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Modeling and Instructional Treatments with

Asocial Chronic Psychiatric Patients

by

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ABSTRACT

The study investigated the efficacy of observational learning techniques in increasing social interactive behavior in chronic psychiatric patients.

The $\underline{S}$s were 21 male patients on a long stay ward in a provincial psychiatric hospital. The $\underline{S}$s were an average age of 45 years and had an average length of hospitalization of 21 years. For the most part, they were unmarried, poorly educated and seldom employed. The criteria for inclusion in the study were a designation of withdrawn by the ward staff and a willingness to enter the treatment room.

The $\underline{S}$s were assigned to one of three treatments. The first treatment (modeling) involved exposing $\underline{S}$s to videotapes of appropriate social interactions. These interactions took place in two situations, over coffee and while playing a simple game, and in each case there were two participants. The videotape first showed the entire interaction. It then showed each exchange in the interaction separately. Immediately following the portrayal of each interchange there was a blank section on the tape during which the $\underline{S}$ was instructed to imitate the behavior that he had just seen the model perform. Half of the modeled behaviors were initiations and half were responses.

The second treatment (instruction) was similar to modeling except that rather than demonstrating the desired behavior via videotape, the therapist described the desired behavior to $\underline{S}$ and instructed him to perform it. The third treatment (attention) was similar to the first two except that

the Ss neither saw the videotape nor received any instruction about how to behave. They were given an opportunity to interact without any specific information about how to interact.

All treatments were administered individually by the same therapist who met each S for 12 half hour sessions over a 10 week period.

The dependent measures of interest included social behavior performed by the patient in both contrived and naturally occurring situations. These behaviors included such things as looking, smiling and talking to other people and were recorded by two trained observers using a time sampling technique. The other dependent measures reflected Ss level of functioning in the hospital and included level of privileges, token earnings, money earnings and staff ratings of apathy, seclusiveness and care-needed on the Psychotic-Inpatient Profile. The dependent measures were collected before and after treatment and at one month follow-up.

Data were analyzed in terms of change scores for each dependent measure and in terms of number of measures on which each S showed improvement, no change, or decrement. Results revealed that the modeling and instruction groups had been equally effective and superior to the attention group.

The equal efficacy of the modeling and instruction groups suggests that for simple social behaviors the more complex modeling treatment may be unnecessary. The apparent ineffectiveness of paying attention to patients in the absence of clearly structured behavioral expectations is also notable. Overall, the results indicate that relatively brief modeling and instruction-

al treatments can be effective in increasing the frequency of social inter-
actions and the level of functioning of asocial chronic psychiatric patients.

ACKNOWLEDGEMENTS

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Chapter I

Introduction

It is the purpose of the present study to evaluate the impact of modeling therapy on chronic psychiatric patients. In particular, the treatment is evaluated in terms of increasing social skills and the patients' level of functioning within the hospital. Although chronic patients have been a pressing problem for decades and modeling therapy has shown great potential, the two have virtually been ignored in the journals in which clinical psychologists publish. In 1972, for example, the Journal of Clinical and Consulting Psychology, Journal of Clinical Psychology, Journal of Abnormal Psychology, Journal of Behavior Research and Therapy, Behavior Therapy, and the Journal of Behavior Therapy and Experimental Psychiatry together published close to 600 articles. Less than eight per cent of these articles dealt with patients hospitalized over a year and of these articles only one-third addressed themselves to treatment. By far the majority of the articles were concerned with theory and assessment. Only a half-dozen articles could be found exploring modeling as a therapeutic attack for any problem.

Before presenting the specific hypotheses to be tested by the proposed study, a review of the relevant literature is in order. The review will focus first on the plight of chronic psychiatric patients, then on the potential of modeling therapy and finally on some recent literature suggesting the importance of instructions as part of the modeling treatment.

Chronic Psychiatric Patients

One of the most difficult and perplexing problems confronting workers in the mental health field is the treatment of large numbers of chronically institutionalized psychiatric patients? The progress made in treating such patients is best documented by the fact that the discharge rate for the chronic population has not changed appreciably during this century (Atthowe & Krasner, 1968). Both Paul (1969) and Atthowe & Krasner (1968) suggest that patients in the chronic as opposed to acute section of hospitals have a 6% chance of leaving the institution after being there two years. Those who do leave have one chance in three of remaining in the community for more than six months. Those chronic patients who have been in the hospital for five or more years have almost no chance of leaving. Rappaport, Chinsky & Cowen (1971) have vividly portrayed the chronic section of the institution as "a burial ground where people are maintained but cease to exist in very meaningful ways."

Lentz, Paul & Calhoun (1971) draw a further distinction among chronic patients. With increasing trends toward "moral" treatment and a focus on community adjustment many chronic patients have been directed towards active shelter-care placements and more independent functioning (Fairweather, Sander, Maynard, Cressler & Bleck, 1969). These placements stress work skills, greater personal responsibility, and improved status for patients. However, half of the chronic population are still not acceptable for such placements because of relatively low levels of functioning. Lentz et al, (1971) refer to these patients as the "hardcore, refractory" chronic

patients. The authors emphasize that the magnitude of the problem posed by such patients places a high priority on investigations of innovative treatment programs. Logically, new treatment approaches should be directed towards improving the "hardcore" patients' level of functioning in the hospital and readying them for more community-based facilities.

Among the many gross deficits apparent in the chronically institutionalized patient, perhaps the most noticeable and best documented is the low level of socialization. Lentz et al. (1971) suggest that an important way to characterize the "hardcore" chronic patients and differentiate them from shelter-care placement patients is according to their level of social behavior. In fact, when social behavior is assessed by a structured interview such as the Minimal Social Behavior Scale (Farina, Arenberg & Guskin, 1957), the regressed patients score quite low compared to other patient groups. Dinoff, Finch, Finch & Hobbs (1969) were able to discriminate between patients on an open and on a locked ward on the basis of their scores on the same test. Sternberg & Miskimus (1972) have shown the test to differentiate among those patients refused and those given job placements. Many writers have described the effects of the institution over time leading to total apathy and withdrawal and very limited spontaneous activity (Goffman, 1961; Sommer & Osmond, 1961). Several authors also point out that institutions have undoubtedly produced these symptoms over and above the problem which initially led to hospitalization. In fact, after a few years the original presenting problem is hardly recognizable (e.g. Sommer & Osmond, 1961; Rappaport et al., 1971).

Some researchers have assessed the lack of socialization and interaction among chronic patients through careful observations. Schooler & Spohn (1960) report the results of systematic observation on a ward of 50 patients institutionalized an average of almost five years. The observer recorded all social contact among patients for several weeks. A contact was defined as any action of an individual which had the effect of stimulating or modifying the behavior of one or more others. The measure of interest was the number of relationships or recurrent contacts with the same person each patient had. One third of the ward had no relationships and remained totally withdrawn. One third had relationships with one or two others and one third of the ward had relationships with three or more others. Spohn & Wolk (1963) found similar results even during structured problem solving sessions with similar patients. Hunter, Schooler & Spohn (1963) attempted to measure patterns of behavior on a locked ward of one hundred male patients hospitalized for close to a decade. Six months of observations showed that patients interacted socially 2.7% of the time. Ludwig (1971) using an identical observation scheme found male schizophrenics institutionalized for six years interacting with each other 1.6% of the time. Most recently Carlson, Jaffe, Keller and Ferrari (1972) in a pilot project carefully observed twelve chronic patients hospitalized over fifteen years in a variety of settings. During meals, occupational therapy, recreation, and visits to the lounge the patients looked at each other less than one-tenth of the time and spoke to each other for three out of every thousand observations (.3%).

It can be concluded from the studies cited that chronic patients
are indeed socially withdrawn, with the more regressed, "hardcore" patients
exhibiting very few social behaviors. It would follow, then, that re-
habilitation efforts with these patients should focus on teaching and facili-
tating the expression of social skills and increasing the socialization
and interaction among patients. Several authors have already stressed
the need for rehabilitation along these lines (e.g. Weinstein, 1967; Paul,
1969). Unfortunately, few investigators have attempted to explore the
possibility of systematically training social interaction skills in the
chronic population.

By far the largest active treatment programs with chronic patients
have been carried out by operant psychologists. These psychologists,
with the impetus from Skinner to objectively define and measure behavior
and to change behavior by environmental consequences, have initiated both
individual and group programs in the past decade. The model for the group
programs in managing entire wards is best exemplified by the Ayllon &
Azrin (1965, 1968) token economy. The principle involved is teaching
patients self-care and work skills with the token providing immediate
secondary reinforcement and a bridge to the primary reinforcement of the
patient's choice. Reviews of various token economies have repeatedly
shown that contingent tokens effect and maintain significant changes in
various specified target behaviors in patients (Kazdin & Bootzin, 1972;
Carlson, Hersen & Eisler, 1972). For the most part however, token economy
programs have focused upon work and self care behaviors and have largely
ignored social behavior.

Schaefer & Martin (1966) gave patients token reinforcement for social interactions as well as personal hygiene and adequate work performance. Although they report a decrease in apathy in patients, that is, more behaviors recorded, they provide no breakdown for the effect of tokens on interpersonal relations. Atthowe & Krasner (1968) reported a slight increase in socialization with chronic patients a few months after the initiation of a token economy program although there was no direct reinforcement for social behaviors. One token program that emphasized social skills was carried out with higher level patients in a half-way house program (Kelley & Henderson, 1971). This study focused on social behavior during informal group meetings, games, and role playing sessions. Psychotics were found to increase their rational coherent comments, conversations and assertive behavior in these situations by means of token reinforcement. Similar studies directed towards the social skills of chronic, regressed patients are noticeable by their absence in the literature.

In review, then, the token economy programs on the whole have done extremely well in modifying within hospital behaviors. However, for the most part, few programs have been reported that have been able to effect and maintain social behaviors in chronic patients. Kazdin & Bootzin (1972) have suggested that investigators have avoided the modification of complex behaviors such as social interaction because of difficulties in defining and monitoring these behaviors. Another problem is that the operant level of social behavior is so low that the tokens have been hard to apply (Baker, 1971). That is, tokens are usually applied to already occurring desirable

behaviors with the intention of increasing their frequency. However, social

behavior in chronic patients is so infrequent that they would be difficult

to reward.

Individual operant conditioning programs have been employed to

train social behaviors in chronic patients. King, Armitage & Tilton

(1960) used what they called an "operant interpersonal" method. They

taught patients to press levers for reinforcers, at first individually

and then in cooperative pairs where a problem had to be solved in the

pattern of lever-pressing. Ward observations showed patients receiving

this practice to be less withdrawn then those receiving no treatment,

verbal therapy, or recreational therapy. Numerous case studies have

been reported in which previously mute or near-mute patients are reinforced

for successive approximations to normal speech (e.g. Isaacs, Thomas &

Goldiamond, 1960; Sherman, 1965; Sabatasso, 1970). In all these cases

the patients were trained in successive stages from moving their mouths,

to making grunts or sounds, and finally to verbalizing words and phrases.

Generalization from speaking to the experimenter to other persons was weak

and needed to be explicitedly trained. In one case (Isaacs, Thomas &

Goldiamond, 1960) the generalization of reinstated verbal behaviors was so

poor that the patient would only respond to the experimenter in the experi-

mental room. Baker (1971) using larger groups compared the use of these

operant treatment methods and no treatment in a crossover design. After

twenty-five sessions with reinforcement contingent on verbal behavior, Baker

found that the treatment compared to the no-treatment period lead to patient's

improvement in a standardized test of conversation which had been included in the training. There was no difference between experimental and control patient's speech output on the ward as assessed by the nursing staff. In summary, these studies are encouraging in that speech can be initially reinstated in patients although the techniques are long and arduous. Very little evidence exists, however that once this behaviour is initiated with the therapist (experimenter) it will generalize to other persons or settings.

The Potential of Modeling Therapy

The token economies and individual operant programs have shown promise for the rehabilitation of the chronic patient but have shown limited results in teaching or eliciting social skills. Obviously innovations are needed. One such innovation, modeling, has been suggested although little research assessing its feasibility exists. Bandura (1969, 1971) has recommended the use of modeling or observational learning with psychiatric patients with gross behavioral deficits. In that much evidence points to the importance of modeling and imitation in the development of social behaviors (Bandura & Walters, 1963) it may prove to be a valuable tool in resocializing the extremely regressed patient. Bandura (1971) reasons that little systematic work has been done on modeling in psychiatric back-wards because of a "strong allegiance to operant conditioning methods." The possibility is that this neglected treatment may actually be fruitful in complementing the operant approach (Davison, 1969) and especially so when applied to the learning of social behaviour (Rachman, 1972).

It should be noted here that the dichotomy between modeling and operant techniques is drawn for clarity in the present discussion. In fact, the procedures overlap although there is a different jargon and emphasis in each approach. The operant approach stresses changing behaviors by the consequences of these behaviors and recognizes the need for priming or prompting techniques to initially raise the level of behaviors to a point where they can be easily rewarded. Modeling on the other hand, stresses the antecedents of behavior in learning by observing others. The modeling approach recognizes the importance of behavioral consequences but sees these as facilitating performance rather than acquisition of responses per se. Thus, the present study recognizes the false dichotomy between the approaches but makes the distinction in reporting on the literature in the two areas.

Some evidence already exists in research with normal and autistic children that modeling may be relatively potent in overcoming social withdrawal. O'Connor (1969, 1972) has demonstrated powerful effects for an half-hour modeling film enhancing social interaction among isolate nursery school children. The film depicted increasing boisterious interactions among children with favourable consequences for the models. This single exposure led experimental children to increase interactions (defined as behaviour directed toward another child with his reciprocation) in the class as compared to a control group who saw a film about dolphins. It should be noted that replications of this study have cast doubt on the robustness of the treatment (Wasson, 1971; Keller, 1972). In his most recent study, O'Connor (1972) replicated his previous finding and also

showed that modeling was more powerful than a shaping procedure. The shaping procedure consisted of attention and praise for successive approximations to social interactions. Ross; Ross, & Evans (1971) described a case study with a six year old boy who was extremely withdrawn. A modeling procedure with the therapist physically guiding the youngster and participating along in interactions modified the withdrawal, although the study doesn't allow one to conclude what aspects of the treatment produced the effect.

