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A Status Study of Economic Education in Michigan Elementary Schools

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A COMPARISON OF THE EFFECTS OF DIFFERENTIAL BEHAVIORAL STRATEGIES ON THERAPEUTIC COMPLIANCE: MAKING AND KEEPING APPOINTMENTS

by

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A COMPARISON OF THE EFFECTS OF DIFFERENTIAL BEHAVIORAL STRATEGIES ON THERAPEUTIC COMPLIANCE: MAKING AND KEEPING APPOINTMENTS

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Western Michigan University, 1990

The present research grew out of a larger study, The Transgenerational Project for Parents and Children (TG) (Epps, 1986), which was conducted at the Howard University Child Development Center in Washington, D.C. This study provided the model for simultaneously addressing the needs of parents as well as their preadolescent children who exhibited specific learning disabilities that significantly decreased achievement levels. The present research compares the effectiveness of combining behavioral strategies, which previous research has shown to individually contribute toward enhancing patient compliance, in order to increase parental compliance with referrals for child psychotherapy.

Twenty-one parents or guardians of children whose ages ranged from 10-12 years served as subjects for the study. Each participant was randomly assigned to one of three treatment groups: a control group, an overt commitment plus incentive group, and an overt commitment plus supportive session group. Compliance was measured in two ways: (1) appointment scheduling within one week of the initial interpretation conference, and (2) attendance by the subject to at least one counseling session within one month following the interpretation conference.

It was hypothesized the overt commitment and supportive counseling would produce greatest compliance on both dependent variables than would either overt commitment plus incentive or control procedures. Chi-square analyses of the performance data revealed no

significant differences between treatment groups although there was consistent evidence that overt commitment and counseling were effective components when combined in a treatment package.

Demographic information regarding those who failed to comply with treatment regimens were discussed. The concept of behavioral community psychology as an alternative approach toward enhancing patient compliance is outlined for practitioners who face the issues of noncompliance with this population.

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A comparison of the effects of differential behavioral strategies on therapeutic compliance: Making and keeping appointments

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CHAPTER I

INTRODUCTION

Disturbingly low rates of cooperation or "compliance" with medical regimens, in both preventive and curative situations, have been well documented (Caron & Roth, 1968; Epstein & Masek, 1978; Robinson, 1965). However, while evidence accumulates in almost all outpatient treatments, a growing body of research suggests that in spite of the benefits, a great majority of people who seek medical care will, often times, not follow through with recommended therapeutic regimens. The magnitude of this problem is evident when one considers survey data which show that at least a third of the patients in most studies failed to comply with doctors' orders, and that one third of the studies done report a noncompliance rate of 50% or more (Gillum & Barsky, 1974).

Definition

Webster's New Collegiate Dictionary (9th ed.,1983) defines compliance as conformity in fulfilling official requirements. Compliance to therapeutic regimens is generally defined as the extent to which the patient adheres to a prescribed medical treatment, while noncompliance is failure to do so (Rice & Lutzer, 1984). Zifferblatt (1975) defines compliance as a behavioral event.

> When a patient adheres to a prescribed medical regimen, he is said to be "compliant." Compliant behavior may thus be defined as a class of behaviors occasioned by a specific set of cues (antecedents) and consequences. Some of these cues relate to a request by a physician, others relate to physical symptoms, time and occasions upon which compliance occurs. The consequences may be relief, a sense of well being, personal satisfaction, or avoidance of disease. While behaviors may look

> alike, they are only termed compliant behavior if occasioned by physician-governed cues. Taking aspirin or a spontaneous cold or headache is not compliant behavior. Taking aspirin when directed by a physician is compliant behavior. (p. 176)

The Problem

The medical and psychological literature on appointment-keeping and compliance to treatment recommendations is replete with information regarding not only the preventive benefits, but the curative benefits of patient adherence to prescribed health-related activities as well. Usually, however, attention is focused on the adverse effects upon the patient's health that can potentially arise when medication, diet, exercise, or smoking and alcohol consumption regimens are not followed as prescribed. Potential health hazards are also noted when patients do not report symptoms or follow through with scheduled appointments. As such, lack of cooperation in the foremention areas can present definite problems. For example, noncompliance with prescribed medications may influence the effectiveness of the medication, as irregular ingestion of the medication may be insufficient to maintain therapeutic blood levels (Epstein & Masek, 1978). Noncompliance with recommended weight and exercise programs, as well as programs which attempt to control smoking, alcohol and drug use can have adverse effects on one's health (Hall, 1984; Jeffery, Gerber, Rosenthal, & Lindquist, 1983; Malott, Glasgow, O'Neill, & Klesges, 1984; Mann, 1972; Martin & Dubbert, 1982; Wysocki, Hall, Iwata, & Riordan, 1979). Similarly, Iwata and Becksfort (1981) noted that lack of cooperation with oral hygiene may produce serious periodontal problems. The conduct of medical research, although less frequently cited, is another critical area which is affected by noncompliance. Levy, Yamashita, and Pow (1979) contend that failure of patients to report symptoms following medical regimens may lead to

a significant loss of valuable research information. Additionally, noncompliance with follow-up appointments hinders the implementation of needed, timely medical attention (Alpert, 1964; Benjamin-Bauman, Reiss, & Bailey, 1984; Dervin, Stone, & Beck, 1978). Not only does patient noncompliance with medical regimens drastically curtail the benefits that could accrue to patients from therapeutic treatments, but it also produces inestimable costs, both economic and human, and provides considerable frustration for practitioners. Thus, compliance to recommended medical treatment may well be one of the most crucial issues in medicine today (Rice & Lutzer, 1984).

Davis (1966), drawing from a review of the literature, revealed that the percentage of patients who fail to follow their doctor's orders ranges from 15 to 93%. In almost half of the studies reviewed, the rate of noncompliance falls within the range of 30 to 35%. Eighty-six percent of the studies reviewed reported noncompliance in more than 30% of the cases, and one-third of the studies reported a noncompliance rate of 50% or more. This wide range is not surprising when one takes into account the various populations considered, the various methods of data collection employed, and the variety of medical problems and regimens investigated. Nevertheless, a distinct pattern emerges when the research on patient compliance as a whole is examined. Regardless of the number and variety of regimens prescribed and illnesses considered, at least one-third of the patients fail to comply with doctors' orders.

Predisposing Factors

Gillum and Barsky (1974) have disclosed four general classes of factors most consistently related to noncompliance: (1) psychological/attitudinal, (2) environmental/social, (3) therapeutic regimen, and (4) physician/patient interaction. Psychologically, noncompliant patients

can be identified by examining coping mechanisms, dependency, and defensiveness. In addition, patients with extremely low or high levels of fear or anxiety have been shown to remember less of suggested medical programs and are less likely to comply with medical advice. As for environmental factors, noncompliance is more likely to occur in the face of familial instability, disharmony, and among those living alone. Also demonstrated is that patients often adopt only a portion of their therapeutic regimens, picking the part that is least difficult. The more complicated and complex the total regimen becomes, the more likely it evokes noncompliant behavior. There is general agreement that the quality and nature of the physician-patient relationship is important in compliance. The stronger the physician-patient rapport, the more likely patient compliance will occur (Gillum & Barsky, 1974).

Other researchers have identified additional predisposing factors which influence patient compliance. Ambuel, Cebulla, Watt, and Crowne (1964) found that patients with long-term illnesses are reportedly more compliant if they are given careful instructions, and the life-threatening nature of an acute illness has been related to increased compliance. Although patient characteristics such as age, gender, education level, religious affiliation, socioeconomic status, and ethnicity have demonstrated conflicting results with respect to patient compliance, it is possible to formulate some impressions about which patient characteristics correlate with noncompliant behavior. It seems that females are somewhat more likely toward noncompliance than males; that older people, patients in lower socioeconomic status groups, and patients with little education are less likely to comply with physicians' regimens (Davis, 1968a). Additionally, many of the studies have indicated, either empirically or by implication, that doctors do not give enough consideration to their role as interpreter and educator

with patients. Furthermore, there appears to be an underlying assumption among doctors that patients do follow their physicians' advice (Francis, Korsch, & Morris, 1969).

Present Research

While considerable research has been conducted in examining those factors related to patient compliance, there is relatively little generalization of the findings concerning those factors which consistently enhance compliance. Haynes and Sackett (1974) reviewed 246 medical studies dealing with patient noncompliance. Almost 60% of these studies involved methodological and epidemiological studies and reviews, with only 41% dealing with treatment strategies for enhancing compliance. Moreover, most research that was reviewed records minimal and inconsistent results with regard to patient compliance with prescribed treatment programs.

Patient compliance to professionally recommended regimens is typically poor, even among those who are likely to benefit the most. The present study attempts to extend the existing research in three ways: (1) by examining the efficacy of combining behavioral treatment techniques which have individually demonstrated some effectiveness in enhancing patient compliance; (2) by focusing on a population with a high probability of noncompliance; and (3) by reviewing a relatively unexamined area in the compliance research. Attempts were made to increase the probability of getting parents to initiate and then follow through with the recommendations of child psychotherapy in a discipline noted for resistance and apprehension, i.e., pediatric psychotherapy. Additionally, those behavioral factors which contribute to the immediate maintenance of child psychotherapy were assessed. It is hoped that once initial child psychotherapy contacts are made and the patient is adequately connected into the therapeutic process,

maintenance of participation will occur. Further, it is expected that the results obtained from this research will be important in extending the behavioral strategies for enhancing compliance.

CHAPTER II

REVIEW OF SELECTED LITERATURE OF PATIENT COMPLIANCE WITH APPOINTMENT-KEEPING

In a larger view, appointment-breaking is a symptom of noncompliance with medical care. Various methods have been tried when patients fail to comply with appointments. Attention has been focused on efficient utilization of outpatient facilities by revising appointment systems and providing more pleasant physical surroundings (Rice & Lutzer, 1984; Schroeder, 1978; Turner & Vernon, 1976). Another focus has been on teaching medical students communication skills that will improve relationships between doctor and patient (Davis, 1968b; Francis et al., 1969). Recently, however, research has been directed more toward identifying those critical factors related to patient noncompliance in appointment-keeping (Badgley & Furnal, 1961; Brigg, 1965; Gordis, Markowitz, & Lilienfeld, 1969; Kidd & Euphrat, 1971; Walsh, Benton, & Arnold, 1967). The purpose of this chapter is to present a review of selected literature (1960-1985) of those methods which have proven most effective in reducing appointment failure.

One area of concern has been the failure of patients following through with appointment-keeping. Patients who do not keep appointments have been the subject of recent and continuing study since they account for one-quarter or more of clinic appointments (Davis, 1967). Surveys of appointment failures in outpatient, nonprivate clinics varied from 19% to 52% (Alpert, 1964). This area is of importance because the patient who misses a scheduled appointment is at risk of not receiving needed appropriate treatment. Further, broken appointments are disruptive to clinic operations, resulting in discontinuous care for patients, the physician's time is less efficiently utilized,

and there is an increased delay in waiting time for patients who want to schedule an appointment at the same clinic (Dervin et al., 1978).

Demographic Characteristics of Noncompliers

Much of the research in this area has attempted to determine which demographic and attitudinal characteristics of patients best predict appointment-keeping compliance (Badgley & Furnal, 1961). Several studies have suggested that blacks and Hispanics are less likely to keep appointments than whites (Jonas, 1971; Stine, Chuaqui, Jiminez, & Oppel, 1968); mothers with pediatric regimens and working mothers demonstrate especially poor compliance (Becker, Drachman, & Kirscht, 1972; Stine et al., 1968); low income, broken homes, medical debts, psychiatric diagnoses, and absence of hospital insurance are factors also associated with poor compliance (Stine et al., 1968). Patients who receive Medicaid and those less educated typically show higher rates of noncompliance (Dervin et al., 1978).

In an often cited, critical study, Alpert (1964) attempted to identify the characteristics of patients and their families who break appointments and to define those demographic and attitudinal factors which contribute to noncompliance. The setting of this research was the Medical Clinic of Boston Children's Hospital Center. The study was divided into two phases. In Phase I, a survey was conducted to determine the actual percentage of appointment failures and cancellations as well as some of the demographic and attitudinal characteristics of the clinic patients. In Phase II, a standard interview was administered by a student social worker to the appointment-breaking group and to a group of families who kept their appointments. A patient was classified as a "did not keep" (DNK) if the appointment was not kept and if no notification was given in advance. The "keeper" was defined as having had at least three

appointments in the preceding year and to have broken none. The "keeper" was interviewed in the clinic and the DNK interviewed at home or by telephone. The DNKs were compared with the keepers.

Results of this study indicated that in Phase I there was an overall noncompliance rate of 19.1%. At the start of the study, there was a waiting period of six weeks for all patients before a patient was seen by a physician. The survey showed that 16% of the new patients and 47% of the return patients did not keep their appointments. Of the 48% return patients, 14% were personal returns (returning to see a particular physician), and 34% were general returns (returning to see any physician). In Phase II, 282 appointments were broken by 263 families, or 17.8% of the 1,588 total appointments scheduled. Ten percent of the new patients and 26% of the return patients did not keep their appointments. It was possible to interview 49% of the DNKs. Although a home interview was preferred, 45% of the noncompliant subjects were interviewed by telephone. The telephone was used if there had been a previous home visit or because of distance, refusal of a home visit and inability to arrange a mutually convenient time for the home interview.

Comparison of the DNKs with the keepers showed no significant difference with regard to the duration of symptoms, the time elapsed since the last appointment, or the waiting time for the appointment. Of the keepers, 79% felt they had a doctor in the hospital with whom they could talk, while 63% of the DNKs believed so. In both groups, 25% waited 3 or more hours to see the doctor. Of the DNKs, 29% compared with 16% of the keepers were in the hospital 4 or more hours. Of the keepers, 77% felt that the doctors in general were interested in their patients, as compared with only 54% of the DNKs. Of the broken appointments, 20% had no obvious reason for seeing a physician compared with none of the keepers. Those families who failed to meet

appointments were more likely to have a psychiatric diagnosis, to have general medical debts, to have found that coming was expensive, not to have hospital insurance, and to come from larger families than those identified as "keepers." More of the DNK patients came from single parent homes (12% vs. 6%), a home where the mother was working (17% vs. 11%), or were black families (17% vs. 8% non-black) (Alpert, 1964).

On the basis of either home visit or telephone contact to DNKs, several reasons were given for not keeping appointments. Of the returning patients, 23% never intended to come back, 38% forgot or were indifferent, 29% gave family reasons (no sitter, an illness, no transportation, or inadequate finances). In comparison, among the new patients, 29.5% never intended to keep their appointment, 21% forgot or were indifferent, and 44% gave family reasons. In summary, there appeared to be two groups of patients who failed to keep appointments. One was lower socioeconomic status families who lived near the hospital and used its clinics as a major source of medical care. These patients were usually referred by other hospital facilities, particularly the emergency clinic. The second group was of higher socioeconomic status, came from a distance, had modest medical debts, and used the hospital as a referral center. These patients found coming to the hospital expensive, that it did not meet their needs, and consequently, did not intend to return. Although the Alpert study (1964) was not designed to explore patient motivation, there was some evidence of patient dissatisfaction with medical care and doctors in general in the DNK group. DNK patients found going to the hospital upsetting, could not accept the diagnosis made, objected to hospital procedures, and could not understand what the doctor said. These findings seemed to suggest the importance of sustaining patient motivation to keep appointments.

Similarly, Jonas (1971) studied appointment-breaking at a general adult medical clinic. This study was an attempt to determine whether

patients who break appointments are different in certain characteristics from patients who keep appointments. The data were collected during a series of clinic sessions at the Gouverner Health Program in New York City. A list of patient appointments, with the patient's name and chart number, was prepared for each doctor in each session. As each patient was seen, the name was crossed off the list. The names of the "no-show" patients thus remained on the list at the end of each session and their charts could be collected. At the end of each session, when the total number of "no-shows" for that session was known, an equal number of charts of "keepers" was pulled at random from the pile of collected charts. Care was taken to ensure that all doctors working that session were represented in the sample of keepers.

The following data were collected on a specially designed, precoded form: patient number, name, address, age as calculated from birth date, sex, ethnic group, number of years registered in the clinic, if the scheduled appointment was the first ever made at the clinic, type of visits scheduled (work-up or follow-up), doctor for the scheduled visit, and, for the calendar year to the appointment date, the number of appointment and non-appointment visits made by the patient as well as the number of appointments broken in the past.

In summary, the results indicated that appointment breakers were much more likely to be black and Hispanic than were keepers. They were also likely to be younger than keepers. There was no significant sex differential between keepers and breakers. The clinic utilization parameters which were significantly related to appointment-breaking were average annual numbers of appointment visits, total visits, and broken appointments. The first two were lower and the last was higher for breakers of a given appointment. There was no significant difference in the number of non-appointment visits made annually by keepers and breakers. Finally, for the indices of previous clinic use,

keepers had significantly higher appointment-visit, kept-appointment, and kept-appointment-per-contact rates. The major conclusions of this study were that the breaker of an appointment was more likely to be an habitual appointment-breaker than was a keeper and was also more likely to use the clinic on a non-appointment basis (Jonas, 1971).

The most important factor in patients failing to keep appointments appears to be one of communication between patient and care provider. Walsh et al. (1967), utilizing the questionnaire method, attempted to determine the reasons why patients do not keep appointments and to differentiate between those who cancel an appointment from those who do not notify the facility. This six-week study of more than 12,000 outpatient visits to the New Orleans, Louisiana, PHS Hospital revealed many interesting findings. Follow-up questionnaires were sent to 734 of the 840 patients who failed to keep or who cancelled an appointment during the study period. For 106 of the patients, the hospital had no record or home address and they could not be reached.

The results showed many reasons for failing to cancel appointments. In 61% of the 734 cases, appointments were cancelled because of communication failures. Some patients were not aware of having an appointment; some had the mistaken impression that the appointment had been cancelled or it had been kept; these were by far the most common causes for failure to cancel. There were also patients who reported to the clinic at the incorrect time or date because of misunderstanding the appointment time or were unable to get through because of busy telephone lines. The second most common cause of failure to cancel was the geographical separation from the medical facility for one reason or another; forgetfulness was the next; and nonavailability of a telephone was the fourth.

