For the purpose of this analysis, the severity of a condition and the degree to which it is controlled will be chosen as variables which may have an influence on the patient's preference for control within the physician-patient relationship.

Illnesses may be defined as either severe or mild. A severe disease will be defined as one which has a relatively high level of physical involvement, a relatively high degree of incapacitation and/or a high potential for life threat. A mild disease is one which is relatively low on these dimensions. It is obvious that the outcome of a severe disease will be more important to the individuals concerned than the outcome of a mild one.

Illnesses may also be defined as either acute or chronic. While cures are possible in the case of acute illnesses, chronic conditions are more likely to require prolonged treatment. Since the treatment is prolonged, it is possible that it is more successful at some times during the course of the disease than at others. When the treatment is successful, the condition can be described as "controlled"; when

the treatment is unsuccessful, the condition can be described as "uncontrolled". For the sake of clarity, since control in a different sense is one of the central variables of this dissertation, the term "stabilization" will henceforth be used when describing the degree to which a medical condition is controlled by the treatment. Therefore, in the case of any patient suffering from a particular chronic condition, the disease at any point in time may be either well stabilized or poorly stabilized by the treatment prescribed.

How are these two variables likely to affect an individual's control behaviors? It has been shown in previous studies that people are apt to take responsibility for successes, but to attribute failure to situational factors (Langer & Roth, 1975; Sternberg, 1976; Weiner, Freize, Kukla, Reid, Rest & Rosenbaum, 1971). In addition, a study on burglary by Miransky and Langer (1978) suggested that merely exercising control may indicate to an individual that s/he is responsible for the outcome. While this may be gratifying in the event of a successful outcome, taking responsibility for a negative outcome clearly is not. The results of the burglary study suggested that subjects preferred not to exercise control by making use of their various security devices so as not to have to take responsibility for the event, should their attempts at preventing burglary be unsuccessful.

Since people are motivated to avoid responsibility for negative events, if a person tried and failed to achieve a certain goal, it would be more difficult to attribute the result to chance or outside factors than if s/he had not done anything to try and bring about the

outcome (Langer, 1977). In other words, exerting effort in the pursuit of a goal which a person then fails to attain, makes it more difficult for that person to attribute the failure to factors outside him or herself. Relinquishing control, then, seems a reasonable action if an individual wishes to avoid responsibility for failure.

In which situations would avoiding responsibility for failure seem to be most important for the person concerned? Just as it is more satisfying to succeed in an important versus an unimportant situation, so too may it be more vital to avoid failure in an important versus an unimportant situation. It follows, therefore, that the more important the outcome is to an individual, the more likely that s/he will relinquish control as long as the possibility of failure is real.

The above analysis can be transferred to the medical setting. As far as the importance of a situation is concerned, it is clear that a severe illness will be more important to a patient suffering from it than a mild one. In addition, the degree of stabilization of a disease will have impact on a patient since an unstabilized condition will be viewed as more negative than a stabilized condition. As stated above, an unstabilized condition implies failure of the treatment prescribed for it. Therefore, as long as the patient's condition is not stabilized by the treatment, s/he may prefer not to exercise control in order to avoid the psychological cost inherent in taking responsibility for a negative event. The more severe the medical condition, the more necessary it would be to relinquish control, since failure in an important situation would be more costly than failure in an unimportant one.

On the other hand, there are several structural differences between the medical setting and the burglary study from which this analysis was derived, which might affect the direction of the hpyotheses proposed above. Two major differences between them come to mind when considering the effect of situational structure on the preference for exerting or relinquishing control. The first is that the medical situation, unlike a setting where a burglary might occur, necessarily involves two individuals, only one of whom usually has the primary responsibility for the result of treatment. This individual, of course, is the physician. In contrast to the patient, the potential or actual burglary victim has primary responsibility for the security of his or her home. Failure then, may have less impact on the patient than on the burglary victim because primary responsibility for the failure can be seen to fall on another.

A second difference which may affect the preference for exerting or relinquishing control has to do with the duration of failure. Burglary, unlike an unstabilized medical condition, is a situation which is finite; that is, it occurs and is over in a short period of time. A disease, however, once unstabilized, may take some time to become stabilized again. The effect of this is that the patient has to exist in an actual negative situation for a longer period of time than the burglary victim. The longer duration means that a patient may acclimate to the negative situation more easily than will a burglary victim (simply because there is more time to do so), and that therefore, failure may again have less impact on the patient.

Finally, in both situations, it is necessary to distinguish

between actual and potential failure in order to assess their effects on the preference for exercising or relinquishing control. Obviously, an actual burglary or actual unstabilized medical condition is different from the possibility of a burglary or the possibility of a stable medical condition becoming unstabilized.

How are these structural differences apt to affect control preferences in the medical setting? In terms of the degree of stabilization of the disease, it is the unstabilized patient who is experiencing failure and the stabilized patient who is in the more positive position. The failure of the treatment for the unstabilized patient, however (if the patient has not participated in choosing it), is primarily attributable to the physician and in addition, may not be salient to the patient because of its duration. Therefore, it may be the unstabilized patient, absolved of the responsibility for the failure of treatment, who will prefer to exert control in the medical setting. The stabilized patient, on the other hand, may prefer <u>not</u> to exert control in this setting. Failure for the stabilized patient is still potential; that is, it has not yet occurred and the patient has therefore not had a chance to become accustomed to the negative situation or had the need to diminish its impact. In addition, if the patient participates in his or her care while the disease is stabilized, s/he is sharing responsibility for that care and therefore for any failure, should it occur, with the physician. Because of this, the stabilized patient may prefer to relinquish control as long as his or her medical condition is stabilized.

Two diametrically opposed predictions then, appear to have resulted from the same structural analysis. The first is that patients whose medical condition is unstabilized will prefer to relinquish control in the medical setting because of a wish to dissociate themselves from failure. The second is that unstabilized patients will prefer to exert rather than to relinquish control because the failure has already occurred and cannot be attributed to themselves. It remains for the data to determine the correctness of each hypothesis.

A question that arises here is, given the difference in expertise between patient and physician, how can a patient exert control in the medical setting short of not following the prescribed regimen or dropping out of treatment? Some control is possible in the form of information about the condition from which the patient is suffering. Information has already been defined as a form of control by several researchers in this area (e.g. Glass & Singer, 1972; Lanzetta & Driscoll, 1966; Langer, Janis & Wolfer, 1975; Staub & Kellett, 1972). Moreover, it appears obvious that if a patient knows something about an illness, s/he will be able to more intelligently make decisions about such things as different modes of treatment than if s/he knows nothing at all. In the same way, encouraging a patient to ask questions, read and obtain information will enable a patient to exert more control than will instructing a patient to follow the doctor's orders.

Earlier in this discussion, the suggestion was made that noncompliance may be a patient's way of exerting control in the medical setting. While this seems to be a reasonable assumption, it is one

that is impossible to investigate in a study which includes degree of stabilization as an independent variable, since it is possible that patients who are defined as having unstabilized conditions are in that state precisely because they do not comply. In order to avoid the confounding of control and degree of stabilization, control will be treated as an independent variable, unrelated to degree of stabilization by giving patients a communication which emphasizes either exerting or relinquishing control. Degree of stabilization of the medical condition and severity of the medical condition will be determined after the instructions are administered and contact with the respondents completed.

The hypotheses and experimental variables are outlined in more detail below.

Variables

Independent Variables

Severity of Disease. Medical patients will be divided into two groups depending on whether their medical condition is severe or mild. The criteria for determining degree of severity are discussed in the Method Section.

Degree of Stabilization of Disease. Medical patients will be divided into two groups depending on whether their medical condition is relatively stabilized or relatively unstabilized. The criteria for determining degree of stabilization are discussed in the Method Section.

Instructions. The sample will be given a communication which

stresses either (1) taking responsibility for one's own condition by trying to get information (Responsibility Condition) or (2) following the doctor's orders (Obedience Condition).

