A Behavioral Therapy Program with Chronic Mental Patients: An Experimental Demonstration Proposal

Bryon Bonell

Wilfrid Laurier University

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A BEHAVIORAL THERAPY PROGRAM WITH
CHRONIC MENTAL PATIENTS
AN EXPERIMENTAL DEMONSTRATION PROPOSAL

A RESEARCH ESSAY
SUBMITTED TO THE GRADUATE SCHOOL OF SOCIAL WORK
WATERLOO LUTHERAN UNIVERSITY

BY
BRYON BONELL, B.A.

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FOR THE DEGREE OF MASTER OF SOCIAL WORK

APRIL, 1970.
Is it after all, of so much importance whether there is one more - or one less - mad woman in the world? - Because I am the woman...it matters - tremendously - to me. (The Inner World of Mental Illness, p. 6.)
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Chapter 1
Problem Identification and Formulation
The Chronic Psychiatric Patient; Staff Attitudes

The problem with which I am concerned is two fold. The primary area is the long length of stay in psychiatric hospitals by certain patients. The secondary area is the apparent staff attitude of pessimism toward such patients. This concern is felt in two ways. The waste of human potential present in the patient, and my belief that negative staff attitudes tend to reinforce negative behavior on the part of the patients. Conversely, I believe that positive staff attitudes can stimulate positive behavior by patients.

This writer has had intermittent contact with a particular psychiatric hospital over a five year period, with several summers of employment and occasional visits, and two years full time employment. During this time I made several observations. Regardless of the time interval between visits I always noted very familiar faces amongst the patient population, often in the very same location had last noted the face, that is, sitting outside on a bench, walking along the driveway, sitting in a hospital corridor or dayroom. Further, in discussing
these patients with staff members I detected a strong feeling of pessimism. The apparent staff attitude is that these patients are not capable of functioning beyond their present rather minimal level, and that they certainly would never make gains sufficient to allow them to function in the wider community outside the hospital.

My primary concern is with the chronic patient. The term 'chronic patient' is usually defined arbitrarily in terms of the patient's length of stay in hospital. For the purposes of this paper I will define a chronic patient as one who has been continuously hospitalized for more than one year.

As I see it, the major limitation blocking the chronic patient's return to his community is his socially unacceptable behavior. This unacceptable behavior can take many forms: a total or partial disregard for personal grooming or hygiene, peculiar dressing habits, sloppy eating habits, excessive use of profane language, an apathetic response to any environmental stimulus and so on. At the same time the chronic patient lacks necessary behaviors such as vocational skills and basic social skills. In essence these patients lack certain behaviors necessary for functioning in the community, and manifest certain other
behaviors which are unacceptable to the community.

At this point I am faced with some interesting questions. How can chronic psychiatric patients modify their behavior? Can they modify their behavior to the point of social acceptance? What will be the effect of any modified behavior on the immediate environment? Will staff feel less pessimistic about the possibility of patient improvement? These are the questions which provide the basis for this research proposal.

My basic purpose in this paper is to suggest a therapy program designed to modify the behavior of chronic psychiatric patients, and to see if any improvements in behavior will be reflected in a change of attitude on the part of ward staff.

National Concern with Chronic Psychiatric Patients

There has been some increasing concern in recent years in both the United States and Canada concerning the plight of the mentally ill. This concern has been manifested in the publication of several reports. The most noteworthy is that of the Joint Commission on Mental Illness and Health in the United States. The major concerns of this Commission are reflected in the following statement:
A national mental health program should recognize that major mental illness is the core problem and unfinished business of the mental health movement, and that the intensive treatment of patients with critical and prolonged mental breakdowns should have first call on fully trained members of the mental health profession (28, p. XIV).

...we must view the mental health problem in terms of the unmet need - those who are untreated and inadequately cared for. We have no definitive analysis of how many such patients there are, but the information we have leads us to believe that more than half of the patients in most state hospitals receive no active treatment of any kind designed to improve their mental condition. This applies to most of the patients on continued treatment wards - a term actually meaning 'discontinued treatment', the supposition being that the patient's illness has progressed from an acute to a chronic stage. (28, p. 23).

The study of psychiatric services in Canada conducted by the Canadian Mental Health Association states quite emphatically

...the haunting vision of seemingly endless lines of anonymous faces, representing the aged and the chronic mentally ill for whom nothing seems to remain but custodial care, is a challenge to the present system of treatment if not an indictment of it (57, p. 8).

The Relationship to the Profession of Social Work

The relationship and importance of this problem to social work is readily apparent. The social worker feels a direct concern for the individual patient, sees a gross wastage of human potential and desires to be of
help in freeing this potential. The social worker is also concerned with the institutional systems that have contributed to the problem, and works to promote institutional change in the direction of relevance to human needs and aspirations. An attempt is made to link the hospital more closely to the broader community or society which, in fact, has provided the sanctions for its existence. In a very broad sense the social worker is concerned with the society of which he is a part, again in terms of promoting change in relation to human need.

Up to the present time social workers have not been especially active in the problem area with which I am concerned. Peter Hays points out that "...psychiatric social workers are often more interested in and orientated by their training towards family and social problems of a psychoneurotic nature rather than the domiciliary management of emotionally unrewarding psychotic patients" (24, p. 159). A brief review of the social work literature reveals Hays' appraisal as accurate; social work has limited contact with the psychotic patient and when it has, the emphasis has been on after-care and community maintenance (44), (23), (16), or sometimes with individual therapy (36), (56). One exception is the work
done by Ansly Schmidt in a social work program of re-education and resocialization done through individual interviews and group process along with environmental manipulation (49). Within an eighteen month period this program returned 18 of 37 chronic male patients to the community.

Why Work With Chronic Patients?

It would seem then that this problem area is one which social work as a profession has not been significantly involved. One might ask, is this an area to which scarce professional manpower should be assigned? I feel the answer is 'yes'.

If a choice in program emphasis must be made, it should favour the chronic patients. Too much social work time is spent in hospital doing detailed psychiatric histories and exploring the countless facets of a particular case at staff and supervisory conferences when in the same hospital other patients remain hospitalized, frequently in poor, crowded conditions, because there is no one to make plans for them (32, p.41).

Action For Mental Health suggests that probably more than half the patients in most State hospitals receive no active treatment, and that most of these patients are assumed to be in the 'chronic' stage of illness (28, pp. 22-23).

Statistics show that at the end of 1961 there were
66,546 resident patients in Canadian psychiatric hospitals (57, p. 7). Based on the Action For Mental Health information let us assume that approximately 50%, or 33,000 patients may be defined as chronic. At a per diem rate of $5.37 (57, p.7) these patients cost the Canadian taxpayer an approximate total of $177,210 per day, or $64,681,650 per annum. Combined with the lost earning and tax-paying capacity of these patients, the total cost of chronic mental illness is truly staggering. A good proportion of this particular cost may be avoided by instituting programs designed to return the chronic patient to the community.

