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Effects of Supervisor Feedback on Staff and Client Performance in a Prevocational Program for the Mentally Handicapped

E. Rosemarie Hrydowy

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EFFECTS OF SUPERVISOR FEEDBACK ON STAFF AND CLIENT PERFORMANCE IN A PREVOCATIONAL PROGRAM FOR THE MENTALLY HANDICAPPED

BY

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Abstract

The effects of a staff management strategy to increase and maintain the work skills of direct care staff and the effect of change in staff work performance on client behavior was evaluated using a multiple-baseline design across subjects. Three direct care staff responsible for conducting a prevocational program in a residential facility and 27 adult clients with mental retardation ranging from severe to profound participated. The performance feedback system used to monitor direct care staff work skills was comprised of the following components: a checklist to provide performance feedback; social approval; goal setting; and the option for direct care staff to add records of positive performance from the checklists to their annual performance appraisal. The feedback system was initially introduced during the morning work period, while the afternoon work period remained on baseline conditions. Staff performance in the areas of task presentation, occurrence and quality of reinforcement to clients, and intertrial activity presentation increased under weekly morning feedback from the manager. Generalization of improved staff performance from the morning to the afternoon work period occurred to varying degrees. Further increases in performance occurred with the introduction of the feedback system to the afternoon work period. Staff performance was maintained over a four month period after weekly feedback was changed to bi-weekly feedback. Client on-task behavior substantially increased for most clients. All direct care staff preferred the use of the feedback system compared to supervisory staff monitoring programs without a checklist. The results indicated that the performance feedback system can be incorporated into a manager's routine and can effectively maintain staff work skills.

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Introduction

There have been many successful demonstrations of behavior modification interventions with mentally handicapped residents in residential facilities (Matson & McCartney, 1981; Whitman, Scibak, & Reid, 1983). Effective strategies for teaching behavior modification skills to direct care staff working in residential settings for the mentally handicapped have also been demonstrated (Feldman & Dalrymple, 1984; Gardner, 1972; Martin, 1972). However, program implementation by direct care staff is dependent upon staff performance being maintained (Baldwin & Hattersley, 1984; Christian, 1983; Flanagan, Cray, & Van Meter, 1983; Jensen et al., 1983; Quilitch, 1975; Reid & Whitman, 1983). It is the direct care staff that come in contact with residents for a proportionally greater amount of time than any other group of employees within a residential facility. Therefore, there has been a growing recognition that effective staff management procedures need to be implemented to ensure staff behavior is maintained over time (Bernstein, 1982; Reid, Parsons, & Green, 1989; Reid & Shoemaker, 1984).

Behavior Modification Interventions with Mentally Handicapped Residents in Residential Settings

The initial application of behavioral technology in the 1960's to those with mental retardation residing in residential facilities focused on teaching basic skills in the areas of self-care, social, and communication skills and on decreasing maladaptive behaviors. Interventions in the area of self-care have included programs for toilet training, feeding, dressing, and personal hygiene. Toilet training programs initially structured the toileting times and provided

consequences for successful eliminations (Dayan, 1964; Kimbrell, Luckey, Barbuto, & Love, 1967). Subsequently, training packages were developed such as the forward-moving procedure by Van Wagenen, Meyerson, Kerr, & Mahoney (1969), Azrin and Foxx's (1971) rapid toilet training procedure, and methods which used toilet training devices such as the pants-alarm (Azrin, Bugle, & O'Brien, 1971).

Programs for self-feeding have involved acquisition training using physical guidance to perform the feeding sequence (O'Brien & Azrin, 1972), maintenance of skills (O'Brien, Bugle, & Azrin, 1972), and procedures to decrease inappropriate meal time behaviors such as stealing food, eating without utensils, and spilling food (Barton, Guess, Garcia, & Baer, 1970; Henriksen & Doughty, 1967; Martin, McDonald, & Omichinski, 1971). More advanced training in the area of feeding skills has involved the correct usage of utensils, neatness, table manners (Matson, Ollendick, & Adkins, 1980), and the reduction of eating rate (Lennox, Miltenberger, & Donnelly, 1987).

Training independent dressing skills has been another major area of programming where intensive training has been conducted to teach dressing (Martin, Kehoe, Bird, Jensen, & Darbyshire, 1971) and undressing (Azrin, Schaeffer, & Wesolowski, 1976). As well, clothing selection skills based on community norms have been taught to adults with severe and profound mental retardation (Nutter & Reid, 1978). Training in personal hygiene has involved task analyses of the behavioral steps in the self-care sequence and training procedures applied to each step for skills such as toothbrushing (Horner & Keilitz, 1975), and washing hands and face (Treffry, Martin, Samels, & Watson, 1970).

Procedures to increase social skills such as eye contact,

verbalizations to peers, social interactions, handling criticism and social confrontation, and greeting responses have been examined with residents with mental retardation ranging from severe to mild (Bates, 1980; Foxx, McMorrow, & Schloss, 1983; Lowther & Martin, 1980; Stokes, Baer, & Jackson, 1974; Wheeler & Wislocki, 1977; Williams, Martin, McDonald, Hardy, & Lambert, 1975). Receptive and expressive communication skills have also been studied (Cuvo & Riva, 1980; Kleitsch, Whitman, & Santos, 1983; Welch & Pear, 1980) including the use of an augmentative mode of communication such as sign language (Duker & Morsink, 1984; Faw, Reid, Schepis, Fitzgerald, & Wetly, 1981; Schepis, Reid, Fitzgerald, Faw, van den Pol, & Welty, 1982).

Numerous interventions for the treatment of maladaptive behaviors dealing with aggressive, self-injurious, stereotypic, and other inappropriate behaviors such as regurgitation, tantrums, pica, and stripping have been documented (Evans & Meyer, 1985; Matson & McCartney, 1981; Murphy & Wilson, 1985). Also, recent reforms regarding the treatment and care of individuals with mental retardation have placed a greater emphasis on habilitative programming. This has included interventions in the areas of vocational training (Bernstein, Ziarnik, Rudrud, & Czajkowski, 1981) and leisure skills (Lagomarcino, Reid, Ivancic, & Faw, 1984; also see Whitman et al., 1983 for a review).

Strategies to Teach Behavior Modification Skills to Direct Care Staff in Residential Settings

Skills typically taught to direct care staff have included the basic behavioral principles and behavior change procedures. The expected outcome of staff training programs is knowledge of behavior

modification principles and a demonstrated ability to apply the techniques (Gardner, 1972; Whitman et al., 1983). Two training methods commonly employed have been classroom lectures or programmed instruction and performance-based instruction involving modeling, feedback, and role playing. Instructional methods alone have not been found to be effective in increasing desired staff performance (Gardner, 1972; Martin, 1972; Quilitch, 1975).

Gardner (1972) found role playing or behavioral rehearsal to be more effective in teaching behavior modification skills to institutional attendants, while lectures were a more effective method in teaching the behavioral principles. Modeling also has been examined as a teaching technique and found to be effective in increasing the use of contingent praise by mental retardation counsellors while conducting hygiene training sessions (Gladstone & Spencer, 1977).

Page, Iwata, and Reid (1982) evaluated the use of a pyramidal training strategy as an indirect method of training direct care staff to conduct behavioral programs. The approach provided training to a small number of staff, such as supervisors, who were then instructed in the training of additional staff. Training occurred in the work environment and had the advantage of a trained supervisor on site to maintain direct care staff performance (also see Bernstein, 1984; and Feldman & Dalrymple, 1984 for a review).

Martin (1972) recommended that a minimal staff training program provide for: instruction in the basic behavioral concepts and procedures; opportunity to demonstrate the correct application of procedures; opportunity to modify at least one resident behavior with performance feedback provided; opportunity to demonstrate skills during a variety of ward situations with performance feedback provided; and

structuring of the work environment to increase the probability of appropriate staff behavior.

Staff Management versus Staff Training

Techniques referred to as staff management are differentiated from staff training as staff management focuses on procedures which increase and/or maintain the frequency of existing work skills, in contrast to staff training which refers to programs to assist staff in the acquisition of new skills (Miller & Lewin, 1980). Typical staff management procedures used by supervisors or administrators have been largely based on traditional methods. These methods have included instructing staff of the expected behavior either verbally or through memos, sending staff to specialized workshops to acquire necessary skills with the expectation of employees later engaging in these behaviors, or using aversive contingencies to manage staff problems (Mayhew, 1979; Quilitch, 1975; Reid & Whitman, 1983).

Instructional manipulations, although commonly used by supervisors, generally have not been studied as the primary independent variable, but rather incorporated as part of an intervention package (Dyer, Schwartz, & Luce, 1984; Ivancic, Reid, Iwata, Faw, & Page, 1981; Parsons, Schepis, Reid, McCarn, & Green, 1987; Quilitch, 1975). As for staff training, there are data to suggest that training alone is often not sufficient to improve performance in the actual work setting (Bernstein, 1982; Hollander & Plutchik, 1972; Jensen et al., 1973; Montegar et al., 1977; Patterson, Griffin, & Panyan, 1976; Quilitch, 1975). Empirical data on the effects of punishment contingencies in this context appear to be minimal (Reid & Whitman, 1983). Behavioral staff management strategies, which contrast strongly to "typical" staff

management procedures, are described in the next section.

Behavioral Strategies to Maintain Behavior Modification Applications by Direct Care Staff in Residential Settings

There have been a number of studies which evaluated behavioral strategies for maintaining staff performance in residential facilities for the mentally handicapped. The majority examined the effectiveness of staff management procedures on the performance of direct care or front-line staff (e.g., Burgio, Whitman, & Reid, 1983; Iwata, Bailey, Brown, Foshee, & Alpern, 1976; Parsons, Cash, & Reid, 1989).

Feedback. The most frequent procedure reported as part of a staff management intervention involved the use of feedback. Although feedback can vary in format, either written or verbal, public or private, such procedures involve providing staff with information about a specific aspect of their work. It can be directed to a single employee or data can be representative of group performance. The content of feedback can include a comparison of the individual's or the group's current performance with baseline responding or a job standard. Feedback can also reflect an individual's performance as a percentage of the group's performance. Feedback should be characterized as being clear and understandable, specific to the target behavior, and emphasizing the employee's performance (Prue & Fairbank, 1981).

Although the efficacy of feedback can often be difficult to determine because of its use in combination with other components, a small number of studies evaluated the use of feedback alone as a staff management procedure (Page et al., 1982; Panyan et al., 1970; Parsonson et al., 1974; Welsch et al., 1973). Two studies used individual, verbal feedback delivered by supervisory staff to increase more appropriate staff-resident interactions in a classroom setting.

Parsonson et al. (1974) found individual, verbal feedback, provided every 3 to 5 minutes on the number of appropriate and inappropriate student behaviors attended to during a training program, produced rapid changes in the percentage of appropriate behaviors attended to by staff. Performance was maintained over a 9 to 11 week follow-up at which time supervisory feedback was withdrawn.

Data from the second study (Page et al., 1982) also reported that supervisors were effective in increasing the appropriate teaching behaviors of direct care staff. This occurred after supervisors were trained to provide constructive feedback to staff in the correct use of instructions and prompts and in the delivery of appropriate consequences for resident behavior. However, it was unclear if increases in the performance of direct care staff were a result of feedback alone or other variables such as an increase in supervisor staff interactions resulting from the observations, or more frequent praise provided by the supervisory staff. Even though increases in desired teaching behaviors occurred, staff did not generalize these skills to other training areas.

Public posting was found to be effective in increasing the daily number of sessions conducted by ward/unit staff (Welsch et al., 1973; Panyan et al., 1970). Welsch et al. (1973) implemented public posting on two different wards and noted that increases over baseline differed by 15% when individual data versus group data were posted. Since each condition was implemented on a different ward other extraneous factors may have contributed to these results. Data on individual employee performance indicated the increase in the number of sessions run was representative of 91% of the employees for whom group data were posted,

and for 83% of the employees for whom individual data were posted. Employee performance was maintained over the 75 days that the feedback condition was in effect. Competition may have been a contributing factor as separate results were posted for each shift. Also, staff may have increased the number of sessions run to avoid possible aversive consequences from supervisors or from those co-workers who were in competition with staff from the other shift.

Although Panyan et al. (1970) examined only the effects of publicly posting individual staff data, they did so across all staff in 11 units of a state institution. Their study not only demonstrated experimental control, but also represented an effective application of feedback procedures on a large scale. Staff were initially trained in behavior modification skills and data on the number of sessions conducted were obtained. No consequences for failure to conduct sessions occurred other than a verbal prompt from the unit psychologist for staff to do better. The feedback condition was then introduced. Feedback sheets submitted twice per week to each unit included the total number of sessions in each training area, the names of individual staff responsible for completed sessions, and a rank ordering of units according to the percentage of sessions conducted. Data indicated that the longer the baseline condition was in effect, which was associated with the absence of feedback, the greater the amount of time required for staff performance to change once feedback was introduced. The researchers recommended that implementation of a feedback system occur soon after the completion of formal staff training. Although the number of residents who successfully completed training was not recorded, it was suggested that publicly posting such data might have an effect on the number of residents trained.

Feedback in combination with other components. Studies which reported the effects of feedback in combination with other components represented the majority of staff management procedures used with employees in residential settings. Prue, Krapfl, Noah, Cannon and Maley's (1980) examination of three different types of feedback suggested that weekly summaries of treatment activity submitted to unit coordinators, weekly performance feedback plus meetings between the clinical director and the unit coordinators, and public posting of treatment activity in the main lobby each produced increases in treatment activity over that of baseline. However, comparisons between weekly performance summaries plus meetings with administrative staff versus public posting did not clearly indicate which was more effective. The results were not consistent across the groups of participating staff. Also, the effects of self-monitoring treatment activities on staff performance were unclear.

Quilitch (1975) found the use of memos by administrative staff instructing employees not only to conduct activities with residents, but also specifying the time and location of such activities to be ineffective, as was staff attendance at a workshop on conducting recreational activities with residents. An increase in the number of active residents occurred only after specific staff assignments and schedules were implemented in combination with public posting of the daily number of active residents on each ward.

Coles and Blunden (1981) introduced a staff management package to increase and maintain ward staff's use of activity period procedures with residents. The staff management procedures included the use of a checklist to provide private, individual performance feedback, public

posting of resident participation data, and staff scheduling. The procedures were incorporated as part of the existing hospital hierarchy and maintained staff's use of the activity period procedures. This resulted in high levels of resident involvement during the activity period.

A successful staff management procedure, referred to as systematic supervision, (Ivancic et al., 1981) included inservice training for staff, sign prompts placed in training areas, modeling of desired staff behavior, public posting of resident progress, and positive or corrective feedback from supervisory staff. Results indicated the staff's skills in language training interactions generalized to one other direct care routine and increases in performance continued during a 19 week maintenance phase. The maintenance phase was characterized by less supervision. Individual feedback was replaced with group feedback of only 1 to 2 minutes in duration and delivered during daily ward meetings. The researchers noted that the degree of supervisory feedback during the maintenance phase could be incorporated into a typical supervisory routine.

Studies also examined the effect of feedback plus a reinforcement component. The effect of verbal feedback from a supervisor which described only employee performance was compared to verbal feedback which included approval statements (Brown et al., 1981). Feedback alone decreased staff off-task behaviors, but produced only temporary increases in staff-resident interactions. Interactions between staff and residents increased when approval statements were included with the verbal feedback; staff had not been informed that approval would accompany feedback.

Another comparison between verbal feedback and verbal feedback

plus praise (Realon et al., 1983) showed both were effective in increasing direct care staff performance in conducting sessions. Private, verbal feedback consisted of reviewing a 7-item behavioral checklist which identified necessary performance for conducting a session. Work behaviors were scored as being either correctly or incorrectly performed. This was compared to the use of the checklist to provide private, verbal feedback with the addition of praise statements. Although the researchers stated feedback plus praise may be more effective than feedback alone, the overall percent change in performance was greater for the feedback alone condition. Also, it was not clear if the training sessions, where staff performance was evaluated, were comparable for both groups. Since an AB design was used, experimental control was not demonstrated.

Bricker et al. (1972) increased staff-resident interactions after providing staff with feedback from video-taped sessions and making commercially available trading stamps contingent upon each minute of appropriate interaction. The use of trading stamps alone produced greater daily variability in interactions although staff-resident interactions remained above baseline. The effect of feedback alone was not examined. These findings must be interpreted with caution as the effect of extraneous variables could not be ruled out.

