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## A Systematic Approach to Staff Management and Systems Evaluation in an Inpatient Psychiatric Setting: The First Step toward Reform through Accountability

Helen Diann Pratt  
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A SYSTEMATIC APPROACH TO STAFF MANAGEMENT AND SYSTEMS EVALUATION  
IN AN INPATIENT PSYCHIATRIC SETTING: THE FIRST STEP TOWARD  
REFORM THROUGH ACCOUNTABILITY

by

Helen Diann Pratt

A Dissertation  
Submitted to the  
Faculty of The Graduate College  
in partial fulfillment of the  
requirements for the  
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Department of Psychology

Western Michigan University  
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April 1988

A SYSTEMATIC APPROACH TO STAFF MANAGEMENT AND SYSTEMS EVALUATION  
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REFORM THROUGH ACCOUNTABILITY

Helen Diann Pratt, Ph.D.

Western Michigan University, 1988

The current study had two major objectives: (1) to evaluate the impact of a staff management package consisting of training, prompts, task assignments, and oral and graphic feedback, and (2) to assess the effects of prescribed staff interventions on the inappropriate behaviors of three psychiatric inpatients. Accomplishing these two objectives produced an objective data base for the detailed evaluation of patient behaviors. Study I was designed to get staff members to record patient behaviors, to use contingent and consistent interventions, and to record those interventions. Results yielded high staff performance without tangible incentives. Staff members were able to consistently, reliably (98%), and accurately record patient behaviors in a timely manner. Data collection forms were turned in 99% of the time during treatment phases as compared to 48% during pre-treatment phases. Prescribed staff interventions increased 33% during treatment. Weeks 13 through 29 of Study I ran concurrently with Weeks 1 through 17 of Study II. Study II was designed to provide a detailed analysis of the impact of prescribed staff interventions on four categories of patient behaviors: (1) aggressive behaviors, (2) noncompliance behaviors, (3) annoying behaviors, and (4) physically assaultive behaviors. Increased staff interventions had a negative impact on the inappropriate

behaviors of one patient and no impact on the inappropriate behaviors of the other two patients; furthermore, increased interventions resulted in an increase in the use of restrictive procedures with all three patients over baseline measures. One interesting result of the program was that all three patients received increased privileges, and participated in more therapeutic activities than prior to treatment although there were no measurable decreases in inappropriate behavior for any patient. In conclusion, the use of a staff management package can effectively increase and maintain prescribed staff performance without the use of tangible incentives. Second, an increase in prescribed staff interventions may have no effect on patient performance and result in an increase in the use of restrictive procedures.

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toward reform through accountability**

**Pratt, Helen Diann, Ph.D.**

**Western Michigan University, 1987**

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I would like to dedicate this dissertation to the Residential Care Aide—the backbone of inpatient psychiatric institutions; to my husband, Robert, who nurtured, supported, encouraged and became the primary care-giver to our five children; to my children who learned to be very self-reliant and independent during the preparation of this dissertation; and to my family and friends who understood that our friendship would have to be placed on temporary hold for a year.

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## TABLE OF CONTENTS

ACKNOWLEDGEMENTS . . . . .	ii
LIST OF TABLES . . . . .	v
LIST OF FIGURES . . . . .	vi
CHAPTER	
I. GENERAL INTRODUCTION . . . . .	1
II. GENERAL METHODOLOGY. . . . .	6
III. STUDY I: STAFF MANAGEMENT . . . . .	8
The Current Study . . . . .	12
Method . . . . .	14
Staff . . . . .	15
Setting . . . . .	16
Materials . . . . .	16
Program Design . . . . .	18
Dependent Variables . . . . .	18
Reliability . . . . .	19
Procedures . . . . .	20
Results . . . . .	26
Discussion . . . . .	29
Conclusions . . . . .	35
IV. STUDY II: PATIENT MANAGEMENT. . . . .	36
The Current Study . . . . .	39
Method . . . . .	40
Procedures . . . . .	44

## Table of Contents--Continued

### CHAPTER

Results . . . . .	48
Discussion . . . . .	56
Unexpected Interruptions . . . . .	62
Conclusion for the Patient Management Study . . .	63
V. GENERAL CONCLUSION AND RECOMMENDATIONS . . . . .	64
Recommendations for Future Research . . . . .	65
Cost Benefit Analysis . . . . .	66
APPENDICES . . . . .	67
A. How to Use Check Sheets. . . . .	68
B. Definitions for Terms on Check Sheet . . . . .	72
C. Sub Scale of Behaviors Listed on Check Sheet . . . . .	74
D. Quiz on Definitions of Terms on Check Sheet . . . . .	78
E. Quiz on Check Sheet . . . . .	82
F. Instructions for General Clinical Intervention . . . . .	85
G. Social Validation Questionnaire - 1 . . . . .	88
H. Social Validation Questionnaire - 2 . . . . .	92
I. Social Validation Questionnaire for Patients. . . . .	99
J. Human Subjects Review Proposal and Approval Letter. . . . .	104
BIBLIOGRAPHY . . . . .	111

## LIST OF TABLES

1. Experimental Design for Both Studies . . . . .	7
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## LIST OF FIGURES

1. Observational Check Sheet Used by Staff Members to Collect Data on Patient Behaviors . . . . .	17
2. The Percentage of Check Sheets Turned in on the First Shift, Second Shift, and Third Shifts . . . . .	27
3. The Percentage of Times Staff Members Recorded Patient Behaviors as They Occurred, Completed the Check Sheet Headings, and Completed the Check Sheet at the Time of Observational Checks . . . . .	28
4. The Percentage of Staff Interventions Emitted Presented by Category . . . . .	30
5. The Total Number of Hours Available on First Shift During Which It Was Possible for Each Patient to Emit Inappropriate Behaviors . . . . .	32
6. The Percentage of Hours Available on the First Shift, For Each Patient, in Which No Inappropriate Behaviors Were Recorded . . . . .	49
7. The Rate of Aggressive Behaviors Emitted by Each Patient Per Hour of Opportunity, on the First Shift . . . . .	50
8. The Rate of Noncompliant Behaviors Emitted by Each Patient Per Hour of Opportunity, on the First Shift . . . . .	51
9. The Rate of Physical Assaults Emitted by Each Patient Per Hour of Opportunity, on the First Shift . . . . .	52
10. The Rate of Annoying Behaviors Emitted by Each Patient Per Hour of Opportunity, on the First Shift . . . . .	53
11. The Total Number of Hours Each Each Patient Was Secluded on the First Shift . . . . .	54
12. The Total Number of Hours Each Patient Was Placed in Physical Restraints on the First Shift . . . . .	55



## CHAPTER I

### GENERAL INTRODUCTION

The demonstration of program effectiveness has become an important issue in human service settings (Tuttle, 1983). Pressures from insurance companies and governmental regulating agencies, responsible for monitoring the human services areas, are mandating a move toward accountability. The Department of Mental Health for the State of Michigan requires documentation of service delivery and evaluation of the impact of those services on the recipients of mental health services (Bailey, 1986; Tuttle, 1983). These requirements have increased yearly. Mental health facilities are being required to implement quality assurance programs that examine the types of treatment provided to recipients of services, to evaluate the effects of those services on the recipient, and to demonstrate program effectiveness. As the cost of human service programs increases, insurance companies have begun to place restrictions on reimbursement tied to effective service delivery and average charges for a particular service. Taxpayers are also beginning to question increasing operation costs for state-funded mental health services (Riley & Frederiksen, 1984; Tuttle, 1983).

These new demands can be met by the application of organizational behavior management techniques. This methodological, systematic approach to managing human performance provides tools to develop, implement and evaluate the quality of services provided by an organization

(Christian, 1984; Frederiksen, 1981-82a; Frederiksen, 1984; Frederiksen & Lovett, 1980; Malott & Krumhus, 1977; Patrick & Riggall, 1985; Riley & Frederiksen, 1984). Organizational behavior management technology can effectively help administrators implement quality assurance programs, evaluate services and increase productivity (Christian, 1984; Crowell & Anderson, 1982; Daniels & Rosen, 1984; Hannah & Fishman, 1984; Hersey & Blanchard, 1977; Luthans, 1973; Maher, 1984a; MaWhinney, 1985; McRae & Lutzer, 1982; O'Hara, Johnson, & Beehr, 1985; Quilich, 1975; Rapp, Carstensen, & Prue, 1983; Rathjen, 1984; Rice & Lutzer, 1982; Shoemaker & Reid, 1980).

The requirements to develop quality assurance programs, the restrictions on reimbursement, and the mandate to demonstrate program effectiveness in mental health facilities make the development, maintenance and evaluation of programs essential to meet the need for increased accountability. The limited empirical studies in the inpatient psychiatric setting suggest a strong need to conduct more research in this setting using organizational management technology.

Although mental health professionals (nurses, doctors, social workers, activity therapists and psychologists) are charged with the development of effective therapeutic techniques, the ward attendants (Residential Care Aides) are the primary therapeutic implementors (Gardner, 1972; Miller & Lewin, 1980). Implementation of the programs depends on the efforts and skills of the line staff (Bailey, 1986; Balcazar, Hopkins, & Suarez, 1985-86; Quilitch, 1975). Successful program implementation cannot occur unless appropriate staff performance is both developed and maintained (Kazdin, 1982). The

relevance of staff behavior as a contributing factor in client behavior (Allyon & Michael, 1959; Bailey, 1986; Miller & Lewin, 1980) becomes an issue of concern when program implementation becomes important. Measurement of program impact cannot occur without program implementation.

Studies that examine the impact of staff interventions as a result of incorporating prescribed treatment interventions into existing care routines with residents also are few (Allyon & Michael, 1959; Banzett, Liberman, Moore, & Marshall, 1984; Ivancic, Reid, Iwata, Faw, & Page, 1981; Iwata, Bailey, Brown, Foshee, & Alpren, 1976; Prue, Krapel, Noah, Cannon, & Maley, 1980). The scarce literature on client gains as a result of intervening with staff also merits further attention. Therefore, the present research will look at staff management to achieve staff compliance with prescribed interventions and evaluate the impact of this compliance on staff behaviors. The modern psychiatric hospital houses a population of severely disabled individuals. The majority of these patients are labeled schizophrenic (Flanagan, 1978; Hofmister, Scheckenbach, & Clayton, 1979) and have experienced multiple hospitalizations. Advances in chemotherapy have set the stage for the management of the mentally ill outside of the hospital setting. However, the impact of deinstitutionalization, advances in chemotherapy and the advent of community-based treatment have not precluded the need for inpatient care of people with long-term, debilitating mental illness. The institutionalized patients typically exhibit severe deficits in interpersonal functioning; they are poorly equipped to involve themselves in the vigorous give and take of an active therapeutic community;

and finally, their response to the therapeutic milieu is minimal (Flanagan, 1978).

The therapeutic milieu is designed to provide medical treatment, activity therapy, psychological services, social work services, and nursing services; however, patients may never participate in programming if they are violent, assaultive, destructive, or considered threatening. Poor response to treatment and aggressive behaviors present two major problems which hinder service delivery and make the demonstration of effective service delivery difficult. Another side to this problem was the inability of psychiatric staff to provide effective treatment strategies that control the aggressive individual. The aggressive behaviors impede the patient's habilitation by preventing participation in activities; staff members may avoid or limit interactions with the patient to minimize the risk of being injured by the aggressive patient (Fehrenbach & Thelen, 1982).

The current study was concerned with increasing the active participation of the psychiatric inpatient in the therapeutic milieu with a long-range goal of controlling the aggressive behavior; however, research on this topic could not begin until an effective staff management system was developed and staff compliance with hospital standards and procedures was attained. Therefore, the study was divided into two parts. Study I (staff management) was designed to focus on the development, implementation and maintenance of an effective staff management system. The intended outcome of this system was to generate an objective data base for an evaluation of the impact of staff compliance on patient behaviors. Study II (evaluation of patient response)

consisted of the evaluation of the patient behavior portion of the study. The goal of this experiment was to produce a detailed analysis of changes in patient behavior as a result of treatment.

## CHAPTER II

### GENERAL METHODOLOGY

This research was a systems evaluation rather than a standard experiment; the experimental design of this research does not fit traditional models used in settings, but is more applicable to applied research in human service settings (Reid & Greene, 1987). The role of the experimenter involved two functions: (1) As staff psychologist, it was the function of the experimenter to provide therapy for the patients on a specific unit; and (2) the experimenter also functioned as a behavior systems analyst whose job it was to design, implement, monitor, and evaluate procedures in a real world, ongoing, therapeutic setting. The primary mission of the institution was to accomplish therapeutic change and not to generate experimental data; therefore, the main concerns of this research were to empirically evaluate various procedures of which staff management, patient management, and therapy were the major interventions. Thus, constraints of conducting research in human service settings (Reid & Green, 1987; Rothweiler, 1987) made the use of a reversal or multiple-baseline design unfeasible. The experimental design consisted of successive interventions, most of which were designed to increase staff compliance, when the need was demonstrated by evaluation of previous interventions (see Table 1). The major questions were related to staff compliance and the results of staff compliance.

Table 1  
Experimental Design

Condition			
Weeks	Study I Staff Management	Weeks	Study II Patient Management
1-9	Pre-training		---
9-10	Prompts to Staff and Supervisor		---
11-13	No Prompts (Social Validation)	1-2	Baseline
14	Train	3	Baseline
15-27	Prompts, Task Assignment, Oral and Graphic Feedback	4-15	Evaluation of Patient Behaviors
28-29	Reduction of Prompts, Task Assignment Continued, Oral and Graphic Feedback Continued  (Social Validation)	16-17	Evaluation of Patient Behaviors  (Patient Social Validation)

## CHAPTER III

### STUDY I: STAFF MANAGEMENT

Lion and Reid (1983) estimated that about two acts of aggression per patient occurred per month in one psychiatric inpatient hospital. Paul and Lentz (1977) conducted a five-year study on aggressive behaviors in a psychiatric inpatient setting. They concluded that aggression by psychiatric patients presents a serious problem within the institution and the community. The problems of behavior management become paramount when psychiatric inpatients are concentrated in one area. Selecting individuals out of society who exhibit extreme maladaptive behavioral excesses or deficits presents some critical practical problems (Boe, 1977; Sprague & Baxley, 1978). One major problem is the increased likelihood that these individuals will engage in aggressive behaviors. Effective technology designed to prevent, control, or eliminate aggression is well established in the literature (Altman & Krupsaw, 1983; Bates & Wehman, 1977; Boe, 1977; Bostow & Bailey, 1969; Brady, 1984; Dennert, Kendrick, Schoenherr, & Hayes, 1986; Elder, Edelstein, & Narick, 1979; Flanagan, 1978; Frankel & Simmons, 1984; Goldfried & Davidson, 1976; Harris & Ersner-Hershfield, 1978; Lochman, Burch, Curry, & Lampron, 1984). However, these studies do not describe the behaviors which comprise the class of aggressive behavior and they do not report the impact of reduced aggressive behavior on the use of restrictive procedures.



The legal codes, guidelines and procedures regulating the use of restrictive techniques are very specific. Psychiatric institutions are mandated to limit the use of restrictive procedures (a) to eliminate aggressive acts, (b) to prevent acts that would result in physiological damage to the human body, or (c) to prevent or eliminate acts which damage property.

The American Psychiatric Association (1985) recommended that administration provide staff members with information about written guidelines for the use of restrictive procedures and insure they use proper procedures for implementing and managing seclusion and restraint. In keeping with the concerns of the American Psychiatric Association, inpatient psychiatric staff receive extensive training and updates regarding procedures and policies. The staff receive training on how to physically manage the aggressive patient, how to properly restrict or seclude the aggressive patient, and how to interact with all patients. The Joint Commission on Accreditation of Hospitals (JCAH), the Public Health Department and The Department of Mental Health (State of Michigan) each requires extensive documentation of staff interventions and patient behaviors.

However, the natural environment of the ward does little to maintain the behaviors mandated by JCAH or those learned in training (Ambrasik, 1979; Bailey & Reiss, 1984; Bates & Wehman, 1977; Brown, Malott, Dillon, & Keeps, 1980). Although the mandated documentation is consistently produced, little is done to insure the written information is accurate, reflects the items of concern or is specific enough to provide data that are easily retrieved, managed and evaluated.

Another problem arises when an attempt is made to get consistent and correct application of the technology. Again, staff members use specific interventions in response to specific patient behaviors but it is not easy to identify the contingencies. This is even more difficult for the psychiatric inpatient who may have difficulty following verbal instructions or identifying cause and effect relationships.

Procedures that generate specific contingencies, evaluate performance, and monitor program implementation can be designed with existing technology which meet the needs of quality assurance programming. In order to conduct quality assurance programs, evaluate program impact, or measure change, the data must be collected in a manner that reflects the areas to be assessed. The data collection instrument must be easy to use, conveniently located, and yield enough items to provide adequate information (Holmes & Glick, 1985; Smith, 1985). The measures need to be accurate, reliable, and objective (Bailey & Bostow, 1979; Johnston & Pennypacker, 1980). In order to effect behavior change (a) target behaviors must be selected and operationally defined, (b) goals must be selected and specified, (c) functional relationships need to be identified, (d) criteria for determining change must be set, and (e) the terminal behaviors must be stated (Holmes, 1987; Komaki, 1981-82; Leitenberg, 1976; Malott & Whaley, 1981; Sulzer-Azaroff & Mayer, 1977).

Bourdon (1982) identified several performance management components essential to designing an effective program:

1. Expected outputs must be specified. The designer should discuss the functions of the job with the employees, identify the

objectives, and allow employees to help determine objectives whenever possible. 2. Performance goals must be established. Identify criteria that state when the goals were met. 3. Install performance measurement and recording systems. The integrity of the system is dependent on the reliability of and the quality of the measures used. Integrate data collection procedures into the job to increase likelihood that the information will be gathered and that the system will remain in place for longer than a few months (Rothweiler, 1987). 4. Insure frequent feedback is delivered to participants in the program: try to deliver feedback personally, use public feedback when possible, immediate feedback to individuals regarding performance paired with delayed group feedback is acceptable—do not delay longer than one week (e.g., graphs of group or individual performance, feedback as behavior occurs). 5. Provide contingent consequences for variable performance. Examine what works under equal compensation laws (for civil service employees). Use frequent performance appraisals and base the conclusions on performance data.

Practical applications of the technology that support the use of treatment packages are numerous. Most packages use training, oral and graphed feedback, written instructions, and tangible incentives to effectively increase and maintain staff performance (Bailey & Reiss, 1984; Brown et al., 1980; Green, Willis, Levy, & Bailey, 1970; Ivancic et al., 1981; Krumhus & Malott, 1980; Panyan, Boozer, & Morris, 1970; Prue et al., 1980; Quilitch, 1975; Rice & Lutzker, 1983).

Other studies demonstrated or espoused the utility of check sheets to collect data in a form that is fast, objective, easy to use, and

can be incorporated into job tasks (Holmes & Glick, 1985; Smith, 1986). Several other studies used self-recording as a form of feedback to increase institutional staff performance (Burge, Reid, & Lattimore, 1979; Duncan & Bruewelheide, 1985; Gaetani & Johnson, 1983; Stone, 1979).

The model employed in this study was adapted from the literature on organizational behavior management (OBM) and studies employing behavioral technology to decrease aggressive behavior. The model was designed to fit within the legal parameters set by the legal codes and guidelines for psychiatric institutions in the State of Michigan. An additional consideration was the creation of a program to fit the needs and guidelines of the hospital where the research was conducted which restricted the use of reversal and multiple baseline designs.

The model consisted of (a) providing the staff with written guideline regarding the implementation of restrictive procedures, (b) specifying outcomes, (c) installing a performance measurement and recording system, (d) integrating training and data collection into job responsibilities, and (e) implementing a treatment package that consisted of training, prompts, task assignment, plus oral and graphic feedback.

### The Current Study

The current study involved designing, conducting, implementing, managing, and evaluating a program with the goals of: (a) increasing staff compliance with hospital standards and policies by increasing correct and appropriate use of interventions aimed at controlling

aggression, (b) developing a system that would allow for the reliable, objective and efficient collection of data on staff and patient behaviors, and (c) evaluating the impact of staff compliance on patient behaviors.

Specifications of explicit goals, objectives, and techniques were used in conjunction with feedback. Feedback was used as both an antecedent stimulus and a consequent stimulus (Hakel, 1976), graphs to present behavior changes (Kreitner & Luthans, 1984), verbal reports, and contingent praise for employing the prescribed interventions (Flanagan, 1978; Frederiksen & Lovett, 1980; Komaki, 1982). Check sheets were used to collect data.

No tangible incentives were used. The staff members who participated in the study were civil service employees and entitled to equal compensation; they also belonged to unions that prohibited special tangible rewards for performance. Performance appraisals were not the responsibility of the experimenter and did not fall into the psychologist's job description. The experimenter functioned as an adjunct employee and had no formal controls over the behavior of the staff or patients. Within these constraints the following study was designed with the goals of: (a) designing, implementing, monitoring, and integrating the structure of this study into the daily routine of the unit to insure the maintenance of a systematic staff management program without the use of tangible reinforcers; (b) conducting a detailed analysis of patient behaviors and evaluation of the impact of interventions on those behaviors; (c) implementing an ongoing measurement of behaviors as they actually occurred rather than in artificial

testing situations (Riley & Frederiksen, 1984); (d) designing a cost-effective method of increasing staff performance specifically tailored for psychiatric inpatient settings where use of tangible incentives to increase and maintain improved performance was restricted (Rothweiler, 1987); and (e) collecting empirical data on the implementation of clinical procedures used to improve the therapeutic use of restrictive procedures with the end goal of reducing the need for its use.

### Method

In keeping with the recommendations of Bourdon (1982) to include staff members in the program development process, a participative management approach was used to develop all components of this study. The process included the hospital administrator, clinical director, director of psychology, director of continuing care for the hospital, the hospital nursing director, the unit medical director, the unit nursing director, the two unit nursing shift supervisors, and the Residential Care Aides. Each person was interviewed both individually and in groups; each was presented with the general goals of the program. Administrative staff members were presented with written copies of the proposal, methodology, and goals. Residential Care Aide (RCA) staff members were presented the same information but orally. Each staff member reviewed the information, gave corrective feedback and those suggestions were incorporated into the program. Any changes in methodology were resubmitted to each individual for approval. One hundred percent agreement on what would constitute the program was

obtained from each stage of the program development prior to implementation, and during implementation, when modifications were made.

The supervisory staff members on the unit were given advance copies of the all training materials and the data collection forms that were to be handed out to the Residential Care Aides (see Appendices A, B, C, D, E, & F); they also received the same training provided to the Residential Care Aides. This process insured that the nursing supervisors and nursing director for the unit were informed of all interactions with their employees. Their feedback was also solicited and modification of all the materials given to the RCAs was made accordingly.

The Residential Care Aides participated in the development of the check list, categorization of the behaviors and determination of prescribed and nonprescribed interventions. Each staff member was encouraged to give suggestions to make the instruments and training materials functional for them. Encouragement consisted of public acknowledgement of the contributor's name, inclusion of relevant changes in the instruments and a public thank you in the presence of supervisors and peers.

This approach is an adaptation of the performance management model of an inpatient psychiatric setting.

### Staff

Ten full-time nursing staff on the day shift, nine females and one male, participated in the study. Nine staff members were classified as Residential Care Aides and one staff member was classified as a Licensed Practical Nurse. All staff persons were white, had at least

three years of experience and had a mean age of 28 years. Two of the staff members had been Residential Care Aides for more than ten years. All of the staff members had worked on this unit for at least two years.