As mentioned above, the importance of therapeutic programs for chronic patients has been noted by major psychiatric studies in both the United States and Canada (28), (57). Ultimately, however, choices are made on the basis of value judgements (51, p.28). As an advocate of a certain type of program with a particular patient group, I must be aware of my own values, and I must be aware if these values are congruent with the values of the particular psychiatric hospital in which the program may be realized. These questions will be addressed in the section on operational problems.
Chapter 2

Review of the Literature

1) Historical Perspective, The Neglect of the Hospitalized Mental Patient

The treatment given to the mentally ill in western society cannot be termed commendable. For several hundreds of years society believed the psychotic to be possessed by devils or damned by God and thus to be ridiculed, locked up, whipped, chained, or otherwise punished. In the 20th century, despite claims of rational understanding, the "persisting belief that the deviant intentionally violates expectations produces a continuous strain toward punitive and exclusionary measures and a reluctance to allocate generous resources in support of the treatment organization (59, p. 210). Our legal and commitment procedures can be seen as reflective of our societal attitudes and desire for protection. Many of the authors point out very clearly societal rejection of the mentally ill and some of the problems of control (28) (25) (57) (10).

Perhaps the event of greatest historical significance to our examination of the plight of the chronically mentally ill was the establishment of institutions
during the 19th century. Prior to the erection of special facilities for their care the mentally ill were housed in poor houses, jails, or other places of detention. The conditions in such places were most often very bad, as the following description of an 1845 visitor to Toronto points out.

It is one of the most painful and distressing places I have ever visited. The house has a terribly dark aspect within and without and was intended for a prison. There were perhaps 70 patients, upon whose faces misery, starvation and suffering were indelibly impressed (1, p. 355).

In reaction to such conditions reformers such as Dorothea Dix began vigourously campaigning for the establishment of hospitals or asylums. Strong political activity resulted in the establishment of provincial or state hospitals for the insane throughout North America. Ontario's first provincial hospital, which is still in use today, opened its doors in 1850 (21, p. 1247). It was felt that the insane could best be treated in institutions well removed from friends and from all objects with which they were familiar, thus the institution was best located in remote rural or 'pastoral' settings (15). The mid-nineteenth century saw a great deal of optimism concerning the prospects of curing the mentally ill.
As the subject of mental derangement is daily acquiring additional interest and attention, the benefits of this establishment (the hospital) will soon be understood and duly appreciated by the public. The insane are no longer treated as the outcasts of society or considered as unworthy of further regard than to be confined to common jails or poor houses. Their diseases are found to be curable, like other disorders of the human system (15, p. 5)

With the establishment of institutions, the care of the mentally ill became the responsibility of medical personnel. The institutions were defined as hospitals and were organized along the medical model. This is an important development which has had effects lasting to the present day. The traditional medical model is orientated to individual pathology or disease, with little appreciation of the impact of social forces within an institution. Treatment is seen as something done by an expert upon the person of the patient. That is, treatment is given to a patient either directly by the doctor, or indirectly by a nurse according to the doctor's orders. The patient is not usually seen as playing an active part in this process, but rather takes the role of a passive recipient of service. Such treatment is given to the limits of the doctor's knowledge and ability. If the patient fails to respond to this intensive treatment he becomes termed a chronic patient
for whom nothing more can be done and is given supervisory care, while the doctor's attention is taken by new acute cases.

As indicated in our references to psychological and sociological literature below, it is only since the 1930's that we have gained knowledge of the overwhelming effects of such institutional care on individuals, and the importance of involving the psychiatric patient in his own treatment program.

Unfortunately for the afflicted persons, mental illness proved to be a difficult foe for the doctors, while at the same time great strides began to be made in physical illnesses, both in the areas of treatment and prevention. The late years of the 19th century and the early years of the present century became filled with a sense of hopelessness about the treatment and prevention of mental illness.

Persons afflicted with psychotic conditions came to be labelled incurable insane, presumably due to obscure brain lesions, and were sent away to isolated custodial institutions to spend their remaining years in total and utter futility (60, p. 217). The efforts of reformers such as Clifford Beers did not prove as effective in eliminating the evils of the institutional system as had the efforts of the earlier
reformers to establish the system.

Rubin makes a good case for the concept that the preventative public health tradition, beginning at the start of the 20th century, has helped cause the public to ignore the hospitalized mentally ill (45). In the psychiatric field the 'preventative' model gained application in the Freudian-oriented child guidance movement of the 1920's and 1930's. It was thought that adult psychiatric difficulties could be prevented through proper child guidance, and the attractiveness of the 'guidance clinic' attracted personnel away from institutional work.

The depression of the 1930's and the subsequent world war caused a great drain on the economic systems of all nations. Hospitalized mental patients, already low on the overall list of priorities, sank to new depths.

Since World War II there has been a growing emphasis on what has been called 'community psychiatry', in general terms the intent of which is to avoid the evils of long term hospitalization by attempting to maintain the psychiatric patient in his community, and keeping periods of actual hospitalization to an absolute minimum.
Rubin argues that although these efforts began partly as a result of concern for the chronic patient the effect has been to once more lead to the neglect of the back wards (45). "...the glamor of the community has again turned mental health professional's attention away from the chronically mentally ill both inside and outside mental hospitals with whom much of this concern began" (45, p. 55).

Community psychiatry can be seen as having received some of its motivating force from the growing body of psychological and sociological literature which has developed since the 1930's on the effects of long term hospitalization. Wing makes reference to Goffman's work regarding the stultifying effects of the total institution, and points out that when one is hospitalized one loses the opportunity to perform in the variety of social roles one performed prior to hospitalization, one's ability atrophies and one assumes the role of 'mental patient' (61). Wing further indicates that the schizophrenic patient is particularly vulnerable to the effects of institutionalization because of the nature of his illness. Such patients form three quarters of the total number of patients hospitalized two or more years (61).
One might argue that the schizophrenic patient makes a particular contribution to the process of institutionalization. That is, by virtue of his numbers and his tendency to withdraw from reality, the schizophrenic helps create a society of isolated individuals within the hospital.

Cumming and Cumming describe an 'isolation pattern' whereby society isolates the mental patient in an institution which it fails to support financially (10). In turn the institution makes the person conform to the 'patient role' as defined by the institution in order to bring about some predictability of behavior. One might argue that in time the patient's behavior becomes so predictable as to mitigate against any return to the community. Tilghman advances the concept that the autocratic structure of mental hospitals automatically puts the patient on the bottom level and thus contributes to custodial institutions and the processes of institutionalization (56). Morris Schwartz has made a comprehensive review of sociological literature in terms of studies done in the relationship of the social structures of the hospital to the therapeutic course of the patient (50). From this review one might conclude
that the structures of the traditional mental hospitals are not conducive to patient welfare and in fact impede the patients' progress.