Aside from the modeling studies with "normal" isolate children, Lovaas and his associates have shown similar results with autistic children with gross behavioral deficits. Lovaas, Berberich, Perloff & Schaeffer (1966) have demonstrated the power of imitation in systematically teaching speech to these children. At first the children were rewarded for any sounds produced after the therapist said something. They were then rewarded if the sound resembled the therapist's, and finally exact matching was demanded. The imitation technique led to the production of large vocabularies compared to the usual lack of normal speech in autistic children. Lovaas, Freitas, Nelson & Whalen (1967) have also presented some data to suggest the use of imitation for the development of other social and intellectual behavior. Through much initial physical and verbal prompting as well as continuous reinforcement, Lovaas, Freitas, Nelson & Whalen were able to produce a high level of non-verbal imitation which generalized to the extent that novel, unrewarded behaviors were imitated upon first presentation. Lovaas and his associates were able to

utilize this generalized imitation to teach autistic children social behaviors such as smiling, nodding, and arm waving as well as learning to draw and play games they had previously ignored.

The results with both normal and autistic children confirm the potency of observational learning as a way of teaching and eliciting complex social behaviors. Some preliminary evidence also exists in work with adult psychotics to suggest that extending modeling to this population would be a worthwhile endeavor. In one of the cases outlined by Sherman (1965), the limitations of simply controlling the consequences of behavior alone and the reasons why imitation may be more efficient at first are pointed out. Since the patient has an impoverished behavioral repetoire there may be little to shape up. That is, if the rate of initial responses is low it may be impossible to get to the terminal behavior via shaping or it may be an inefficient drawn-out process. Sherman (1965) for this reason used imitation training to elicit the response he could reinforce. In a few sessions he was able to get a schizophrenic, mute for 33 years, to start naming objects after training in non-verbal imitation. In contrast, Isaacs, Thomas & Goldiamond (1960) in their case reports waited for spontaneous vocalizations before they began shaping. Baker (1970) recommends imitation as a vital supplementary procedure. In analysing his insignificant results in using only contingent reinforcement to reinstate speech in chronic patients, he hypothesized that modeling may have been both more economical and successful.

Wilson & Walters (1966) have done one of the only systematic studies of modeling with chronic patients. They chose extremely regressed schizophrenics on the basis of a ward rating scale which suggested that they were almost mute. The task that was modeled was verbalizing to colored slides. Two groups of patients were exposed to the model, with only one group of them reinforced for imitation. A third group served as a no-treatment control. A comparison after treatment showed no significant difference among the three groups on a measure of verbalization to various coloured slides. However, a significant linear trend was found for verbalizations over sessions for the model and reinforcement group with no such trend being significant for the other groups. The ward ratings clearly showed no generalization effects with half of the patients being even less talkative. Wilson & Walters (1966) recommend that this treatment may in fact be successful if it is carried out in a series of settings, with each setting approximating more closely the milieu in which the patient customarily exhibits most behavior.

Gutride, Goldstein & Hunter (1973) have, seven years later, taken up this recommendation. These authors attempted to socialize both acute and chronic patients with a treatment package that included video-taped demonstrations of appropriate social behavior, role playing, therapeutic instructions, feedback, group discussions, and additional psychotherapy for half of the patients. Compared to patients who received no treatment, the treatment group improved their social behaviors as measured by several rating scales as well as observations made during a

structured interview, Unfortunately, no generalization of treatment effects was found in observing patients in their daily environment. A major problem with the study, which the authors themselves point out, is that the complexity of the treatment package makes it impossible to isolate the important component which accounted for the behavior change. Nonetheless, the results of the studies by Sherman (1965), Wilson & Walters (1966), and Gutride et al. (1973) clearly warrant a closer examination of imitation-based techniques with chronic patients.

Modeling and Instructions

Recently, a major controversy has arisen within the modeling literature. Basically the issue reduces down to why show someone what to do when you can tell him more easily. Bandura (1972) considers instructions to be verbally symbolized models that should be equally effective given that the person being instructed has the appropriate receptive language skills and the instructed behavior is in his repetoire. Marlatt (1972) considers modeling more effective than instructions only if the task to be performed is highly ambiguous. Marlatt argues that for the most part modeling is inefficient because the observer has to induce a general rule from the behaviors he sees and then deduce other examples of this behavior. However, with instructions the rule can be stated and the process is simply one of deductive reasoning. On the other hand, operant psychologists consider modeling and instructions equivalent in priming or instigating behavior to be reinforced (Kazdin, 1973).

Instructions and modeling are confounded in treatment. Modeling displays of appropriate behavior shown to clients are accompanied by clear instructions about the behavior to be performed. Rathus (1973) in training undergraduates to be more assertive through modeling had a strong instructional component which he called "directed practice." Similarly, McFall & Lillesand (1971) confounded their modeling of assertive behavior with "coaching." An interesting question arises from these studies. What would have happened with a treatment in which clients were only coached or directed without the benefit of any modeling display? Goldstein, Martens, Hubbens, Van Belle, Schaaf, Wiersma & Goedhart (1971) have provided some insight into this issue in their attempt to train psychoneurotic outpatients and high functioning inpatients to be more independent. In an endeavor to assess the therapeutic efficiency of modeling, they compared a pure modeling condition with a treatment combining a few modeling displays with specific instructions. The authors found no difference in the two treatments and raised questions about the need for elaborate modeling displays. Unfortunately, the authors did not test for the effectiveness of the treatments in terms of the patients' independent behavior in real life situations.

Several studies directed toward inducing undergraduates to be potential therapists or better clients have been consistent with the Goldstein et al. (1973) findings. The target behaviors in these studies were the abilities to self-disclose information or understand others' self-disclosures. The results have suggested that modeling and instructions combined (Whalen, 1965) or instructions alone (Doster, 1972; Green & Marlatt, 1972)

are more effective than modeling alone. Most recently, Rappaport, Gross & Lepper (1973) attempted to compare sensitivity training and modeling in training undergraduates to be effective therapists (i.e. more self-disclosing and understanding). The efficacy of the training procedures was nullified as soon as an untrained group of students were given specific instructions as to the target behaviors required. The results led Rappaport, et al. (1973) to conclude that modeling may be a highly inefficient form of training behaviors when compared to a specific set of instructions.

Investigation into imitation in chronic psychiatric patients confirm the potency of instructions. Ayllon & Azrin (1964) have suggested that instructions are an important part in initiating new behaviors to the level where reinforcement can maintain them over time. Carlson & Jaffe (1973) have shown that instructions alone are just as effective as reward in instigating and maintaining imitation over a brief period of time. Furthermore, instructions alone were found to be as effective as a modeling display in teaching simple verbal and non-verbal behaviors. Clearly, then, any study attempting to evaluate the efficacy of modeling should provide a comparative analysis of a treatment based solely on instructions.

The Present Study

The purpose of the present study was to evaluate the impact of modeling therapy on chronic psychiatric patients. Specifically, patients from amongst those functioning at the lowest level in a large psychiatric institution were exposed to a videotaped model engaged in a variety of social situations. The patients were instructed to imitate

each interaction that they observed. Another group of patients were simply given instructions on how to interact without the benefit of first viewing the model. Since previous research (viz. Henderson, 1960; Schnore, 1961) has suggested the benefit of providing chronic patients with structured social activities, a third group was included who received as much treatment time, attention, and activity as the modeling and instructions groups.

The major hypothesis investigated was that the modeling treatment would be more powerful in inducing social behaviors in patients than the instruction procedure. Both the modeling and instruction groups were hypothesized to show more social behavior than the attention group after treatment. The social behavior was assessed within treatment sessions, within a contrived situation similar to the training one and in everyday hospital activities. A further hypothesis was that the increase in social behavior would be paralleled by increases in the patients' level of functioning within the hospital.

Chapter II

Method

General Design

A group of male chronic psychiatric patients were assigned at
random to one of three treatment groups. The modeling group (Modeling)
was exposed individually to a model displaying appropriate social behaviors
and instructed to imitate what they saw in interactions with the therapist.
A second group (Instruction) was simply instructed on how to interact
without the benefit of a model. The third group (Attention) was provided
by the therapist with opportunities for interaction without prior exposure
to either instructions or a model. Dependent measures consisted of within
treatment responsiveness to the therapist interactions, observations of
patients' social behavior in both contrived and natural situations, and
the patients' level of functioning within the hospital.

Subjects

The patients chosen for treatment were twenty-four males from a
chronic ward at St. Thomas Psychiatric Hospital, St. Thomas, Ontario. The
patients all came from the same locked ward. Almost all the patients were
on a maintenance dosage of one of the major anti-psychotic medications. The
ward was managed by means of a token economy in which the patient received
tokens contingent on self-care (grooming, oral hygiene) and work (bed-
making, ward cleaning) behavior. The tokens could be exchanged for tangible
reinforcers such as candy, soft drinks and cigarettes.

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On the average, the patients were in their late forties, having spent at least two decades (21 years) in the hospital. For the most part the patients had been admitted to the hospital only one time (1.33 times) and had never been discharged. The patients' histories suggest low premorbid competence (Zigler & Phillips, 1961). If an average profile was drawn of a patient in the study, he could be described as having had public school education (5.33 grades completed). He occasionally had been occupied as a farm labourer and had never married.

On the basis of the Wechsler Intelligence Scale for Children (Wechsler, 1949) and the Peabody Picture Vocabulary Test (Dunn, 1959), the average patient was equivalent to an eight year old in expressive language skills and equivalent to a nine year old in receptive language ability. The descriptive data on the patients involved in the research are presented in Table 1. One-way analyses of variance indicated that the three groups did not differ significantly from one another on the basis of each of the variables listed.

The only criteria for patients being included in the study was that they were cooperative enough to walk into the treatment room with the therapist and that the ward staff felt that they were relatively withdrawn. The twenty-four patients involved in the research had been labelled in a variety of ways: paranoid schizophrenia (5), catatonic schizophrenia (2), mental deficiency with psychosis (5), mental retardation (4), alcoholic psychosis (2), schizophrenia—other and unspecified (4), Hebephrenic schizophrenia (1), and general paresis of the insane (1). Three $\underline{S}$s, one

TABLE 1

Descriptive Data on Experimental Patients

Variable	Treatment Group Assignment				
	Modeling (n = 7)	Instructions (n = 7)	Attention (n = 7)	All Groups Combined (n = 21)	F ratio (df = 2/18)
Age (years)	48.00	45.71	43.00	45.57	.24
Length of Hospitalization (years)	21.29	17.29	24.43	21.00	1.21
Number of Admissions	1.43	1.43	1.14	1.33	.55
Education (highest grade completed)	4.43	6.43	5.14	5.33	.74
Vocabulary Score from WISC (raw score) (age equivalent in years-months)	21.14 (7-6)	31.71 (10-6)	20.29 (7-2)	24.38 (8-6)	1.73
Peabody Picture Vocabulary Test (raw score) (age equivalent in years-months)	56.86 (6-4)	80.00 (10-7)	66.86 (8-2)	67.91 (8-6)	1.80

from each group, were lost during the course of the study.

Treatments

Therapist. One therapist was involved in all the treatment conditions. He was thirty-nine years of age with sixteen years experience as a psychiatric attendant. His level of education was grade twelve. He recently completed a programed learning course on the principles of behavior modification. The therapist had been involved for two years with the development and maintenance of a token economy program. He also had a years experience with the audiovideo tape techniques and the production of imitation in the chronic population.

Modeling. The patients were taught social skills as they might apply in two situations. The situations were having coffee and cigarettes with another person and playing a game of ring toss. Each situation was further divided into two roles: respondent and initiator. In the respondent role the patients were taught how to respond appropriately to social overtures and in the initiator role patients were shown how to initiate interactions. The patients had twelve thirty-minute sessions in all, in the following order: coffee-respondent role, coffee-initiator role, game-respondent role, and game-initiator role (three sessions of each of the four).

The modeling treatment involved exposure to videotaped demonstrations of appropriate social behaviors. The scripts for the two videotapes employed are presented in Appendix A. Briefly, each videotape showed an entire interaction sequence (coffee, game situation) with the model being first the respondent and then the initiator. After displaying the entire sequence,

the tape showed a break-down of the sequence into each component interaction.
Each interaction was followed by an instruction to do what the model did
and a fifteen second blank on the videotape to allow the patient the opportunity
to rehearse what he saw.

The therapist instructed the patient to watch the television moni-
tor and then played the appropriate segment of the videotape. If the patient
did not respond to the videotape, he was given one repetition of the instruc-
tion by the therapist.

Instructions. The group that received instructions followed the
same conditions as the modeling group. That is, the therapist followed the
same sequence but rather than exposing S to the videotape he instructed the
patient on the appropriate response. For the respondent condition the thera-
pist initiated an interaction and immediately instructed the patient on how
to respond. For the initiator condition the therapist instructed the
patient on how to initiate each interaction. In all cases the patient was
given a second instruction if he did not respond. If no response occurred,
then the therapist moved on to the next interaction. The list of instruc-
tions used for all four conditions is in Appendix B.

Attention. The patients who received the attention treatment
were given opportunities to interact with the therapist but neither saw
the videotape nor received instructions. In each of the four different types
of sessions, the therapist followed a definite script in his interaction
with the patient. The script is presented in Appendix C. For the respondent
conditions, the therapist said his line and then gave the patient a chance to

respond (approximately 15-20 seconds). He repeated the line once if the patient did not respond.

The initiator segment of the attention condition was harder to conceptualize but an attempt was made to make it comparable to the treatment groups. In the initiator conditions, the therapist waited for the patient to initiate an interaction and then responded. If the patient did not initiate an interaction (after 20-30 seconds) the therapist responded with one of his lines anyway (Appendix C). The verbalizations here were chosen so that they made sense either as a response or as an open-ended statement (e.g. "I would sure like some coffee"). In all conditions the therapist would attempt to steer any tangential conversation back to the script.