Communication failure was also the most cited reason for failing to keep appointments once made. The second and third most common

reasons were geographical separation and forgetfulness. Personal illness resulting in inability to come to the clinic was fourth, followed by family illness, transportation problems and occupational restrictions. Given such results, it seems prudent that patients need clear instructions and explanations of the importance of keeping appointments (Walsh et al., 1967).

Appointment Failures in Mental Health Clinics

The problem of broken appointments plagues family agencies, psychiatric clinics, marriage counseling centers, organizations and individuals alike whose function is to offer psychological services. Pfouts, Wallach, and Jenkins (1963) examined 218 consecutive referrals to the Adult Psychiatric Outpatient Clinic of North Carolina Memorial Hospital, Chapel Hill, in order to determine the extent of patient contact with the clinic and an attempt was made to replicate the results of previous research in the area. The authors demonstrated a high incidence of "no shows" for patients referred to a psychiatric clinic. Of the 218 consecutive referrals for whom diagnostic evaluations were provided, 29% did not keep the initial appointment and were designated as "no shows," 40% were seen in the clinic for evaluation only, and 31% were seen for one or more treatment visits following evaluation. Of the 31%, only 18% of the patients were seen in treatment for more than five visits. This pattern of "no shows" and of patients who came to the clinic only once or for a few visits was consistent with what appeared to be fairly uniform for adult psychiatric clinics and social casework agencies throughout the country.

Two obvious considerations emerge from these data:

1. Valuable clinic time was wasted when roughly one out of every four referrals failed to appear for the day-long evaluation process for

which psychiatrists, psychologists, and social workers had scheduled a large portion of the day.

2. The present study of 218 referrals to an adult psychiatric outpatient clinic replicated the findings of other outcome studies in demonstrating a pattern in which the majority of patients came for the diagnostic evaluation or brief treatment only, with a minority of selected patients in therapy for more than five visits (Pfouts et al., 1963).

Gottesfeld and Martinez (1972) also studied patients who failed to meet their first psychiatric interview at the Roosevelt Hospital in New York City. Comparison was made between the first 100 patients who contacted the hospital for psychiatric help and kept their appointment and the first 100 patients who did not. All clients were given the same interview schedule that included 31 variables that the psychiatric staff felt were important, such as waiting period for an appointment, the referral source, the occupation of the patient, the patient's educational level, marital status, the reasons for requesting help, the duration of the psychiatric problems and what the patient's expectations were. The first 100 patients who did not keep their appointments were contacted at their homes and interviewed with the same interview schedule as those who had come to their appointments, with the difference that noncompliers were asked for reasons for not keeping appointments.

The results of this study showed that of the 31 variables, only two variables showed statistically significant differences between those who complied and those who did not: (1) acuteness of the presenting psychiatric problem, and (2) expectation of the kind of treatment. Of the 100 patients who kept appointments, 63 said that their problems had become more acute prior to their appointments and were more likely to keep the appointment. Of the 100 patients who did

not keep the appointment, 62 said that their problems had become less acute and were less likely to keep their appointments. Furthermore, of those who complied with the appointment, 97 patients mentioned positive expectations about what was to happen, the kind of treatment, the kind of personnel, etc. Persons who did not keep the appointment were more likely to express negative expectations (e.g., "I'll be locked up," "Embarrassing subjects will be brought up.").

Additionally, the findings suggested that a waiting period of even a few days may not have served the needs of many patients under psychological stress unless their problems became more acute. It also seemed important to educate potential psychiatric patients as quickly as possible about what was going to happen if they began treatment. This would help dispel false or distorted notions (Gottesfeld & Martinez, 1972).

Kidd and Euphrat (1971) sought to determine whether personal telephone contact by an outpatient community mental health clinic would encourage prospective patients to make and keep their first therapy appointment. Four hundred and seven referrals to the clinic were reviewed. Of the 407 patients referred to the clinic in a seven-month period, 237 (58.2%) had become patients, 116 (28.5%) had not made first appointments (Group A), and 54 (13.3%) had made first appointments but failed to keep them (Group B). A Chi-square analysis of Group A vs. Group B revealed no statistically significant differences in the reasons given for failure to make and/or keep appointments between males and females, or between individuals who had never contacted the clinic and those who had made but not kept a first appointment. Twenty-five of the 40 males and 25 of the 76 females who had failed to make first appointments (Group A), and 25 of the 32 females as well as all 22 males who had not kept their first appointments (Group B) were contacted by telephone.

Two telephone calls were made concerning each prospective patient unless the referral agent had been the emergency psychiatric facility or the patient had been self-referred. The first call was to the referral agent, primarily the physician, minister, social worker, or school psychologist, to determine why the patient had not made or had not kept a first appointment. The second call was to the prospective patient to support and encourage members of Group A to make an appointment, to offer members of Group B another appointment, and to discover the patient's reason for failure to make and/or keep first appointments. The patients' and the referral agents' explanations of failure to make and/or keep first appointments were categorized as: (a) reason unknown, (b) resistant to therapy, (c) could not be contacted, (d) seeing another therapist, (e) ineligible, (f) other (which included in a hospital, in juvenile hall, or requested an appointment).

Of the 25 females in Group A, only one asked for and received an appointment, although she did not keep it. Of the 25 males in Group A, only two made, and both kept, appointments. Of the 25 females in Group B, six asked for, but only one kept, the appointment. Of the 22 males in Group B, two made, and both failed to keep, new appointments.

The results of this study suggest that one way of reducing the number of unkept or broken appointments is to educate referral agents so that they would first communicate with those they refer in ways that help reduce possible misconceptions about the nature of therapy, help lower anxieties about first appointments, and help allay the uneasiness about discussing problems with a "stranger" (Kidd & Euphrat, 1971).

Interventions for enhancing compliance with counseling/ psychotherapy appointments have included telephone conversations with the client prior to the initial interview (Brigg & Mudd, 1968). A research study (Brigg & Mudd, 1968) was conducted at the Marriage

Council of Philadelphia in order to determine if a pre-intake telephone call would achieve reduction of doubt and anxiety in the prospective client, lessen resistances, and clarify joint responsibility of counselor and client. One hundred and seven clients who submitted an application for marriage counseling, which represented a total of 198 people and 198 intervention hours, were the subjects of the study. Most appointments were made for both the husband and wife, but some applicants made appointments for themselves only. Of the 107 applications, 57, involving a total of 91 appointments, were telephoned prior to their first appointment (experimental group) and 50, involving a total of 93 appointments, were not (control group). Seven of the 57 experimental group participants, involving 14 appointments, could not be reached. These seven clients were placed in Group 3 entitled, "Assigned to Group 1 But Not Reached." The clients were randomly assigned (by the toss of a coin) to the experimental group (1) or the control group (2). As a rule, intake appointments, at the agency, were scheduled one to three weeks after the applicant requested one.

Four counselors, two males and two females, participated in the study. They were oriented in a group meeting to the uniform telephone procedures. Telephone calls were made from two to seven days before the time of the scheduled intake appointments. These telephone calls averaged about ten minutes. When calling an applicant, the counselor explained that he or she was the staff counselor at the Marriage Council whom the applicant would see at the appointment. The counselor also wanted to make sure that the appointment time was convenient for the applicant. If the applicant expressed doubt that one or the other would be unable to keep the appointment, the counselor then tried to ascertain why the applicant was doubtful and, if possible, helped resolve any doubts or if continued undecided, suggested postponement of the appointment and reapplication at some future time when the client

felt more sure of counseling assistance. Even when clients indicated that they planned to keep their appointments, the counselor would query whether they might have mixed feelings about coming for counseling.

The findings demonstrated that in the Experimental Group 1, 71 (78%) out of 91 applicants kept their appointments. Of the remaining 20, 11 (22%) were cancelled at the time the counselor telephoned, which meant that there was time to give the appointments to other clients. In the Control Group 2, 60 (65%) out of a total of 93 appointments were kept. Of the 33 remaining unkept appointments, 6 were cancelled early so that these 6 hours were not lost to intake. The remaining 27 unkept appointments (8 "no shows" and 19 last minute cancellations) represented 27 hours of lost intake time or 29% of all appointments in the control group.

The results of this study indicated the value of the telephone approach to clarify counseling processes and to reduce broken first appointments for counseling. Clients who received an anxiety-reducing phone call from the counselor were more likely, than clients who received no phone call, to move into counseling constructively or cancel the appointment responsibly (Brigg & Mudd, 1968).

Garcea and Irwin (1962) developed a limited contract procedure at a family counseling agency in Syracuse, New York, which enabled the client to maintain counseling contact until completion of at least three interviews. This procedure was designed to establish a base from which clients could engage in a continuing treatment relationship. The Division of Family Counseling undertook a study of those clients who either failed to continue contact after assignment for continued service or who dropped out after one continued-service interview. When the intake worker found that a client was hesitant about continuing the contact, an offer was then made for a trial period of four to six interviews. The case was then assigned to a worker for continued

service. This period was an opportunity for the client to assess how best to utilize the services. At the end of this period, both the client and caseworker evaluated the results. The client could then decide whether to continue or to withdraw from treatment. The caseworker also reserved the right to terminate service at the end of this trial period.

In summary, the findings in this study indicated that the staff developed greater skill in identifying clients who were potential dropouts. Most clients who dropped out tended to be impulsive, denied their need for treatment, and tended to focus on their environmental pressures rather than on personal conflicts or interpersonal relationships. The data suggested that the use of the limited contract, a means of setting time limits, resulted in a lower rate of attrition (Garcea & Irwin, 1962).

Another effort to increase compliance with keeping therapy appointments via the use of telephone prompts as a brief reminder was conducted by Turner and Vernon (1976). One thousand three hundred and fifty-five subjects (501 males and 854 females) at the Huntsville-Madison County Community Mental Health Center, Huntsville, Alabama, were studied. A standardized phone message was delivered by an administrative staff member (receptionist) one to three days before the appointment. The receptionist placed a maximum of three phone calls within an 8-hour period. After being assured that the person receiving the call was the person who scheduled the appointment, the receptionist introduced herself as a representative of the Mental Health Center and read the prepared script: "I'm calling to remind you of your appointment to see (Dr./ Mr./Ms...) on (date) at (time)." She then was instructed to say, "Thank you for your time," and terminated the call. The estimated time to complete the call was 30 seconds. The staff member of intake services monitored daily the scheduled appointment

arrivals. A sequential experimental design alternating baseline and phone message condition was used to assess the effects of the procedure.

The no-show rate averages were 32% (Baseline 1), 11% (Phone Prompt 1, Treatment), 25% (Baseline 2), and 14% (Phone Prompt 2, Treatment), respectively. The results, therefore, suggest that the rate at which clients attend their initial intake appointments can be significantly influenced by a brief telephone reminder (Turner & Vernon, 1976).

Compliance in Pediatric Clinics

Compliance with medical regimens and appointments is especially poor in pediatric clinic populations. It has been found that, in general, mothers of pediatric patients constitute a significant factor in high noncompliance rates (Badgley, 1961; Elling, Whittemore, & Green, 1960). As such, attention should be given to mothers' lack of compliance with pediatric regimens. Several studies have reviewed factors which negatively influence parental compliance with pediatric regimens. These factors included parental comprehension of the treatment regimen, socioeconomic and marital status and level of education of the parent, parental attitudes toward medical interventions, and the acuteness of the child's illness.

A study (Arnhold et al., 1970) was designed to determine if parents gave their children medication in the manner the physician had prescribed. Pediatricians in a prepaid group practice, evaluated, via a questionnaire and an interview, both comprehension of medical instructions by parents and their compliance with those instructions in a suburban setting. Duplicates of all prescriptions given out for antibiotics were kept. Later, an attempt was made to contact all of the 104 patients so that appointments could be made for an interviewer

to go to the homes of the 104 patients. The questionnaire and the interview were designed to evaluate both parental comprehension of treatment and instructions, and the compliance with which these instructions were carried out.

To assess compliance, the authors measured the quantity of dispensed medications which remained in the container. Accordingly, the interviews were scheduled a few days before the end of the treatment period. Parents were classified as compliers if the residual medicine did not deviate from the calculated amount by more than one day's dose. By use of the questionnaire, the interviewer asked the mother for her concept of the child's illness and obtained details about administration of the medicine. At the end of the interview, she was asked several general background questions about the family.

In summary, in this study, understanding instructions was generally excellent. Only four parents seemed to have misunderstood the instructions given to them. Nearly all mothers knew the size of the dose and knew how often it was to be given. Most knew that they were expected to finish the medicine or use it until the physician told them to stop, but seven parents had stopped because the child was better. Only three parents did not know the name or type of the drug. By the criteria applied in this study, there were 53 compliers, 15 noncompliers, and 36 for whom compliance could not be determined. No significant differences were found among these groups in the age of the children, the number of children in the family, the parent's education, the illness for which the drug was prescribed, the speed of the child's recovery, the type or form of the medication, whether prescribed by the child's regular pediatrician or another doctor, or the admitted frequency of forgetting to give a dose. There were relatively more working mothers among the noncompliers. The parents' attitudes toward

the illness seemed to have no influence upon compliance with instruction.

Administration of medication presented no major problems to most mothers. Resistance by the child did not appear to be a reason for noncompliance. With the exception of one parent who had a larger amount than prescribed, those who did not comply had more than the calculated amount of medicine left in the container. The authors surmised that the lack of any demonstrable difference between compliers and noncompliers and the generally small margin of noncompliance suggested that in this population, noncompliance may have been largely a matter of chance and not due to any specific characteristic of the noncompliance group (Arnhold et al., 1970).

Motivation and attitude of the child's mother were examined since it is usually the mother (particularly in a low-income clinic population) who decides whether or not the child is sick and brought to care, and if the regimen is followed. Becker et al. (1972) studied the mother who is less likely to adhere to the medical treatment prescribed for her child. The authors reformulated the "Health Belief Model" for use as a predictor of compliance in pediatric situations. The purpose of their research was to develop and empirically test the "Behavioral Model" for predicting compliance with pediatric regimens. A random sample of 125 cases was drawn from a population of children being treated for otitis media in the Comprehensive Child Care Clinic at the Johns Hopkins Hospital, Baltimore, Maryland. The children ranged in age from 6 weeks to 10 years. All were placed on a regimen of antibiotic (liquid) to be given orally, and arrangements were made for a follow-up visit. Medication was provided free of charge. An hour-long interview was conducted in the clinic immediately after the visit with the pediatrician. Prior screening assured that only mothers or grandmothers claiming to be the family member responsible for the

child's daily care, and for bringing the child to the clinic when necessary, were included in the sample. The respondents ranged in age from 14 to 70 years, and all but three were black.

Briefly, the results of this study indicated that the noncompliant mother viewed herself as healthy and did not feel much need to attend to medical advice. She was somewhat skeptical of the diagnosis and of the medical care to be given to her child in general. Also, this mother reported a history of dissatisfaction with many aspects of the clinic and usually saw a different physician at each visit. Finally, another general theme reflected the effect of prior medical care experiences on the learning of health information (Becker et al., 1972).

The impact of broken appointments upon the continued participation of children in pediatric clinics has been well studied (Badgley & Furnal, 1961; Motil, 1970). Prompt attention to a child's acute illness, ascertainment of recovery, maintained immunizations, advice at important stages of development, and optimal care of chronic disorders require an ongoing cooperative relationship between parent and physician. When a parent broke an appointment repeatedly, the cooperative system was interrupted. Gillum and Barsky (1974) cited research which stated that the three most common explanations offered by mothers of pediatric patients for noncompliance with clinic appointments were lack of transportation, lack of money, and other pressing family problems at home. Further, mothers who were less compliant reported it harder to get through the day, to take care of their children, and have fewer people in the home to help around the house. Stine et al. (1968) attempted to find if there existed an association between the social characteristics of the parent and the frequency of appointment-breaking which would permit prediction of

noncompliance in a given family and which would provide a rationale for efforts to change parental information, attitudes, or habits.

The Maternal and Child Health Clinic of the School of Hygiene and Public Health of Johns Hopkins University, Baltimore, Maryland, served children of a selected sample of low-income families. All appointments and professional contacts with these families were recorded between January 1, 1952 and December 31, 1961. Two hundred and three low-income black families, living in an urban neighborhood, were included in the study. All were enrolled in the clinic for at least two years. The general criteria for admitting a family when the clinic was opened were as follows: (a) residence in a low-income urban area in the city of Baltimore, (b) black race, (c) low family income, but no welfare assistance, and (d) father and mother living at home.

The clinic staff designed a detailed questionnaire concerning social and economic characteristics that have been described in the literature or found by clinic experiences to be helpful in understanding utilization of medical services. Answers were recorded as mutually-exclusive alternatives. Four part-time male social workers were trained to complete the questionnaire from structured interviews. The social workers had no previous contact with the parents they interviewed; they had no information about the appointment-keeping behavior of the families. Two hundred and three mothers, with a mean broken appointment rate of 22%, were interviewed in their homes. When two consecutive appointments were broken, a letter and a public health nursing visit urged use of the services and sought reasons for failure to attend.

The scales derived from the questionnaire described (a) mother's education, (b) father's social activities, (c) rural or urban origin of mother, (d) attitude of the mother toward her husband, and (e) reaction of the mother toward the children's misbehavior. An analysis

of variance was used to test associations of the selected items with the broken-appointment rate. The findings of this study revealed that these patterns included urban mothers breaking more appointments than rural mothers; less educated mothers failing to keep as many appointments as those with higher educational levels; and poor marital adjustment leading to an increased frequency of broken appointments. The mother's reaction toward the children's daily behavior did not appear to make a significant difference as a source of variation for the broken-appointment rate. Finally, the group with more social activity of the father and more education of the mother had the lowest rate of broken appointments; whereas, the highest average rate of broken appointments was found in the group with less education. In conclusion, the authors found that when multiple factors were studied, completion of high school was found to be the social characteristic explaining the greatest portion of variation between mothers and appointment-keeping at a free comprehensive clinic (Stine et al., 1968).