Rubin suggests that the result of the work of the social scientists has been the rediscovery of 'moral treatment' (45). Moral treatment arose in the late 18th century through such pioneers as Philippe Pinel in France and William Tuke in England. Regarding Pinel's approach the Joint Commission Report states that "his moral treatment proceeded from the teaching principle of setting the patient an example of how he is expected to behave, and thus appealing to his moral sense and arousing his will to give as good as he receives. This approach clearly contained the precursors of the tolerating and accepting attitudes that characterize modern psychological and social treatment techniques" (28, p. 29). Modern day moral treatment is called by a variety of names such as 'therapeutic community' (29), 'socio-environmental therapy' (46), and 'milieu therapy' (20), but the basic elements are very much the same. Saslow (47) suggests that the basic premise to all such programs was indicated by Cumming and Cumming who pointed out the necessity of manipulating the milieu, the entire physical
and social environment of the person (9). What Saslow fails to point out, however, is the strong emphasis on democratic process, group decisions, and assumption of individual responsibility inherent in such programs. Saslow states that this is one way of dealing with undesirable behavior, but there are other ways of coping, derived mainly from knowledge originating in experimental psychology. These are the techniques of behavior modification, which may be described as "attempts to apply the principles of reinforcement to specific types of response classes of undesired behaviors" (47, pp. 289-290).

2) Behavioral Therapy

Rachman indicates that although a variety of procedures are used in behavioral therapy, they all share the common theoretical base of experimental psychology and the study of the learning processes (40). Behavioral therapy has been used in treating a wide range of neurotic conditions such as phobias, hysteria, tension states, sexual disorders, alcoholism, tics, and various children's disorders such as enuresis, but only recently has a limited amount of work been done with psychotic patients.

The work with psychotic patients may conveniently be divided into three categories; experiments in the
area of non-verbal behavior, in verbal behavior, and in ward-wide programs. A comprehensive critical review will be found in Davison (11). We shall take a brief look at the verbal and non-verbal experiments in terms of their usefulness in the clinical setting, then turn to an examination of ward wide programs, the specific area of concern in our present research.

**Verbal Behavior**

Isaacs, Thomas and Goldiamond have illustrated the use of operant conditioning to institute speech in mute schizophrenics (26). Two patients were used as experimental subjects, one having been mute for nineteen years and the other for fourteen years. Chewing gum was used to shape speech. That is, gum was supplied for each successive approximation of speech. Speech gradually developed in the experimental situation and was generalized to the ward setting.

Impressive results were obtained by Richard, Dignam and Horner in working with a male patient hospitalized continuously for twenty years (42). At the start of the experiment the patient talked in delusional manner for forty three of forty five minutes. Through a process of extinction and positive reinforcement over three experi-
ments by both the research staff and the ward staff the patient became able to maintain rational speech nearly all the time. A two year follow-up study by Richard and Dinoff showed these gains to have been maintained (43).

Non-Verbal Behavior

Success has also been reported by a number of investigators of non-verbal behaviors in terms of both extinguishing maladaptive behavior and establishing new behavior. Davison suggests that one of the more clinically significant pieces of work is that done by Peters and Jenkins (11, p. 224). These researchers made food reinforcement contingent on success in a graded series of problem-solving tasks. "The result provide strong evidence in favour of the hypothesis that the guided problem-solving led to significant clinical improvement on all measures" (11, p. 225).

King, Armitage and Tilton report a program with very highly withdrawn chronic schizophrenic patients. The therapeutic goals were to elicit more interest in the environment and to promote more appropriate response patterns (33). The research team used a combination of operant and inter-personal therapy, making praise contingent on success in problem solving on a 'Multiple Operant
Problem-Solving Apparatus'. Cigarettes and candy were used as primary reinforcers with praise acting as a secondary reinforcer. The researchers report a general improvement in clinical functioning, an increase in the level of verbalization, increased motivation, greater interest in leaving the ward or in transfers to 'better wards'.

George Saslow reports success in modifying troublesome psychotic symptoms and behavior on an open ward with voluntary patients (47). Ward staff were not involved and the therapy was individually orientated with a specific plan for each particular patient being implemented by the researcher within therapy sessions.

Ward Wide Programs

The work of Teodoro Ayllon and his various associates creates a bridge between our discussion of non-verbal behavior and entire ward programs. His significant early work was done at Weyburn Psychiatric Hospital in Saskatchewan (6) (5) (3). The patients were female psychotics on a locked or closed ward. The therapeutic goals were to change disrupting behaviors on the ward, in terms of fighting, stealing, hoarding, office entering, psychotic talk and so on. In general, a time sample
technique was used. That is, observations of individual patients' behavior was made by ward staff every thirty minutes from 7a.m. until 11p.m. At the point of observation, maladaptive behavior was ignored, while adaptive behavior was reinforced by the nurses' attention. A variety of other operant techniques were also employed by the research staff in modifying particular behaviors. Success was gained in eliminating incessant psychotic talk, in eliminating the stealing of food and the excessive wearing of clothing, in eliminating hoarding and in promoting self-feeding in patients who had previously been spoonfed.

The most comprehensive report of a total ward program is found in Ayllon and Azrin describing the token economy system devised by the authors at the Anna State Hospital in Illinois (4). The basic objectives of the program centered on the development of a motivating environment based on reinforcement theory. The patients involved in the program had all been hospitalized for long periods. "The median number of years of known hospitalization in mental hospitals was about sixteen" (4, p. 18), "The behaviors which were intentionally strengthened and eliminated throughout the six experi-
ments were socially significant, e.g., making beds, combing hair, working in a laboratory, cleaning up the kitchen" (11, p. 247). Significantly the actual program was implemented by the ward staff, under the direction of the researchers. A unique feature of the program was the use of tokens (coin-like objects) as secondary reinforcers. That is, tokens were provided for performing certain tasks or jobs and could later be exchanged for the actual reinforcing event, such as, attendance at off-ward functions, grounds privileges or any variety of special privileges.

...six experiments were conducted to determine the effectiveness of the reinforcement procedure in maintaining the desired behavior. The behavior studied was the performance of work which patients could select from a post d list of jobs.

The first experiment studied the influence of the reinforcement procedure on the patient's choice of jobs from among those within the hospital but outside the ward. The second experiment studied the absolute level of performance on these jobs. The third was similar to the second, but studied performance of jobs on the ward. In experiment four, the relationship between the token reinforcers and the other reinforcers was discontinued. The fifth experiment studied the choice of on-ward jobs. Experiment six studied the effects of the reinforcement procedure and of staff interaction on choice of off-ward jobs (4, p. 223).

