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I am submitting herewith a dissertation written by Steven Dane Burton entitled "The Effects of Client Participation in Appointment Keeping." I recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Philosophy, with a major in Psychology.

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THE EFFECTS OF CLIENT PARTICIPATION IN KEEPING APPOINTMENTS

A Dissertation

Presented for the

Doctor of Philosophy

Degree

The University of Tennessee, Knoxville

Steven Dane Burton

June 1980

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DEDICATION

To my wife, Julie, for her boundless faith, and

To my daughter, Emily, for her boundless trust, and

To my parents for their boundless confidence.

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ABSTRACT

This study was designed to determine if the element of choice in appointment making would influence appointment keeping behavior. The subjects were 120 clients of a regional evaluation and diagnostic center within a hospital setting.

There were three treatment groups. The letter assignment group received a letter which announced an appointment date and time. The phone assignment group received a phone call to inform them of appointment date and time. The phone choice group was also contacted by phone, but they were asked to make a choice of appointment date as well as time. Every subject received a written reminder.

Data analysis indicated that both phone conditions produced a greater rate of appointment keeping than did the letter condition. There were no differences between phone groups. No subject variables were identified which may have influenced outcomes. Findings indicate that aspects of appointment making procedures can have beneficial effects on appointment keeping behavior.

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CHAPTER I

INTRODUCTION

The process of making appointments and the keeping of them has an important role to play in a service organization. This process is the one by which services are delivered to consumers in an orderly and efficient manner. The success or failure of the process affects income generated by the organization, it affects evaluation measures conducted on the organization, and it affects the amount of service that is actually made available to the community.

Investigators have shown that there are problems associated with this process. Measures of percentages of clients who fail to keep appointments have ranged from 57% (Shepard and Moseley, 1976) to 22% (Morrison, 1976). These investigators identify the problem as one of compliance with appointments. Their treatment of the problem includes descriptions of the problems of cancelled, "no show," and kept rates. And such problems are seen as occurring between the making of an appointment and the keeping of it. The investigators indicate that the responsibility for failed appointments lies with the consumer and the passage of time. The universal solution to these problems has been the use of a reminder (prompt) procedure inserted between the making of the appointment and its occurrence.

In a landmark study (Nazarian, 1974) postcard reminders were mailed to a population receiving pediatric services. Those receiving

reminders appeared for follow-up appointments at a greater rate (64%) than did those who received no reminder (48%). Using a similar paradigm Fletcher (1974) found that 80% of emergency room patients, reminded by postcard to return for follow-up radiology appointments, kept appointments while only 58% of controls kept theirs.

Phoned reminders have also been examined for their effectiveness. The concensus opinion is that phoned reminders are as effective as mailed reminders in decreasing "not kept" rates, but are more costly. In one study (Shepard, 1976) patients receiving mailed reminders kept 54% of the appointments, those receiving phoned reminders kept 60%, while controls kept 43%.

Several other studies have concurred in the above findings (Morrison, 1976; Shroeder, 1973; Gates, 1976). Each of these studies has emerged from a medical setting serving low income clients. Only one study, which explored the issue of appointment compliance in a psychology setting, could be identified (Turner, 1976). Using a reversal design with phone prompts as the independent variable, the authors reported significant declines in the no show rates with the use of prompts. The no show rate during control periods averaged 28%. During the prompt periods it averaged 12.5%.

Of particular interest to this investigator is the fact that the authors of the previous studies have attached little importance to the appointment making procedure itself. One assumes that the procedure resembles that of many public agencies in that the client, who is frequently of low income, is assigned an appointment time based on the

schedule of staff members or on the overall organization of the center itself, e.g., intake appointments occur only between 1:00 p.m. and 5:00 p.m. daily. No choice in the matter is exercised by the client. There is no personal involvement in the selection of the appointment.

Giovannoni (1971) has conducted a sociological interview study which addressed directly the issue of control that low income clients had in the acquisition of health care for infants. She concluded that had low income clients exercised a greater amount of self-determinism, better health care could have been obtained.

A routine appointment making process may be compared to that which is often available to middle income consumers, who are thought to be more reliable in appointment keeping (Jonas, 1971). While the low income client is frequently assigned an appointment, the middle income client often exercises total control over appointment selection because of schedule conflicts with business, civic, and social activities. Because such differences in appointment making procedures may cause differences in appointment keeping rates, the process should be studied.