### Setting

The setting was a locked women's ward for 49 chronic patients. The unit consisted of two day rooms and two dorms labeled the East Day Room and the West Day Room, respectively; 23 patients resided in the East Day Room and 26 in the West Day Room; the day rooms doubled as smoke and activity rooms. Data collection occurred in the East Day Room and dorm areas.

### Materials

The staff members were given check sheets as the recording device. The check sheets were xeroxed on 8 1/2 x 11" pieces of paper; each sheet contained 28 behaviors and boxes for recording the occurrence of each behavior on an hourly basis. Seven possible interventions were listed on the lower left-hand corner of the check sheets (see Figure 1).

Instructions for using the check sheet were handed out and then a reduced copy was attached to the bottom right-hand corner of the check sheets (see Appendix A). A list of operational definitions for each behavior was attached to the clipboard in the East Day Room (see Appendix B). The check sheets and list of definitions were kept on a clipboard with various papers the staff members were required to



## BEHAVIOR CHECK SHEET

PATIENT	Time:	STAFF								DATE	
		1500	1600	1700	1800	1900	2000	2100	2200		
1. Agitated (pacing, rocking, rapid speech, tics)											
2. Arguments											
3. Assault (Physical/verbal)											
4. Crying											
5. Demanding (repeated requests)											
6. Derogatory Remarks											
7. Destruction of Property											
8. Eating Foreign Objects											
9. Excessive Water Intake											
10. Hostile											
11. Inciting Other Patients											
12. Late from Ground Permit											
13. Loud (above conversational tones)											
14. Lying on Bed.											
15. Nudging											
16. Paranoid Statements											
17. Profanity											
18. Refusal to Comply With Medication Regime											
19. Refusal to Comply With Ward Routine											
20. Responding to Unseen Stimuli											
21. Self-Injury											
22. Self-Stimulation											
23. Sexual Aggression											
24. Spitting											
25. Threats to harm self or others											
26. Throwing Inanimate Objects											
27. Yelling											
28. Withdrawn											
29. Somatic Complaints											
ACTION											

1. Re-Directed
2. Alternative Activity Used (Specify)
3. Quiet Room
4. Physical Restraints
5. Seclusion
6. PRN
7. UIR Written

COMMENTS:

## HOW TO USE CHECK SHEETS

**FIRST:** Pick up sheets in the office in the blue notebook.  
**SECOND:** Record the patient's name, date, your name.

1. Use check marks to indicate that a behavior has occurred during a particular time period.

2. Under the behavior section record the number that corresponds with the action you have taken, i.e., if you counselled a patient for being demanding put the number 1 in the corresponding time slot. Record as many numbers in the slot as necessary for a particular behavior. If no action was taken simply use the check mark to indicate that a behavior occurred.

RETURN THE SHEET TO MY MAILBOX IN THE OFFICE AT THE END OF YOUR SHIFT.

Figure 1. Observational Check Sheet Used by Staff Members to Collect Data on Patient Behaviors.

complete each day. A listing of behavioral classes that included prescribed interventions for each class of behavior was also attached to the clipboard during relevant phases of the study (see Appendix C). Two quizzes were prepared and administered to staff members over the use of check sheets and over the list of definitions (see Appendices D and E). Finally, a set of instructions for interventions with the aggressive patient was prepared and distributed to each staff member (see Appendix F).

### Program Design

An ABCDEF design (see Table 1) was employed to measure the effects of oral and graphic feedback on day-shift staff performance [A = pre-training, B = prompting, C = no prompts, D = training of observational skills, E = prompts oral and graphed feedback and assignment, F = reduction of prompt, oral and graphed feedback, assignment of check sheets, social validation questionnaire (see Table 1)].

### Dependent Variables

The dependent measures were: (a) the percentage of the weekly total of check sheets actually handed in; (b) the percentage of check sheets on which the name of the patient, the name of the staff, and the correct date were completed in the headings; (c) the percentage of observations that the staff had entered on the check sheets at the random time checks to assess if the behaviors had been recorded by the end of an hour or at the end of several hours or at the end of the day when observational data had been recorded prior to the study,

(timeliness of recording); (d) the percentage of observations on which the staff members recorded observed patient behaviors, as they occurred, within an hour, defined the measurement of behavior as it occurred; and (e) the percentage of prescribed interventions, nonprescribed interventions, and the number of failures to intervene.

Prescribed interventions were defined as those interventions listed on the Sub Scale (see Appendix C) for each class of behaviors. Nonprescribed interventions consisted of the use of any intervention that was not listed on the Sub Scale for a class of behaviors. Failure to intervene was defined as no intervention employed when an inappropriate behavior occurred and an intervention (prescribed or nonprescribed) was not used. All of the behaviors listed on the check sheet (see Figure 1) were defined as inappropriate behaviors.

### Reliability

An independent observer recorded intervention behaviors of staff simultaneously with the experimenter to insure the accuracy dependent variable. This measure resulted in a mean of 94%.

Reliability checks on staff recording behaviors were taken at variable intervals. Some checks were taken at the beginning and end of the day shift. Checks were also taken on the weekends.

Both occurrence and nonoccurrence reliability measures were determined where relevant. Nonoccurrence reliability was applicable to observational recording to insure that staff were not recording inappropriate patient behaviors if they did not occur.

The number of occurrence agreements divided by the total number of occurrence agreements plus occurrence disagreements and the resultant multiplied by 100 yielded the percentage of reliability.

$$\frac{\text{agreements}}{\text{agreements} + \text{disagreements}} \times 100 = \% \text{ of agreement}$$

An agreement consisted of both the primary and reliability observers agreeing that the behavior actually did occur, that the behavior recorded was the behavior observed, and that the behavior recorded and observed fit the definition of that specific behavior. A disagreement consisted of any discrepancy between these measures. A second disagreement could occur if the behavior occurred and one of the observers did not rerecord the behavior.

## Procedures

### Pre-Training (Weeks 1-8)

The shift supervisors on all three shifts were given check sheets, oral instructions, and asked to have their staff members complete the check sheets. The patients to be monitored were designated, no training was provided, and feedback was given only as questions were asked. No prompting was used. Written instructions were not placed on the check sheets during these weeks.

### Prompting for Supervisors and RCAs (Weeks 9-10)

The nursing shift supervisors on the first shift (7:00 a.m. to 3:00 p.m.) were asked to see that the check sheets were filled out; they were not told how to do this. The experimenter's prompting for

check sheets occurred seven days per week. Staff members were told the experimenter needed the sheets to develop programming for the specified patients. Each morning the experimenter entered the day room and asked the Residential Care Aide staff members if the check sheets were being filled out. No other comments were made. Questions were answered with as little information regarding the check sheets as possible.

The second shift was used to simulate a control group; this was an attempt to assess if simply asking the shift supervisor and the RCA staff members to have the check sheets completed was sufficient for attaining staff compliance or if additional intervention would be necessary. The second shift supervisors (3:00 p.m. to 11:00 p.m.) were trained to use the check sheets during this period. They were asked to instruct their staff members. No training was provided for staff. Daily, the shift supervisor and staff were asked to fill out the check sheets; the experimenter entered the day room at the beginning of second shift and asked if the check sheets were being filled out. A further measure was taken, on the third shift, to determine if simply asking the shift supervisor to have the check sheets filled out was enough to attain staff compliance. Third shift supervisors (11:00 p.m. to 7:00 a.m.) received no training and no prompts were given to staff members. No further input was given to third shift supervisors after this point.

### No Prompts for RCAs and Prompts for Supervisors (Weeks 11-13)

The experimenter prompted the nursing shift supervisor to have the check sheets completed but no prompts were provided to Residential Care Aides. When the experimenter entered the day room, no mention of the check sheets was made. Second shift supervisors were asked to assign the check sheets as part of the Resident Care Aide's work-related tasks. These shift supervisors were prompted daily to have the check sheets filled out and to assign them. No further prompts were provided to the other staff members. No further changes occurred in the experimental conditions for second shift.

In Week 11 during the No Prompt Phase, a set of written instructions was given to the staff members (see Appendix E).

### Social Validation

A social validation questionnaire was handed out to first shift during Week 13 to allow the staff the opportunity to anonymously evaluate the program and to determine if the program was supported before designing further intervention strategies to attain staff compliance (see Appendix G).

### Training (Week 14)

Eight staff members on first shift were trained during this week, the other two were on extended sick leave. Training consisted of giving each staff member a list of operational definitions for the behaviors appearing on the check sheets. Each behavior was reviewed

and discussed. Each staff member was given a fill-in-the-blank quiz over the definitions. A set of instructions for completing the check sheets was also given at this time. Each staff member completed a mock check sheet. A discussion of the importance of the check sheets in providing the experimenter information about patient behaviors ensued. Staff members were also told that the information was needed to develop programming, to meet quality assurance standards, and to provide information about patient progress. No scores were assigned to quizzes; however, the answers were reviewed and the incorrect responses were re-tested until 100% accuracy was obtained. The assignment of scores was avoided to lessen the aversiveness of testing situations. Four two-hour sessions were conducted.

Staff members were also given copies of an intervention sheet. This sheet contained all the behaviors on the check sheet. Each behavior was assigned to a class of behaviors labeled noncompliant, aggressive, annoying and assaultive. Prescribed intervention strategies were specified (Appendix C).

Prompts, Task Assignment, Oral and Graphic Feedback  
(Weeks 15-27)

Each weekday morning the experimenter entered the day room between 8:00 a.m. and 10:00 a.m. and looked on the clipboard to see if the check sheets were present and being filled out. If staff members asked what was being sought, they were told the experimenter was looking for the check sheets. The nursing supervisor on first shift began to assign the check sheets as part of the routine tasks for staff members.

The check sheets were picked up each day by 3:30 p.m., including week-ends and holidays.

Oral and graphic feedback on three dependent measures was reviewed with each staff member on a weekly basis: (a) the results of staff recording behaviors, (b) the results of reliability checks, and (c) the percentage of check sheets turned in during previous weeks. Staff were seen in groups of two or individually, usually at their assigned place of duty. Each session lasted about 15 minutes. Positive feedback for percentages on the graphs above 95% was given; corrective feedback about entering information on the check sheets was also given during the same feedback session.

#### Written Instructions (Week 17)

Staff members were given a specific intervention strategy to use with the aggressive patient; they were asked to try to use this guideline but not told they had to follow it (see Appendix F). These interventions consisted of using verbal intervention (oral intervention), offering an alternative activity, offering the quiet room, placing the patient in seclusion. Any patient injuries were also recorded but not assessed during this study (Unusual Incidence Reports - UIR).

Behaviors from the check sheet were divided into categories and a hierarchy of interventions was prescribed. Staff members were told that interventions not listed on the sheet for a particular behavior would be considered a nonprescribed intervention (see Appendix C). The prescribed interventions for specific groups of behavior were



delineated. The categories of behaviors and corresponding prescribed interventions are described in the patient management study.

Reduction of Prompts, Task Assignment, Oral and Graphic Feedback (Weeks 28-29)

In an effort to reduce the time required to manage the program, weekend prompts no longer occurred and reliability checks were reduced to one time per week during the hours of 8:00 a.m. and 3:00 p.m. The nursing supervisor on first shift was given more responsibilities for monitoring the day-to-day functioning of the program. Responsibility for major adjustments or deletions was retained by the experimenter. During Week 29 a second social validation questionnaire was distributed. The program was reviewed with the unit treatment team and with the nursing staff. Recommendations for change were solicited.

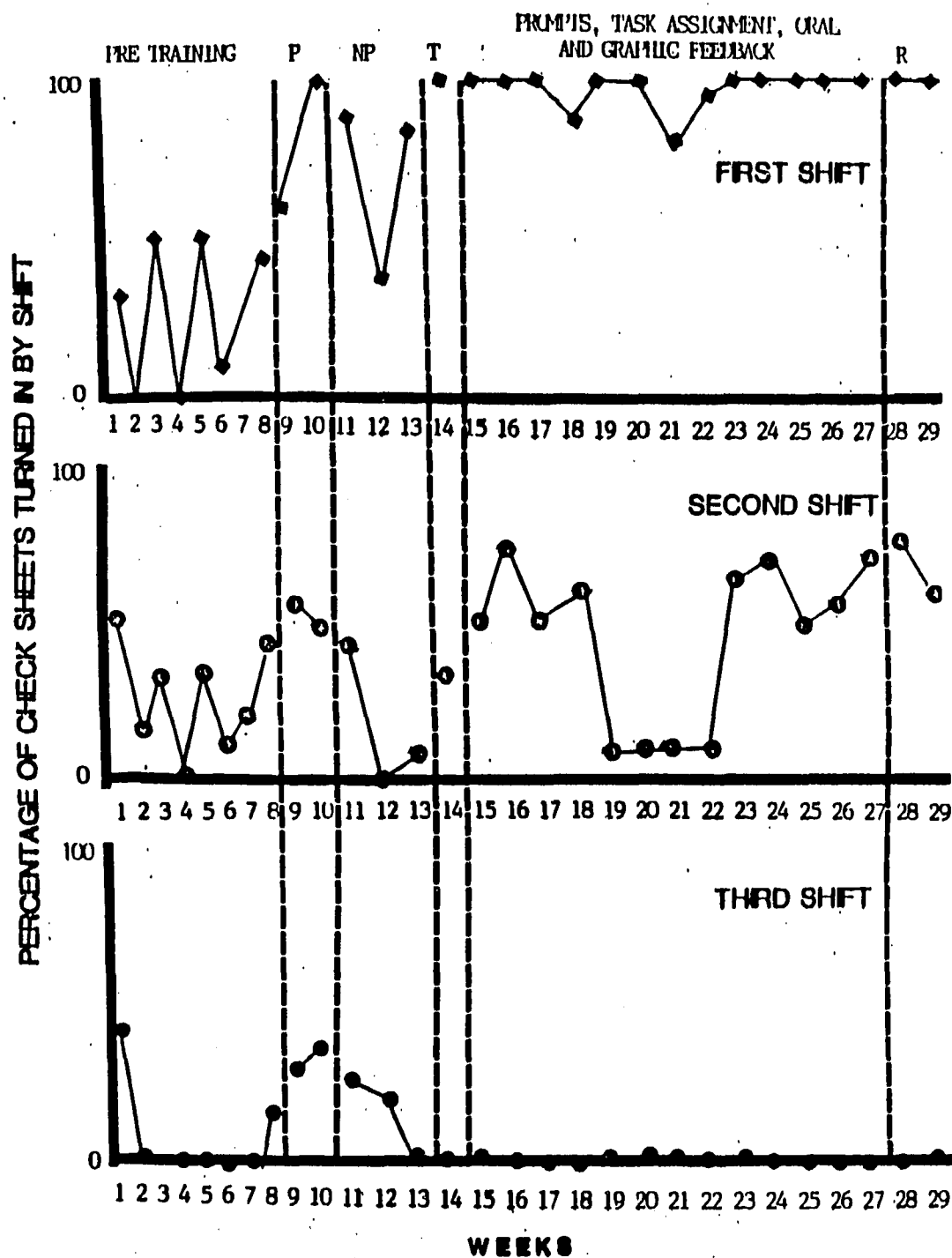
Exemplar performances were publicly acknowledged whenever the experimenter directly observed the behavior. Any reports of appropriate performances from the Residential Care Aide's supervisor were acknowledged to the specific staff member, as the occasion arose. In addition to reviewing the graphs and providing feedback to staff members on a weekly basis, the experimenter sought out each staff member and individually reviewed the graphs and discussed the progress of the program. These sessions lasted an average of five minutes. This process was developed because of the restrictions on the use of tangible reinforcers.

## Results

The first shift turned in a mean of 100% of their check sheets during training, 96% during treatment and 100% during the Reduction of Prompts Phase. This is in contrast to second shift where only a mean of 24% of the check sheets were turned in during the Prompt to Supervisor Phase, 47.50% during the Prompt to Supervisor Plus Training Phase, and 32.60% during the Prompt to Supervisor Plus Assignment Phase. An even larger difference was demonstrated with the third shift where a mean of 5.60% of the check sheets were turned in during the Prompt to Supervisor Phase and 5.00% during the No Prompt Phase (see Figure 2).

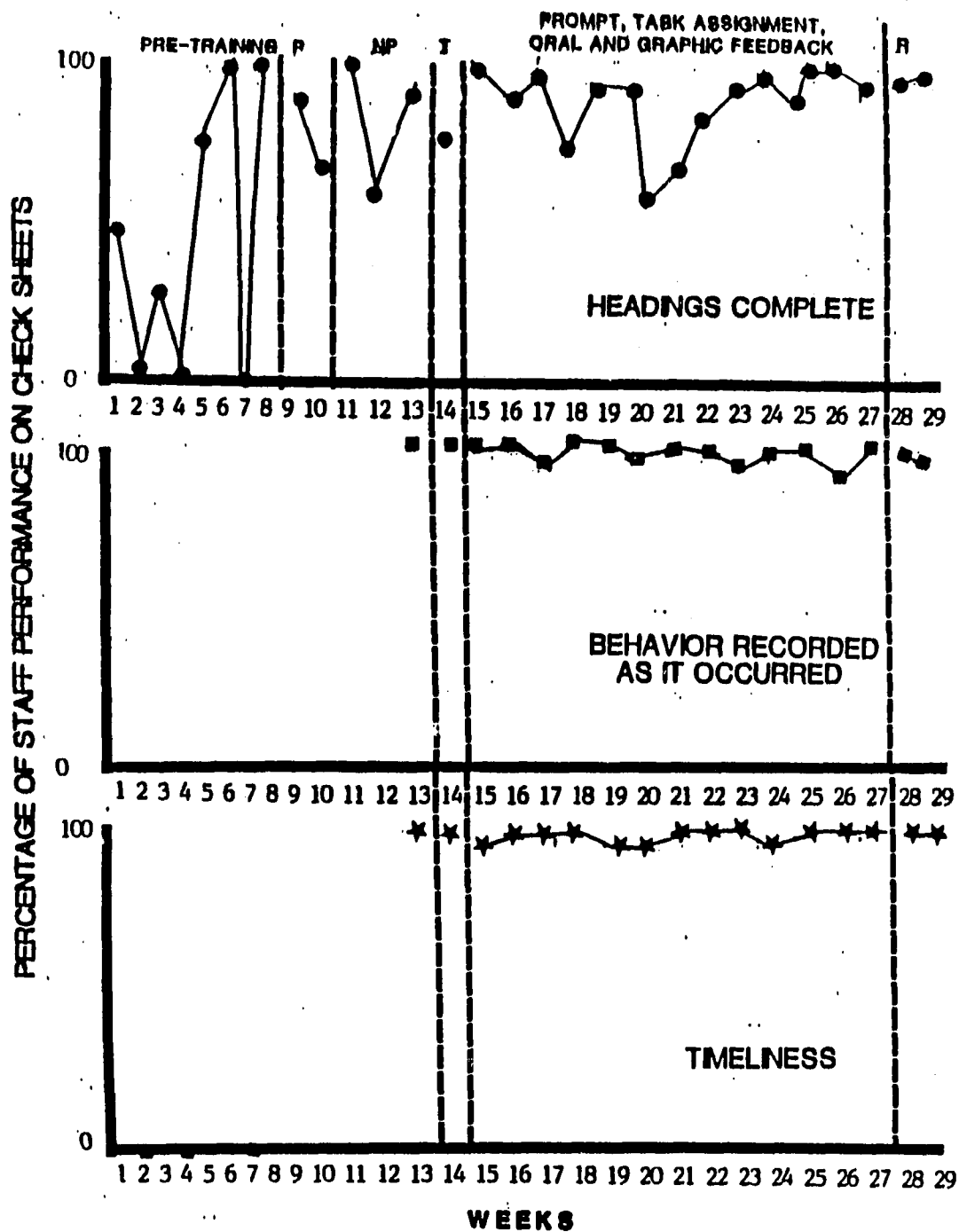
The measures of staff reliability of the accuracy of the recording yielded a mean of 97% of all phases. Reliability on the timeliness of recordings was also conducted that also resulted in a mean reliability of 96% of all phases. This measure was employed to determine if staff members would record behaviors at intervals during the day versus recording the behaviors at the end of the shift; observation checks to assess whether or not staff members recorded patient behaviors as they occurred yielded a mean of 98% across phases. A measure of the staff's compliance with request to label all data collection sheets was taken which resulted in a mean completion rate of 54% prior to training and increased 30% after the Training and Intervention Phases were implemented (see Figure 3).

The mean percentage of prescribed staff interventions per opportunity increased 29% during the Prompt, Task Assignment, and Oral and



Note. P = Prompts NP = No Prompts T = Training R = Reduction of Prompts

Figure 2. The Percentage of Check Sheets Turned in on the First, Second, and Third Shifts.



Note. P Prompt NP No Prompt T Train R Reduction of Prompts.

Figure 3. The Percentage of Times Staff Members Recorded Patient Behaviors as They Occurred, Completed the Check Sheet Headings, and Completed the Check Sheets at the Time of Observational Checks.

Graphic Feedback Phase as compared to the No Prompts and Training Phases; this measure continued to increase slightly during the Reduction of Prompts Phase. Nonprescribed interventions decreased in the means of 5% and 7%, respectively. The mean percentage of times when inappropriate behaviors occurred and staff did not intervene decreased 17% during the Prompts, Task Assignment, and Oral and Graphic Feedback Phase from the No Prompts and Training Phases; a further decrease of 5% resulted during the Reduction of Prompts Phase (see Figure 4).

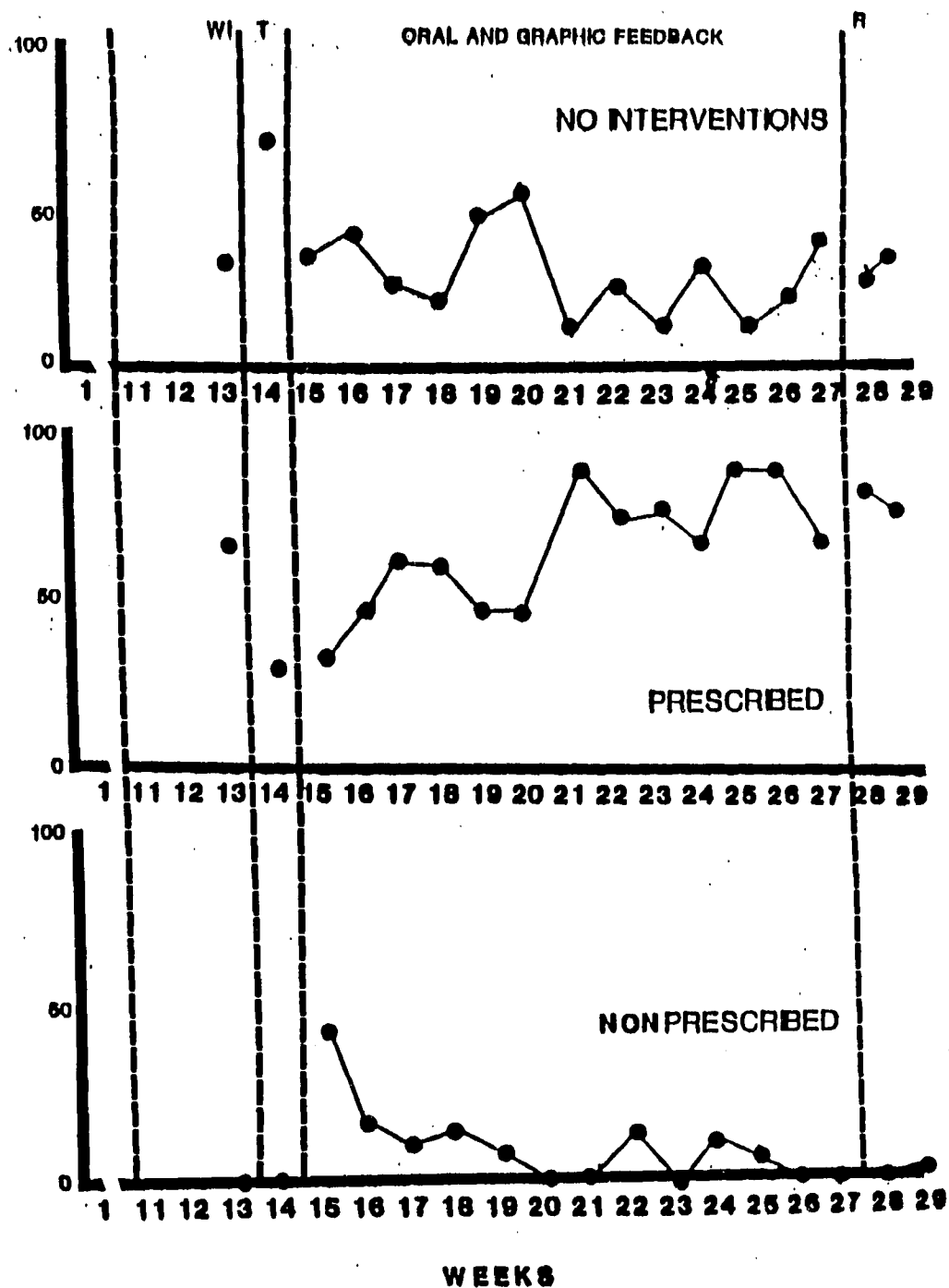
The results of the second Social Validation Questionnaire yielded the following: eight staff members completed the questionnaire. Sixty-two percent of the respondents stated the check sheets were useful; 75% said they had learned new techniques to change patient behavior; 81% said they had established a good working relationship with the psychologist (see Appendix G).