Dependent Variables and Hypotheses

Medical Information. The study will be divided into two parts. Part I deals with information which patients already possess about their medical conditions. All patients will be interviewed before the experimental communication in order to determine how much information they have about their illnesses. An interaction between severity and degree of stabilization is expected, but because of the conflicting hypotheses, no prediction is made about the direction of the interaction. It is expected, however, that one of the severe groups (stabilized or unstabilized) will have the most and the other the least information about the medical condition, with the mild groups having an intermediate amount of information.

Medical Measures

Part II

After the experimental communications are administered, patients' medical records will be checked for blood pressures, levels of medication prescribed (that is, whether the amount of medication was lowered, raised or remained the same) and time between visits to the clinic. A three way interaction between the instructions and the disease's severity and degree of stabilization is expected. However, no prediction about the direction of the interaction is made because of the conflicting hypotheses described above. Thus, patients in the

severe/high degree of stabilization group may show the lowest blood pressures and longest times until their next appointments after hearing either the responsibility communication or after hearing the obedience communication. Similarly, the medical measures may indicate that patients in the severe/low degree of stabilization group prefer either the responsbility or the obedience communication. However, it is expected that if the severe/stabilized patients prefer the responsibility communication, the severe/unstabilized patients will prefer the obedience communication and vice versa.

Self Report Measures

Patients will be asked to answer a nine-item questionnaire before and after the experimental communication. A three way interaction is again expected, but again, no prediction about the direction of the interaction is made. The results are expected to parallel the results of the medical measures.

II - METHOD

One hundred and eighty two subjects in the waiting area of the General Medical Clinic in Mount Sinai Hospital were approached at random by the interviewer and asked if they were waiting to see the doctor. If the reply was affirmative, they were then asked if they had either high blood pressure or diabetes. The interviewer introduced herself to those patients who had either of the two conditions and explained that she was doing a study to determine how much people know about their medical conditions. Those patients who agreed to participate were ushered to a small examining room near the waiting area where they were interviewed before they were called to see their doctors. The study consisted of two parts: Part I, an identical interview for all subjects, designed to determine how much medical information they possessed and to establish preexperimental self- ratings, and Part II, one of two experimental communications which are described below.

Before the interview began, the patients were read the consent form in the presence of a witness. After the form was signed, the experimenter randomly assigned the subject to one of two experimental conditions and proceeded with the medical information section of the interview (see Appendix A). At the conclusion of the interview and self-rating scales, one of two brief experimental communications was read to the patient (see Appendix B). Briefly, each patient was told

either that it was extremely important to follow the doctor's orders (Obedience Condition) or that it was extremely important to take some responsibility for his or her own medical condition by obtaining information (Responsibility Condition). Patients were then given some information about their medical conditions (see Appendix C). All patients were given basically the same information except that the Obedience Condition patients were given the information with the emphasis on following the doctor's orders and the Responsibility Condition patients' information focused on the importance of being involved in one's own health care. Any questions which the patients had were answered in accordance with the communication which they had heard and the interview was brought to a close after patients were reminded that they would be contacted by telephone in approximately a week for a followup questionnaire.

An experimenter who was blind to the experimental manipulation contacted the patients by telephone and administered the questionnaire (see Appendix D).

The final step of the experiment was to examine the medical records of the patients in order to determine the severity of the illness and the degree to which it was stabilized, and to collect medical information which would serve as a dependent measure. Criteria were devised to determine the severity and degree of stabilization of the illnesses involved after consultation with medical experts. Patients were judged to have a severe case of high blood pressure if their diastolic blood pressure had ever reached 115 mm Hg or above and/or if they were suffering any pathology resulting from

hypertension, e.g. retinopathy, neuropathy, small or large blood vessel disease, etc. Those patients who did not meet the above conditions were judged to have mild cases of hypertension.

The criteria for determining the degree to which the illness was stabilized were more complicated. Three sets of criteria were devised.

1. The patient's diastolic pressures in the last two clinic visits before the experimental manipulation: above or below 95 mm Hg.

2. The level of blood pressure medication during the clinic visit immediately prior to the visit of the experimental manipulation: that is, whether the amount of medication prescribed was raised, lowered or remained unchanged.

3. The elapsed time between the last two clinic visits and the visit of the experimental intervention: that is, whether the time between the last three clinic visits was more or less than three months.

Those patients who met two of the three criteria in the following manner: i.e., a) diastolic blood pressure equal to or higher than 95 mm Hg. for the two visits immediately prior to the interview, and/or b) blood pressure medication raised in the clinic visit immediately prior to the interview, and/or c) elapsed time between both the last two visits before the interview and the visit before and the visit of the interview each less than three months, were judged to have unstabilized hypertension. All others were judged to have stabilized hypertension.

The criteria for those patients who were suffering from diabetes were similar. Patients who were suffering any pathology associated

with diabetes, e.g. retinopathy, kidney problems, neuropathy, small or large blood vessel disease, etc. were judged to have severe cases of the disorder. All others were judged to have mild cases. The degree to which the illness was stabilized was determined by inspection of blood glucose levels. Those patients whose fasting blood sugar levels reached 200 or above during their last test were judged to have unstabilized diabetes. All others were assigned to the stabilized category.

The experimental design was therefore a 2 x 2 x 2 factorial with the three independent variables being:

Instructions: responsibility vs. obedience communication

Degree of Severity: severe vs. mild disease

Degree of Stabilization: stabilized vs. unstabilized disease

III - RESULTS

One hundred and eighty two men and women completed the first interview. However, because of various factors such as unavailability of medical records, refusal to answer certain questions, inaccessibility of certain subjects for follow-up, etc., the number of subjects for whom data is reported varies. The diabetic and hypertensive samples were combined for all analyses except the medical measures, because the total number of diabetics interviewed was small.

The mean age for all subjects was 56.4 with a range of 20 to 82. The racial composition of the sample was 25.8 percent Hispanic, 62.1 percent Black, and 12.1 percent White. One hundred and thirty women and fifty two men were interviewed.*

Records were kept of the proportions of subjects approached who agreed to participate in the study. Of all patients who fell into the appropriate medical categories, 77.16 percent agreed to be interviewed, and of the original one hundred and eighty two patients who completed the first interview, only 19 (10.44 percent) could not be reached for follow-up.

The mean education level of the original sample of 182 respondents was between the ninth and tenth grades. Approximately 34 percent of

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*Male:female ratios of 1:2 have been reported for black hypertensives, while male:female ratios for black diabetics are usually in the neighborhood of 1:3. Male:female ratios for hypertensive and diabetic populations regardless of race are lower but in the same direction (Vital & Health Statistics, 1974; West, 1978).

the sample were high school graduates. Most (78.65 percent) of the respondents were not employed. Of the unemployed, 22.1 percent were on disability pensions, 30.7 percent were retired, 23.5 percent were receiving public assistance and 19.3 percent were housewives. The remaining 4 percent were receiving unemployment benefits. The mean income level of the sample was approximately $5,000 per year.

A χ^2 analysis revealed that women and men were evenly distributed among the eight experimental groups. However, a χ^2 analysis of the occupations of the patients was significant (χ^2 = 14.78, 7 df, $p < .04$), revealing more blue collar workers in the mild category than in the severe and more white collar workers in the severe than in the mild category (χ^2 = 7.8, 1 df, $p < .01$). Analyses of variance revealed no significant income or age differences between the groups. However, a main effect of the instructions was found for level of education (F = 5.04, 1/162 df, $p < .03$) with people who received the responsibility message having more education ($\bar{X}$ = 10.08)* than those who received the obedience message ($\bar{X}$ = 8.95). Because of this difference, analyses of covariance were performed on the dependent measures, using the level of education as a covariate. Further analyses of variance revealed no differences between the groups in the length of time of the medical interview or the amount of time elapsed between the first interview and the followup questionnaire.