At the Children's Hospital of Columbus, Ohio, Ambuel et al. (1964) tested two hypotheses: (1) urgent appointments would be broken less frequently than routine ones, and (2) "poor keepers" would break a greater number of urgent appointments relative to other kinds of appointments than would "better keepers." The following three-point scale of urgency, as judged by the physician, was used:

1. Urgent, those medical problems which in the opinion of the doctor should be reviewed within 48 hours.
2. Intermediate, those medical problems which in the opinion of a doctor should have fairly prompt attention but medical harm is unlikely to occur if the visit is deferred for a week or two.

3. Routine, those medical problems which in the opinion of a doctor could just as well be cared for in 2 to 4 weeks.

Data for the study were collected by medical record survey. The charts of 174 patients with a total of 2,939 appointments were reviewed and every appointment made by each of these patients was rated for medical urgency by a physician. It was also noted whether each appointment had been kept or broken. These appointments were made to the general medical clinic, the general surgery clinic, and any of the subspecialty clinics. About 70% of them were to the general medical clinics. In summary, the results demonstrated that the broken-appointment rate ranged from 10% for urgent appointments, to 19% for intermediate appointments, to 30% for the routine ones. Analysis of the relationship of the urgency of appointment to the three groups, good, medium, and poor appointment keepers, was as follows: broken appointment rates for good keepers were 10% and below; medium keepers, 11% to 40%; and poor keepers, above 40%. Based upon these results, Ambuel et al. (1964) questioned whether the urgency of the appointment was adequately stressed to the parent in such a way as to increase compliance with appointment-keeping (Ambuel et al., 1964).

Therefore, in a subsequent study group (Ambuel et al., 1964), the physician's urgency rating vs. the mother's estimate of the seriousness were compared. That is, the authors wished to determine how well the mother and physician agreed on the urgency of the appointment. Mothers of clinic patients were asked to estimate the doctor's opinion of the seriousness of the child's illness. Interviews were conducted after the child had been examined by a physician and the mother received instructions for the care of the child. Return appointments resulting from these visits were rated for urgency. Comparison revealed that mothers in 38% of these cases accurately estimated the medical

situation as seen by the physician. In 28% of the cases, the mother underestimated the seriousness of the illness; 6% overestimated the seriousness; and a significant 28% would not respond. These facts argued for more adequate communication by the physician concerning the urgency of the medical situation which would significantly increase the number of appointments kept.

Hansen (1953) studied broken appointments in the Child Health Conference which is operated by the Maternal and Child Health Division of Johns Hopkins School of Hygiene and Public Health, Baltimore, Maryland. The author sought to determine those factors which were related to broken appointments in a pediatric setting. Two approaches were used.

First, patients' clinic records and the appointment book were used to select and study certain factors which might influence the breaking of appointments. The factors examined were race, frequency of change of physician, immunization status, and availability of a telephone. During a six-month period, 384 appointments were given to 98 children from 72 families. Thirty-six percent of these appointments were broken.

The second approach was by means of home visits to the families who broke appointments. During a three-month period, the public health nurse made routine nursing visits within ten days after the appointment was broken. During the course of the visit, she was alert to any voluntary expression of the reason for breaking the appointment but did not mention the matter unless it was brought up by the parent.

The data demonstrated that race was not associated with breaking appointments. Thirty-six percent of the appointments given to white children were broken as contrasted with 35% of those given to black children. However, immunization status seemed significant. Forty-one percent of the appointments were broken among those children whose

immunizations were completed, whereas only 29% were broken among those children whose immunizations were not as yet completed at the time of their appointments. Further, patients who were seen by three or more physicians broke more appointments than those seen by less than three physicians; a larger proportion of appointments were broken when the weather was unfavorable; appointments for children over one year of age were broken a larger percent of the time than were appointments for children under one year of age; and, finally, appointments for children whose families had no telephones were broken more often than those for children whose families had telephones.

During three months of the six-month study, 63 of the 74 appointments broken were followed by a home visit. In eight of the 63 home visits, the nurse found that the family had moved; of the remaining 55 visits, 49 families reported a reason for the broken appointment. Illness was the reason volunteered more often than any other, either for the child or for other family members. The weather was given as a reason only six times. Criticism of the clinic service was expressed or implied four times. The remaining 16 reasons given were as follows: three children were receiving well-child supervision elsewhere; two mothers were working and there was no time to bring their children to the clinic; two mothers "forgot;" one mother was confused regarding the time of her appointment; two mothers had to "attend to business;" two simply stated, "I couldn't make it;" one mother said, "I guess when things are going well we get a little careless;" one family had moved to a distant section and found the travel involved too difficult; and one mother felt she no longer needed to bring her child to the clinic since the child was three years old (Hansen, 1953).

Studies of Treatment Interventions

Professional-Patient Interaction

Most researchers agree that the quality and nature of the professional-patient interaction impacts greatly on compliance (Brigg & Mudd, 1968; Gillum & Barsky, 1973; Gottesfeld & Martinez, 1972; Kidd & Euphrat, 1971). For example, Davis (1966) tried to identify medical opinions and medical knowledge about some of the major factors that account for variations in patients' compliance with medical regimens established for them by physicians. Fulfillment of this goal involved investigation of those factors which affect patient noncompliance. In addition to the prescribed medical regimen, patient management and the demographic and attitudinal characteristics of the patient, one of the factors explored was the doctor-patient relationship.

Some of the data used in the paper (Davis, 1966) were gathered as a part of a larger study of variations in patients' compliance with doctors' orders made in a medical clinic of a large metropolitan teaching hospital. Additionally, a questionnaire about doctors' perceptions of patient compliance was mailed to 132 physicians on the faculty (a 50% stratified sample which included fourth-year medical students). Questionnaires were returned by 61% of the medical students and 63% of the faculty. Included in the faculty group were clinical instructors, and assistant, associate, and full professors in the Department of Medicine, Cornell University Medical College, New York City, New York. The group had been practicing for an average of fourteen years.

Data were also gathered from a survey of 31 studies (Davis, 1966) which dealt with the problem of patient noncompliance. These studies included research in a variety of illness categories including heart disease, rheumatic fever, tuberculosis, and cancer. Some of the 31

studies did not concentrate on any particular illness, but included all illnesses which were diagnosed in a particular clinic or reported in a survey. Consequently, a variety of population categories was considered in the studies.

The review of the survey data (Davis, 1966) of the 31 studies along with review of the questionnaire data indicated that the physician-patient relationship was of primary importance. It was found when doctors failed to convey the significance of the regimen to the patient, there is a reciprocal failure on the part of the patient to comply with the doctor's advice. It was shown that reciprocity in the doctor-patient relationship affects compliance whether a docile, approval-seeking patient and a nurturant doctor, or an independent patient and an aloof doctor. It was reported that doctors who gave increased explanations produced an increase in the compliance rate; poor understanding lessened participation; and that knowledge and understanding, on the part of the patient, led to prompt treatment.

The doctors were asked how they felt about patients who accepted explanations without question compared to those who asked for detailed explanations. Thirty-six percent of the medical students and 44% of the physicians felt that it made no difference whether patients got more or less explanation; and of those who recognized variations, over 84% felt that acceptance of explanations without asking for details would most likely produce noncompliance. Doctors were also asked why patients did not follow their advice. Forty-seven percent of the medical students and 40% of the physicians attributed noncompliance to patients' inability to understand recommendations. This indicates that increased explanation might, in fact, be the most functional route toward increasing rates of compliance (Davis, 1966).

While there is not complete agreement as to how the doctor-patient relationship affects compliance, the importance of communication

and explanation has been recognized. Francis et al. (1969) specifically studied the effect of doctor-patient communication on outcome in terms of satisfaction and compliance. Eight hundred outpatient visits to the Children's Hospital of Los Angeles were reviewed to explore the effect of verbal interaction between doctor and patient on patient satisfaction and follow-through on medical advice. Their study represented an effort at subjecting the verbal communication between doctor and patient to scientific inquiry in order to learn what features of the interaction can be shown to influence the patient's responses to what the physician recommended.

The 800 outpatient visits were studied by means of tape recordings of the medical interview, chart reviews, and follow-up interviews. The interviews were semi-structured and designed for verbatim recording. Information was obtained concerning the following points: the mother's perception of her child's illness and her subjective experience with the illness, her expectations from the medical visit, her perceptions of her interaction with the physician, her satisfaction with the visit, and her compliance with the advice given by the physician. Patients were placed in four categories: "high compliance, moderate, low, and no regimen." Those who carried out all of the doctor's instructions were highly compliant; those who carried out little or none were labeled noncompliant. Parents who followed the medical regimen in part were regarded as moderately compliant. This included patients who were given medications for less than the stated period; patients who were given some but not all of the prescribed medications; and patients who followed the doctor's advice faithfully, but failed to keep the return appointment.

In the sample of 587 patient visits for which compliance was calculated, 42.1% resulted in high compliance, 38.2% moderate compliance, and 11.4% noncompliance. The extent to which patients'

expectations from the medical visit were left unmet, lack of warmth in the doctor-patient relation, and failure to receive an explanation of diagnosis and cause of the child's illness were key factors in non-compliance. Complexity of the medical regimen and other practical obstacles also interfered with compliance. There was a significant relationship between patient satisfaction and compliance. It was a general assumption that satisfied patients were more likely to cooperate with the advice they received. Also, illnesses that the mothers regarded as very serious were associated with increased compliance. Finally, there was no significant relationship between demographic variables tested and satisfaction or compliance with medical recommendations (Frances et al., 1969).

In a similar study, Anderson, Rowe, Dean, and Arbisser (1971) developed a program, at the Pediatric Outpatient Department of Yale-New Haven Hospital, to improve compliance with appointments among a group of habitual noncompliers living in a poor inner-city area. Given the clinic's high incidence of appointment failure, the authors developed a low-cost outreach program to encourage appointment-keeping. Following the failure of the patient to comply with two consecutive return appointments, and usually after attempts at telephone contact urging clinic attendance, the hospital chart was reviewed, and referral was made to the outreach worker. The program used college students as outreach workers, who then drove to the patient's home and discussed with the parent the reasons why the physicians were anxious for the child to return to the clinic. During the discussion, potential obstacles to appointment-keeping were identified such as availability of transportation and babysitting for siblings, and plans were made to alleviate them. The worker then called the clinic from the patient's or neighbor's home, thereby both confirming the appointment in the presence of the parent and securing a telephone number for future contact.

Briefly, the results showed that prior to the intervention of the outreach workers, this group of patients kept only 39% of their appointments, while with the implementation of this program, 95% of the patients kept their appointments. It was therefore suggested that university-connected outpatient clinics would do well to investigate the feasibility of employing undergraduate students in similar programs in order to enhance compliance with appointment-keeping (Anderson et al., 1971).

Use of Incentives

The use of incentives has been effective in enhancing compliance with medical interventions (Epstein & Wing, 1979), exercise (Johnson, 1986; Wysocki et al., 1979), and weight regimens (Jeffery et al., 1983). Moreover, incentives have been used to control classroom behaviors (Neef, Shafer, Egel, Cataldo, & Parrish, 1983); the behaviors of juvenile delinquents (Stuart, 1971); and in psychotherapy (Stevenson, 1962; Sulzer, 1962). Levy and Carter (1976) contend that compliance is likely to be enhanced to the extent that degrees of successful performance of the investigated behavior are met with positive reinforcers.

Reiss, Piotrowski, and Bailey (1976) examined the effectiveness of three different techniques to encourage low-income rural parents to seek dental care for their children at a local public health dental clinic. The families of 51 children, from a small rural elementary school, who needed immediate dental care (determined by dental screenings performed at the school), were placed into three matched groups and randomly assigned to the treatment conditions.

One condition was One Prompt (note only). In this treatment, parents received a single notification of the outcome of the dental screening in the form of a note which was taken home by the child. The note described the screening procedure, the extent of the dental problem

and its potential effect on the child's health and school performance, and specific recommendations for parental follow-up behavior. To assure that parents received the envelope, a coupon, redeemable for items in a school-operated exchange store, was attached to the inside of the envelope. Children were instructed to obtain parental signatures on the coupon as a necessary prerequisite for purchasing items in the store.

Another condition was Three Prompts (note, telephone contact, and home visit). Subjects in this treatment condition received three notifications in the following sequence: (1) note (identical to that of the One Prompt group) sent home with the child; (2) telephone contact by the school staff, which informed parents of the dental screening results; in addition, the telephone callers were instructed to be as positive as possible while making clear the immediate nature of the problem and encouraging parents to take their child to the dentist for an examination; and (3) a home visit by the dental hygienist. At each visit, the dental hygienist asked if the parent recalled receiving the referral note, advised the parents of the results of the examination, and repeated the recommendations identified in the original school note. In addition, the dental hygienist pointed to possible dental problems as the parent looked into the child's mouth. The three notifications were spaced three weeks apart, which was determined to be the necessary time period to obtain a dental appointment.

A third condition was One Prompt Plus $5.00 Incentive. Parents in this treatment were notified of the results of the dental screening in the form of a note identical in content to the one in the two previous groups with one addition: it included a dental coupon worth $5.00 toward the dental fee. To receive the value of the coupon, $5.00, parents were instructed to complete the following steps: make a dental appointment for their child, take the child for a complete dental examination, obtain the signature of the dentist on the coupon, and

finally, mail the coupon in the stamped, addressed envelope that was included.

Daily office records from the public health dental clinic provided dental-visit data on families participating in the study. At the completion of the study, all parents of children who did not visit the dental clinic were contacted by telephone. Parents were asked if they had taken their child to a private dentist for an examination, the name of the dentist and the date of the visit. These dentists were then called to confirm parental reports of dental-visit behavior. Seventeen weeks after completion of the study, the dental office records of those families who had made an initial dental visit were checked to determine the frequency of follow-up visits.

A Chi-square analysis of the data revealed that the Three Prompt and One Prompt Plus $5.00 Inventive conditions were significantly more effective in initiating dental visits than the Note Only procedure. Further, the One Prompt Plus $5.00 Incentive technique was more effective in producing a slightly larger percentage of initial dental visits as those compared to the Three Prompt technique; it also produced a significantly larger number of follow-up visits (Reiss et al., 1976).

Rice and Lutzer (1984) evaluated follow-up appointment-keeping at the Family Practice Center (FPC) of the Southern Illinois University School of Medicine in Carbondale, Illinois. The purposes of their research were as follows: (a) to determine the extent of noncompliance to follow-up appointment-keeping; (b) to implement, evaluate, and compare four treatment conditions aimed at increasing compliance to follow-up appointment-keeping; (c) to implement one or more effective and practical treatment conditions for six weeks or longer; and (d) to determine the overall costs for implementing each of the four conditions and compare them with their relative effectiveness. A simple randomized subjects design was used to evaluate the four treatment procedures along with

comparison of baseline conditions to the most effective treatment. Finally, questionnaire data were gathered to examine the medical/social impact of the procedures.

The participants of this study were patients who had scheduled follow-up appointments at FPC. The medical conditions requiring follow-up services included ear infections, blood pressure checks, thyroid problems, muscle sprains, urinary tract infections, diabetes, bronchitis, tachycardia, lacerations, suture removal, and ovarian cysts. To determine if noncompliance could be reduced, four treatments were implemented: no-treatment control, modified appointment card, free follow-up, and a reduced rate follow-up. Noncompliance to follow-up appointment-keeping was defined as patients who either failed to attend or cancelled their scheduled, physician-mandated, follow-up appointment. The four treatment conditions were described as follows:

1. No Treatment Control: Identical to baseline conditions.
2. Modified Appointment Card: This condition involved an attempt to increase compliance through the use of a card modified to act as a discriminative stimulus. The printing was big and bold on a yellow card containing a bright, red sticker which read, "Remember Your Follow-Up Appointment!" Instructions on the card suggested that the sticker should be placed in a prominent place, such as on an appointment calendar.
3. Free Follow-Up: When the patient scheduled the follow-up appointment, a card was given stating that if the patient attended the scheduled follow-up appointment, or if the patient cancelled the appointment and rescheduled another appointment at the time of the cancellation, and attended that appointment, there would be no charge for the follow-up appointment.

4. Reduced Rate Follow-Up: This condition was identical to the free follow-up, except that this incentive stipulated that if the patient attended the follow-up appointment, the follow-up visit charge was only 50% of the regular cost. Thereafter, the reduced rate follow-up was implemented again to determine the extent noncompliance could be reduced for all eligible patients.

To determine the extent of noncompliance with follow-up appointment-keeping, data were analyzed on all patients scheduling follow-up appointments during a five-month period. There were 100-150 follow-up appointments scheduled each month. The mean noncompliance over this five-month period was 20%. Noncompliance was 30% in the no-treatment control group, 33% in the modified appointment card group, 3% in the free follow-up group, and 13% in the reduced-rate follow-up group. A Chi-square analysis indicated that the four conditions were significantly different. Thus, incentives significantly increased follow-up appointment-keeping; whereas, the modified appointment card was ineffective. A cost analysis suggested that the no-treatment control and modified appointment card conditions were the least expensive, but also the least effective. The incentive conditions were more expensive, but the reduced rate generated the most revenue. Questionnaire data suggested that the incentive conditions had a positive effect on noncompliance and were worthy of consideration for use in other medical settings (Rice & Lutzer, 1984).

Time Interval Reduction

Another intervention for enhancing compliance with appointment-keeping involves reducing the time elapsed between scheduling the appointment and the appointment itself (Gottesfeld & Martinez, 1972). As a by-product of a study designed to examine the effects of mailed appointment reminders, Nazarian, Mechaber, Charney, and Coulter (1974)

found that patients scheduled 12-28 days in advance of their appointments had a keep rate of 50-56%, whereas those scheduled 29-35 days away had a keep rate of only 33%. Hofmann and Rockart (1969) also found a positive relationship between the call-appointment interval and no-show rates.