### Discussion

The results of Study I demonstrated that staff members could be trained to reliably, consistently, and accurately record data in a timely manner. Once they were trained and the desired performance achieved, the staff members maintained the desired performance level. They maintained this high rate of handing in check sheets in the absence of tangible reinforcers.

The percentage of times when inappropriate patient behaviors occurred and staff members intervened improved as a result of implementing this study; the interesting finding was not that staff members frequently used nonprescribed interventions but they were not more

PERCENTAGE OF STAFF INTERVENTIONS PER OPPORTUNITY OF INAPPROPRIATE PATIENT BEHAVIORS



Note. WI: WRITTEN INSTRUCTIONS T: TRAIN

Figure 4. The Percentage of Staff Interventions Emitted Presented By Category.

but did not drop to 0% as did the nonprescribed interventions. Increasing the numbers of prescribed interventions may have a different impact on patient behaviors.

The only problem occurred when staff members were asked to sign their names to the sheets. Two staff persons consistently refused to sign their names. When asked to fill out the name portion of the sheets, they refused and stated that they did not want to get "burned" if something were deemed inappropriate when the data from the check sheets were reviewed. Seven other staff persons elected to sign their own names and the names of everyone working in the day room; only one person elected to sign the name slot alone. The experimenter decided that the data collection was more important than having only one name on the sheets.

Another interesting finding was the result of consistent staff performance even when assignment of the check sheets was inconsistent. A review of ward assignment sheets indicated that assignment of check sheets on day shift never exceeded 70% (see Figure 5). Only one person was assigned to fill out and turn in the check sheets; however, several persons often recorded the data. The staff management study was a necessary prerequisite for the evaluation study. Without consistent, reliable and accurate data collection, the information from the patient management study would not be valuable. The staff management study demonstrated that staff members could consistently implement hospital policy regarding the appropriate use of seclusion and restraint.

There were several limitations to this study:

1. The experimental design was not as sound as in research

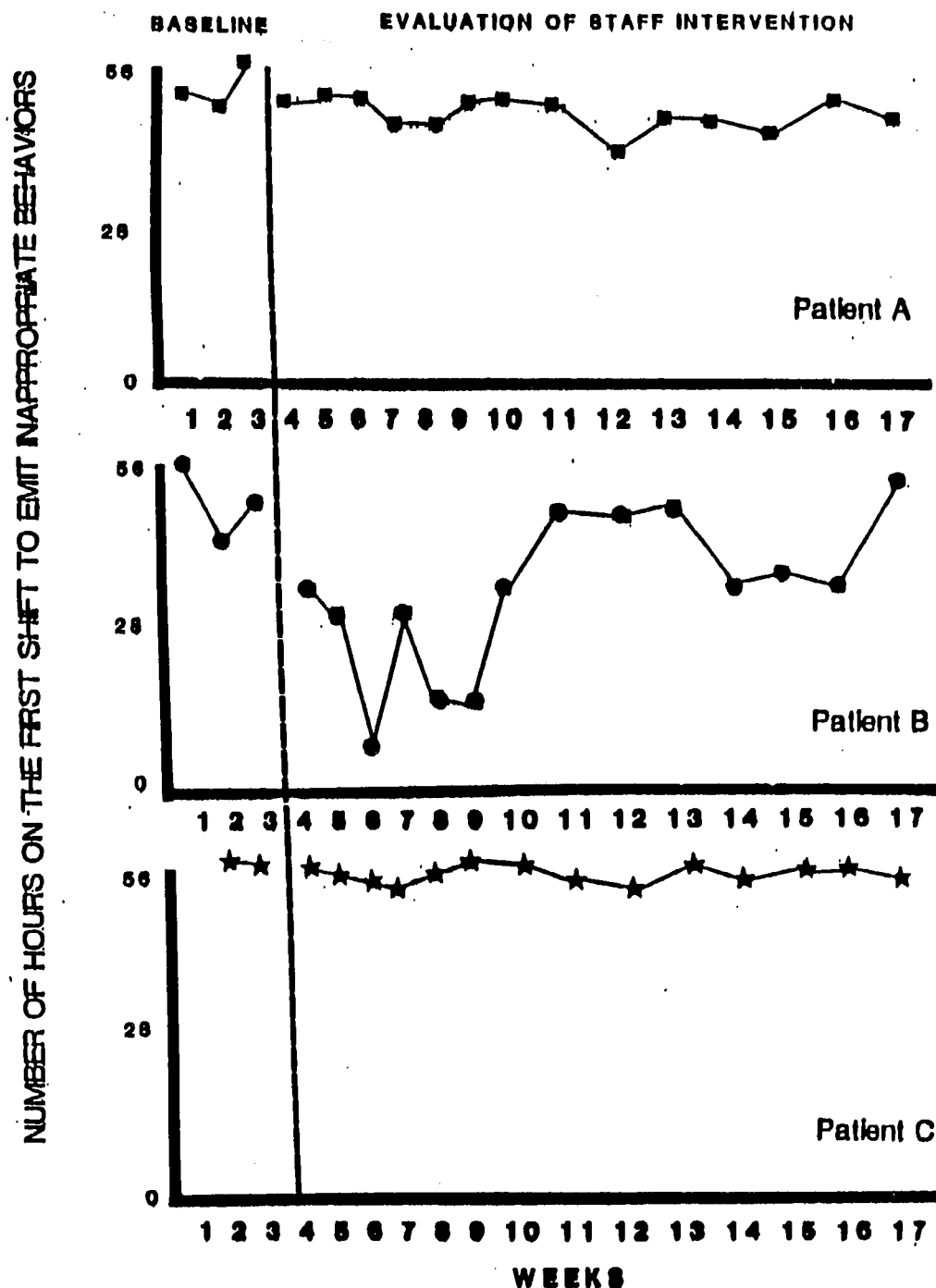


Figure 5. The Total Number of Hours Available on the First Shift During Which It Was Possible for Each Patient to Emit Inappropriate Behaviors.



settings. The facility did not sanction the use of multiple baseline or reversal designs. The administration did not approve of conducting research in a hospital setting but considered this a quality assurance project, not research; therefore, they were able to sanction the use of the procedures designed to achieve interventions that increased documentation of service delivery and demonstrated staff compliance with hospital policies and guidelines.

2. Training occurred in a piece-meal fashion and required repeated efforts. The staff were trained while working on the unit; there were no replacement staff available. However, this allowed for the demonstration that such training could occur without major interference in the functioning of the unit. In other words, quality-assurance programming could be implemented without serious disruption to the unit.

3. Staff members were required to rotate assigned work areas; they were assigned to work in each of the day rooms on an alternate schedule; this resulted in at least one different staff person working in the East Day Room every four to six days. This staff rotation made consistency in distinguishing hash marks, used to record the frequency of behaviors, from Intervention Number 1 as listed on the check sheet. Originally, the experimenter intended for an independent rater to categorize the data to conduct a reliability check on the assignment of interventions as prescribed and nonprescribed. However, the rater could not always understand the markings of various staff persons. Each staff member had a unique style added to the recording. Some left extra notes; some circled an instance of recorded behavior and wrote the intervention below the boxes; some wrote the number of the

intervention and put a slash in the box. The experimenter had adapted to these idiosyncrasies but it was difficult to explain these markings to the independent rater and not bias the results. An accurate count of the frequency of behaviors for each patient was needed to insure correct calculations for the patient management study; therefore, a measure of accuracy of counting instances of behaviors in each box (on the check sheet) was used; this resulted in an average reliability of 99% across the random checks of the data for ten separate weeks.

4. The data were collected only on one shift. A more general picture of subject responding would be gained from data collection on all shifts.

This study also had the following special features:

1. Staff compliance was extremely high in the absence of tangible reinforcers.

2. The support from administration to line staff was strong and maintained throughout the program.

3. All levels of the organizational structure participated in the program development and the program actually was implemented in a timely manner.

4. Staff continued to turn in the check sheets even though the supervisor did not consistently assign the task.

5. The program resulted in the implementation of a multidimensional and multi-level intervention and generated measurable data.

6. The answers on the Social Validation Questionnaire indicated a desire to retain the system.

7. Four weeks after the end of the formal program (Week 29), 100% of the check sheets had been turned in.

### Conclusions

Using a behavioral approach, it is possible to establish an effective program for the management of staff resulting in the consistent implementation and evaluation of a quality assurance program in a psychiatric hospital.

## CHAPTER IV

### STUDY II: PATIENT MANAGEMENT

Chronic psychiatric patients typically have difficulty performing simple tasks and they usually require repeated concrete instructions; they also need programed consequences for their behaviors. Often these consequences need to be more immediate, extrinsic, and contingent than the consequences that naturally occur in the inpatient ward setting. As a result, the chronic patient may experience difficulty following oral and written instructions or rules for appropriate behaviors. The structure of the therapeutic milieu, in the inpatient psychiatric settings, is usually designed to habilitate the inpatient; however, insufficient structure is provided to insure that the characteristic deficits in functioning of the psychiatric inpatients are dealt with.

Delusional or hallucinatory behaviors are frequently targeted for treatment. However, those patients who experience delusions or hallucinations may be able to function in the community and on the ward (Flanagan, 1978). But, aggressive or assaultive patients are disruptive to the ward, presenting a danger to themselves or others and depriving other patients of their right to a safe and therapeutic environment. The Mental Health Code mandates that placement in psychiatric institutions requires that at least one of the following three conditions be met; individuals must: (1) present a danger to society,

(2) present a danger to themselves, and/or (3) be unable to meet their basic needs to the extent that their physical safety is endangered.

Therefore, the patient has been placed in this setting because of aggressive behaviors or severe functioning deficits. Unfortunately, we then use the potential of harm from those aggressive behaviors as a rationale for not providing treatment--the therapy designed to help them exit the hospital. We know that the patient has severe deficits in functioning, and yet, the therapeutic environment may not be designed so that verbal instructions are clear. Often environmental supports to minimize deficits in functioning are readily employed in settings for the mentally retarded but not in the inpatient psychiatric setting (Bates & Wehman, 1977; Fehrenbach, 1984; Fehrenbach & Thelen, 1982; Frankel & Simmons, 1984).

At the time of this study, 50 patients resided on the unit. A review of their ward records showed that the patient's inability to function on the ward was most often the result of aggressive behaviors, thereby lending support for developing a treatment strategy focused on removal of this obstacle to the inpatient's functioning; this should be a major goal for designing intervention packages (Fehrenbach & Thelen, 1982; Flanagan, 1978; Guirguis, 1978; Liberman & Wong, 1984).

Fehrenbach and Thelen (1982) reviewed the literature on the behavioral treatment of aggression and concluded that much research has been published dealing with aggressive behaviors. These studies were based on a variety of theoretical approaches dealing with the prevention and elimination of aggressive behaviors. The studies also employed a

number of techniques: behavioral, cognitive, social learning and medical. Techniques typically focused on the prevention of aggression by rearranging the environment or teaching alternative behaviors to deal with previously aversive situations (Bandura, 1973; Boe, 1977; Bornstein, Bellack, & Hersen, 1980; Bostow & Bailey, 1969; Conrin, 1982; Cooper, Browne, McClean, & King, 1983; Delamater & McNamara, 1986; Dennert et al., 1986; Elder, Edelstine, & Nardick, 1979; Fleischman & Szykula, 1981; Frederiksen, Jenkins, Foy, & Eisler, 1976; Goldfried & Davidson, 1976; Govia & Velicer, 1985; Harris & Ersner-Hershfield, 1978; Horner, 1980; Jones, 1985; Kennedy, 1982; Liberman, Marshall, & Burk, 1981; Lochman, Burch, Curry, & Lampron, 1984; Luce, Delquadri, & Hall, 1980; Luiselli, 1984; Luiselli & Slocumb, 1983; Mace, Page, Ivanic, & O'Brien, 1986; Mattson & Sacks, 1978; Mattson & Stephens, 1977; Mattson & Stephens, 1978; Pendergrass, 1971; Repp & Deitz, 1974; Vukelich & Hake, 1971; Wallace, Teigen, Liberman, & Baker, 1973; Warren & Kurlychke, 1981).

A functional analysis of aggressive behaviors suggests that the same behavior may be activated by different sets of evoking stimuli and maintained by different sets of consequences (Flanagan, 1978). The accurate and systematic collection of data would allow treatment to focus on specific areas. Treatment plans could then be developed that would eliminate undesirable behaviors in patients and increase opportunities to reinforce desirable behaviors (Flanagan, 1978; Fehrenbach & Thelen, 1982). Additional empirical data on actual antecedents and consequences of seclusion need to be obtained. Programs need to include measures of (a) the impact of the milieu on patient aggression

and (b) the impact of patient aggression on the length of and frequency of seclusion.

### The Current Study

In summary, the literature suggests that treatment of the psychiatric inpatient should be directed toward enhancing patient functioning and reducing aggression; additionally, instructions should be clearly and simply stated, consequences for behaviors need to be consistent, and appropriate skills to compete with aggressive behaviors need to be taught. Finally, the environment may need to be designed to support these requirements. These procedures increase the opportunity the inpatient will have to participate in the therapeutic milieu; when patients are in seclusion or restraints, they are unable to participate in therapy or activities. They also are deprived of the opportunity to learn different methods of behaving to prevent future use of seclusion or restraints. This study is an evaluation of the impact of staff intervention. It will involve multiple dependent measures: (a) hours in seclusion, (b) hours in restraint, (c) frequency of inappropriate behaviors, (d) frequency of assaultive behaviors, and (e) comments on patient participation in the therapeutic milieu.

This differs from previous studies that measured client gains as a result of staff intervention, because it involves detailed measures of aggressive behaviors and physically assaultive behaviors; previous studies did not make this distinction. Additionally, detailed measures of noncompliant and annoying behaviors were taken.

## Method

### Patients

Three patients participated in this study. They were placed on the unit because they exhibited severe maladaptive behaviors, were unable to function at the level required for placement on other units and had not responded to milieu therapy. Each had periodically been determined to be suicide risks or escape risks. Each patient was also considered extremely aggressive and one was considered homicidal.

Patient A a was 30-year-old, black female, diagnosed Schizophrenic, Undifferentiated-Chronic (Diagnostic and Statistical Manual, III, 1980) and had experienced at least two previous hospitalizations. Prior to this study, she had been hospitalized for three years with no grounds permit and was considered too dangerous to attend activity therapy or group therapy. She was often described as agitated and angry. She had been on the unit for one year prior to the experiment. She had spent an average of 35 hours a month in seclusion prior to January 1987. (The evaluation portion of this study began January 1987.) One month prior to the beginning of this experiment she had brutally attacked another patient, destroyed one television set, ran from the hospital, and threatened suicide. She had a history of breaking television sets about once every two months. She assaulted a staff member or patient about once every three months.

She weighed over 200 pounds and was approximately 6 feet tall; when she became violent, six or more staff members were required to manage her. Prior to the implementation of the behavior management



program, she was frequently secluded for a wide variety of reasons, most of which were labeled as the result of her agitated and unpredictable behavior. The program was designed to limit the reasons for being secluded and to set time limits for the time in seclusion. In the past year, the longest average duration of one instance of seclusion was 12 hours.

Patient B was a 26-year-old, hispanic female, diagnosed Schizophrenic, Paranoid-Acute. She had experienced at least two prior hospitalizations. She had been hospitalized for 8 months and had spent 24 hours a day in seclusion for the three months prior to being transferred to the unit where this study took place. This patient was also considered highly assaultive, was not responsive to medical treatment (without being heavily sedated), and appeared to attack indiscriminantly. Her assaults were difficult for staff members to predict. She had attacked so many other patients that she was constantly being threatened by other patients. In a one-month period she had assaulted 16 people, spit in the faces of 11 staff members, and thrown objects 44 times. Staff members also reported fearing for this patient's physical safety because she typically attacked other patients who were larger than she in physical stature. Seventy percent of the patients on the unit were threatening to kill or physically attack this patient if she attacked them again. She was placed on the unit in November, 1986, one month before this experiment started. She had spent an average of 167 hours a month in seclusion during her 7 1/2 months as a patient at this hospital.

Patient C was a 19-year-old, black female, diagnosed Schizophrenic, Undifferentiated-Chronic. She had been hospitalized at least one time prior to this admission. She was also considered very assaultive. She had been secluded an average of 43 hours per month during the last 9 months of 1986. She was transferred to the unit in January 1987. She actively responded to auditory hallucinations and she would attack anyone who attempted to interrupt her conversations with unseen persons. She attacked staff and patients at every meal time to obtain extra food. She would threaten, scream, and then charge at anyone who attempted to control her behavior. She typically would lie in bed most of the day and then get up only to demand food, smoke cigarettes, or at meal times. She was placed on the unit one week after the study began and was included at the request of supervisory personnel because of her generally disruptive behaviors, temper tantrums, and fighting for food.

#### Dependent Variables

The number of aggressive behaviors, annoying behaviors, noncompliance behaviors, assaultive behaviors, hours of seclusion, hours of restraint, percentage of time when no inappropriate behaviors were recorded were the dependent variables for this study.

The behaviors were assigned to categories if they had the same functional impact on the patient. Verbal threats to kill, throwing objects, physical assaults and self-injury all required immediate staff intervention. Removal from the environment was the prescribed intervention for these behaviors. How and where the patient was removed

depended on the circumstances. The other prescribed intervention worked in the same manner (see Appendix C).

The categories and interventions were devised by the experimenter according to hospital policy and in consultation with the hospital director of nursing. Originally, four classes of behaviors were identified: (a) Class I behaviors included those that resulted in physical harm to the patient or others. All behaviors that had the same functional impact were included such as physical aggression and threatening to kill another person - each of these behaviors could result in the use of restrictive procedures to manage the patient's behavior. (b) Class II included noncompliant behaviors, such as refusing to follow the ward routine. (c) Class III included aggressive behaviors such as yelling, screaming, and using profanity. (d) Class IV included annoying behaviors such as talking loudly, pacing, and crying.

The graphic representations of these categories became difficult to read and the experimenter decided to reduce the numbers of classes to three: noncompliant, annoying, and aggressive behaviors. Those behaviors in Class I were combined with Class III to represent aggressive behaviors. A separate graph for physical assaults was maintained to compare to results in existing literature on patient response to treatment.

A special formula for calculating the frequency of behaviors was employed as a part of this study. A detailed discussion is contained in the Procedures' section.

## Procedures

Weeks 11 through 29 of Study I ran concurrently with Study II. The materials, reliability, procedures, and staff remained the same for the two studies. Because this study consisted of an evaluation of the impact of staff intervention on patient behaviors from Study I, no formal experimental design was used nor was baseline data collected. All data that was collected on patient behaviors in this setting, prior to the study, is in narrative form and was recorded at the end of the shift.

Again, this study is based on traditional research but in an applied study designed to assess the impact of implementing interventions which were derived from the guidelines and policies of a psychiatric inpatient setting. The goal was not to collect data for research purposes but to evaluate the impact of getting staff compliance to hospital procedures.

There were some very clear guidelines for Mental Health Facilities in the State of Michigan regarding the documentation of patient behaviors and staff interventions; however, that documentation often lacked the specificity needed to conduct a functional analysis of the patients' behaviors and the impact of intervention. The current study was designed to conduct a detailed evaluation of this area and to use the information to make short-range and long-range treatment recommendations for each patient.

The behaviors of each patient were monitored for three months prior to the study. Each patient's chart (medical record) was reviewed

and a list of behaviors that resulted in the use of a restrictive procedure was developed. The seclusion and restraint records for the past year for the unit were also reviewed and a similar list was generated. The 28 most frequently cited behaviors were then extracted and used to generate a list of behaviors to be monitored. Those 28 behaviors were classified into four sub-categories depending on the extent to which the occurrence of those behaviors would preclude placement in the community.

The inter-disciplinary treatment team for the unit reviewed the classification of behaviors and interventions selected as prescribed; interventions and categories were modified to reflect 100% consensus with policy and administrative staff feedback.

A problem arose when evaluation of the rate of behavior change was attempted. Any time a patient spent off the unit or out of the day room reduced the instances of behaviors recorded. It was then necessary to devise a method of data analysis that reflected these changes in the hours a patient was available to engage in or refrain from any of the targeted behaviors. During one week one patient's aggressive behaviors increased and staff members became upset. They stated that the patient was attacking more often; however, the patient was spending more time out of seclusion and thus, had more opportunity to engage in aggressive behaviors. The per opportunity measure reflected this increased time in the day room. The method devised was the hours per opportunity measurement. The total number of hours a patient was in seclusion or restraint, off the unit, or out of the observation area was subtracted from the total of 56 possible hours

(on the first shift) in a week. The result was then divided into the instances of behaviors from each category which resulted in frequency of behaviors per hour of opportunity. This measure allowed the experimenter to assess the effects of intervention against a more stable dependent variable:

$$\begin{aligned} \text{Hours of opportunity} &= \frac{\text{(The number of hours in the week on the first shift)}}{\text{(The number of hours off unit or restricted or on grounds permit)}} \\ \text{Rate of inappropriate behaviors per hour of opportunity} &= \frac{\text{(The number of inappropriate behaviors emitted by a patient, in a given category on the Sub Scale)}}{\text{(the number of hours opportunity per week on the first shift)}} \end{aligned}$$

On a weekly basis, these data were analyzed using this formula.

Patient behaviors were monitored and graphed weekly. Feedback on the impact of intervention on each patient was presented to the Treatment Team on the unit, the hospital Behavior Management Committee, the Clinical Director, staff members and the patient through out the study. Each patient periodically reviewed her program, read or had the handouts and check sheets read to her, made suggestions and requests. Negotiations were conducted for areas of disagreement. Each patient was cooperative with the program and was able to orally state the contingencies. The program was reviewed once per month with all staff members; review with the patients occurred whenever a patient complained about the program or asked questions. If no questions or complaints were registered by the patients, then the programs were reviewed monthly.