The difference in appointment making, from the consumer's view, appears to lie in a dimension which could be described as personal prerogative or participation, or perhaps as personal control or power. The middle income consumer may exercise more personal choice in the above examples than does the lower income person.

These dimensions are related to Rotter's (1966) concepts of internal and external control of reinforcement. Rotter claimed that lower

income populations believed that the course of their lives was controlled externally. They would therefore conform to external demands in the absence of alternatives. Rotter would predict that lower income populations would conform by keeping appointments. However, no show rates of 50 to 60% do not support the prediction.

H. H. Kelley (1976, 1971) has also employed the concepts of control and causality in the development of a theory of attribution based on Fritz Heider's (1958) work. The process of attribution is based on the relationship of external variables (an appointment process) and an individual as perceived by the individual (i.e., "I have no control over nor involvement with this process."). Kelley would predict poor appointment keeping among those offered no involvement and no alternatives.

The purpose of this research is to measure the effects of client participation in an appointment process. Choices in appointment times were offered in contrast to the assignment of times so that effects on appointment keeping could be compared.

CHAPTER II

REVIEW OF LITERATURE

Appointments and the process by which they are made and kept are of great importance to health care providers. That importance is reflected by the numerous studies undertaken to examine the issues.

Early attempts to study the problem of appointment-breaking, as it was characterized, were personalogical in nature. Jonas (1971) collected data on 273 "breakers" at a medical center and found them to be younger, Hispanic/Black clients. His data supported other researchers who had begun with the same premise and applied the same methodology (Elling, 1960; Alpert, 1964).

However, other researchers who were often working with populations consisting entirely of minority populations began to examine situational variables. Nazarian's study (1974) is a case in point and was influential with later researchers. He and his colleagues conducted a prospective study of 670 pediatric appointments divided into three groups. One treatment group received a reminder card in the mail giving basic information; a second group received a reminder containing complete appointment information; a third group received no reminder card. Results support the author's contentions that reminders can improve the rate at which appointments are kept.

Fletcher (1974) also compared a reminder letter condition with a no reminder condition. He studied the appointment keeping behavior of

291 emergency room patients who were scheduled to return in two weeks for follow-up evaluative examinations. For half of the 291, letters were mailed on the day of the initial emergency room examination. The results were that 80% of the reminded patients appeared for follow-up while only 58% of those not reminded kept their appointments. Morrison (1976), using yet another medical population, also studied the effects of written reminders. The setting was on a military base; the population was 485 well-babies receiving free medical services on the base. Appointments were made eight to ten weeks in advance, and reminders were mailed to about half of the 485, two weeks prior to the appointment time. Those who were reminded by postcard kept 88% of the appointments while those who were not reminded kept only 78% of theirs. These rates of appointment keeping differed significantly.

Mailed reminders apparently have had the desired effect on appointment keeping rates. Nevertheless, many investigators have examined the usefulness of reminders made by phone. One of the earlier studies was by Shroeder (1973) who examined the effects of both written and phoned reminders among 503 ill patients at an inner city clinic. Most subjects were poor (two-thirds received medicaid), Black, elderly, and female. Patients were divided into four groups. A control group received no reminder of the follow-up appointment. A post-card group received a mailed reminder five days before the appointment, and there were two phone-reminder groups. One group was phoned by a nurse on the day before the appointment, and the other group was phoned by a physician. The

authors found that the control group had a significantly greater missed appointment rate than the other groups combined. There was no apparent difference between the postcard and the phone call interventions. In this study the interval between the making of the appointment and its date of occurrence varied from one to nine weeks.

Shepherd and Moseley (1976) reported similar results. Subjects were selected for inclusion in the research from three medical centers which treated both children and adults. Subjects (1,039) were randomly assigned to three groups--control (no reminder), mailed reminder, and phoned reminder. The appointment interval was three to eight weeks on the average. The control group was reported to have broken more appointments than did either of the other two groups, with no difference reported between the appointment keeping rates of the mail and phone groups. Gates and Colburn (1976) reported earlier: 80% of those subjects reminded of their appointments by phone kept their appointments; 84% of those reminded by mail kept theirs; only 55% of those with no reminder appeared at the appointed time. The reported appointment interval was three to 21 weeks.