In general the program must be described as successful. The reinforcement procedure effectively maintained performance both on and off the experimental ward. The
program was not significantly affected by variations in age, intelligence, or diagnostic category. The researchers note that the only patients who failed to benefit from the program were a group of eight whose functioning was limited to sleeping and eating. They suggested that in future programs one might bring such basic behaviors into focus as reinforcers for patients with extreme behavior loss. That is, if a group of patients are extremely apathetic and withdrawn to the extent of doing little more than eating or sleeping then such behavior may be incorporated into the program for these patients. Thus in a token economy a certain number of tokens would be necessary to pay for a meal or for the use of a bed, and the patient would be motivated to perform behaviors other than sleeping and eating in order to earn tokens.

The Ayllon and Azrin work has been used as a model by Atthowe and Arasner in establishing a token economy at the V.A. Hospital in Palo Alto, California (2). The patients in this study were diagnosed as either chronic schizophrenics or brain damaged. The length of stay ranged from 3 to 48 years, with a mean stay of 22 years.

The purpose of the program was to change the chronic patients' aberrant behavior, especially that behavior judged to be apathetic, overly dependent, detrimental, or annoying to others.
The goal was to foster more responsible, active and interested individuals who would be able to perform the routine activities associated with self-care, to make responsible decisions, and to delay immediate reinforcement in order to plan for the future (2, p. 37).

Several details are worthy of mention. The authors attempted to incorporate every important detail of ward life into the token economy. Patients were gradually incorporated into the program, and every patient was provided with program details and a descriptive manual for on-going reference. Attempts were made to reinforce tokens with social approval.

The program had only been operating one year at the time of the writing of the interim report, but there are indications that progress is being made through this mode of treatment.

Thus far, a contingent reinforcement program represented by a token economy has been successful in combating institutionalism, increasing initiative, responsibility, and social interaction, and in putting the control of patient behavior in the hands of the patient. The behavioral changes have generalized to other areas of performance. A token economy can be an important adjunct to any rehabilitation program for chronic or apathetic patients (2, p. 42).

A third example of ward wide programs of behavior modification is that of Patton State Hospital in California, reported in Schaefer and Marin (48). Patients were selected on the following criteria: a diagnosis of chronic
schizophrenia, a judgement that the patient was hospital habituated, no evidence of any organic brain damage, a prognosis of low hope for therapeutic success, an ability to function on an open ward. Nursing staff were given training in the theory and techniques of operant conditioning over an eighteen week period. A token economy was established, tokens being paid for 'good' behaviors which were individually determined. Instructions were given to the patients at the start of the program but from that point on they were expected to act in a responsible manner and were not reminded or summoned to do things. Failure to perform meant that one simply did not earn tokens, which were required for the very basic necessities such as food and bed as well as for 'privileges' such as watching television and smoking cigarettes. In order to help develop independence the staff made the token reinforcement intermittent, substituting friendly praise and approval for 'good' behavior.

Continual assessment of the program was provided through daily meetings of the ward staff, as well as by weekly meetings of both on and off-ward staff. The authors note that the experiment has been accepted as part of the regular on-going therapeutic programs of
the hospital, and point out their relative success in terms of the limited discharge data.

Experiments involving mental patients are frequently considered a success or failure based on how many of its patients are permanently returned to society outside the institution versus the number of readmissions. No definitive data are available which make possible a totally valid comparison of this kind. However, for the first thirty-one months of the behavior program, the readmission rate for the 246 discharged patients is approximately 16 per cent. During the same period, the average for readmission of mentally ill patients in all public mental hospitals in the United States is estimated at 25 to 40 per cent. Regardless of the percentages, the Patton figure is significant in that all the patients in the experiment were at one time considered 'incurable' (48, p. 216).

From this survey of the literature it seems apparent that it should be possible to make some impact on chronic mental patients through the use of behavioral techniques. Patient Behavior and Staff Attitudes

There may be a theoretical base in role theory for the evaluation of the possible effects of improved patient behavior on the attitudes and behavior of ward staff. Although a review of the literature in the area of role theory will not be attempted in this paper, several points will be mentioned. Deasy (12) suggests that the basic concept is that "individuals in social locations behave with reference to expectations" (12, p. 1). Biddle and Thomas (7) note "that not only does perfor-
mance tend to measure up to expectations but conversely, expectations also tend to reflect performance" (7, p. 338).

Applying Deasy's statement to the psychiatric back ward it would seem that patients will tend to behave in response to the expectations of staff or significant others in the environment. If staff have minimal expectations of patients, then patients will tend to respond or behave in a minimal fashion. The Biddle and Thomas statement would extend this thought to the converse, that staff expectations will tend to reflect the performance of patients. If patients tend to perform at a minimal level then staff will tend to have minimal expectations of patients. A cycle of reinforcing expectations and behaviors is established.

This research proposal hopes to make use of the cycle in a positive way. If patients can modify their behavior in a desirable direction then presumably there will be some reflection in the expectation of staff. Then as expectations become higher there may be further increases in behavioral improvement. There will be limitations on the extent of this reciprocal cycle, but the relationship can be used to promote positive changes.

I have made the assumption that there is some connection between expectation and attitude, that one's expecta-
tions are a direct reflection of one's attitudes. This research proposal will attempt to measure changes in staff attitude as a program of behavioral therapy is developed with the expectation that positive changes in patient behavior will be reflected in positive changes in staff attitude.
Chapter 3

Research Design

The Experimental Demonstration Study

The research design of this proposal falls within the range of an experimental demonstration study.

Edwin Thomas feels that

- the field experiment and demonstration project are research methods having great usefulness for applied disciplines such as social work because they combine elements of planned change with techniques for determining the outcome of the changes ...(they) should be used more widely in social work than they have been in the past because they are methods well suited for rationally appraising action and for developing corroborated theory and methods of practice (52, p. 295).

Thomas suggests that the demonstration is usually a mixture of practical innovation and research. He sees the innovations ranging from "unsystematic, trial-and-error efforts to deliberate applications, effected in terms of new services or programs, of existing knowledge" (52, p. 290). "The 'research' may consist of little more than casual observation, at one extreme, to systematic appraisal involving objective measurement and a control-group design, at the other extreme" (52, p. 290).

The innovation described in this paper is an attempt to establish a new program based on the techniques of behavioral therapy. Appraisal will be as systematic as
practically possible, using measurement techniques appropriate to behavioral therapy, and a before-after type of control. The measurement techniques are described more fully in chapter four.

In using the before and after type of control I shall study both the patient group and the staff group prior to the introduction of the program (the independent variable), then again study the two groups at a prescribed time after the introduction of the program and take note of any significant differences. In addition an intervening variable would be introduced with the staff group in the form of a short training program. Thus it would be necessary to study the staff group after the training program as well as at the times specified above. This is necessary to factor out any attitudinal change caused by the training program. The 'before and after' structure is necessitated by the practical demands of the reality situation. It allows both the staff and the patient groups to serve as their own controls, and thus avoids the problems of establishing separate control groups and sampling difficulties related to matching groups or individuals, completing a random sample procedure and so on. It would be impossible within the confines of the hospital structure to move either patients or staff about in
response to the demands of a research study. The best that can be done is to employ the existing ward structure, using one ward with both its patient and staff populations acting as their own control groups.