Benjamin-Bauman et al. (1984) also examined the effect of reducing the interval between a patient's call for an appointment and the appointment itself. In their study, two experiments were designed to investigate the effect of reducing the call-appointment interval on appointment-keeping at the Leon County Health Department Family Planning Clinic in Tallahassee, Florida. Subjects were 337 patients who had called to arrange an appointment for an annual gynecological exam. In Experiment 1, the family planning clerk responsible for scheduling appointments assigned patients to either an appointment within one week of the call (1-Week Group) or to a call-appointment interval of 15-21 days (3-Week Group). Sixty-eight persons were assigned to the 1-Week Group and 269 to the 3-Week Group. Show rates for those in the 1-Week Group averaged 75% (range 62.5% to 83.3%) versus 57% (range 49% to 59%) for the 3-Week Group. The results of Experiment 1 demonstrated that when patients were scheduled for an appointment within one week of their call, show rates were significantly better than for patients with a 3-week call-appointment interval.

In Experiment 2, participants were 192 patients calling the Leon County Health Department to schedule an appointment for an annual gynecological exam. Patients were assigned to either an appointment the next day (Next-Day Group) or to an appointment two weeks from the call date (2-Week Group). The call-appointment interval for the 2-Week Group was 15 days. Seventy-eight persons were assigned to the Next-Day Group and 77 to the 2-Week Group. Results of this study indicated that in seven of the eight weeks of the study, those in the Next-Day

Group had higher show rates than those in the 2-Week Group. Mean percent show rates across the eight weeks for the Next-Day Group was 72% (range 50% to 80%) versus 52% (range 44% to 62%) for the 2-Week Group. Differences in show rates for these groups were statistically significant. Based on their findings, it was concluded that timing was important. The shorter the time interval between scheduling an appointment and actual attendance, the greater the likelihood of compliance with appointment-keeping (Benjamin-Bauman et al., 1984).

Further evidence for the importance of the variable of time interval comes from a study which was conducted by Levy and Claravall (1977) at the Harborview Medical Pediatrics Clinic at the University of Washington, Seattle, Washington. The authors tested whether a telephone call would increase appointment-keeping behavior and whether there would be a differential of the phone call depending on the interval between appointments. Ninety-eight patients were studied who had scheduled appointments 3 to 264 days in advance and still had these appointments three days prior to appointment time. All patients who left a phone number and who had appointments scheduled within a one-month period were randomly assigned to a "call" (experimental) or a "no call" (control) condition. Patients in the call condition received a reminder call within three days prior to their scheduled appointment (i.e., "Hello. My name is _____. I am calling to remind you..."). Patients in the no call condition followed standard clinic procedure and did not receive a reminder telephone call. Compliance was considered to have occurred if the patient showed up for the appointments as scheduled. Patients who cancelled their appointments within the three days prior to the appointment, or who simply did not show up, were considered noncompliers.

Patients were further divided into two groups on the basis of the length of time between visits. The "short interval" group was defined as those whose appointments had been scheduled no longer than two weeks

prior to their rescheduled visit. "Long interval" patients had scheduled appointments longer than two weeks before their next appointment.

The results revealed some difference between compliance rates of the experimental and control conditions. A significant difference in appointment-keeping rates between the experimental and control groups was found, but only for the "long interval" patients. That is, results indicated that patients whose visits were scheduled more than 14 days prior to the appointment time ("long interval" patients) significantly benefited from the telephone cues (Levy & Claravall, 1977).

Overt Commitments (Verbal and Written)

Another common way of attacking the problem of noncompliance with appointment-keeping is to exert as much persuasion as possible on the reluctant individual in an effort to increase compliance (Freedman & Fraser, 1966). Levy (1977) effectively demonstrated this approach by investigating the effects of two types of overt commitment on compliance with an assigned task of making a telephone call. The subjects were mothers of junior high students in a school-affiliated treatment project. Families were referred to this project if the students were exhibiting behaviors considered problematic by school authorities. Four behaviorally-trained social workers, regularly employed by the project, served as the therapists.

After a family was referred by school authorities, the family was then contacted by the project. If the family agreed to participate in the project, a first interview was scheduled. When the family came to this meeting, they were randomly assigned to one of three conditions: (1) no commitment, (2) verbal commitment, and (3) verbal and written commitment. During the first part of the interview, family members filled out appropriate treatment forms, were informed of the project's general activities, and were given an opportunity to ask questions. Each

therapist then asked the mothers to make a telephone call to the agency at a certain time within the next week. It was explained that the purpose of this call was to provide the family with information on subsequent treatment procedures. They were given a form which indicated the appropriate time, the day of the call, as well as the telephone number of the project. The three treatment conditions and their procedures were: (1) no commitment, the therapist promptly terminated the interview after the assignment was given; (2) verbal commitment, the therapist issued the assignment (after agreement was indicated verbally or by nodding, the interview was promptly terminated); and (3) verbal and written commitment, the therapist followed the same procedure as in (2), until after the subject's verbal commitment was obtained. Then the therapist asked the subject to sign a written commitment form. After the subject signed the form, the therapist terminated the interview.

In summary, the results showed that while subjects in both commitment conditions demonstrated higher compliance rates than those in the no commitment condition, only those in the verbal plus written group differed significantly from the controls. Proportionately more compliance occurred when therapists elicited from subjects a commitment to perform the activity than when no such commitment was elicited. The highest compliance rates occurred in the verbal and written commitment condition. A Chi-square analysis indicated, for all subjects, a trend in the three experimental conditions toward more compliance with increasing levels of subject commitment activity (Levy, 1977).

The value of an overt commitment for appointment compliance was further supported by Levy et al. (1979). Their study investigated the effect of a verbal overt commitment on compliance with returning symptom report cards. The study was conducted at four flu inoculation clinics at the University of Washington, Seattle, Washington. Two clinics were

randomly selected as experimental (commitment) and two as control (no commitment) clinics.

Within 48 hours of receiving their inoculations, all patients were asked to mail back a symptom report postcard that indicated the occurrence of any symptoms. Patients in the experimental condition were asked if they would comply with the request. Patients in the control condition were not asked for a commitment. All cards were stamped by date when they were received at the clinic. Thus, data were obtained on the proportion of returned cards, as well as the time span between assignment delivery and receipt of the card. Results of the study revealed that the verbal form of commitment raised compliance rates by 19.5%.

Overall analyses across all clinics showed that patients who were asked if they would comply, mailed back significantly more cards and significantly faster than those who were not asked to give such a commitment. Patients in one control clinic returned fewer cards and patients in the other control clinic returned cards at a slower rate. (Levy et al., 1977).

Summary

Over 25 years of research on patient compliance with appointment-keeping has resulted in a consensus about who fails to keep appointments, the reasons why people break appointments, and some strategies which have proven effective in enhancing compliance with appointment-keeping. The studies reviewed indicate that demographic characteristics such as age, gender, education, religion, socioeconomic status, race and ethnicity have demonstrated varied results with relationship to compliant behavior. Nevertheless, a pattern emerges when these studies are examined as a whole. Blacks, Hispanics, and low-income whites; mothers of pediatric patients and patients with psychiatric diagnoses; broken homes; lesser educated; and lower socioeconomic status have been

found to be associated with noncompliance with appointment-keeping. Moreover, factors such as the professional-patient relationship, communication and education about the treatment involved, support and assistance of family and agency, and patient satisfaction with the treatment received are related to appointment failure.

In general, efforts to increase compliance to appointment-keeping have involved the use of letters or telephone prompts (Rice & Lutzer, 1984; Schroeder, 1978; Turner & Vernon, 1976); overt commitments (Levy, 1977; Levy & Clark, 1980; Levy et al., 1979); or incentives and reinforcers (Iwata & Becksfort, 1981; Levy & Carter, 1976; Reiss et al., 1976). While much is known about the negative effects of patient noncompliance with appointment keeping, only moderate improvements in patient compliance have been demonstrated.

There are some observations that emerge when one examines the research in this area. One pattern that is clearly evident in the body of research has been overemphasis on demographic factors related to noncompliance rather than on treatment strategies which will change behavior (Haynes & Sackett, 1974). Another observation drawn from the literature is the generalization of the treatment strategies; it is not clear how effective these experimental procedures would be in specific settings which are different from those on which outcome data are collected.

Theoretical Framework

The application of behavioral technology and principles to socially significant problems occurring in natural, and often unstructured settings in the community has been termed "behavioral community psychology" (Reiss et al., 1976). This direct approach to long-standing community problems has been seen in urban transportation, environmental pollution, attending self-help meetings, community policy-board effectiveness, and in the

delivery of dental health care (Reiss et al., 1976). Zifferblatt (1975) indicated that patient compliance is primarily a behavioral problem and suggested that solutions to medical compliance come from the theories of applied behavioral analysis. Moreover, research has suggested that behavioral interventions, which have demonstrated proven effectiveness, may be administered "collectively" in order to produce optimal behavior change. For example, the techniques of behavioral community psychology were demonstrated in Azrin and Besalel's (1980) Job Club research. Azrin and Besalel designed a Job Club approach to finding employment. The Job Club Method represented a combination of many behavioral approaches (33 total procedures), each of which has been occasionally used by vocational counselors and job seekers alike. Some of the behavioral procedures included interview training, social skills training, family support systems, progress charts, continued evaluation and assistance, and group reinforcement. What is distinctive about the Job Club Method is both the specific way each procedure is used and the standardized, consistent, intensive use of every procedure with all job seekers. Counselors and clients follow each procedure in the prescribed fashion and nothing is omitted. The Job Club Method, as its name implies, is the activity of an individual as part of a group of job seekers, working together under the instruction and encouragement of a leader who provides support, information, facilities, and supplies.

The Job Club Method of finding employment is an application of the operant behavior approach. Several behavioral strategies such as reinforcement, self-recording of behaviors, behavioral contracting, and reduction of response effort are use collectively while conducting vocational counseling for job seekers. The method of combining behavioral strategies has demonstrated a high degree of effectiveness in assisting unemployed clients in successfully finding employment. The Job Club Method of job finding has been found to be 90% effective in obtaining

jobs for varied subpopulations including normal job seekers, the handicapped, professionals, welfare recipients, youth, and college students. In conclusion, the authors advocate the application of behavioral principles to a wide range of community problems.

For example, Levy (1977) combined oral plus written commitment strategies which increased compliance with an assigned task of making a telephone call. Mothers of junior high students in a school-affiliated treatment project were assigned to one of three conditions: (1) no commitment, (2) verbal commitment, and (3) verbal and written commitment. The mothers were then asked to call the agency at a given time the following week. The results showed that while subjects in both commitment conditions demonstrated higher compliance rates than those in the no commitment control condition, only those in the verbal plus written group differed significantly from the controls.

Similarly, attendance to a free dental clinic was increased with low-income families in a study examining the effects of: (a) single written prompt; (b) a series of three prompts consisting of a note, telephone call, and a home visit; or (c) a note plus $5.00 incentive (Reiss et al., 1976). The single prompt plus incentive was the most effective, whereas the single prompt was the least effective. This study suggested that appointment-keeping can be increased. The important feature of these strategies was the use of additional expenses (cash incentives) to increase attendance at the center, or the effort involved in multiple visits by social workers, or both. It became clear that these kinds of antecedents (home visits and prompts) in combination with positive consequences (incentives) affected clinic attendance.

Even though many behavioral techniques which attempt to enhance compliance have demonstrated effectiveness, no one method has proven effective, under various situations and with various populations. Most researchers agree that further study needs to be done in this area.

Given that patient compliance to professionally recommended regimens is typically poor even among those who are likely to benefit the most, this study attempts to extend the existing literature by assessing the efficacy of combining three behavioral techniques, which have demonstrated effectiveness on an individual basis, on patient compliance with professionally recommended child counseling referrals among a population with a high probability towards noncompliance. In this study, compliance was operationally defined as the initiation of a particular behavior and as the subsequent following through of that initiation, within set time limits. The subjects consisted of 21 mothers who were primarily minority and lower income. Research suggests that subjects with these particular characteristics are typically prone to noncompliance.

The writer has therefore developed a set of hypotheses which evaluated the effectiveness of utilizing an incentive treatment for noncompliance with appointment-keeping as compared to a supportive communication treatment for noncompliance. Both experimental groups received an overt commitment treatment condition because research has demonstrated some effectiveness with the use of overt commitments with various populations (Levy, 1977; Levy & Clark, 1980; Levy et al., 1979).

The dependent variable in this study was subject compliance with professionally recommended counseling referrals for their child. Compliance was considered to occur if: (a) the subject scheduled an appointment for counseling, for his/her child, within one week following their interpretation conference, and (b) the subject had the child attend at least the first counseling session by one month after the interpretation conference. Data from the dependent measure were subjected to statistical analyses. Ancillary data were also collected that assessed maintenance of counseling contact at three months following the interpretation conferences. The rationale for acquiring these data was to assess the long-term effects of the treatment strategies.

Collection of these data is not to be construed as measurement of treatment effects or as outcome data for the study; they are ancillary.

The hypotheses that were tested are as follows:

1. Subjects receiving the overt commitment plus supportive counseling will demonstrate greater compliance with appointment-scheduling than will subjects receiving the overt commitment plus incentive condition.

2. Subjects receiving the overt commitment plus supportive counseling will demonstrate greater compliance with appointment-keeping than will subjects receiving the overt commitment plus incentive condition.

3. Subjects receiving the overt commitment plus supportive counseling will demonstrate greater compliance with appointment-keeping than will control group subjects.

4. Subjects receiving the overt commitment plus incentive will demonstrate greater compliance with appointment-keeping than will control group subjects.

Ancillary Findings

It is further anticipated that by three months following the interpretation conference:

5. Subjects receiving the overt commitment plus supportive counseling will demonstrate greater maintenance of child counseling contacts than will control group subjects.

6. Subjects receiving the overt commitment plus supportive counseling will demonstrate greater maintenance of child counseling contacts than will the overt commitment plus incentive subjects.

7. Subjects receiving the overt commitment plus incentive will demonstrate greater maintenance of child counseling contacts than will

control group subjects.

The comparison of these hypotheses are of interest to the clinician working with a noncompliant patient and to the researcher of treatment interventions for noncompliance.

CHAPTER III

RESEARCH DESIGN AND METHODOLOGY

Setting and Subjects

The setting of this study was the Howard University Child Development Center (CDC) of the Division of Child Development, in the Department of Pediatrics and Child Health located in Washington, D.C. [see Appendix A]. The present research grew out of a larger study, The Transgenerational Project for Parents and Children (Epps, 1986), conducted at the Child Development Center. In order to more fully understand the subject population of this study, it is necessary to briefly explain the purpose of the larger study.

The Transgenerational Project for Parents and Children (TG) represented a three-year funded diagnostic and referral program (1986-1989), which provided a model for simultaneously addressing the needs of parents as well as their preadolescent children who exhibited specific learning disabilities that significantly decrease achievement levels. Concentrating on the District of Columbia, TG targeted inner-city youth whose families had many socioeconomic problems and whose parents had been least involved in their school activities. The population was drawn from the D.C. Public Schools and focused on sections of the city that had disproportionately high rates of births to teen mothers: wedlock; premature and immature births and births with inadequate prenatal care. Moreover, the socioeconomic high-risk factors (AFDC cases, food stamp recipients, and Medicaid eligible clients) were considered as indices that reflect conditions that contribute to health problems.

The recruitment strategy represented a cooperative alliance between the Child Development Center; the D.C. Office of Maternal and Child Commission of Public Health, School Health Division; the school counselors of the D.C. Child Health; and the D.C. Public Schools. Through channels, all elementary schools were informed about the Transgenerational Project, its purpose, and the selection criteria. School health nurses and counselors were in key positions to recommend eligible students and to notify the parents of the program. The child's referral criteria were as follows: (a) age range from 10.0 to 12.11 years; (b) residents of the District of Columbia, enrolled in a public school; (c) repeated one grade; (d) receiving no special education services at the time of intake; and (e) priority for mothers who were 19 years or younger at the time of their first child's birth.

The Transgenerational Project chose children in the age range of 10.0-12.11 years in order to focus on the preadolescent and prevent later problems in adolescence. Children are heirs to a family history of hopelessness and a cycle of socioeconomic failure that continues throughout several generations. Thus, TG attempted to interrupt the continuous generation failure cycle by providing parents with information and guidance regarding the educational, psychological, and environmental needs of their children. Children with learning disabilities and who had also repeated one grade were eligible, because frequently school failure is a symptom of a much greater problem. Further, children who were experiencing failure but had never received special education services were at a higher risk for school disillusionment.

The Transgenerational Project used a questionnaire to solicit pertinent information regarding reasons for referral (see Appendix B). After children were identified, parents were notified by letter of their acceptance into the TG program (see Appendix C). Parents were

then asked to give written consent for participation in the program (see Appendix D). The consent form was read aloud to the parent as he or she read along, to ensure adequate comprehension of the goals and objectives for both parent and child.

During the one-time introductory meeting at the beginning of each six-week session, the following occurred: (a) explanation of the purpose and the benefits of participation in the Transgenerational Project; (b) introduction to the staff and a brief explanation of each discipline's evaluation to be conducted; (c) explanation of the expectation of full participation in the project by both parent and child; and (d) each participant was required to peruse and sign an informed consent agreement detailing the nature of the study, confidentiality of the results obtained, waiver of liability, and freedom to withdraw from the program at any time (see Appendix D).

During the third and final year of implementation (September 1988 through June 1989), the Transgenerational Project evaluated 26 learning disabled children and their parents. Each child-parent dyad completed a six-week training and counseling session with approximately five other child-parent dyads. At each six-week training/diagnostic phase of the project, parents were trained by project coordinators to become more effectively involved in his or her child's psychological, social, biological, and educational development through parent educative training and group counseling. Simultaneously, the interdisciplinary team performed a diagnostic evaluation for learning disabilities which helped parents better understand his or her child's developmental needs. The interdisciplinary team diagnostic study routinely included on-site medical, psychological, educational, speech and language, health/social and nutritional evaluations, as well as home and school visits for each child.

Parent sessions were conducted during the time parents usually spent waiting for their children to complete the diagnostic tests. Over the six-week period, the diagnostic team evaluated the child one-half day per week, requiring approximately 2½ to 3 hours per visit by the child. Each parent session proceeded with the schedule outlined below and was conducted by project coordinators.