Dependent Measures

Within Treatment Responsiveness. As noted above, patients were trained both to respond and initiate verbal interaction in two social situations. The situations employed were having coffee and playing ring toss with another person. In all three conditions patients were given a structured set of interactions to which they could respond. The only difference of course was that one group was shown a model and instructed to respond, another group was only instructed to respond, and the third group was only given an opportunity to interact with the therapist. One dependent measure then was the number of times the patient responded to the therapist during the respondent and initiator sessions. Any verbal response at all, irrespective of its appropriateness and duration, was scored as a response. The list of statements that the therapist said to the patient in all the

sessions is shown in Appendix C. A further measure of treatment responsiveness was the number of words spoken during one arbitrarily chosen session. The session chosen was the first in which the patients were trained on how to initiate verbal interactions while playing a game. This session was tape recorded and the number of words spoken were counted. The number of words spoken by each patient was taken as the dependent measure.

Observations of social behavior: Observers. The observers used in the present study were both graduate students in psychology. They were trained intensively for a period of a week in the use of the observation scheme outlined below. Both observers were blind as to patient assignment to treatment as well as the purpose of the research.

Observation Scheme. The definitions of all the behaviors observed and a sample recording sheet are presented in Appendix D. The method of observation was a ten second interval time-sampling procedure. The major categories of interest were: 1) Other-oriented behavior (O)--any one or more of the following social behaviors indepedent of the response of the person toward whom the behavior is directed: looking at, smiling, physical contact with, giving, or verbalizing with another person; 2) Verbalizations (V)-- any verbal behavior directed towards another person. 3) Reciprocated other-oriented behavior (OR)--any other-oriented response which is followed by or occurs with a social response from another person during the observation interval. The reliability for these categories were calculated by taking the percentage of the number of agreements over the total number of agreements and disagreement of occurrences of one of the categories by the two observers.

These reliabilities are based on half of the observations in both hospital
and contrived situations, before and after treatment. The reliability of
the observers for each of the three major observation categories is presented
in Table 2.

A further breakdown of the inter-rater reliabilities in both con-
trived and hospital situations is presented in Appendix E. The reliabilities
are somewhat higher overall for the contrived observavtions as the patients
were observed in a more tightly controlled environment. In all situations
it was stressed to the observers that their recordings should be independent
of one another. Random checks and the observer's seating position would sug-
gest that they did not confer about their observations.

Observational situations: Contrived situations. Since the patients
were trained how to interact while having a coffee and while playing a game of
ring toss, they were observed in these situations.

These observations were done before treatment, immediately after
treatment and a month after treatment. All observations were completed by
observing the patients through a one-way mirror. For the coffee situations
assessment patients were brought into the room in which there was a table,
two chairs, magazines, coffee, cups, cream, sugar, two cigarettes, and a
couple of matches. The patients were randomly paired within treatment groups
for these observations. The patients were given the following instructions:
"I want you two to have some coffee and cigarettes together. Try to talk to
each other when you're in the room." The observations were commenced after
a few minutes and continued until thirty-two observations were completed on

TABLE 2

Reliability of Observers

Category of Observation	Agreements*	Agreements plus Disagreements	Reliability
Other-oriented Behavior (O)	396	511	77.5%
Verbalizations (V)	70	79	88.6%
Reciprocated-Other Oriented Behavior (OR)	120	147	81.6%

*Agreements refer to agreements that the behavior observed has occurred and does not include agreements that the behavior has not occurred. Thus, the reliability calculated is a conservative estimate.

each patient. The game situation assessment was similar except that a ring toss game was placed on the table and the following instructions given: "I want you two to play a game of ring toss together and then have some coffee. Try to talk to each other when you're in the room." In each assessment period the experimenter (therapist) would leave the room as soon as he had given the instructions.

Hospital Situation. In order to test for the generalization of social behaviors learned in treatment situations to hospital situations patients were observed both during meals and in the lounge. The observations done during meals were done for lunch and supper. The patients sat at tables for four and were observed for an average of forty intervals (range 32-64). The observers, visible to the patients, tried to be as unobtrusive as possible. During observations in the hospital lounge, the patients were brought in groups of four from the ward and allowed to do as they pleased. The lounge is open to all the patients in the hospital and contains a canteen, pool table, colour television, several couches, and a dozen coffee tables with sets of matching chairs. Patients were again observed unobtrusively for an average of forty intervals (range 32-64). Similar to the observations done in the "contrived" situations, the hospital observations were done before, immediately after, and one month after treatment.

Level of Functioning: The following measures were chosen as indices of the patients' level of functioning within the hospital.

Privileges: The ward on which the patients in the study resided had two exists. Both were locked because it was felt that for the most part,

patients needed supervision. Some patients were granted limited parole for an hour or two if their behavior was "good" as judged by the ward staff and psychiatrist. Work parole was given to patients who behaved well enough to take a job off the ward. These patients were trusted to go back and forth from work and given additional time off the ward unsupervised. The patients who functioned at the highest level on the ward were given complete ground parole. These patients could leave the ward almost any time just by asking the ward staff to open the door. For the purposes of the study these privileges were ranked in order that they could be used as an ordinal dependent measure (1--no privileges, 2--limited parole; 3--work parole; 4--ground parole). The level of privileges were recorded before treatment and one month after treatment.

Tokens and Money: As mentioned previously patients involved in the research were on a token economy. Tokens were paid for a variety of self-care and work behavior. Tokens could be earned daily for brushing teeth, general cleanliness in grooming and dressing, making beds, performing ward jobs, and attending music or recreational therapy. The amount of tokens earned per week was recorded before treatment and immediately after treatment. A follow-up measure was unavailable due to a major reorganization in the hospital in which several patients were moved to another ward and taken off the program.

Patients who were performing more difficult jobs on the ward (cleaning, working in kitchen, running errands) or off the ward (industrial therapy) were earning money in addition to tokens. The amount of money

earned served as another measure of treatment effects. Since changes in earnings are not frequent these were recorded before treatment and then again one month after treatment.

Psychotic Inpatient Profile: The Psychotic Inpatient Profile (Lorr & Vestre, 1968) is a rating scale that focuses on certain dimensions of behavior that are thought to reflect psychopathology. The test is completed by ward attendants after careful observation of a patient over a three day period. Each dimension (12 in all) is composed of several statements of behavior that are rated on a four point scale in terms of frequency "not at all" to "nearly always."

For the purposes of the present study three scales were chosen from the Psychotic Inpatient Profile that best reflect level of functioning. The "retardation" scale assesses the extent to which the patient is sluggish in speech and motor behavior. It attempts to define slowness to the point of apathy and stupor. The "seclusiveness" scale describes how withdrawn the patient appears on the ward. The number and quality of interpersonal interactions are assessed over a three-day period. The "care-needed" scale reflects how much supervision the patient requires. Lorr & Vestre (1968) consider this scale as a measure of competence. A high score would indicate a patient with an inability or unwillingness to care for himself.

All the Psychotic Inpatient Profile (PIP) scales were completed by two ward attendants. Each patients' score was the average of the two scores given to him by the attendants. The ward staff was blind as to the assignment of patients to the various treatments. The PIP ratings were com-

pleted before treatment and again one month after treatment. The attendants were instructed to complete the PIP ratings independently and there is no evidence that they did not comply. The inter-rater reliability for each scale and each assessment period is presented in Appendix F. The reliabilities (Pearson's r) ranged from .65 to .85 with an average agreement of .76.

Minimal Social Behavior Scale. A further index of the patients' level of social behavior employed in the present study was the Minimal Social Behavior Scale (Farina, Arenberg, & Guskin, 1957). This test is an interview assessment of interpersonal behavior such as appropriate greeting, orientation to instructions; verbal responses to questions, and absence of inappropriate mannerisms. The interview was completed by an advanced clinical psychology graduate student before and one month after treatment.

Overview of dependent measures. In summary, the dependent measures attempted to assess the patients' social behavior and level of functioning within the hospital. The social behavior was assessed within treatment, within similar situations to treatment (contrived), and within the hospital environment. The observations of social behaviors were assessed before, immediately after, and one month after treatment. For most of the level of functioning measures the data was collected before treatment and during the one month follow-up. A summary of the measures and when they were collected is presented in Table 3.

TABLE 3

The Summary of Dependent Measures and Assessment Periods

Dependent Measure	Before Treatment	During Treatment	Immediately After Treatment	One-Month Follow-up
Number of Verbal Responses to Therapist (Respondent and Initiator Sessions)		X		
Number of Words Spoken during Initiator-Game Session		X		
Contrived Situations Observations	X		X	X
Hospital Situations Observations	X		X	X
Privileges	X			X
Tokens	X		X	
Money	X			X
Psychotic Inpatient Profile (3 Scales)	X			X
Minimal Social Behavior Scale	X			X

Chapter III

Results[1]

Within-Treatment Responsiveness

Three measures were chosen to assess how responsive the patients appeared to be within-treatment. The treatments were broken down into sessions in which the patients were taught how to respond appropriately and sessions in which patients were trained how to initiate interactions. The highest possible number of responses during each the respondent and initiator condition was eighty-one (combined for all three sessions in both coffee and game situations). The means for the three treatment groups are presented in Table 4. Also included in this table is the mean number of words spoken by each patient during the first game-initiator session. One way analysis of variance for each measure, shown in Table 5, indicates a significant treatment effect on all measures. Individual a priori two-tailed t-tests[2] were done to test the original experimental hypotheses about the direction of treatment effects. For the respondent conditions both the modeling and instruction group patients responded more than the attention group ($t = 3.14$, $df = 18$, $p < .01$; $t = 3.48$, $df = 18$, $p < .01$). The modeling and instruction groups did not differ from each other. The results were similar to patients' responses during the initiator sessions

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[1] The raw data for all the analyses referred to in this chapter are to be found in Appendix G.

[2] All t-tests referred to in this chapter are two-tailed, a priori t-tests as outlined by Kirk (1968).

TABLE 4

Mean Scores of Measures of Within-Treatment Responsiveness

Variable	Group		
	Modeling	Instructions	Attention
Number of Verbal Responses to Therapist in Respondent Sessions (n = 6)	76.29	77.71	63.43
Number of Verbal Responses to Therapist in Initiator Sessions (n = 6)	70.14	78.43	42.00
Number of Words Spoken during first Initiator-Game Session (square root transformation)	11.26	12.30	5.17

TABLE 5

Summary of One-Way Analyses of Variance of Within-Treatment Responses

Variable	Source	df	MS	F
Number of verbal responses to therapist in respondent sessions	Treatments	2	433.33	7.35*
	Error	18	58.92	
Number of verbal responses to therapist in initiator sessions	Treatments	2	2552.33	17.89**
	Error	18	142.70	
Number of words spoken during first initiator-game session	Treatments	2	103.84	6.55*
	Error	18	15.86	

* $p < .01$

** $p < .005$

with the modeling and instruction groups being more responsive than the attention group ($t = 4.40$, $df = 18$, $p < .001$; $t = 5.70$, $df = 18$, $p < .001$). The instruction and modeling groups were equally responsive in the initiator sessions.

In the analysis for the number of words spoken in the first initiator session for the game situation, extreme violation of homogeneity of variance (Cochran's $C = .94$, $p < .01$) necessitated a square root transformation. A priori analysis of the transformed data indicated that the modeling and instruction groups spoke more than the attention group ($t = 2.86$, $df = 18$, $p < .02$; $t = 3.35$, $df = 18$, $p < .01$). No significant difference was indicated between the modeling and instruction group.

In summary, then, analysis of the indices of within treatment responsiveness suggested that both the modeling and instructional treatments produced more patient responses than the attention treatment. Furthermore, there does not appear to be a significant difference between the instructional and modeling mode of treatment in producing immediate patient response.

Observations of Social Behavior

Contrived Situations. To assess the effect of treatment on social behavior, patients were observed in pairs in the situations in which they were trained. These situations were having coffee and playing a game of ring toss with another person. For the purposes of the data analyses the frequency of each social behavior of interest was converted to a percentage of observational intervals in which the target behavior occurred.

This percentage was the combined percentage for social behavior in both situations before, immediately after, and one month after treatment. The social behaviors of interest were other-oriented behaviors (O), verbalizations alone (V), and reciprocated other-oriented behaviors (OR). The percentage of time each of these behaviors occurred for each assessment period is summarized in Table 6. The corresponding analyses of variance are presented in Table 7.

For other-oriented responses in general there were no differences amongst the groups at pre-test (F = .21, df = 2/18, p > .25). The analysis at post-test revealed no significant treatment effect. A priori t-tests revealed no differences among the groups. At the follow-up period, an overall effect was found for the other-oriented social behavior. A priori t-tests did support one of the research hypotheses. The modeling group differed significantly from the attention group (t = 2.65, df = 18, p < .02).

Analyses of the verbalization category did not confirm any of the experimental hypotheses. Extreme violation of homogeneity of variance (Cochran's C = .98, p < .01) at pre-test necessitated an analysis of variance by ranks. The Kruskal-Wallis rank analysis (Siegal, 1956) indicated no pre-test differences in verbalizations amongst the three groups. At post-test and follow-up there were no significant treatment effects (F = .91, df = 2/18, p > .2; F = .19, df = 2/18, p > .3). Furthermore, individual a priori t-test demonstrated none of the predicted differences. That is, the modeling group did not verbalize more than the instruction group or the attention group. The attention and instruction group were practically equivalent in the number of verbalizations they made at both the post-test

TABLE 6

Mean Pre-Post-Follow-up Scores of Social

Behaviors in Contrived Situations

Treatment	Test Condition	% of Other-Oriented Responses	% of Verbalization	% of Reciprocated Other-Oriented Behavior
Modeling	Pre	34.9	12.6	14.4
	Post	40.3	16.1	23.1
	Follow-up	41.6	11.0	22.3
Instructions	Pre	28.4	1.4	10.9
	Post	24.7	6.4	8.8
	Follow-up	37.1	10.0	18.7
Attention	Pre	34.7	1.7	9.1
	Post	19.4	6.6	12.0
	Follow-up	20.7	6.3	10.6

TABLE 7

Summary of One-Way Analyses of Variance for

Social Behaviors in Contrived Situations

at Post-test and Follow-up

Variable	Test Situation	Source	df	MS	F
% other-oriented responses	Post-test	Treatments	2	822.99	2.04
		Error	18	403.48	
	Follow-up	Treatments	2	845.29	2.97*
		Error	18	284.89	
% Verbalization	Post-test	Treatments	2	216.99	.91
		Error	18	239.02	
	Follow-up	Treatments	2	43.19	.19
		Error	18	231.52	
% Reciprocated other-oriented responses	Post-test	Treatments	2	496.43	1.70
		Error	18	292.51	
	Follow-up	Treatments	2	252.33	.92
		Error	18	274.03	

*. $p < .1$

and follow-up periods.