Public posting of individual staff performance in conducting sessions plus bi-weekly recognition of staff who conducted the most sessions produced initial high rates of performance (Patterson et al., 1976). However, performance steadily decreased over a 5 week period, but remained above baseline. The introduction of public posting plus a monetary reinforcer delivered on an intermittent schedule further

decreased the number of sessions conducted to baseline levels and then to zero. Monetary reinforcement, public posting, and bi-weekly recognition of staff performance produced an initial increase in performance followed by a decrease over the subsequent weeks. When the latter two conditions were reversed in a second experiment, public posting plus the monetary reinforcer delivered on an intermittent schedule was effective in increasing staff performance. The researchers speculated that in the first experiment this condition was introduced following a period where few training sessions were conducted, and the schedule of reinforcement was inadequate to increase an already low rate of responding. The study did not clearly state how the intermittent schedule of reinforcement compared to bi-weekly reinforcement with formal recognition and money.

Reinforcement systems. Studies which examined a reinforcement contingency without a formal feedback component used reinforcers such as time off, monetary bonuses, awards (Watson, 1976), a token system utilizing commercially available trading stamps (Hollander & Plutchik, 1972), and approval from supervisory staff (Montegar et al., 1977). Generally the studies involved only short-term applications ranging from 6 days (Watson, 1976) to 6 weeks (Hollander & Plutchik, 1972) with increases in performance evident during the intervention, and decreases occurring with a reversal to baseline conditions. Hollander and Plutchik (1972) noted that with a return to baseline staff performance decreased below initial baseline responding.

Two staff incentive programs, monetary reinforcement contingent upon improvement in staff behavior and monetary reinforcement contingent upon improvement in resident behavior, were implemented in different residential units (Martin, McDonald, & Murrell, 1973).

Increases in the number of sessions conducted occurred in the unit where reinforcement was contingent upon improvement in staff behavior. A similar effect on staff performance did not occur in the unit where reinforcement was contingent upon improvement in resident performance. This latter outcome may have been related to the absence of an influential assistant charge nurse part way through the incentive phase of the study. The researchers noted that staff preferred an incentive system that monitored improvement in resident performance rather than staff performance.

Instructional antecedents. The use of instructional antecedents such as specifying staff schedules according to the time and location of activities (Iwata et al., 1976; Sneed & Bible, 1979), or specifying non-routine assignments (Pommer & Streedback, 1974) have also demonstrated an effect on staff performance. Iwata et al.'s (1976) research reported only minimal increases over baseline, but it differed from the other two studies in that staff assignments were not publicly posted. A combination of scheduling using either a weekly lottery where staff were allowed to rearrange days off, or a token system where completed job slips were exchanged for money at the end of each week appeared to result in greater improvement in staff performance than scheduling alone (Iwata et al., 1976; Pommer & Streedback, 1974).

Parsons et al. (1989) increased the structure of staff job assignments in five residential living units by scheduling resident activities and assigning staff a specific role in order to increase the habilitative activity of direct care personnel. Scheduling was combined with staff training and weekly monitoring of staff performance with the use of a checklist. The effects of the staff management

strategy were based on resident behavior and not direct measures of staff behavior. The results indicated that the number of residents engaged in active treatment increased and resident off-task behavior decreased. During the maintenance phase staff performance was monitored monthly, and resident off-task behavior stabilized to a level below baseline with the exception of one unit where the level of off-task behavior became more variable.

Fielding et al. (1971) reported success with the use of a sign prompt in reducing staff's use of aversive methods to transport residents from one location to another. Staff were trained to use nonaversive behavior modification procedures to move residents, but demonstrated the use of such techniques only during training. An immediate increase in the use of reinforcement by staff occurred with the introduction of a poster discouraging "tow-trucking" of residents. The increased use of reinforcement continued over a period of four weeks. The effectiveness of the sign prompt can not be determined with certainty as experimental control was not demonstrated, and training sessions in the use of nonaversive procedures were ongoing.

Self-recording. Eight studies evaluated the use of a self-recording component combined with either goal setting (Burg, Reid, & Lattimore, 1979), individual verbal feedback (Kissel, Whitman, & Reid, 1983; Richman et al., 1988), goal setting and self-reinforcement (Burgio et al., 1983), individual and group verbal feedback plus public posting of residents' data (Korabek, Reid, & Ivancic, 1981), public posting of staff performance (Seys & Duker, 1988), or publicly posting feedback and some form of instructional antecedents (Baldwin & Hattersley, 1984; Seys & Duker, 1986). Burg et al.'s (1979) data indicated staff-resident interactions in the dayroom increased over

baseline without interfering with other routine responsibilities assigned to staff. Small increases in measures of resident and environmental cleanliness also occurred, and could have been attributed to staff being more aware of residents being wet or soiled as interactions with the residents increased. The researchers however, did not evaluate the accuracy of the staff's self-reports.

Burgio et al. (1983) also implemented self-recording with direct care staff to increase staff-resident interactions during non-structured ward times and to ensure staff attention was contingent upon appropriate resident behavior. Self-recording was used together with goal setting, and the daily goal for the number of staff-resident interactions was set by all direct care staff on the unit. In addition, staff were taught to use a self-praise rating form to assess their performance. Staff-resident interactions increased for all staff across three units. During a 6 week follow-up four staff showed further increases, three staff remained the same, and decreases ranging from 15% to 23% occurred for the remaining three staff. Intra-subject variability in performance was also evident, but could have been due to extraneous variables operating in the work setting such as staff shortages or staff responsibilities directed to other areas of resident care.

An increase in the number of staff-resident interactions occurred with no adverse effects on direct health care activities with the implementation of a staff management package (Baldwin & Hattersley, 1984). The package included written instructions specifying the resident, the target behavior, the conditions under which activities were to occur, and the criteria for completion. This was combined with

staff self-recording the completion of resident training activities and publicly posting weekly feedback on the number of completed resident training activities. There was also a decrease in the frequency of resident disruptive, aggressive, and self-stimulatory behaviors during both intervention and follow-up.

Seys and Duker (1986) also examined the effect of a staff management intervention on staff-resident activities that combined scheduled activities with a supervision package. The supervision package consisted of staff self-recording the completion of resident related activities, publicly posting a list of completed activities, providing verbal feedback to staff at daily staff meetings, and supervisors administering private, verbal feedback to staff throughout the day. The intervention package decreased routine custodial care and staff off-task behavior, and increased time spent in resident training activities. The treatment package had no effect on time spent engaging in organizational housekeeping and rest or break related activities. Seys and Duker (1986) found the supervision package to be more effective than scheduled activities alone.

The effect of assigning one extra staff to a living unit was compared to having one extra staff assigned to perform specific staff management functions. This was evaluated against the change in the number of staff interactions with residents (Seys & Duker, 1988). Assignment of an extra staff to a living unit did not result in a change in the staff's distribution of activities. The staff management functions assigned to the extra staff involved: organizing daily staff meetings at which time prompts were provided to follow scheduled activities and graphed data presented publicly on the number of completed resident activities; providing feedback to staff throughout

the work day for initiating interactions with residents; and prompting self-recording of staff-resident interactions. The time spent on resident training activities increased, and staff off-task behaviors including non-custodial and non-training activities decreased. There was a decrease in both resident maladaptive and adaptive behaviors. The researchers speculated that the latter effect may have resulted from residents increased dependence on staff as a function of increased staff-resident involvement.

Kissel et al. (1983) reported favorable results with the use of self-recording in increasing and maintaining staff's use of instructions, physical guidance, and contingent reinforcement during self-care sessions. Daily feedback on staff's training, self-recording and graphing skills was gradually decreased to once a week. Staff performance was maintained over a 6 to 9 week follow-up and also generalized to two different self-care training sessions.

Richman et al. (1988) recorded staff on-task behavior and adherence to scheduled activities under conditions of self-monitoring, and self-monitoring plus feedback. During the self-monitoring condition staff received copies of their schedule and initialed completed activities or specified why an activity was not completed. Under self-monitoring and feedback, supervisors provided individual, verbal feedback to direct care staff as to whether they were working at a scheduled activity and were on or off-task. Self-monitoring alone increased staff on-task behavior and adherence to scheduled activities. However, staff performance became more variable over time for 5 of the 10 staff. The addition of the feedback component increased the mean on-task and on-schedule behavior for these staff.

Additional Staff Management Studies in Residential Settings.

Two studies, although not specifically related to direct care staff's use of behavior modification skills, successfully used individual feedback that was either verbal and private (Parsons et al., 1987) or written and public (Dyer et al., 1984) to increase and maintain the use of age appropriate and functional activities with residents who had severe and profound mental retardation. Parsons et al. (1987) provided an initial inservice on the use of a functional curriculum. To prompt staff implementation of functional tasks, the inservice was followed by unscheduled visits by the school principal to the classroom which averaged once a week. Weekly visits also occurred to provide verbal feedback on staff performance related to task selection. The weekly visits were later decreased to once every 3 to 4 weeks, and staff performance was maintained over a 2 year follow-up.

Instead of an inservice, Dyer et al. (1984) used sign prompts posted in residential units and suggestions made by the experimenter to inform staff of a functional curriculum. Weekly feedback was provided for the first 26 weeks and then reduced to once a month. A follow-up observation at 5 months indicated that staff continued to use functional and age appropriate tasks. It should be noted that external supervision rather than the facility's supervisory staff was used to maintain the change in staff performance.

Jensen et al. (1983) conducted a retrospective analysis using records of restraint usage in a state hospital. The effect of changes in administrative support for behavioral programming and changes in staff training and feedback on the use of restraints by staff was evaluated. Both individual feedback to staff and a monthly memorandum to each unit indicating decreases in the number of residents restrained

and the hours in restraint were provided. Support from management for behavioral programming was correlated with a decrease in restraint use, with further decreases evident when staff training and feedback were introduced.

Several case studies also reported staff management systems that successfully operated within organizations to increase and maintain the implementation of behavioral procedures. The staff management packages included such procedures as work performance contracting, peer review, and performance evaluation and feedback (Christian, 1983), program scheduling, performance feedback, and goal setting (Flanagan et al., 1983), sign prompting, social reinforcement, performance feedback, and program scheduling (Slama & Bannerman, 1983), and modeling of appropriate work skills, performance feedback, social reinforcement, and program scheduling (Marshall, Banzett, Kuehnel, & Moore, 1983).

Staff Management Strategies with Professional Staff in Residential Settings

To a limited extent there have been some demonstrations of the effectiveness of staff management strategies with professional staff. A feedback system of publicly posting attendance and performance at habilitation team meetings proved successful in increasing the number of professional staff who consistently attended meetings and completed assigned agenda items (Hutchison, Jarman, & Bailey, 1980). However, public posting had a minimal effect on decreasing the number of late arrivals to team meetings. This latter finding was accounted for by the nature of the staff positions which often required dealing with problems needing immediate attention. An increase in professional staff performance did produce an increase in service delivery to

residents.

With the use of audiotaped sessions Gonclaves, Iwata, and Chiang (1983) improved supervisors' evaluative feedback to therapists conducting training sessions. Prior to the intervention it was noted that supervisors gave vague corrective feedback to therapists. With the use of the audiotaped sessions, the coordinator of training provided weekly 10-minute feedback sessions to a small group of supervisors. Increases occurred in the number of evaluative statements per minute, the number of technical statements per minute, the number of different technical terms used, and the percentage of terms used correctly by supervisors. It was concluded that the feedback procedure was cost-effective in both assessing and maintaining supervisor performance.

Practical Considerations in Selecting Staff Management Procedures

Although research data have not clearly indicated one staff management intervention to be more effective than another, some practical considerations in selecting one procedure over another can be made.

Feedback. The use of feedback has several advantages. It can be an economical procedure to implement and maintain in settings with limited financial resources (Brown et al., 1981; Fairbank & Prue, 1982; Gonclaves et al., 1983; Realon et al., 1983; Welsch et al., 1973), and may be acceptable where union regulations restrict the use of incentives such as bonuses or extra days off. Performance feedback systems can work within an organization's existing structure and can often rely on mechanisms already in place to measure staff performance (Fairbank & Prue, 1982). As well, training programs to instruct supervisors in the delivery of feedback need not be extensive and

implementation of a feedback system has not been found to be time consuming (Ivancic et al., 1981; Parsons et al., 1987). When properly carried out by supervisors, a performance feedback system may decrease the use of typical aversive control to manage staff, because time spent in positive interactions is increased (Fairbank & Prue, 1982). Lastly, a feedback system requires supervisors to have regular contact with direct care staff.

However, performance feedback systems are not without their disadvantages (Prue & Fairbank, 1981). Public posting of individual performance data may be aversive in instances where a staff's performance is well below that of others. This may result in discontented employees who can be instrumental in the failure of an otherwise successful intervention. If public posting of either individual or group data results in competition for limited resources the success of the program can also be jeopardized. Under such circumstances private feedback may be a more desirable alternative. However, private feedback may be more expensive than public feedback as supervisors must be trained to effectively provide such feedback and to collect the necessary data to be disseminated to individual staff. The use of private feedback also requires that supervisors have good interpersonal skills and a good relationship with their staff as antagonism between supervisor and staff can weaken the effect of positive feedback.

Reinforcement systems. Procedures based on a staff incentive program may risk alienating staff through presentation of such awards as nurse aide of the week, which for some workers may have derogatory connotations (McInnis, 1976). Also, peer pressure may be exerted to

maintain work performance according to informal standards established by co-workers. Some lottery based systems may involve a schedule of reinforcement that is ineffective in maintaining the performance of all staff or specific work related behaviors (Iwata et al., 1976).

Although studies have found monetary reinforcers to be effective (Bricker et al., 1972; Hollander & Plutchik, 1972; Martin et al., 1973; Patterson et al., 1976; Pommer & Streedback, 1974; Watson, 1976), the expense associated with their long term use may not be practical for organizations with limited financial resources. Hollander and Plutchik's (1972) reinforcement program for example, operated at a cost of $300.00 for 6 weeks. Monetary reinforcers may also be rejected by administrators on the basis that employees are already being paid for their work. However, Watson (1976) in surveying the reinforcer preferences of staff at a state facility for the mentally handicapped reported that extra money was ranked highest by executive staff, supervisors, psychologists, teachers, attendants, and support staff, and ranked second by nurses and social workers. Recognition and participation in policy planning were the reinforcement preferences for nurses and social workers respectively.

Instructional antecedents. Although instructions to staff have not proven to be an effective staff management strategy in themselves (Panyan et al., 1970; Quilitch, 1975), Andrasik, Heimberg, and McNamara (1981) suggest that they serve an important function. Such directives provide staff with the opportunity to comply with requests and may result in staff being more cooperative in staff management programs which may be later introduced. Staff compliance may interact with such factors as the degree of change requested, the status of the person making the request, and the specific nature of the instructions.

Self-recording. There are several advantages associated with self-recording procedures. Self-recording techniques generally require minimal staff training and can reduce the amount of supervisory time to maintain staff performance (Burgio et al., 1983; Kissel et al., 1983). Because self-recording devices are usually portable they may mediate the occurrence of generalization by establishing a response that will likely occur in other situations. Staff may also acquire skills to manage their own work behaviors and could be more effective than supervisors in doing so, because of the immediate access they have to their own data. Self-recording procedures can operate within existing staff schedules and do not require administrative changes. They represent an economical alternative in that neither a large monetary investment nor excessive amounts of implementation time from management personnel are required (Baldwin & Hattersley, 1984; Burgio et al., 1983). However, the accuracy of self-reports may be problematic and require periodic external checks to determine their reliability. There is some indication that the initial success experienced with self-recording may be short lived if external monitoring procedures do not exist (Andrasik et al., 1981; Richman et al., 1988).

Limitations of Research in the Area of Staff Management

A number of limitations of research conducted in this area can be cited. Firstly, there still exists a lack of data on the generality of behavior change. Behavior maintenance should be of primary concern since the objective of research evaluating the effectiveness of staff management procedures is to improve and maintain desired staff performance. Six years ago Reid and Whitman (1983), in an article on the effectiveness and acceptability of staff management programs in

institutions, noted that only 25% of the research reported follow-up data which ranged from 2 to 19 weeks. Fifty-six percent (22/39) of the studies cited in this paper reported follow-up data which may be indicative of improvement in this area.