Finally, one study which drew its subjects from a mental health center utilized only a phone reminder procedure (Turner and Vernon, 1976). The authors also employed a treatment reversal design unlike those reported earlier. They found that during those periods of no phone reminders, broken appointments occurred at a rate two to three times greater than during the periods which included a phone reminder.

The research to date has established a positive relationship between the issuance of a reminder and the keeping of an appointment. The relationship has occurred repeatedly in medical settings. In many cases the broken appointment rate has been reduced to 20% and even lower. The resultant benefits for both agency and client are most apparent. However, the method by which appointments are made initially and the effects of this method have not been documented. It is the purpose of this study to isolate the effects of a client actively selecting his or her appointment day and time upon the appointment keeping outcomes previously defined within the body of literature.

CHAPTER III

METHODS

I. SUBJECTS

The subjects were 120 low income clients referred for medical appointments during the months March through July, 1979. Income levels had been previously determined by outside agencies which qualified the subjects as income eligible according to Title XX guidelines in the State of Tennessee or as medicaid recipients. Virtually all income levels were at or below national guidelines which describe poverty level incomes. All subjects had ready access to a phone located either in their home, at a neighbor's home, or in a relative's home. Subjects were randomly assigned to treatment groups, and no one was excluded from the study for any reason such as age, race, sex, county of residence, or diagnosis, etc. Eighty-eight of the subjects were younger than 5 years of age. Twenty-seven subjects were between the ages of 6 and 18 years. Five subjects were over 18 years of age. The eventual diagnosis of the medical condition of each subject ranged from "normal" to "severely delayed development." Etiology of handicapping conditions was highly varied. Virtually all subjects were caucasian.

Each subject was included only once in the study. Those who failed to keep appointments first included in the study were later rescheduled but not recounted.

II. SETTING

The setting for this study was the office of The University of Tennessee Birth Defects Evaluation Center in Knoxville, Tennessee. Serving 32 East Tennessee counties, BDEC is a regional diagnostic and evaluation center which handles approximately 1,000 medical appointments yearly. The great majority of clients served are from low income groups. Clients are referred by physicians, the Tennessee Department of Human Services, school systems, and other agencies.

The center's staff includes three physicians, one licensed psychologist, four psychological examiners, two speech and language specialists, seven master's level social workers, one doctoral level nutritionist, and two registered nurses, all of whom have direct client contact.

Clients who were included in this study typically had contact with a physician, a psychological examiner, and a social worker. Many of the clients were also evaluated by a speech and language specialist and the nutritionist. Initial contact with the center usually included a brief intake interview with a social worker and one evaluation. There was no routine order in the delivery of services--some clients had initial contact with the physician, while others were seen first by the psychological examiner.

III. MEASUREMENT SYSTEM

There were two distinct phases of the research. There was the appointment making phase, followed by a three week waiting period during

which time there was no contact with the agency; and there was the appointment keeping phase. No observations were made during the first phase. However, the second phase included a written record of appointment keeping behavior.

The entire system of record keeping was functional within the agency months before the research proposal was drafted. There were three possible outcomes: a kept appointment, a "no show," and a cancellation. Throughout each appointment day the secretarial staff checked clients, who had appointments, into the waiting room. As each client arrived, his/her name was checked off a daily master list of appointments. As each day progressed, names were crossed off as a "no show." Cancellations were indicated by the name being crossed off and a reason written next to the name. Each master list is retained on file for periods exceeding two years.

Each appointment day the investigator transcribed the appointment keeping behaviors onto data sheets. The accuracy of such transcriptions may be checked with the secretarial master list and the bookkeeper's list of kept appointments.

An appointment was recorded as kept if the subject appeared at the BDEC office at any time during the appointed day. An appointment was recorded as a cancellation if the subject indicated to BDEC between the time of appointment making and the appointed day that the appointment could not be kept. An appointment was recorded as a "no show" under two conditions. First, a "no show" was recorded if the subject failed

to appear on the day of the appointment. Second, a "no show" was recorded if the subject contacted BDEC on the day of the appointment to say that it could not be kept. The second condition was included as a "no show" because the timing of such a contact precluded the substitution of another client in the vacated appointment time.

The highly trained secretary who made each of the appointments according to the subject's treatment condition was unaware of predicted as well as actual outcomes throughout the data collection phase of this investigation. She did not participate in the assignments to treatment groups and did not record appointment keeping behavior for the purposes of this research.