As expected, however, because of the criteria used in defining the different groups, an analysis of variance revealed significant differences between the groups in length of time that they had been

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*Education is reported in number of years.

suffering from their medical conditions. The groups that were defined as severe had had their illnesses longer ($\bar{X}$ = 114.24)* than the groups defined as mild ($\bar{X}$ = 85.45) (F = 5.19, 1/162 df, $p < .02$). Also, the groups defined as unstabilized ($\bar{X}$ = 115.24) had suffered from their conditions longer than the groups defined as stabilized ($\bar{X}$ = 79.69) (F = 4.08, 1/162 df, $p < .05$).

Descriptive Statistics

All patients were interviewed about their medical conditions in an attempt to determine how much in general people know about their illnesses. Some results of the interview, based on the sample as a whole, are summarized below.

Knowledge of Medical Condition

The majority of patients either knew (58.2 percent) or recognized (27.5 percent) the medical name of the condition from which they suffered (hypertension or diabetes mellitus). Approximately 27 percent of the sample had never had any symptoms and 33.5 percent did not know which symptoms were associated with their disease. Most (75.4 percent) of the latter were patients who were asymptomatic, indicating that knowledge of symptoms was based largely on previous experience.

Only 24 patients (13.2 percent) reported not receiving any

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*Length of illness is reported in number of months.

medications for their condition, that is, their diseases were controlled by diet alone. Nevertheless, despite the fact that approximately 87 percent of the sample was receiving medication and that medications are frequently changed, only 32.4 percent of the patients said that they knew of alternative treatments for their medical conditions. Of these patients, 25.4 percent mentioned other treatments which they themselves had not received in the past, 18.6 percent mentioned other treatments which they had received and 55.9 percent mentioned home remedies or adjuncts to treatment such as exercise and remaining calm.

Of the 87 percent of the sample who were receiving medication, only 33.5 percent knew the names of all the medications that they were taking, 27.2 percent knew the names of some of their medications, and 39.2 percent did not know the names of their drugs at all. As far as the dosages of the medications were concerned, 37.9 percent knew the dosages of all the drugs they were taking, 17.1 percent knew the dosages of some of their medication, 5.7 percent were mistaken in the dosage when it was checked against the information in their medical records, and 39.24 percent did not know the dosages of their medications at all. However, the great majority (96.8 percent) did know at least how many times per day they were to take their pills.

Most (63.1 percent) of the patients did not know what their medications did except for a vague sense that they were intended to help them; of those who offered an opinion, 4.5 percent knew what all the medications did, 28.03 percent were correct for at least some of

their medications, and 4.5 percent of the sample had an opinion about the action of the drugs, but were mistaken. When they were asked what the side effects of the drugs were, the large majority (80.4 percent) of the respondents had no idea. Those who offered an opinion had suffered some side effects from their medications in the past.

This lack of information has practical implications for patients. For example, patients who know the names and dosages of their medications will be in a better position should they lose or misplace their medications when the clinic is closed than patients who do not have this information. Hypertensive patients who know the symptoms of hypertension (e.g. headache, dizziness) will be more likely to contact a doctor quickly should they experience any of these symptoms than patients who are unaware.

Information Seeking

More than half of the respondents (51.5 percent) did not know which doctor they were going to see in the clinic on the day that they were interviewed. Those patients who did know who their doctors would be were asked whether they ever asked those doctors any questions. Approximately a third (35.5 percent) of the patients reported asking many questions, while a third (34.4 percent) asked no questions at all. The remainder asked only a few questions.

Patients were also asked whether they questioned doctors in general. Of this group, 16.5 percent never asked any questions, 61.2 percent asked only a few questions, and 22.3 percent asked many questions. It is, of course, impossible to know whether these questions filled the function of seeking specific information about

the patient's illness. It seems clear, however, that patients are more likely to get information if they ask questions than if they do not.

When patients were asked if there was ever any time that they felt uncomfortable about questioning doctors, 64.3 percent admitted that they frequently did. A breakdown of the reasons for the discomfort revealed that the largest category (25.6 percent) consisted of criticisms of the physicians' responses. Some examples of the answers in this category were "the doctor gets angry when I ask", "the doctor doesn't care enough about explaining to make me understand", etc. Another large group (24.8 percent) responded that asking questions made them uncomfortable but said that the real reason for not asking questions was that they already knew enough about their conditions.

These patients were compared with those who did not give this as a reason for not asking questions, to see if there was indeed a difference in the level of their knowledge. The names and dosages of their medications and their blood pressures were chosen for purposes of comparison. It was found that 45 percent of the patients who said that they knew enough about their illnesses knew the names of all their medications as compared to 32 percent of the patients who did not use this as a reason for not asking questions. The difference between the two groups was not significant ($z = 1.3$, $p > .05$). When the patients who knew the names of some of their medications were added to those who knew all the names, the percentages were 64 percent for the group that gave "knowing enough" as a reason for not asking questions and 59 percent for those who did not use this reason. This

difference was also not significant ($z = 1.04$, $p > .05$). There were also no significant differences in the patients' knowledge of the dosages of their drugs (31 percent for the group that "knew enough" compared to 38 percent of the group that did not). Finally, 22 percent of the group who said they knew enough about their conditions compared to 35 percent of the group who gave other reasons for not asking questions and 45 percent of the group that reported asking many questions remembered their last measured blood pressure. These differences were also not significant ($z = 1.53$, $p > .05$). We can see, therefore, that although patients may have given "knowing enough" as a reason for not asking questions, they actually did not know very much about their conditions (if these measures are any indication). What is surprising, however, is that there were no significant differences in knowledge of blood pressure between those patients who reported asking many questions and those who did not. This result raises some doubts about the type of questions that patients actually ask their physicians.

Other categories of reasons for not asking questions included respect for the doctor's time (17.95 percent), not knowing what to ask (7.7 percent), and nervousness about the answer (6.8 percent). Language problems and shyness were also mentioned as reasons for not asking questions.

Despite the fact that most patients did not ask very many questions, 73.6 percent of them reported wanting more information about their illnesses. Of these patients, 64.9 percent said they wanted to know "anything". Other types of information sought included the cause of their conditions (8.96 percent), information about their

present state of health (1.2 percent), their prognosis (7.5 percent), how to control their conditions (5.97 percent), and information about medication (3.7 percent). Of the minority of patients who did not want more information, 67.6 percent said that the reasons was that the illness was not serious enough. Other reasons given were that they did not know what to ask (10.8 percent), that they already knew enough (5.1 percent), and that they had confidence in the doctor (5.4 percent). Thus, overall, most patients did not know very much about their conditions, were aware of this and wanted more information.

However, only 11 percent of the patients reached in the follow-up reported having tried to get more information about their illnesses. Eleven of them had asked their doctors questions, three had read books on the subject, two had reread the information which they had been given after the interview and one did not specify. Given the small number of patients who tried to get information, one can only conclude that patients may say that they want information, but are reluctant to do anything about getting it.

Analyses were performed in order to determine whether the severity and degree of stabilization of the patients' medical conditions were associated with differences in the amount of information which they possessed about their respective illnesses. This information had been collected before the administration of the experimental communications. Very few differences were found. Analyses of variance revealed that more patients with severe conditions knew the names of their medications than patients with mild conditions ($\underline{F} = 3.55$, 1/142 $\underline{df}$, $\underline{p} < .06$), more patients with severe conditions knew the dosages of their medications than patients with mild conditions ($\underline{F} = 3.46$, 1/142 $\underline{df}$, $\underline{p} < .06$), and

that more patients with stabilized conditions knew the dosages of drugs that they were taking than patients with unstabilized conditions (F = 5.69, 1/142 df, $p < .02$).