Approximately two weeks after completion of the diagnostic evaluations for all children, the parents were individually contacted by telephone by project staff to return to CDC (without his or her child) for interpretation of their children's evaluation results. Appropriate recommendations and referrals from each discipline were then suggested. In addition to the parent, each discipline's diagnostician was present at the interpretation conference. Included were the pediatric residents, the pediatrician, psychologist, education specialist, speech and language pathologist, social worker, nutritionist, and the coordinator of TG. Parents were verbally encouraged to follow-through with recommendations made by each discipline. It was the practice of this project to make treatment referrals and recommendations based on the needs of the child. It should be noted that the project provided transportation, via free passes to the metro transportation system for each parent and child, as an incentive for completing the process. Over the course of the intake, evaluation and training sessions, and the interpretation conferences, each dyad received passes every two weeks, with the total value of $120.00. These passes permitted unlimited transportation throughout the metro-rail system. Moreover, at each visit, a snack was served, while at the follow-up interpretation visits, each parent-child dyad received ten dollars for round trip taxi fare.

Three months after completion of their interpretation conference, parents were again contacted by telephone by project staff to

Table 1

Summary of the 6-Week Transgenerational Project Parent Sessions

WEEK ONE:	Parents: Introduction and Orientation
	Parents were introduced to the staff and the goals and objectives of TG were discussed.
	Child: Psychological evaluation
WEEK TWO:	Parents: General Child Development
	Parents were shown a video-tape on normal child development, followed by a discussion of the types of environmental and experiential stimulation necessary for optimal child development.
	Child: Speech and Language evaluation
WEEK THREE:	Parents: Overview of Developmental Disabilities
	Parents viewed a video-tape on Developmental Disabilities and engaged in a discussion of how developmental disabilities affect learning and behavior.
	Child: Educational evaluation
WEEK FOUR:	Parents: Parent and School Partnerships: Advocates for Children
	A discussion of the parents' role as an ally with schools in their child's education.
	Child: Medical evaluation
WEEK FIVE:	Parents: Understanding Due Process
	A discussion of the law and Due Process procedures and methods by which they may seek proper educational placement and programming.
	Child: Health/Social evaluation
WEEK SIX:	Parents: Summarization and Closing Session Child: Nutritional evaluation

determine the extent to which they were involved in following through with recommendations and referrals which were verbally presented to them during the interpretation conference (see Appendix E). Follow-ups were also made by project staff by telephone at 15-month and 24-month intervals following the completion of each six-week session (see Appendix F). Reassessment was conducted at 24 months to determine the extent of parental retention, the child's academic progress, behavioral adjustment, and mental health status. Recommendations for psychological counseling referrals appeared to be the largest area where parents did not comply; noncompliance was noted in other professional areas as well.

A preliminary review of the follow-up data which were collected from the first two years of the Transgenerational Project (September 1986 through June 1988) demonstrated this concern. The most commonly reported reasons for lack of parental follow-through or compliance with professionally recommended counseling contact for their children included: spouse did not approve of the recommendation; parent did not know where to go or who to contact; the parent did not understand the recommendations given; parent was uncooperative or resistant; no babysitter for other children; parent felt that the child had improved and was doing better; parent worked full time and was unable to accompany his or her child to regular weekly counseling sessions; the parent forgot; and finally, the parent attempted to schedule an appointment for counseling but for reasons stated was unable to do so (i.e., busy line, no answer, person was not in or unavailable, etc.). In any event, the parent failed to try again at a later time.

Moreover, of the 49 children who were evaluated since the inception of the Transgenerational Project (1986 through 1988), 40 parents had been contacted by telephone by TG staff for their three-month follow-up. Their responses were distributed as follows: one

out of 40 parents (2.5%) had followed through with the counseling referral as recommended; 32 of the 40 parents (80%) had not received counseling; and for 7 of the 40 parents (17.5%) there was no recorded documentation. Furthermore, of the 49 TG participants, 19 were eligible for the 15-month follow-up. The 15-month follow-up data showed: three of the 19 parents (15.8%) had followed through with the recommended counseling for their children; 10 of the 19 parents (52.6%) had not initiated counseling as advised; and for 6 of the 19 parents (31.6%) there was no recorded documentation. In conclusion, only three of the 40 (total number of TG participants currently eligible for follow-up) or 7.5% had followed through with the professionally recommended counseling referral for his or her child. Herein lies the problem.

Nationally, children who experience school failure are vulnerable during the transition from childhood to adolescence. The trans-generation dilemma of children producing children who are caught, as their parents, in a cycle of failure threatens society. Children with learning disabilities are predisposed to school failure and the importance of parent involvement and counseling techniques are not new concepts. Low-income, undereducated families rarely follow-up for additional counseling. Lacking the support to provide encouragement for their children, parents are often too overwhelmed to intervene effectively to free their children from this cycle. Following-up with referrals for counseling becomes crucial to interrupting this cycle. Thus, this research attempted to extend the existing literature by comparing the efficacy of three strategies which were designed to increase the likelihood that parents would follow-through with outlined psychological referrals for their children.

Subject Characteristics

Parents or guardians of learning disabled preadolescents (N=21) who were enrolled in the Transgenerational Project (December 1988 through May 1989) participated in this study. All subjects were non-White. Specifically, of the 21 parents who attended the TG sessions, one was male, 18 were female (including one foster mother and two grandmothers), and there were two couples which were each counted as one family. The ages ranged from 29-66 years, with a mode age of 33 years, mean age of 40.5 years and a median age of 34 years.

The reported annual incomes ranged from $8,000 to $40,000. The mean income was $19,383.00. Reported annual salaries of $20,000 or more represented married families with combined incomes. Of the 21 participants, 8 (38%) were either unemployed or recipients of public assistance, while 13 (62%) were employed either full- or part-time. Ten of the 21 participants (48%) received Medicaid or had no medical insurance and 11 participants (52%) utilized other forms of medical insurance. As for marital status, 14 participants (67%) were single (e.g., never married, separated, divorced, or widowed), whereas 7 participants (33%) were either married or remarried. Finally, educational levels achieved were as follows: 6 of the 21 subjects (28.5%) had less than a high school education; 2 participants (9.52%) received GEDs; 6 (28.5%) were high school graduates; 5 of the 21 parents (23.8%) received some college level training; and 2 parents (9.52%) held bachelors' level college degrees.

Procedure

In order to test the hypotheses, three conditions were utilized. Two experimental conditions and one control group were compared in order to test the efficacy of the treatments. After completion of the six-week TG evaluation process, the subjects were randomly

and equally assigned to one of the three groups to compare the effects of three strategies of enhancing patient compliance with appointment-keeping. Control (no-treatment), overt commitment plus incentive, and overt commitment plus supportive transition counseling session were used. The present investigator served as coordinator for each group.

Control Group (CG)

Referral procedures of the Transgenerational Project served as the control no-treatment condition. After completion of all evaluations, each parent (N=7) was contacted by TG staff to return to the clinic (without their children) so that results of their children's tests could be interpreted for them.

During the first part of the interpretation conference, a representative from each discipline explained the results of each child's test performance in that specific area. Parents were free to ask questions. During interpretation of the psychological test battery, the child's intellectual/cognitive and behavioral/personality results were explained. Appropriate recommendations and referrals for individual, group and/or family counseling were also made at that time. The specific nature of the recommendations depended upon the needs of the child. The researcher then asked the parent to call the recommended agency to schedule an initial appointment for counseling. The assignment and its delivery were standard for all parents.

After the assignment was delivered, the researcher stressed the importance of following through with psychological referrals for their children's educational and psychological well-being (see Appendix G). Once an agreement was indicated by the parent, either verbally or non-verbally, to contact the recommended referral agency for counseling, the interview was terminated. Parents were contacted one month following their interpretation conference by the researcher. In

addition, TG staff contacted the parent three months following the interpretation conference as a follow-up procedure to determine the status of the child's progress and the extent to which the parent had complied with referrals from all areas. Measures of compliance, verification of subjects' reported data, along with reasons given by the subject for the lack thereof, were conducted by the researcher at the designated times (see Appendices K and L).

Because research has demonstrated some effectiveness with the use of overt commitments with various populations (Levy, 1977; Levy & Clark, 1980; Levy et al., 1979), both experimental groups received the following procedure. Each subject was required to peruse and sign an informed consent agreement detailing the nature of the compliance program (see Appendix H). The researcher followed the same procedures as control conditions. However, in addition, all experimental subjects were required to read and sign an overt commitment contract agreement as well. The researcher said, "Now that you have agreed to contact the recommended referral agency for child counseling, I would like you to sign this form [see Appendix I]. Please read it to yourself as I read it aloud." The overt commitment sheet was read and the subject received a copy of the forms (e.g., the informed consent and the overt commitment contract).

Experimental Groups

Overt Commitment Plus Incentive (OCI)

Group 2 (N=7) served as the overt commitment plus incentive strategy treatment group. After the subject signed the overt commitment contract form, the strategy for Group 2 involved an incentive to enhance compliance with follow-through for psychological referrals. Participants were eligible for metro-rail transportation passes valued at $5.00 if they scheduled an appointment for counseling

within one week following their interpretation conference. A $15.00 metro-rail transportation pass was given if the subject indeed attended at least the initial counseling session by one month following the interpretation conference. The researcher said, "Now, after you have complied with this procedure, your metro-bus pass will be immediately mailed to you. Is this your correct address?" The researcher then agreed to contact the parent in one week to see if an appointment had been scheduled and again in one month to determine if at least the first session was indeed attended. TG staff agreed to contact the parent three months following the interpretation conference. When the subject indicated full understanding of the procedures, either verbally or non-verbally, the researcher terminated the interview. Measures of compliance as well as reasons for noncompliance were obtained by the researcher by telephone at the designated times.

Overt Commitment Plus Supportive Interaction (OCSI)

A supportive transition discussion session was implemented for Group 3 (N=7). After the overt commitment was read and the contract was signed, participants engaged in a 45-minute discussion session with the researcher immediately following the interpretation conference. During this time, the researcher discussed with the parent possible fears, anxieties, or other potential obstacles to compliance with counseling referrals. Additional themes of discussion included issues of guilt and blaming, apprehensions about their children receiving counseling, stigmas associated with receiving counseling (see Appendix J). These discussions attempted to serve as a transitory session where the parents were encouraged to identify, work through, and hence possibly alleviate many of their apprehensions concerning counseling. Once the parent indicated full understanding of the procedure, the researcher terminated the interview. The parents were contacted at one

week and again at one month following their interpretation conference to determine the extent to which they had followed through with the recommended referrals. TG staff contacted the parent three months following the conference. During these contacts, compliance rates and reasons for lack of compliance were documented (see Appendices K and L).

Dependent Variable

The dependent variable in this study was parent compliance with professionally recommended counseling referrals for his or her child. Compliance was measured in two ways: (1) the parent scheduled an appointment for child counseling within one week after their interpretation conference, and (2) the parent attended at least one counseling session within one month following the interpretation conference. The TG staff contacted the parent three months following the interpretation conference and ancillary information was obtained at that time.

Ancillary Measure of Compliance

A Transgenerational Project staff member contacted the parent by telephone three months following his or her interpretation conference in order to determine the parent's involvement with executing the treatment recommendations from all areas. A description of the problems encountered and reasons for lack of follow-through with recommendations and referrals were also obtained. Although the present research was not specifically designed to address the issues of maintenance of treatment recommendations, it was deemed desirable to examine the extent to which subjects maintained compliance with treatment referrals. Therefore, ancillary data (not used in the actual data collection) regarding maintenance of counseling contacts were collected.

CHAPTER IV

RESULTS

The present study was designed to assess the efficacy of three behavioral strategies which attempted to increase the likelihood that parents would follow through with outlined referrals for child counseling. To determine the effects of each strategy on compliance with appointment-keeping, a no-treatment control group (CG) was compared with two experimental treatment groups. Both experimental groups received an overt commitment treatment condition with one experimental group receiving the addition of an incentive (OCI) and the other experimental group receiving supportive interaction (OCSI). It was expected that the outcome would reveal that subjects in both treatment conditions would demonstrate greater compliance with initiating and attending child counseling appointments than their no-treatment counterparts and further that OCSI subjects would demonstrate significantly greater compliance than OCI subjects.

The results of this study indicate that the combination of an overt commitment and a supportive discussion was more effective than either the overt commitment plus incentive or the no-treatment condition. Providing subjects with extended discussion and structured counseling, which focused on many of the parents' fears and anxieties associated with their children receiving counseling services, prepared OCSI subjects to comply more readily with therapeutic recommendations for their children.

A Chi-square analysis was considered the most appropriate statistical test for comparing the frequencies of compliant behavior of the three groups. Statistically, a Chi-square was used for the following reasons: (a) all observations were independent: and (b) the

dependent variable was dichotomous, i.e., the frequency of yes/no responses was recorded. A Chi-square was calculated (via the Statistical Computer Program for the Social Sciences - SPSS-X) for each of the three groups and across each of the two measures of the dependent variable (i.e., Response 1 = scheduled an appointment for child psychotherapy within one week; Response 2 = attendance to at least the first child psychotherapy session by the end of one month). A Chi-square was also calculated for the ancillary data (i.e., Response 3 = continued attendance to child psychotherapy by the three-month follow-up). Tables 2, 3, and 4 summarize the SPSS-X computer program Chi-square crosstabulations for each group by measure of compliance.

Table 2

Summary of Chi-Square Crosstabulation for the OCSI (Overt Commitment Plus Supportive Interaction) and OCI (Overt Commitment plus Incentive) Groups by Measures of Compliance Across Response 1*

		Response 1=yes	Response 2=no	RAW TOTAL
GROUPS	OCI	f=2 28.6% 40.0	f=5 71.4% 55.6	7 50.0
	OCSI	f=3 42.9% 60.0	f=4 57.1% 44.4	7 50.0
	COLUMN TOTAL	5 35.7	9 64.3	14 100.0

Chi-square statistic: $\underline{x}^2$=.31, $\underline{df}$=1, $\underline{p}$>.05 Not significant

*Response 1 = Scheduled appointment for child psychotherapy within one week following the interpretation conference.

f = Frequency of compliant behavior

Hypothesis 1 predicted that subjects receiving the overt commitment plus supportive counseling (OCSI) would demonstrate significantly greater compliance with appointment scheduling than would

Table 3

Summary of Chi-Square Crosstabulation for Each Group OCSI (Overt Commitment Plus Supportive Interaction), OCI (Overt Commitment plus Incentive) and CG (Control Group) Groups by Measures of Compliance Across Response 2*

		Response		RAW TOTAL
		f=1	f=6	
	OCI	14.3%	85.7%	7
		25.0	35.3	33.3
GROUPS		f=3	f=4	
	OCSI	42.9%	57.1%	7
		75.0	23.5	33.3
		f=0	f=7	
	CG		100.0%	7
			41.2	33.3
	COLUMN	4	17	21
	TOTAL	19.0	41.2	100.0

Chi-square statistic: $\underline{x}^2$=4.32, $\underline{df}$=2, $\underline{p}$>.05 - Not significant

*Response 2 = Attendance to the first child's psychotherapy session by one month following the interpretation conference.

f = Frequency of compliant behavior

Table 4

Summary of Chi-Square Crosstabulation for Each Group OCSI (Overt Commitment Plus Supportive Interaction), OCI (Overt Commitment plus Incentive) and CG (Control Group) Groups by Ancillary Measures of Compliance Across Response 3*

		Response		RAW TOTAL
		f=1	f=6	
	OCI	14.3%	85.7%	7
		20.0	37.5	33.3
GROUPS		f=3	f=4	
	OCSI	57.1%	42.9%	7
		80.0	18.8	33.3
		f=0	f=7	
	CG		100.0%	7
			43.8	33.3
	COLUMN	5	16	21
	TOTAL	23.8	76.2	100.0

Chi-square statistic: $\underline{x}^2$=6.83, $\underline{df}$=2, $\underline{p}$<.05 - Significant

*Response 3 = Maintenance child psychotherapy contact at the 3-month follow-up.

f = Frequency of compliant behavior

subjects receiving the overt commitment plus incentive (OCI) condition. Of the seven subjects in the OCSI group, three (42.9%) met the criterion of compliance to scheduling appointments for their children at the recommended agency within one week of his or her interpretation conference, while four (57.1%) of the subjects did not. Of the seven subjects in the combined overt commitment and incentive group (OCI), only two (28.6%) met the criterion of scheduling counseling appointments for their child within one week of the interpretation conference as advised, whereas five (71.4%) did not (see Figure 1). Chi-square analyses for Response 1 indicated no significant difference between the OCSI and OCI groups in the frequencies of compliance to scheduling an appointment for child psychotherapy within one week. Table 2 summarizes the SPSS-X computer program Chi-square crosstabulation for this response. In view of the observed percentage differences, these dataare unequivocal but are not statistically significant. Therefore, Hypothesis 1 is not supported.