IV. TREATMENT CONDITIONS

Treatments were selected to reflect differences in the amount of participation a client might have in appointment selection. The first treatment described below resembles procedures for low income clients which predominate in the field. Under these conditions clients have no choice and no role in the appointment making process. This first treatment is considered to be the most restrictive.

The second treatment condition was designed to contain elements of both the restrictive and the permissive treatment conditions. In it subjects are not permitted to select appointment times, but they are tacitly given the opportunity to cancel the assigned time at the earliest stage of the process during their conversation with the appointment secretary.

The third treatment condition was formulated to allow subjects the greatest participation and freedom of choice within the limits of both the agency and the research.

Treatment One: Letter Assignment

Letters (Appendix B) are mailed to these subjects three weeks plus or minus one day prior to the assigned appointment time. A reminder letter identical to the first letter is mailed four days following the mailing of the first letter.

Treatment Two: Phone Assignment

Subjects are contacted by phone three weeks plus or minus one day prior to the assigned appointment time to which they have been assigned. A reminder letter identical to those used for Treatment One is mailed four days following the phone contact.

Treatment Three: Phone Choice

Subjects are contacted by phone three weeks plus or minus one day prior to the assigned appointment time. They are offered a choice between two appointment times on the appointed day. A selection is made, and a reminder letter identical to those used for Treatments One and Two is mailed four days following the phone contact.

V. PROCEDURES

The responsibilities for conducting this research were shared by the investigator and a secretary at the Birth Defects Evaluation Center. The secretary was, at that time, responsible for all appointments at the center, and she agreed to work with the investigator on a voluntary basis. She was introduced to the phone scripts (Appendix A) and a simple coding system which identified the treatment group of each subject. She was aware that the research project was designed to compare appointment making strategies as they related to other variables such as age of the subject. At no time were predicted outcomes disclosed to her. She did not have access to the data during collection.

The secretary made several adjustments to the phone scripts during pilot work. Throughout the project the scripts were on her desk during her contacts by phone. The secretary was responsible for typing each of the letters sent to the subjects. Subjects were unaware of which doctor they would see because the word "medical" was typed in the space for the doctor's name (Appendix B). Therefore, subjects could not be influenced in appointment keeping on the basis of prior knowledge of the physician.

On each appointment making day (three weeks prior to appointment), the investigator was responsible for collecting the personal charts from which appointments would be made. These charts were identified from a master appointment list created by other professionals within the agency.

This list included all clients presently referred to the agency. The agency makes appointments for every client on the list unless the referral is withdrawn. The investigator's approach to the collection of the charts was to begin at the top of the cumulative master list and to collect from available charts the number required for the day's appointments.

The investigator then randomly assigned each chart a treatment condition. Each condition had been assigned a number 1, 2, or 3. These numbers were drawn without replacement from an envelope and assigned to each chart as it was collected from the files. Randomization was completed in this way because the use of a table of random numbers created insoluble problems in both carrying out treatment and utilizing each day's appointment time. For example the use of the table could have assigned each of three charts to the choice condition for three appointment times. The first two subjects to be contacted would have a choice to make, but the third would be left with only one time slot. At the midway point of data collection the examiner reviewed the findings and noted that some imbalance was occurring in appointment time selection. Thereafter, the appointments secretary was instructed to begin the appointment procedure by assigning the letter assignment subject first. Each day the letter assignment subject was assigned to a different appointment time. This procedure then assured that the phone choice group had different time slots from which to choose each day and that each appointment time was utilized equally by each treatment group for the duration of the study.

With this method of assignment to conditions, virtually every appointment day contained every condition. Those days which did not conform to this pattern were caused by the secretary failing to make contact by phone with one of the subjects for that day. The secretary also assigned times to those subjects in assignment conditions before making the choice calls to assure that the choices offered the subjects were variable from day to day.

After the secretary completed the appointments for the day, the investigator recorded the relevant data from each chart and returned the chart to the files. Three weeks later the investigator checked the daily master appointment list for "no shows" and cancellations and recorded the information.

CHAPTER IV

RESULTS

Appointment keeping behavior was compiled for each of the three treatment groups and analyzed using a chi square calculation. The chi square was the appropriate test to use for two reasons. First, the measurement data collected in the study may be classified only as nominal data. Experimental outcomes were classified as either yes or no in regards to appointment keeping. The data are not interval data. According to Siegel (1956) the chi square test is suitable for analyzing categorical rather than interval data. The second reason for selecting the chi square is to provide appropriate comparisons with the results described in similar research. In each of the studies reported earlier, wherein statistical comparisons were reported, the chi square procedure was utilized.