Part II: Effects of the Instructions on Patients' Self-Reports and Medical Ratings

Self Report

Significant differences between the eight experimental groups were found in two areas of the self-report scale after the experimental intervention. An analysis of covariance, with self-report before the intervention as the covariate revealed a three-way interaction for the patients' evaluations of their medical treatment (F = 3.35, 1/146 df, $p < .07$). Duncan's Multiple Range Test revealed that although all groups had been equivalent in their evaluation of treatment before the intervention, the severe stabilized group which had received the obedience communication had significantly improved its evaluation of the medical treatment it was receiving, and was significantly different from all other groups except for the two severe unstabilized groups and the mild stabilized responsibility group (q = 3.33, q .05 = 3.12, df = 120, $p < .05$). See Table 1.

A similar analysis of the patients' evaluations of their physicians revealed a significant interaction between the instructions and the degree of stabilization variable (F = 5.06, 1/144 df, $p < .03$). The unstabilized group which had heard the responsibility message was significantly more positive in its evaluation than the unstabilized

Table 1

Mean Scores: Patients' Evaluations of Treatment Before and After Experimental Intervention

	Pre-Manipulation	Post Manipulation
Severe Stabilized Responsibility	5.00[1]	5.00
Severe Stabilized Obedience	5.00	5.94*
Severe Unstabilized Responsibility	4.94	5.50
Severe Unstabilized Obedience	5.11	5.38
Mild Stabilized Responsibility	5.03	5.29
Mild Stabilized Obedience	4.71	5.04
Mild Unstabilized Responsibility	5.00	5.08
Mild Unstabilized Obedience	4.71	5.14

1. Scale: 1 = extremely dissatisfied... 7 = extremely satisfied

*Significant at .05 level.

obedience group (q = 3.71, q4 = 3.04, df = 120, $p < .05$) and the stabilized responsibility group (q = 3.12, q3 = 2.95, df = 120, $p < .05$). See Table 2.

Patients were also asked if they had tried to get any information about their conditions. An analysis of variance on information seeking revealed a significant main effect for the instructions (F = 3.74, 1/147 df, $p < .05$). More patients who had received the responsibility communication reported having tried to get information than those who had received the obedience communication. Table 3 shows the proportions of patients in each group who reported attempting to obtain information. The table reveals that the main effect was contributed to largely by the unstabilized patients who had heard the responsibility communication.

Medical Ratings

Repeated measures analyses of covariance with level of education as the covariate and blood pressures, levels of medication and time between clinic visits as the dependent measures were conducted for the clinic visit immediately prior to the experimental intervention (Time 1) and for the visit immediately after (i.e. on the day of) the intervention (Time 2). The diabetic patients were dropped from these analyses of medical ratings because it was unclear whether their blood pressures and medication levels would vary in the same ways as those of hypertensives. In addition, it was difficult to find equivalent measures for diabetics, such as blood sugar levels, since these measures are not taken as often as blood pressure which is recorded on

Table 2

Mean Scores: Patients' Evaluations of Physician

Before and After Experimental Manipulation

	Pre-Manipulation	Post Manipulation
Stabilized Responsibility	4.94[1]	5.16
Unstabilized Responsibility	5.30	5.69*
Stabilized Obedience	4.91	5.32
Unstabilized Obedience	4.97	5.05

1. Scale: 1 = extremely dissatisfied... 7 = extremely satisfied

*Significant at .05 level.

Table 3

Proportions: Patients who Attempted to Obtain Information after the Experimental Intervention

	Severe	Mild
Stabilized Responsibility	.07	.16
Stabilized Obedience	.06	.08
Unstabilized Responsibility	.20	.21
Unstabilized Obedience	.12	.14

every visit. No significant instructions effects for these dependent measures were found.

Patients during the interview preceeding the administration of the experimental communication had been asked to rate the severity and degree of stabilization of their own illnesses on two scales ranging from one to seven. These scores were then dichotomized into two categories of severity and degree of stabilization: mild (scores ranging from 1-4) and severe (scores ranging from 5-7); unstabilized (scores ranging from 1-4) and stabilized (scores ranging from 5-7). The objective and subjective ratings of severity and degree of stabilization were combined and only those cases in which the subjective and objective ratings coincided were used for a final analysis. Thus, for example, only those individuals who had rated their own illnesses as severe and stabilized and whom the objective criteria also rated as severe and stabilized were placed in the severe stabilized group and so on for the other three groups. All other subjects were dropped from this analysis. The combined ratings were then used as independent variables along with the instructions variable in a 2 x 2 x 2 design (severity x degree of stabilization x instructions). The findings, however, must be treated as suggestive since the number of subjects retained was small.

A repeated measures analysis of covariance with level of education as the covariate revealed a significant time x instructions x severity interaction ($\underline{F} = 3.95$, 1/27 $\underline{df}$, $\underline{p} < .06$) for levels of medication. Although there were no differences in medication levels prescribed during the clinic visit before the experimental

intervention, after the instructions were read to the patients, the severe group who heard the responsibility message had its level of medication raised significantly more than all other groups (q = 3.8, q .05 = 3.3, df = 27, $p < .05$). See Table 4.

Finally, a repeated measures analysis of covariance on the time between clinic visits revealed a significant time x instructions interaction (F = 5.00, 1/27 df, $p < .03$). While there was no difference in the time between clinic visits before the intervention between those who were to receive the responsibility and obedience communications, after the instructions were read to the patients, those who had heard the responsibility message had more time until their next clinic appointment than those who had heard the obedience message (q = 5.8, q .05 = 5.62, df = 27, $p < .001$). See Table 5.

In summary, then, the effects of the instructions on the dependent variables were as follows: the obedience instructions improved the evaluation of medical treatment of the patients who had severe stabilized conditions. The responsibility message improved the unstabilized patients' ratings of their physicians and increased information seeking for patients with unstabilized conditions. In addition, the encouragement to take some responsibility for one's own medical care increased the time between visits of all patients for whom the objective and subjective ratings coincided and raised the medication levels of those patients who agreed with the objective ratings that their conditions were severe.

Table 4

Mean Scores: Levels of Medication and Diastolic Blood Pressure Before and After Experimental Intervention: Agreement between Subjective and Objective Criteria

	Time 1		Time 2	
	Level of Medication	Diastolic BP	Level of Medication	Diastolic BP
Severe Responsibility	1.13[1]	103.57	1.38*	99.28
Severe Obedience	1.11	96.44	1.00	94.11
Mild Responsibility	1.00	89.11	.88	82.06
Mild Obedience	1.25	90.55	1.00	85.54

1. Scale: 0 = medication levels lowered
1 = no change in medication levels
2 = medication levels raised

*Significant at .05 level.

Table 5

Mean Scores: Time Between Clinic Visits Before and After Experimental Intervention. Agreement between Subjective and Objective Criteria

	Time 1	Time 2
Responsibility	64.30[1]	77.24
Obedience	51.67	36.33***

1. Time between clinic visits is reported in days.

***Significant at .001 level.

Part III: Effects of Severity of Illness and Degree of Stabilization on Patient Self Reports and Medical Measures

An analysis of covariance with self report before the experimental intervention as the covariate revealed a significant interaction between severity and degree of stabilization on the perceived frequency of clinic visits ($F = 3.59$, 1/144 df, $p < .06$). Table 6 indicates that the severe stabilized patients perceived their visits to the clinic as significantly less frequent than the severe unstabilized patients ($q = 3.64$, $df = 120$, $p < .05$). There were no differences between the mild groups in their perception of the time between visits. In fact, there were no significant differences in actual time between clinic visits for any of the groups (defined by objective criteria) after the instructions were read to them.