Seven of 39 studies (18%) had follow-up data ranging from 1 to 12 years and represented case studies of ongoing staff management systems in organizations (Christian, 1983; Flanagan et al., 1983; Marshall et al, 1983; Slama & Bannerman, 1983), a specialized program within an institutional setting (Jensen et al., 1983), a program conducted both within an institution and off site (Parsons et al., 1987), and an extensive application in five living-units within a residential facility (Parsons et al., 1989). Follow-up data ranging from 5 weeks to 28 weeks were reported for 36% (14/39) of the studies (Baldwin & Hattersley, 1984; Burg et al., 1979; Burgio et al., 1983; Coles & Blunden, 1981; Dyer et al., 1984; Gonclaves et al., 1983; Ivancic et al., 1981; Kissel et al., 1983; Korabek et al., 1981; Page et al., 1982; Panyan et al., 1970; Parsonson et al., 1974; Seys & Duker, 1986; Watson, 1976). A program description of an ongoing feedback system, which was part of a clinical research unit (Patterson, Cooke, & Liberman, 1972), was also included and accounts for the remaining 3%.

Stimulus generalization was assessed in only four studies. Three studies reported that direct care staff were able to generalize their skills to different training sessions (Kissel et al., 1983), to different work periods (Richman et al., 1988), or from one task to another (Ivancic et al., 1981). The fourth study (Page et al., 1982) indicated that direct care staff did not generalize their skills to other training areas.

A second limitation pertains to the scope of the studies.

Generally research in the area of staff management involves small numbers of staff, for short periods of time, and in restricted settings such as a ward or classroom. The majority of the studies (49%) involved relatively small scale applications limited to a specific unit or program with participation ranging from 2 to 20 staff. Thirty-one percent of the studies included two or more units and staff involvement ranging from 4 to 43 employees; six studies indicated that all staff had participated. Staff management programs where employee involvement included the entire facility accounted for only 15% of the studies. One-half of the large scale applications were reported as case studies (Christian, 1983; Flanagan et al., 1983; Watson, 1976) and could not be defined as analytical (Baer, Wolf, & Risley, 1968, 1987). The remaining 5% of the studies included participants who were professional staff and therefore not necessarily assigned to a unit.

A third limitation concerns the importance of socially validating the significance of a study's goals, the appropriateness of the procedures to the consumer, and the extent to which the consumer is satisfied with the results obtained (Kazdin, 1977; Wolf, 1978). Only six studies (15%) socially validated their work. Of the six studies, one polled a number of professionals, technicians, and secretaries working in the institution plus parents of residents residing in the facility as to the significance of the goals selected (Quilitch, 1975); four studies questioned staff as to the overall effectiveness of the procedures (Burgio et al., 1983; Kissel et al., 1983; Korabek et al., 1981; Quilitch, 1975); and five studies validated the acceptability of the staff management strategies (Burgio et al., 1983; Christian, 1983; Kissel et al., 1983; Korabek et al., 1981; Parsons et al., 1987).

Korabek et al.'s (1981) survey regarding procedure acceptability indicated that 20% of the staff disliked the self-recording component, while public posting of resident progress received the highest rating. Burgio et al. (1983) noted that their staff management package which included self-recording, goal setting, and self-reinforcement was ranked third when compared to nine other management approaches; an increased lunch hour and contingent money were rated as more acceptable. The remaining studies reported favorable results to the acceptability of the procedures used. Employees' high acceptance of a staff management procedure may have to be cautiously interpreted because of potentially inaccurate responses. As noted by van den Pol, Reid, and Fuqua (1983) positive acceptance of a staff training procedure did not correspond to an employee's willingness to participate in the program when presented with a second opportunity for participation.

A fourth limitation is that many of the studies in this area monitored only staff behavior as the dependent variable. However, an increase in desirable staff behavior should not be assumed to have a positive effect on resident behavior (Martin et al., 1973; Miller & Lewin, 1980; Quilitch, 1975; Reid & Whitman, 1983). Strategies to increase or maintain staff performance related to work routines such as conducting resident training programs should also be concerned with their impact on resident behavior (Greene, Willis, Levy, & Bailey, 1987). Therefore, an intervention's effectiveness should be evaluated in terms of both staff and resident performance.

Where resident performance has been recorded, some studies reported only small gains. Possible contributing factors included the short duration of the training period covered by the intervention (Page

et al., 1982), the extent of the residents' physical disabilities (Ivancic et al., 1981), and inappropriately sequenced training programs (Martin et al., 1973). The remaining studies reported varying degrees of success in increasing vocalizations (Ivancic et al., 1981), weight gain (Korabek et al., 1981), independent responding on self-care skills (Flanagan et al., 1983; Kissel et al., 1983), involvement in active treatment (Parsons et al., 1989), and in decreasing such behaviors as aggression, non-compliance, and self-injury (Baldwin & Hattersley, 1984; Burg et al., 1979; Coles & Blunden, 1981; Flanagan et al., 1983; Jensen et al., 1983; Seys & Duker, 1988; Slama & Bannerman, 1983).

A fifth limitation is that researchers have generally limited analysis to the direct effects of the intervention on staff performance rather than taking a more ecological perspective (Martens & Witt, 1988; Reppucci, 1977; Willems, 1974). An analysis of the multiple effects of an intervention could have implications beyond that of the immediate target behavior.

A sixth limitation of research in the area of staff management is that direct comparison of the effectiveness of one staff management strategy over another is limited by the fact that studies do not report the same behavioral measures in assessing change, or use the same unit of measurement. An added difficulty is that some experiments report group data and not individual data. As well, studies have used different procedures or combinations of components which generally were not subjected to a component analysis. In some cases the extent to which the staff management strategies were responsible for the overall improvement in employee performance was not clearly evident due to lack of experimental control and procedural limitations. A related point is

the lack of procedural reliability data. To ensure that the procedures implemented are being adhered to and the results obtained are due to the manipulations described, the use of procedural reliability checks need to be addressed by researchers.

Statement of the Problem

Watson (1976) identified the failure to provide for a well developed staff reinforcement system as the major problem underlying behavioral treatment strategies. As a consequence residential facilities are left with residents' programs that are not consistently carried out, and program-related staff behaviors that are not maintained over time. To some extent staff behavior may be affected by natural communities of reinforcement in the work setting (Baer & Wolf, 1970; Acker, 1980). One possible natural reinforcer is the improvement in resident behavior made evident by data summarized on graphs and positive feedback received from supervisors, co-workers, residents' relatives, and professionals who interact with the residents. However, the natural contingencies which operate on a ward or unit typically do not maintain staff behavior over the long term (Acker, 1980; Bernstein, 1982; Coles & Blunden, 1981; Martin, 1972; Miller & Lewin, 1980; Panyan et al., 1970). Such contingencies may occur on too intermittent a schedule to maintain staff behaviors. In addition, there are data to suggest that positive reinforcement of staff performance by managers is under utilized in the work setting (Komaki, 1982).

Acker (1980) contends, as have others (Watson, 1976; Watson, Gardner, & Saunders, 1971), that the maintenance of program-related staff behavior requires other sources of reinforcement. These must be programmed for and administered by supervisors, a contracted agent, or perhaps even the residents themselves, and be contingent on client

improvement and/or the correct use of staff skills.

Reid et al. (1989) stated that managers or supervisors in residential settings should be responsible for ensuring that direct care staff are effectively performing the requirements of their job. However, they acknowledged that many managers in residential facilities may not have the necessary skills to ensure the effective management of direct care staff performance.

It should be noted that additional problems exist which contribute to poor service delivery to residents. These can be attributed to the absence of support from administrative staff for the implementation of behavioral programming, resistance from direct care staff, inadequate management of a unit, lack of properly trained staff, and institutional constraints related to funding and staff resources (Andrasik & McNamara, 1977; Christian, 1983; Reppucci, 1977). The ways in which these issues impact on service delivery have been identified by Jensen et al.(1983), Mabry, Stachnik, and Ulrich (1970), Reid and Whitman (1983), and Wray (1978).

In settings where the triadic model of service delivery (Tharp & Wetzel, 1969) has been adopted, the client, the program mediator, and the supervisor form the basis of the triad. The reasoning behind the model is that the behavior of the client is changed by the changed behavior of a mediator whose behavior in turn is changed by the consultant or supervisor. The present study evaluated the effects of a performance feedback system in a program loosely based on the triadic model. The implementation of a staff management strategy by a supervisory staff was evaluated in terms of the change in mediator or direct care staff performance, and also in terms of the change in client

behavior.

At the facility where the study was conducted, three direct care staff had been previously trained and had demonstrated the necessary behavioral training skills during the first year of their involvement in a new program. However, they did not consistently apply these skills throughout their daily work routine. A checklist had been developed by three managers who were to provide feedback to the direct care staff (see Appendix A for a sample checklist and Appendix B for steps in the development of the checklist). The purpose of the checklist was to assist managers in monitoring the performance of direct care staff on a regular basis, to provide positive feedback for existing desirable work behaviors, and to provide corrective feedback in areas where performance was below the acceptable standard. However, the checklist had not been implemented by the managers since its completion approximately a year prior to this research. This general situation provided the context for the current study.

The staff management strategy evaluated in this study consisted of the following components: the use of a performance checklist by a manager to provide direct care staff with positive and corrective feedback; social approval from a manager paired with positive feedback to direct care staff; goal setting for direct care staff in one area of performance receiving corrective feedback; and the option for direct care staff to add records of positive performance from the checklists to their annual performance appraisal. Although there were three managers responsible for monitoring various areas of direct care staff performance and providing performance feedback, the effects of the staff management strategy were evaluated in one area. The area selected was that of direct care staff's performance in conducting

training sessions with clients. This area was the responsibility of the psychologist who was one of the managers assigned to the program.

Previous research have studied the effects of feedback, either alone or in combination with other components, as a staff management procedure to maintain staff performance. However, these staff management strategies have generally required the collection of data for the purpose of providing graphic or quantitative information on either staff or resident performance. Such data have taken the form of daily or weekly public posting of treatment activity (Prue et al., 1980; Quilitch, 1975; Welsch et al., 1973), resident progress (Coles & Blunden, 1981; Ivancic et al., 1981), or staff performance (Ivancic et al., 1981). The present study differed from this approach in that it evaluated the effectiveness of a staff management package which could be incorporated into a manager's existing work routine and which did not require the collection of data for the purpose of providing graphic or quantitative information to staff on their performance.

The purpose of the study was to: examine the effects of weekly performance assessments and feedback on direct care staff work skills; evaluate the generalization of changes in staff work performance to a different client group during a second scheduled work period; determine the effect of any changes in direct care staff performance on client behavior; and examine the effects of a reduced feedback schedule (i.e., bi-weekly feedback) to maintain staff performance over time.

Method

Setting and General Program Description

The study was conducted in a prevocational program for adults in a 265 bed residential facility serving children and adults with mental

retardation. The program was designed to provide meaningful work and activity for residents who resided in the facility and who were no longer eligible to attend school. The program was supervised by a management team comprised of one professional staff from each of occupational therapy, physiotherapy, and psychology. The program participants attended on a half-day basis where the staff-client ratio was 1:5 or on a quarter-day basis where the staff-client ratio was 1:4. Client training was provided in the areas of fine motor, prevocational, communication, and leisure skills. All training was conducted by three direct care staff under the supervision of the management team.

In addition, a physiotherapy session was provided once per week to each group of clients. All client programs, with the exception of physiotherapy, were conducted in the unit which consisted of three adjoining session rooms. Weekly, 1-hour physiotherapy sessions occurred in the physiotherapy department at which time a physiotherapy aide was available to assist the direct care staff in conducting therapy. Direct supervision by the physiotherapist varied depending on scheduling demands, as did program monitoring by the occupational therapist and psychologist for programs conducted in the unit.

Programs carried out in the unit required direct care staff to rotate task presentation amongst the clients, or to present appropriate activities to the clients who worked independently. Direct care staff were responsible for recording client performance, summarizing client data at the end of each week, and carrying out behavior management programs.

Subjects

Managers. The occupational therapist, physiotherapist, and psychologist who formed the management team all held professional

degrees in their respective disciplines and had been assigned to the program since its start in October, 1986. The occupational therapist acted as program coordinator in addition to heading the department of Occupational Therapy and held a Bachelor of Medical Rehabilitation degree with specialization in occupational therapy. The physiotherapist, with a Bachelor of Physiotherapy, was responsible for planning and supervising physiotherapy sessions for clients in the program and for residents on the various living units at the centre. Responsibility for designing behavior management programs belonged to the psychologist who held a Master of Arts degree with specialization in applied behavior analysis. The management team jointly established a curriculum for each client in the program and shared responsibility for monitoring the programs conducted by the staff. The managers length of employment at the centre ranged from 7 to 17 years with a mean of 11 years.

Direct care staff. Prior to working in the program, the three female staff had been employed as senior nursing assistants on the various wards or cottages throughout the centre and were responsible for direct resident care. Their length of employment at the centre ranged from 10 to 19 years with a mean of 14 years. Two staff had previous experience conducting developmental and self-care training programs with residents on the wards. One staff had completed a 9-hour behavior modification course offered by the centre's psychology department. Educational qualifications ranged from the completion of junior high (i.e., grade 9) to high school graduate (i.e., grade 12). All staff received on the job training in conducting one-to-one training sessions and in carrying out the clients' physiotherapy

programs. Inservices and on the job training also had been provided in the correct use of basic behavioral principles and procedures.

Clients. The 27 clients who participated in the study were diagnosed with severe to profound mental retardation. The mean age was 26 years and ranged from 21 to 37 years. Clients had been institutionalized for an average of 17 years and had previously attended developmental training sessions on the wards and an on-site school program. Only four clients had functional speech in that they were able to understand simple instructions and express themselves using two to three word phrases. Two clients used a system of augmentative communication known as Bliss symbols. Clients were not only developmentally handicapped, but had various physical disabilities. Only six clients were ambulant (see Table 1 for client characteristics). No specific selection criteria for subjects were used as all staff and client participation was determined by their involvement with the program.

Data Collection and Behavior Definitions

The psychologist on the management team, who was also the principal investigator, served as the primary observer. Additional observers were university students taking part in a course practicum. The three student observers had completed an introductory course in behavior modification. Observer training involved: reviewing the written definitions of the dependent variables; studying the use of the various data sheets; recording data from a videotape of programs conducted in the unit and of interactions between managers and staff; and recording data in settings where the study would be conducted with the principal investigator taking interobserver reliability data. Training continued until at least 85% interobserver agreement was

Table 1

Client Characteristics

Client	Age	Functioning Level[a]	Years Institutionalized	Diagnosis	Physical Disabilities
B.A.	22	Severe	11	Rubella Syndrome	Hemiparesis
B.L.	29	Severe	18	Rubella Syndrome	Paraparesis
B.M.	23	Profound	21	Microcephaly Seizure Disorder	Quadreparesis
D.A.	25	Profound	24	Hydrocephalus Spina Bifida	Paraparesis
E.S.	22	Profound	24	Seizure Disorder	Quadreparesis
G.A.	32	Severe	13	Viral Encephalitis Cerebral Athrophy	Quadreparesis
G.M.	22	Profound	21	Cerebral Palsy Seizure Disorder	Paraparesis
G.N.	23	Profound	21	Retardation due to Brain Damage	Quadreparesis
K.G.	23	Severe	12	Microcephaly Seizure Disorder	
K.J.	28	Profound	10	Cerebral Atrophy	Quadreparesis
L.H.	26	Profound	23	Microcephaly Seizure Disorder	Quadreparesis
M.R.	31	Severe	2	Cerebral Palsy Seizure Disorder	Quadreparesis
M.S.	32	Severe	13	Athetoid Cerebral Palsy Microcephaly	Quadreparesis
N.M.	29	Profound	16	Hydrocephalus	Quadreparesis
N.R.	26	Profound	18	Robert's syndrome	Shortening of Extremities
N.S.	24	Profound	14	Hypsarrhythmia Microcephaly	
N.T.	28	Profound	14	Downs Syndrome	Paraparesis
P.M.	26	Profound	22	Chromosome Abnormality Seizure Disorder	Edema of Lower Limbs
P.S.	23	Profound	19	Microcephaly	Quadreparesis
R.L.	33	Profound	30	Viral Encephalitis Microcephaly	Hemiparesis
S.K.	37	Profound	21	Athetoid Cerebral Palsy Seizure Disorder	Quadreparesis
S.R.	26	Profound	24	Encephalopathy	Quadreparesis
S.S.	21	Profound	11	Cerebral Palsy Seizure Disorder	
S.V.	22	Severe	15	Oculocerebra Facial Syndrome Mild Cerebral Palsy	
T.C.	22	Severe	20	Cerebral Athrophy Microcephaly	Paraparesis
V.B.	24	Profound	21	Cerebral Palsy Seizure Disorder	Quadreparesis
W.M.	23	Severe	20	Encephalopathy	Hemiparesis

Note.