Patient B had a behavior management program that allowed her to buy seclusion time as a consequence of good behavior. The use of

seclusion as a reinforcer was based on assessment of the patient's behaviors and previous research on behavior management with patients who have experienced a high rate of being restricted because of aggressive or self-injurious behaviors (Favell, McGimsey, Jones, & Cannon, 1981; Spence, 1987). She had spent approximately 24 hours per day in seclusion prior to being placed on the unit. She was secluded at night to keep her from harming others or being harmed. However, between the hours of 7:00 a.m. and 9:00 p.m., she had the opportunity to purchase seclusion time. She earned points for every 15 minutes of time when none of the behaviors on the check sheet occurred. She also earned points for talking to other patients, for engaging in an activity with another person or for asking to go for a walk. Physical restraints were to be used whenever she physically attacked another person or left her assigned area in the day room.

Patient A had a behavior management program at the beginning of this study but the program was faded out and the critical features were added to her treatment plan. The original plan was designed to limit the duration of time spent in seclusion contingent on the patient's behavior. Patient A was told that when she threatened to kill or physically assault anyone, she would be placed in seclusion. To exit seclusion the patient had to remain quiet for one hour. She was also told that if staff members from another unit had to be called to get her to go into seclusion, the time in seclusion would be a minimum of two hours. This patient had injured several staff members and typically could not be secluded unless several male staff from another unit were called in to display a show of force.

## Results

### Patient Response

There was an increase in the hours available to emit inappropriate behaviors for Patient B. Patients A and C maintained a consistent number of opportunity hours (see Figure 5). The percentage of opportunity hours in which inappropriate behaviors did not occur was variable for Patients B and C and consistent for Patient A (see Figure 6). The mean numbers of aggressive behaviors and noncompliance behaviors for all subjects showed no significant changes between phases (see Figures 7, & 8).

There was a slight increase in assaultive behaviors and annoying behaviors (see Figure 9 & 10). The numbers of seclusion hours and restraint hours also increased during treatment phases (see Figures 11 & 12).

### Social Validation

The questionnaire was administered during Week 28 of the program. All first shift staff members responded. One hundred percent of the staff said they wanted to continue the program and stated that the target behaviors addressed by the program were important to them (see Appendix H). A third Social Validation Questionnaire was conducted with the patients eight weeks after the end of this study (see Appendix I).



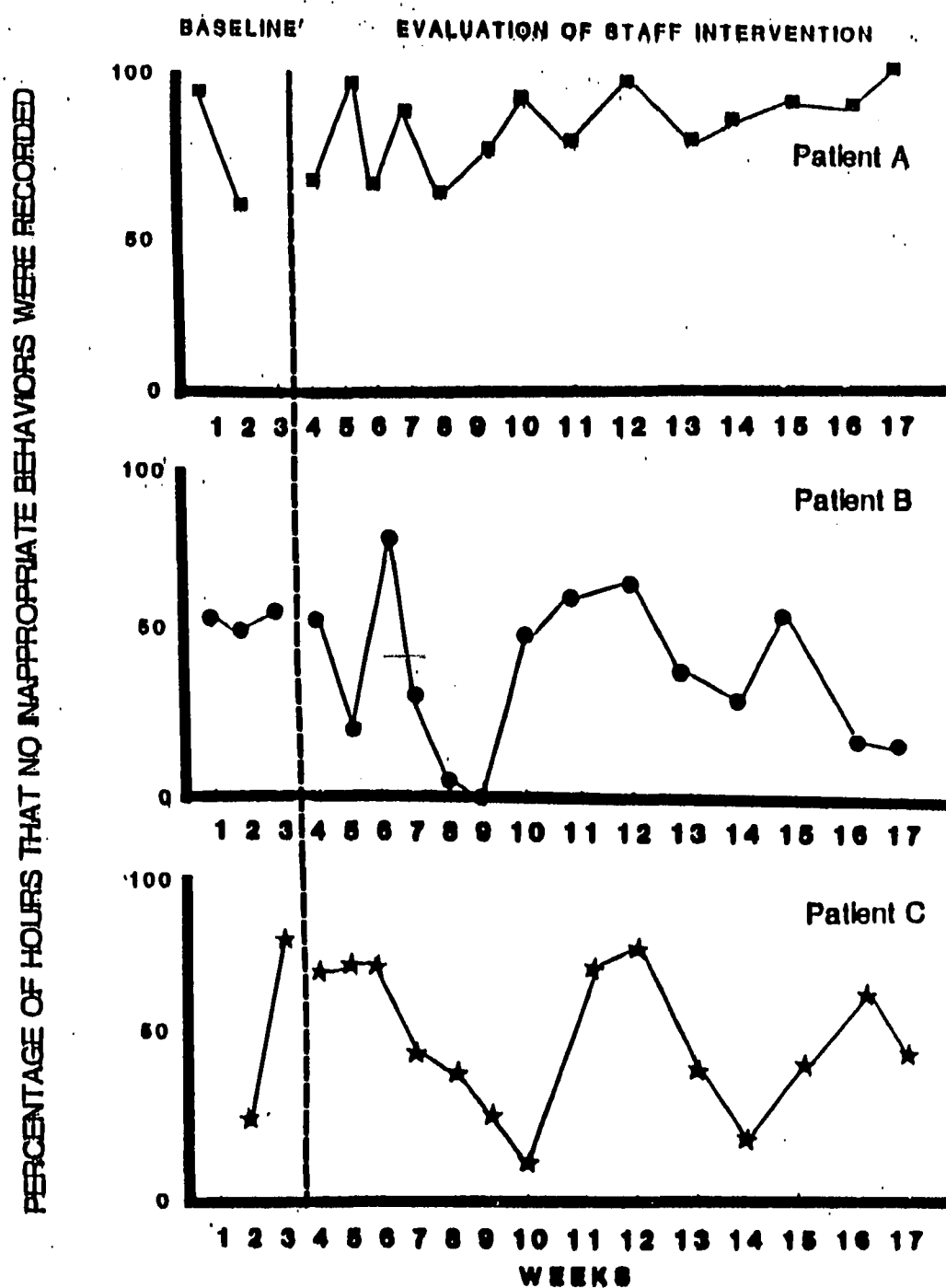


Figure 6. The Percentage of Hours Available On the First Shift, For Each Patient, in Which No Inappropriate Behaviors Were Recorded.

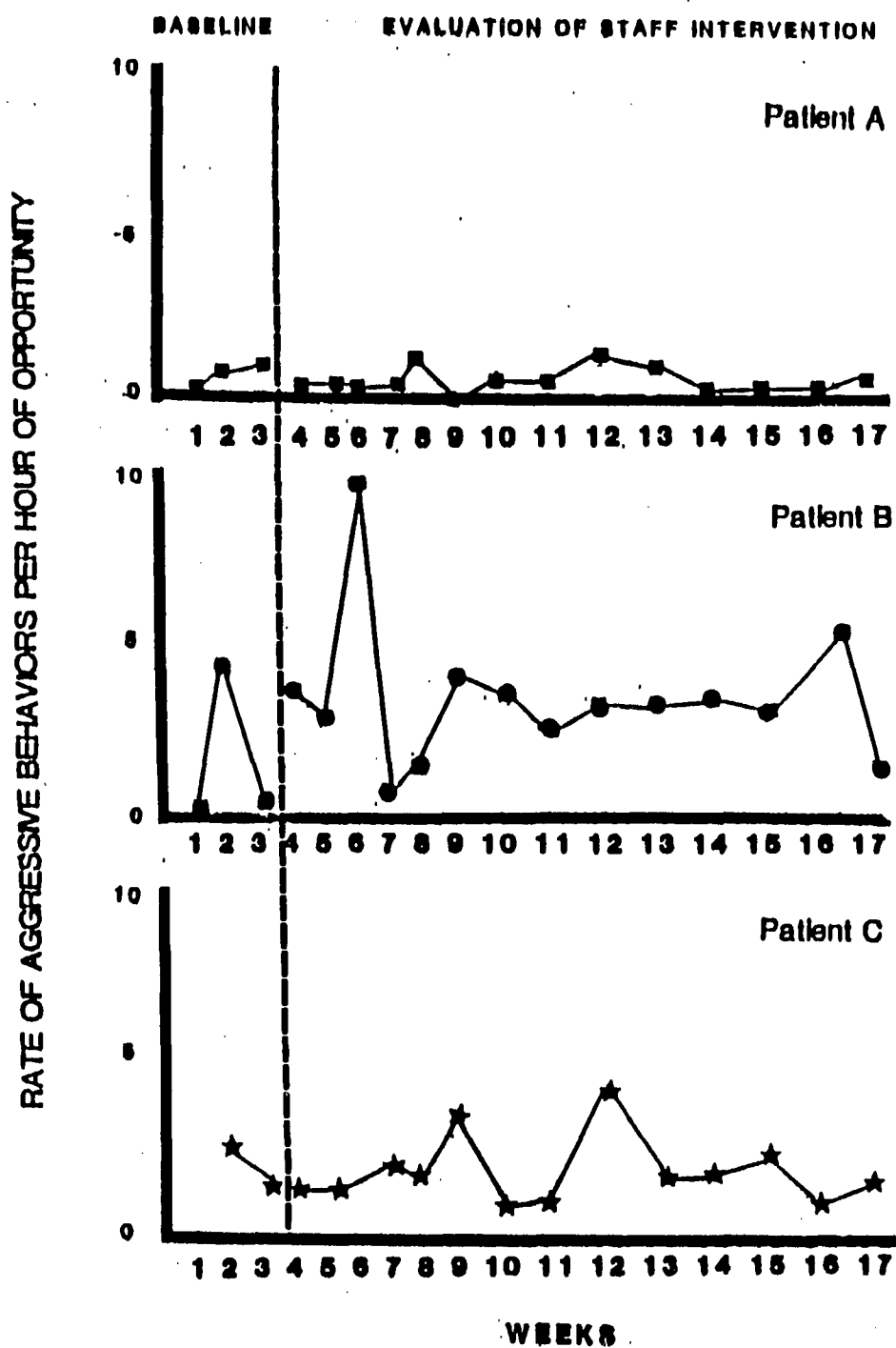


Figure 7. The Rate of Aggressive Behaviors Emitted by Each Patient Per Hour of Opportunity, on the First Shift.

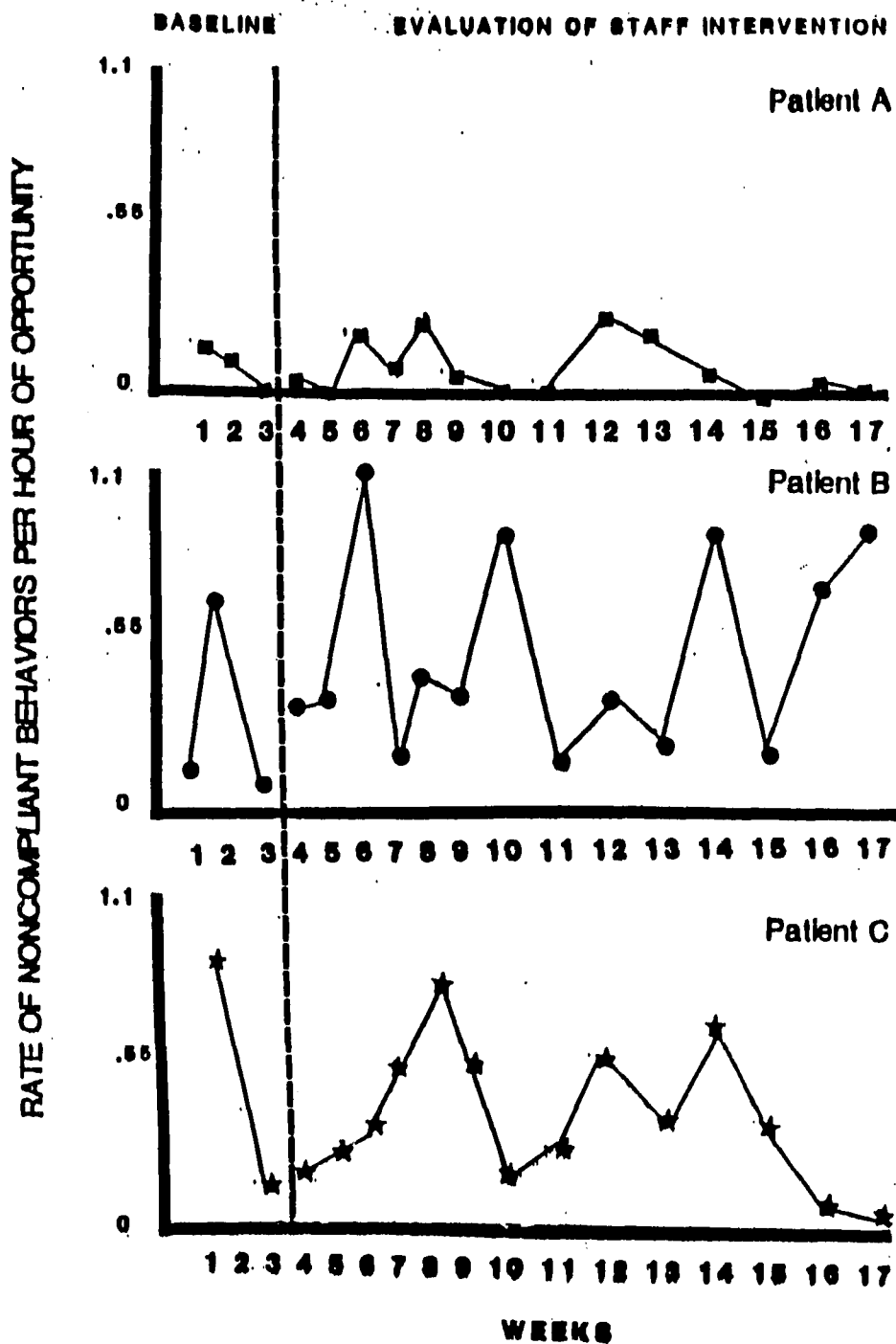


Figure 8. The Rate of Noncompliant Behaviors Emitted by Each Patient Per Hour of Opportunity, on the First Shift.

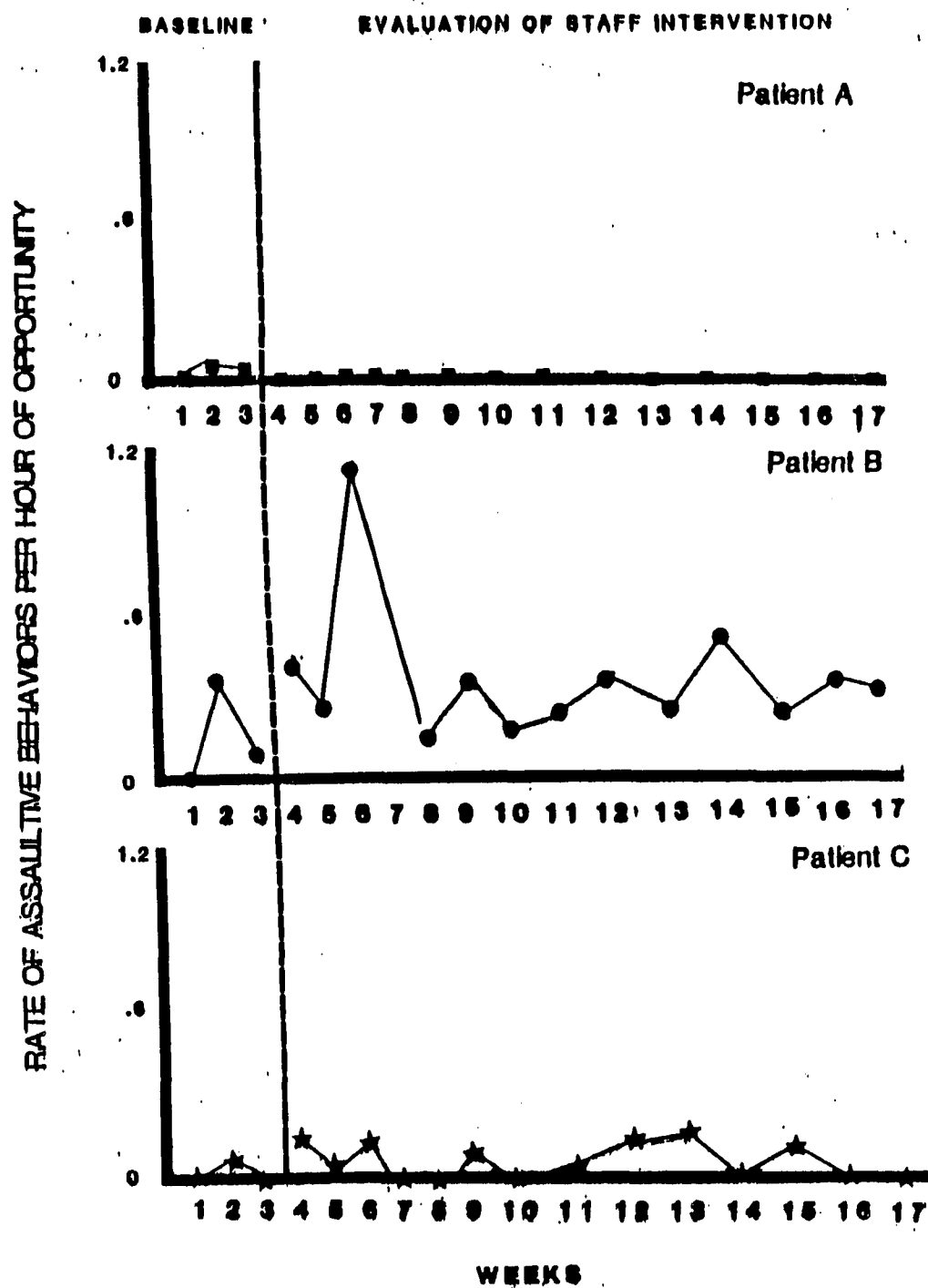


Figure 9. The Rate of Physical Assaults Emitted by Each Patient Per Hour of Opportunity, on the First Shift.

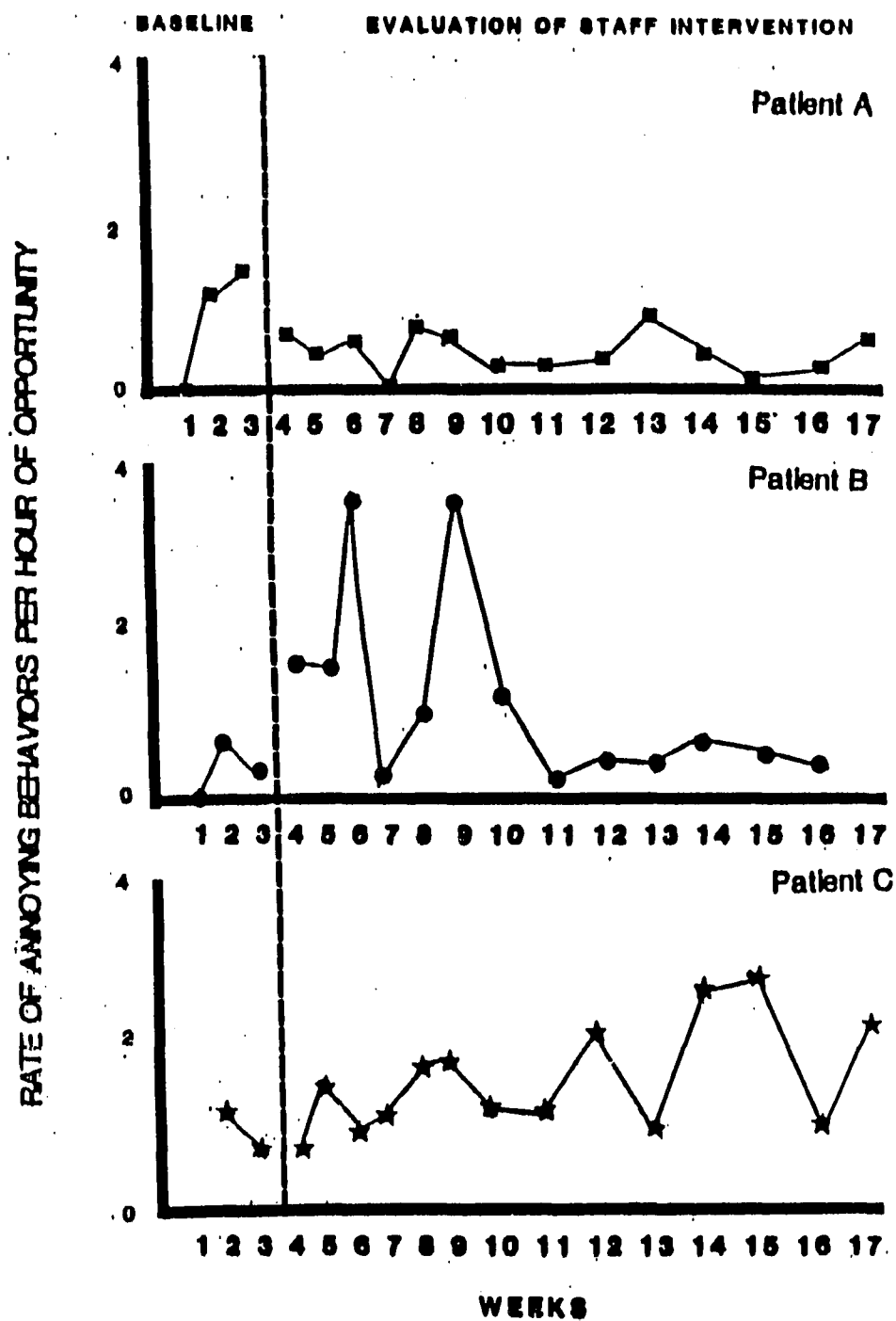


Figure 10. The Rate of Annoying Behaviors Emitted by Each Patient Per Hour of Opportunity, on the First Shift.