At pre-test the groups did not differ from each other in terms of the percentage of reciprocated other-oriented behavior. At post-test and follow-up there still was no treatment effect. Although the individual a priori t-tests indicated trends in the predicted direction, none reached the .05 level of significance.

In summary, results of observing the patients' social behavior in the situations in which they were taught to interact, gave little support of the experimental hypotheses. Although the direction of differences were mostly as predicted, the only comparison that showed statistical significance was the superiority of the modeling group over the attention group for all other-oriented responses at the follow-up assessment.

Hospital Situations. In order to see how the treatments would affect the patients in their everyday environment, social behaviors were also observed in hospital settings. Patients were observed both during meals and during visits to the hospital lounge. Since all patients could not be observed for exactly the same number of intervals, the observation frequency of each behavior was converted to a percentage of total time observed. The observation in the lounge and during meals were combined to provide one index of hospital social behavior. The mean percentage of time for each of the three social behavior categories for the three treatment groups is presented in Table 8. The corresponding analyses of variance are summarized in Table 9.

TABLE 8

Mean Pre-Post-Follow-up Scores of Social

Behaviors in Hospital Situations

Treatment	Test Condition	% of Other-Oriented Responses	% of Verbalization	% of Reciprocated Other-Oriented Behavior
Modeling	Pre	22.3	4.7	6.7
	Post	29.0	7.3	10.7
	Follow-up	36.0	6.3	14.6
Instruction	Pre	22.9	3.6	4.9
	Post	21.1	1.9	4.0
	Follow-up	22.6	4.0	6.0
Attention	Pre	23.1	3.1	9.7
	Post	30.9	2.3	9.6
	Follow-up	19.1	0.9	6.9

TABLE 9

Summary of One-Way Analyses of Variance

for Social Behaviors in Hospital Situations

at Post-test and Follow-up

Variable	Test Situation	Source	df	MS	F
other-oriented responses	Post-test	Treatments	2	186.14	1.18
		Error	18	157.87	
	Follow-up	Treatments	2	555.62	3.99*
		Error	18	139.03	
Verbalization	Post-test	Treatments	2	63.76	1.73
		Error	18	36.87	
	Follow-up	Treatments	2	51.99	1.82
		Error	18	28.57	
Reciprocated other-oriented responses	Post-test	Treatments	2	90.33	2.62
		Error	18	34.51	
	Follow-up	Treatments	2	155.99	2.03
		Error	18	76.70	

* $p < .05$

For other-oriented responses in general, the three groups were almost equivalent at pre-test. At post-test, the overall treatment effect was insignificant. A priori t-tests showed that the modeling group was not significantly different from either the instruction group or the attention group. The attention group was exhibiting the same amount of other-oriented behaviors at post-test as the instruction treatment group. At follow-up, there was a stronger overall treatment effect (F = 3.99, df = 2/18, p < .05). As predicted the modeling group outperformed the instruction group (t = 2.13, df = 18, p < .05) and the attention group (t = 2.68, df = 18, p < .02). However, the instruction group was not significantly different from the attention group.

Examining the verbalization category alone showed somewhat weaker effects than the overall other-oriented social behaviors. No overall differences existed among the groups at pre-test, post-test, or follow-up.

Inspection of the results of the three groups for the percentage of reciprocated other-oriented behavior indicated no pre-test differences. At post-test there was no overall effect although the a priori test suggested that the modeling group spent more time interacting than the instruction group (t = 2.13, df = 18, p < .05). At follow-up there was still no overall effect. The modeling group was not significantly different from the instruction and attention group.

In summary, generalization of treatment effects from the training sessions to the hospital milieu, slightly favored the modeling group over

the instructions and attention groups. At post-test the modeling group was superior to the instruction group in the percentage of reciprocated social responses. The data presented in Tables 5 and 6 appears more consistent at follow-up for the other-oriented responses. The modeling group was engaged in these behaviors more often than the instruction and attention groups.

Measures of Level of Functioning

Privileges. As outlined in Chapter II patients on the ward were given one of four levels of privileges. These were no parole, limited parole, work parole, and ground parole. The level of privilege each patient had before treatment and at follow-up is listed in Table 10. For the purposes of data analysis, the different levels were given an ordinal rank from one to four respectively. At pre-test there was a slight difference overall amongst the groups (Kruskal-Wallis $H = 5.03$, $df = 2$, $p <$ .1). At follow-up this difference became extremely pronounced ($H = 15.44$, $df = 2$, $p < .001$). Individual a priori Mann Whitney U tests (Siegal, 1956) indicated that the instruction group had the highest level of privileges compared to the modeling ($U = 10$, $p < .05$) and attention ($U = 3$, $p < .001$) groups. The modeling and attention groups had a similar level of privileges.

In summary, the instruction group had a slightly higher level of privileges at pre-test which became much more accentuated at follow-up in comparison to the modeling and attention groups.

Tokens and Money. Patients' earnings in tokens and money per week are presented in Table 11. Table 12 summarizes the one-way analyses of variance at the post-test period for the tokens and follow-up period for

TABLE 10

Patients' Level of Privileges (Rank)

Before Treatment and at Follow-up

Treatment Group	Before Treatment		One Month Follow-up	
	Limited	(2)	Limited	(2)
	None	(1)	Ground	(4)
	None	(1)	None	(1)
Modeling	None	(1)	None	(1)
	None	(1)	None	(1)
	None	(1)	None	(1)
	None	(1)	None	(1)
	None	(1)	None	(1)
	None	(1)	Limited	(2)
	None	(1)	Limited	(2)
Instructions	Limited	(2)	Work	(3)
	Work	(3)	Ground	(4)
	Work	(3)	Work	(3)
	Work	(3)	Ground	(4)
	None	(1)	None	(1)
	None	(1)	None	(1)
	None	(1)	None	(1)
Attention	None	(1)	None	(1)
	None	(1)	None	(1)
	None	(1)	None	(1)
	Limited	(2)	None	(1)

TABLE 11

Mean Weekly Token and Money Earnings

Group	Test Period	Tokens	Money
Modeling	Pre-Test	41.14	$1.00
	Post-Test	48.29	—
	Follow-up	—	$5.03
Instructions	Pre-Test	42.86	$2.99
	Post-Test	42.86	—
	Follow-up	—	$2.29
Attention	Pre-Test	33.00	0
	Post-Test	31.86	—
	Follow-up	—	0

TABLE 12

Summary of One-Way Analyses of Variance for

Tokens Earned at Post-Test and Money

Earned at Follow-up

Variable	Source	df	MS	F
Tokens at Post-Test	Treatments	2	420.33	3.54*
	Error	18	118.57	
Money at Follow-up	Treatments	2	44.37	1.43
	Error	18	30.95	

* $p < .1$

the money. For tokens earned there was no significant pre-test difference amongst the groups ($F = 1.74$, $\underline{df} = 2/18$, $\underline{p} > .1$). Immediately after treatment a slight significant overall effect was indicated ($F = 3.54$, $\underline{df} = 2/18$, $\underline{p} < .1$). A priori $\underline{t}$-tests demonstrated that the modeling group was earning more tokens than the attention group ($\underline{t} = 2.82$, $\underline{df} = 18$, $\underline{p} < .02$).

The three groups show no overall difference in money earned at pre-test or at the follow-up period. Inspection of the raw data in Appendix E indicates that less than one-quarter of the patients were earning any money at all during either pre-test or follow-up assessments.

In summary, analyses of variance suggest that the modeling group earned more tokens than the attention group at post-test. No trend was found for money earnings among the three groups.

<u>Psychotic Inpatient Profile.</u> The Psychotic Inpatient Profile was filled out by two ward attendents before treatment and then again one month after treatment. The average raw scores at pre-test and follow-up for the three scales of interest, retardation, care-needed, and seclusiveness, are presented in Table 13. Table 14 summarizes the follow-up analyses of variance for the three scales.

The potential range for the retardation scale was 0 to 24 with the higher score representing increased apathy. At pre-test the groups did not differ overall on the retardation scale. At the follow-up period the groups again did not differ from each other.

The potential range of the care-needed scale was 0 to 18 with the higher score designating a patient requiring more care and supervision.

There was no overall pre-test difference among the group. However, at the follow-up assessment a very significant overall effect was demonstrated (F = 14.82, df = 2/18, p < .005). A priori t-tests indicated that both the modeling and instruction groups were rated as needing less care and supervision than the attention group (t = 2.93, df = 18, p < .01; t = 5.43, df = 18, p < .001). Contrary to prediction, the instruction group was rated as needing less care than the modeling group (t = 2.50, df = 18, p < .05).

The seclusiveness scale could range from 0 to 33. A higher score on this scale indicates a patient more socially active on the ward and less withdrawn. At pre-test the three treatment groups were almost identical in their ratings. At the follow-up assessment a significant overall effect emerged (F = 8.23, df = 2/18, p < .01). A priori t-tests confirmed two of the research hypotheses. The modeling and instructional treatment groups were seen as less withdrawn than the attention control (t = 4.06, df = 18, p < .001; t = 2.17, df = 18, p < .04). The attendents rated the modeling group as being slightly less seclusive than the instruction group but not significantly so (t = 1.88, df = 18, p > .05).

In summary, the three groups appeared similar on the three Psychotic Inpatient Profile scales at pre-test. One month after treatment the modeling and instruction groups appeared to the attendent raters to be less seclusive and less in need of constant supervision.

TABLE 13

Mean Scores on Psychotic Inpatient Profile Scales

Scale	Assessment Period	Modeling	Group Instructions	Attention
Retardation	Pre-Test	4.43	8.14	6.14
	Follow-up	5.43	6.43	9.29
Care-Needed	Pre-Test	4.71	3.57	8.57
	Follow-up	5.57	.57	11.43
Seclusiveness	Pre-Test	9.86	7.43	7.57
	Follow-up	13.14	8.43	3.00

TABLE 14

Summary of One-Way Analyses of Variance of Psychotic

Inpatient Profile Scales at Follow-up

Scale	Source	df	MS	F
Retardation	Treatment	2	28.05	1.09
	Error	18	25.60	
Care-Needed	Treatment	2	206.71	14.82**
	Error	18	13.95	
Seclusiveness	Treatment	2	180.33	8.23*
	Error	18	21.92	

* $p < .01$

** $p < .005$

Minimal Social Behavior Scale (MSBS)

The interview assessment of social behavior was done by means of
the MSBS before and one month after treatment. Scores on this test have
a potential range of 0-32, with the higher scoring patients demonstrating
more appropriate social behaviors. The mean score on this test at the two
assessment periods are presented in Table 15. Table 16 summarizes the
analysis of variance of the MSBS scores at the follow-up period. The
three experimental groups differed from each other neither at the pre-
test nor at the follow-up assessment.

Overview of Results

Summary of Individual Comparisons. An overview of the re-
search findings is presented in Table 17. Except for privileges which were
in ordinal data form, all the dependent measures are listed as well as the
probability level at which the experimental hypotheses were confirmed (two-
tailed t-tests). The hypothesis that the modeling group would benefit more
from treatment than the attention control appears to be the one most often
confirmed. The instruction group appeared to fare better than the attention
group on several measures. Fewest confirmations were found for the hypothesis
that the modeling treatment would have more impact than the instructional
treatment. The one group of dependent measures that appeared consistent in
favor of the modeling treatment over its instructional counterpart were the
observations done in the hospital environment. This finding may suggest
that the modeling treatment lead to stronger generalization effects. The

TABLE 15

Mean Scores on Minimal Social

Behavior Scale

Group	Assessment Period	
	Pre-Test	Follow-up
Modeling	24.00	25.29
Instructions	24.43	26.14
Attention	23.14	23.57

TABLE 16

Analysis of Variance of MSBS

Follow-up Scores

Source	df	MS	F
Treatments	2	12.00	.98
Error	18	12.22	

TABLE 17

Summary of Confirmations[1] of Research Hypotheses for Each Dependent Measure

Dependent Measures	Modeling Group > Attention Control	Instruction Group > Attention Control	Modeling Group > Instruction Group
Within Treatment:			
Responses in respondent sessions	.01	.01	
Responses in initiator session	.001	.001	
Words spoken in first initiator game session	.02	.01	
Contrived Situations:			
% O-post-test			
% O-follow-up	.02		
% V-post-test			
% V-follow-up			
% OR-post-test			
% OR-follow-up			
Hospital Situations:			
% O-post-test			
% O-follow-up	.02		.05
% V-post-test			
% V-follow-up			
% OR-post-test			.05
% OR-follow-up			
MSBS			
Token Earnings	.02		
Money Earnings			
PIP – seclusiveness	.001	.05	
PIP – retardation			
PIP – care needed	.01	.001	.05*

[1] Probability associated with a priori two-tailed t-tests.

*Direction of difference is opposite from prediction.

strength of this conclusion is dampened by the lack of a comparable difference in these measures between the modeling group and attentional control.