The repeated measures analyses performed on the medical dependent measures revealed several significant effects apart from the results of the instructions (discussed in the preceeding section). A significant main effect of both severity ($F = 10.9$, 1/124 df, $p < .001$) and degree of stabilization ($F = 55.02$, 1/124 df, $p < .00001$) on diastolic blood pressures was found, with the severe group ($\bar{X} = 96.39$) and the unstabilized group ($\bar{X} = 99.23$) having higher diastolic pressures than the mild ($\bar{X} = 90.54$) and stabilized groups ($\bar{X} = 87.94$) respectively. A time x severity interaction ($F = 4.32$, 1/124 df, $p < .05$) revealed that the severity difference was due to the lower diastolic pressures of the mild group after the intervention ($q = 3.69$, $df = 120$, $p < .05$) as can be seen in Table 7. Similarly, a time x

Table 6

Mean Scores: Perceived Frequency of Clinic Visits after Experimental Intervention

Severe Stabilized	5.03[1*]
Severe Unstabilized	4.23
Mild Stabilized	4.58
Mild Unstabilized	4.60

1. Scale: 1 = every day... 7 = less than once every three months

*Significant at the .05 level.

Table 7

Mean Scores: Diastolic Blood Pressures Before and after Experimental Intervention

	Time 1	Time 2
Severe	96.12	96.65
Mild	92.59	88.49*
Stabilized	87.77	88.12
Unstabilized	101.32	96.15**

*Significant at .05 level.

**Significant at .01 level.

degree of stabilization interaction (F = 8.26, 1/124 df, $p < .005$) indicated that the difference between the stabilized and unstabilized groups was due to the higher diastolic pressures of the unstabilized group before the experimental intervention (q = 4.66, df = 120), $p < .005$). See Table 7.

Main effects for severity (F = 7.19, 1/125 df, $p < .01$) and degree of stabilization (F = 9.78, 1/125 df, $p < .002$) for the systolic blood pressures of the patients were also found over time with the severe group ($\overline{X}$ = 153.1) having higher systolic pressures than the mild group ($\overline{X}$ = 145.42) and the unstabilized group ($\overline{X}$ = 167.48) having higher systolic pressures than the stabilized group ($\overline{X}$ = 144.42). A time x degree of stabilization interaction (F = 8.41, 1/125 df, $p < .005$) revealed that the degree of stabilization main effect was due to the higher systolic pressures of the unstabilized patients before the communications were read (Time 1) as can be seen in Table 8 (q = 4.81, df = 120, $p < .001$).

When the levels of medication were analyzed by a repeated measures analysis of covariance, a main effect for degree of stabilization was found (F = 31.43, 1/123 df, $p < .0001$) with more of the patients with unstabilized conditions having had their levels of medication raised than the patients with stabilized conditions. A time by degree of stabilization interaction (F = 7.78, 1/123 df, $p < .01$) revealed that this effect was mainly due to the raising of the level of medication of the unstabilized patients at Time 1 (q = 3.67, df = 120, $p < .05$). There were no differences between the patients with stabilized and unstabilized conditions in the level of medications prescribed at

Table 8

Mean Scores: Systolic Blood Pressures Before and After Experimental Manipulation

	Time 1	Time 2
Stabilized	143.57	145.27
Unstabilized	157.79***	148.98

***Significant at .001 level.

Time 2. See Table 9.

Finally, a repeated measures analysis of covariance on the time between clinic visits also revealed a main effect for degree of stabilization (F = 9.26, 1/124 df, $p < .01$) where the time between clinic visits (measured in days) for the patients with unstabilized conditions ($\overline{X}$ = 50.46) was shorter than the time between visits for the patients with stabilized conditions ($\overline{X}$ = 74.46). A time by degree of stabilization interaction (F = 5.77, 1/124 df, $p < .02$) revealed that this difference was due to the longer time between visits of the stabilized patients before the experimental intervention (q = 4.18, df = 120, $p < .01$). See Table 10. There were no differences between the patients for the time until the next clinic appointment after the communications were read to them.

In summary, then, apart from the effects of the instructions, the major finding of the medical measures analyses was a time by degree of stabilization interaction with differences between the stabilized and unstabilized groups before they heard the experimental communications but not afterward.

Summary of Results

In general, it can be said that the data, with minor exceptions, supported the hypothesis that patients will prefer to relinquish control when their conditions are stabilized and will prefer to exercise control when their conditions are unstabilized. The data supporting this hypothesis are recapitulated below.

1. Improved evaluation of medical treatment for patient with

Table 9

Mean Scores: Level of Medication Before and After Experimental Intervention

	Time 1	Time 2
Stabilized	.99[1]	1.08
Unstabilized	1.37***	1.15

1. Scale: 0 = medication level lowered, 1 = no change, 2 = medication level raised

***Significant at .001 level.

Table 10

Mean Scores: Time Between Clinic Visits Before and After Experimental Intervention

	Time 1	Time 2
Stabilized	87.15[1**]	61.76
Unstabilized	48.71	52.22

1. Time between clinic visits is reported in days.

**Significant at the .01 level.

severe stabilized illnesses who heard the obedience message.

2. Improved evaluation of physicians for patients with unstabilized illnesses who heard the responsibility message.

3. Greater proportion of patients with unstabilized conditions who heard the responsibility message reported trying to obtain information.

IV - DISCUSSION

Part I: Medical Information Interview

The main finding of the medical information interview appeared to be that regardless of their medical condition, its severity or degree of stabilization, most patients in the study did not know very much about their illnesses. For the most part, only those patients who had had symptoms knew which symptoms were associated with their disorders. The large majority of patients did not know the names, dosages or side effects of their medication, did not recognize the importance of diet and did not know of treatments other than the ones they were receiving for their conditions. A majority of patients reported asking their doctors at least a few questions, but when asked what kind of questions they asked, the reply was that they tried to determine whether their blood pressures or blood sugar levels were normal. Most of the questions, therefore, appeared to be of the "how am I doing" variety, a type which does not seem to be the most effective in soliciting significant information from a physician.

Given the level of knowledge of patients in general, and the low education level of these patients in particular, this finding is perhaps not too surprising. What is surprising, however, is that despite the fact that most of the patients reported wanting more information about their conditions, only 11 percent overall reported having tried to obtain information from any source after the experimental intervention. Sixty percent of these patients had heard

the responsibility communication which appears to have had a small but significant effect on information seeking. While it is possible that the remaining subjects actually preferred not to have any knowledge of their medical conditions and were merely responding to demand characteristics during the interview, the genuine interest that most of these patients exhibited when given information does not support this conclusion. Rather, given their level of education, certain avenues of information seeking, such as reading, may have been closed to these patients and others, such as asking the doctor questions may have seemed just as intimidating after the experimental intervention as before. This interpretation is supported by the fact that when the reasons for reluctance to ask questions were requested of the subjects, the answer most frequently given was that physicians were either unwilling or unable to answer them adequately. It seems likely that in order to encourage patients to ask questions, not only will they first have to be taught what kind of questions to ask, but also physicians will have to agree that answering questions is an integral part of their professional responsibility.

In general, the experimental sample was found to be homogeneous. However, some differences emerged which merit some discussion. The significant difference in occupation with more blue collar workers in the mild than in the severe group and more white collar workers in the severe category than in the mild appears to be a function of the type of work that these classifications describe. It seems evident that blue collar workers will be able to continue working only if their physical ailments are mild since their work is apt to

be physically demanding. White collar workers, on the other hand, are more likely to be able to continue to work even if they have severe conditions, given the more sedentary nature of their jobs.

Further differences concerned the duration of the patients' medical conditions. It was found that the severe and unstabilized patients had suffered from their diseases longer than the mild and stabilized patients respectively. There appears to be some relationship between the duration of the medical condition and the finding that patients with severe conditions knew more about the names and dosages of their medications than patients with mild conditions. Since the severe group had had the disease longer, they would have used medications for a longer time than would the mild group and therefore might have remembered more about them. Duration, however, was apparently not a factor for the unstabilized group who knew less about the dosages of their medications than did the stabilized patients. The reason for this finding also appears to be fairly clear. Despite the length of time that unstabilized patients had suffered from their medical conditions, the fact that the conditions were not stabilized meant that the dosages of the drugs were likely to be changed frequently in an attempt at stabilization. Dosages would therefore change more frequently for unstabilized than for stabilized patients and, as a result, the unstabilized group would be less likely to remember the dosages of their medications.