In order to evaluate the hypothesis that choice made a difference in appointment keeping rates, the performance of the phone choice group was analyzed in relation to the other groups (Table 1). A significant difference was not realized. The most restrictive procedure (letter assignment) was also compared to the remaining groups which had in common the contact by phone (Table 1). Here the differences reached significance and require closer examination and explanation.

Comparisons of appointment keeping behavior between treatment groups were made (Table 2). A significant difference at the .01 level

TABLE 1

ANALYSIS OF APPOINTMENT KEEPING BEHAVIOR
CHOICE VS. NO CHOICE

	Appointment Keeping Behavior--Choice Vs. No Choice			
	No Show	Kept	Chi Square	Significance
Choice				
Phone Choice	10	30	.82	N.S.
No Choice				
Phone Assignment and letter assignment	28	52		

	Appointment Keeping Behavior--Commitment Vs. No Commitment			
Commitment				
Phone Assignment and phone choice	18	62	8.08	.01
No Commitment				
Letter assignment	20	20		

TABLE 2

ANALYSIS OF APPOINTMENT KEEPING BEHAVIOR
BETWEEN TREATMENT GROUPS

	No Show	Kept	Chi Square	Significance
Letter Assignment	20	20		
Phone Assignment	8	32	6.64	.01
Letter Assignment	20	20		
Phone Choice	10	30	4.32	.05
Phone Assignment	8	32		
Phone Choice	10	30	.08	N.S.

of confidence was identified to exist between the appointment keeping behavior of subjects in the letter assignment group and those in the phone assignment group. Those subjects in the phone assignment condition kept their appointments much more often than did those in the letter assignment condition.

In comparing the phone choice group with the letter assignment subjects, the differences were also significant. As in the previous comparison, the no show rate was substantially higher for those subjects in the letter assignment group.

Appointment keeping rates were compared between phone assignment and phone choice groups. No significant difference was identified to exist between these groups. While each phone condition was superior to the letter condition, the phone choice and phone assignment conditions were equally efficacious in producing appointment keeping behavior (Figure 1).

Data was collected on several subject variables which were thought to have a possible influence on appointment keeping behavior. An analysis of those subject variables in relation to appointment keeping across treatment groups was carried out using the chi square (Table 3). It was determined that the distance a subject must travel in order to keep the appointment was not significantly related to appointment keeping behavior. Whether or not a subject had previous appointments with the agency was also found to be an insignificant variable. The age of the subject was not a factor nor was the sex of the subject. The