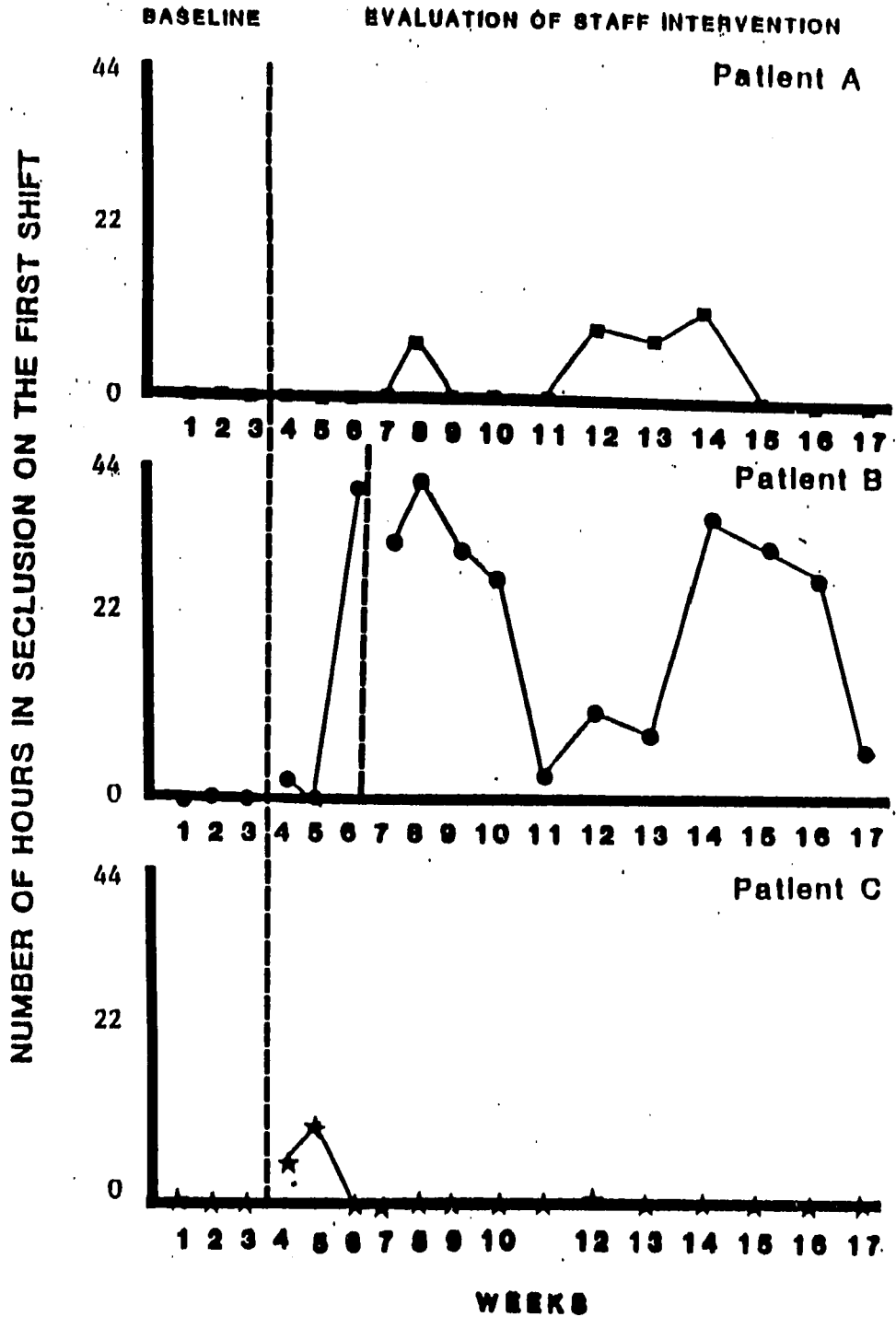


Figure 11. The Total Number of Hours Each Patient Was Secluded on the First Shift.

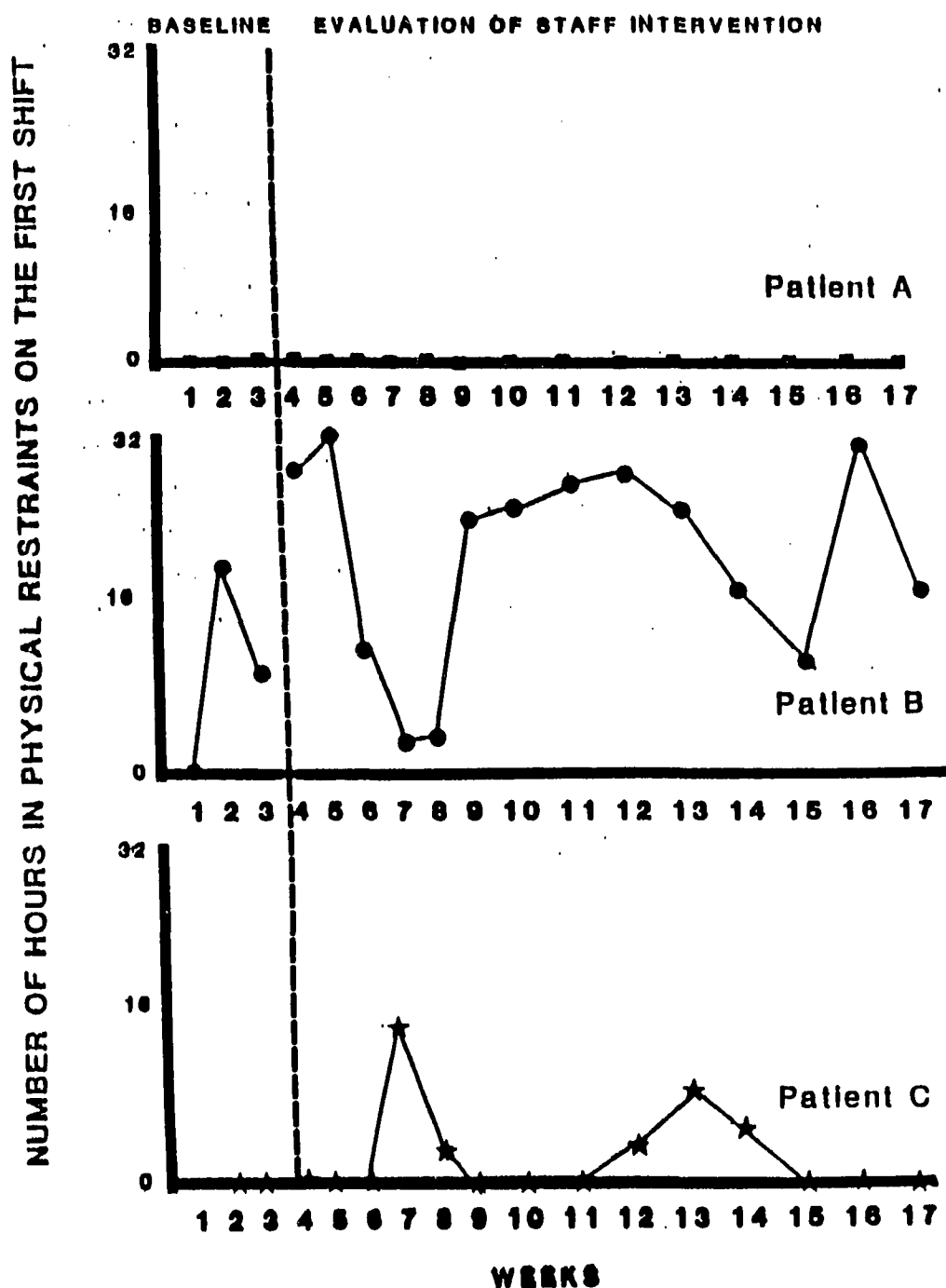


Figure 12. The Total Number of Hours Each Patient Was Placed in Physical Restraints on the First Shift.

## Discussion

The impact of staff intervention on the patient behaviors was negligible for two subjects and negative for one subject. Increased staff intervention resulted in increased seclusion and restraint hours. The objective data show patient performance getting worse and also show that staff increased their use of restrictive procedures with these three patients. Several questions seem to follow:

1. Was the increase in frequency or amount of seclusion the result of staff using restrictive procedures more consistently or was the increase the result of an increase in inappropriate patient behaviors?
2. The frequency of interventions increased and the frequency of failures to intervene decreased resulting in increased interactions with the patients. Did this increased intervention also increase staff interactions with the patients which ended up increasing aggressive patient behaviors?
3. Would the patients have emitted increased inappropriate behaviors if they were left alone?

These questions are very difficult to answer in the absence of supporting data. The data generated from this study are more detailed than any data available in many inpatient psychiatric settings. Other kinds of detailed data are routinely kept but there are no comparison data to allow for an objective evaluation. Perhaps these data can serve as a baseline for subsequent analysis of patient performance and the impact of other staff interventions. The following summaries



of the impact of staff intervention raise more questions than they answer.

### Patient B

Patient B's increased seclusion hours on the first shift were completely due to her behavior management program. The program was written during Week 15 after she was once again placed in seclusion 24 hours a day. Part of the consensus of the Behavior Management Committee was that seclusion was a reinforcer for this patient. Therefore, her program made the use of seclusion (on the first shift) contingent upon the absence of inappropriate social behaviors. She could buy up to 4 hours of seclusion time, in one-hour blocks per day if she was socially appropriate for one hour prior to requesting seclusion time; therefore, an increase in her seclusion hours during treatment would indicate an increase in appropriate behaviors.

Although the results of the program were not positive as demonstrated by the data, her participation in the therapeutic milieu did increase. The patient was taken on activities off the unit 16 times during the treatment phase (measured by tallying the recorded events on the check sheets) and several staff members volunteered to work with her because of her lack of progress. These were important gains for this patient; she had assaulted every staff person on the unit including the experimenter. Staff members stated reluctance to interact with this patient. As a compromise, nursing agreed to assign two staff persons to escort the patient whenever she engaged in an off-unit activity. These data gave support to the need to conduct an

analysis of the patient's behaviors and determine the extent of inappropriate behaviors which correlated with psychosis and those behaviors which correlated with conditions in the environment. As a result of three months of data collection, two major sources of aggression and correlational data were identified. It was determined that the patient often randomly attacked other people without apparent provocation. These attacks usually were correlated with the following behaviors: the patient's face would become flaccid, she would not respond to auditory or tactile stimuli, her hand would begin to tremble, her body posture would become rigid, and she would walk as though in a trance. Within one minute of these episodes the patient assaulted. These data suggested the potential of petit mal seizure activity; the unit physician used the behavioral data as a basis to order neurological tests to rule out medical causes of the observed behavior.

A second form of aggression was seen when this patient's requests were not met immediately.

The data also suggested that the patient could be managed if she were not around other patients. Ninety-five percent of the interventions were used to interrupt assaults on others.

When the patient was seen on an individual basis, she rarely assaulted. This allowed the experimenter to recommend that the patient be assigned to a private room and have a system installed to allow staff and the patient to detect intruders. The use of a special private room would also facilitate the reduction in the use of seclusion at night to prevent her from harming or being harmed. The staff could monitor her behavior without disturbing her. This recommendation met

the need to provide all patients with a safe environment and to meet the individual treatment needs of this particular patient. No attempt was made to analyze all the variables that resulted in changes in the staff's willingness to work with the patient or in her increased activity level; thus, no systematic data were collected to support an objective conclusion.

#### Patient A

The data did not show a change in this patient's behavior as a result of intervention. However, she gained full grounds privileges during the program and maintained her grounds permit for longer than any other time in the past five years. She had severely injured another patient in November, threatened to commit suicide, and had run away from the hospital prior to entering this program. She averaged 15 hours of seclusion per month and had slept in seclusion during the nights after her assault on the patient in November. However, during this program she was secluded three times for less than two hours each. She often engaged in annoying or demanding behaviors rather than aggressive or noncompliant behaviors. These distinctions were important in influencing how the community viewed her as a possible candidate for placement and continued treatment in the community. (Specialized treatment homes have been developed in several communities; these homes will accept patients who are not dangerous to themselves or others.) This patient had not been considered for placement prior to involvement in this study because she was viewed as highly assaultive. She remains

assaultive, but the data were used to demonstrate that actual physical assaults were low-probability behaviors.

Another impact of the data or perhaps the data collection process was that staff members no longer had to fight this patient or use a show of force to manage this patient's aggressive behaviors. Prior to getting this patient to cooperate with treatment, several male staff from another unit had to be called to manage her rages. It often took six Residential Care Aides to get the patient to go into seclusion. The patient would have temper tantrums, pace the halls, and threaten to kill everyone on the unit. She often picked up chairs or other large pieces of furniture and threw them at others in the room. Two staff members had been injured during such displays of aggressive behaviors. However, once the patient was placed on the behavior management program and cooperated with treatment, the staff were able to effectively help this patient. The staff members used the interventions as suggested, used the guides for the use of seclusion for this patient, and consistently intervened on specific acts of aggression. The patient could clearly state the rules; she continued to be aggressive at the same rate but seclusion as a result of aggression had a duration based on her behavior.

The patient had earned a grounds permit at various intervals during her placement on the unit but had lost all privileges each time she was secluded. The behavior management program was also used to specify the contingencies for losing her grounds permit. If the patient was secluded more than two times in one week, the Treatment team would interview her, evaluate the circumstances and then make a

recommendation. This allowed for the control of all the possible variables which might result in secluding the patient and attempted to address the issue of fairness from the patient's point of view.

### Patient C

Patient C was transferred to the unit where the research was conducted during the second week of the study. She was transferred to the unit because of her uncontrollable behavior and aggressiveness. She spent most of her days lying in bed; but, when she was out of bed, she was arguing with staff members, threatening other patients, stealing food, or shouting profanities into the telephone.

Again, the data did not reflect any change in this patient's behavior as a result of intervention. During the course of the study, the patient was restricted to the day room for 30 days to prevent her from making harassing phone calls. The time period was extended when the 30 days expired because the staff requested the opportunity to interact with her and attempt to get her to stop threatening and arguing. She had been allowed to go on two leaves with her parent, attend activity therapy, and to attend off-unit activities with supervision based on her meeting two criteria: (a) staying out of seclusion or restraint for three weeks, and (b) staying off the telephone. Staff members showed the check sheets to the patient and told her when she was engaging in too many inappropriate behaviors. If she threatened other patients, staff members asked her to quiet down and remember her goals. Her behavior continued to be erratic but she began to attend activities on a regular basis.

### Social Validation for Patients

The results of this survey were interesting. All patients stated they wanted more freedom. One patient said she had not discussed her treatment with anyone and all were vocal about what they wanted changed.

### Unexpected Interruptions

During the course of this research program, many unplanned events occurred. The scrub crew was on the unit for 14 days cleaning all the floors. This necessitated all patients being crowded into a smaller area during this time.

A new shift supervisor was assigned to the unit. This person did not support the program. Maintenance of staff performance required extra time spent on the unit by the experimenter discussing areas of disagreement and trying to negotiate a compromise. That supervisor subsequently left the unit.

Two employees returned from sick leave, one employee changed shifts, and the doctor went on vacation. All of these events resulted in confusion and disruption in program implementation. However, the Residential Care Aide staff members continued to record patient behaviors and their intervention but not without many questions, interventions, and supportive activities.

The increase in seclusion and restraint hours resulted in high level administration from Lansing visiting the hospital and questioning the increases. The data were presented along with the rationale for the programming. Support from administration was maintained.

### Conclusion for the Patient Management Study

The implementation of this study resulted in an evaluation of the impact of staff intervention on patient performance. The evaluation process generated many questions: Does increased staff intervention yield increased inappropriate behaviors in the psychiatric inpatient? If the prescribed interventions resulted in an increase in the use of restrictive procedures, then what interventions would have the opposite effect? Is the goal of reducing the use of restrictive procedures with psychiatric patients enough without tying that reduction to increases in appropriate behaviors. Did the patients engage in more appropriate behaviors even though there was no decrease in inappropriate behaviors?

All of these issues need to be assessed and systematically measured.

Evaluation of the impact of Study I on patient behaviors resulted in negligible measured changes in the patient's behaviors. However, each patient's participation in the therapeutic milieu was increased. This detailed measurement and analysis of patient behaviors and response to intervention allowed for data-based decisions regarding individualized treatment. A major lack of measurement in this study was for specific measures of time spent involved in other activities, the frequency of appropriate behaviors and the number of social interactions for each patient.

## CHAPTER V

### GENERAL CONCLUSION AND RECOMMENDATIONS

The major accomplishments of these studies were:

1. A measurement system was designed, implemented, and maintained with the result that the staff members were able to accurately, consistently, and reliably collect data. This system allowed the staff members to collect multiple measures on a number of patient behaviors. This system also allowed staff to record their own performance.

2. A staff training program was designed and implemented in the natural setting, not just in a training situation.

3. A system was set up that resulted in the consistent and correct implementation of hospital standards and policies by: (a) getting the strategies to occur and (b) by measuring the impact of those interventions on patient performance.

4. An objective base for assessing patient progress along a multi-behavioral scale was established.

5. A daily performance feedback system was set up to maintain staff performance in the absence of tangible incentives.

In other words, a systems approach to the design, implementation, maintenance and evaluation of a unit program was established. Researchers in the psychiatric inpatient setting have met with considerable resistance to implementing programs that measure the impact of service delivery on the recipient of the services (Bailey & Reiss, 1984; Bailey & Richter, 1987). This study established the foundation for further



research in this setting, and will serve as a baseline for subsequent evaluations of service delivery in the inpatient psychiatric setting.

#### Recommendations for Future Research

Based on the results of these two studies and the many questions those results raised, several recommendations seem appropriate:

1. The program needs to be implemented on all three shifts because the data presented in this study only represented eight hours in the day of each patient. It would be necessary to assess the patient's whole environment prior to determining the total effects of intervention.

2. The persons recording patient behaviors and implementing prescribed interventions need to be consistent for as long a time period as possible. This would minimize individual differences in staff performance. A management system which facilitates this might reduce the need to provide extensive explanations to staff members who have been assigned to a different portion of the unit. Controlling the numbers and varieties of staff who interact with patients reduces the number of adaptations the patient, who has deficits in functioning, will have to make in order to function on the unit.

3. A long-term analysis of the impact of intervention on patient behaviors needs to be done.

4. An analysis of the variables that affect how a patient is viewed and subsequently denied or given access to privileges and what impact this has on hospitalization would be of interest. The impact of how a patient is viewed and the impact that has on the use of

restrictive procedures would also be interesting. This might address the issue of changes in access to privileges in the light of no demonstrated reduction in inappropriate behaviors.

As further demonstrations of the utility of conducting studies in the inpatient psychiatric setting are done, the acceptability of conducting applied research in these setting will become more viable. Future researchers need to continue to develop methodology that produces reliable and accurate data while attending to the concerns of conducting research with special populations in closed settings.

### Cost Benefit Analysis

The design, implementation and monitoring of the program consumed approximately 35% of the experimenter's total time. Additionally, therapy provided to each of the three patients totaled 13% of the experimenter's time. The staff members spent about 20 minutes a day filling out the check sheets or an average of 2 hours and 20 minutes per week. No data were kept on the intervention times. No data were collected on generalization of interventions to other patients on the unit as a result of this study.

The benefits of the program are not easily determined at this point. Staff members indicated on the Social Validation Questionnaire a desire to continue with the program. When asked where they would like the experimenter to concentrate her time, the staff selected these three patients.

## APPENDICES

## Appendix A

### How to Use Check Sheets

## HOW TO USE CHECK SHEETS

FIRST: PICK UP SHEETS IN THE OFFICE IN THE BLUE NOTE BOOK.

SECOND: Record the patient's name, the date, and your name.

1. Use checkmarks to indicate that a behavior has occurred during a particular time period.
2. Under the Behaviors section, record the number that corresponds to the action that you have taken, i.e., if you counseled a patient for being demanding, put the Number 1 in the corresponding time-slot. Record as many numbers in that slot as necessary for a particular behavior. If no action was taken simply use the checkmark to indicate that a behavior occurred.

RETURN THE SHEET TO MY MAILBOX IN THE OFFICE AT THE END OF YOUR SHIFT.

## **Appendix B**

### **Definitions for Terms on Check Sheet**

## DEFINITIONS FOR CHECK SHEET

1. Agitated: Pacing, rocking, tics, rapid speech.
2. Assault: Physical contact with another person's body with any part of instigating person's body, i.e., shoving, hitting, kicking, biting, scratching, pinching.  
  
Verbal: use of language that is derogatory to the other person, i.e., negative descriptions of the other person: racial slurs; ethnic slurs; references to physical characteristics, past behaviors, etc.
3. Destruction of property: Physical damage to any inanimate object.
4. Demanding: Repeated requests for same or different items, privileges, attention.
5. Profanity: Use of language that is insulting, derogatory, abusive or vulgar that is directed at another person. This includes language that is vulgar, obscene or refers to sexual acts in a derogatory manner.
6. Threats to harm self or others: Any gestures or statements which imply or clearly indicate the intent to physically damage another person or to hurt self.
7. Excessive intake of water: More than 2000 cc per day. Drinking liquid for longer than 30 seconds more than four times per hour.
8. Refusal to comply with ward routine: Refuses to: perform personal care routine; get up at assigned times; line up for meals; go to cafeteria for meals; respect rights of others; make bed; smoke in assigned areas; cease inappropriate behaviors or follow directions of staff to alter behavior when requested.
9. Refusal to comply with medication regime: Refuses to: line up when called for meds; swallow medication; accept medication.
10. Loud: Speaks, sings, vocalizes in a voice above conversational tones.
11. Yelling: Loud vocalizations which may include screaming, usually not words but sounds.
12. Arguments: Repeated discussion about a particular topic in which the patient is refusing to comply with a request of staff; disagreeing with another person; usually demanding, loud, agitated and sometimes hostile.

13. Lying on bed: On bed during scheduled activities or during non-sleep times.
14. Crying: Grimaced facial expression usually accompanied by tears being secreted from the tear ducts. Sometimes loud vocalizations occur.
15. Responding to unseen stimuli: i.e., talking to the t.v., unseen persons, nodding of head, laughing in response to unseen events, stimuli.
16. Late from grounds permit.
17. Hostile: Glaring, staring or refusing to look at speaker; accompanied by refusal to comply with requests, loud speech or refusal to speak and grimaced facial expression.
18. Inciting other patients: Behaving in such a manner as to upset other patients, i.e., screaming continuously, arguing continuously, following another patient around inspite of requests to cease, talking about the other patient to someone else in audible tones, calling another patient by ethnic or racial names, etc.
19. Derogatory remarks: Any remarks about an individual which describe characteristics of an individual which are uncomplimentary (i.e., race, size, clothing, appearance, sexual preference, etc.).
20. Eating foreign objects: Ingesting or placement in the mouth of any object which is not edible.
21. Self-injury: Patient is causing physical damage to self.
22. Spitting: Expelling mucus from the mouth at or on another person.
23. Nuding: Patient removes own clothes.
24. Paranoid ideations (statements): Patient is saying that someone is trying to hurt her or loved ones, when there is no factual basis for statements.
25. Throwing inanimate objects.
26. Self-stimulation: Any act of physically manipulating the genitals, breasts by the individual to her own body (self-stimulation may refer to rocking, thumb sucking, nail biting, wringing of the hands, etc., in other settings but for our unit we will use the above definition).



27. Sexual aggression: Attempts to force sexual contact with another person, requesting sexual favors from staff, or unwilling patients. Attempts to touch the breast, buttocks or genitals of another person. Trying to kiss a staff member or unwilling patient.
28. Withdrawn: Patient does not respond to greetings, questions, or attempts to converse. Patient will often give no facial expressions (sullen). Patient will often not make eye-contact nor orient toward speaker.

Action: \_\_\_\_\_

1. Verbal Intervention: Discussed behavior with patient and suggested alternative behavior. Requests change in behavior. See instructions sheet.
2. Alternative activity used (specify). Engaged patient in activity which was in direct competition with inappropriate behavior.
3. Quiet room: Room used to remove person from aversive stimuli or excessive stimuli - often unlocked seclusion. Set time limit of 15 to 60 minutes for staying in room.
4. Physical restraints: Placement in geri chair. Tying of patient's hands, feet or torso so as to restrict movement. May be used in combination or separately.
5. Seclusion: Patient is placed in a room and the door is locked.
6. PRN: Patient is given medication to alter her behavior. This is either patient requested or staff offered.
7. UIR written: Unusual incident report is written for any behaviors which result in physical damage to the individual or presents a potentially dangerous situation.

COMMENTS: Any statement of clarification and additional information.

## Appendix C

### Sub Scale of Behaviors Listed on Check Sheets

## SUB SCALES

## CLASS I

Those behaviors that are clearly socially inappropriate and may present a danger to the patient and or other patients.

## Assault

Destruction of property (excluding personal property)

Excessive water intake

Self-injury

Threats to harm self or to harm others

Throwing inanimate objects

## Prescribed interventions:

Restrict or remove patient from the environment.