Summary of Changes from Pre-test Assessment. Change scores were calculated for each dependent measure from pre-test to post-test or from pre-test to follow-up. The median change scores for each group and the ensuing rank order analyses of variance are presented in Tables 18 and 19 respectively. Also listed in Table 19 are a priori individual comparisons done by means of Mann-Whitney U tests (Siegel, 1956). Inspection of Table 19 reveals similar trends to those found in Table 17. The modeling and instructional treatments produced more changes over time than the attention group. The modeling treatment produced more changes in social behavior in the hospital environment compared to the instruction group. However, several levels of functioning measures favor the instructional treatment. The attention group changed very little on half of the measures and showed some deterioration over time on several other indices.

To generate an overall or composite measure of treatment impact the following procedure was used. Twelve dependent measures were chosen which had been given at two assessment periods. Six of these were observation ratings in the contrived and hospital situations and six of these measures were indices of level of functioning. Each patient in each group was given a score of -1, 0, or +1 on each measure depending on whether his score on the measure decreased, stayed the same, or increased from before treatment to the last assessment done. This analysis provides an index of

TABLE 18

Median Change Scores

	MEASURE	MEDIAN CHANGE SCORE		
		Modeling	Instruction	Attention
Level of Functioning	Minimal Social Behavior Scale	3	3	2
	Token Earnings	4	0	0
	Money Earnings	0	0	0
	Privileges	0	1	0
	PIP-Care-Needed	1	-2	3
	PIP-Retardation	1	0	2
	PIP-Seclusiveness	5	2	-5
Contrived Situations Observations	% other-oriented behavior (O) Post-Pre	8	2	-11
	% other-oriented behavior (O) Fu-Pre	14	12	-10
	% reciprocated other-oriented behavior (OR) Post-Pre	5	1	-2
	% reciprocated other-oriented behavior (OR) Fu-Pre	5	2	2
	% verbalizations Post-Pre	1	0	0
	% verbalizations Fu-Pre	0	0	0
Hospital Situations Observations	% other-oriented behavior (O) Post-Pre	5	1	8
	% other-oriented behavior (O) Fu-Pre	13	0	-1
	% reciprocated other-oriented behavior (OR) Post-Pre	8	-2	-3
	% reciprocated other-oriented behavior (OR) Fu-Pre	6	0	-1
	% verbalizations Post-Pre	-1	-1	-1
	% verbalizations Fu-Pre	-1	1	-2

TABLE 19

Rank Order Analyses of Median Change Scores

	MEASURE	KRUSKAL-WALLIS H	MANN-WHITNEY U MvsI	MvsA	IvsA
Level of Functioning	Minimal Social Behavior Scale	.38	22	20	16
	Token Earnings	5.79	7**	12	24
	Money Earnings	1.16	20	20	24
	Privileges	15.44**	10*r	18	3**
	PIP-Care-Needed	11.31**	13	17	9*
	PIP-Retardation	3.20	17	16	11*
	PIP-Seclusiveness	7.03*	19	4**	13
Contrived Situations Observations	% other-oriented behavior (0) Post-Pre	4.44	17	8*	17
	% other-oriented behavior (0) Fu-Pre	5.08	24	10*	9*
	% reciprocated other-oriented behavior (OR) Post-Pre	3.34	18	12	19
	% reciprocated other-oriented behavior (OR) Fu-Pre	1.10	17	18	22
	% verbalizations Post-Pre	.39	21	21	23
	% verbalizations Fu-Pre	1.72	21	15	21
Hospital Situations Observations	% other-oriented behavior (0) Post-Pre	3.12	13	19	11*r
	% other-oriented behavior (0) Fu-Pre	6.11*	12	8*	17
	% reciprocated other-oriented behavior (OR) Post-Pre	3.56	13	18	20
	% reciprocated other-oriented behavior (OR) Fu-Pre	5.45*	8*	11*	15
	% verbalizations Post-Pre	.45*	20	21	23
	% verbalizations Fu-Pre	4.62	19	18	6**

* $p < .05$

** $p < .01$

r — difference in direction of change opposite of predicted

direction of change regardless of the magnitude of the change. The score for each patient could range from -12 (decrease on each measure) to +12 (increase on each measure). Table 20 presents the overall pattern of pluses and minuses for each patient. Table 21 summarizes the analysis of variance for this composite measure. The overall analysis indicates a strong treatment effect (F = 9.10, df = 2/18, p < .01). Individual a priori t-tests confirm that the modeling and instruction groups changed more across all the measures than the attention group (t = 3.74, df = 18, p < .01; t = 3.67, df = 18, p < .01). However, the instructional and modeling treatment did not differ from each other on the composite change index.

TABLE 20

Direction of Change for Each Patient on Each of Twelve Measures

TREATMENT GROUP		TOKENS	PRIVILEGES	MONEY	PIP-CARE-NEEDED	PIP-RETARDATION	PIP-SECLUSIVENESS	CONTRIVED O	CONTRIVED OR	CONTRIVED A	HOSPITAL O	HOSPITAL OR	HOSPITAL A	TOTAL	GROUP MEAN
MODELING	1	0	0	0	−	+	−	−	+	−	+	+	−	+5	+3.00
	2	+	+	+	−	−	+	+	+	0	+	+	+	+7	
	3	+	0	+	−	−	+	+	+	+	+	+	+	+1	
	4	0	0	0	−	−	−	−	+	−	−	+	−	0	
	5	+	0	0	+	+	+	+	+	0	+	−	+	+5	
	6	+	0	0	−	−	+	+	+	+	+	+	−	+4	
	7	+	0	0	+	−	+	+	+	+	+	+	−		
INSTRUCTIONS	1	0	0	0	+	+	+	+	+	+	+	+	+	+9	+2.86
	2	0	+	0	+	0	−	0	+	+	0	+	0	+5	
	3	0	+	0	+	+	−	0	−	−	0	0	+	+2	
	4	0	+	0	−	−	−	−	−	0	−	0	0	−2	
	5	0	0	0	+	0	+	+	−	+	−	−	+	+2	
	6	0	+	0	+	+	+	−	+	0	+	+	+	−7	
	7	0	+	0	−	−	+	+	+	0	+	+	+	+5	
ATTENTION	1	0	0	0	−	−	−	−	−	−	−	−	0	−8	−4.29
	2	+	0	+	+	−	−	−	+	0	−	+	−	+1	
	3	0	0	0	+	−	−	−	+	+	−	−	−	−3	
	4	0	0	0	−	−	−	−	−	−	−	−	−	−8	
	5	+	0	0	−	−	−	+	−	+	−	−	−	−8	
	6	0	0	0	+	−	+	−	+	+	+	+	−	+1	
	7	0	−	0	−	−	−	+	+	+	+	−	−	−5	

TABLE 21

Analysis of Variance for Composite

Index of Change

Source	df	MS	F
Treatments	2	121.48	9.10*
Error	18	13.35	

* $p < .01$

Chapter IV

Discussion

The purpose of the present research was to investigate the efficacy
of modeling therapy in enhancing social behaviors in chronic psychiatric
patients. A further goal of the study was to evaluate modeling in compari-
son to a purely instructional treatment. The study provided several findings.
Patients who received the modeling and instructional treatments interacted
more with the therapist than the group provided only with the opportunity
to interact (Attention). Patients' responsiveness within treatment sessions
showed weak generalization to both similar contrived situations and hospital
activities.

Some results were also found for patients' level of functioning
in the hospital. Parallel to the increases in social behavior, the modeling
group were earning more tokens and the instruction group had more privileges
after treatment. Both these groups were rated as being less secluded and
less in need of supervision as compared to the attention group. The overall
pattern of results suggests that the two treatment groups differed little
from each other.

Examining the results more closely leads to some important qualifi-
cations. Although the within-treatment responsiveness of patients was very
significant in favor of the instructional and modeling treatments the same
cannot be said for the behavior of Ss in the contrived situation. When pairs

of patients were observed within the situations in which they were trained, that is, playing ring toss and having coffee, the only significant difference found occurred in the follow-up period between the modeling and attention group for all other-oriented behavior combined. One would predict that the strongest generalization effect would have occurred for these contrived situations as they were designed to most closely resemble the training situation. Experimental results, however , did not support this prediction. A likely explanation of the failure of generalization lies in the very nature of the contrived situations and the observations. In order to carry out the observations unobtrusively they were done in a special room with an attached observation room separated by a one-way mirror. In contrast to all other observations done, this placed the patients in a novel situation which may have inhibited their behavior. Furthermore, each patient was exposed to the contrived situations with a randomly selected fellow subject rather than a patient of his own choosing. The hospital observation done in the lounge and during meals was a much-more "natural" situation for the patients with a free and greater choice of patients with whom they could interact. It seems possible then that the nature of the contrived situation may have inhibited rather than faciliated the performance of target behaviors.

A transfer of social skills from the treatment sessions to the hospital milieu was clearly demonstrated by scores on the Seclusiveness Scale of the Psychotic In-patient Profile. This scale is composed of a dozen items which are rated to reflect the frequency with which patients converse with others and join in social activities. Ward staff who were blind as to which

patient had been assigned to which treatment group rated the social behavior
of patients over a three day period one month after treatment. The results
coincided almost exactly with the within-treatment measure. The modeling
and instructional groups were equal to each other and significantly greater
than the attention group in socialization. The Seclusiveness scale results
suggest some generalization of treatment effects across situations and time.

The level of functioning measures are thought to reflect the extent
to which patients are involved in the mainstream of hospital activities. Al-
though the measures cannot be pinned down to a few specific behaviors they
were chosen because it was hypothesized that if patients were more social
they could raise their status within the hospital. The results indicated a
parallel rise in status as exemplified by the instruction group increasing
their level of privileges and the modeling group increasing their token earn-
ing. Both groups were rated as needing less supervision by the ward staff.
This finding may suggest the importance of social behaviors in raising the
general level of patients' adaptive behaviors.

Before dealing with the implications of the research some discussion
is warranted about possible sources of experimental biases. The major biases
that might partly account for the results lie in the attendants, observers,
and the therapist. The attendants who completed the Psychotic Inpatient
Profile were successfully kept blind as to the nature of the treatments and
patient assignment to groups. Although they were aware that a research pro-
ject was ongoing and certain patients were taken off the ward, they remained

unaware of further details. The observers were also blind as to the nature of the treatments and patient assignment to groups. Overall, it would be reasonable to rule out the observers and attendants as sources of contamination.

The most likely source of bias is the therapist. Only one therapist was employed in all treatment conditions and strong expectations about outcome could have influenced the results. Informal observations of the therapist would indicate that he did not know the research hypotheses and was mainly concerned with patient improvement across all groups. Furthermore, an exact script and instructions for interactions with patients in each group did minimize differential treatment for patients aside from those outlined in Chapter II. Although the possibility of therapist expectations influencing the results is acknowledged it is considered doubtful that this could account for the overall outcome of the research.

The overall results of the study have several implications for the understanding and treatment of chronic patients as well as for modeling therapy itself. Each of these areas will be discussed in turn.

The focus of the research provides information relevant to a major controversy in psychology. This controversy centers on psychodynamic theories versus social learning theories. The former views behavior as a sign or symptom of underlying generalized dispositions. The latter theory on the other hand focuses on behavior directly and its relationship to the environment (e.g. Mischel, 1973, a,b). In the present context, a psycho-

dynamic approach would view patients' withdrawal as a symptom of an underlying consistent disposition toward people. It is not clear what the therapeutic approach might be; however, it would not attack these symptoms directly. Social learning theorists would see the patients' seclusiveness not as a consistent trait but rather a behavior appropriate for the situation (institution) in which they find themselves. The therapeutic attack in this case as exemplified by this research is the provision of new situations (treatment sessions) demanding interactions as well as the teaching of social skills through instructions and models. The present study supports the value of this approach.

The majority of the patients involved in the present research had been diagnosed as suffering from some psychiatric disorder, (e.g., schizophrenia). This model, at its extreme, suggests patients' behavior can be understood by biochemical and structural dysfunctions. Chronic patients, in the eyes of the medical model, will most likely follow an intrinsic course of illness and are bound, more or less, to regress over time. The fact, however, that many of the patients receiving treatment in this study improved on a variety of measures dictates against this intrinsic course of illness. The overall treatment effects suggest rather that many of behaviors of the chronic patients are produced by the institution and are reversible, (Strauss, 1973). That is, the intrinsic course of illness and continued regression is modifiable by behavioral treatments.

Perhaps the model which suggests that chronic patients change little over time is reinforced by the usual choice of measures in assessing their

treatments. For the most part, treatments have been evaluated solely by discharge and recidivism rate, (Paul, 1969; Maley, Feldman & Ruskin, 1973). Many chronic patients will probably never leave the hospital. They may however, benefit from active treatment programs that increase their level of functioning within the hospital. Even though remaining institutionalized the patients may "be taking better care of themselves...and living more dignified and productive lives within the institution", (Maley et al., 1973). The present study utilized such indices of improvement and demonstrated sizeable gains by several patients receiving modeling and instructional treatments.

A consistent finding in the present research was the outcome of the attention treatment. Although matched with the other groups at pre-test, the attention group showed no improvement and, in fact, deteriorated on several measures. One possible explanation for this finding is the fact that the study began in the beginning of the summer and the post-test and follow-up assessments took place in the fall. During the summer there is an increase in activity in the hospital and an infusion of new part-time staff. At the end of the summer, the hospital becomes somewhat deadened by the departure of staff and lessening of activities. This may account for a general trend for all patients to be slightly more withdrawn and secluded at the end of summer. It seems unlikely that the results of the attention group reflect anything specific to the treatment but rather show what might have happened with an untreated control group.

The consistent finding that all the individual attention which patients in the attention group received had little impact on their behavior

has profound implications. The attention "treatment" is extremely similar in principle to much of the effort hospital staff direct toward chronic patients. Analogous to the treatment, hospital staff interact randomly with patients. For the most part, patients are simply exposed to a series of situations in which they are given the opportunity to interact. Some evidence would even suggest that patients are often ignored in their display of prosocial behaviors (Gelfand, Gelfand & Dobson, 1967).