[a] Functioning level based on the Yale Developmental Schedule.

obtained between each observer and the principal investigator.

Data were collected Monday, Tuesday, and Thursday mornings, and Wednesday, Thursday, and Friday afternoons. The observation schedule was arranged to accommodate the attendance of each group of clients to a program outside of the unit.

Manager behaviors. Data were collected on the frequency and type of interaction between managers and staff. Data collection occurred throughout all phases of the study during times when the managers monitored client programs, but were not using the checklist to provide staff with feedback on their performance (see Appendix C for a sample data sheet). Managers monitored programs conducted by the staff either in the unit or in the physiotherapy department. Although manager behavior was not a dependent variable, the frequency and type of interaction were recorded to determine whether any change in manager-staff interactions occurred throughout the phases of the study which may have had an effect on staff performance. The time managers spent in the unit varied on a daily basis, as they were not located in the unit throughout the work day and had responsibilities in other areas of the centre. The observation periods ranged from 5 to 15 minutes.

Manager behavior was scored according to the following categories:

1. Positive feedback. Any positive statement directed to the staff which identified a specific aspect of their work behavior.

Example: "I'm glad to see you tried the new counting board with Mark."

Example: "You're positioning the equipment correctly on Raymond's tray."

Example: "The client attendance records were accurately completed this week."

2. Corrective feedback. Any statement directed to the staff which

identified a specific aspect of their work behavior to be modified and the required change in their behavior.

Example: "Do not use the damaged counting board. Use the new one with Mark."

Example: "Raymond's equipment should be presented to his left and not placed on the right hand side of his tray."

Example: "There are some addition errors on the data summary sheets. You need to re-add the first and last column of numbers."

3. Negative feedback. Any negative statement directed to the staff which identified a specific aspect of their work behavior that was performed incorrectly, but did not specify the required change in their behavior.

Example: "You're using the wrong counting board with Mark."

Example: "Raymond's equipment has not been properly positioned."

Example: "You're addition is incorrect."

Direct care staff behaviors. Data on staff performance were collected during the programs they conducted in the unit. The staff behaviors selected were identified by the managers as being the most problematic in this work setting. Each manager had been asked to identify the most frequent errors performed by the staff based on their observation of the staff when conducting programs with the clients.

During programs conducted in the unit, the occurrence of the following behaviors were recorded over 15-minute observation periods using continuous observation (see Appendix D for a sample data sheet):

1. Correct task presentation. The staff gives the instructional cue written on the client's data sheet which corresponds to the task being presented. The first instruction presented is recorded.

2. Occurrence of social reinforcement. The staff gives verbal approval for a client's prompted or independent correct response within 2 seconds following task completion, or gives verbal approval to a client who has been left with a job to complete and is remaining on-task or has completed the assigned work when the staff next approaches the client.

3. Quality of social reinforcement. The staff presents verbal approval to the client in an enthusiastic tone of voice differing from that used during task presentation.

4. Activity presentation. The staff gives the client an activity (i.e., non-training related task or work material) after task completion and before presenting another client with a training task or work material.

5. Off-task. The staff is engaged in one or more of the following behaviors: sitting at their desk; talking on the phone; talking to an adult other than a manager or another staff; assembling or repairing equipment; or leaving the unit. The total duration of off-task behavior during a 15-minute observation period was recorded by starting a stop watch at the onset of one or more of the above behaviors and stopping it with the termination of the behavior.

Client behaviors. On-task behavior of clients was collected during 5-minute observation periods following each observation of staff behavior described above. Interval recording was used where a 10-second observation period was followed by a 5-second interval to record client on-task behavior (see Appendix E for a sample data sheet). On-task behavior was defined as a client attending to material on his/her tray or table, and/or having hand contact with any materials at his/her work area while using materials in the manner for which they were

intended.

Also, the number of tasks mastered was recorded at the end of each week by reviewing the client data sheets for that week. A task was considered mastered if four of five consecutive training trials had been recorded as correct over three consecutive days.

Reliability Assessments

Interobserver agreement was obtained on all dependent measures by having a second observer independently record data during at least 33% of all observation sessions. Total agreement was calculated for the duration of staff off-task behavior and the frequency of manager-staff interactions by dividing the larger session total into the smaller session total and multiplying the quotient by 100. Occurrence agreement was calculated for the remaining dependent variables by dividing the number of observer agreements during an observation period by the number of agreements plus disagreements and multiplying the quotient by 100.

Procedural reliability data were collected during use of the performance checklist to determine if the manager adhered to the procedure for delivering feedback and completing the checklist (see Appendix F for a sample data sheet). Interobserver agreement was calculated by dividing the number of observer agreements during a feedback session between manager and staff by the number of agreements plus disagreements and multiplying the quotient by 100.

Experimental Design

A multiple-baseline design across subjects was used to assess experimental control of the effect of the staff management package on the performance of staff during morning programs with the clients.

Baseline data were collected during mornings and afternoons on the performance of managers, staff, and clients as described above. Weekly performance feedback during the morning work period was then introduced sequentially across the three staff. Data continued to be collected during morning work periods. Data were also collected on staff performance in the absence of the performance feedback system during the afternoon work period with a different client group. Observations were taken during the afternoons to assess stimulus generalization of changes in staff performance from the morning to the afternoon work period.

Eventually, weekly performance feedback was introduced during the afternoon work period as well. As with the morning work period, weekly feedback was introduced sequentially across staff during the afternoons. During this time, weekly feedback continued during the morning work period. The feedback schedule was later decreased to bi-weekly feedback during mornings and afternoons for all staff to determine if changes in work performance would be maintained over a 4 month period.

Experimental Phases

Phase 1. Baseline data during morning and afternoon work periods. Data were collected on manager, staff, and client behaviors under normal work conditions during both the morning and afternoon work periods. It should be noted that at no time during data collection on staff and client behaviors were managers present in the unit with the exception of the primary observer. Staff were informed that the purpose of the observers was to assist in data collection of some aspect of client, staff, and manager behavior.

Phase 2. Weekly feedback during morning work periods. At the

beginning of the week that the intervention was to be introduced, each staff was informed by the program coordinator that managers would begin using the performance checklist on a weekly basis. Since the checklist had been presented to staff upon its completion approximately a year prior to the study, its intended purpose was known to them. However, the reason for its use, that being to assist the manager in providing feedback on a regular basis, and the specific work skills on the checklist were reviewed. Staff were also informed that due to the demands of the managers' work schedule, the checklist would be implemented one staff at a time until it was being used with all three staff.

Staff were aware that the performance checklist was not being used in place of, or as part of the facility's annual performance appraisal. However, staff were told they had the option of entering areas of positive performance, which had been identified by the manager on the completed checklists, to their annual performance appraisal. It should be noted that since the date of the staff's annual performance appraisal did not occur within the time frame of the study, this event was not associated with any of the experimental phases.

The staff performance checklist, used to assess staff performance, covered five areas: performance in conducting sessions, behavior management programs, physiotherapy programs, reporting observations, and general organizational skills. Specific responsibilities were identified for each area (see Appendix A for the performance checklist). The staff received private, verbal, and written feedback on a weekly basis during the morning work period. Different areas of the performance checklist were assigned to each of the three managers

on the management team. That is, the physiotherapist provided feedback on staff performance in carrying out clients' physiotherapy programs; the occupational therapist, who was the program coordinator, provided feedback on staff's general organizational skills. The psychologist implemented the checklist for those work skills related to staff's performance in conducting training sessions with clients in the unit. The effects of the staff management package were evaluated only on staff performance in this latter area which was the responsibility of the psychologist on the management team.

Prior to the implementation of the performance checklist with staff, an instructional package on how to use the checklist was presented to the managers. The instructional package included a checklist of steps managers should follow each time they used the performance checklist to provide staff with feedback (see Appendix G for the managers' checklist). A completed performance checklist was based on direct observation of a session for a minimum of 10 minutes. Feedback to staff was provided immediately after the observation, or if possible during the course of the observation if it was not disruptive to the program. Positive performance was identified by placing a checkmark by the corresponding item on the checklist. Positive feedback and social approval were provided for all areas were a checkmark had been placed. When corrective feedback was provided, the corrective action to be taken by the staff in order to improve performance was identified. The manager also made a written entry on the checklist as to the required behavior change.

A goal, established by the manager, was selected from an area of performance that had received corrective feedback. The goal was stated verbally and the area of performance that had received corrective

feedback and corresponded to the goal was highlighted on the checklist. Staff did not receive a copy of the completed checklist, but had access to it if a request was made to the manager. Feedback on goal attainment was provided the following week. The goal was considered achieved if staff received positive feedback in the related area of performance. If corrective feedback was again required, the previous week's goal was set for the upcoming week.

Staff performance was compared against their previous performance as opposed to that of their co-workers or a performance standard. The previous week's checklist was used to make this comparison. The manager reminded staff that they could select positive areas of performance and enter them on their annual performance appraisal. A completed performance checklist consisted of a record of either positive or negative feedback, with negative feedback followed by a brief description of the behavior change required to improve performance. The checklist was to be dated and initialed by the manager. Staff did not receive feedback at the same time each week. Feedback could occur at various times throughout the week for each staff and was arranged according to the manager's work schedule. Data collection continued under normal work conditions during the afternoon work period to assess stimulus generalization of changes in staff performance.

Phase 3. Weekly feedback during morning and afternoon work periods. Phase 2 conditions continued during the morning work period as described above. For the afternoon work period, weekly feedback was introduced sequentially across the staff. Procedures for delivering feedback remained as outlined in the previous condition. Staff

however, did not meet with the program coordinator as they had during Phase 2 for the purpose of reviewing the content of the checklist.

Phase 4. Bi-weekly feedback during morning and afternoon work periods. Over a 16 week period the frequency of feedback during the morning and afternoon work periods occurred bi-weekly. No change occurred to the observation schedule. This phase continued for 15 weeks for Staff 2 who was on vacation during the last week of the study. Procedures for delivering feedback remained as outlined in Phase 2, differing only in that the checklist was used every second week, once during a morning work period and once during an afternoon work period.

Social Validation

Social validity questionnaires were administered to both managers and staff to determine their preference for the intervention strategies and their satisfaction with the results (see Appendixes H and I for sample questionnaires). Managers were asked to indicate their degree of satisfaction with changes in the work performance of staff and client behavior. Direct care staff were asked to indicate their satisfaction with changes in client behavior. All questionnaires were completed anonymously. The target behaviors selected were viewed as being important by both the facility's Assistant Executive Director of Clinical Services and the Program Coordinator. The implementation of the procedures were acknowledged as being practical. Items on the performance checklist were validated prior to their use by: a Director of a Developmental Day Program using an interdisciplinary team approach similar to the one used by the program where the study was conducted; a Director of a Physiotherapy Department; a physiotherapist; and two psychologists who worked with direct care staff responsible for program

delivery.

Results

Overall Staff Performance

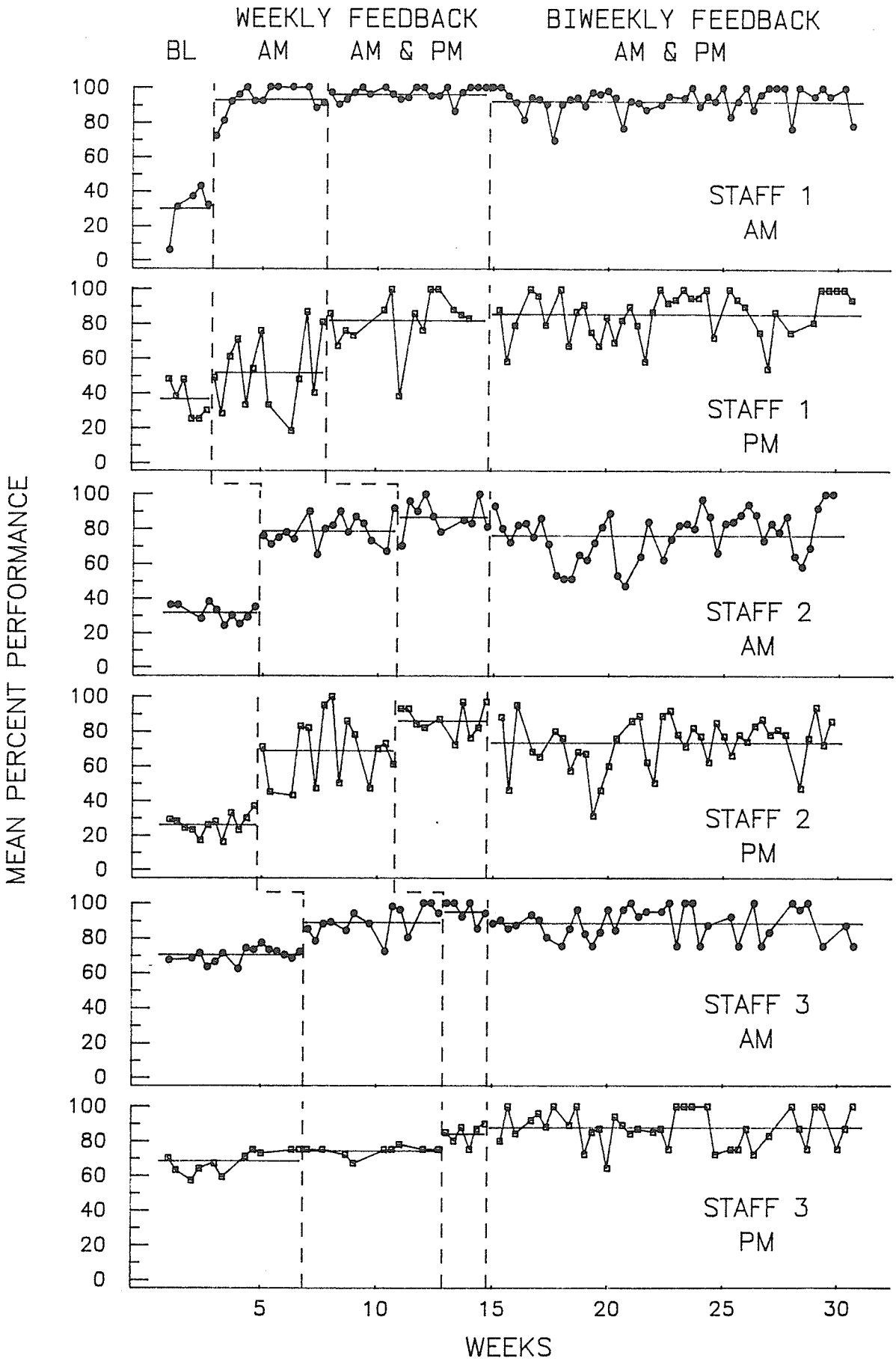
As indicated previously, the effects of the staff management package were evaluated on the performance of direct care staff in areas supervised by the psychologist on the management team, namely, conducting client training sessions and behavior management programs. The direct care staff's overall performance in conducting client programs was based on the following dependent variables: task presentation; occurrence of social reinforcement; quality of reinforcement to clients; and intertrial activity presentation. For programs conducted in the morning, the overall performance for all staff increased over baseline with the introduction of weekly feedback (see Figure 1). The mean percent correct performance during the morning work period increased from 30% to 93% for Staff 1, from 31% to 79% for Staff 2, and from 70% to 89% for Staff 3.

Generalization of improved staff performance to the afternoon work period indicated some clear increases in overall performance with the least change occurring for Staff 3. Change in the mean percent correct performance from baseline during the afternoon work period was smaller in comparison to the change in performance that occurred during the morning work period for Staff 1 (36% to 52%) and Staff 3 (68% to 74%). However, overall performance for Staff 2 increased from a mean of 26% during baseline to 69% during the afternoon work period.

With the introduction of weekly feedback to the afternoon work period, further increases in overall performance were noted during the

Figure Caption

Figure 1. Mean percent performance across phases for the morning (closed circles), and afternoon work periods (open squares). The mean performance during each observation period was based on percentage of trials where correct task presentation, occurrence of social reinforcement, quality of reinforcement, and intertrial activity presentation occurred. Each week had a maximum of three observation periods. Means for each phase are indicated by a horizontal line.