(Pt may be taken out of the area where behavior occurred; choices can range from the use of bed area, quiet room, seclusion to physical restraint)

## CLASS II

Those behaviors that prevent the patient from adapting to the environment and accessing increased privileges and less restrictive living conditions.

Refusal to comply with ward routine

Refusal to comply with medication regime

Late from grounds permit

### Prescribed interventions:

Verbal intervention, teaching of correct manner to perform tasks or motivation techniques (break task into small components and reward smaller steps toward desired behavior)

### CLASS III

Those behaviors which are maladaptive social behaviors; prolonged or repeated instances may seriously disrupt the environment preventing the patient or peers from gaining access to therapeutic activities; repeated or prolonged instances may also make the environment unsafe for patients or staff.

Arguments	Demanding
Derogatory remarks	Hostile
Eating foreign objects	Inciting other patients
Late from Grounds Permit	Profanity
Self-stimulation	Sexual aggression
Spitting	Yelling
Touching others without permission	

### Prescribed interventions:

Verbal intervention

Remove from the environment (i.e., use the quiet room, library, bed area, conference room; any area that gives the patient a place to calm down

Offer alternative activity (reading, listening to music, bath, etc.)

Restrict only if several of these behavior occur at the same time  
(repeated or prolonged instances)

#### CLASS IV

Those behaviors which are annoying but are not harmful.

Agitation	Crying
Lying on bed	Paranoid statements
Loud	Nuding
Responding to unseen stimuli	Withdrawn

#### Prescribed interventions:

- Ignore if possible
- Offer an alternative activity
- Verbal intervention

## Appendix D

### Quiz on Definitions of Terms on Check Sheet

## QUIZ ON DEFINITIONS FOR CHECK SHEETS

1. Agitated: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
2. \_\_\_\_\_: Physical contact with another person's body with any part of instigating person's body, i.e., shoving, hitting, kicking, biting, scratching, pinching.  
  
Verbal: use of language that is derogatory to the other person. i.e., negative descriptions of the other person: racial slurs; ethnic slurs; references to physical characteristics, past behaviors, etc.
3. \_\_\_\_\_: Physical damage to any inanimate object.
4. \_\_\_\_\_: Repeated requests for same or different items, privileges, attention.
5. Profanity: Use of language that is insulting, derogatory, abusive or vulgar that is directed at another person. This includes language that is vulgar, obscene or refers to sexual acts in a derogatory manner.
6. \_\_\_\_\_: Any gestures or statements which imply or clearly indicate the intent to physically damage another person or to hurt self.
7. \_\_\_\_\_: More than 2000 cc per day. Drinking liquid for longer than 30 seconds or more than four times per hour.
8. Refusal to comply with ward routine: Refuses to: \_\_\_\_\_  
\_\_\_\_\_ make bed; smoke in assigned areas; cease inappropriate behaviors or follow directions of staff to alter behavior when requested.
9. Refusal to comply with \_\_\_\_\_ regime: Refuses to: line up when called for meds; swallow medication; accept medication.
10. \_\_\_\_\_: Speaks, sings, vocalizes in a voice above conversational tones.
11. \_\_\_\_\_: Loud vocalizations which may include screaming, usually not words but sounds.

12. \_\_\_\_\_: Repeated discussion about a particular topic in which the patient is refusing to comply with a request of staff; disagreeing with another person; usually demanding, loud, agitated and sometimes hostile.
13. Lying on bed: On bed during \_\_\_\_\_ or during non-sleeping times.
14. \_\_\_\_\_: Grimaced facial expression usually accompanied by tears being secreted from the tear ducts. Sometimes loud vocalizations occur.
15. \_\_\_\_\_: i.e., talking to the t.v., unseen persons, nodding of head, laughing in response to unseen events, stimuli.
16. Late from Grounds Permit.
17. \_\_\_\_\_: Glaring, staring or refusing to look at speaker; accompanied by refusal to comply with requests, loud speech or refusal to speak and grimaced facial expression.
18. \_\_\_\_\_: Behaving in such a manner as to upset other patients, i.e., screaming continuously, arguing continuously, following another patient around inspite of requests to cease, talking about the other patient to someone else in audible tones, calling another patient by ethnic or racial names, etc.
19. \_\_\_\_\_: Any remarks about an individual which describe characteristics of an individual which are uncomplimentary (i.e., race, size, clothing, appearance, sexual preference, etc.)
20. \_\_\_\_\_: ingesting or placement in the mouth of any object which is not edible.
21. \_\_\_\_\_: Patient is causing physical damage to self.
22. \_\_\_\_\_: Expelling mucus from the mouth at or on another person.
23. \_\_\_\_\_: Patient removes own clothes.
24. \_\_\_\_\_ (statements): Patient is saying that someone is trying to hurt her or loved ones, when there is no factual basis for statements.
25. Throwing inanimate objects.



26. \_\_\_\_\_: Any act of physically manipulating the genitals, breasts by the individual to her own body.
27. \_\_\_\_\_: attempts to force sexual contact with another person, requesting sexual favors from staff, or unwilling patients. Attempts to touch the breast, buttocks or genitals of another person. Trying to kiss a staff member or unwilling patient.
28. Withdrawn: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Action:

- 
1. \_\_\_\_\_. Engaged patient in activity which was in direct competition to inappropriate behavior.
  2. \_\_\_\_\_: Room used to remove person from aversive stimuli or excessive stimuli - often unlocked seclusion. Set time limit of 15 to 60 minutes for staying in room.
  3. \_\_\_\_\_: Discussed behavior with patient and suggested alternative behavior. Requests change in behavior. See instructions sheet.
  4. \_\_\_\_\_: Placement in geri chair. Tying of patient's hands, feet or torso so as to restrict movement. May be used in combination or separately.
  5. \_\_\_\_\_: Patient is placed in a room and the door is locked.
  6. \_\_\_\_\_: Patient is given medication to alter her behavior. This is either patient requested or staff offered.
  7. \_\_\_\_\_: Unusual incident report is written for any behaviors which result in physical damage to the individual or presents a potentially dangerous situation.
- \_\_\_\_\_ : Any statement of clarification and additional information.

## Appendix E

### Quiz on Check Sheet

## TEST

1. At 8:00 the patient is pacing, yelling and crying. You talked to the patient and asked them if they would like to come and read a book.
2. At 9:00 the patient was arguing with another patient, at 10:00 the patient assaulted another patient, at 10:10 the patient was placed in seclusion.
3. At 9:00 you observed the patient drinking water for one minute. At 9:16 you observed the patient drinking water for 30 seconds. At 9:38 you observed the patient drinking water for two minutes and finally at 10:00 you observed the patient drinking water for three minutes. You asked the patient to not drink anymore water for the next 30 minutes. The patient was then seen drinking water at 10:15 and you told the patient to go sit in the geri chair for 30 minutes. The patient did. There were no other problems for the rest of the shift.
4. The patient was not observed engaging in any of the listed behaviors during your shift.

## ANSWERS TO QUIZ ON HOW TO USE CHECK SHEETS

1. Record the number 1 under agitated, yelling, and crying at 8:00 (for counseled).  
# 2 also recorded (for alternative activity used) under all three behaviors at 8:00.
2. Checkmarks under arguing, at 9:00, under assault at 10:00.  
# 5 recorded at 10:00 under assault.
3. Four checkmarks under Excessive water intake at 9:00  
and record the number 1 at 10:00; Record the number 4 and write Geri Chair.

Comment: patient used geri chair for 30 min. No problems for rest of shift.

4. No checkmarks. Comments: Patient had nice day. Went out on activity and interacted with other patients.

## Appendix F

### Instructions for General Clinical Intervention

## INSTRUCTIONS SHEET FOR CLINICAL INTERVENTION

1. In a calm and soft tone of voice, ask the patient, "What is the problem?"
2. Let the patient talk. Do not argue. LISTEN.
3. Maintain eye contact. Insure that you have an escape route. Do not corner the patient.
4. If the patient can identify the problem, ask, "What do you want me to do?"
5. If the patient tells you what she wants, explain in a calm manner what you can or cannot do.
6. Do not argue. Listen!!!!
7. If the patient does not talk or cannot calm down, offer the patient the use of the quiet room, say, "You seem to be having a very difficult time; would you like to use the quiet room to think and get yourself together? We can talk again when you are ready."
8. Sometimes you can offer the patient an alternative activity: a walk; a bath; a cup of coffee, tea, or hot chocolate; a book to read; opportunity to play a game with you (cards, puzzles).  
  
Your time and attention is a potent reinforcer for appropriate behavior. Any alternative that has been effective in the past or that you think might allow the patient to "calm down" will be acceptable.
9. If the patient refuses, explain, "It would be better if you chose the quiet room; if we have to seclude you, then I can't help you. Think about it for a minute and let me know."

10. If the patient refuses the quiet room, escort the patient to the room. Explain in a calm voice that "You need time to calm down. I am taking you to the quiet room. You may come out when you have been quiet for 30 minutes." Make sure you return in that time to assess the patient's behavior.
11. If the patient refuses to stay in the room or fights on the way to the quiet room, refer to KRPH Policy C-8, 1985 regarding procedures for seclusion and restraint.

## Appendix G

### Social Validation Questionnaire - 1



## SOCIAL VALIDATION

Please, fill this questionnaire out and return it to me at the end of your shift.

Seventy-three percent of day shift employees were surveyed.  
Eight surveys were handed out with 100 percent return.

1. Circle the major accomplishment in your job function during the past three months.

1. 75 percent of the respondents said they had learned new techniques to change patient behavior.
2. 62.5 percent of the respondents said they had also learned to use those techniques effectively.
3. 75 percent said they know how to predict the actions of specific patients and can prevent them from inflicting harm.
4. 37.5 percent said they had changed the way they approach patients.
5. 50 percent said they had learned how to manage patients without yelling, threatening or arguing
6. 0 percent said they had learned nothing
7. 0 percent said they had learned new things that were not useful.
8. 81 percent said they had established a good working relationship with the psychologist on the unit.
9. 50 percent said that the good working relationship has also made their jobs easier.

When asked how, the responses were:

"created sense of caring and unity"  
"resources, supportive, guidance"  
"looking at both sides of issues"  
"understand patient behavior and how that affects me"  
"professional advice which I trust to be beneficial"  
"easy to talk to, listens and cares"

10. 0 percent of the respondents added any additional categories.

2. Rate the following items from 1 (excellent) to 4 (poor).

7 of 8 respondents used	1	2	3	4
n/a	1	2	3	4
a. The check sheets were useful.	62.5	12.5	12.5	
b. The psychologist was available to answer questions about check sheets.		75.0	12.5	
c. The psych. clearly explained how to use the sheets.		75.0	12.5	
d. I clearly understood how to use the check sheets.		62.5	20.0	
e. Check sheets helped me monitor patient behaviors.		62.0	25.0	
f. Check sheets were useful tool for helping me know what to do next.	50	25.0	12.5	

Answer yes or no

	yes	no
g. I found counseling patients effective.	100.00	
h. I found counseling patients a waste of time.	19.0	81.0
i. I felt the patient's behavior changed.	81.0	19.0
j. I felt forced to let patients do anything they wanted to avoid using seclusion or restraint.	19.0	81.0
k. I felt I had more control over my safety as a result of using the program.	50.0	50.0
l. The program made my job easier.	81.0	19.0
m. The program caused too much trouble.	19.0	81.0
n. The program was a waste of time and did not change my behavior.	19.0	81.0

- o. Did you find feedback from the psychologist useful?

100.0

- p. Did the psychologist show you how to handle any problems?

100.0

What kind: Responses were:

"personal conflict with patients and staff"

"encouraged self worth"

"how to talk to patients in proper manner"

- q. Did this change how you handled the patients?

81.0 19.0

- r. Was this method effective?

81.0 19.0

- s. Are you still using it?

100.0

(of those who said yes)

Were the check sheets easy to find?

50.0 50.0

Did you turn them in as requested?

50.0 25.0

Comments or suggestions for how the program could be more useful to you:

no comments given

What would you like to see changed on the unit?

Comments were:

" no comment"

"More and consistent team work among staff"

"Professionals listen to RCA's more about patient behavior"

"Smaller unit"

"Unit less stressful - split number of patients to staff ratio"

Overall positive reaction from sample of staff.

## Appendix H

### Social Validation Questionnaire - 2

## SOCIAL VALIDATION QUESTIONNAIRE

Please fill this questionnaire out and return it to me at the end of your shift.

100 percent of the day shift employees were surveyed. All returned the questionnaires.

1. Circle the major accomplishment in your job function during the past 3 months:

a. I have learned techniques to change patient behavior.

7 percent

b. I have learned techniques to change patient behavior and can effectively use them.

7 percent

c. I know how to predict the actions of specific patients and prevent them from inflicting harm.

16 percent

d. I have changed the way I deal with aggressive patients.

3.5 percent

e. I have learned how to manage patient aggression without yelling, threatening or arguing.

5 percent

f. I have learned to observe and record patient behavior.

12 percent

g. I have learned effective interventions for dealing with violent patients.

9 percent

h. I can consistently intervene with aggressive patients.

14 percent

i. I am a more effective employee.

5 percent

- j. I have learned how to make my work more satisfying.

3.5 percent

- k. I have maintained a good working relationship with the psychologist on the unit.

16 percent

- l. Other \_\_\_\_\_

2 percent

Comments: "...(experimenter) is definitely an asset to the unit for the patients and staff"

2. Rate the following from 1 (excellent) to 4 (poor)

	Excellent		Poor	
	1	2	3	4
a. The check sheets were useful.	60%	30%	10%	0%
b. The psychologist was available to answer questions about the check sheets.	50%	50%	0%	0%
c. The training on how to use the check sheets was helpful.	70%	30%	0%	0%
d. I clearly understood how to use the check sheets.	60%	30%	10%	0%
e. The check sheets helped me monitor patient behavior.	50%	50%	0%	0%
f. The information I collected on the check sheets was used by the psychologist.	88%	12%	0%	0%
g. The check sheets were a good use of my time.	56%	33%	11%	0%

- h. The training on the definitions  
for behaviors on the check sheets  
was useful in using the sheets

60% 40% 0% 0%

- i. The training on the interventions  
was clear and helpful in doing  
my job.

37% 63% 0% 0%

Answer yes or no

3. The check sheets were easy to find	yes	no
	75%	25%
4. I found the interventions effective	yes	no
	100%	0%
5. I found the interventions ineffective	yes	no
	0%	100%
6. The interventions were easy to use	yes	no
	89%	11%
7. I used the interventions consistently	yes	no
	75%	25%
8. I felt forced to let patients do anything they wanted to avoid the use of seclusion or restraint	yes	no
	14%	86%
9. I felt I had more control over my safety as a result of using the interventions	yes	no
	86%	14%
10. I felt the whole program was a waste of time	yes	no
	0%	100%

11. Did you see the graphs weekly	yes	no
	50%	50%
12. Did seeing the graphs help you perform your job better	yes	no
	67%	33%
13. Did the psychologist give you feedback about the use of the program	yes	no
	89%	11%
14. Did the psychologist review the patient's progress with you weekly	yes	no
	70%	30%
15. Did the psychologist review the program progress with you daily (when you worked)	yes	no
	67%	33%
16. Were these reviews helpful	yes	no
	86%	12%
17. Did the psychologist help you with any problems on the unit	yes	no
	89%	11%
18. Were the problems targeted for the program important to you	yes	no
	100%	
If not, what would you have suggested		
"only worked on the east end once."		
"Excellent follow through"		
19. Did the patients get better as a result of the interventions	yes	no
	80%	20%



20. Did you receive individual feedback about how you completed the check sheets
- |     |     |
|-----|-----|
| yes | no  |
| 88% | 12% |
21. Did you receive individual feedback about how you used the interventions
- |     |     |
|-----|-----|
| yes | no  |
| 75% | 25% |
22. Did any of this feedback change the way you used the check sheets
- |     |     |
|-----|-----|
| yes | no  |
| 50% | 50% |
23. Did any of this feedback change the way you used the interventions
- |     |     |
|-----|-----|
| yes | no  |
| 62% | 38% |
24. Are any of the interventions something you will continue to use
- |      |    |
|------|----|
| yes  | no |
| 100% |    |
25. Why did you complete the check sheets
- "Because (psychologist) wants us to and we'll do anything for ....."
- "Because.....asked us to - to help us perform our jobs better and we will do anything for ....."
- "for...- to try new techniques:
- "in the beginning, we were asked, then patients showed progress"
- "I have heard comments supporting the above answers"
26. Why did you use the interventions
- "to help us and the patients"
- "Very helpful for patient management"
- "The more we use them the more effective we become"
- "To help prevent patients ending up in seclusion or restraint"
27. Should the check sheets be continued
- |      |    |
|------|----|
| yes  | no |
| 100% | 0% |
28. Do you wish to continue to receive daily feedback on how you use interventions
- |     |     |
|-----|-----|
| yes | no  |
| 86% | 12% |

29. Do you wish to continue to review the  
graphs on a weekly basis

yes no

100% 0%

Please comment on the program and or make suggestions

"Use it so infrequently, but with my limited observation, I feel it  
is effective and useful"

"With the check sheets, it's showing progress"

"It's been very helpful for me, also the pts."

"The program has helped me cope with the job and hopefully makes me a  
better employee!"

## Appendix I

### Social Validation Questionnaire for Patients

## SOCIAL VALIDATION QUESTIONNAIRE FOR PATIENTS

The patients were interviewed separately; however their oral responses are recorded together and presented below:

Did you ever see the check sheets?	Yes	No
Patient A	x	
Patient B	x	
Patient C	x	

Describe your Treatment or Behavior Modification program.

Patient A: "If I fight I will go into seclusion for one hour. I can keep my ground permit if I don't go in too much. If I am quiet when I'm in seclusion, then I don't have to stay long."

Patient B: "I don't know what it is."

Patient C: " I don't have one--well yes I do--the doctor said I could go home with my mother if I stay out of seclusion or restraint."Has the psychologist discussed or talked with you about your treatment program?

Patient A: "Yes"

Patient B: "No"

Patient C: "No--I mean Yes"

Has anyone on staff discussed your treatment program with you?

Patient A: "Yes"

Patient B: "No"

Patient C: "I don't know"

What do you like about your treatment program?

Patient A: "I have a full ground permit and can to work every day."

Patient B: "I don't like anything about it!"  
"Well, maybe I like my private room."

Patient C: "I get to go on activities every time they are offered and I get to go on Leaves with my mother."

What do you not like about your treatment program?

Patient A: "I don't like you guys keeping the check sheets. I'm doing well enough not to be watched all the time."

Patient B: "I hate being tied up and I hate having to stay in one area. I want to buy 2 hours of seclusion two times per shift. I like to sleep and I hate being in the day room."

Patient C: "I don't like it cause I don't have a ground permit. Why do I have to be good to get a ground permit when everyone has one and they aren't good."

What would you change about your treatment?

Patient A: "I would let me go home."

Patient B: "I would let me be free and give me a ground permit. I won't hurt anybody. Why don't you trust me?"

Patient C: "I would let me see the treatment team every time they meet until you guys give me a ground permit."

Did you help to make up you treatment program?

Patient A: "yeah, but I want to change it now; I don't need it any more."

Patient B: "No."

Patient C: "I don't remember."

(At this point in the interview, Patient C became distracted and requested to stop for a break)

If you complained about your treatment program, did the psychologist talk with you about it? Did she change anything?

Patient A: "Yes, but (pause and smile) oh, I guess you really did try to help me."

Patient B: "No!"

Patient C: "I don't know, look when can I have a ground permit?"

How often do you see the psychologist to talk with her?

Patient A: "Once a week."

Patient B: "Never."

Patient C: "Every day."

Have things gotten better or worse for you since you came to the unit?

Patient A: "Better."

Patient B: "Worse. I'm tied up all the time and I can't go any where."

Patient C: "Maybe a little better."

How often have you been secluded or restrained in the past three months?

Seclusion:

Patient A: "Three times."

Patient B: "Everyday, I buy seclusion time."

Patient C: "Ten times."

Restraints:

Patient A: "(Laughter) I'm too big, they don't tie me up."

Patient B: "Too much. Sometimes I'm in restraints for the whole shift. I hate it; why are you so mean to me? I never hurt anybody."

Patient C: "Why do you keep asking me all these questions? I've done everything you said I had to do now get off my back."

When asked to please answer how many time she had been restrained so that I could write my report, the patient cooperated and gave an answer:

Patient C: "I've been in restraints about 5 times."

How do you feel the staff treat you?

All patients: "okay."

How does the psychologist treat you?

Patient A: "You'll do in a pinch (Laughter)."

Patient B: "Wonderful."

Patient C: "Okay, most of the time, when are you going to recommend I get a ground permit?"

Do you think your treatment in the hospital has been poor, fair, okay, as good as could be expected or great?

Patient A: "Okay."

Patient B: "As good as could be expected."

Patient C: "As good as could be expected."

Is there anything you want me to include in my report?

Patient A: "Yeah, tell them to let me go home."

Patient B: "Yes, transfer me to EWB and let me get off the ward more."

Patient C: "Yes, tell them to let me go live in a foster home."

Can you tell me the reasons why you get secluded?

Patient A: "When I get mad and threaten to hurt people or if I fight somebody. I haven't been fighting in a long time."

Patient B: "When I earn the time by not fighting or threatening other people. I used to sleep in seclusion but now I have a private room and only go to seclusion if I won't stay in my room."

Patient C: "When I try to steal food and people try to stop me and I get mad and try to hurt them."

Can you tell me what the reasons are that you get tied up?

Patient A: "I don't get tied up because I'm too big."

Patient B: "If I won't stay in my area or if I attack the staff."

Patient C: "If I steal food or fight other people."

## Appendix J

### Human Subjects Review Proposal and Approval Letter





*Human Subjects  
Institutional Review Board*

TO: Helen D. Pratt  
Richard Malott

FROM: Ellen Page-Robin, Chair *EP-R*

RE: Research Protocol #87-02-06

DATE: February 4, 1987

This letter will serve as confirmation that your research protocol, "An Evaluation of a Ward Management Program: The Effects on Staff Performance and Patient Management," has been approved by the HSIRB with the understanding that no identified data will be collected.

If you have any questions, please contact me at 383-4917.

Reviewer: *Assess*  
*Bunda*

87-02-06  
Protocol II:

Received:

1-28-87

WESTERN MICHIGAN UNIVERSITY  
HUMAN SUBJECTS INSTITUTIONAL REVIEW BOARD  
HUMAN SUBJECTS APPROVAL FORM

PRINCIPAL INVESTIGATOR HELEN D. PRATT DEPARTMENT PSYCHOLOGY

Home Phone 345-8764 Office Phone 385-1393

Home Address 804 Gilbert Ave. Office Address Box A  
Oakland Drive, Kalamazoo

PROJECT TITLE: AN EVALUATION OF A WARD MANAGEMENT PROGRAM:  
THE EFFECTS ON STAFF PERFORMANCE AND PATIENT MANAGEMENT

SUBMISSION DATE: 1/28/87 PROPOSED PROJECT DATES \_\_\_\_\_ TO \_\_\_\_\_

APPLICATION IS NEW

NO SOURCE OF FUNDING

*Helen D. Pratt*  
Signature of Investigator

STUDENT RESEARCH

Name of Student Helen D. Pratt Phone 345-8764 Address Same

The research is Graduate Level

Faculty Advisor Richard Malott, Ph. D. Department Psychology

Signature of Faculty Advisor RWM Phone 383-642

VULNERABLE SUBJECT INVOLVEMENT

Project involves subjects who are institutionalized mental health patients and the attendant care staff.