The present study indicates that unprogrammed attention is not enough to significantly alter behavior. It becomes obvious in comparing the attention group to the modeling and instructon group, that time spent with patients must be explicitly goal directed. Perhaps, only when the goal is made explicit to the patient and he is trained or instructed to behave in certain ways will his behavior be modified.

The failure of the attention group can be explained in retrospect by examining the variable of structure as suggested by social learning theorists (e.g., Mischel, 1973a). In the attention treatment patients are given a situation with no structure, just an opportunity to interact. What this produced for the most part was very idiosyncratic behavior. Patients either demonstrated their varieties of bizarre behaviors or withdrew completely in silence. On the other hand the instructional and modeling treatment provided better defined stimulus situations which clearly demanded social responsiveness. The structure in the treatment provided a situation in which patients responded more consistently.

Both modeling and instructional treatments had some impact on patients' social behavior on the ward. Parallel to the increase in socialization, these patients also improved their level of functioning within the hospital. These results suggest the potential of both modes of treatment for the chronic patient. It should be noted here that both treatments had a strong effect in relation to their brevity. Overall, patients in each condition had only twelve half-hour sessions with the therapist. One can only postulate what impact a longer modeling or instructional treatment may have had.

Bandura (1972) has strongly recommended attempts to employ modeling or observational learning with patients having gross behavioral deficits. The present study followed this lead and replicated similar findings with the chronic psychiatric population. Wilson & Walters (1966) had trained patients to verbalize to a set of coloured slides after viewing a model. The present study was guided by some of their suggestions in being more treatment-oriented. That is, specific social interactions were trained that were closely related to the patients' milieu. More recently, Gutride, Goldstein & Hunter (1973) produced a treatment package that included modeling as a central component. While this package was directed at enhancing social skills and appeared somewhat successful it is unclear how vital the modeling and instructional ingredients were compared to others (e.g. group discussions, videotaped feedback, psychotherapy, general increase of attention). The present research isolated these effective ingredients. The impact of instructions on the patients also replicates some previous efforts along this line (Ayllon & Azrin, 1964). The instructional approach is relatively straightforward and simple but often overlooked as a potential therapy.

Kazdin (1973) has suggested the use of both modeling and instruction to prime or initiate behaviors so that they may be reinforced. This idea is based on the notion that it is difficult to reward behaviors occurring very infrequently. It is necessary to raise the frequency to the point that the behavior can be easily rewarded. Kazdin (1973) has encouraged the use of modeling and instructions to compliment the reinforcement system of a token economy. In the present study several social behaviors were shown to have been maintained without explicitly outlined or programmed rewards. However, little variation occurred with patients' verbalizations to each other. It is conceivable that an approach combining either modeling or instructions with tokens could have raised and maintained more verbalization among patients.

It should be pointed out that the present research had a shortcoming in its design of a treatment program. According to the principles of behavior change, programs should modify not only the person but also his relevant environment (Atthowe, Jr., 1973). In the present study an attempt was made to increase the level of social behavior by modifying the patient's behavior. However, no attempt was made to program the patient's natural environment (hospital, ward) to ensure that the increase in social behavior would be maintained over a longer period of time. An attempt to make new behaviors more persistent would have had to include such things as a token economy for these behaviors as well as training staff in using instructions and appropriate social reinforcement with patients

Although the results of the study are encouraging in demonstrating the successful extension of modeling therapy to a new population, there re-

mains one qualification. Consistently across almost all dependent measures there was no superiority of modeling over its instructional counterpart. That is, overall, exposing patients to a model demonstrating appropriate social behavior added very little to simply instructing patients on how to interact. This finding replicated previous research that found modeling and instructions equally effective in improving students' self-disclosure and understanding (Rappaport et al., 1973) and increasing patients' independent behavior (Goldstein et al., 1973).

Theoretically, this question is not too interesting or controversial. Modeling's major proponent, Bandura (1969), would simply suggest that under-lying the treatment's efficacy is a verbal coding process. Whenever patients have the requisite language skills and component behaviors in their repetoire instructions should be as effective as modeling in teaching a variety of target behaviors. However, the issue becomes very important in terms of pragmatics. Developing elaborate videotaped modeling displays may be extremely inefficient in terms of time and effort if an analogous treatment based solely on instruc-tions works just as well. Numerous applications of modeling to clinical problems (Gutride et al., 1973; McFall & Lillesand, 1971) have involved rather complex modeling preparations and procedures. No evaluations were done in these studies to isolate the instructions that were inherent in the treatment. The onus is clearly on future clinical applications of modeling to compare their treatment with the potentially more efficient instructional approach.

In summary, the conclusions to be drawn from the present research indicate:

1) Significant within hospital changes were effected in a chronic psychiatric population.

2) Paying individual attention to patients in interacting with them had little impact on their behavior.

3) Both exposure to a model and instructions increased social behavior among chronic patients.

4) Preparation of modeling displays did not enhance instructions alone in effecting behavior change.

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APPENDIX A

Scripts for Modeling Videotape

Appendix A

Scripts for Modeling Videotapes

Videotape A - Social Behaviors in the Lounge

Description: Two people are having coffee together. The emphasis is on
social behavior - looking at and smiling at each other,
simple conversation, simple cooperative behavior (offering
coffee, cigarettes, and magazines). One person initiates
most of the interactions and the other person responds to
these overtures. Videotape is prepared so that the whole
sequence is shown first and then each interaction is de-
monstrated. Fifteen second intervals are left between
each segment to allow the patient (s) watching the tape to
practice what was modeled. Both the initiation and
respondent aspects of the interaction are modeled.

Outline: I   Introduction

Paul: Hello, I'm Paul and this is Peter.

We want to teach you ways to talk to other people.

I want you to watch Peter carefully--pay attention,
to what he says and does.

I am going to ask you to do the same things he's
doing.

Now, we are going to show you what might happen in
the lounge or what might happen when two people
have coffee together.

Remember, watch <u>Peter</u> closely.

Outline: II   <u>Whole Sequence A - Model as Respondent</u>

Paul: Hello, may I sit down?
Model: Sure, have a seat.

P: How are you doing?
M: Not bad, thanks.

P: How long have you been here?
M: Oh, about 10 minutes.

P: Have you had coffee yet?
M: No, not yet.

P: Would you like me to get you some?
M: Sure, I'd like that.

P: Goes aside, brings back coffee and cups and says
       "I'll get the coffe and cups - could you get the
       cream and sugar?"
M: Sure, here they are.

P: Pours coffee, looking at M.
       "Tell me when to stop."
M: Stop, that's plenty.

P: Do you take cream and sugar?
M: Just some sugar, thanks.

P: Adds sugar, pushes cup toward M.
       "There, how's that? It looks strong doesn't it?"
M: Yeah, that's the way I like it.

       P and M sip their coffee

P: That's not bad.
M: Yeah, that's not bad coffee.

P: Well, <u>Peter</u>, how have things been going lately?
M: Oh, not bad, I've been feeling pretty good lately.

P: Takes out pack of cigarettes, holds one out.
       "Would you like a smoke?"
M: "Sure, thanks a lot."
       Takes cigarette from pack.

P: Here, here's a light.
          Lights M's cigarette.
M: Thanks for the light.

          P and M puff on cigarettes.

P: Could you get the ashtray from the next table?
M: Oh yeah, we need one.
          M gets up, brings ashtray from nearby table.
P: Thanks, P

          P and M continue to puff on cigarettes and drink
             coffee.

P: These are Rothmans (holding up cigarette); do you
          usually smoke Rothmans?
M: Sometimes, but I usually roll my own. These aren't
          bad, though.

          P and M continue to puff on cigarettes and drink
             coffee.

P: I'm going over to get a magazine. Do you want one?
M: Sure, I'll take a look.

P: What kind do you want?
M: Oh, one with pictures, I guess.
P: O.K.

P: Leaves table, bring magazines back.
          "Here we go (handing one to M). That one's full of
          pictures."
M: Good, I'll take a look.

End of scene: M and P looking at magazine, puffing on cigarettes, and sipping coffee.

Outline: III   <u>Individual Segments of Sequence A – Rehearsal of Modeled Behavior</u>

Paul: A lot of things happened when Peter and I had coffee together.

        Now we are going to show you one thing at a time and give you a chance to practice what you saw.

Remember, watch Peter, carefully.

Paul: Hello, may I sit down?
Model: Sure, have a seat.
Paul: (to camera 1) Now you do that - offer me a seat when
      I ask you.
      fade out - 15 seconds

P: How are you doing?
M: Not bad, thanks.
P: (to camera 1) Now you say that - tell me how you are
   when I ask you.
   fade out - 15 seconds

P: How long have you been here?
M: Oh, about 10 minutes.
P: (to camera 1) Now you say that - tell me how long
   you've been here when I ask you.
   fade out - 15 seconds

P: Have you had coffee yet?
M: No, not yet.
P: (to camera 1) Now you do that - tell me if you've had
   coffee yet when I ask.
   fade out - 15 seconds

P: Would you like me to get you some?
M: Sure, I'd like that.
P: (to camera 1) Now you say that - tell me you'd like
   some coffee when I offer you some.
   fade out - 15 seconds

P: Goes aside, brings back coffee and cups, and says.
   "I'll get the coffee and cups - could you get the
   cream and sugar?"
M: Sure, here they are.
P: (to camera 1) Now you do that - get the cream and
   the sugar when I ask you to.
   fade out - 15 seconds

P: Pours coffee, looking at M.
   "Tell me when to stop."
M: Stop, that's plenty.
P: (to camera 1) Now you say that - tell me when to stop
   pouring.
   fade out - 15 seconds

P: Do you take cream and sugar?
M: Just some sugar, thanks.
P: (to camera 1) Now you say that - tell me what you want in your coffee.
        fade out - 15 seconds

P: () Adds sugar, pushes cup towards M.
        "There, how's that? It looks strong doesn't it?"
M: Yeah, that's the way I like it.

        P and M sip their coffee.

P: (to camera 1) Now you say that - tell me how you like your coffee.
        fade out - 15 seconds.

R: That's not bad.
M: Yeah, that's not bad coffee.
P: (to camera 1) Now you say that - make a comment about the coffee after I do.
        fade out - 15 seconds

P: Well, Peter, how have things been going lately?
M: Oh not bad, I've been feeling pretty good lately.
P: (to camera 1) Now you say that - tell me how you've been feeling when I ask you.
        fade out - 15 seconds

P: Takes out a pack of cigarettes, holds one out.
        "Would you like a smoke?"
M: Sure, thanks a lot.
        Takes a cigarette from pack.
P: (to camera 1) Now you say that - thank me when I offer you a cigarette.
        fade out - 15 seconds

P: Here, here's a light.
        Lights M's cigarette.
M: Thanks for the light.
P: (to camera 1) Now you say that - thank me for a light when I offer you one.
        fade out - 15 seconds

P: Could you get that ashtray from the next table?
M: Oh yeah, we need one.
P: Thanks, P

P: (to camera 1) <u>Now you say that – tell me we need</u>
<u>an ashtray when I ask you, and get it for me.</u>
fade out – 15 seconds

P: These are Rothmans (holding up cigarette); do you
usually smoke Rothmans?

M: Sometimes, but I usually roll my own. These aren't
bad, though.

P: (to camera 1) <u>Now you do that – comment on the kind</u>
<u>of cigarettes after I do.</u>
fade out – 15 seconds

P: I'm going over to get a magazine. Do you want one?

M: Sure, I'll take a look.

P: (to camera 1) <u>Now you try that – tell me you want to</u>
<u>see a magazine when I ask.</u>
fade out – 15 seconds

P: What kind do you want?

M: Oh, one with pictures, I guess.

P: O.K.

P: (to camera 1) <u>Now you say that – tell me what kind</u>
<u>of magazine you want when I ask.</u>
fade out – 15 seconds

P: Leaves table, brings magazines back.
"Here we go (P handing one to M). That one's full
    of pictures."

M: Good, I'll take a look.

P: (to camera 1) <u>Now you say that – tell me you will</u>
<u>look at the magazine when I give it to you.</u>
fade out – 15 seconds

Outline: IV   <u>Whole Sequence B – Model as Initiator in Interaction</u>

Paul: This time Peter and I are going to change parts.
He's going to join me and offer me coffee.
<u>Remember, watch Peter</u> carefully.

Model: Hello, may I sit down?

Paul: Sure, have a seat.

M: How are you doing?

P: Not bad, thanks.

M: How long have you been here?
P: Oh, about 10 minutes.

M: Have you had coffee yet?
P: No, not yet.

M: Would you like me to get you some?
P: Sure, I'd like that.

M: Goes aside, brings back coffee and cups and says
   "I'll get the coffee and cups – could you get the
   cream and sugar?"
P: Sure, here they are.

M: Pours coffee, looking at P.
   "Tell me when to stop."
P: Stop, that's plenty.

M: Do you take cream and sugar?
P: Just some sugar, thanks.

M: Adds sugar, pushes cup towards P.
   "There, how's that? It looks strong doesn't it?"
P: Yeah, that's the way I like it.

P and M sip their coffee

M: That's not bad.
P: Yeah, that's not bad coffee.

M: Well, Paul how have things been going lately?
P: Oh, not bad, I've been feeling pretty good lately.

M: Takes out a pack of cigarettes, holds it out.
   "Would you like a smoke?"
P: Sure, thanks a lot.
   Takes cigarette from pack.

M: Here, here's a light.
   Lights P's cigarette.
P: Thanks for the light.

P and M puff on cigarettes.

M: Could you get that ashtray from the next table?
P: Oh yeah, we need one.
   P gets up, brings ashtray from nearby table.
M: Thanks, P

M: These are Rothmans (holding up cigarette)...do you usually smoke Rothmans?

P: Sometimes, but I usually roll my own. These aren't bad, though.

P and M continue to puff on cigarettes and drink coffee.

M: I'm going over to get a magazine. Do you want one?

P: Sure, I'll take a look.

M: What kind do you want?

P: Oh, one with pictures, I guess.

M: O.K.