WEEKLY FEEDBACK
BIWEEKLY FEEDBACK
BL
AM
AM & PM
AM & PM
STAFF 1
AM
STAFF 1
PM
STAFF 2
AM
STAFF 2
PM
STAFF 3
AM
STAFF 3
PM
MEAN PERCENT PERFORMANCE
WEEKS
0
20
40
60
80
100
5
10
15
20
25
30

afternoon. The mean percent correct performance was 82%, 86%, and 84% for Staff 1, 2, and 3 respectively. Staff's overall performance during bi-weekly feedback was maintained throughout the 4 months at a level comparable to that phase when weekly feedback was first introduced for either the morning or the afternoon work periods. The exception was Staff 2 for whom the phase mean for percent correct performance during the afternoon work period was below that of Phase 3 (PM feedback), but remained somewhat above that of Phase 2 (AM feedback).

Subareas of Staff Performance

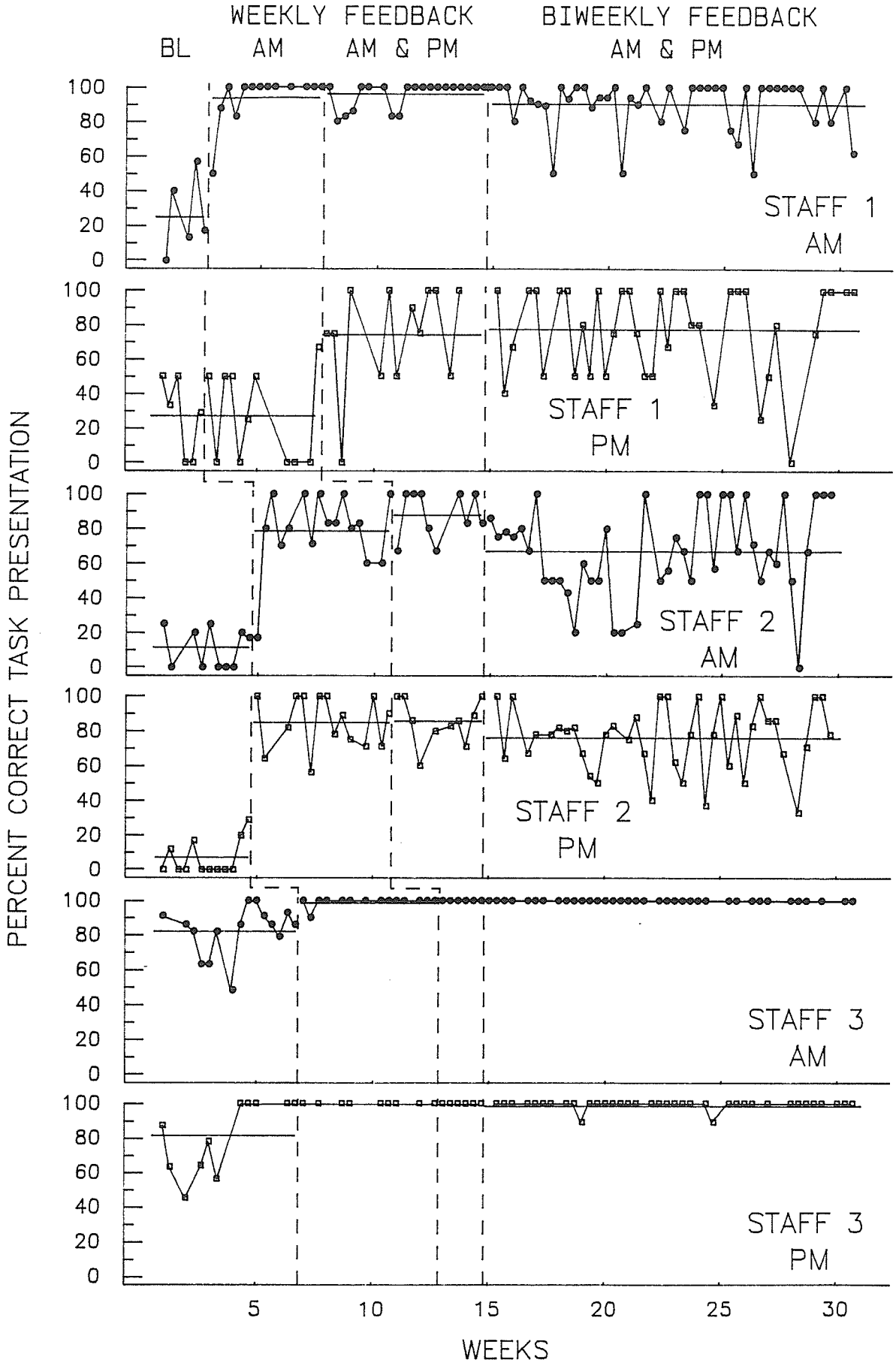
The four areas that made up overall staff performance (described above) were all affected by the intervention, but to differing degrees for each of the staff. In general, an immediate change in performance occurred with the introduction of the intervention. The increase in work skills occurred for all four areas of performance where staff were not performing at or near a 100%.

Correct Task Presentation. The percentage of instructional cues presented correctly during the morning work period increased from baseline means of 25%, 11%, and 82% to 94%, 79%, and 99% for Staff 1, 2, and 3 respectively with the use of weekly feedback (see Figure 2).

Changes in staff performance generalized to the afternoon work period for Staff 2. The mean percent correct task presentation increased from 7% during baseline to 85% during the afternoons after feedback was introduced to the morning work period. For Staff 3, correct task presentation during the afternoon work period increased from a baseline mean of 81% to 100%. However, performance had been scored at 100% during baseline for five observation periods prior to the use of weekly feedback during the morning work period. No generalization of improved performance occurred for Staff 1; anecdotal

Figure Caption

Figure 2. Percentage of correct instructional cues for each task presented to clients during the morning (closed circles) and afternoon (open squares) work periods. Each week had a maximum of three observation periods. Means for each phase are indicated by a horizontal line.


WEEKLY FEEDBACK
BL
AM
AM & PM
BIWEEKLY FEEDBACK
AM & PM
STAFF 1
AM
STAFF 1
PM
STAFF 2
AM
STAFF 2
PM
STAFF 3
AM
STAFF 3
PM
PERCENT CORRECT TASK PRESENTATION
WEEKS
0
20
40
60
80
100
5
10
15
20
25
30

reports noted that the type of instructional cues presented to the clients during the morning work period (e.g., "Do this." preceded by a modeled response) generalized to the afternoon. However, this type of instructional cue was incorrect for tasks presented to clients in the afternoon group.

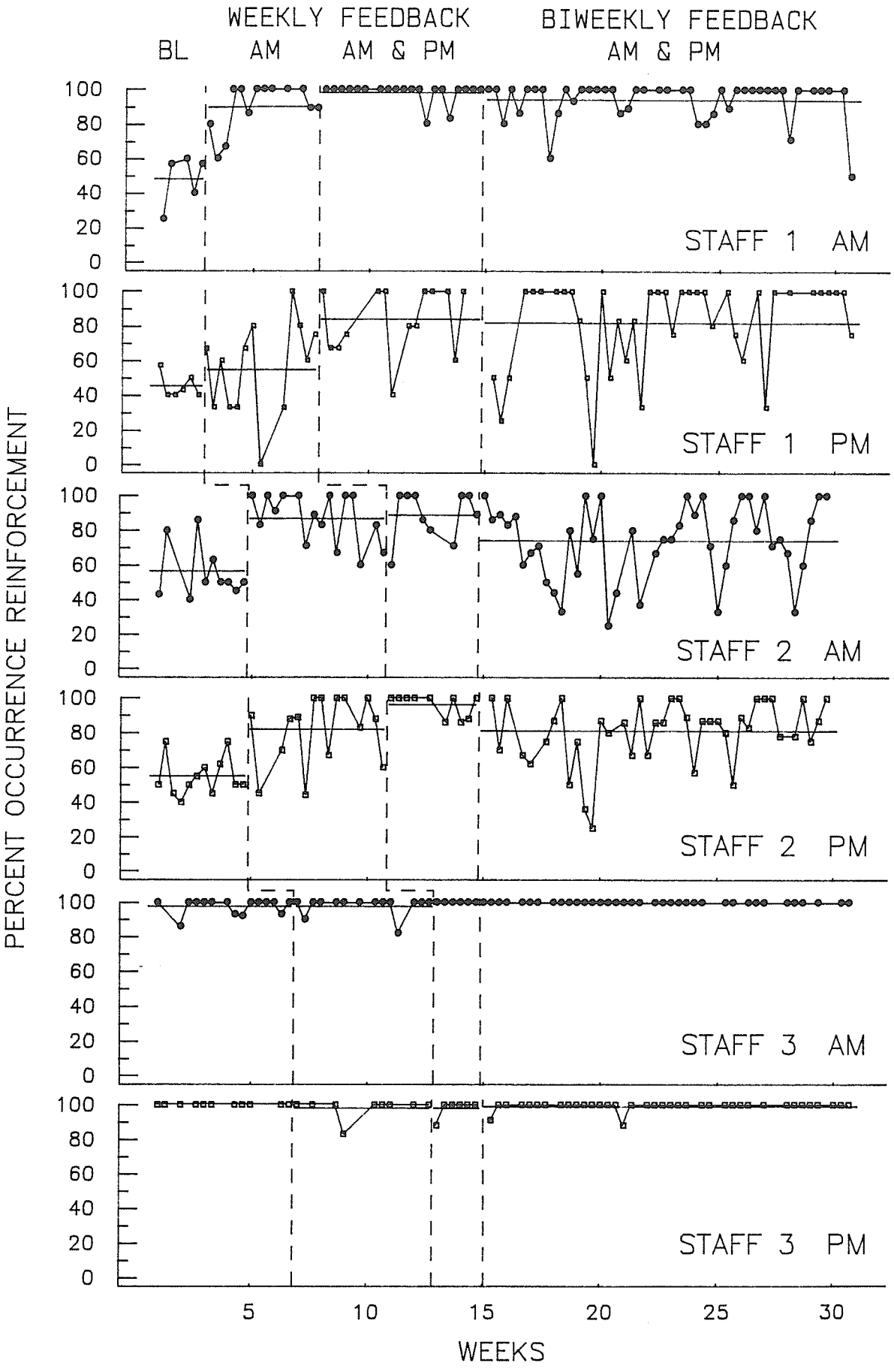
Performance during the afternoon work period increased for Staff 1 from 27% during baseline to 74% only when weekly feedback was introduced to that work period. When feedback was introduced to the afternoon work period for the remaining staff, increased performance which generalized to the afternoon was maintained.

During bi-weekly feedback correct task presentation was maintained at or near the level of performance of the previous condition for Staff 1 and 3. Performance for Staff 2, although somewhat more variable, remained well above baseline. Anecdotal reports indicated that incorrect task presentation involved instructions previously used during baseline (e.g., "Let's go.").

Occurrence of Reinforcement. The mean percent occurrence of reinforcement during the morning work period increased for Staff 1 and 2 from baseline means of 48% and 56% to 90% and 87% respectively with the use of weekly feedback (see Figure 3). The increased occurrence of reinforcement also generalized to the afternoon work period where the phase means increased from 45% during baseline to 55% for Staff 1, and from 55% during baseline to 82% for Staff 2. Further increases occurred during the afternoon work period for Staff 1 and 2 when weekly feedback was implemented at that time. During bi-weekly feedback performance was maintained for all staff, although it was more variable for Staff 2 in comparison to the previous condition. Staff 3 reinforced clients at or near 100% throughout the work day across all

Figure Caption

Figure 3. Percentage of opportunities where social reinforcement occurred immediately after correct task completion by clients during the morning (closed circles) and afternoon (open squares) work periods. Each week had a maximum of three observation periods. Means for each phase are indicated by a horizontal line.


WEEKLY FEEDBACK
BIWEEKLY FEEDBACK
BL
AM
AM & PM
AM & PM
STAFF 1 AM
STAFF 1 PM
STAFF 2 AM
STAFF 2 PM
STAFF 3 AM
STAFF 3 PM
PERCENT OCCURRENCE REINFORCEMENT
WEEKS
0
20
40
60
80
100
5
10
15
20
25
30

phases of the study.

Reinforcement Quality. The quality of reinforcement to clients increased for Staff 1 and 2 from baseline means of 29% and 53% to 96% and 88% respectively when weekly feedback was introduced to the morning work period (see Figure 4). Minimal generalization to the afternoon work period occurred for Staff 1 and 2 with baseline means increasing from 24% to 39% for Staff 1, and 39% to 58% for Staff 2. Performance was variable from day to day with the percent correct reinforcement ranging from 0% to 100% for Staff 1, and from 20% to 100% for Staff 2.

The introduction of weekly feedback to the afternoon work period produced further increases in the quality of reinforcement for Staff 1 and 2. In addition, the day to day performance during the afternoons became less variable for Staff 2.

Although the percentage of correct reinforcement quality had been high for Staff 3 during baseline conditions for both morning and afternoon work periods, the use of weekly feedback increased the number of sessions where performance was scored at 100%. This was maintained throughout the subsequent phases. The introduction of bi-weekly feedback was successful in maintaining the performance of all staff.

Activity Presentation. The percentage of opportunities where activities were presented to clients upon completion of a training task or job increased for all three staff during the morning work period when weekly feedback was provided (see Figure 5). The mean percent occurrence of activity presentation increased over baseline from 22% to 91% for Staff 1, from 6% to 53% for Staff 2, and from 4% to 58% for Staff 3. Activity presentation also generalized to the afternoon work period and increased from baseline means of 46% to 76% for Staff 1, and from 4% to 50% for Staff 2. No generalization was

Figure Caption

Figure 4. Percentage of social reinforcement to clients delivered by staff meeting the criterion for quality during the morning (closed circles) and afternoon (open squares) work periods. Each week had a maximum of three observation periods. Means for each phase are indicated by a horizontal line.