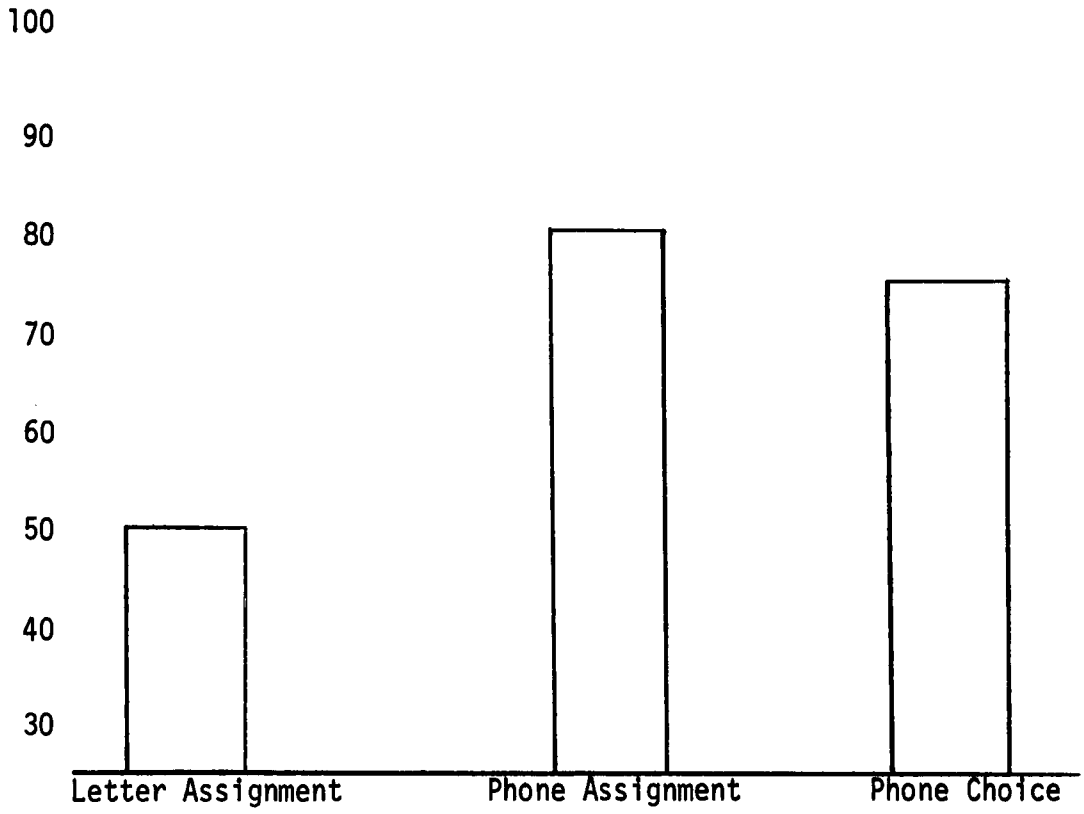

Figure 1. Percentage of Kept Appointments by Treatment Group.

TABLE 3

ANALYSIS OF SUBJECT VARIABLES ACROSS TREATMENT GROUPS

	No Show	Kept	Chi Square	Significance at .05
Region				
Knox	17	30		
Border	8	19	.75	N.S.
Other	13	33		
History				
Prior Appt.	23	38	1.65	N.S.
First Appt.	15	44		
Age*				
Preschool	33	55	2.56	N.S.
School Age	5	22		
Sex				
Male	24	52	.033	N.S.
Female	14	30		
Appointment Hour				
9 A.M.	17	24		
11 A.M.	10	24	4.58	N.S.
1 P.M.	10	24		
3 P.M.	1	10		
A.M. Appointments	27	48	1.25	N.S.
P.M. Appointments	11	34		

*The five participating adults were not included in this calculation.

appointment hour was also found to be not significantly related to appointment keeping behavior.

It appears that subject variables did not influence the outcome of this study and that the two phone treatments were equally superior to the letter treatment in affecting appointment keeping behavior.

In order to demonstrate the cost-effectiveness of the treatment groups, additional calculations were conducted. Table 4 describes the unit costs of both labor and material utilized in the study. Mean task duration was defined as the average time required by the secretary to complete the specified task. The average was calculated from data supplied by the secretary and based on information she collected at random times during the study. Table 5 describes the costs breakdown for each treatment group. For the two phone conditions, only 20 long distance charges were included because roughly half of the subjects in each group lived in toll free zones. Table 6 reflects the costs related to each treatment group, and the benefits or the monies billed for services rendered to those who kept their appointments. Benefits were determined by adding $250 for each appointment kept and subtracting $250 for each no show within each group. The unusually high value placed on each appointment was justified because each client was to have undergone costly genetic studies. The cost effectiveness of the phone procedures in relation to the letter procedure was amply demonstrated.

TABLE 4

COST ANALYSIS AND MEAN TASK DURATION

Costs:	Cost/Unit
1. Secretary Labor: $8,000/year	.06/minute
2. Envelopes	.05/envelope
3. Paper	.03/sheet
4. Stamps	.15/stamp
5. Telephone--Long Distance Charges	.15/minute
Mean Task Duration:	
1. Each letter	.68 minutes
2. Phone call/each phone assignment subject	1.5 minutes
3. Phone call/each phone choice subject	2.3 minutes

TABLE 5

COSTS PER TREATMENT GROUP

	Unit	Unit Cost	Total Cost
Letter Assignment	80 letters (material)	18.40	$21.60 or
	(labor)	3.20	$ .54/client
Phone Assignment	40 letters (material)	9.20	
	(labor)	1.60	
	40 phone calls (labor)	3.60	
	20 long distance charges	4.50	$18.90 or
			$ .47/client
Phone Choice	40 letters (material)	9.20	
	(labor)	1.60	
	40 phone calls (labor)	5.60	
	20 long distance changes	6.90	$23.30 or
			$ .58/client

TABLE 6

COST AND BENEFITS TO AGENCY OF EXPERIMENTAL PROCEDURES

	Cost	Benefit
Letter Assignment	$21.60	-0-
Phone Assignment	$18.90	$6000
Phone Choice	$23.30	$5000

*Costs were transcribed from Table 5. Benefits were determined by adding $250 for each appointment kept and subtracting $250 for each missed appointment (no show).