It is clear from the results of the medical information interview that the expectation that the severity and degree of stabilization of a disease would have an interactive effect on the amount of information which patients possess, was not borne out. There are several

possible reasons for this outcome. First, the low level of education of the sample meant that all patients, regardless of the severity or degree of stabilization of their illnesses, would have difficulty in acquiring information. That is, their access to books would be limited and it is likely that if they asked questions of their physicians, they would have difficulty in understanding the answers if they were at all technical. A ceiling would therefore necessarily be imposed on any differences in amount of information to which the severity or degree of stabilization of the disorder might have been expected to contribute. Second, it is possible that patients will obtain and therefore possess information differentially only when the severity and degree of stabilization of their conditions become salient to them. Since these clinic patients knew very little about their conditions, it is probable that some of the aspects of their diseases that they knew little or had thought little about, were the severity and/or degree of stabilization. Indeed, it is possible that these aspects of their conditions became salient to the patients only when they were asked to rate them during the medical information interview. At that point, of course, it would be too late to obtain information which would show up in the interview.

Part II: Effects of Instructions on Patient's Self Report and Medical Ratings

The effects of the instructions variable on the patients' self report and medical ratings were in line with the second set of hypotheses proposed at the beginning of the study. That is, where the

instructions had an effect, it was the stabilized patients who showed a preference for compliance and the unstabilized patients who seemed to prefer the responsibility instructions. These preferences are inferred from such findings as changes in evaluation of treatment and physicians and levels of information seeking. The Obedience Instructions improved the severe stabilized group's evaluation of its medical treatment, as predicted, evidently because the treatment was successful and the instructions made its success salient to these patients. As predicted also, the unstabilized patients preferred the responsibility message which improved their evaluations of their physicians. Why, however, should their evaluations of their doctors have been improved when it was those same doctors who had prescribed treatments that had been unsuccessful? It is possible that during the time between the experimental communication and being asked to evaluate their doctors, a period of approximately two weeks, these patients may have asked their doctors questions and that the satisfaction engendered by attempting to get information may have led to a more positive evaluation of their physicians. Indeed, patients in the unstabilized group who heard the responsibility message reported having tried to get information more than any other group. These patients accounted for only one-sixth of the total number of patients, but one-third of the information seeking attempts.

Although the instructions variable had an effect on only two of nine areas of the self report scale, these two areas were the only ones in which patients were asked to evaluate something about the clinic rather than their own lives. It seems reasonable to assume, since the

instructions dealt with the medical situation, that any changes in the patients' evaluations would also have occurred in this area.

One final apparent effect of the instructions remains to be explained. Significant differences in levels of medication were found for those patients for whom the objective and subjective ratings of severity and degree of stabilization coincided. The patients with severe diseases who had heard the responsibility message had their medication levels raised significantly more than all other groups. However, a glance at the diastolic blood pressures of these patients (see Table 4) reveals that they had the highest diastolic blood pressures both before and after the experimental intervention. It cannot be concluded, then, that the high diastolic blood pressures of these patients were a result of the experimental communication since the pressures were high before the patients were interviewed. Rather, the diastolic blood pressures of all patients in this analysis fell from the pre- to the post-experimental clinic visit. However, since the blood pressures of the severe illness patients who heard the responsibility message were the highest before the intervention, they were highest also afterward. The medication levels were probably raised in order to lower the diastolic pressures of this group of patients still further.

Part III: Effects of Severity and Degree of Stabilization on Patients Self Report and Medical Ratings

The most consistent finding of the medical measures analyses was a time by degree of stabilization interaction which revealed drops in

blood pressures and levels of medication for the unstabilized patients and a drop in time between clinic visits for the stabilized patients from the pre-experimental to the post-experimental measurements. Since these changes occurred for the patients with the more extreme scores, they can probably be accounted for by a regression to the mean.

A final result of the patients' self report ratings remains to be discussed. The severe unstabilized illness patients rated themselves as seeing their doctors more frequently than the severe stabilized patients while there was no difference in the perception of frequency of the two mild groups. An analysis of the actual time between clinic visits showed no differences among the patients. However, this perception can perhaps be seen as an indication that differences in degree of stabilization were perceived by the patients although they did not answer direct questions about degree of stabilization of their conditions in any systematic way.

V -- CONCLUSIONS AND IMPLICATIONS

One of the more heartening results of this study is that there were any results at all. The subjects of this investigation were ill and preoccupied with their impending visits to their physicians and yet a half hour contact with an interviewer and a communication which took at most five minutes to impart had effects which showed up more than two weeks later. That such a minimal manipulation had any effect at all should be encouraging to scientists interested in field research. However, it is possible that the effects were found because such an encounter (i.e. discussing their ailments with a professional in the clinic) was unusual for patients and therefore highly salient. If this is the case, it is a dismal comment on the quality of interactions in at least this medical setting.

Implications for the Medical Setting

The results of the study indicate that even individuals who want information about their medical conditions do not know how to go about getting it. The interview revealed a number of factors which contribute to this result. The first is that patients appear to feel that respect for physicians precludes asking questions, a sentiment that unfortunately still appears to be shared by many physicians. Even when patients manage to overcome this impediment, however, they are frequently faced with responses which they do not understand. The low level of education of these patients probably contributes to their lack of understanding. However, most readers will agree that even poorly educated patients

have a right to have their questions answered in a way that they will understand. In order for the situation to change, however, physicians will first have to agree that the provision of information is an integral part of their professional responsibilities. Only then can information be provided in a way which is meaningful to patients.

Both sets of instructions affected patient attitudes more than they did behavior. Thus, patients changed their attitudes regarding physicians and medical treatment as a result of the instructions but did not change how often they skipped taking their medications or went off their diets. While a manipulation of this sort might have been more effective for a more middle class sample, it is clear that one half hour contact with these clinic patients was insufficient to change the habits of a lifetime. Clearly, more work is needed to determine if, with more extensive contact, patients' behavior as well as attitudes can be differentially affected.

While the results of the study suggest only that stabilized patients prefer not to exercise control, it is possible, if such patients could somehow be persuaded to ask questions and obtain information, that such control would be as beneficial to them as to unstabilized patients. Further research in the medical setting is needed to clarify this issue. Finally, further investigation would be useful in determining whether differences in preferences for control exist also for nonclinic patients, who are more likely to have longterm contact with a single physician. It is possible that such contact affects the type of relationship which patients have with their physicians which in turn may effect their preferences for exerting control.

General Implications

As predicted, the results of the study indicate that people do not prefer exercising control under all circumstances. However, because of the specialized setting in which the investigation was carried out, it is difficult to isolate the exact predictors of the preference for exercising or relinquishing control. It may be, for example, that it is the specific relationship which exists between patient and physician which contributes to the results found in this study and that the differential preferences for control may not generalize to other situations in which this relationship is lacking. Or it may be that people prefer to relinquish control in situations which are relatively positive and prefer to exercise control only when they feel they have nothing to lose by doing so. The latter interpretation is consistent with the data, but is this true for individuals in general as well as medical patients?

No data exist which can answer this question, but the hypothesis is not contradicted by existing findings. Most experimental studies of control have involved a negative stimulus such as shock or noise, and an aversive situation, and these are the situations in which subjects were found to prefer control to no control, exactly as in the present study. It would be interesting to compare a negative and positive situation in the laboratory to determine if control is preferred to no control in positive circumstances as well as in the negative ones which have typically been used. This may be at least part of the answer to the question of why people do not exercise control so often in real life.