Thomas states, "a demonstration has a purpose which is practical, accompanied by an hypothesis about the outcome of the study and often by intention to influence individuals or groups outside of the social setting" (52, p. 290-291).

The primary purpose of this proposal is to structure and assess a ward wide therapy program which will facilitate improvements in patient behavior.

The form of the actual program is specified in chapter four. In essence I am suggesting a ward wide behavioral therapy program in incorporating as many facets of the patients' ward life as is possible. The intent is to stimulate improvement in the behavior of chronic mental patients, the assumption being that if such patients can modify their maladaptive behavior they will be in a better position in regard to discharge possibilities, further rehabilitative measures, or at least more successful at living within the institution.

The question is one of quantifying patient behavior and assessing the observable amount of change. Such
information can be used as an evaluative base regarding this type of program, and administrative decisions can be made regarding the level of program effectiveness. Such decisions would determine whether similar or modified programs should be instituted in other areas of the hospital with similar patient populations. The techniques might also be generalized as a knowledge base for dealing with almost all types of patients.

The secondary part of this proposal suggests that patient behavior makes some contribution to the attitudes of staff in reference to patients. No doubt there are a great number of variables other than patient behavior which will have some effect on staff attitude. Such things as social class, education, length of psychiatric experience, individual value systems, personal experiences and so on could all be suggested as possible variables. No attempt is made in this proposal to control such variables.

As mentioned above, the intent is to suggest that patient behavior makes a contribution to the attitudes of staff to patients. The proposal attempts to measure changes in attitude occurring as patient behavior changes. I am assuming that a circular spiral effect will be created,
that improved patient behavior will contribute to more positive staff attitudes and behavior which in turn will stimulate improved patient behavior and so on. No attempt is being made to measure any spiral effect, and it is recognized that any such effect will be limited to a certain level. It is not seen as a continuously ascending spiral.

It is hoped that as a side effect staff members generally may gain a greater appreciation of the effects that patient behavior has on their attitudes toward patients and conversely, an awareness of the possibility that their attitudes may have some effect on patient behavior. Information arising from the study would be useful to those responsible for in-service training, in terms of subject areas or discussion topics with ward staff in training.

In very broad terms, an indirect intent of this research proposal is to serve as a stimulus in helping the hospital move from a custodial to a more therapeutic philosophy.

Operational Problems

As mentioned at the end of Chapter 1, it is necessary to determine if the suggested program is congruent
with the values of the institution. The traditional functioning of the hospital has been custodial in nature, with a turn over of acute cases on the 'active' wards and a build up of chronic cases on the back wards. Services such as occupational and recreational therapy have been available, but there have been no programs specifically designed to ameliorate the problems incurred by long term hospitalization.

However, within the last several years there have been some important developments. On one male ward an attempt is being made to establish a therapeutic community based on the philosophy of such programs outlined in Chapter 2. A small 'experiment in living' has been established on a floor of the nurses residence. This program provides a number of female patients with the opportunity to live in a more independent manner than that experienced on the wards. A third innovation has been the establishment of an 'Industrial Services Department' which provides some employment within the hospital and utilizes an incentive pay system. In this program patients are paid on a cash basis for their work.

It would seem that initial steps are being taken to move the hospital from a custodial to a therapeutic
orientation. The hospital administration seems to be accepting the concept that some personnel resources should be directed to programs serving the chronic patient. I feel that a behavioral therapy program could fit into this changing value structure and prove a valuable addition to the hospital's therapeutic programs.

A major difficulty facing the establishment of a behavioral therapy program is the lack of personnel trained in this specific technique. Personnel would be needed to train ward staff and act as advisors to the program. There are several potential solutions to this problem. A psychologist with doctoral qualifications will be rejoining the staff shortly and may be interested in working on such a program. It is possible that staff from Laurentian University might be capable and interested in participating on an advisory basis. Northeastern Psychiatric Hospital, located within a reasonable travelling distance, has reportedly established a behavioral therapy program. This hospital has apparently indicated some interest in an exchange of ideas and information with the North Bay Psychiatric Hospital, and thus might be in a position to supply valuable consultative assistance.
Outside of necessary specialists to train ward staff and provide consultation, the program would require only regular ward staff and a program director. No major financial outlays would be required, either for staff or equipment. The only necessary equipment would be a supply of durable tokens of some sort.

The administrative structure of the nursing department would have to be taken into account in establishing a ward program. It would be necessary to have the understanding and support of this department if the program is to be successful. Presently nursing staff are rotated from one ward to another on a monthly basis. Staff on the behavioral therapy unit would have to work on that unit exclusively for the duration of the program.

A nurse termed an 'area supervisor' occupies an administrative position between individual wards and the nursing office. This person is responsible for supervising the execution of nursing duties on a specified number of wards. The area supervisor would have to be cognizant of the needs and operations of a behavioral therapy program if difficulties are to be avoided. For example, if the ward staff were reinforcing approximations of bed-making behavior by a particular patient,
the area supervisor could not condemn ward staff be-cause the bed was not made up neatly. If beds are not made the nursing staff would usually be subject to reprimand. Traditionally, the making of a 'neat bed' is normally considered to be the responsibility of nurs-ing personnel. In a behavioral program regressed patients are often rewarded for approximations of desired behavior, the intent being to gradually shape the individual's behavior in a particular direction. The question of ward staff 'doing things' for patients will be addressed in the description of the staff training program.

Ward staff may have fears or objections to the measurement of their attitudes toward patients. These might be lessened by assuring anonymity to individuals. Anyone who did not wish to participate could be excused from involvement in the program without prejudice.

A precedent has been set in this hospital in terms of social workers being used as program directors. Two of the three innovative programs mentioned earlier are being directed by social work staff. Such functioning is seen as an effective use of manpower in a situation where there are large numbers of patients and small number of professional staff. The role of program direc-
tor would have to discussed and defined in consultation with the hospital's Professional Advisory Committee. Such matters as the relationship between the program director and the ward psychiatrists, nursing administration, area supervisors, ward supervisor and so on would require definition in this committee. In general terms the program director would be responsible for the development and maintenance of the program, in consultation with persons defined by the above mentioned committee.

No doubt there would be a great number of problems encountered in operationalizing a new ward wide program. Some such problems can be anticipated and steps taken to avoid or minimize their occurrence, while other problems cannot be anticipated and will have to be resolved by all participants as they arise.
Chapter 4
Research Methodology

Hypotheses
a) The development of a ward program of behavioral therapy will contribute to changes in patient performance.
b) Changes in patient performance will contribute to a change in staff attitude.