CHAPTER V

DISCUSSION

This research does not support the hypothesis that an appointment making procedure which offers a choice to the client is superior to a procedure which simply assigns a client to a specific appointment time. The choice factor does not explain the results.

However, both phone procedures are superior to the letter procedure. The obvious common element in the two phone procedures is the use of the phone itself. The question of greater power of verbal messages relative to written messages must be addressed. Chaiken and Eagly (1976) have addressed the issue of communication modalities. While citing earlier work which indicated a descending order of relative effectiveness of video, audio, and written communication, the authors examined the difficulty of message content in relationship to the three modalities. They found that simple messages were most fully comprehended and were most persuasive if presented in the video medium. They also found that audio communication was more effective than written communication. These results are relevant to the findings of this study and offer one explanation of the greater effectiveness of the phone procedures.

There is another common factor in the two phone procedures. The phone choice subjects were asked to make a choice. They did so, but they also made an agreement or a commitment to appear for their appointment.

The phone assignment subjects were told when to appear, but they too made a commitment to appear. Although no records were kept as to their actual verbal responses, the subjects made a variety of statements of acknowledgement and agreement. None of the 40 phone assignment subjects responded that they could not keep the designated appointment.

This common factor of commitment imbedded in the phone procedures was not present in the letter procedure. An expression of commitment to the appointments secretary was not an available option for the letter assignment subjects. Evidence that the commitment factor was responsible for the outcomes of this study is offered by Freedman and Fraser (1966).

The authors were interested in demonstrating compliance in the absence of external pressures. They were cognizant of the influences of peer pressure, powerful models, and other factors on compliant behavior. However, their interest was in a controlled test of the "foot-in-the-door" notion, i.e., obtaining a small commitment will later facilitate the obtaining of a larger commitment. The authors amply demonstrated that securing minimal compliance to an initial request greatly increased the probability of later securing compliance to a much larger request.

The relevance of these findings to the present study is substantial. Subjects in the phone groups verbally committed themselves to an appointment time. They later complied by arranging their schedules at work or at home, transporting themselves at their own expense, and spending several hours undergoing examination. Thus, the commitment factor offers an explanation of findings in the present study.

There are some special features of the study which deserve mention. First, the secretary initiated contact with the client for purposes of appointment making. Each client had previously been referred to the agency, but clients took no responsibility for initiating contact with the agency in regards to a specific appointment. This particular feature is somewhat different than is reported in other settings. The effects on findings are unknown.

The second special feature is the attempt to replicate, through the phone choice treatment, a normal appointment making procedure available to middle class clients. Subjects were offered only a limited choice, namely one of two appointment times. Whether this procedure significantly approximates an appointment making procedure available to middle class clients is open to question.

The third feature which deserves explanation is the record keeping procedure used to identify prior appointment history (Table 3, page 22). Only a simple yes-no notation was used to identify subjects for whom previous appointments had been made. No record was kept which identified subjects who had previously failed to keep an appointment. Therefore, the effect of such a variable is unknown.

It is important, too, that alternative explanations of findings be considered. In the present study the appointments secretary asked questions of the subjects contacted by phone. The subjects, in turn, had opportunities to respond to the secretary which were unavailable to letter assignment subjects. The opportunity to respond may be as

powerful as commitment statements in producing appointment keeping behavior, but the issue cannot be addressed in the present study.

Another possible factor in appointment keeping behavior is duration of contact with the appointment making process. Subjects in the phone conditions were in contact with the appointment secretary for a measurable length of time, but those in the letter group reacted to their notice for unknown length of time. Duration of contact is an important factor which should be addressed in further research efforts.

Finally, one last factor should be considered--namely the effect of frequency of contact with the appointment making process. No researcher has reported more than two contacts--initial and reminder--in studying appointment keeping behavior. Perhaps a third contact would produce even higher appointment keeping rates. Unfortunately, the effect of frequency of contact was not addressed in the present study.