M: Leaves table, brings magazines back.
"Here we go (M handing one to P). That one's full of pictures."

P: Good, I'll take a look.

End of scene: M and P looking at magazines, puffing on cigarettes, and sipping coffee.

Outline: V   Individual Segments of Sequence B – Rehearsal of Modeled Behavior

Paul: A lot of things happened when Peter and I had coffee together. This time we're going to show you one thing at a time and give you a chance to practice what you saw.

Model: Hello, may I sit down?

Paul: Sure, have a seat.

Paul: (to camera 1) Now you say that – say hello to me and ask me if you can sit down.
fade out – 15 seconds

M: How are you doing?

P: Not bad, thanks.

P: (to camera 1) Now you say that –, ask me how I am.
fade out – 15 seconds

M: How long have you been here?

P: Oh, about 10 minutes.

P: (to camera 1) Now you do that – ask me how long y..

ARC-374
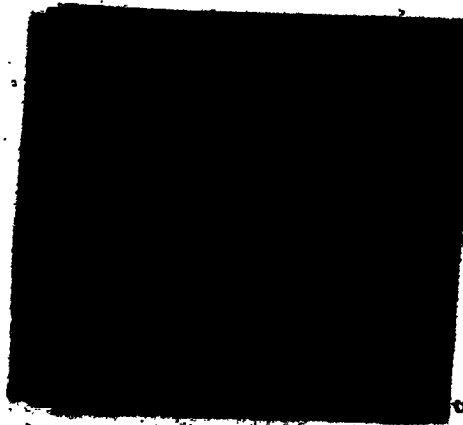
I've been here.
fade out - 15 seconds

M: Have you had coffee yet?
P: No, not yet.
P: (to camera 1) Now you say that - ask me if I've had coffee.
     fade out - 15 seconds

M: Would you like me to get you some?
P: Sure, I'd like that.
P: (to camera 1) Now you say that - ask me if you could get me some coffee.
     fade out - 15 seconds

M: Goes aside, brings back coffee and cups, and says "I'll get the coffee and cups - could you get the cream and sugar?"
P: Sure, here they are.
P: (to camera 1) Now you say this - offer to get the coffee and cups and ask me to get the cream and sugar.
     fade out - 15 seconds

M: Pours coffee, looking at P.
     "Tell me when to stop."
P: Stop, that's plenty.
P: (to camera 1) Now you say that - ask me when I want you to stop pouring.
     fade out - 15 seconds

M: Do you take cream and sugar?
P: Just some sugar, thanks.
P: (to camera 1) Now you say that - offer me cream and sugar.
     fade out - 15 seconds

M: Adds sugar, pushes cup towards P.
     "There, how's that? It looks strong doesn't it?"
P: Yeah, that's the way I like it.
P: (to camera 1) Now you say that - ask me how the coffee is?
     fade out - 15 seconds

M: That's not bad.
P: Yeah, that's not bad coffee.
P: (to camera 1) Now you say that - make a comment about the coffee.

fade out – 15 seconds

M: Well, Peter, how have things been going lately?
P: Oh not bad, I've been feeling pretty good lately.
P: (to camera 1): <u>Now you say that – ask me how things have been going lately.</u>
       fade out – 15 seconds

M: Takes out a pack of cigarettes, holds it out.
       Would you like a smoke?
P: Sure, thanks a lot.
P: (to camera 1) <u>Now you do that – offer me a smoke.</u>
       fade out – 15 seconds

M: Here, here's a light.
       Lights P's cigarette.
P: Thanks for the light
P: (to camera 1) <u>Now you do that – offer me a light.</u>
       fade out – 15 seconds

M: Could you get that ashtray from the next table?
P: Oh yeah, we need one.
M: Thanks P_____
P: (to camera 1) <u>Now you do that – ask me to get an ashtray.</u>
       fade out – 15 seconds

M: These are Rothmans (holding up cigarette): do you usually some Rothmans?
P: Sometimes, but I usually roll my own. These aren't bad, though.
P: (to camera 1) <u>Now you say that – comment on the cigarettes.</u>
       fade out – 15 seconds

M: I'm going over to get a magazine. Do you want one?
P: Sure, I'll take a look.
P: (to camera 1) <u>Now you do that – offer to get a magazine.</u>
       fade out – 15 seconds

M: What kind do you want?
P: Oh, one with pictures, I guess.
M: O.K.
P: (to camera 1) <u>Now you do that – ask me what kind of magazine I want.</u>
       fade out – 15 seconds

M:	Leaves table, brings magazines back.
	"Here we go (M handing one to P). That one's full of pictures."
P:	Good, I'll take a look.
P:	(to camera 1) Now you do that - give me the magazine and comment on it.

Outline: VI   Final Instructions

Paul: Today we have showed you how to talk to people. We gave you a chance to practice what you saw.

              Try to do the things we did on the ward or whenever you go to the lounge.

Videotape B — Social Behaviors While Playing a Game with Another Person

Description: Two people are playing a game of Ring Toss. Emphasis on social behavior - looking at, smiling, passing rings back and forth and making comments on each other's shots while playing game. Tape is prepared so the whole sequence is shown first and then each interaction is demonstrated. Fifteen second intervals are left between each segment to allow the patient(s) watching the tape to practice what was modelled. Both the initiation and respondent aspects of the interaction are modelled.

Outline: I Introduction

Paul: Hello, I'm Paul and this is Peter.

We are going to try to teach you how to talk to people.

Today we are going to show you how to talk to people while playing a game.

Watch Peter carefully.

I am going to ask you to do the things he did and say the things he said.

Remember watch Peter carefully.

Outline: II Whole Sequence A - Model as Respondent

Paul: How are you today Peter?
Model: I am fine thanks Paul.

P: This is a Ring Toss game Peter.
M>   I see.

P: Have you ever played before? .
M: No, I haven't.

P: Would you like to play a game?
M: Yes, I think I would.

P: Well, I'll explain the way it's played.
M: O.K., good.

P: First, you have a board here and in the centre
      is a peg. Then we have 3 rubber rings. The whole
      idea is to throw the ring over the peg (gives
      demonstration) like that.
M: Oh, I see, like that.

P: O.K., do you understand?
M: I see, so you try to throw the ring over the peg.

P: Right, want to try it?
M: Yes. Is it very hard?

P: No, it's not too hard.
M: O.K., I'll try.

P: (Gives rings to Peter) saying, "You try it".
M: I got one. It's not too hard.

P: That was good. Now it's my turn.
M: (Gives rings to P). O.K. your turn.

P: Oh I missed that one.
M: Yes, you missed.

      (P and M continue play making comments on the
      shots made or missed and passing rings back and
      forth)

P: Pretty good game.
M: Yes, it's fun.

P: What do you say we have one more turn then maybe
      you would like a cup of coffee. Would you?
M: Oh yeah, that would be nice. I would like some.

P and M take last turns.

P: Maybe we can play again sometime. Would you like to?

M: Yeah, I'd like to.

P: What would you like in your coffee?

M: Oh, just some milk I think Paul.

(Paul goes and gets coffee)

P: There you go. Does that look all right?

M: Oh yeah, that looks good.

End of Scene: P and M drink coffee and make some small talk.

Outline: IIB   **Individual Segments of Sequence A - Rehearsal of Modelled Behavior**

Paul: A lot of things happened when Peter and I played Ring Toss together.

        Now we are going to show you one thing at a time, and give you a chance to practice what you saw.

        Remember <u>watch Peter</u> carefully.

Paul: How are you today Peter?

Model: I'm pretty good today Paul thank you.

Paul: (to camera 1) <u>Now you do that - tell me how you're feeling when I ask you.</u>
        <u>fade out - 15 seconds</u>

P: This is a Ring Toss game Peter. Have you ever played before?

M: No. I haven't.

P: (to camera 1) <u>Now you do that - tell me if you have played Ring Toss before or not when I ask you.</u>
        <u>fade out - 15 seconds</u>

P: Would you like to play a game with me?

M: Yes. I would like that.

P: (to camera 1) <u>Now you do that - tell me you would like to play a game with me when I ask you.</u>
        <u>fade out - 15 seconds</u>

P: O.K. I'll explain the rules of the game to you.
        (P explains rules and asks M if he understands)

M: (repeats rules of game to Paul)

P: (to camera 1) Now you do that - repeat the rules
        of the game after I have explained them.
        fade out - 15 seconds

        (P and M play game and make comments)
        (30 second fade on camera)

P: (to camera 1) Now you do that - play the game with
        me and make comments about it.

P: How did you like the game?

M: I liked it fine, it's fun.

P: (to camera 1) Now you do that - tell me you enjoyed
        playing the game, when I ask you.
        fade out - 15 seconds

P: Would you like a cup of coffee?

M: Yeah, I would, I like coffee.

P: (to camera 1) Now you do that - tell me you would
        like a cup of coffee, when I ask you.

End of scene: P and M drinking coffee.

Outline: IV   Whole Sequence B - Model as Initiator in Interaction

Paul: Now Peter and I are going to change places. This
        time he is going to invite me to play Ring Toss
        with him.

        I am going to ask you to do the things he does.

Model: How are you today Paul?

Paul: I am fine thanks M.

M: This is a Ring Toss game Paul.

P: I see.

M: Have you ever played before?

P: No, I haven't.

M: Would you like to play a game?

P: Yes, I think I would.

M: Well, I'll explain the way it's played.
P: O.K., good.

M: First, you have a board here and in the centre
        is a peg. Then we have 3 rubber rings. The
        whole idea is to throw the ring over the peg.
        (gives demonstration) like that.
P: Oh, I see, like that.

M: O.K., do you understand?
P: I see, so you try to throw the ring over the peg.

M: Right, want to try it?
P: Yes. Is it very hard?

M: No, it's not too hard.
P: O.K., I'll try.

M: (Gives rings to Paul) saying "You try it".
P: I got one. It's not too hard.

M: That was good. Now it's my turn.
P: (Gives ring to M). O.K. your turn.

M: Oh I missed that one.
P: Yes, you missed

        (M and P continue play making comments on the
        shots made or missed and passing rings back and
        forth)

M: Pretty good game.
P: Yes, it's fun.

M: What do you say we have one more turn then, maybe
        you would like a cup of coffee. Would you?
P: Oh yeah, that would be nice. I would like some.

        M and P take last turns.

M: Maybe we can play again sometime. Would you like
        to?
P: Yeah, I'd like to.

M: What would you like in your coffee?
P: Oh, just some milk I think M.

(M goes and gets coffee)

M: There you go. Does that look all right?
P: Oh yeah, that looks good.

End of scene: M and P drink coffee and make some small talk.

Outline: V   <u>Individual Segments of Sequence B - Model Initiator
Paul Respondent</u>

Paul: A lot of things happened while Peter and I
played Ring Toss together.

Now we're going to show you one thing at a time
and practice what you saw.

Remember, <u>watch Peter</u> carefully.

M: How are you today Paul?
P: I'm fine thanks Peter.
Paul: (to camera 1) <u>Now you do that - ask me how I'm
feeling today.</u>
fade out - 15 seconds

M: This is a Ring Toss game Paul. Would you like to
play with me?
P: Yes, I would.
P: (to camera 1) <u>Now you do that - ask me if I would
like to play Ring Toss with you.</u>
fade out - 15 seconds

M: O.K. Paul, let me explain the rules of the game
to you.
(explains rules and says do you understand)
P: Explains rules back to M.
P: (to camera 1) <u>Now you do that - explain the rules
of the game to me.</u>
fade out - 15 seconds

M: O.K. Paul, it's your turn now.
P: O.K. my turn.

P and M play the game and make comments about it.
fade out - 30 seconds

P: (to camera 1) <u>Now you do that – play the game,
take turns and make comments about the game while
we're playing.</u>

M: How did you like playing the game Paul?
P: It was very good, I enjoyed it.
P: (to camera 1) <u>Now you do that – ask me how I
enjoyed playing the game.</u>
          fade out – 15 seconds

M: Well Paul, how would you like a cup of coffee?
P: Fine, I'd like that very much.
P;   (to camera 1) <u>Now you do that – ask me if I would
like a cup of coffee.</u>
          fade out – 15 seconds

Outline: VI   <u>Final Instructions</u>

Paul: Today Peter and I showed you how to talk and act
with people while playing a game.

       Now you try to do what we did on the ward or in
the lounge while playing a game.

APPENDIX B

Therapist Instructions

Appendix B

Therapist Instructions

A. Coffee Situation

Patient Role

RESPONDENT		INITIATOR	
1.	Offer me a seat (when I ask you).	1.	Say hello to me and ask me if you can sit down.
2.	Tell me how you are (when I ask you).	2.	Ask me how I am.
3.	Tell me how long you've been here (when I ask you).	3.	Ask me how long I've been here.
4.	Tell me if you've had coffee yet (when I ask you).	4.	Ask me if I've had coffee.
5.	Tell me you'd like some coffee (when I offer you some).	5.	Offer to get me some coffee.
6.	Tell me what you want in your coffee (when I ask you).	6.	Ask me if I want cream and sugar in my coffee.
7.	Tell me how you like your coffee (when I ask you).	7.	Ask me how the coffee is.
8.	Make a comment about the coffee after I do.	8.	Make a comment about the coffee.
9.	Tell me how you've been feeling (when I ask you).	9.	Ask me how things have been going lately.
10.	Thank me when I offer you a cigarette.	10.	Offer me a cigarette.
11.	Thank me for a light when I offer you one.	11.	Offer me a light.
12.	Tell me we need an ashtray when I ask you, and get it for me.	12.	Ask me to get an ashtray.

A. Coffee Situation

Patient Role

RESPONDENT	INITIATOR
13. Comment on the kind of cigarettes we're smoking after I do.	13. Make a comment on the cigarettes.
14. Tell me you want to see a magazine (when I ask you).	14. Offer to get me a magazine.
15. Tell me you like the pictures in the magazine (when I ask you).	15. Make a comment about the pictures in the magazine.