LEVEL OF REVIEW:

Expedited

COMMENTS:

Project involves the evaluation of data generated from a quality assurance program and project that is required by the Joint Commission on the Accreditation of Hospitals. As part of my

professional job responsibilities I am required develop programming for enhancing the therapeutic milieu of the ward. As part of this program, data is generated on staff compliance, accuracy, and use of procedures. Additional data on seclusion hours, physical restraint hours, patient behaviors and patient progress are also a part of hospital record. The project does not endanger or restrict the staff or patients in any manner. The whole project is designed to reduce the use of restrictive procedures, increase the appropriate use of patient management techniques and create a safer environment for the staff members and patients on the ward.

KRPH is mandated to provide treatment for these patients who are 80% involuntary commitments. Releases for treatment have been obtained from the court or from legally responsible parties, including voluntary patients. This project was designed to insure that treatment was measurable effective, monitored to maximize benefit to the patient, and humane.

Your application was reviewed and the Human Subject Institutional Review Board (HSIRB) has determined that:

- ☒ 1. The proposed activities, subject to any conditions and/or restriction indicated in Remarks below, have (a) provided adequate safeguards to protect the rights and welfare of human subjects involved, (b) established appropriate procedures and/or documents to obtain informed consent, and (c) demonstrated that the potential benefits of the research substantially out-weigh the risks.
- ☐ 2. The proposed activities, for reasons indicated in Remarks below do not provide adequate protection for the rights and welfare of the human subjects.

At its meeting on 2/4/87, the HSIRB (approved) (provisionally approved...see remarks) this application with regard to the treatment of human subjects.

The HSIRB categorized this application as:

- ☒ 1. Involving subjects at no more than minimal risk.
- ☐ 2. Involving subjects at more than minimal risk.

REMARKS:

*Providing no identified data collected -  
See attached memo.*

Ellen K. Page - Poiri  
Signature HSIRB Chair

2/5/87  
Date

CONFIDENTIALITY OF DATA: All data will be presented in group form for the staff members who collect the data. No names of any staff member will appear in the dissertation. Staff members will be identified by shift and or classification only.

All patient data will be labeled as patient A, B, C , etc. No names will be used. The mean ages, race, and length of hospitalization will be reported.

Seclusion, and restraint data will be reported as group data and individual data but will be matched to labels as above. Performance data will also be coded.

---

BENEFITS OF RESEARCH: The benefits of the project will be to increase the documentation of patient behavior, demonstration of therapeutic effect which will aide in refinement of treatment plans, reduction of restrictive procedures, increase of adaptive behaviors for patients, safer and more therapeutic ward environment.

The benefits to the staff members will be increased support and training for therapeutic interventions, safer more pleasant working environment. Increase in behavior management skills. Increased confidence in one's ability to function on the unit.

---

RISKS FOR SUBJECTS: None. I am required to develop programs which reduce the number of aggressive acts, assaultive acts, and violent acts on the unit.

Some staff may be uncomfortable with learning new methods of interacting with patients, and for being required to intervene at specified times, but the end result will be a safer unit and a patient who is able to function at higher levels with fewer restrictions.

---

PROTECTION FOR SUBJECTS: Mental Health codes, State and Federal guidelines and policies are designed to protect patient rights. The Recipient Rights office in the hospital is available for complaints. The protection Advocacy organization has keys and is on cite to review programs and treatment of patients. The Behavior Management Committee is also on cite to review unit programs, behavior management programs and monitor implementation and maintenance of such programs. The Hospital administrative staff (psychology, nursing, and hospital director) are also monitoring this program.

JCAH reviews hospital programs and effectiveness of such programming for patients both individually and collectively. The state Behavior Management Committee reviews this type of programming as a quality check. Finally, the Treatment Team on the unit (Physician, Nursing

Director, Social Workers, Nursing Supervisors, Activity Therapists, and Psychologist) reviews, monitors, and approves all programming on the unit.

Staff. The staff members are protected by their union contract. Any complaints are addressed by Nursing and the Union.

Staff and patients are active participants in the maintenance and modification of the program. Each group also helped to design the program to insure that each group was represented.

-----  
**INFORMED CONSENT:** An informed consent is not necessary for this project because this dissertation is merely the evaluation of data that is and will become a part of published reports (by KRPH and the Department of Mental Health). The tasks that staff are asked to complete are already a part of their existing job function but does not get adequately or accurately performed on a consistent basis. The patients will receive treatment with or without this evaluation being part of a research requirement.

As a staff psychologist, I am required to write such programs, implement, monitor, modify and report effectiveness for patients and for the hospital. Existing programming has already reduced seclusion and physical restraint hours on the unit by 60% and enabled several chronic patients to develop adaptive skills to exit the hospital. These patients were sent to my unit because of their lack of response to traditional therapeutic milieu.

As a result of such monumental successes, I expanded my project to include the unit, meet federal quality control mandates, and improve the therapeutic environment for more patients.

-----  
**QUESTIONNAIRES OR INTERVIEW SCHEDULES:** See attached proposal for all forms and social validation questionnaire. This questionnaire is done without names and allows the staff to evaluate the program and the impact on themselves.

-----  
**PRINCIPAL INVESTIGATOR:** HELEN D. PRATT    **DATE** 1/27/87

**TITLE OF PROJECT** AN EVALUATION OF A WARD MANAGEMENT PROGRAM:  
 THE EFFECTS ON PATIENT MANAGEMENT AND STAFF PERFORMANCE

**ABSTRACT:** The focus of this project is to evaluate the development, implementation, maintenance, and effectiveness of a ward management program. The program was designed to reduce the frequency of aggressive behaviors in a psychiatric inpatient setting. The reduction of aggressive behaviors will decrease the need for the use of restrictive procedures to manage patient behaviors. A third goal of this program is to increase the accuracy of documentation of patient behaviors, increase the timely correct use of behavior management techniques. A

fourth and final goal of this program is to increase the socially adaptive behaviors of the chronic mentally ill patients housed on this female unit. Staff members will be asked to record patient behaviors as they occur, record their responses to these behaviors, and correctly use interventions to increase adaptive patient behaviors. Staff members will receive oral feedback about their accuracy of recording and correctness of procedures used. Staff members will also be shown graphs on the number of check sheets turned in by shift. Patients will receive oral and graphed feedback about their performance. An ABCD design will be used. (See proposal)

Setting: Kalamazoo Regional Psychiatric Hospital, Palmer Unit.

---

CHARACTERISTICS OF SUBJECTS: Patients: Chronic schizophrenic inpatients, with ages ranging from 18-35 . Two subjects were black, one was Puerto Rican, two were white. All were female.

Staff: Resident Care Aides who work the AM shift. Eight females and two males. Their mean age was 34. All staff were white.

---

SUBJECT SELECTION: The treatment team selected patients who were engaging in frequent aggressive, assaultive acts, had higher than average seclusion or physical restraint hours. They were considered priority patients because of their severe maladaptive behavior patterns that interfered to their adjustment to a highly structured ward for patients with major behavior problems and interfered with the provision of services to other patients.

## BIBLIOGRAPHY

- Adams, D. M. (1985). Comments on the Patrick & Riggan practice article. Journal of Rehabilitation Administration, 8, 105-106.
- Alavosius, M. P., & Sulzer-Azaroff, B. (1986). The effects of performance feedback on the safety of client lifting and transfer. Journal of Applied Behavior Analysis, 19(3), 261-267.
- Allyon, T., & Michael, J. (1959). The psychiatric nurse as a behavioral engineer. Journal of the Experimental Analysis of Behavior, 2, 323-334.
- Altman, K., & Krupsaw, R. (1983). Suppressing aggressive-destructive behavior by delayed overcorrection. Journal of Behavior Therapy and Experimental Psychiatry, 14(4), 359-362.
- Ambrasik, F. (1979). Organizational behavior modification business settings: A methodological and content review. Journal of Organizational Behavior Management, 2, 85-102.
- American Psychiatric Association. (1980). Diagnostic and statistical manual, (3rd ed.). Washington, DC: American Psychiatric Association.
- American Psychiatric Association. (1985). Seclusion and restraint: The psychiatric uses. Task Force Report 22. Washington, DC: American Psychiatric Association.
- Anderson, D. C., Crowell, C. R., Sponsel, S. S., Clarke, M., & Brence, J. (1982). Behavior management in the public accommodations industry: A three-project demonstration. Journal of Organizational Behavior Management, 4(1-2), 22-66.
- Anderson, D. C., Crowell, C. R., Sucec, J., Gilligan, K. D., & Wikoff, M. (1983). Behavior management of client contacts in a real estate brokerage: Getting agents to sell more. Journal of Organizational Behavior Management, 4(1-2), 67-95.
- Bach-Y-Rita, G., Lion, J. R., Climent, C. E., & Ervin, F. (1971). Episodic dyscontrol: A study of 130 violent patients. American Journal of Psychiatry, 127(11), 49-54.
- Bacon, D. L., Fulton, B. J., Malott, R. W. (1982). Improving staff performance through the use of task checklists. Journal of Organizational Behavior Management, 4(3/4), 17-25.

- Bailey, J. S. (1986). Behavioral diagnostics. Unpublished manuscript.
- Bailey, J. S., & Behavior Management Consultants, Inc. (1986). A behavioral system for managing staff performance. Unpublished manuscript.
- Bailey, J. S., & Bostow, D. E. (1979). Research methods in applied behavior analysis. Tallahassee, FL: Copy Grafix.
- Bailey, J. S., & Reiss, M. L. (1984). The demise of the "model-T" and the emergence of systems management in human services. Behavior Therapist, 7(4), 65-68.
- Bailey, J. S., & Richter, T. (1987). Using performance management to improve productivity in state government. Paper prepared for Tax Watch, Tallahassee, FL.
- Balcazar, F., Hopkins, B. L., & Suarez, Y. (1985/86). A critical, objective review of performance feedback. Journal of Organizational Behavior Management, 7(3/4), 65-89.
- Bandura, A. (1973). Aggression: A social learning analysis (pp. 1-59). Englewood Cliffs, NJ: Prentice-Hall.
- Banzett, L. K., Liberman, R. P., Moore, J. W., & Marshall, B. D. (1984). Long-term follow-up of the effects of behavior therapy. Hospital and Community Psychiatry, 35(2), 277-279.
- Bates, P., & Wehman, P. (1977). Behavior management with the mentally retarded: An empirical analysis of the research. Mental Retardation, 15(6), 9-12.
- Becker, L. J. (1978). Joint effect of feedback and goal setting on performance: A field study of residential energy conservation. Journal of Applied Psychology, 63(4), 428-433.
- Boe, R. B. (1977). Economical procedures for the reduction of aggression in a residential setting. Mental Retardation, 10, 25-28.
- Bornstein, M., Bellack, A. S., & Hersen, M. (1980). Social skills training for highly aggressive children: Treatment in an inpatient psychiatric setting. Behavior Modification, 4(2), 173-186.
- Bostow, D. F., & Bailey, J. (1969). Modification of severe disruptive and aggressive behavior using brief timeout and reinforcement procedures. Journal of Applied Behavior Analysis, 2, 31-37.
- Bourdon, R. (1977). A token economy application to management performance improvement. Journal of Organizational Behavior Management, 1, 23-37.



- Bourdon, R. (1982). Measuring and tracking management performance for accountability. Journal of Organizational Behavior Management, 4(3/4), 101-113.
- Brady, J. P. (1984). Social skills training for psychiatric patients, II: Clinical outcome studies. The American Journal of Psychiatry, 141(4), 491-498.
- Brown, K. M., Willis, B. S., & Reid, D. (1981). Differential effects of supervisor verbal feedback plus approval on institutional staff performance. Journal of Organizational Behavior Management, 3(1), 57-68.
- Brown, M. G., Malott, R. W., Dillion, M. J., & Keeps, E. J. (1980). Improving customer service in a large department store through the use of training and feedback. Journal of Organizational Behavior Management, 2(4), 251-265.
- Burchard, J. D., & Barrera, F. (1972). An analysis of time out and response cost in a programmed environment. Journal of Applied Behavior Analysis, 5, 271-282.
- Burg, M. M., Reid, D. H., & Lattimore, J. (1979). Use of self-recording and supervision programs to change institutional staff behavior. Journal of Applied Behavior Analysis, 12(3), 363-375.
- Burgio, L. D., Whitman, T. L., & Reid, D. H. (1983). A participative management approach for improving direct care staff performance in an institutional setting. Journal of Applied Behavior Analysis, 16(1), 37-53.
- Byham, W. C. (1982). Applying a systems approach to personnel activities. Training and Development Journal, 36(2), 86-90.
- Cerniglia, R. P., Horenstein, D., & Christensen, E. W. (1978). Group decision making and self-management in the treatment of psychiatric patients. Journal of Clinical Psychology, 34, 489-493.
- Chandler, A. B. (1977). Decreasing negative comments and increasing performance of a shift supervisor. Journal of Organizational Behavior Management, 1, 99-103.
- Christian, W. P. (1981). Behavioral administration of the residential treatment program. Behavior Therapist, 7(4), 65-68.
- Christian, W. P. (1984). A case study in the programming and maintenance of institutional change. Journal of Organizational Behavior Management, 5(3/4), 99-153.

- Coles, E., & Blunden, R. (1981). Maintaining new procedures using feedback to staff, a hierarchical reporting system and a multidisciplinary management group. Journal of Organizational Behavior Management, 3(2), 19-33.
- Conrin, J. (1982). A comparison of two types of antecedent control over supervisory behavior. Journal of Organizational Behavior Management, 4(3/4), 37-47.
- Cooper, S. J., Browne, F. W. A., McClean, K. J., & King, D. J. (1983). Aggressive behavior in a psychiatric observation ward. Acta Psychiatrica. Scand., 68, 386-393.
- Crowell, C. R., & Anderson, D. C. (1983). Systematic behavior management: General program considerations. Journal of Organizational Behavior Management, 4(1-2), 129-163.
- Crowell, C. R., & Anderson, D. C. (1982). The scientific and methodological basis of a systematic approach to human behavior management. Journal of Organizational Behavior Management, 4(1-2), 1-31.
- Daniels, A. C. (1987, February). Organizational behavior management: Yesterday, today, and tomorrow. Colloquim. Western Michigan University.
- Daniels, A. C., & Rosen, T. A. (1984). Performance Management: Improving quality and productivity through positive reinforcement. Tucker, GA: Performance Management.
- Davis, B. L., & Mount, M. K. (1984). Effectiveness of performance appraisal training using computer assisted instruction and behavior modeling. Personnel Psychology, 37(3), 439-452.
- Davis, M. Fixsen, D. L., Gruber, K. J., Daly, P. B., Braukmann, C. J., & Wolf, M. M. (1983). Procedures for developing training programs in a large-scale setting. Child & Youth Services Review, 5, 155-176.
- Decker, P. J. (1982). The enhancement of behavior modeling training of supervisory skills by the inclusion of retention processes. Personnel Psychology, 35(2), 323-332.
- Delamater, A. M., Conners, C. K., & Wells, K. C. (1984). A comparison of staff training procedures: Behavior applications in the child psychiatric inpatient setting. Behavior Modification, 8(1), 39-58.
- Delamater, R. J., & McNamara, J. R. (1986). The social impact of assertiveness. Behavior Modification, 10(2), 139-158.

- Dennert, L., Jr., Kendrick, C., Schoenherr, R., & Hayes, D. (1986). The elimination of psychotropic medication and restraint in a skilled mental retardation nursing facility: Overcoming attitudinal barriers. Behavior Management Quarterly, 2(1 & 2), 4-9.
- Depp, F. C. (1976). Violent behavior patterns on psychiatric wards. Aggressive Behavior, 2, 295-306.
- Duncan, P. K., & Bruwelheide, L. R. (1985). Feedback: Use and possible behavioral functions. Journal of Organizational Behavior Management, 7(3/4), 91-114.
- Elder, J. P., Edelstein, B. A., & Narick, M. M. (1979). Adolescent psychiatric patients: Modifying aggressive behavior with social skills training. Behavior Modification, 3(2), 161-178.
- Elder, J. P., Sundstrom, P., Brezinski, W., Waldeck, J. P., Calpin, J. P., & Boggs, S. R. (1984). An organizational behavior management approach to quality assurance in a community mental health center. Journal of Organizational Behavior Management, 5(3-4), 19-35.
- Eldridge, L., Lemasters, S., & Szypot, B. (1978). A performance feedback intervention to reduce waste: Performance data and participant responses. Journal of Organizational Behavior Management, 1, 258-266.
- Emmert, G. D. (1978). Measuring the impact of group performance feedback versus individual performance feedback in an industrial setting. Journal of Organizational Behavior Management, 1, 134-141.
- Favell, J. E., McGimsey, J. F., Jones, M. L., & Cannon, P. R. (1981). Physical restraints as positive reinforcement. American Journal of Mental Deficiency, 85(4), 425-432.
- Fehrenbach, P. A., & Thelen, M. H. (1982). Behavioral approaches to the treatment of aggressive disorders. Behavior Modification, 6(4), 465-497.
- Fehrenbach, P. A. (1984). Preventing assaults on a psychiatric inpatient ward. Hospital and Community Psychiatry, 35(12), 1223-1225.
- Felthous, M. D. (1984). Preventing assaults on a psychiatric inpatient ward. Hospital and Community Psychiatry, 35(12), 1223-1225.
- Fishman, D. B. (1984). The real-world imperatives of organizational adoption. Journal of Organizational Behavior Management, 6(2), 5-14.
- Flanagan, S. G. (1978). Behavioral treatment of psychosis. The Psychiatric Clinics of North America, 1(2), 419-435.

- Fleischman, M. J., & Szykula, S. A. (1981). A community setting replication of a social learning treatment for aggressive children. Behavior Therapy, 12, 115-122.
- Fleming, A., Nolley, D., Muller, P., & Motyl, M. (1985). Mechanical restraints as time-out devices? Behavior Management Quarterly, 1(2), 17-26.
- Ford, J. E. (1980). A classification system for feedback procedures. Journal of Organizational Behavior Management, 2(3), 183-191.
- Forman, B. D., & Hagan, B. J. (1983). A brief training program for non-professional hospital staff. Hospital and Community Psychiatry, 34(7), 639-641.
- Fox, R. M., McMorro, M. J., Rendleman, L., & Bittle, R. G. (1986). Increasing staff accountability in shock programs: Simple and inexpensive shock device modification. Behavior Therapy, 17(2), 187-189.
- Frankel, F., & Simmons, J. Q. (1984). Behavioral treatment approaches to pathological unsocialized physical aggression in young children. Journal of Child Psychology and Psychiatry, 26(4), 525-551.
- Franks, C. M. (1982). Behavior therapy: An overview. Annual Review of Behavior Therapy: Theory and Practice, 8, 1-38.
- Franks, C. M. (1983). Behavior therapy: An overview. Annual Review of Behavior Therapy: Theory and Practice, 9, 1-38.
- Franks, C. M. (1984). Behavior therapy: An overview. Annual Review of Behavior Therapy: Theory and Practice, 10, 1-46.
- Franks, C. M. & Wilson, G. T. (1979). Section IX: Institution, industry, community, and the total environment: Commentary. Annual Review of Behavior Therapy: Theory and Practice, 6, 575-607.
- Fredricks, J. (1985). Developmental and recreational activities as preventive approaches to aggression and injury. Behavior Management Quarterly, 1(2), 3-7.
- Frederiksen, L. W. (1978). Behavioral reorganization of a professional service system. Journal of Organizational Behavior Management, 2, 1-9.
- Frederiksen, L. W. (1981/82a). On the prospects of a behavioral approach to managerial effectiveness. Journal of Organizational Behavior Management, 3(3), 85-90.
- Frederiksen, L. W. (1981/1982b). The selection of targets for organizational interventions. Journal of Organizational Behavior Management, 3(4), 1-5.

- Frederiksen, L. W. (1984). Discussion - If it's not implemented, it can't work. Journal of Organizational Behavior Management, 6(2), 45-51.
- Frederiksen, L. W. (1984). Editorial: From theory to reality. Journal of Organizational Behavior Management, 6(2), 1-2.
- Frederiksen, L. W., Jenkins, J. O., Foy, D. W., & Eisler, R. M. (1976). Social-skills training to modify abusive verbal outbursts in adults. Journal of Applied Behavior Analysis, 9(2), 117-125.
- Frederiksen, L. W., & Lovett, S. B. (1980). Inside organizational behavioral management: Perspectives on an emerging field. Journal of Organizational Behavior Management, 2(3), 193-203.
- Frederiksen, L. W., & Rainwater, N. (1981). Explosive behavior: A skill development approach to treatment. In E. B. Stuart (Ed.). Violent behavior: Social learning approaches to prediction, management and treatment (pp. 265-287). New York, NY: Brunner/Mazel.
- Frederiksen, L. W., Richter, W. T., Johnson, R. P., & Solomon, L. J. (1981). Specificity of performance feedback in a professional service delivery setting. Journal of Organizational Behavior Management, 3(4), 41-53.
- Gaetani, J. J., & Johnson, C. M. (1983). The effects of data plotting, praise, and state lottery tickets on decreasing cash shortages in a retail beverage chain. Journal of Organizational Behavior Management, 5(1), 5-15.
- Gardner, J. M. (1972). Teaching behavior modification to nonprofessionals. Journal of Applied Behavior Analysis, 5(4), 517-521.
- Goldfried, M. R., & Davidson, G. C. (1976). Clinical behavior therapy. New York, NY: Holt, Reinhart & Winston.
- Goldstein, I. L. (1980). Training in work organizations. Annual Review of Psychology, 31, 229-272.
- Govia, J. M., & Velicer, W. F. (1985). Comparison of multidimensional measures of aggression. Psychological Reports, 57, 207-215.
- Gowen, III, C. R. (1985). Managing work group performance by individual goals and group goals for an interdependent group task. Journal of Organizational Behavior Management, 7(3/4), 5-27.
- Green, T. B., Knippen, J. T., & Vincelette, J. P. (1985). The practice of management: Knowledge vs. skills. Training and Development Journal, 39(7), 56-58.

- Greene, B. F., Willis, R. L., Levy, R., & Bailey, J. S. (1978). Measuring client gains from staff-implemented programs. Journal of Applied Behavior Analysis, 11(3), 395-412.
- Guirguis, E. F. (1978). Management of disturbed patients: An alternative to the use of mechanical restraints. Journal of Clinical Psychiatry, 39, 295-303.
- Gutheil, T. G. (1978). Observation of the theoretical bases for seclusion of the psychiatric inpatient. American Journal of Psychiatry, 135(3), 325-328.
- Hakel, M. D. (1976). Some questions and comments about applied learning. Personnel Psychology, 29, 361-363.
- Hamilton, J., Stephens, L., & Allen, P. (1967). Controlling aggressive and destructive behavior in severely retarded institutionalized residents. American Journal of Mental Deficiency, 71, 852-856.
- Hanel, F., Martin, G., & Koop, S. (1982). Field testing of a self-instructional time management manual with managerial staff in an institutional setting. Journal of Organizational Behavior Management, 4(3/4), 81-96.
- Hannah, G. T., & Fishman, D. B. (1984). A View from the top: Applying behavioral principles in the role of State Commissioner of Mental Health and Retardation Services - Case Study 3. Journal of Organizational Behavior Management, 6(2), 35-51.
- Harris, S. L., & Ersner-Hershfield, R. (1978). Behavioral suppression of seriously disruptive behavior in psychotic and retarded patients: A review of punishment and its alternatives. Psychological Bulletin, 85(6), 1352-1375.
- Harshbarger, D., & Maley, R. F. (Eds.). (1974). Behavior analysis and systems analysis: An integrative approach to mental health programs. Kalamazoo, MI: Behaviordelia.
- Hersey, P., & Blanchard, K. H. (1977). Management of organizational behavior: Utilizing human resources. Englewood Cliffs, NJ: Prentice-Hall.
- Hofmeister, J. F., Scheckenbach, A. f., & Clayton, S. H. (1979). A behavioral program for the treatment of chronic patients. American Journal of Psychiatry, 136(4A), 396-400.
- Hollingsworth, A. T., & Hoyer, D. T. (1985). Training: How supervisors can shape behavior. Personnel Journal, 64(5), 86-88.