There is support in theory to explain the results, and there is also great practical value in the outcomes. From a fiscal viewpoint, both phone procedures were highly preferable to the letter approach. Use of the phone assignment procedure was the most desirable due to reduced labor costs involved in the phone call itself. In the past, reliance on the postal service as a cheap and efficient means of delivering messages precluded a more labor intensive approach such as phone calling. At present, however, the increases in postal charges may be producing greater cost parity between the two means of communication. Use of the telephone system then becomes preferable due to the apparently

improved client response which in turn generates more income for an agency reimbursed for services actually delivered.

No direct comparison can be made between studies which examined the effects of prompts (reminders) on appointment keeping and the present study. Both approaches to the issue of appointment keeping appear to favorably affect outcomes. Nevertheless, some comparison should be undertaken. It was apparent that the letter reminders employed in each group in the present study accounted for virtually 50% of total costs. If an appointment making procedure alone was found to be as efficient as an appointment making procedure with reminder, additional fiscal savings could be achieved.

Finally, social implications are also contained in these findings. Roughly 50% more clients were served under each phone condition than were served under the letter condition in the same period of time. The agency was able to meet the needs of its service population in a more efficient manner. Improved appointment keeping behavior also meant that the agency could engage in less over-scheduling as a means of insuring that a minimum number of clients would be available on any given day. Less over-scheduling could result in shorter waits for those clients who do keep their appointments and reduced lost wages for parents who leave their work place for an appointment.

This study was demonstrated a means of improving appointment keeping rates and thereby increasing the delivery of services. Fiscal benefits are apparent. Although solutions have been offered regarding the

issue of appointment keeping, important comparisons between appointment making and appointment reminding strategies are yet to be made.

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APPENDICES

APPENDIX A

TELEPHONE SCRIPTS

Phone Assignment Group

"I'm calling from the UT Birth Defects Center. We have scheduled a medical appointment for (name) on day, month, date at time.

You will receive a letter confirming the date and time of this appointment. Thank you. Good bye."

Phone Choice Group

"I'm calling from the UT Birth Defects Center. We need to schedule a medical appointment for (name) for three weeks from now.

Will you be able to keep an appointment for month, day?

Which time would be more convenient for you? 9:00 or 11:00, 1:00 or 3:00?

Okay. You are scheduled for time, month, day. You will receive a letter confirming the date and time of this appointment.

Thank you. Good bye."

APPENDIX B

TO:

RE:

Dear Parents:

In response to a referral received from:_____ for the evaluation of the above-named person at the Birth Defects Evaluation Center, we have scheduled an appointment as follows:

DATE_____ TIME_____ DOCTOR_____

If this time or date is not convenient for you, please contact us regarding a time which would be better. As we have a long waiting list, it is very important that we know as soon as possible whether or not you can come for your appointment so that we may serve our clients efficiently.

Our services are paid for by private fees or by Title XX contract grants. In order to qualify for services under Title XX contract, a determination of eligibility is done including a verification of your income. If you think that you may qualify, please bring documents (Medicaid card, weekly or monthly paycheck stub, etc.). Also, if you have insurance, please bring your policy number and insurance forms if available. No one is denied services because of inability to pay, and the fees paid in no way modify the quality or quantity of services received.

When coming to U.T. Hospital, follow the signs to the Clinical Education Center Building behind the main hospital building. As you come in the front door of the Clinical Education Center Building, signs will direct you to our office.

We look forward to seeing you at the Center. Please do not hesitate to contact us if you have any questions.

Sincerely,

Renee R. Smith

Renee R. Smith
Medical Secretary

VITA

Steven Dane Burton was born in Waco, Texas on April 20, 1948. He attended public schools in Dallas, Texas and was graduated from Highland Park High School in June 1966. The following September, he entered Stanford University, Stanford, California, and received a Bachelor of Arts degree in Psychology in June 1970. The Master of Arts degree in Counseling was awarded him by Stanford University in June 1972.

From July 1972 to July 1974, he was employed as a child care worker by the Peninsula Children's Center in Palo Alto, California.

In September 1974, he began study toward a Doctor of Philosophy degree in Psychology at The University of Tennessee, Knoxville. This degree was awarded in June 1980.

From September 1977 to August 1979 he was employed by the Birth Defects Evaluation Center at The University of Tennessee Hospital.

In September 1979, Mr. Burton was employed by the Diagnostic School for Neurologically Handicapped Children in Fresno, California.

He is married to the former Julie Roberts Clemo of Long Beach, California. They have two children.