Hypothesis 2 predicted that subjects receiving the overt commitment plus supportive counseling (OCSI) would demonstrate greater compliance with appointment-keeping than would subjects receiving the overt commitment plus incentive (OCI). By the end of one month following the interpretation conferences, three of the seven (OCSI) participants (42.9%) met the criterion of compliance to attending at least the first child counseling session, with two of the three subjects attending more than one session. Two OCSI subjects met both criteria, while five subjects did not. Only one of the seven (OCI) participants (14.3%) met the criterion of actually taking his or her child to at least the first psychotherapy session by one month following the interpretation conference (see Figure 1). Chi-square analyses of Response 2 indicated that there was no significant difference found in the frequencies of compliance to attending at least the

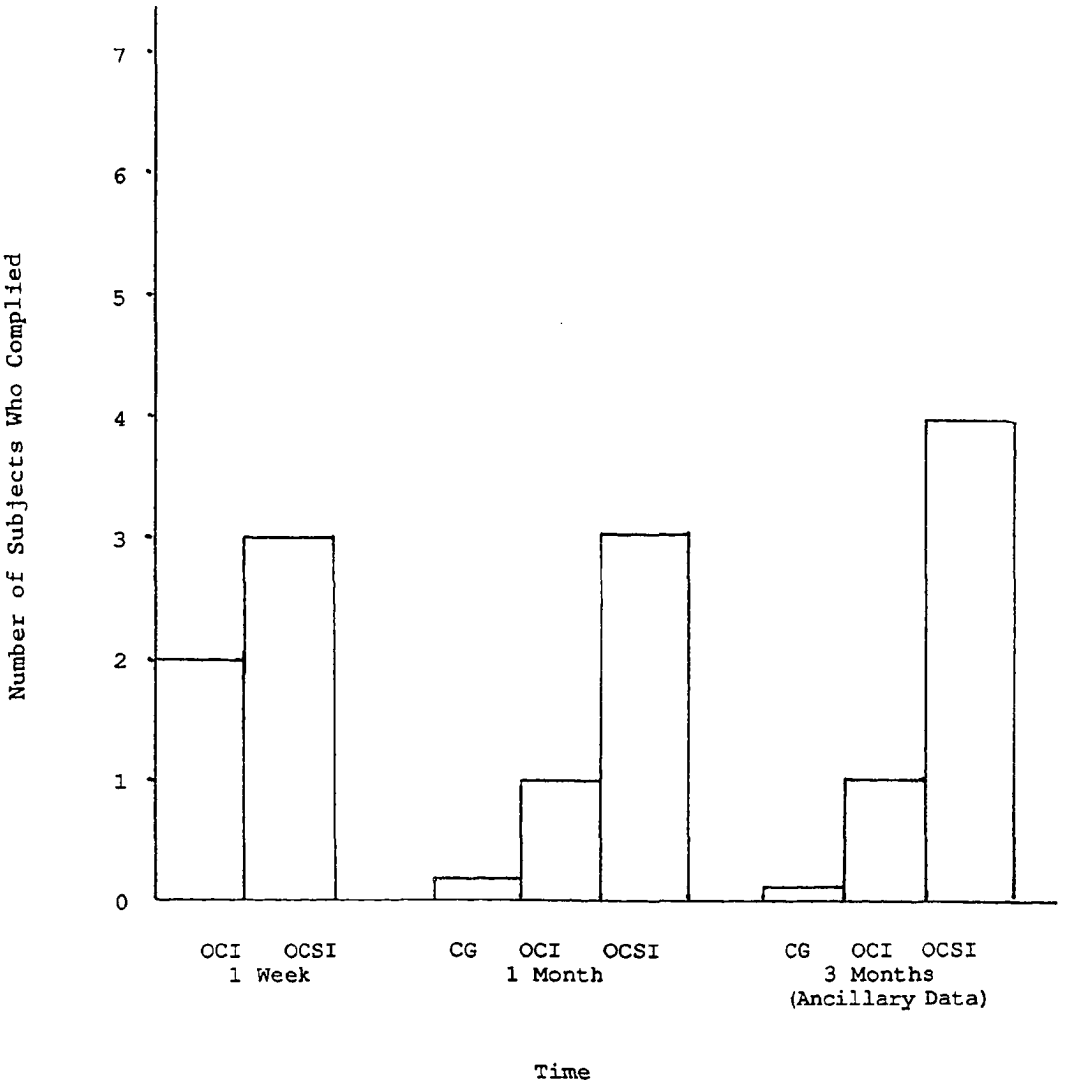

Figure 1. Analysis of the Inter-Group Comparisons of the Total Number of Child Counseling Contacts Across the Measures of Compliance.

first child psychotherapy session within one month between the three treatment groups. Although the observed percentage differences between these treatment groups are unequivocal, they did not reach statistical significance. Table 3 summarizes the SPSS-X computer program Chi-square crosstabulations across this response.

Hypothesis 3 predicted that subjects receiving the overt commitment plus supportive counseling (OCSI) would demonstrate greater compliance with appointment-keeping than would control group (CG) subjects. Similarly, Hypothesis 4 predicted that subjects receiving the overt commitment plus incentive (OCI) would demonstrate greater compliance with appointment-keeping than would control group (CG) subjects. The no-treatment, control condition (CG) which represented TG's established referral procedures, was not effective in either parental initiation of psychotherapy contact for their children or attendance to child counseling sessions. Of the seven (CG) participants, none achieved either criterion (see Figure 1). In view of the observed percentage differences, these data are again unequivocal but are not statistically significant. Therefore, Hypotheses 3 and 4 are not supported.

Results of Ancillary Data

Although not formulated in terms of a testable hypothesis, the results of the ancillary measure (self-report) were considered clinically relevant for the purpose of understanding strategies which enhance compliance more efficiently, hoping that the additional knowledge would lead to effective treatment. The findings of the ancillary data provide important information relevant to the long-term effectiveness of each strategy. In many instances, regular attendance to counseling sessions as well as compliance with the psychotherapeutic process over a time period are critical in initiating and

maintaining desired behavioral changes. The self-report three-month follow-up questionnaire, part of the TG study, assessed the respondent's involvement in executing treatment recommendations from all areas and those experimental conditions which were believed to effectively maintain compliant behavior were hence determined. It was anticipated that subjects receiving the overt commitment plus supportive counseling (OCSI) would demonstrate greater maintenance of child counseling than would either those receiving the overt commitment plus incentive (OCI) or control group (CG) subjects.

The results of the three-month follow-up ancillary procedure indicated that OCSI subjects (overt commitment plus supportive incentive) engaged in statistically significantly more therapeutic contact than their incentive condition (OCI) and no-treatment (CG) counterparts. Of the seven participants in this experimental group, four (57.1%) attended regular counseling sessions during the three-month period following the conclusion of their respective TG program. On the other hand, only one of the seven subjects (14.3%) in the OCI group (overt commitment plus incentive) reported continued therapy attendance for the same period and 0% of the seven (CG) participants had received counseling as professionally advised, at three months following the termination of TG (see Figure 1). Statistical analyses of the three-month follow-up data shows that a significant difference was demonstrated between the OCSI and OCI and between OCSI and CG indicating that the addition of the supportive interaction component had a positive effect on the three-month compliance follow-up. Table 4 summarizes the SPSS-X computer program Chi-square crosstabulations across the response.

CHAPTER V

DISCUSSION AND CONCLUSIONS

The purpose of the present study was to assess the efficacy of three behavioral techniques on enhancing patient compliance with professionally recommended psychotherapy referrals among a subject population with a high probability of noncompliance. The important feature of this design was implementing a method of combining behavioral techniques, which have individually been effective in enhancing patient compliance. The differences in compliance between treatment groups, although not statistically significant, have important implications on the effectiveness of the treatment modalities in enhancing patient compliance.

One conclusion that is drawn from the present study is that patient-professional communication is the most salient factor leading to increased patient compliance. Those subjects who engaged in the 45-minute supportive discussion session with the researcher after receiving the referral for child psychotherapy demonstrated increased frequencies of compliance with scheduling, attending and maintaining psychotherapy contact for their children. The effects of the present study are consistent with the results of earlier research showing that the patient-doctor rapport, and subsequent communication, is one critical factor engendering improvement of patient compliance.

For example, Brigg and Mudd (1968) demonstrated that clients who received an anxiety-reducing telephone call from the counselor were more likely to move into constructive counseling than their counterparts. Similarly, Anderson et al. (1971) showed that the use of college students as outreach workers, who discussed with the parents the importance of complying with doctors' advice, significantly increased

appointment-keeping. Finally, Davis (1966) found when doctors failed to convey the significance of the regimen to the patient, there was reciprocal failure on the part of the patient to comply with doctors' orders.

For those subjects in the overt commitment plus supportive interaction group, reported reasons for lack of parental compliance included the following: forgetfulness, family illness, decision to first act upon recommendations from school officials rather than those offered by the investigator, resistance, monetary or health insurance problems for therapeutic services rendered, child's court case pending for drug possession and distribution, and difficulties with another child in the household which required more immediate attention than those of the child evaluated (such as drug involvement and gunshot injuries; see Appendix M - Table 5). These reasons for noncompliance in the present study appear consistent with previous research which shows that communication failure, geographical location and transportation, family illness, forgetfulness and occupational restrictions are the most usually reported reasons for failing to keep appointments (Alpert, 1964; Gillum & Barsky, 1974; Walsh et al., 1967).

Although the current research did not specifically seek data on the reasons for subject compliance, the investigator was able to draw some tentative conclusions concerning the comparatively better appointment-keeping behavior of those subjects who had the opportunity to meet with the investigator, based upon unsolicited verbally reported information obtained from the 45-minute supportive discussion session. Of the subjects who complied, it was inferred that trust and a positive rapport had been established between the parent and the investigator; the 45-minute discussion reduced much of the anxiety, apprehension and fear associated with receiving child psychotherapy; and that further explanation of the child's illness and subsequent

treatment increased the parents' understanding of the importance of complying with recommended referrals. These observations must remain tentative since there was no effort to solicit information concerning the positive influence of the supportive interaction.

Moreover, it seems evident based upon this research, that it is necessary for the clinician to impart more than basic information concerning the therapeutic process and the importance of appointment-keeping. The study data offer instances where mothers who were quite knowledgeable about the therapeutic process nevertheless did not schedule or attend psychotherapy appointments for their children. In three cases, the mothers verbally reported previous psychotherapy experience for either themselves or their children. However, in two of the three instances, compliance was not demonstrated. Information concerning the fears and anxieties that people have of what counseling may do to them as well as doubts of what counseling can do for them are relevant topics which need to be discussed with the patient in detail.

On the other hand, the overt commitment plus incentive strategy was only minimally effective in enhancing patient compliance with appointment-scheduling, actual attendance and maintenance of psychotherapy. In viewing the pattern of responses for these subjects, it appeared that the experimental treatment was effective across both measures of compliance for only one subject. It was suspected that the severity of the child's illness, i.e., encopresis, encouraged the mother to more readily comply with both psychological and medical treatment recommendations. This observation is consistent with the results of previous research which demonstrates that the seriousness of an illness is directly related to increased medical compliance. For example, Ambuel et al. (1964) found a positive correlation between appointment compliance and the urgency of the illness. Likewise, Francis et al. (1969) demonstrated that illnesses which the mothers regarded as very serious

were associated with increased compliance. Finally, as a part of their research, Gottesfeld and Martinez (1972) showed that patients who said their problems had become more acute prior to their appointments were more likely to keep the appointment, while those who said their problems had become less acute were least likely to keep their appointments.

One other OCI group subject complied with scheduling an appointment within one week following the interpretation conference, however, did not follow through with actual attendance to the therapy session. Upon inquiry, the parent stated that the recommended agency to which the child had been referred was too far, in spite of the transportation incentive. Another agency, closer to the family's home, was recommended, but by the three-month follow-up telephone interview, compliance with actual attendance was not demonstrated.

Other reasons that were reported for lack of compliance with professionally recommended therapy referrals for their children included: distance of the agency and problems with transportation, child afraid to ride the metro-bus transportation system alone, the parent forgot the appointment, parent undergoing divorce proceedings, and one child was displaced from a foster home and recommendations could not be attempted until a new placement was secured. Again, the stated reasons for lack of compliance are consistent with the results of previous research (see Appendix M - Table 6).

Based upon the ineffectiveness of the incentive treatment condition, reappraisal of this strategy merits consideration. The reinforcer used in the present research may not have been incentive enough to encourage parents to take their children to psychotherapy sessions. One subject in the OCI group inquired about taxicab fare stating that her child was afraid to ride the D.C. metro-bus alone, regardless of the transportation incentive. On the other hand, lack of transportation for participants in groups which did not receive the transportation incentive strategy

(CG and OCSI) might have contributed to lack of attendance to child psychotherapy sessions. In any event, money was likely the most powerful reinforcer for this population. However, the logistics involved in implementation of a monetary incentive were far too complicated to be accurately carried out under the financial and procedural constraints of the Transgenerational Project's Program.

The control group (Group 1) which represented standard Transgenerational Project referral procedures, was totally ineffective in enhancing compliance with appointment attendance. No parents in this group made initial appointments or kept subsequent child psychotherapy contacts. Stated reasons for lack of compliance for CG subjects included: the parent did not know where to go or who to contact; did not feel that his or her child needed counseling; no explanation was offered; parental conflict over which parent is responsible for the child's medical care; and parental decision to wait for advice from school officials before acting upon the recommendations offered by the investigator (see Appendix M - Table 7). Based on the comparative data of this study, it is concluded that treatment interventions, either singularly or in combination, may be necessary to foster patient compliance with professional recommendations in general, and with psychotherapeutic referrals, in particular. This observation is in line with the results obtained by prior research (i.e., Levy, 1977; Reiss et al., 1976).

For example, Levy (1977) found that subjects in a verbal commitment as well as those in a verbal plus written commitment group demonstrated higher compliance rates with the assigned task of making a telephone call, than those in the no commitment/control condition. Similarly, Reiss et al. (1976) found that the combination of behavioral techniques involving three prompts (e.g., note, telephone call, and home visit) as well as the note plus a monetary incentive strategy were significantly

more effective than the one note (single prompt strategy) in encouraging low-income parents to keep pediatric dental appointments. In summary, the efforts of the aforementioned researchers are representative of the comparative efficacy of a multiple versus a single behavioral intervention.

Finally, the influence of the overt commitment contract on compliance cannot be dismissed. When the treatment results of the OCI and OCSI groups are compared against those of the CG group, the overt commitment variable seems to have positive value. However, in comparing the treatment results of each treatment package (OCI vs. CG) or (OCSI vs. CG), the effect of the overt commitment appears to be confounded by the other treatment conditions, e.g., the incentive or the supportive discussion. Therefore, there is no substantial evidence which suggests that the overt commitment contract negatively interfered with compliance.

Methodological Considerations of the Study

The major consideration of this study was the limited group size. Due to the small number of participants, the statistical significance of the research results was compromised. Reasons for the small number of participants included:

1. The utilization of a population with a high probability of noncompliance such that it was questionable whether each participant would comply with the six-week Transgenerational Project procedures in order to be eligible for the present study. The addition of the one-month research procedure exacerbated the existing possibility of noncompliance.

2. Due to the monetary and time constraints of the Transgenerational Project, under which the present study was conducted, the extended time period required for acquisition of a greater number of subjects was precluded.

Recommendations for Future Research

1. One observation of the study involved the possible interference of natural environmental conditions with patient compliance with the therapeutic process. Although not verbally reported, periods of inclement weather might have influenced the participants' motivation for attending psychotherapy sessions. However, more frequently verbally reported environmental conditions which most likely interfered with patient compliance were inner-city social problems, such as substance abuse, drug-related pending court cases, gun shot injuries, and the like. Urban parents are often too overwhelmed with inner-city psychosocial stressors to effectively carry out psychological treatment recommendations. Consequently, compliance with medical treatment advice frequently loses priority to more pressing family matters. As such, an increase in community resources and trained personnel who are available to work with clients with severe inner-city socioeconomic problems, which likely interfere with patient follow-through with professional advice, are strongly indicated. If adequate community resources which offer plausible solutions and/or alternatives to urban psychosocial problems (such as crime, substance abuse, teenage pregnancy and poverty) are not established, then research efforts in the area of enhancing compliance with psychotherapeutic regimens may be futile. Community education efforts and parent skills training stressing the importance of adhering to medical and psychological treatments as well as preventive strategies, in spite of inner-city psychosocial stressors, are also encouraged.

2. The ancillary findings of the study suggest that further explanation of the patient's condition and of the psychotherapeutic process may have improved the effectiveness of the treatment. The investigator suggests at least one 45-minute session be arranged with each client in order to discuss any anxieties and apprehensions related

to his or her child attending psychotherapy regularly. Further explanation of the clients' condition and reasons for the therapy referral should also be discussed at that time. When enhanced patient-professional interaction, via increased communication and explanation of the diagnosis and the suggested treatment regimen are utilized in an attempt to decrease noncompliance, the investigator recommends that the staff receive communication skills training, including problem-solving training and negotiating of agreements concerning problems which interfere with compliance with psychotherapy attendance.

More specifically, the writer suggests that further investigation into the increased percentage of noncompliant behavior with medical regimens among black, Hispanic and lower-income white populations be considered. Reasons why these populations have a higher probability of failure to comply with professional advice and specific ways to increase patient compliance are indicated. As such, a worthwhile research effort would be more specific determination of the doctor-patient interaction and its relationship to compliance with appointment-keeping. Methods of fostering positive doctor-patient rapport, such as communication skills training which is specific to populations with higher probabilities of noncompliance, can be beneficial.

3. Although not planned as an integral part of the research design of the present study, a second recommendation for treatment is the opportunity for each client to discuss thoughts related to attending therapy regularly directly with the agency to which he has been referred. It is likely that another 45-minute session with the agency may also relieve much of the anxiety associated with attending psychotherapy. For instance, Garcea and Irwin (1962) found that developing a limited contract procedure which enabled clients to engage in a treatment relationship for a trial period, resulted in lower rates of attrition. Ideally, the referral agency and the agency to which the

patient has been referred should work closely together to ensure optimal patient compliance with recommended treatment referrals.

4. In this study, several subjects inquired about the possibility of the researcher providing the necessary counseling for their children. Throughout all phases of the present study, many subjects verbally remarked that, after having attended the Child Development Center for the six-week TG program, they found it difficult to initiate child psychotherapy with another agency. As a result, several subjects frequently mentioned the level of trust and familiarity that they felt had developed with the staff during the six weeks. It is, therefore, suspected that a positive rapport with the agency, staff, and the researcher had been established during the course of the TG program, such that many participants felt familiar and comfortable allowing their children to receive those services directly at the Child Development Center. This observation further supports the importance of establishing excellent patient-professional relationships in order to obtain optimal compliance. Whenever possible, on-site, in-house, psychological treatment services might prove beneficial in enhancing patient compliance with appointment-keeping.

5. A research focus on treatment strategies for enhancing compliance rather than epidemiological reviews might provide information that could lead to a decrease in the frequency of noncompliant behavior. Emphasis should be placed on combining strategies with proven effectiveness in increasing patient compliance. As previously demonstrated, research suggests a positive correlation between patient compliance and the cumulative effect of combining treatment interventions (Reiss et al., 1976). Additionally, given the apparent ineffectiveness of the transportation incentive condition in the present study, the selection of suitable contingencies, which increase treatment

compliance, represents one area where continued behavioral research might make a significant contribution.