Definition of Variables (Conceptual)
a) Ward program of behavioral therapy (independent variable) may be conceptualized as a therapeutic program instituted throughout a specified psychiatric ward, using the behavioral techniques of the token economy as devised by Teodoro Ayllon.
b) Patient performance (dependent variable in hypothesis (a), independent variable in hypothesis (b)] may be conceptualized as the ability of patients to execute specified behaviors.
c) Staff attitude (dependent variable) may be conceptualized as the position or disposition held by persons working on the ward relative to the patients on the ward.

Definition of Variables (Operational)
a) Ward program of behavioral therapy. The aim of behavioral programs is to develop or reinstate "behaviors
which are necessary for effective functioning in a social context" (48, p. 4). "Behavioral therapy takes as its basic problem human action, whether the action is an obnoxious way of eating, a habit of talking to voices no one else hears, or the practice of lying under a chair all day" (48, p. 5). A behavioral program seeks to eliminate or modify any such actions which have 'undesirable consequences' and develop or reinforce actions which have 'desirable consequences'. For example in lieu of an obnoxious way of eating, developing a set of generally acceptable table manners. Acceptable table manners are seen as behaviors necessary for effective social functioning.

The program would be operationalized in the following manner. First, an attitude test would be administered to staff. This test is described in the section on data collection and in Appendix 1. Next a training program would begin, emphasizing the methods of observation and the theory and practice of behavioral therapy. As suggested earlier, it is hoped that consultative staff with a high degree of expertise might be available to provide the necessary training.

The training should include some basic information
from the area of operant conditioning. For example, it would be appropriate to discuss the premise basic to such conditioning; that every behavior has some consequence, every action of an individual has some effect on his environment. The environment, or people in the environment react to the behavior in some way, or provide a consequence for the behavior. This is the theoretical base for the type of program suggested in this research proposal.

Assuming that all behavior has consequences, staff would be instructed that the method of practice in behavioral therapy revolves around arranging relationships or contingencies between particular patient behaviors and the consequences of that behavior. That is, "a certain behavior must occur for a specific consequence to take place" (48, p.5). In terms of the token economy specific behaviors will be rewarded or reinforced through the provision of tokens, while other behaviors will be negatively reinforced or extinguished by withholding tokens or imposing a fine. Ward staff take a major role in determining which behaviors are 'good' or 'bad' for a particular patient. In other words, in determining what behavior will have what consequences.
Describing the training program at the Patton State Hospital, Schaefer and Martin state:

Nursing personnel at every level learned to take part in deciding exactly which behaviors would be sought and which would be extinguished. Their ideas and experience were called on regarding the establishment and maintenance of schedules of reinforcement. The notion of tender loving care so much stressed in nursing education took on new dimensions. Instead of being instructed in how to perform all the usual personal services routinely given patients in hospitals, nursing personnel were now urged to consider how much more loving, if not more tender, it would be to see that patients assumed responsibility for their own care, since this is what would be expected of them once they were discharged from hospital (48, p.210).

Careful training will be needed to develop the degree of specificity in describing behavior required by behavioral therapy (see Appendix 4).

The question of specificity leads to a discussion of observational methods. Enough time must be taken to ensure that staff are familiar with the forms used (Appendices 2 and 3). Emphasis must be given to the importance of the observational methods and data collection techniques in terms of defining the patient's base line level of performance and any consequent improvement. Following the training program the attitude test would be administered once more to note any variations.
The next phase would be the base line period, during which time a base line graph would be assembled for each individual patient, using techniques of structured observation. The time sampling techniques are described in this chapter in the section on data collection. Based primarily on this information the staff would then assemble for each patient a list of behaviors defined by staff as being desirable, undesirable, or neutral for that particular patient. These are value judgments made by staff on the basis of the aims of the program stated earlier, that is, to develop or reinstate behaviors which are necessary for effective functioning in a social context.

Once all the information is assembled for each patient the program will proceed to the point of reinforcement or non-reinforcement of particular behaviors. This part of the program centers on the use of a token economy system. Patients are rewarded, reinforced, or paid for desired behavior by means of a token. Neutral behavior will be ignored, while undesirable behavior will be negatively reinforced by requiring the patient to pay a certain number of tokens for the privilege of performing the undesirable behavior. In short this is a fine.
The tokens earned by patients are used as one would use money in the outside community. Tokens would be necessary to pay for the essentials of life such as food and bed, as well as for such luxuries as cigarettes or the use of television. Ethical standards will not be violated in terms of withholding food or bed. Although a patient might not have enough tokens to use his own bed, a free bed is always available. Similarly meals are always available to patients. However, the free bed is a plain cot, in comparison to the patient's own comfortable bed. Free food is standard nutritional fare without any desirable trimmings. Additional features particular to the institutional setting could be incorporated into the system, for example, privacy (4), interviews with the doctors, and attendance at off-ward functions.

After the specified experimental period the ward staff would duplicate the original data-gathering procedure and the information would be assembled in graph form to be compared with the earlier data (appendix 3). The attitude test would again be administered and the results compared with the earlier data.

b) Patient performance This term must be defined operationally with reference to specific items of
behavior. The description of patient performance must be described in discrete behavioral terms because it is the behavior of the individual that the program is attempting to modify. For example, it 'good grooming' is defined as desired behavior for a particular patient what does this mean? 'Good grooming' must be sub-divided into specific behavioral entities such as hair-combing, shoe shining, hand washing, clothes pressing and so on (Appendix 4).

c) Staff Attitude This is a difficult phrase to define in operational terms. Specific reflections of staff attitude may be assumed in statements of anger, interest, pessimism, ridicule, encouragement and so on. Attitudes might be operationalized in such expressions as well as by discrete action in reference to patients such as sitting down and talking with a patient, motivating a patient to do something, or ignoring the patient and sitting in the office.

Research Population – Sampling

Due to the fact that patients are segregated by sex at the North Bay Psychiatric Hospital it is impossible to mix sexes in the patient sample. Staff members are also partially segregated by sex as there are no
male staff working on female wards, although female staff work on male wards.

The sample will consist of the total universe available for study, approximately forty female patients on a closed psychiatric ward, and approximately eleven female staff members.

The length of hospitalization of these patients would range from about one year to as long as twenty-five to thirty years. The average age of these patients would be about forty to forty-five years.

Diagnostically the majority of the patients would fall into one of the schizophrenic categories.

Only three patients work off the ward, approximately five patients assist with ward housecleaning, while the remaining thirty-two patients are described by ward staff as 'inactive'. These patients spend most of their time sitting or sleeping in the dayroom.