B. Game Situation

Patient Role

RESPONDENT	INITIATOR
1. Tell me how you're feeling (when I ask you).	1. Ask me how I am.
2. Tell me if you're doing anything (when I ask).	2. Ask me if I'm doing anything.
3. Tell me if you want to play Ring Toss (when I ask).	3. Ask me if I would like to play Ring Toss.
4. Tell me you understand the rules (when I ask).	4. Explain the rules of the game to me.
5. Tell me you'll throw the rings (when I ask).	5. Tell me to go first.
6. Pass the rings back to me when its my turn.	6. Tell me its your turn.
7. Make a comment on my shot (when I do).	7. Make a comment on your shot.
8. Tell me you like playing the game (when I ask).	8. Ask me if I like the game.
9. Tell me what you want in your coffee (when I offer you one).	9. Ask me if I want a coffee.
10. Tell me how your coffee tastes (when I ask you).	10. Ask me how my coffee is.
11. Tell me you'd like to play Ring Toss again (when I ask you).	11. Suggest we play Ring Toss again.
12. Tell me that you'll see me around (when I tell you I have to go).	12. Tell me you have to go and say goodbye.

APPENDIX C

Therapist's Script of Interactions with Patients

Appendix C[1]

Therapist's Script of Interactions with Patient

A. Coffee Situation

Patient Role

RESPONDENT	INITIATOR
1. Hello, may I sit down?	1. I wouldn't mind if you sat down.
2. How are you doing?	2. I'm feeling fine (thanks)
3. How long have you been here?	3. I've been here for a couple of minutes.
4. Have you had coffee yet?	4. I haven't had coffee yet.
5. Would you like me to get you some coffee?	5. I would sure like some coffee.
6. (Gets coffee and pours) Do you take cream and sugar?	6. I usually take sugar in my coffee
7. (Adds sugar, pushes cup toward R There, how's that? It looks strong doesn't it?	7. I like my coffee strong.
8. That's not bad.	8. That's not bad coffee.
9. Well, R, how have things been going lately?	9. I've been feeling fine lately.
10. (Takes out pack of cigarettes and holds it out) Would you like a smoke?	10. I like cigarettes.
11. Here, here's a light (lights R's cigarette).	11. I sure would like a light.

A. Coffee Situation

Patient Role

RESPONDENT	INITIATOR
12. Could you get that ashtray from the next table?	12. We need an ashtray.
13. These are tailor-made cigarettes; do you usually smoke them?	13. These aren't bad cigarettes.
14. I'm going over to get a magazine. Do you want one?	14. I'd like to see a magazine.
15. (leaves table, brings magazine back). That one's full of pictures; do you like it?	15. I like the magazine with pictures.

[1] The scripts presented are for the most part what the therapist said in all treatment. The "respondent" lines were identical for all groups with the only difference being that in the modeling and instruction groups there were preceding cues in the form of a modeling display or an instruction. For the atten■■n group the therapist just said the lines on a fixed time schedule. Fo■ the "initiator" lines there are some differences. The modeling and instruction group got similar lines if they (the patients) initiated interactions as cued. The attention group got the line no matter what. The lines as shown in this appendix are geared to the attention group—i.e., they make sense by themselves even if the patient doesn't initiate an interaction.

B. Game Situation

Patient Role

RESPONDENT	INITIATOR
1. How are you today, "R"?	1. I'm feeling fine today.
2. Are you doing anything right now.	2. I'm not doing anything.
3. Would you like to play a game of Ring Toss with me?	3. I'd like to play Ring Toss.
4. Let me explain the rules. You have a board here and in the centre is a peg. Then we have 3 rings. The whole idea is to throw the ring over the peg.	4. I understand all you do is throw the rings over the peg.
5. You go first.	5. I'll try to throw some.
6. Now it's my turn.	6. Here are the rings.
7. Not a bad shot was it?	7. I bet you're a good player.
8. I like this game, don't you.	8. I enjoy playing.
9. Could I get you a coffee?	9. I'd have a coffee with cream and sugar.
10. Does you coffee taste all right?	10. I like my coffee.
11. Maybe we could play Ring Toss again another time?	11. I'd like to play Ring Toss again another time.
12. I have to go now, so long "R".	12. Goodbye, I'll see you again.

APPENDIX D

Observation Scheme: Definitions and Sample

Recording Sheet

Appendix D

Observation Scheme: Definitions and Recording Sheet

Definition of Behaviors Observed

Ap-Apathy
- behavior which reflects a very low activity level and behavior which indicates a lack of attention to social, situational, or even self-produced stimuli.
- constant staring, eyes fixed-not moving, eyes closed, head in hand with eyes, face covered.

Mo-Perserverative Motor Behavior
- repetitive and stereotyped motions and gestures which do not appear functional or which preclude social interaction - rocking, pacing, tics, rituals, unusual movements of mouth, eyes, or other parts of face.

Au-Autistic Behaviors
- behaviors which appear to be in response to self-produced stimuli - bizarre behaviors such as talking to oneself, muttering, mumbling to oneself, lip movements suggesting subvocal speech, inappropriate laughing, crying, calling out.

So-Adaptive-Single-Person Activities-Solitary Activities
- engagement in constructive activity which requires or can be successfully completed by that person alone. Watching T.V. or ongoing activity, smoking cigarette rolling, playing solitaire, pool, eating.

O-Other directed activity
- social behaviors directed toward other patients.

Ost
- ....toward hospital staff social behavior refers to general category of looking or smiling, touching, verbalizing, or giving. Behavior is recorded independent of other persons behavior. Specific categories defined below.

L-Looking
- glance or eye contact with person within five feet of subject. If distance greater than five feet and L has to follow by approach or verbalization or wave.

S-Smiling
- Smiling or laughing/with another person(s).

P-Physical Contact   -   touch another person which might signify affection, greeting, or attention getting.

G-Giving   -   giving an object or help to another person such as picking up something, giving a cigarette or a light.

V-Verbalization   -   any verbal behavior directed toward another person; can include anything from a one-word response to conversational speech.

Rules for Observing:

In first row the general behavior of target subjects is marked—Ap, Au, Mo, So, or O. If any O response occurs only that is recorded. The specific kind(s) of O responses (S,L,P,G,V) is marked in the next row and the behavior of the "other" person is marked in the third row. If no O occurs in interval, Au and/or Mo takes precedence if they occur. Ap is recorded only if it occurs for full period of interval. An interval is judged to be So only if none of the other behaviors have occurred.

MODELING RESEARCH PROJECT
OBSERVATION SHEET FOR
SOCIAL BEHAVIOR

Date/Time:_____

Activity:_____

Rater:_____

Reliability Check:_____

Ap-Apathy
Au-Autism
Mo-Motor Perseveration
So-Solitary Behavior
O/Ost-Other orientation

S-Smiling
L-Looking at
P-physical contact
G-giving
V-verbalization

| Row 1: General Behavior | Row 2: Specific Social Behavior | Row 3: Behavior of other |

NAME
(Code)

APPENDIX E

Reliability of Observers in

Different Situations

Appendix E

Reliability* of Observers in

Different Situations

Category of Observation	Situation	
	Contrived	Hospital
Other-Oriented Behavior (O)	81.9%	72.8%
Verbalizations (V)	85.8%	95.1%
Reciprocated-Other Oriented Behavior (OR)	87.3%	74.6%

* percentage agreements over agreements plus
  disagreements.

APPENDIX F

Inter-Rater Reliability for the

Psychotic Inpatient Profile

Appendix F

Inter-Rater Reliability* for the

Psychotic Inpatient Profile

Scale	Treatment Group	Assessment Period	
		Pre-Test	Follow-up
Seclusiveness	Modeling	.95	.71
	Instructions	.73	.57
	Attention	.48	.69
	All Ss (N = 21)	.78	.74
Care-Needed	Modeling	.84	.57
	Instructions	.44	.36
	Attention	.93	.80
	All Ss (N = 21)	.85	.75
Retardation	Modeling	.45	.59
	Instructions	.36	.92
	Attention	.82	.76
	All Ss (N = 21)	.65	.69

* reliability as calculated by Pearson's r.

APPENDIX G

Raw Data

Appendix G

Raw Data

Responses During Treatment Sessions

Number of Verbalizations During Respondent-Training Sessions

Modeling	Instruction	Attention
74	81	76
78	80	54
72	72	65
77	79	66
71	77	47
81	79	81
81	76	55

Number of Verbalizations During Initiator-Training Sessions

Modeling	Instruction	Attention
81	78	58
79	78	19
55	75	40
53	81	48
74	78	23
73	81	66
76	78	40

Number of Words Spoken

(Square Root Transformation)

During First Session of Game Initiator Sessions

Modeling	Instruction	Attention
124 (11.14)	589 (24.27)	17 (4.12)
151 (12.29)	185 (13.60)	8 (2.83)
203 (14.25)	85 (9.22)	70 (8.37)
54 (7.35)	89 (9.43)	47 (6.86)
237 (15.39)	134 (11.58)	12 (3.46)
40 (6.32)	124 (11.14)	37 (6.08)
146 (12.08)	47 (6.86)	20 (4.47)

Raw Data

Observations of Social Behavior

In Contrived Situations

% of Other-Oriented Behavior (O)

Modeling			Instruction			Attention		
Pre	Post	FU	Pre	Post	FU	Pre	Post	FU
33	28	20	37	30	42	46	16	22
3	13	16	32	53	52	52	24	26
57	65	72	13	21	23	23	44	20
43	66	64	38	40	40	40	22	23
59	33	38	29	8	13	13	5	0
6	5	20	35	16	40	40	16	33
44	7	61	25	3	48	48	9	21

% of Reciprocated Other-Oriented Behaviors (OR)

Modeling			Instruction			Attention		
Pre	Post	FU	Pre	Post	FU	Pre	Post	FU
3	3	8	5	25	42	29	0	11
2	7	5	11	17	40	2	2	10
36	53	66	10	11	8	7	36	18
24	52	29	18	21	20	2	0	2
25	2	33	2	0	3	6	2	0
2	2	3	21	6	6	5	3	18
9	44	12	8	3	12	13	5	15

% of Verbalizations (V)

Modeling			Instruction			Attention		
Pre	Post	FU	Pre	Post	FU	Pre	Post	FU
2	2	0	0	22	32	3	0	0
2	3	2	0	19	38	0	0	0
41	60	50	2	2	0	2	36	16
18	21	3	2	2	0	2	0	2
25	6	20	0	0	0	0	3	0
0	0	0	6	0	0	3	2	15
0	21	2	0	0	0	2	5	11

Raw Data

Observations of Social Behavior in Hospital

Situations (Meals + Lounge)

Z of Other-Oriented Behavior (O)

Modeling			Instruction			Attention		
Pre	Post	Follow-up	Pre	Post	Follow-up	Pre	Post	Follow-up
18	19	52	10	11	21	22	30	15
17	15	20	40	20	40	24	16	13
23	37	53	22	27	22	43	25	30
21	40	45	41	30	29	34	50	32
34	41	29	9	22	5	23	7	4
10	15	23	23	29	15	3	46	26
33	36	30	9	9	26	14	42	14

Z of Reciprocated Other-Oriented Behavior (OR)

Modeling			Instruction			Attention		
Pre	Post	Follow-up	Pre	Post	Follow-up	Pre	Post	Follow-up
6	3	27	1	4	6	11	13	8
2	11	6	11	6	15	6	3	7
16	28	41	3	6	3	17	6	7
2	10	8	5	2	5	20	13	14
18	7	6	2	3	2	8	4	0
0	5	5	10	7	7	0	18	7
3	11	9	2	0	4	0	11	5

Z of Verbalization (V)

Modeling			Instruction			Attention		
Pre	Post	Follow-up	Pre	Post	Follow-up	Pre	Post	Follow-up
5	3	4	4	4	5	0	0	0
4	3	1	12	5	12	1	0	0
4	28	24	1	0	2	3	0	0
1	1	4	0	0	0	6	2	0
13	10	8	0	0	2	0	0	0
2	1	3	7	4	5	7	5	2
4	5	0	1	0	2	6	9	6

Raw Data

Scores on Minimal Social Behavior Scale (MSBS)

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
27	27	27	30	20	28
28	27	26	26	25	22
24	28	23	27	25	23
23	26	23	29	25	28
26	19	25	27	24	21
17	23	24	23	24	26
23	27	23	21	18	17

Money Earned on Ward (Per Week)

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
7.00	7.00	0	0	0	0
0	24.00	0	0	0	0
0	4.20	0	0	0	0
0	0	8.00	8.00	0	0
0	0	0	0	0	0
0	0	8.00	8.00	0	0
0	0	0	0	0	0

Number of Tokens Earned Per Five Day Week

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
63	63	45	45	29	29
58	62	35	35	22	32
32	59	35	35	23	23
40	40	62	62	32	32
29	40	33	33	38	36
27	34	59	59	40	40
39	40	31	31	39	39

Raw Data

Scores on Psychotic Inpatient Profile (PIP)

PIP – Care – Needed Scale

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
-3	-2	4	-2	7	8
-3	-2	4	3	16	14
2	7	2	0	17	12
8	9	1	3	9	13
11	8	6	-1	-1	7
8	11	9	3	1	12
13	8	-1	-2	11	14

PIP – Retardation Scale

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
3	1	9	1	15	18
4	5	5	5	4	10
3	5	4	3	9	15
4	9	6	9	5	7
9	2	10	10	6	8
7	8	12	0	1	2
1	8	11	17	3	5

PIP – Seclusiveness Scale

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
19	18	12	15	7	1
10	11	14	7	3	1
17	22	10	6	4	-1
14	11	17	12	7	4
-1	4	-2	7	5	5
5	11	3	12	11	5
5	15	-2	0	16	6

Raw Data

Level of Privileges (1-4)

Modeling		Instruction		Attention	
Pre	Post	Pre	Post	Pre	Post
2	2	1	1	1	1
1	4	1	2	1	1
1	1	1	2	1	1
1	1	2	3	1	1
1	1	3	4	1	1
1	1	3	3	1	1
1	1	3	4	2	1