Conclusions

Combined structural modifications, such as reinforcers, overt commitments or contracts and improvement in patient-practitioner communication are likely to enhance compliance with therapeutic regimens. However, the investigator has concluded that perhaps most important in increasing compliance is that the clinician or staff member attempt to allay any apprehensions by discussing with each mother some of the attitudes, anxieties, and fears associated with receiving counseling as presented in this study. Ultimately, it should be possible to construct a brief yet useful interview which would assist the clinician in identifying those problems which likely interfere with patient compliance.

This research represents a procedure where the referral exit interview was extended by an additional 45-minute supportive interaction session and an attempt was made to help ease the client's transition into child psychotherapy. It was concluded that the combination of an overt commitment plus the 45-minute supportive discussion treatment condition provided an effective framework for engendering compliance with referrals for psychotherapy for one's child. The small total number of subjects in the study, the possible ineffectiveness of one treatment condition, and the interference of inner-city social problems with the treatment process were the major concerns of this study that should not be overlooked. However, in spite of these concerns and in view of the observed percentage differences between treatment groups, the clinical findings of the study with regard to the effects of a supportive interaction session on compliance with appointment scheduling, keeping and maintenance are relevant and valuable

for clinicians in that these findings offer direction in the solution to the problem of noncompliance. It is hoped that the findings from the current study will enable practitioners to gain a better understanding of the socioeconomic problems mothers may have in carrying out professional advice, the psychological and economic costs involved in doing so, and those behavioral treatment methods, alone and in combination, which have demonstrated effectiveness in treatment compliance.

Appendix A

Setting

A major black university located in Washington, D.C. was chartered by the United States Congress in 1867 as a "university for the education of youth in the arts and sciences." For more than a century, this private institution has provided quality education to students who have traditionally been denied an opportunity for reasons other than their intellectual capabilities. The University records more than 40,000 graduates in the professions, the arts and sciences, and humanities working throughout the world in education, business, industry, and the federal, state, and foreign governments. The average yearly student enrollment is 11,000 graduate and undergraduate students. These students represent 48 of the 50 states, the District of Columbia, most of the American territories, and more than 90 foreign countries. There are more than 1,300 full-time faculty members who provide student instruction in the 17 fully-accredited schools and colleges.

Other educational resources include several research institutes and centers which supplement the teaching programs; a 500-bed teaching and research hospital; the one million plus volume University Libraries System, including libraries and branches in several schools and colleges; a research center; the world's most comprehensive compilation of materials on Africa and persons of African descent; three art galleries, the University Press which has published more than 90 books in a variety of disciplines; an FM-50,000 watt commercial radio station; and the first educational television station owned, constructed and oeprated by a black university. This university is also a member of the Consortium of Universities of the Washington, D.C. area.

Through the University's Health Services Center, which includes the College of Medicine, Dentistry, Pharmacy, Allied Health, Nursing, and the University Hospital, the University is committed to a mission-oriented academic, research and health service environment that is

uniquely suited for and experienced with coordinating broad health delivery networks. Primarily, these networks bring together both the public and private sectors external to the institution. By addressing health problems that are critical to the community, the University can empower parents to press more actively for adequate and comprehensive efforts aimed at addressing special needs of inner-city children and families.

The setting of this study is the University's Child Development Center, of the Division of Child Development, in the Department of Pediatrics and Child Health at Howard University. The Child Development Center (CDC) is located in the University Square, in the building which, prior to 1974 was the site of the old university hospital, established by the federal government to provide medical care for freed men and women following the abolition of slavery. The CDC facility has approximately 10,000 square feet and provides 20 staff offices, 6 student office areas, 2 multipurpose open space rooms, 2 examining rooms, 3 diagnostic rooms with observation areas, 2 trainee classrooms, 2 waiting room areas, a conference room, library, and a well-equipped outdoor diagnostic play area.

The Center has for almost 20 years been at the forefront of institutional and public sector networking. CDC has accommodated many academic and training cooperative programs with schools such as Human Ecology, Social Work, Education, Psychology, Medicine and Law and has addressed and monitored the needs of handicapped children with diverse therapeutic regimens which were coordinated with public and private agencies. Also of great importance are the large number of residents, medical students, graduate students, and trainees who have acquired skills in coordinating and consolidating child health services with public and private agencies and can utilize these techniques in nationally distributed communities in which they settle professionally.

Appendix B

Transgenerational Project Intake Questionnaire

INQUIRY SLIP

CHILD DEVELOPMENT CENTER
Department of Pediatrics
and Child Health
Howard University
Washington, D.C. 20059

Date _____

Child's Name: _____ (M) ___ (F) ___ aka _____
D.O.B.: _____ Child Living With _____
Phone: _____ (H) Address: _____ Apt# _____
Phone: _____ (W) _____
(Zip)

Mother's Name: _____ D.O.B. _____ _____
(N, A, S) Circle one Maiden Name
Father's Name: _____ D.O.B. _____ S Sep M D
Marital Status
Phone: _____ (H) Address: _____ Apt# _____
Phone: _____ (W) (Parent involved with child but not living in same place)

_____ _____
sib D.O.B. sib D.O.B.

_____ _____
sib D.O.B. sib D.O.B.

Child in school? Yes ___ No ___ Present Grade: _____ Retained?
To be retained?
Name of School: _____ Teacher _____
Address: _____ Phone _____
Person Making Inquiry _____
Referred by _____

REASON FOR REFERRAL

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

Insurance? Yes___ No___ Information Taken By:

_____ _____

Appendix C

Transgenerational Project Acceptance Letter

HOWARD UNIVERSITY
WASHINGTON, D.C. 20059

COLLEGE OF MEDICINE
DEPARTMENT OF PEDIATRICS AND
CHILD HEALTH
CHILD DEVELOPMENT CENTER

Dear Parent and Guardian:

Welcome to this session of the service program for parents and children. This program will last for six weeks and will begin and end on We will meet each week on TUESDAY - FROM 9:00AM to 12NOON approximately. Each week while your child receives a diagnostic assessment, you will be involved in a training/education and counseling session centered around child development, developmental disabilities, how to help your child succeed in school, strengthening the parent-school partnership, and open discussion on topics of your choice.

Your child will receive the following assessments during the next six weeks:

Speech and Language Evaluation
Medical Examination
Psychological Evaluation
Educational Evaluation
Health/Social Evaluation
Nutritional Evaluation

Additional appointments will be necessary for hearing evaluation and other consultations/evaluations deemed necessary during the course of the diagnostic study. If you have any questions regarding the program format, please do not hesitate to ask.

We hope you will find the parent sessions helpful and enjoyable. We invite your comments and suggestions throughout the program. We feel certain that working together, we will make a more successful school experience for your child.

Sincerely,

Wanda K. Mitchener-Colston
Project Coordinator

Appendix D

Informed Consent for Participation in
the Transgenerational Project

CONSENT FOR INVESTIGATIVE PROCEDURES
Child Development Center
Department of Pediatrics and Child Health
College of Medicine/Howard University Hospital
Howard University
Washington, D.C. 20059

1. I understand that the tests and procedures explained to me at this time are needed for the evaluation of my child through the project entitled A Transgenerational Project for Children with Learning Disabilities, Their Parents, and Schools.

   I further understand that this consent form will be read aloud to me to ensure further clarity of its content.

   _____
   (Child's Name)

   _____
   (Date of Birth)

   _____
   (Parent's Name)

   _____
   (Address)

2. Explanation to Subject

   The Child Development Center is a center for the diagnosis, treatment, evaluation, counseling and follow-up of children who are born with or have acquired developmental problems in early childhood. Parent education and counseling also are provided and considered an integral part of the program. We are also a training facility for students who are closely supervised by our professional staff. Clinic hours are Monday through Friday, 8:30 AM to 4:30 PM.

   This project will require six, consecutive weeks of diagnosis for the child with simultaneous parent education, training, and counseling for the parent. All transportation costs for these visits will be paid by the project as follows: separate metro/bus/rail passes will be given to you (the parent), four times, to cover the travel expenses for you and your child during the course of the study.

   In the process of evaluation your child will receive some or all of the following: Physical Examination, Psychological Testing, Social Service Interview, Educational Testing, Speech and Language Evaluation, Hearing Evaluation and Nutritional Assessments. Consultations for additional studies, i.e., opthamalmological, genetics, endocrinological, etc., will be requested if indicated. Home and school visits will be made by our staff for purposes of observations of you and your child.

   At the same time the child is being evaluated, the parent will be enrolled in a counseling and training program. As a part of this parent counseling and training program, you will be administered the PARENT KNOWLEDGE TEST. This instrument will test your knowledge of information about normal child development,

developmental disabilities, and procedures for securing special educational services for your child.

When the diagnostic study and parent training have been completed, an evaluation conference will be held and a functional diagnosis and recommendations will be made. After the evaluation conference, you will be scheduled for an interpretation conference with the pediatrician and other appropriate members of our staff for the purpose of discussing the findings of our study. Assistance in helping you to follow through with the clinic recommendations, and on-going interpretation and follow-up will be provided as an integral part of this Center's service.

In order for the study to be completed within a six- to eight-week period, it is important that the parent and child keep all the scheduled appointments. Each scheduled appointment is a time slot set aside for your child and you. Due to necessary scheduling procedures, a missed appointment may extend the time frame necessary to complete the evaluation and counseling. To control for attrition, one missed appointment will be allowed for reschedule. Two missed appointments will be referred for participation in a subsequent session, once continued interest is expressed. Three missed appointments will result in transfer from the project to the on-going case load of the HU-CDC for the completion of the diagnostic process.

Project staff will be following you and your child through the follow-up process and the school which your child attends will be routinely involved in this follow-up and follow-through process. Release of information to other agencies can be accomplished only after a study has been completed, interpretation conference held, and only upon written consent of the legal guardian. Both parents must attend the interpretation conference when both parents reside in the home.

3. Confidentiality

Both you and your child's identity as participants in this study will be held as strictly confidential information. Data obtained will be maintained in a locked, secure location and no other use of the information will be made unless authorized by you in writing.

4. I understand that in the event of physical or other injury resulting from the tests or procedures, emergency medical treatment will be provided but financial compensation will not be available.

5. I understand that any potential risks from such tests as the psychological, speech and language evaluation, educational evaluation, etc. are minimal and are outweighed by the anticipated benefits to be accrued to me and my child.

6. I understand that some of the tests described may be novel or experimental, but they do not involve any risks other than those mentioned in Item 2. With this knowledge and the above description of the project, I voluntarily agree to take part, accepting the risks of my/my child's participation in this project. I further understand that all reasonable precautions have been and will be taken to reduce any risks and to provide for my/my child's care,

and that all information will be confidential as indicated in Item 3.

7. I am aware that I am free to withdraw this consent and discontinue participation in the study at any time, without affecting my relationship with Howard University.

8. Dr. Roselyn Epps can be reached at the following number: 636-6973 in the event I have any questions regarding my participation in this project. If I have any questions at any time that I would like to discuss with someone other than the investigators on this project, I am free to call the office of the Executive Secretary, Institutional Review Board at 636-7818.

9. I have read the above description of the research project. Further, it was read aloud to me to ensure my understanding of its content. Anything I did not understand was explained to me by _____ and I had my questions answered to my satisfaction. I agree to participate and to have my child participate in the evaluation and counseling program.

I acknowledge that I have received a personal copy of this consent form.

_____ _____
Subject's Signature or Parent/Guardian Signature Date

I, the undersigned, have defined and fully explained the tests or procedures involved in this investigation to the above subject, parent or guardian.

_____ _____
Investigator's Signature Date

_____ _____
Witness' Signature Date

Appendix E

Transgenerational Project Three-Month
Follow-Up Form

PARENT INTERVIEW - FORM I
3-Month Interview
(Via Phone)

Indentifying Data

Child's Name _____

Parent's Name _____

Child's Birthdate _____ Chron. Age _____

Date of Initial Evaluation: Month _____ Year _____

Date of Interview _____

Follow-Up Data

Parent involvement with executing placement/treatment recommendations since completing the program:

INTERDISCIPLINARY TEAM DIAGNOSIS RECORDED FOR CHILD: _____

_____

DATE OF EVALUATION CONFERENCE: _____

RECORDS OF RECOMMENDATIONS MADE TO PARENT ON (DATE) _____

at the Interpretation Conference.

1.

2.

3.

4.

5.

6.

A. Parent has contacted the school to discuss recommendations.
_____ Yes

_____ No

Comments: _____

_____

_____

_____

List the agency and personnel title of contacts made:

_____

_____

_____

B. Description of problems encountered and reasons for lack of follow-through: (Explain below)

___a. unable to reach school personnel
___b. unable to reach agency personnel
___c. could not recall recommended follow-up procedures
___d. decided to withdraw from program
___e. Other _____

_____

_____

SUMMARY OF THREE-MONTH FOLLOW-UP CONTACT:

Appendix F

Transgenerational Project Fifteen- and Twenty-Four Month Follow-Up Forms

PARENT INTERVIEW - FORM II
(15- and 24-Months)

Identifying Data

Child's Name _____

Parent's Name _____

Child's Birthdate _____ Chron. Age _____

Date of Initial CDC Evaluation: Month _____ Year _____

Chronological Age at time of Initial Evaluation _____

Date of Interview _____

Follow-Up Data

1. Parent's understanding of initial CDC diagnosis?

___ a) major learning disability

___ b) major emotional disability

___ c) major speech and language disability

___ d) major medical problem

___ e) mental retardation

___ f) other. Please specify. _____

___ g) N/A

Comments: _____

_____

_____

2. Did you agree with the results of the evaluation?

___ a) agreed

___ b) disagreed

Comments: _____

_____

_____

3. Did you discuss the evaluation results with your child?

___ a) yes

___ b) no

___ c) N/A

Comments: _____

_____

_____

4. Did you understand the procedure (how to go about) securing or obtaining recommended services for your child?

___ a) yes

___ b) no

___ c) N/A

Comments: _____

_____

_____

5. Did you follow-through with any or all CDC recommendations for school placement, other agency treatment, etc.

___ a) yes

___ b) no

___ c) N/A

Comments: _____

_____

_____

6. Did you follow-through on CDC recommendations for counseling?

___ a) yes

___ b) no

___ c) N/A

Comments: _____

_____

_____

7. Did you follow-through on CDC recommendations for peer group/ recreational activities?

___ a) yes

___ b) no

___ c) N/A

Comments: _____

_____

_____

8. Has your child received any treatment/therapy since the CDC evaluation and recommendations (if applicable)?

___ a) yes

___ b) no

___ c) N/A

Comments: _____

_____

_____

9. Describe the special placement or treatment service which your child received.

___ a) Full-day special school placement

___ b) Special class placement within a regular school

___ c) Individual therapy (such as resource, speech therapy, counseling, school-based program, etc.)

___ d) Other _____

Comments: _____

_____

_____

_____

10. Have there been any significant environmental changes since the initial evaluation (in the home, school, community)?

___ a) yes

___ b) no

If yes,

11. Describe the environmental changes which have occurred.

___ a) death of a family member

___ b) change of residence

___ c) divorce or separation

___ d) remarriage

___ e) prolonged illness (child or relative)

___ f) birth of a sibling

___ g) other _____

Comments: _____

_____

_____

_____

_____

Appendix G

Statement of the Importance of Complying
With Psychological Referrals

Given the concerns discussed here today, we feel that it is a good idea for _____(Child)_____ to have someone to talk to. Often times children find it difficult to express themselves, their feelings and thoughts, especially to parents. Therefore, you might find that an outside person, a professional, for _____(Child)_____ to talk to can be helpful. Also, as you well know, _____(Child)_____ is fastly approaching adolescence. Facing the reality of the types of problems and pressures that teenagers today are confronted with, we firmly believe that prevention is far better than cure and we strongly encourage you to follow-through with our recommendation.

Appendix H

Informed Consent for Participation in Compliance Program and Human Subjects Approval Forms

COMPLIANCE PROGRAM PARTICIPATION

Information and Consent Agreement

Information

I am Shara Johnson, M.A., a doctoral student in clinical psychology at Western Michigan University. I am interested in gaining information about which factors help people follow-through with recommended programs. The study that you are asked to participate in involves the evaluation of patient compliance. Much is known about the positive benefits of following professionally recommended programs. However, little is known about how to increase patient compliance.

This research project will compare 3 approaches to patient compliance and if you agree to participate, you will be assigned to one of the three groups. At the end of the study, you will be contacted by telephone, by me, at 1 week and again at 1 month following the conference. Information gained from this study may be presented at a public meeting or published. However, no mention of individual names and/or identifying characteristics will ever occur. All personal information will be kept completely confidential.

Consent:

My signature below indicates that I have read the above description of the compliance study and fully understand what is expected of me; that I am aware that any potential risks are minimal and are outweighed by the expected benefits to me and my child; and that I voluntarily consent to participate in the program. I am also aware that I am free to withdraw this consent and discontinue participation in this study at any time, without affecting my relationship with Howard University Hospital and related services.

I can reach Ms. Shara Johnson at 636-6973 in the event I have questions regarding my participation in the study. If I have questions at any time that I would like to discuss with someone other than Ms. Shara Johnson about this study, I am free to call the coordinator of the Transgenerational Project, Mrs. Michner-Colston at 636-6974 or the office of the Executive Secretary, at the Institutional Review Board at 636-7818.

I, _____, agree to participate in the above described compliance program.

Participant's Signature _____

Witness' Signature: _____

Date: _____

HOWARD UNIVERSITY
WASHINGTON, D.C. 20059

OFFICE OF THE VICE PRESIDENT
FOR HEALTH AFFAIRS
INSTITUTIONAL REVIEW BOARD

PROJECT TITLE A Comparison of the Effects of Differential Behavioral Strategies on Therapeutic Compliance

NAME OF PRINCIPAL INVESTIGATOR, TITLE AND DEPARTMENT Shara Johnson, (Student), Suzzane Randolph, Ph.D., (Advisor) Dept. of Pediatr.

I, as the Principal Investigator, agree to abide by the rules and regulations governing the rights of human subjects in research and training project, as set forth by the Institutional Review Board (IRB) of Howard University. The review period is every 12 months. Properly executed consent forms will be retained as part of my records of this project and I will immediately notify the Chairman of the IRB of any adverse reaction(s) encountered and corrective measures taken. I will also provide notice to the Board of any changes to be instituted in the protocol during this investigation. For IRB annual report purposes, I will submit by May 15th to the IRB Chairman, a report to include the following: (1)how many patients or subjects seen; (2)location and number of consent forms obtained; (3)adverse reactions encountered and corrective measures taken; and (4)any changes in the research protocol.