Ward staff have a wide range of qualifications: registered nurses, registered or certified nursing assistants, and trainees. Trainees are new staff receiving practical and theoretical training which leads to the registered nursing assistant's diploma. In addition to this general nursing assistant's training
the staff also receive some specific training in psychiatric nursing. The age range would extend from the late teens to the early sixties, with the average age being about forty years. Staff experience would range from zero to about twenty five or thirty years. It is difficult to address the question of average amount of experience. There appears to be a high rate of turnover amongst younger staff, and little turnover amongst the older staff. Staff would be requested to stay with the program to the end of the experimental period. If it proved necessary to add new staff members to replace persons leaving, they would have to be incorporated into the behavioral program and provided with some training or indoctrination similar to that received by the original staff group. Any new staff would not be included in the secondary section on the measurement of staff attitudes.

Most of the above information has been hypothesized for the purposes of this research paper. This information would require validation if the research were to be actually carried out.

Data Collection, Problems, Analysis

In collecting data on staff attitudes I shall use
individually administered psychological tests, the testing to be done by persons with no connection to the research program, possibly members of the psychology department at the hospital, or from Laurentian University. I hope to use a standardized test with established criteria of reliability and validity, but as yet a suitable test has not been found. If I am unable to find such a test I shall use the descriptive statements of attitudes designed by Kellam, Durell and Shader (Appendix 1). For my purposes I have arbitrarily divided the twelve statements into two sections, those indicative of a positive attitude ("likeability, optimism, kidding, like being with, useful") (31, p.181), and those indicative of a negative attitude ("anger, obstinancy, distance, out on a limb, hurt feelings, hopeless, helpless") (31, p.181). Numerical scores are obtained for each item, with a positive given to scores value from the 'positive' attitudes, and a negative value given to scores from the 'negative' attitudes. The total of the individual's responses to all the items gives the total score, which I will then interpret as being representative of that person's attitude toward a particular patient.

The scale is self-administered and each staff mem-
ber would complete the scale for each patient on the ward. This will be done in the before and after sequence mentioned earlier, with comparisons being made of any variation in the test results. Having each staff member rate his attitude toward each patient should contribute to higher levels of validity and reliability. It provides an opportunity to compare the attitudes of various staff members in relation to any particular patient. It negates the possibility of a staff member being assigned to a particular small group of patients composed of persons whom he may generally like or dislike, and hence warping the attitude measurement.

The reliability of the scale will be checked during a pre-test period when it will be given several times to a staff group similar to the staff experimental group and correlations of reliability calculated. It is difficult to address the question of validity as it is impossible to know an individual’s true position on the type of variable I am attempting to measure. Some construct validation may be gained by having persons outside the research team interview the staff and draw comparisons with the scales, or have such persons observe actual staff behavior on a random basis.
In collecting data on patients' behavior, I shall use a system of structured observation. The nature of a behavioral therapy program demands that patient behavior be observed and measured. The use of observation methods allows the recording of behavior as it occurs in the reality situation, while the environment is such that the total range of behavior can be observed.

The observational methods will be structured in such a way as to maximize the probability of reliability and validity. Careful training of ward staff observers, as mentioned earlier in the paper, will have a positive effect on reliability. "One of the best known methods for obtaining reliable data in a behavioral program is 'time sampling'. This procedure is carried out by making observations at stated intervals over a given period of time" (48, p. 69). During the specified observational periods, staff will make observations of patient behavior in a predetermined fashion every half hour throughout the patient's day. Standard forms will be developed for recording observations, (Appendix 2) and all behaviors will be specified in operational terms. Exact specification of behavior will help maximize validity (Appendix 4).

A pre-test period will occur, during which time the
observations of the ward team would be checked against simultaneous observations made by persons of different backgrounds from outside the research group. Social work students or summer personnel could help in conducting this procedure. Correlations of reliability would then be made before proceeding with the program.

Collected data will be analyzed using line graphs such as those outlined by Schaefer and Martin (48, p. 72). Comparison of graphs done at follow up, with graphs done during the baseline period should provide a good illustration of patient progress (Appendix 3).
Chapter Five

Conclusions and Implications

I expect both hypotheses to be confirmed. The program should contribute to changes in patient performance, and such changes in patient performance should contribute to changes in staff attitude.

I expect the program of behavioral therapy to re-instate, in a significant number of patients, behaviors necessary for effective social functioning. Patients will redevelop capacities to arise on their own, dress themselves properly, make their own bed, see to their own personal hygiene and grooming, perform work tasks and engage in meaningful social interaction. At the same time there will be a lessened incidence of such behaviors as hoarding, stealing, sleeping all day and so on.

In a general sense the program will stimulate patients to take responsibility for the conduct of their own lives. In essence, patients will move to recapture their abilities to perform as responsible adults instead of functioning at the level of dependent chronic mental patients.

As a reflection of these improvements in patient behavior I expect to note positive changes in staff attitude. As mentioned in chapter three, it is assumed
that a spiral effect will be created, that improved patient behavior will lead to more positive staff attitudes and behavior which in turn will stimulate improved patient behavior and so on.

The implications of these conclusions are rather broad and far-reaching, both for social work and the hospital. As an immediate effect the social service department of the hospital would have to provide follow up service for any patient who had made gains sufficient to warrant discharge. Most likely this would involve many regular social work activities such as casework treatment for individuals and families, close collaboration with rehabilitation workers in determining training or vocational opportunities, and use of any other appropriate community agency; but might also include expansion of existing boarding home programs or involvement in establishing new services such as halfway houses. Other needs may become apparent such as the necessity of instituting a 'day' or 'night' hospital on a particular ward. Such a development would have implications for both the social service department and the entire hospital.

No doubt some patients will have made gains ade-
quate for more effective functioning within the hospital setting, but not to a degree to warrant discharge. Such patients could gain further benefit from certain programs established in the hospital within the past year. These provide social reinforcement for appropriate behavior patterns. In general the behavioral therapy program can be seen as a stimulus for the development of new programs and services both inside and outside the hospital.

These results and implications are in line with the intentions of the experimental demonstration design, to accomplish a practical purpose, in this case, to develop a program beneficial to patients. Further, it is hoped that the demonstration will influence the hospital in the direction suggested above, that is, stimulate the expansion and development of new programs and services.

This hospital has recently become a field training centre for social work students from the local community college. In addition, an undergraduate program in social work has recently been implemented at a local university and I imagine there is some possibility that students from this school may be placed at the hospital for training experiences. With these factors in mind I
suggest that the behavioral therapy program is in a good position to make an impact across the wide range of social work practice, theory and knowledge. It should stimulate the incorporation of learning theory into the general body of social work theory, a process which is now in its early phases. Furthermore, involvement in a program of behavioral therapy would expand the students' therapeutic techniques. The incorporation of behavioral techniques into the overall body of social work knowledge naturally follows the institution of learning theory. Schools of Social Work have only very recently began showing an interest in this area (55), but some literature is gradually beginning to emerge (54).