APPENDIX A

Patient-Information Questionnaire

FACE SHEET-PATIENT INFORMATION QUESTIONNAIRE

Name_____

Medical Record Number_____

Code_____

Time_____

Empathy_____

Understanding_____

Code _____

PATIENT INFORMATION QUESTIONNAIRE

Age_____

Sex_____

Occupation_____

Education_____

Income_____

1. What are the symptoms from which you are suffering: _____

_____

2. How long have you had this problem? _____

3. How long did you have symptoms before you consulted a doctor?_____

_____

4. What is the name of your condition?_____

5. Do you have any other medical problems besides the one which brought you to this clinic?_____

6. Is this the first time that you have had this illness? Yes___No___

6a. (IF NO) How many times have you had it in the past?_____

7. Is this the first time that you are seeing a doctor for treatment of this condition (this time)? YES ____ NO ____

8. How long have you been coming to this clinic?_____

9. Do you know the cause of your illness? YES____ NO ____

9a. (IF YES) What is the cause_____

_____

10. Do you know what treatment has been prescribed for your condition?

YES____ NO ____

10a. (IF YES) What is the treatment?_____

_____

11. Are there other treatments for this particular condition that you know of? YES____ NO ____

11a. (IF YES) What are they?_____

_____

12. Have you read or heard anything about your particular condition?

YES____ NO____

(F YES) Was it a 1) newspaper article_____

2) medical book_____

3) magazine article_____

4) pamphlet given by doctor_____

5) other (please specify)_____

13. Please rate on the following scale, how much you think you know about your medical condition.

1	2	3	4	5	6	7
almost nothing						almost everything an educated person could know

14. How serious do you think your condition is?

1	2	3	4	5	6	7
not at all serious						extremely serious

15. Do you think that your condition will get better, get worse, or remain about the same?_____

16. What do you think is the likelihood that your condition will either be completely cured or will be completely controlled by the treatment you are receiving?

_____

1	2	3	4	5	6	7
extremely unlikely						extremely likely

17. How many doctors have you already seen about your medical condition?

_____

18. If you have seen only one doctor please mark the answer that best describes the reason.

a) trust my doctor, don't need another_____

b) too expensive_____

c) disease is not serious enought to need a second opinion_____

d) never thought of seeing anyone else_____

e) other (please specify)_____

19. If you have seen more than five doctors, please indicate why_____

_____

20. Are you receiving any medication for your condition? YES____ NO ____

(IF NO, SKIP TO #24)

20a. How often do you skip taking your medication?_____

20b. How often do you go off your diet?_____

20c. What is the name of the medication?_____

20d. What is the dosage?_____

20e. How many times a day are you required to take it?_____

21. Do you know what this medication does? YES____ NO____

21a. (IF YES) What does it do?_____

21b. How do you know this?_____

22. Have you suffered any side effects from this medication?

YES____ NO____

22a. (IF YES) What?_____

23. What are the general side effects of this medication?_____

_____

24. Have you previously seen the doctor whom you are about to see?___

YES____ NO____

24a. (IF YES) Do you generally ask him/her any questions during the course of your visit? YES____ NO____

24b. Approximately how many?_____

25. Do you generally ask doctors any questions during a visit?

YES____ NO____

25a. (IF YES) Approximately how many?_____

25b. Do you ever not want to ask your doctor questions?_____

25c. (IF YES) Why?_____

26. What information would you like to have that you do not now have about your condition?_____

26a. (IF NONE) Why not?_____

_____

27. BP last time_____

1. How would you rate your general state of health?

1	2	3	4	5	6	7
poor						good

2. How often do you see or contact your doctor?

1	2	3	4	5	6	7
every day					less than once every 3 months	

3. How much time have you missed from work during the last month because of your health?

1	2	3	4	5	6	7
haven't been able to work						none

4. How satisfied are you with your doctor?

1	2	3	4	5	6	7
extremely dissatisfied						extremely satisfied

5. How satisfied are you with your treatment?

1	2	3	4	5	6	7
extremely dissatisfied						extremely satisfied

6. In general, how active would you say you are?

1	2	3	4	5	6	7
extremely inactive						extremely active

7. In general, how anxious would you say you are?

1	2	3	4	5	6	7
extremely anxious						extremely calm

8. How satisfied with your life are you, in general?

1	2	3	4	5	6	7
extremely dissatisfied						extremely satisfied

9. Please rate the amount of control which you feel you have over what is going to happen to you in your life.

1	2	3	4	5	6	7
no control						complete control

APPENDIX B

Patient Instructions

COMMUNICATION: RESPONSIBILITY GROUP

Many people are passive in a medical situation and usually leave everything up to the doctor. They don't realize that they are actually deciding things all the time while they are being treated. For example, as a patient, you choose which clinic or doctor or hospital to go to, you decide whether to show up for an appointment or not. Many people prefer to leave the deciding up to their doctors. But patients have to O.K. the decisions made by their doctors and because of this, some people feel that they need enough information to be able to do this. Getting information means asking questions during your visit, phoning your doctor if you forget or are unsure about anything (s)he's told you, or getting another opinion from another doctor if you think it's necessary. The choice of whether to do this or not is up to you. But it's important to remember that since you do make decisions about your health, either directly or indirectly, you should be thinking about what kind of information you may want to help you in making these decisions.

COMMUNICATION: COMPARISON GROUP

Many people don't realize how important it is to follow the doctor's orders correctly. As you know, your doctor has gone through at least eight years of medical training and is therefore the person most qualified to take charge of your medical treatment. However, the treatment may not have the desired effect unless you are following it

as the doctor prescribed. Therefore, it is important that you make sure that you understand and remember what was prescribed for you and that you follow your doctor's instructions about medication, diet, and exercise.

APPENDIX C

Patient Handouts

(Medical information provided by Dr. Walter Stoll of Lexington, Kentucky)

Patient Handout

Diabetes - Responsibility

There are two basic kinds of sugar diabetes: 1. juvenile diabetes, and 2. adult diabetes. Adult diabetes is more common and is usually poorly managed. The reason for this is that it is hard for the diabetic to change his or her way of life when there may not even be any symptoms. Patient information and education is very important in diabetes. You can get information from the American Diabetes Association and the United States Public Health Service. If you have diabetes, you should get as much information as you possibly can from these places and study it. Any questions that you have about this information can be explained by your doctor.

When you have diabetes, it means that your body is not doing a good job of controlling the level of sugar in your blood. Insulin is an enzyme which allows sugar in the blood to cross into the cell where it can be used. The diabetic has a deficiency in this enzyme. This means that you have to control your blood sugar yourself instead of your body automatically doing it for you. All the diet instructions that you have been given are to help you control the sugar level in your blood. You can do this by not eating a lot of sugar or starch at one time. It is your responsibility to yourself to learn which foods are high in sugar and starch and to eat only small amounts of these foods. It is your responsibility to avoid eating many foods which are high in sugar or starch at the same meal. Not only will this help you control the level of sugar in the blood, but it will also reduce the

chances of the illness getting worse.

If you take insulin, you should ask your doctor to show you how to make a map on both your thighs so that you will not inject yourself in the same place more than once every 30 to 60 days. By doing this, you can avoid damage to the layer under your skin where you inject the insulin.

Insulin reaction occurs when your blood sugar drops too low. You have a responsibility to yourself to learn the symptoms of insulin reaction so that you will know whether you have to contact your doctor and what to do before you see your doctor. The symptoms of insulin reaction, in order, are: 1. weakness, 2. hunger, 3. sweating, 4. faintness, 5. shakiness, 6. nervousness, 7. pallor, 8. mental confusion, and finally, 9. coma. You have a responsibility to yourself to contact your doctor and find out what you should do in case of insulin reaction.

Diabetes causes hardening of the very small arteries, especially in the feet. Also, the nerve function in these areas is reduced by the illness. The result is that your ability to resist infection and repair damage caused by infection is reduced, and your ability to feel pain, which signals infection, is also reduced. Any damage that may occur because of infection or lack of circulation will take a very long time to heal. Your responsibility is to improve your chances of avoiding these problems by taking care of your feet. Keep them especially clean, wear comfortable, well-supported shoes, don't trim your own toenails or calluses.