Shara T Johnson — March 1, 1989
Signature of Principal Investigator — Date

Institutional Review Board

Members	Approve	Defer	Disapprove	Revise
Robert E. Taylor, M.D., Ph.D.				
Renee R. Jenkins, M.D.				
Warren K. Ashe, Ph.D.				
Frank P. Bolden, Sr., M.A.				
Joyce Ann Brentley, J.D.				
Alfonso L. Campbell, Ph.D.				
Lillian T. Durham, M.A.				
G. Franklin Edwards, Ph.D.				
Henry J. Ferry, Ph.D.				
Vincent W. Hollis, Jr., Ph.D.				
Suresh Mohla, Ph.D.				
Robert F. Murray, Jr., M.D.				
M. Mohan Varma, Ph.D.				
Robert M. White, Jr., M.D.				

Comments: Project Period:

Final Recommendation: Approve (✓) Defer ( ) Disapprove ( ) Revise ( )

Chairman, Institutional Review Board — 3/1/89 Date

HOWARD UNIVERSITY
WASHINGTON, D.C. 20059

COLLEGE OF MEDICINE
DEPARTMENT OF PEDIATRICS AND
CHILD HEALTH
CHILD DEVELOPMENT CENTER

November 7, 1988

Dear Sir,

This letter verifies that Shara Johnson has permission to collect data, for her doctoral dissertation, at the Howard University Child Development Center's Transgenerational Project. I understand this research will assess the effects of different behavioral strategies on patient compliance with counseling/psychotherapy recommendations and referrals. Moreover, data collection will likely continue until the conclusion of the Transgenerational Project in June, 1989, and all data will remain completely confidential.

If there are any further concerns, please do not hesitate to contact me.

Thank You,

Merceline Dahl-Regis, M.D., M.P.H.
Acting Director, Child Development Center.

Roselyn P. Epps, M.D., M.P.H.
Director, Child Development Center

WMU

Western Michigan University
Kalamazoo, Michigan 49008-3899

Human Subjects
Institutional Review Board

TO: Shara Johnson

FROM: Ellen Page-Robin, Chair EP-R

RE: Research Protocol

DATE: January 11, 1989

This letter will serve as confirmation that your research protocol, "A Comparison of the Effects of Differential Behavioral Strategies on Therapeutic Compliance," was approved at no more than minimal risk after full review by the HSIRB.

We will need to have a copy of the Howard University IRB clearance for our files when that is obtained.

If you have any additional questions, please contact me at 387-2647.

Appendix I

Information Sheet and Compliance Agreement Form

INFORMATION SHEET AND
COMPLIANCE AGREEMENT FORM

1. Explanation:

You are being referred to an agency which will try to help you and your child with many of the problems mentioned today during the interpretation conference. This agency employs counselors who have had training and experience helping others with similar problems and who have gotten some perspective on what can be done about them. You might also find that having such a person to talk to can make you feel better and may give you some relief. Your counselor will try to understand your situation and will try to find out what kinds of changes and assistance are possible. Basically, counseling works through you, your child, and your family by trying to better understand the causes of your problems and then attempting to help you solve them.

2. Compliance Agreement:

I understand that the information explained to me at this time is needed for better understanding of the referral procedures for counseling for me and my child. I further understand that this information will be read aloud to me to ensure clarity of its content and that I have received a personal copy of this form. My signature below indicates that I have read, understand, and will follow-through with the recommendations.

I agree to schedule an initial apppointment at _____ (name of agency)

_____ (phone #) by _____ (date - one week) for counseling. I further agree to at least the first visit, at the above mentioned agency, by _____ (date - one month) following today's conference.

_____
(Signature of Participant)

_____
Ms. Shara Johnson
Research Investigator

_____
(Date of Conference)

Appendix J

Supportive Interaction Interview

SUPPORTIVE COUNSELING TRANSITION INTERVIEW SESSION

Hello Ms. _____,

I'd like to spend the next 45 minutes talking about your feelings regarding the counseling referrals and recommendations for _____ (child's name) _____. I want to take this time to discuss any concerns you might have.

What are your feelings about the counseling recommendations made in the interpretation conference?

Let's talk about any problems/obstacles which might arise that can prevent _____ (child's name) _____ from attending counseling session regularly.

What are some of your anxieties/fears surrounding _____ (Child) _____ receiving counseling?

Describe what you perceive as stigmas associated with receiving counseling. Do you feel that any of these stigmas relate to your personal situation? Let's discuss this for a while longer.

What about feelings of guilt or blaming?

What about other family members? How do you think they'd react to _____ (Child) _____ receiving counseling?

Let's discuss _____ (Child's) _____ feelings about going to a counselor.

The way we've talked here today is very similar to the way _____ (Child) _____ will talk to his/her counselor. How did you feel about our talk today?

Is there anything else you'd like to discuss?

Appendix K

One-Week and One-Month
Follow-Up Checklist

ONE-WEEK AND ONE-MONTH
FOLLOW-UP CHECKLIST FORM

Subject's Name _____

Agency contacted and telephone number: _____

_____

To date, I have made the following efforts for individual, group, and/or family counseling/psychotherapy:

_____ I have not called to schedule an appointment.

_____ I have attempted to call the agency but was unable to schedule an appointment for the following reasons:

_____ I have called to schedule the first appointment.

_____ I have had the first session.

_____ I have had more than one session.

_____ Other.

_____
(Date)

Appendix L

Verification Form

VERIFICATION OF SUBJECT SELF-REPORT

Name: _____

Agency Contacted: _____

Informant: _____

Disposition:

Date:

Appendix M

Tables 5, 6, and 7 -
Records of Compliance for OCSI,
OCI, and CG Group Subjects

Table 5

Record of Compliance for Overt Commitment Plus Supportive Interaction Group Subjects (OCSI)

OCSI Subjects	Scheduled Appointment for Child Counseling Within 1 Week	Reasons for Non-Compliance	Attended Child Counseling Within 1 Month	Reasons for Non-Compliance	Maintenance of Child Counseling Contact at 3-Month Follow-Up
SS-1	Yes		Yes		Yes
SS-2	Yes		No	Child's court case pending for drug distribution. Awaiting decision for academic placement.	Yes
SS-3	No	Checking if HMO insurance will pay.	Yes		Yes
SS-4	No		No	Pre-occupied with older son who was shot in drug-related incident.	No
SS-5	Yes		Yes		Yes
SS-6	No	Forgot.	No	Mother ill due to alcoholism.	No
SS-7	No		No	Mother was resistant.	No

Table 6

Record of Compliance for Overt Commitment Plus Incentive Group Subjects (OCI)

Subjects	Scheduled Appointment for Child Counseling Within 1 Week	Reasons for Non-Compliance	Attended Child Counseling Within 1 Month	Reasons for Non-Compliance	Maintenance of Child Counseling Contact at 3-Month Follow-Up
IS-1	Yes		No	Child afraid to take bus alone.	No
IS-2	Yes		Yes		Yes
IS-3	No	Trouble in foster home. Child accused of arson.	No	Child removed from foster home placement.	No (Recently placed in new foster home. Plans to begin therapy as soon as settled.)
IS-4	No		No	Have not had time.	No
IS-5	No		No	Transportation; referral agency is too far.	No
IS-6	No		No	Forgot.	No
IS-7	No		No	Mother pre-occupied with divorce proceedings.	No

Table 7

Record of Compliance for Control Group Subjects (CG)

CG Subjects	Scheduled Appointment for Child Counseling Within 1 Week	Reasons for Non-Compliance	Attended Child Counseling Within 1 Month	Reasons for Non-Compliance	Maintenance of Child Counseling Contact at 3-Month Follow-Up
CS-1	N/A		No	Responsibility of child's father.	No
CS-2	N/A		No	Did not know where to go.	No
CS-3	N/A		No	Waiting to hear from D.C. public schools first.	No
CS-4	N/A		No	No reason documented.	No
CS-5	N/A		No	Did not know who to contact.	No
CS-6	N/A		No	Did not feel that child needed counseling.	No
CS-7	N/A		No	No reason given.	No

BIBLIOGRAPHY

Alpert, J. (1964). Broken appointments. Pediatrics, 34, 127-133.

Ambuel, J., Cebulla, J., Watt, N., & Crowne, D. (1964). Urgency as a factor in clinic attendance. The American Journal of Diseases of Children, 108, 394-398.

Anderson, F., Rowe, D., Dean, V., & Arbisser, A. (1971). An approach to the problem of noncompliance in a pediatric outpatient clinic. The American Journal of Diseases of Children, 122, 142-143.

Arnhold, R., Adebonojo, F., Callas, E., Callas, J., Carte, E., & Stein, R. (1970). Patients and prescriptions: Comprehension and compliance with medical instructions in a surburban pediatric practice. Clinical Pediatrics, 9(11), 648-651.

Azrin, N., & Besalel, V. (1980). Job club counselor's manual: A behavioral approach to vocational counseling. Baltimore, MD: University Park Press.

Badgley, R. (1961). Education: Social bias in the treatment of pediatric patients. Pediatrics, 27, 829-835.

Badgley, R., & Furnal, M. (1961). Appointment breaking in a pediatric clinic. Yale Journal of Biology and Medicine, 34, 117-123.

Becker, M., Drachman, R., & Kirscht, J. (1972). Predicting mothers' compliance with pediatric medical regimens. Journal of Pediatrics, 81, 843-854.

Benjamin-Bauman, J., Reiss, M., & Bailey, J. (1984). Increasing appointment keeping by reducing the call-appointment interval. Journal of Applied Behavior Analysis, 17(3), 295-301.

Brigg, E. (1965). The application problem: A study of why people fail to keep first appointments. Social Work, 10, 71-78.

Brigg, E., & Mudd, E. (1968). An exploration of methods to reduce broken first appointments. The Family Coordinator, 41-46.

Caron, H., & Roth, H. (1968). Patients' cooperation with a medical regimen: Difficulties in identifying the noncooperator. Journal of the American Medical Association, 203(11), 922-926.

Davis, M. (1966). Variations in patients' compliance with doctors' orders: Analysis of congruence between survey responses and results of empirical investigations. Journal of Medical Education, 41, 1037-1048.

Davis, M. (1967). Predicting non-compliant behavior. Journal of Health and Social Behavior, 8, 265-271.

Davis, M. (1968a). Physiological, psychological and demographic factors in patient compliance with doctors' orders. Medical Care, 6(2), 115-122.

Davis, M. (1968b). Variations in patients' compliance with doctors' advice: An empirical analysis of patterns of communication. American Journal of Public Health, 58(2), 274-288.

Dervin, J., Stone, D., & Beck, C. (1978). The no-show patient in the model family practice unit. The Journal of Family Practice, 7(6), 1177-1180.

Elling, R., Whittemore, R., & Green, M. (1960). Patient participation in a pediatric program. Journal of Health and Human Behavior, 1, 183-191.

Epps, R. P. (1986). A transgenerational project for children with learning disabilities, their parents and schools. Unpublished raw data, Howard University College of Medicine, Department of Pediatrics and Child Health, Division of the Child Development Center, Washington, D. C.

Epstein, L., & Masek, B. (1978). Behavioral control of medicine compliance. Journal of Applied Behavior Analysis, 11(1), 1-9.

Epstein, L., & Wing, R. (1979). Behavioral contracting: Health behaviors. Clinical Behavior Therapy, 1(3), 2-22.

Francis, V., Korsch, B., & Morris, M. (1969). Gaps in doctor-patient communication: Patients' response to medical advice. The New England Journal of Medicine, 280(10), 535-540.

Freedman, J., & Fraser, C. (1966). COmpliance without pressure: The foot-in-the-door technique. Journal of Personality and Social Psychology, 4(2), 195-202.

Garcea, R., & Irwin, O. (1962). A family agency deals with the problem of dropouts. Social Casework, 43, 71-75.

Gillum, R., & Barsky, A. (1973). Patient noncompliance. Journal of the American Medical Association, 225(5), 527.

Gillum, R., & Barsky, A. (1974). Diagnosis and management of patient compliance. Journal of the American Medical Association, 28(12), 1563-1567.

Gordis, L., Markowitz, M., & Lilienfeld, A. (1969). Why patients don't follow medical advice: A study of children on long-term antistreptococcal prophylaxis. The Journal of Pediatrics, 75(6), 957-968.

Gottesfeld, H., & Martinez, H. (1972). The first psychiatric interview: Patients who do and do not come. Psychological Reports, 31, 776-778.

Hall, S. (1984). Preventing relapse to cigarette smoking by behavioral skill training. Journal of Consulting and Clinical Psychology, 52(3), 372-382.

Hansen, A. (1953). Broken appointments in a child health conference. Nursing Outlook, 1(7), 417-419.

Haynes, R., & Sackett, D. (1974, May). An annotated bibliography on the compliance of patients with therapeutic regimens. A paper presented at the Compliance with Therapeutic Regimens Conference, McMaster University, Ontario, Canada.

Hofmann, P., & Rockard, J. (1969). Implications of the no-show rate for scheduling OPD appointments. Hospital Progress, 50, 35-40.

Iwata, B., & Becksfort, C. (1981). Behavioral research in preventive dentistry: Educational and Contingency management approaches to the problem of patient compliance. Journal of Applied Behavior Analysis, 14(2), 111-120.

Jeffery, R., Gerber, W., Rosenthal, B., & Lindquist, R. (1983). Monetary contracts in weight control: Effectiveness of group and individual contracts of varying size. Journal of Consulting and Clinical Psychology, 51(2), 242-248.

Johnson, S. (1986). The effects of a lottery system on exercise compliance with emotionally and physically handicapped subjects. Unpublished manuscript, Western Michigan University, Kalamazoo.

Jonas, S. (1971). Appointment-breaking in a general medical clinic. Medical Care, 9(1), 82-88.

Kidd, A., & Euphrat, J. (1971). Why prospective outpatients fail to make or keep appointments. Journal of Clinical Psychology, 27, 394-395.

Levy, R. (1977). Relationship of an overt commitment to task compliance in behavior therapy. Journal of Behavior Therapy and Experimental Psychiatry, 8, 25-29.

Levy, R., & Carter, R. (1976). Compliance with practitioner instigations. Social Work, 21, 188-193.

Levy, R., & Claravall, V. (1977). Differential effects of a phone reminder on appointment keeping for patients with long and short between-visit intervals. Medical Care, 15(5), 435-538.

Levy, R., & Clark, H. (1980). The use of an overt commitment to enhance compliance: A cautionary note. Journal of Behavior Therapy and Experimental Psychiatry, 11, 105-107.

Levy, R., Yamashita, D., & Pow, G. (1979). The relationship of an overt commitment to the frequency and speed of compliance with symptom reporting. Medical Care, 27(3), 281-284.

Malott, J., Glasgow, R., O'Neill, H., & Klesges, R. (1984). Co-worker social support in a worksite smoking program. Journal of Applied Behavior Analysis, 17(4), 485-495.

Mann, R. (1972). The behavior-therapeutic use of contingency contracting to control an adult behavior problem: Weight control. Journal of Applied Behavior Analysis, 5(2), 99-109.

Martin, J., & Dubbert, P. (1982). Exercise applications and promotion in behavioral medicine: Current status and future directions. Journal of Consulting and Clinical Psychology, 50(6), 1004-1017.

Motil, K. (1970). Broken appointments in the pediatric outpatient department-The Western Pennsylvania Hospital, July 1-July 31, 1970. The Woman Physician, 26(5), 244-250.

Nazarian, L., Mechaber, J., Charney, E., & Coulter, P. (1974). Effects of a mailed appointment keeping. Pediatrics, 53, 349-352.

Neef, N., Shafer, M., Egel, A., Cataldo, M., & Parrish, J. (1983). The class specific effects of compliance training with "Do" and "Don't" requests: Analogue analysis and classroom application. Journal of Applied Behavior Analysis, 16(1), 81-89.

Pfouts, J., Wallach, M., & Jenkins, J. (1963). An outcome study of referrals to a psychiatric clinic. Social Work, 8(3), 79-86.

Reiss, M., Piotrowski, W., & Bailey, J. (1976). Behavioral community psychology: Encouraging low-income parents to seek dental care for their children. Journal of Applied Behavior Analysis, 9(4), 387-397.

Rice, J., & Lutzer, J. (1984). Reducing noncompliance to follow-up appointment keeping at a family practice center. Journal of Applied Behavior Analysis, 17(3), 303-311.

Robinson, D. (1965). Use of medical services and facilities by welfare-supported children. Public Health Reports, 80(12), 1055-1060.

Schroeder, S. (1978). Lowering broken appointment rates at a medical clinic. Medical Care, 11(1), 75-78.

Stevenson, I. (1962). The use of rewards and punishments in psychotherapy. Comprehensive Psychiatry, 3(1), 20-28.

Stine, O., Chuaqui, C., Jiminez, C., & Oppel, W. (1968). Broken appointments at a comprehensive clinic for children. Medical Care, 6(4), 332-339.

Stuart, R. (1971). Behavioral contracting within the families of delinquents. Journal of Behavior Therapy and Experimental Psychiatry, 2, 1-11.

Sulzer, E. (1962). Research frontier: Reinforcement and the therapeutic contract. Journal of Counseling Psychology, 9(3), 271-276.

Turner, A., & Vernon, J. (1976). Prompts to increase attendance in a community mental health center. Journal of Applied Behavior Analysis, 9(2), 141-145.

Walsh, J., Benton, J., & Arnold, V. (1967). Why patients break appointments. Hospital Topics, 45, 67-72.

Webster's New Collegiate Dictionary (9th ed.). (1983). Springfield, MA: Merriam-Webster.

Wysocki, T., Hall, G., Iwata, B., & Riordan, M. (1979). Behavioral management of exercise: Contracting for aerobic points. Journal of Applied Behavior Analysis, 12(1), 56-64.

Zifferblatt, S. (1975). Increasing patient compliance through the applied analysis of behavior. Preventive Medicine, 4, 172-182.