I addressed the question of the problem area as a focus for social work practice in the first chapter of this paper. The research program will serve as a stimulus for social work activity within the hospital setting and encourage social work students to consider in-patient work with psychiatric clients as a potential field of service.

The results of the behavioral therapy program will have implications for ward staff and the nursing department of the hospital. If staff on the ward can see that
their attitudes and behavior have been affected by the behavior of patients, then they may also appreciate that how they feel or act toward patients will affect how the patients behave. In short, staff may develop greater awareness of the effects of their actions. As previously suggested nursing educationalists may be able to make use of information arising from this part of the study.

It is my contention that ward staff presently use reinforcing techniques in dealing with patients in a common sense way, but not in a specifically organized fashion. For example, one might cite incidents of supplying tobacco to a patient for performing ward housekeeping duties. A possible off-shoot of the behavioral therapy program might be the formal incorporation of behavioral techniques into the training program provided for ward staff, and the structuring of reinforcement procedures within organized programs.

In the final analysis the greatest contribution this research can offer is to provide a road to the outside for the chronic mental patient.
Appendix 1

Staff Attitude Scale

The following attitude scale attempts to measure some attitudes of staff toward patients.

For each statement circle the number you feel reflects the intensity of your feeling toward a particular patient, 0 indicating no feeling, increasing to 5, indicating the most intense feeling. Circle only one number for each statement.

1.) How likeable is the patient? 0 1 2 3 4 5
2.) How angry are you at the patient? 0 1 2 3 4 5
3.) To what extent is the patient obstinate? 0 1 2 3 4 5
4.) How optimistic are you about the patient? 0 1 2 3 4 5
5.) How much or often do you feel like 'kidding' with the patient? 0 1 2 3 4 5
6.) How much do you like being with the patient? 0 1 2 3 4 5
7.) How much distance do you feel between you and the patient? 0 1 2 3 4 5
8.) How much does the patient leave you 'out on a limb', caring about his life while he doesn't seem to care? 0 1 2 3 4 5
9.) How much does the patient seem to try to hurt your feelings? 0 1 2 3 4 5
10.) How hopeless do you feel about the patient? 0 1 2 3 4 5
Appendix 1 continued

11.) How useful do you feel you are to this patient? 0 1 2 3 4 5

12.) How much does the patient make you feel helpless, or 'in a bind'? 0 1 2 3 4 5

The twelve statements are found in Kellam, Durell and Shader (31, pp. 172-173).
Appendix 2

Format of a typical observation card used in a behavioral therapy program (48, p. 70).

Instructions:  

<table>
<thead>
<tr>
<th>Observer: P.M.</th>
<th>Time Sampling Interval: 3/4 hr.</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date: June 1, 1967</th>
<th>Date: June 2, 1967</th>
</tr>
</thead>
<tbody>
<tr>
<td>0630 + 1400 +</td>
<td>0630 1400</td>
</tr>
<tr>
<td>0700 + 1430 +</td>
<td>0700 1430</td>
</tr>
<tr>
<td>0730 + 1500 +</td>
<td>0730 1500</td>
</tr>
<tr>
<td>0800 - 1530 +</td>
<td>0800 1530</td>
</tr>
<tr>
<td>0830 + 1600 +</td>
<td>0830 1600</td>
</tr>
<tr>
<td>0900 + 1630 +</td>
<td>0900 1630</td>
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<tr>
<td>0930 + 1700 +</td>
<td>0930 1700</td>
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<tr>
<td>1000 + 1730 +</td>
<td>1000 1730</td>
</tr>
<tr>
<td>1030 + 1800 -</td>
<td>1030 1800</td>
</tr>
<tr>
<td>1100 + 1830 -</td>
<td>1100 1830</td>
</tr>
<tr>
<td>1130 + 1900 -</td>
<td>1130 1900</td>
</tr>
<tr>
<td>1200 - 1930 -</td>
<td>1200 1930</td>
</tr>
<tr>
<td>1230 - 2000 -</td>
<td>1230 2000</td>
</tr>
<tr>
<td>1300 - 2030 -</td>
<td>1300 2030</td>
</tr>
<tr>
<td>1330 - 2100 -</td>
<td>1330 2100</td>
</tr>
</tbody>
</table>

Total +'s = 20  
Total +'s =  
Total -'s = 10  
Total -'s =  

Plus (+) = Patient in prone position on own bed  
Minus (-) = all other events
Schaefer and Martin explain that they use the type of chart shown on the previous page. Note that the behavior being observed is specified very exactly, 'patient in prone position on own bed'. The observer marks a plus sign opposite the time of observation if the patient is involved in the specified behavior. A minus mark is entered if the patient is involved in any other behavior.

Each day's data is readily summarized by counting the pluses and minuses. For the patient record shown, there are twenty pluses and ten minuses. That is, the chart very specifically indicates that at twenty observational times the patient was found in a prone position on his own bed, while at ten observational times he was observed in some other activity.

The total number of observational periods is thirty, extending from 6:30 a.m. to 9:30 p.m. and thus one can easily see that this patient spends two-thirds of what is normally considered waking time lying on his bed. "When the performance and needs of this patient are subsequently considered, these figures provide an accurate, quantitative basis for decision making" (48, p. 70).
Appendix 3

Behavioral data in graphic form showing progress of treatment.

(48, p.72)
Appendix 4

Behavioral Descriptions of Epithets

<table>
<thead>
<tr>
<th>Good Personal Hygiene</th>
<th>Adequate Social Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>No dirt on feet</td>
<td>Asking questions</td>
</tr>
<tr>
<td>No dirt on legs or knees</td>
<td>Responding 'Good Morning'</td>
</tr>
<tr>
<td>No dirt on hands or arms</td>
<td>Saying 'Thank you'</td>
</tr>
<tr>
<td>No dirt on neck or face</td>
<td>Saying 'Please'</td>
</tr>
<tr>
<td>No evidence of body odor</td>
<td>Asking the time</td>
</tr>
<tr>
<td>No residue in the naval</td>
<td>Speaking during group therapy</td>
</tr>
<tr>
<td>Clean Fingernails</td>
<td>Playing card games</td>
</tr>
<tr>
<td>Nicely combed hair</td>
<td>Watching television with others</td>
</tr>
<tr>
<td>Daily change of underwear</td>
<td>Talking about something besides oneself</td>
</tr>
<tr>
<td>Clean socks or stockings</td>
<td>Visiting on the grounds</td>
</tr>
<tr>
<td>Neat and recent shave (men)</td>
<td></td>
</tr>
<tr>
<td>Suitable cosmetics (women)</td>
<td></td>
</tr>
</tbody>
</table>

(48, p. 211).

The above list indicates the degree of specificity required in a behavioral program. Such concepts as good personal hygiene and adequate social interaction must have specific behavioral referents such as those indicated by the listing under the two concepts.
Bibliography