- Holmes, P. A. (1987, April). The need for a functional analysis on a behavior management committee. Behavior Management Committee Seminar Series. Lansing, MI.
- Holmes, P. A., & Glick, J. D. (1985). A simple system for recording behavior in group homes, schools, work environments, and institutions. Behavior Management Quarterly, 2(1/2), 19-33.
- Horner, R. D. (1980). The effects of an environmental enrichment program on the behavior of institutionalized profoundly retarded children. Journal of Applied Behavior Analysis, 13(3), 473-491.
- Huber, V. L. (1985). The interplay of goals and promises of pay-for-performance on individual and group performance: An operant interpretation. Journal of Organizational Behavior Management, 7(3/4), 45-63.
- Hutchinson, J. M., Jarman, P. H., & Bailey, J. S. (1980). Public posting with a habilitation team effects on attendance and performance. Behavior Modification, 4(1), 57-70.
- Ivancic, M. T., Reid, D. H., Iwata, B. A., Faw, G. D., & Page, T. J. (1981). Evaluating a supervision program for developing and maintaining therapeutic staff-resident interactions during institutional care routines. Journal of Applied Behavior Analysis, 14(1), 95-107.
- Iwata, B. A., Bailey, J. S., Brown, K. M., Foshee, T. J., & Alpren, M. (1976). A performance based lottery to improve residential care and training by institutional staff. Journal of Applied Behavior Analysis, 9(4), 417-451.
- Jensen, C. C., Morgan, P., Orduno, R., Self, M. A., Zarate, R. G., Meunch, G., Peck, D., Reguera, R. A., & Shanley, B. (1983). Changing patterns of residential care: A case study of administrative and program changes. Journal of Organizational Behavior Management, 5(3/4), 155-174.
- Johnson, R. P., & Frederiksen, L. W. (1983). Process vs. outcome feedback and goal setting in human service organizations. Journal of Organizational Behavior Management, 5(3/4), 37-56.
- Johnston, J. M., & Pennypacker, H. S. (1980). Strategies and tactics of human behavioral research. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Jones, H. H., Morris, E. K., & Barnard, J. D. (1985). Increasing staff completion of civil commitment forms through instructions and graphed group performance feedback. Journal of Organizational Behavior Management, 7(3/4), 29-43.

- Jones, M. K. (1985). Patient violence: Report of 200 incidents. Journal of Psychosocial Nursing, 23(6), 12-17.
- Kazdin, A. E. (1982). The token economy: A decade later. Journal of Applied Behavior Analysis, 15(3), 431-445.
- Kennedy, R. E. (1982). Cognitive-behavioral approaches to the modification of aggressive behavior in children. School Psychology Review, 11(1), 47-55.
- Kent, H. M., Malott, R. W., & Greening, M. (1977). Improving attendance at work in a volunteer food co-operative with a token economy. Journal of Organizational Behavior Management, 1, 89-98.
- Kissel, R. C., Whitman, T. L., & Reid, D. H. (1983). An institutional staff training and self-management program for developing multiple self-care skills in severely/profoundly retarded individuals. Journal of Applied Behavior Analysis, 16(4), 395-415.
- Komaki, J. (1981-82). Managerial effectiveness: Potential contributions of a behavioral approach. Journal of Organizational Behavior Management, 3(3), 71-83.
- Komaki, J. (1982). Why we don't reinforce: The issues. Journal of Organizational Behavior Management, 4(3/4), 97-100.
- Korabek, C. A., Reid, D. H., & Ivancic, M. T. (1981). Improving needed food intake of profoundly handicapped children through effective supervision of institutional staff. Applied Research in Mental Retardation, 2, 69-88.
- Krapfl, K. (1981/82). Behavior management in state mental health systems. Journal of Organizational Behavior Management, 3(3), 91-105.
- Kreitner, R., & Luthans, F. (1984). A social learning approach to behavior management: Radical behaviorists "mellowing out." Organizational Dynamics, 13(2), 47-65.
- Kreitner, R., Reif, W. E., & Morris, M. Measuring the impact of feedback on the performance of mental health technicians. Journal of Organizational Behavior Management, 1, 105-109.
- Krumhus, K. M., & Malott, R. W. (1980). The effects of modeling and immediate and delayed feedback in staff training. Journal of Organizational Behavior Management, 2(4), 279-293.



- Kunz, G. G. R., Lutzker, J. R., Cuvo, A. J., Eddleman, J., Lutzker, S. A., Megson, D., & Gulley, B. (1982). Evaluating strategies to improve care provider performance on health and development tasks in an infant care facility. Journal of Applied Behavioral Analysis, 15(4), 521-531.
- Lamal, P. A., & Benfield, A. (1978). The effect of self-monitoring on job tardiness and percentage of time spent working. Journal of Organizational Behavior Management, 1, 142-149.
- Leitenberg, H., (ed.). (1976). Handbook of behavior modification and behavior therapy. Englewood Cliffs, NJ: Prentice-Hall.
- LeLaurin, K., & Risley, T. R. (1972). The organization of day-care environments: "Zone" versus "man-to-man" staff assignments. Journal of Applied Behavior Analysis, 5(3), 225-232.
- Lieberman, R. P., Eckman, T., & Phipps, C. C. (1987). Protective intervention in schizophrenia: Combined neuroleptic drug therapy and medication self-management training. West Los Angeles, CA: University of California Los Angeles. (Dr. R. P. Liberman, Rehabilitation Service (B117), Brentwood VA Medical Center, Wilshire & Sawtelle Boulevard, Los Angeles, CA, 90073).
- Lieberman, R. P., Marshall, Jr., B. D., & Burk K. L. (1981). Drug and environmental interventions for aggressive psychiatric patients in R. B. Stuart (Ed.). (1981). Violent behavior: Social learning approaches to prediction, management and treatment (pp. 227-263). New York, NY: Brunner/Mazel.
- Lieberman, R. P., Mueser, K. T., Wallace, C. J., Jacobs, H. E., Eckman, T., & Massel, H. K. (1986). Training skills in the psychiatrically disabled: Learning, coping and competence. Schizophrenia Bulletin, 12(4), 631-647.
- Lieberman, R. P., & Wong, S. E. (1984). Behavior analysis and therapy procedures related to seclusion and restraint. In K. Tardiff, (Ed.), The psychiatric uses of seclusion and restraint (pp. 35-67). Washington DC: American Psychiatric Press.
- Lion, J. R., & Reid, W. H. (1983). Assaults within psychiatric facilities. New York, NY: Grune & Stratton.
- Lion, J. R., Snyder, W., & Merrill, G. L. (1981). Under reporting of assaults on staff in a state hospital. Hospital & Community Psychiatry, 32(7), 497-498.
- Lochman, J. E., Burch, P. R., Curry, J. F., & Lampron, L. B. (1984). Treatment and generalization effects of cognitive-behavioral and goal-setting interventions with aggressive boys. Journal of Consulting and Clinical Psychology, 52(5), 915-916.

- Lovett, S. B., Bosmajian, C. D., Frederiksen, L. W., & Elder, J. P. (1983). Monitoring professional service delivery: An organizational level intervention. Behavior Therapy, 14, 170-177.
- Luce, S. C., Delquadri, S., & Hall, V. (1980). Contingent exercise: A mild but powerful procedure for suppressing inappropriate verbal and aggressive behavior. Journal of Applied Behavior Analysis, 13, 583-594.
- Luiselli, J. K. (1984). Treatment of an assaultive, sensory-impaired adolescent through a multi-component behavioral program. Journal of Behavior Therapy and Experimental Psychiatry, 15(1), 71-78.
- Luiselli, J. K., & Slocumb, P. R. (1983). Management of multiple aggressive behaviors by differential reinforcement. Journal of Behavior Therapy and Experimental Psychiatry, 14(4), 343-347.
- Luthans, F. (1973). Organizational behavior: A modern behavioral approach to management. New York, NY: McGraw-Hill.
- Luthans, F., & Martinko, M. J. (1981-82). Organizational behavior modification a way to bridge the gap between academic research and real world. Journal of Organizational Behavior Management, 3(3), 33-50.
- Mace, F. C., Page, T. J., Ivanic, M. T., & O'Brien, S. (1986). Effectiveness of brief time-out with and without contingent delay: A comparative analysis. Journal of Applied Behavior Analysis, 19(1), 79-86.
- Macklin, T. (1982). Remodeling HRD. Training and Development Journal, 36(6), 44-52.
- Maher, C. A. (1981). Performance feedback to improve the planning and evaluation of instructional programs. Journal of Organizational Behavior Management, 3, 33-39.
- Maher, C. A. (1984a). Descriptions and evaluation of an approach to implementing programs in organizational settings. Journal of Organizational Behavior Management, 5(3), 69-86.
- Maher, C. A. (1984b). Training educational administrators in organizational behavior management: Program description and evaluation. Journal of Organizational Behavior Management, 6(1), 79-97.
- Maher, C. A. (1985). Training school psychological services directors in organizational behavior management. Professional Psychology: Research and Practice, 16(2), 209-225.

- Maley, R. F. (1980). Managing the treatment activities of a state hospital staff. Journal of Organizational Behavior Management, 2(3), 165-181.
- Malott, R. W. (1974). A behavioral-systems approach to the design of human services. In D. Harshbarger & R. F. Maley (Eds.), Behavior analysis and systems analysis: An integrative approach to mental health programs (pp. 318-342). Kalamazoo, MI: Behaviordelia.
- Malott, R. W., & Krumhus, K. (1977). Behavior modification in organizations. Kalamazoo, MI: Behaviordelia.
- Malott, R. W., & Whaley, D. L. (1981). Psychology. Kalamazoo, MI: Behaviordelia.
- Marshall, B. D., Banzett, L. K., Kuehnel, M. & Moore, J. (1983). Maintaining nursing staff performance on an intensive behavior therapy unit. Analysis and Intervention in Developmental Disabilities, 3, 193-204.
- Mattson, J. L., & Stephens, R. M. (1977). Overcorrection of aggressive behavior in a chronic psychiatric patient. Behavior Modification, 1(4), 559-564.
- Mattson, J. L., & Stephens, R. M. (1978). Increasing appropriate behavior of explosive chronic psychiatric patients with a social-skills training package. Behavior Modification, 2(1), 61-76.
- Mattson, M. R., & Sacks, M. H. (1978). Seclusion: Uses and complications. American Journal of Psychiatry, 124(10), 1210-1213.
- MaWhinney, T. C. (1984). Philosophical and ethical aspects of OBM: Some evaluative feedback. Journal of Organizational Behavior Management, 6(1), 5-31.
- MaWhinney, T. C. (1985). Editorial. Journal of Organizational and Behavior Management, 7(3/4), 1-3.
- McCreight, R. E. (1983). A five role system for motivating improved performance. Personnel Journal, 62(1), 30-32.
- McRae, S., & Lutzer, J. R. (1982). Applied behavior analysis and rehabilitation administration: End of courtship, time for marriage. Journal of Rehabilitation Administration, 6(3), 105-112.
- Meyer, H. H., & Raich, M. S. (1983). An objective evaluation of a behavior modeling training program. Personnel Psychology, 36(4), 755-761.
- Meyers, K. M., & Duner, D. L. (1984). Self and other directed violence on a closed acute-care ward. Psychiatric Quarterly, 56(3), 178-188.

- Miller, R., & Lewin, L. M. (1980). Training and management of the psychiatric aide: A critical review. Journal of Organizational Behavior Management, 2(4), 295-315.
- Morasky, R. L. (1982). Behavioral systems. New York, NY: Praeger Publishers.
- Mulick, J. A., & Schroeder, S. R. (1980). Research relating to management of anti-social behavior in mentally retarded persons. Psychological Record, 30(3), 397-417.
- Murphy, M. J., & Zahm, D. (1978). Effect of improved physical and social environment on self-help and problem behaviors of institutionalized retarded males. Behavior Modification, 1(2), 193-210.
- Neef, N. A., Parrish, J. M., Egel, A. L., & Sloan, M. E. (1986). Training respite care providers for families with handicapped children: Experimental analysis and validation of an instructional package. Journal of Applied Behavior Analysis, 19(2), 105-124.
- Nolley, D., Boelkins, D., Kocur, L., Moore, M. K., Goncalves, S., & Lewis, M. (1980). Aversive conditioning within laws and guidelines in a state facility for mentally retarded individuals. Mental Retardation, 18(6), 295-298.
- O'Hara, K., Johnson, C. M., & Beehr, T. A. (1985). Organizational behavior management in the private sector: A review of the empirical research and recommendations for further investigation. Academy of Management Review, 10(4), 846-864.
- Page, T. J., Iwata, B. A., & Reid, D. H. (1982). Pyramidal training: A large-scale application with institutional staff. Journal of Applied Behavior Analysis, 15(3), 335-351.
- Panyan, M., Boozer, H., & Morris, N. (1970). Feedback to attendants as a reinforcer for applying operant techniques. Journal of Applied Behavior Analysis, 3(1), 1-4.
- Paradise, R. C. (1984). Introducing a phobia program into a community mental health center: Coping with organizational fears - Case Study 1. Journal of Organizational Behavior Management, 6(2), 15-21.
- Patrick, D. C., & Riggall, T. F. (1985). Organizational behavior management: Application for program evaluation. Journal of Rehabilitation Administration, 8, 100-105.
- Paul, G. L., & Lentz, R. J. (1977). Psychosocial treatment of chronic mental patients: Milieu versus social-learning programs. Cambridge, MA: Harvard University Press.

- Pendergrass, V. E. (1971). Effects of length of time-out from positive reinforcement and schedule of application in suppression of aggressive behavior. Psychological Record, 21, 75-80.
- Phillips, E., Pullins, P., & Smith, P. C. (1985). Establishing functional behavior goals for psychiatric inpatients. Behavior Management Quarterly, 1(4), 12-18.
- Pratt, H. D., Phillips, E. L., & Pullins, P. (1987). Targeting problem behaviors in the inpatient psychiatric setting - Part I. Behavior Management Quarterly, 3(2), 13-19.
- Prue, D. M., Krapfl, J. E., Noah, J. C., Cannon, S., & Maley, R. F. (1980). Managing the treatment activities of state hospital staff. Journal of Organizational Behavior Management, 2(3), 165-181.
- Quilitch, H. R. (1975). A comparison of three staff management procedures. Journal of Applied Behavior Analysis, 8(1), 59-66.
- Rapp, S. R., Carstensen, L. L., & Prue, D. M. (1983). Organizational behavior management 1978 - 1981: An annotated bibliography. Journal of Organizational Behavior Management, 5(2), 5-50.
- Rathjen, D. (1984). Performance appraisal in a government setting: From attitudes to behaviors - Case Study 2. Journal of Organizational Behavior Management, 6(2), 22-34.
- Repp, A. C., & Deitz, S. M. (1974). Reducing aggressive and self-injurious behavior of institutionalized retarded children through reinforcement of other behaviors. Journal of Applied Behavior Analysis, 7, 313-325.
- Reid, D. H., & Green, C. (1987, May). Developing a research program within human service settings: Strategies for practitioners. Workshop presented at the Association for Behavior Analysis Tenth Annual Convention. Nashville, TN.
- Ribes-Inesta, E., & Bandura, A. (1976). Analysis of delinquency and aggression. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Rice, J. M., & Lutzker, J. R. (1983). Group and individual feedback, public posting, and prompting to increase counselor supervision. The Clinical Supervisor, 14, 77-90.
- Riley, A. W., & Frederiksen, L. W. (1984). Organizational behavior management in human services settings: Problems and prospects. Journal of Organizational Behavior Management, 5(3-4), 3-16.

- Robins, J., & Lloyd, M. (1984). A case study examining the effectiveness and cost of incentive programs to reduce staff absenteeism in a preschool. Journal of Organizational Behavior Management, 6, 175-189.
- Rosen, H., & DiGiacomo, J. N. (1984). The role of physical restraint in the treatment of psychiatric illness. Journal of Clinical Psychiatry, 39, 228-232.
- Rosenbaum, B. L. (1984). Back to behavior modeling. Training and Development Journal, 38(11), 88-89.
- Roth, L. H., Ed. (1985). Clinical treatment of the violent person. Rockville, MD: National Institute of Mental Health.
- Rothweiler, M. R. (1987, May). Information management and program accountability in the human services. Workshop presented at the Association for Behavior Analysis Thirteenth Annual Convention, Nashville, TN.
- Sajwaj, T., Schnelle, J. F., McNeese, M. P., & McConnell, S. (1983). Organizational behavior management in a community mental health center: The development of a staff performance assessment system. Behavioral Assessment, 5, 245-261.
- Schlichter, K. J., & Horan, J. J. (1981). Effects of stress inoculation on the anger and aggression management skills of institutionalized juvenile delinquents. Cognitive Therapy and Research, 5(4), 359-365.
- Schloss, P. J. (1983). An integrated social learning approach to the treatment of aggressive reactions. Education, 104(1), 104-112.
- Shader, R. L., Jackson, A. H., Harmatz, J. S., & Applebaum, P. S. (1977). Patterns of violent behavior among schizophrenic inpatients. Diseases of the Nervous System, 38(1), 13-16.
- Shapiro, E. S. (1979). Restitution and Positive practice overcorrection in reducing aggressive-disruptive behavior: A long-term follow-up. Journal of Behavior Therapy and Experimental Psychiatry, 10(2), 131-134.
- Shoemaker, J., & Reid, D. H. (1980). Decreasing chronic absenteeism among institutional staff: Effects of a low-cost attendance program. Journal of Organizational Behavior Management, 2(4), 317-328.
- Shook, G. L., Johnson, C. M., & Uhlman, W. F. (1978). The effects of response effort reduction, instructions, group and individual feedback, and reinforcement on staff performance. Journal of Organizational Behavior Management, 1, 206-215.

- Sidley, N. (1987, November). How to be a consultant. Winter colloquim series Western Michigan University. Kalamazoo, MI.
- Smith, P. C. (1985). A case for the daily habits inventory. Behavior Management Quarterly, 1,(3), 10-16.
- Sneed, T. S., & Bible, G. H. (1979). An administrative procedure for improving staff performance in an institutional setting for retarded persons. Mental Retardation, 17(2), 92-95.
- Soloff, P. H. (1984). Seclusion and Restraint. In K. Tardiff (Ed.), The psychiatric uses of seclusion and restraint (pp. 241-263). Washington, DC: American Psychiatric Press.
- Sprague, R. L., & Baxley, G. B. (1978). Drugs for behavior management, with comment on some legal aspects. Mental Retardation and Developmental Disabilities, 10, 93-129.
- Steel, R. P., & Ovalle, N. K. (1984) Self-appraisal based upon supervisory feedback. Personnel Psychology, 37(4), 67-685.
- Stoerzinger, A., Johnston, J. M., Pisor, K., & Monroe, C. (1978). Implementation and evaluation of a feedback system for employees in a salvage operation. Journal of Organizational Behavior Management, 1, 268-280.
- Stone, D. L., Gueutal, H. G., & McIntosh, B. (1984). The effects of feedback sequence and expertise on the rater on perceived feedback accuracy. Personnel Psychology, 37(3), 487-506.
- Stone, S. L. (1979). A comparison of supervisor graphing and self-graphing of performance in a procedure for controlling time on scheduled tasks. Unpublished master's thesis, Western Michigan University, Kalamazoo, MI.
- Stone, E. F., & Stone, D. L. (1984). The effects of multiple sources of performance feedback and feedback favorability on self-perceived task competence and perceived feedback accuracy. Journal of Management, 10(3), 371-378.
- Sulzer-Azaroff, B., & Fellner, D. (1984). Searching for performance targets in the behavioral analysis of occupational health and safety: An assessment strategy. Journal of Organizational Behavior Management, 6(2), 53-65.
- Sulzer-Azaroff, B., & Mayer, G. R. (1977). Applying behavior-analysis with children and youth. New York, NY: Holt, Rinehart and Winston.

- Sumner, J. H., Mueser, S. T., Hsu, L., & Morales, R. G. (1974). Overcorrection treatment for radical reduction of aggressive-disruptive behavior in institutionalized mental patients. Psychological Reports, 35, 655-662.
- Tardiff, K. (Ed.). (1984). The psychiatric uses of seclusion and restraint. Washington, DC: American Psychiatric Press.
- Tedeschi, J. T., Gaes, G. G., & Rivera, A. N. (1977). Aggression and the use of coercive power. Journal of Social Issues, 33(1), 101-125.
- Thompson, T., & Grabowski, J. (1977). Behavior modification of the mentally retarded, (2nd ed.). New York, NY: Oxford University Press.
- Tuttle, T. C. (1983). Organizational productivity: A challenge for psychologists. American Psychologist, 38(4), 479-486.
- Vukelich, R., & Hake, D. F. (1971). Reduction of dangerously aggressive behavior in a severely retarded resident through a combination of positive reinforcement procedures. Journal of Applied Behavior Analysis, 4, 215-225.
- Wallace, C. J., Teigen, J. R., Liberman, R. P., & Baker, V. (1973). Destructive behavior treated by contingency contracts and assertive training: A case study. Journal of Behavior Therapy and Experimental Psychiatry, 4, 273-274.
- Warner, K. E. (1978). The economic implication of preventive health care. Social Science and Medicine, 13C, 227-237.
- Warren, R., & Kurlychek, R. T. (1981). Treatment of maladaptive anger and aggression: Catharsis vs behavior therapy. Corrective & Social Psychiatry & Journal of Behavior Technology, Methods and Therapy, 27(3), 135-139.
- Whaley, D. L., & Malott, R. W. (1970). Elementary principles of behavior. Englewood Cliffs, NJ: Prentice-Hall.
- Wikoff, M., Anderson, D. C., & Crowell, C. R. (1983). Behavior management in a factory setting: Increasing work efficiency. Journal of Organizational Behavior Management, 5(3/4), 97-127.
- Wilson, G. T., Franks, C. M., Brownell, D. D., & Kendall, P. C. (1984). Behavior therapy: An overview. Annual Review of Behavior Therapy: Theory and Practice, 9, 4-38.
- Winett, R. A., Neale, M. S., & Grier, H. C. (1979). Effects of self-monitoring and feedback on residential electricity consumption. Journal of Applied Behavior Analysis, 12(2), 173-184.



- Wong, S. E., Slama, K. M., & Liberman, R. P. (1983). Behavioral analysis and therapy for aggressive psychiatric and developmentally disabled patients. In L. H. Roth, (Ed.), Clinical treatment of the violent person (pp. 23-40). Rockville, MD: National Institute of Health Services.
- Yorks, L., & Whitsett, D. A. (1985). Hawthorne, Topeka, and the issue of science versus advocacy in organizational behavior. Academy of Management Review, 10(1), 21-30.
- Ziarnik, J. P., & Bernstein, G. S. (1982). A critical examination of the effects of inservice training on staff performance. Mental Retardation, 20(3), 109-114.