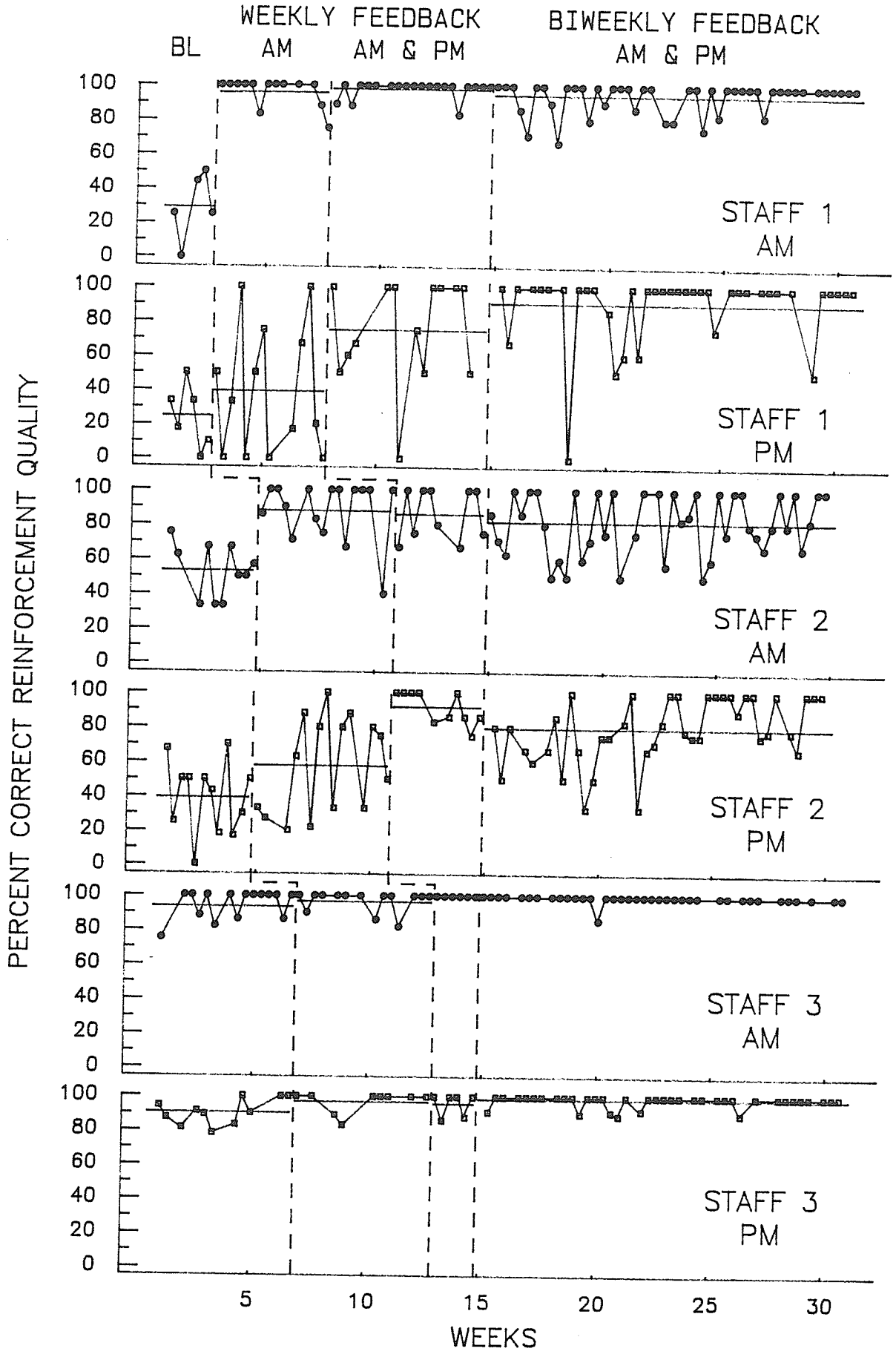
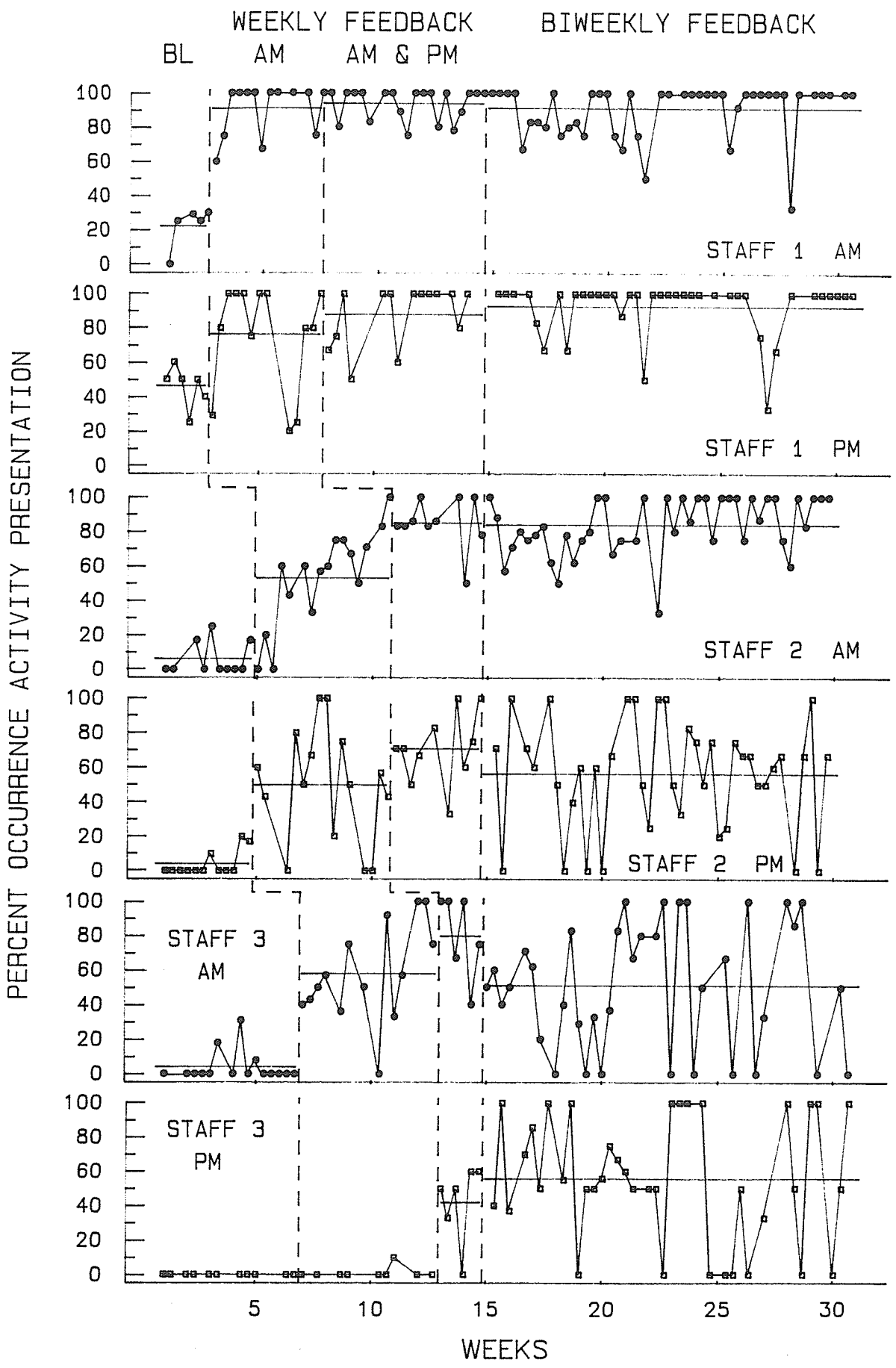

BL
WEEKLY FEEDBACK
AM
AM & PM
BIWEEKLY FEEDBACK
AM & PM
PERCENT CORRECT REINFORCEMENT QUALITY
STAFF 1
AM
STAFF 1
PM
STAFF 2
AM
STAFF 2
PM
STAFF 3
AM
STAFF 3
PM
0
20
40
60
80
100
5
10
15
20
25
30
WEEKS

Figure Caption

Figure 5. Percentage of opportunities where staff presented an activity to clients after completion of a task during the morning (closed circles) and afternoon (open squares) work periods. Each week had a maximum of three observation periods. Means for each phase are indicated by a horizontal line.


WEEKLY FEEDBACK
BIWEEKLY FEEDBACK
BL
AM
AM & PM
PERCENT OCCURRENCE ACTIVITY PRESENTATION
STAFF 1 AM
STAFF 1 PM
STAFF 2 AM
STAFF 2 PM
STAFF 3 AM
STAFF 3 PM
0
20
40
60
80
100
5
10
15
20
25
30
WEEKS

recorded for Staff 3.

With the introduction of weekly feedback to the afternoon work period, further increases in activity presentation occurred for Staff 1 and 2. For Staff 3, the mean percent occurrence of activity presentation increased from a mean of 0% during baseline and from 1% during phase 2 (feedback presented during the morning work period only) to 42% with the introduction of weekly feedback to the afternoon work period. The performance of all staff was maintained during bi-weekly feedback, although it was more variable during the afternoon work period for Staff 2, and during both the morning and afternoon work periods for Staff 3.

Staff Off-Task Data

The percentage of time staff were off-task during a 15-minute observation period generally decreased across the experimental phases during the morning and afternoon work periods (see Table 2). Off-task behaviors were generally low throughout all phases of the study for Staff 2 and 3. Off-task behaviors decreased for Staff 1 during both work periods with the introduction of the intervention.

Manager-Staff Interactions during Non-Checklist Times

Data on the frequency and type of manager-staff interactions during times when managers were in the unit, but not using the checklist to provide feedback indicated that positive and corrective feedback decreased with the increased use of the checklist (see Figure 6). No instances of negative interactions were recorded throughout the study.

During the first two weeks, when baseline conditions were in effect for all staff, the mean positive and corrective interactions per minute for Manager 1 (the psychologist) were .17 and .11

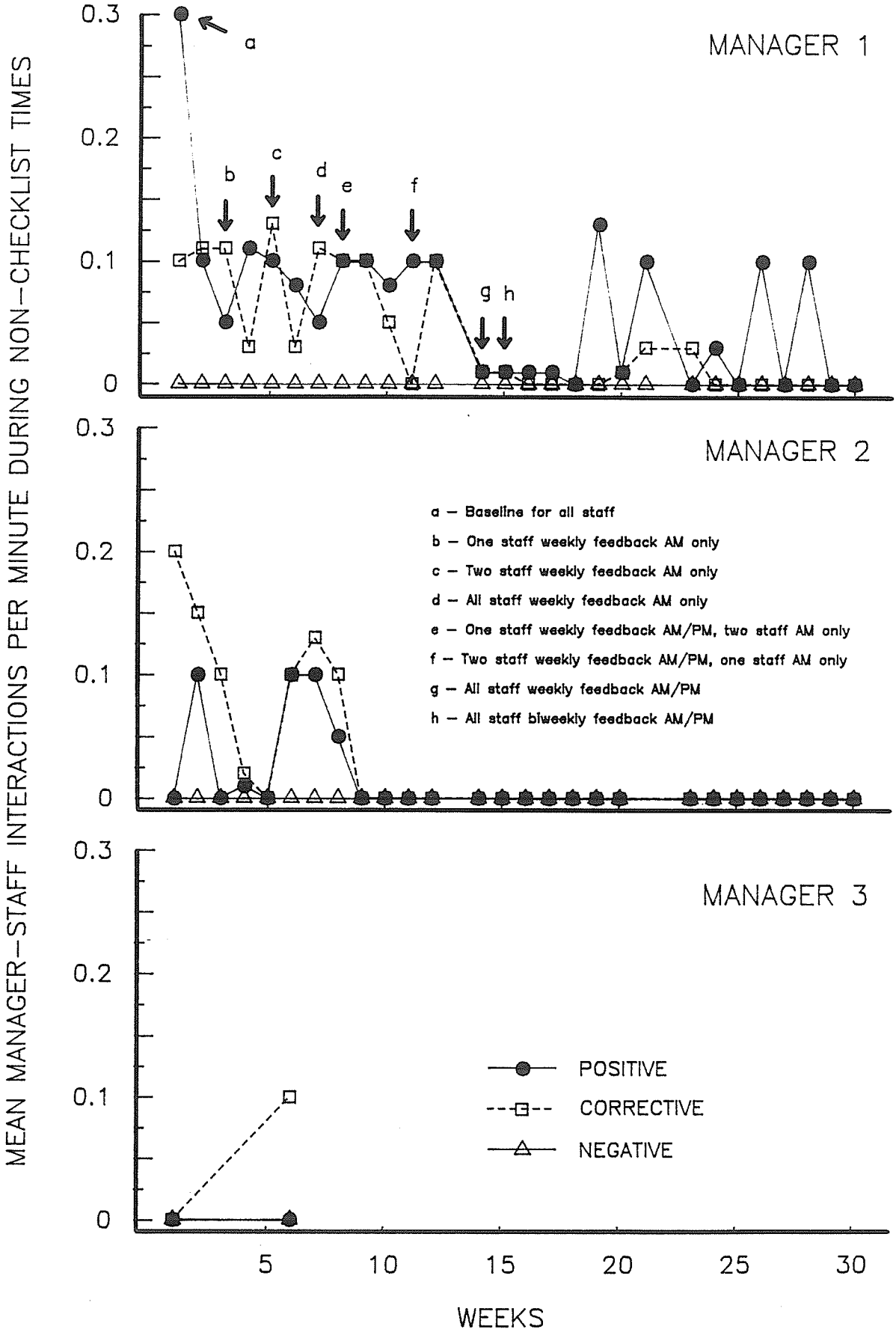
Table 2

Mean Percent of Time Staff Engaged in Off-Task Behaviors Across Experimental Phases During 15-Minute Observation Periods

	Experimental Phase			
	Baseline	Weekly Feedback		Bi-weekly Feedback
		AM	AM & PM	AM & PM
Staff 1				
AM Work Period	8.0	1.0	0.0	1.0
PM Work Period	18.0	10.0	3.0	0.5
Staff 2				
AM Work Period	1.0	0.5	0.1	1.0
PM Work Period	4.0	1.0	0.4	0.1
Staff 3				
AM Work Period	3.0	1.0	0.0	1.0
PM Work Period	2.0	1.0	0.0	0.3

Figure Caption

Figure 6. Weekly mean interactions per minute between managers and staff during times when managers were in the unit, but not using the checklist to monitor staff performance. The weekly mean for positive (circles), corrective (squares), and negative (triangles) interactions includes the morning and afternoon work periods. Arrows indicate the number of staff that managers were using the checklist with across the experimental phases.


MEAN MANAGER–STAFF INTERACTIONS PER MINUTE DURING NON–CHECKLIST TIMES
MANAGER 1
MANAGER 2
MANAGER 3
0.3
0.2
0.1
0
a
b
c
d
e
f
g
h
a – Baseline for all staff
b – One staff weekly feedback AM only
c – Two staff weekly feedback AM only
d – All staff weekly feedback AM only
e – One staff weekly feedback AM/PM, two staff AM only
f – Two staff weekly feedback AM/PM, one staff AM only
g – All staff weekly feedback AM/PM
h – All staff biweekly feedback AM/PM
POSITIVE
CORRECTIVE
NEGATIVE
5
10
15
20
25
30
WEEKS

respectively. Throughout weeks 3 to 14, when weekly feedback was introduced across staff and work periods, the mean positive and corrective interactions per minute were .08 and .08 respectively. With the introduction of bi-weekly feedback during weeks 15 to 30, the mean positive and corrective interactions per minute further decreased to .04 and .01 respectively.

For Manager 2 (the physiotherapist), the mean positive and corrective interactions per minute during the first two weeks of the study when baseline conditions were in effect for all staff were .07 and .17 respectively. During weeks 3 to 14 when weekly feedback was introduced across staff and work periods, the mean positive and corrective interactions decreased to .03 and .06 respectively. Neither positive nor corrective interactions were recorded after the first week that weekly feedback was implemented during the afternoon work period for the first of the three staff.

Manager 3 (the occupational therapist) was observed in the unit on only two occasions when interactions occurred related to staff performance. Presence in the unit at other times was related to equipment needs.

Client On-Task Data

Overall, the mean percentage of intervals on-task for clients attending the morning programs increased with the introduction of weekly performance feedback to staff (see Figure 7). During bi-weekly feedback on-task behavior decreased slightly, but remained well above baseline. Individual client data for the mean percent intervals on-task across the experimental phases are presented in Table 3. A similar effect was observed for clients attending the afternoon programs (see Figure 7 and Table 4 for the individual client data).

Figure Caption

Figure 7. The mean percentage of intervals that clients attending the morning and afternoon work periods were on-task across the experimental phases.