You also have a responsibility in managing your care to recognize when things are not going as they should. The following symptoms

indicate that you should call your doctor: 1. fever, 2. burning when you urinate, 3. hypoglycemic reaction (weakness, nausea, sweatiness, a few hours after you eat), 4. numbness or tingling of your hands or feet, 5. rapid weight gain or loss, 6. leg cramps when walking, 7. any visual symptoms, 8. sores on your feet.

Patient Handout

Diabetes - Obedience

There are two basic kinds of sugar diabetes: 1. juvenile diabetes, and 2. adult diabetes. Adult diabetes is more common and is usually poorly managed. The reason for this is that it is hard for the diabetic to change his or her way of life when there may not even be any symptoms. Following your doctor's orders about medication and diet is very important in diabetes.

When you have diabetes, it means that your body is not doing a good job of controlling the level of sugar in your blood. Insulin is an enzyme which allows the sugar in the blood to cross into the cell where it can be used. The diabetic has a deficiency in this enzyme. Unless you follow the diet which the doctor has prescribed for you, and take the medication, the sugar level in your blood will not be controlled and the chances that your illness will get worse will be increased. You should be careful to eat only small amounts of food which contains a lot of sugar or starch and never to eat several foods which are high in sugar or starch at the same meal.

If you take insulin, your doctor will show you how to make a map on both your thighs so that you wll not inject yourself in the same spot more than once every 30 to 60 days. This will avoid any damage to the layer under the skin where the insulin is injected.

Insulin reaction occurs when your blood sugar drops too low. If you have any symptoms of insulin reaction, you should contact your doctor or get yourself to the hospital. The symptoms of insulin

reaction, in order, are: 1. weakness, 2. hunger, 3. sweating, 4. faintness, 5. shakiness, 6. nervousness, 7. pallor, 8. mental confusion, and finally, 9. coma. Your doctor has told you what to do if you ever experience insulin reaction. Make sure that you follow his or her advice as carefully as possible.

Diabetes causes hardening of the very small arteries, especially in the feet. Also, the nerve function in these areas is reduced by the illness. The result is that your body's ability to resist infection and repair damage resulting from infection is reduced. Your ability to feel pain, which signals infection, is also reduced. Because of the greater probability of infection, it is important to take care of your feet. You should keep them especially clean, wear comfortable well-supported shoes, and be careful <u>not</u> to trim your own toenails or calluses. In addition, you should follow carefully whatever instructions your doctor gives you.

The following symptoms are signs that things are not going as they should and that you should call your doctor: 1. fever, 2. burning when you urinate, 3. hypoglycemic reaction (that is, weakness, nausea or sweatiness a few hours after you eat), 4. numbness or tingling of the hands of feet, 5. rapid weight gain or loss, 6. leg cramps when walking, 7. any visual problems, 8. sores on your feet.

Patient Handout

Hypertension - Responsibility

Hypertension means persistent high blood pressure. People with even mild hypertension have a much greater chance of heart attacks and strokes than people who have never had high blood pressure. But if your hypertension is properly treated, the risk of a heart attack is not much greater than for people who have never had hypertension at all. You have a responsibility to yourself to make sure that you are taking proper steps to control your hypertension.

If you leave your hypertension untreated, it will generally progress in the following way. The first five years, your blood pressure will sometimes be high and sometimes be normal. The second five years, the blood pressure will be a little higher when it goes up, and when it goes down, it will barely be normal. The third five years, your blood pressure will always be in the high range, even though some days it will be lower than others. There will be no symptoms during these first three stages. During the final stage, your blood pressure will not bounce back and forth as much as it used to. It will always be at a fairly high level. During this stage, you are likely to have symptoms such as: 1) fatigue, 2) headache, 3) dizziness, 4) fainting spells, 5) angina, and 6) pain in the legs after walking short distances.

It is very hard for people to realize that they should begin treatment for hypertension while they still have no symptoms. However, if you decide to begin treatment at this stage, you will bring about

the best results. You yourself can control how your illness will progress in the future by doing something about it now.

There are two numbers which describe your blood pressure, the systolic (higher) number and the diastolic (lower) number. The higher number should not be above 140 and the lower number should not be above 90.

It is known that chronic low level emotional stress is a major cause and aggravation of hypertension. You yourself can help control your own hypertension by relaxation techniques. There are several books on the market which can help you do this. For example, Mind as healer, mind as slayer, by Dr. Pelletier, Dell Publishers. Remember that the important thing is to keep calm and unstressed. The decision of which method to use is completely up to you.

Remember, hypertension cannot be cured and only you can control it. The ways in which you can do this are by scheduling regular blood pressure checkups for yourself, by making sure that you continue to take your medication and eat properly even though your blood pressure is normal and by learning and practicing relaxation techniques which will help you control and lower your blood pressure.

Patient Handout

Hypertension- Obedience

Hypertension means persistent high blood pressure. People with even mild hypertension have a much greater chance of heart attacks and strokes than people who have never had high blood pressure. But if your hypertension is properly treated, the risk of a heart attack is not much greater than for people who have never had hypertension at all. If you follow your doctor's instructions exactly, the risk of heart attack and stroke will be reduced.

If your hypertension is left untreated, it will generally progress in the following way. The first five years, your blood pressure will sometimes be high and sometimes be normal. The second five years, the blood pressure will be a little higher when it goes up and when it goes down, it will barely be normal. The third five years, your blood pressure will always be in the high range, even though some days, it will be lower than others. There will be no symptoms during these first three stages. During the final stage, your blood pressure will not bounce back and forth as much as it used to. It will always be at a fairly high level. During this stage, you are likely to have symptoms such as: 1) fatigue, 2) headache, 3) dizziness, 4) possible fainting spells, 5) angina, 6) pain in the legs after walking short distances.

It is very hard for people to realize that treatment should be begun for a condition while they still have no symptoms. However, treatment at an early stage will bring about the best results. Following your doctor's instructions carefully now will have a good

effect on your condition in the future.

There are two numbers which describe your blood pressure, the systolic (higher) number and the diastolic (lower) number. The higher number should not be above 140 and the lower number should not be above 90.

It is known that chronic low level emotional stress is a major cause and aggravation of hypertension. It is important to follow your doctor's orders about remaining calm, and not allowing yourself to get too excited. Remember, hypertension cannot be cured. It can only be controlled. The way in which this can be done is by keeping your appointments for regular blood pressure checkups and following carefully your doctor's instructions.

APPENDIX D

Patient-Information Questionnaire Follow-up

Patient-Information Questionnaire Follow-up

Name_____

Date_____

Code_____

1. How would you rate your general state of health?

1	4	7
Poor extremely	so so	good extremely

2. When is your next appointment at the General Medical Clinic? _____

---

3. How much time have you missed from work since your interview at the clinic because of your health?

---

4. How satisfied are you with your doctor at the clinic?

1	4	7
extremely dissatisfied	neither satisfied nor dissatisfied	extremely satisfied

5. How satisfied are you with your treatment at the clinic?

1	4	7
extremely dissatisfied	neither satisfied nor dissatisfied	extremely satisfied

6. In general, how active would you say you are?

1	4	7
extremely inactive	neither active nor inactive	extremely active

7. In general, how anxious would you say you are?

1	4	7
extremely anxious	neither anxious nor calm	extremely calm

8. How satisfied with your life are you, in general?

1	4	7
extremely dissatisfied	neither satisifed nor dissatisfied	extremely satisfied

9. Please rate the amount of control which you feel you have over what is going to happen to you in your life.

1	4	7
no control		complete control

10. Have you tried to get any information about your illness since your interview in the clinic?

_____

(IF YES) What have you done?_____

_____

11. How many times a week do you forget to take your medication or break your diet?

_____

12. How do you feel about the issue which you discussed with the interviewer in the clinic?

_____

_____

_____

_____

13. What was your blood pressure last week at the clinic? _____

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