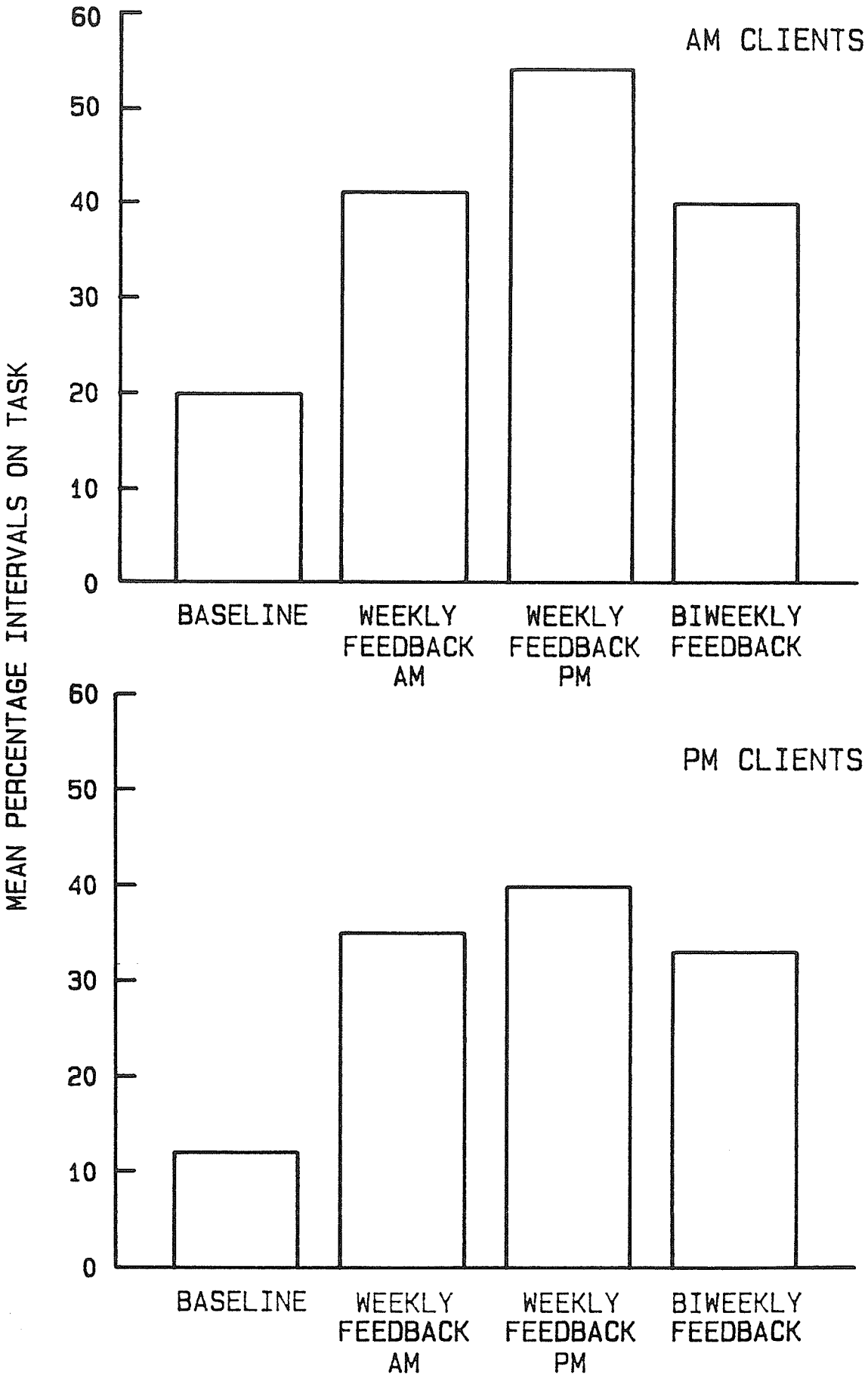

AM CLIENTS
MEAN PERCENTAGE INTERVALS ON TASK
60
50
40
30
20
10
0
BASELINE
WEEKLY FEEDBACK AM
WEEKLY FEEDBACK PM
BIWEEKLY FEEDBACK
PM CLIENTS
60
50
40
30
20
10
0
BASELINE
WEEKLY FEEDBACK AM
WEEKLY FEEDBACK PM
BIWEEKLY FEEDBACK

Table 3

Mean Percent Intervals On Task For Clients Attending Morning Programs

	Experimental Phase			
Client	Baseline	Weekly Feedback		Bi-weekly Feedback
		AM	AM & PM	AM & PM
RL	0.00	0.00	0.00	0.23
GN	0.00	0.00	1.67	0.00
NM	0.00	7.27	0.00	5.50
KJ	0.00	12.00	0.00	1.29
SK	0.00	48.64	62.83	53.38
BM	0.83	6.67	13.33	0.00
NR	1.25	27.92	23.57	26.68
NT	1.42	0.56	10.00	0.15
ES	11.25	67.50	80.33	73.63
SR	33.75	68.08	87.89	89.64
MR	52.73	70.67	87.22	62.81
BL	54.50	71.82	93.33	69.74
MS	68.75	70.77	66.54	67.67
PM	87.22	87.73	82.78	74.88

Table 4

Mean Percent Intervals On Task For Clients Attending Afternoon Programs

	Experimental Phase			
Client	Baseline	Weekly Feedback		Bi-weekly Feedback
		AM	AM & PM	AM & PM
LH	0.00	0.00	0.00	0.00
VE	0.00	0.00	0.00	6.39
GM	0.00	0.00	8.00	5.42
DA	0.00	2.69	7.50	0.51
GA	0.00	11.67	15.00	6.03
PS	0.00	34.50	25.00	24.23
TC	0.45	0.00	12.00	1.06
NS	6.67	35.36	11.11	22.37
BA	18.33	69.62	22.78	70.95
WM	36.67	33.69	38.75	49.25
SV	48.33	84.36	77.73	81.14
SS	61.67	80.00	88.46	91.28
KG	63.33	75.83	87.00	70.77

Clients who showed little or no improvement for on-task behavior (see Tables 3 & 4; e.g., LH, GN, RL) exhibited a high frequency of inappropriate behavior which was incompatible with being on-task. Such behaviors were emitted when clients were not working one-to-one with staff and generally involved throwing or destroying material left at their work area.

Client Tasks-Mastered Data

The number of tasks mastered was recorded for the 20 weeks prior to baseline and for each experimental phase. Client performance did not indicate any consistent increase or decrease in the number of tasks mastered across phases. The data are not conclusive as the degree of task difficulty and the length of each phase were not controlled (see Tables 5 & 6).

Incidental observations during feedback phases indicated staff socially reinforced clients who worked on jobs independently, and reinforced appropriate client behavior more frequently than during baseline conditions. With the implementation of feedback, staff were also observed to informally train clients in the appropriate use of activities presented to them between training trials. In addition, during client progress meetings there was a decrease in the number of statements made by Staff 1 referring to the lack of skills of the clients in her group. This had been a common complaint directed to the managers prior to the introduction of feedback.

Reliability Assessments

The mean interobserver agreement score for correct task presentation, occurrence of reinforcement, quality of reinforcement, and activity presentation was 98% (range 83% to 100%), 97% (range 67% to 100%), 97% (range 80% to 100%), and 99% (range 86% to 100%)

Table 5

Mean Number of Tasks Mastered Across Experimental Phases for Clients Attending Morning Programs

	Experimental Phase				
	Pre-Baseline	Baseline	Weekly Feedback		Bi-weekly Feedback
Staff 1 Clients			AM	AM & PM	AM & PM
SR	.22	1.50	.20	.67	.13
RL	.33	1.00	.20	.00	.19
NR	.12	1.00	.00	.00	.00
MS	.15	.50	.20	.00	.00
ES	.18	.50	.00	.00	.06
Staff 2 Clients					
SK	.29	1.00	.14	.33	.05
PM	.28	.50	.00	.00	.00
BL	[a]	[a]	[a]	[a]	[a]
NM	[b]	.00	.13	.33	.00
MR	[b]	[a]	[a]	.00	.11
Staff 3 Clients					
NT	.10	.17	.22	.00	.00
GN	[c] .00	.00	.00	.50	.13
KJ	.25	.50	.00	1.00	.13
BM	.05	.00	.00	.00	.06

Note.
[a] No training tasks presented to client.
[b] Client not in program during this phase.
[c] Client started program part way through phase.

Table 6

Mean Number of Tasks Mastered Across Experimental Phases for Clients Attending Afternoon Programs

	Experimental Phase				
	Pre-Baseline	Baseline	Weekly Feedback		Bi-weekly Feedback
Staff 1 Clients			AM	AM & PM	AM & PM
KG	.18	.50	.00	.22	.19
BA	[c].00	.00	.20	.00	.06
WM	.22	.50	.00	.00	.06
SV	[a]	[a]	[a]	[a]	[a]
SS	[b]	.50	.25	.33	.06
Staff 2 Clients					
NS	.06	.25	.13	.00	.00
LH	.18	.00	.00	.00	.05
GA	.00	.00	.00	.00	.00
DA	.05	.00	.00	.00	.00
Staff 3 Clients					
PS	.00	.17	.00	.00	.06
TC	.20	.33	.00	.50	.06
GM	.10	.17	.00	.00	.06
VE	[c].40	.00	.00	.00	.06

Note.
[a]No training tasks presented to client.
[b]Client not in program during this phase.
[c]Client started program part way through phase.

respectively. The mean interobserver agreement score for staff off-task behavior was 100%. For manager-staff interactions during non-checklist times, the mean interobserver agreement score was 100%. For client on-task behavior, the mean interobserver agreement score was 96% (range 85% to 100%). The mean interobserver agreement score for the number of client tasks mastered per week was 100%.

Procedural reliability checks, to determine the extent to which the manager (i.e., the psychologist on the management team) adhered to procedures for delivering feedback and completing the checklist, indicated that the procedures were accurately followed 100% of the time. Procedural reliability checks for the two other managers (i.e., the physiotherapist and the occupational therapist) who provided feedback to staff in their assigned areas, indicated that the procedures were accurately followed 93% and 99% of the time. The most frequent error made by managers involved not initialing and/or dating the checklist. The only other error, was failure to make a written entry on the checklist if corrective feedback had been provided; this occurred on only two occasions. The mean interobserver agreement score for the procedural reliability checks was 100%.

Social Validation

The target behaviors selected for the study were viewed as being significant by the centre's Assistant Executive Director of Clinical Services and the Program Coordinator. The procedures implemented to increase and maintain staff performance were acknowledged by the managers as being practical. Overall, the managers found the checklist to be either somewhat or very helpful in serving as a prompt to provide feedback to staff and in assisting to provide feedback on specific work skills. No one indicated that the checklist was of no help in giving

feedback to staff.

All managers found that staff work performance improved when the checklist was used weekly to provide feedback. The managers also stated that staff performance during bi-weekly feedback generally remained the same as when weekly feedback was given. The two managers who observed client on-task behavior both indicated on-task behavior between trials improved when staff received weekly feedback and this continued under bi-weekly feedback conditions. Of the two managers who observed client overall performance (i.e., task performance and behavior problems) one stated that client performance had not changed with the introduction of either feedback condition to staff. The second manager stated that overall client performance improved when staff received weekly feedback and was maintained when staff feedback was reduced to bi-weekly.

Although all managers indicated they would continue to use the checklist, they differed in their response as to whether the checklist made them feel more comfortable when providing performance feedback to staff. One manager felt more comfortable, one less comfortable, and the third felt it made no difference when compared to not using a checklist. All managers agreed they would prefer to use the checklist monthly as opposed to weekly, bi-weekly, or less than once a month.

Two of the three direct care staff stated their performance improved when weekly feedback was received from the managers, and performance had maintained when bi-weekly feedback was given. The third staff felt her work performance remained the same regardless of the frequency of feedback received. Two of the staff also indicated that client on-task behavior between trials, client task performance,

and behavior problems improved when the checklist was used weekly. Only one staff noted a further improvement when checklist use occurred bi-weekly. The third staff thought client on-task behavior, client task performance, and behavior problems had remained the same across all phases of the study.

When asked which staff management procedure they preferred, two of the three staff chose bi-weekly performance feedback from managers; the third staff selected weekly feedback as a first choice. All staff indicated they would want the procedure selected as their first choice to continue to be used by the managers. Overall, the questionnaires completed by both managers and staff indicated their satisfaction with the checklist to provide performance feedback and that its use had a positive effect on staff and client behavior.

Discussion

The effect of the staff management package in increasing work skills was demonstrated for all staff. Also, a reduction in the frequency of feedback from weekly to bi-weekly consistently maintained work performance over a 4 month period. The immediacy of the effect was generally apparent for all staff and all dependent variables with the introduction of performance feedback. Exceptions to this were two of the dependent variables for Staff 3 (i.e., the occurrence and quality of reinforcement) where the mean baseline performance was already at or above 90%.

Explanations of Results. With the introduction of weekly feedback during the morning work period, an immediate effect was not evident for intertrial activity presentation for Staff 2 (see Figure 5). For the first two weeks of this phase the goal set by the manager related to the staff's presentation and quality of reinforcement delivered to

clients after task completion. Corrective feedback for activity presentation had been provided and recorded on the checklist, but a goal specific to this area of performance was not set until week 7. However, an increase in the activities presented to clients did occur at week 6 and may have been a result of the staff having identified and acquired suitable activities for the clients (e.g., books, magazines). The latter explanation is more likely since activity presentation did increase during the afternoon work period. Since the afternoon group was comprised of lower functioning clients, potential activities for client use could already have been present in the unit. This may not have been the case for the higher functioning morning group.

Prior to the use of the feedback system, staff were informed they would have the option of adding records of positive performance from the checklists to their annual performance appraisal. Since the date of the staff's annual performance appraisal did not occur within the time frame of the study, this event was not associated with any of the experimental phases. In addition, staff were told they could have access to their checklists by requesting them from the manager. No staff made such a request at any time throughout the study.

A decrease in manager-staff interactions involving corrective feedback may have been a function of improved staff performance over the course of the study (see Figure 6). However, a decrease in positive feedback for Manager 2 did not appear to be associated with any significant event in the work environment.

The feedback provided to staff about their work performance can not be assumed to function as a reinforcer, as information received about work skills may or may not be reinforcing to the individual.

Also, there exists a delay between the target response and the presentation of feedback. Feedback can best be described as an antecedent stimulus and its effect on performance explained as rule-governed behavior (Baldwin & Baldwin, 1981). A rule is a verbal stimulus which can function as a discriminative stimulus (S^D) and may or may not explicitly state the operating contingencies. If the contingencies are implied, the individual relies on his/her previous history of reinforcement or punishment for rule following. For example, the presentation of feedback by the manager may have prompted staff to verbalize a set of rules such as: "When I complete a training task with clients, I present an activity to them." Because four of the dependent variables for staff performance (i.e., correct task presentation, occurrence of social reinforcement, quality of reinforcement, and activity presentation) were temporally and procedurally related, the self-instructions may have served as additional S^Ds for specific work skills that became part of a chain of behaviors for conducting a training session with a client.

When the manager reviewed a completed checklist with staff, positive statements about work behavior were followed by social approval which may have been reinforcing for staff. Social reinforcement delivered in this context would likely have an indirect effect on staff work performance, because of the time elapsed between the target behaviors and the reinforcer (Michael, 1986). The positive reinforcer likely influenced the staff's verbal behavior or self-instructions, which in turn influenced their work skills.

Also, staff behavior may have come under control of an avoidance contingency. Staff may have complied with corrective feedback and the assigned goal in order to avoid possible negative feedback or

additional corrective feedback from the manager. Improved performance would also enable staff to avoid additional entries on the checklist documenting required changes in work performance. Since the manager was paired with the use of the checklist, the manager may have served as an S^D for staff to engage in specific work skills whenever in the unit to monitor staff performance.

The weekly or bi-weekly goal assigned to the staff was also an antecedent stimulus. Because achieved goals were paired with social approval from the manager, subsequent goals probably became S^Ds to engage in behaviors resulting in goal attainment. Goals, if repeatedly paired with a positive consequence, could also have functioned as conditioned reinforcers. Goal attainment may also have been controlled by rule-governed behavior. Staff may have achieved a goal set by a manager, because the staff's behavior had come under control of the manager's instructions due to a previous history of reinforcement for following rules.

Practical Implications of Results. The study has several practical implications. Firstly, the use of the checklist by the manager to provide regular performance feedback to staff represented a time efficient strategy in a setting where time constraints on supervisory staff were a major consideration. The performance feedback system was able to be incorporated into a manager's work routine.

Secondly, the feedback system did not require the manager to collect any quantitative data to be later presented to the staff. Completion of the checklist could be done during those times regularly scheduled for monitoring staff performance. The manager was required only to check off those work skills observed and provide staff with

either positive or corrective feedback. In areas where staff performance was unacceptable, a brief entry was made on the checklist and a goal set for the next week. The manager retained the completed checklist and referred to it the next time feedback was provided in order to compare staff's current performance to previous performance. The intervention appeared to require much less time than that needed in other studies to collect and summarize data in order to publicly post either staff or resident progress (Ivancic et al., 1981; Welsch et al., 1983), or to circulate feedback sheets or weekly performance summaries (Panyan et al., 1970; Prue et al., 1980).

Thirdly, the staff management strategy was cost-effective in that there was minimal cost to the residential facility to implement the procedure. Prior to the study, managers were expected to monitor the performance of direct care staff a minimum of once per week during both the morning and the afternoon work periods. With the introduction of the staff management strategy, the use of the checklist was combined with the time the manager normally spent in the unit to monitor client progress and staff performance. Since the staff management package did not require the manager to collect and summarize data for the purpose of publically posting resident or staff performance or to circulate performance summaries, there was no additional time committment from the manager. The only cost associated with the staff management package was that of photocopying the checklist for use by three managers which amounted to $1.08 a week.

Fourthly, regular performance feedback was found to be effective in increasing staff work skills, and improved work behavior was consistently maintained over a period of 4 months even though the frequency of feedback was reduced to bi-weekly feedback. However, once

a staff management system is implemented its consistent use by managers is essential if the maintenance of staff behavior change is to occur (Maher, 1981/1982; Parsons et al., 1989). This suggests that contingencies must be in place to ensure the continued use of a supervisory package by managers. At the conclusion of the study, the continued use of the checklist became a standard to be maintained by the managers as part of the unit's quality assurance program.

Limitations of the Study. A methodological problem of reactivity is generally considered to be a potential limitation of research in this area. The presence of an external observer recording some aspect of staff performance can produce reactive effects. In this study the presence of the primary observer, the psychologist on the management team, did not constitute a novel event as current responsibilities required daily interaction with staff and clients. Also, direct care staff had been advised by the program coordinator that due to the additional hours assigned to the psychologist, time in the unit would be increased. Additional observers were introduced into the setting prior to the baseline phase for the purpose of training in data collection. These factors may have minimized the potential reactive effects due to the presence of observers.

Ivancic et al. (1981) also used professional staff, who were frequently on the unit, to collect data on staff-resident interaction skills. Observations occurred both overtly and covertly, and the results suggested no consistent differences in staff behavior. Although covert observations were not made in the present study, anecdotal reports from managers noted improvement in staff performance in the absence of observers both during and after the introduction of

the intervention. For example, when direct care staff conducted programs in the unit, they could be heard enthusiastically reinforcing clients from down the hall as managers approached the unit. Also, activities for client use between tasks were visible on work areas when managers passed by the unit. Before the arrival of clients to the unit, Staff 1 was also observed to have activities set out at clients' work areas for their use while they waited for the program to begin.

In addition to covert measures, the use of an end result or outcome measure in conjunction with direct observation has been suggested (Kazdin, 1979; Komaki et al., 1980). Another option would be to utilize in-house observations where on-site personnel would be in a position to record data without detection.

As Komaki, Collins, and Thoene (1980) point out reactivity of the measure poses minimal threat to internal validity in that direct observations are conducted during both baseline and intervention. Changes in performance during intervention would not be a result of the effect of reactivity alone, since any effect of the reactivity of the measure would occur across all conditions. However, the effect of observations on external validity raises the question of the generality of the results to situations where observers are not present. This becomes problematic if the observer becomes a discriminative stimulus for staff to perform certain work behaviors. As previously mentioned, the anecdotal reports from managers indicated that improved performance occurred in the absence of observers and managers. Because managers were not in the unit at regularly scheduled times, it is unlikely that direct care staff engaged in specific work behaviors to coincide with the arrival of supervisory staff. However, there was no opportunity to assess the generality of results to a situation outside of the

experimental setting (i.e., the unit where client programs were conducted).

Although the study involved only three direct care staff, the results are consistent with those of previous research conducted with program mediators in the staff management area. In general, in the area of behavior therapy the use of a multiple-baseline design with three subjects has proven effective in demonstrating functional relationships that have subsequently been shown to have considerable generality.

A limitation of the design of the study is possible sequential treatment interference as a result of introducing bi-weekly feedback following the weekly feedback condition. Attributing effects to bi-weekly feedback may be difficult if results during this phase are due to the combination of staff exposure to weekly and then bi-weekly feedback. It could then be difficult to generalize the results to employees in work settings where only bi-weekly feedback would be implemented.

Future Research. Further research might extend the existing knowledge of staff management procedures by giving consideration to the following issues:

1. To evaluate whether the procedures can effectively be implemented over the long term by supervisors and with large scale applications;
2. To determine what variables control managers continued use of effective staff management strategies in residential settings;
3. To assess the effectiveness of feedback administered according to different schedules (i.e., daily, weekly, monthly) and whether the source of feedback plays a role;

4. To determine acceptable cueing procedures for direct care staff to alert supervisors to their work performance and its possible use in combination with self-recording systems;
5. To compare the cost-benefit to be derived from one staff management procedure in comparison to another, as well as its practicality of implementation and overall effectiveness; and
6. To conduct a component analysis to determine the effective components of the treatment package.

Summary

The present study demonstrated the effectiveness of a feedback system as a staff management strategy for direct care staff in a residential setting. The feedback system was comprised of the following components: a checklist to provide performance feedback; social approval paired with positive feedback; goal setting; and the option for direct care staff to add records of positive performance from the checklists to their annual performance appraisal. Immediate effects were observed with the introduction of the staff management strategy to the morning work period, and improved performance generalized to the afternoon work period to varying degrees across staff and dependent variables. Further increases in performance occurred with the introduction of the feedback system to the afternoon work period. Staff performance was also maintained over a four month period under bi-weekly feedback. The intervention was effective not only in increasing the work skills of staff, but also in substantially increasing the on-task behavior of most clients.

The staff management strategy was cost effective as it could be incorporated into a manager's routine without additional cost to the facility, it resulted in large enough effects to be of practical value

to management, and it used procedures that were acceptable to both direct care staff and managers.

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Appendix A

PERFORMANCE CHECKLIST

DATED REVIEWED WITH STAFF _____

SUPERVISOR'S INITIALS _____

☐ A.M. PROGRAM ☐ P.M. PROGRAM

SESSIONS

a) GENERAL

☐ Supervises a group of clients maintaining a general awareness of all clients even when presenting to one individual.

☐ Distributes proportionate time/attention to all clients during sessions and client breaks.

☐ Presents a miminum of 5 trials per session or adjusts the number of trials presented according to time and clients available.

b) CLIENT BREAKS

☐ Provides snacks and/or fluids to clients.

☐ Interacts with each client, and presents appropriate activities.

☐ Conducts speech session if applicable.

c) TASK PRESENTATION

☐ Waits for resident to attend before presenting a trial.

☐ Presents the instructional cue specified for a given task.

☐ Uses the correct level of prompt.

☐ Fades the use of prompts (physical/verbal).

☐ Immediately reinforces a correct response.

☐ Uses appropriate reinforcers and reinforces enthusiastically.

REPORTING OBSERVATIONS

☐ Records data accurately and after each trial.

☐ Presents review tasks once per week.

☐ Notes affect of task or procedural changes on response acquisition.

☐ Identifies behavior problems affecting response acquisition.

☐ Accurately completes data summaries and attendance records.

BEHAVIOR MANAGEMENT PROGRAMS

☐ Consequates the behavior as specified in the program.

☐ Follows through with the reinforcement procedure.

☐ Accurately records data.

GENERAL

☐ Manages time schedule efficiently.

☐ Makes effective use of organizational time to prepare required materials and reinforcers, maintain equipment, reading, etc.

☐ Makes effective use of session time by focusing specifically on task presentation, skill training, behavior management procedures, etc.

☐ Anticipates material needs and makes appropriate steps to requisition in advance.

☐ Keeps coordinators informed of changes, unusual incidents, etc.

☐ Communicates effectively with other staff and program coordinators.

☐ Provides appropriate direction/guidance to volunteers.

☐ Knows each client's physical disabilities and modifies tasks and positions equipment accordingly.

PHYSIOTHERAPY PROGRAM

☐ Refers to physiotherapy program binder and carries out programs as outlined.

☐ Uses good body mechanics.

☐ Practices client safety.

☐ Uses equipment appropriately.

☐ Uses correct techniques as regards passive exercises, transfers, walking exercises, etc.

Appendix B

STEPS IN THE DEVELOPMENT OF THE PERFORMANCE CHECKLIST

1. Direct care staff job description reviewed by managers.
2. General areas of performance identified.
3. Areas of performance assigned to one of three managers.
4. Specific performance responsibilities defined by managers by referring to duties in the job description and analyzing staff's daily work routine.
5. Specific performance responsibilities reviewed and revised by all managers.
4. Initial draft of checklist reviewed with direct care staff and feedback requested.
5. Final draft of checklist submitted to the Personnel Department to clarify the purpose of the checklist and the procedures for its use.

Appendix C

SUPERVISORY FEEDBACK

Date: ____________ Room #________ Checklist used by Manager:
YES / NO

Time Observation Began: __________

Time Observation Ended: __________ Phase: __________

Observer: ________________________ IOR by: __________

POSITIVE FEEDBACK	CORRECTIVE FEEDBACK	NEGATIVE FEEDBACK
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
[ ] [ ] [ ]	[ ] [ ] [ ]	[ ] [ ] [ ]
Frequency: ______	Frequency: ______	Frequency: ______
Rate / min:______	Rate / min:______	Rate / min:______

Appendix D

UNIT SESSIONS

Date: _____ Staff: _____ Room # _____

Time Observation Began: _____ Manager Present: YES / NO

Time Observation Ended: _____ Phase: _____

Observer: _____ IOR by: _____

	CLIENT 1	CLIENT 2	CLIENT 3	CLIENT 4	CLIENT 5
TASK PRESENTATION	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]
IMMEDIATE REINFORCEMENT	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]
QUALITY OF REINFORCEMENT	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]
ACTIVITY PRESENTATION	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]	[1] [2] [3] [4] [5] [6]

Total Duration Staff Off-Task: _____ minutes _____ seconds

Total Observation Time: _____ minutes

Percentage of Time Off-Task: _____ %

Appendix E

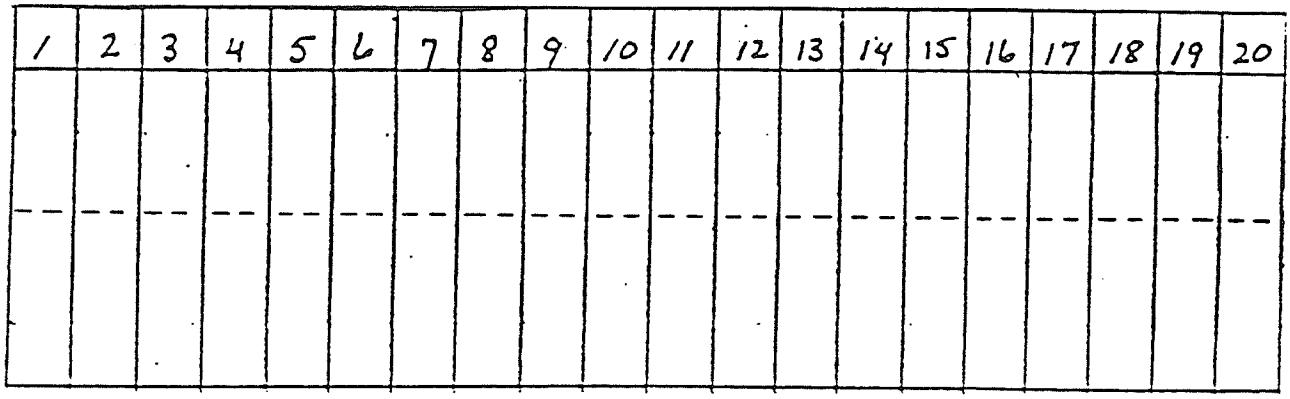
CLIENT ON-TASK

Date: _____ Staff: _____ Room # _____

Time Observation Began: _____ Manager Present: YES / NO

Time Observation Ended: _____ Phase: _____

Observer: _____ IOR by: _____



*	*	*	*	*	*	*	*	*	*	*
MR		_____	_____	_____%		LH		_____	_____	_____%
BL		_____	_____	_____%		NS		_____	_____	_____%
SK		_____	_____	_____%		GA		_____	_____	_____%
NM		_____	_____	_____%		DA		_____	_____	_____%
PM		_____	_____	_____%						
SR		_____	_____	_____%		BA		_____	_____	_____%
MS		_____	_____	_____%		SV		_____	_____	_____%
NR		_____	_____	_____%		KG		_____	_____	_____%
RL		_____	_____	_____%		WM		_____	_____	_____%
ES		_____	_____	_____%		SS		_____	_____	_____%
NT		_____	_____	_____%		TC		_____	_____	_____%
GN		_____	_____	_____%		GM		_____	_____	_____%
BM		_____	_____	_____%		VE		_____	_____	_____%
KJ		_____	_____	_____%		PS		_____	_____	_____%

Appendix F

PROCEDURAL RELIABILITY ON USE OF THE CHECKLIST

Date: _____ Staff: _____

Manager: _____ Observer: _____

Time Observation Began: _____ IOR by: _____

Time Observation Ended: _____ Phase: _____

- -

[ ] Brings checklist into unit.

[ ] Remains in the unit a minimum of 10 minutes.

[ ] Provides positive feedback for each area of performance marked with a checkmark.

[ ] Provides corrective feedback for each area of performance requiring change.

[ ] Makes a written entry on the checklist stating behavior change required to improve performance.

[ ] Compares current performance to that of the previous week by using last week's checklist.

[ ] Sets goal for the next week.

[ ] Reminds staff that areas of positive performance can be recorded by them on their annual performance appraisal.

[ ] Dates checklist.

[ ] Initials checklist.

Appendix G

MANAGER'S CHECKLIST FOR PROVIDING PERFORMANCE FEEDBACK TO STAFF

[ ] Observe the staff conducting a session for a minimum of 10 minutes.

[ ] Complete only those areas of the checklist assigned to you.

[ ] Complete the checklist for as many work skills as you are able to observe.

[ ] Place a checkmark beside areas of performance being correctly completed.

[ ] Make a brief entry indicating how performance should be corrected for areas of performance requiring change.

[ ] Review the completed checklist with the staff.

[ ] Compare the staff's overall performance from the previous week to that of the current week by using last week's checklist.

[ ] Provide the staff with positive feedback for those areas of performance you have checked off.

[ ] Provide staff with corrective feedback (identify behavior to be changed and how it should be changed) for areas of performance requiring improvement.

[ ] Demonstrate the correct performance if necessary.

[ ] Set a goal for the staff to achieve for the next week (based on a area of performance requiring change).

[ ] Enter the date the checklist was reviewed with the staff.

[ ] Sign the checklist.

[ ] Remind staff that they can record areas of positive performance on their annual performance appraisal.

Appendix H

QUESTIONNAIRE FOR MANAGERS

1. I found the use of the performance checklist in serving as a reminder for me to provide feedback to staff, on either a weekly or bi-weekly basis, in comparison to providing feedback without the use of a checklist to be:

   Very Helpful Somewhat Helpful Of No Help

2. I found the use of the performance checklist in prompting me to provide feedback to staff for specific work skills in comparison to providing feedback without the use of a checklist to be:

   Very Helpful Somewhat Helpful Of No Help

3. I found when the checklist was used weekly in comparison to when the checklist was not in use that staff work performance had:

   Improved Remained the Same Decreased

4. I found when the checklist was used weekly in comparison to when the checklist was not in use that client on-task behavior between trials had:

   Improved Remained the Same Decreased

5. I found when the checklist was used weekly in comparison to when the checklist was not in use that client overall performance (task performance and behavior problems) had:

   Improved Remained the Same Decreased

6. I found when the checklist was used bi-weekly in comparison to when the checklist was used weekly that staff work performance had:

   Improved Remained the Same Decreased

7. I found when the checklist was used bi-weekly in comparison to when the checklist was used weekly that client on-task behavior between trials had:

   Improved Remained the Same Decreased

8. I found when the checklist was used bi-weekly in comparison to when the checklist was used weekly that client overall performance (task performance and behavior problems) had:

   Improved Remained the Same Decreased

9. Since giving feedback to staff on their work performance is considered part of a manager's responsibilities, when you gave feedback to staff did the use of the checklist in comparison to not using a checklist make you feel:

   More comfortable Less comfortable Made no difference

10. I would continue to use the checklist to provide feedback to staff.

    Yes No

11. If you were to continue to use the checklist how often would you prefer to use it?

    Weekly Bi-weekly Monthly Less than once a month

Appendix I

QUESTIONNAIRE FOR DIRECT CARE STAFF

1. Please indicate which procedure you preferred by placing a 1 beside your first choice, a 2 beside your second choice, and a 3 beside the procedure you least preferred:

   ____ Performance Checklist **Not** Used By Managers

   ____ Performance Checklist Used **Once A Week** By Managers

   ____ Performance Checklist Used **Every 2 Weeks** By Managers

2. Would you like managers to continue to use the procedure you have selected as your first choice?

   Yes No

3. I found when managers used the checklist once a week in comparison to when the checklist was not used that my work performance in conducting programs with the clients had:

   Improved Remained the Same Decreased

4. I found when managers used the checklist once a week in comparison to when the checklist was not used that client on-task behavior between trials had:

   Improved Remained the Same Decreased

5. I found when managers used the checklist once a week in comparison to when the checklist was not used that client overall performance (task performance and behavior problems) had:

   Improved Remained the Same Decreased

6. I found when managers used the ckecklist every 2 weeks in comparison to when the checklist was used once a week that my work performance in conducting programs with the clients had:

   Improved Remained the Same Decreased

7. I found when managers used the checklist every 2 weeks in comparison to when the checklist was used once a week that client on-task behavior between trials had:

   Improved Remained the Same Decreased

8. I found when managers used the checklist every 2 weeks in comparison to when the checklist was used once a week that client overall performance (task performance and behavior problems) had:

   Improved Remained the Same Decreased