Recreational Therapy and Behavior Management on Inpatient Units

Is Recreational Therapy Therapeutic?

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Recreational therapy has been advocated and used in the hospital care of seriously mentally ill persons since the moral era of psychiatry in the early 19th century (Adams, 1964; Rees, 1957). In more recent years, formal university-level training programs leading to bachelor’s and master’s degrees in therapeutic recreation have been established. Almost every psychiatric hospital has its cadre of recreational therapists working as part of the interdisciplinary team. Although studies have demonstrated the efficacy of activity therapies when combined with contingencies of reinforcement for developmentally disabled clients (Favell, 1973; Spargler and Marshall, 1983) and for geriatric populations (McClamnan and Risley, 1975), a search of the Therapeutic Recreation Journal from its first volume in 1967 to 1990 uncovered no empirical studies evaluating the impact of recreational therapy on severely mentally ill adults.

A series of within-subject studies were conducted at the Camarillo-UCLA Clinical Research Unit (CRU) to test recreational therapy effects on managing the behaviors of severely impaired patients. The CRU is an 11-bed ward at Camarillo State Hospital in Southern California that incorporates a token economy and individualized behavior therapy programs for patients who have resisted conventional interventions in the state hospital system. Recreational therapy programs were developed and implemented by the CRU’s recreational therapist. Five exploratory studies incorporating single-case design were completed in which the effects of recreational therapy were assessed on a range of symptomatic and disabling behaviors (Wong et al., 1987, 1988).

Stereotypic Self-Talk

Bob was 31 years old and had a 12-year history of schizophrenia with 14 psychiatric hospitalizations at the time of the study. He was referred to the CRU for treatment of his bizarre vocal and motoric stereotypes.

He would pace back and forth for much of the day, all the while engaging in loud and nonsensical self-talk. Anecdotal observation suggested that his self-talk might be driving his pacing behavior. Therefore, an effort was mounted to reduce his self-talk through engaging him in recreational therapy.

Bob’s baseline rate of self-talk occupied 46.9% of a 40-minute, daily, unstructured observational period. Self-talk was defined as any vocalization not directed at another person, and was rated reliably at 85% interrater agreement from audiocassettes made with the aid of a tie-clip microphone. Throughout the course of the experiment, Bob received 10 mg daily of fluphenazine hydrochloride, a dose determined previously to be the minimum effective dose for this relatively treatment-refractory patient.

During the treatment phase, Bob was asked to choose from among several recreational options for which he had previously shown preferences, for instance, military models, adventure coloring books, and leather crafts. After selection, Bob was escorted to a table in the dayroom and instructed to work on the activity for 20 minutes alone. After 20 minutes had passed, he was prompted again to work on the task. At the end of 40 minutes, Bob was told that recreation time was over and to put the materials away.

Results showed that during the first treatment phase, Bob’s self-talk decreased to an average duration of 18.2% of the 40-minute period. To determine whether confounding variables produced these effects, recreational opportunities and instructions were withdrawn during a third phase; Bob’s rate of self-talk increased to 53.4% on average as a result. After again reintroducing the recreational opportunities, the rate of self-talk declined to 18.5%.

Visuomotor Ruminations

The effects of recreational therapy augmented by token reinforcement were tested on Sam, a 50-year-old single man who had had obsessive-compulsive symptoms for the past 20 years. The patient’s obsessional preoccupations concerned his own and others’ feces, which he believed contaminated everything in the immediate environment. These ruminations and his active avoidance of social and vocational settings led to ex-
treme seclusiveness and prevented Sam from living independently in the community and obtaining gainful employment.

While on the CRU, Sam frequently engaged in long periods of visual and motor “ruminations” that were accompanied by staring intently at his hands and clothing; Sam said he was looking for particles of dirt and feces. In gathering data for this study, the frequency of ruminating behaviors was measured during 15-second intervals from 1:00 to 1:40 p.m. each day; interrater agreement varied from 88% to 99%. At baseline, 18.5% of these intervals were spent ruminating.

To evaluate the benefits of recreational therapy on his ruminations, Sam participated in structured activities during daily therapy sessions. Each session started with instructions on how to perform the day’s activity (e.g., proper use of art supplies), followed by encouragement to remain on task. Recreational activities included art projects, table games, and discussion groups. Sam was reinforced with tokens (exchangeable for cigarettes, coffee, snacks, bedroom time, and privileges) for on-task behavior and he lost tokens for off-task behavior during recreation sessions. After 2 weeks of participating in this program, Sam’s ruminative behavior decreased to 4% of observation intervals.

**Hallucinatory Mumbling and Laughter**

The effects of recreational therapy and contingent reinforcement on hallucinatory behaviors were tested in this study. Tom was observed to spend on average 76.7% of a 40-minute observation period mumbling, i.e., making vocalizations with lips closed. Tom was 37 years old with a 12-year history of schizophrenia. He was maintained on 30 mg of thiothixene each day of the experiment.

At baseline, inappropriate vocalizations were observed during 76.7% of 15-second intervals nested within 40-minute observational periods that were held 4 days each week. Solitary mumbling and laughter were monitored through a wireless FM microphone which he agreed to wear. Interrater agreement for the occurrence or nonoccurrence of vocalizations was 92%.

Using an alternating treatment design in which the two treatment conditions were randomly implemented during the course of the experiment, the effects on vocalizations were assessed as a function of 40-minute independent recreational periods alone or in combination with token contingencies. During the recreational periods, Tom, who reported he was an avid reader, was asked to make a selection from an assortment of magazines and choose articles from the selected periodicals to read. At the beginning of sessions that included the token contingencies, Tom was told that he would receive tokens depending on how well he comprehended the completed articles. Minimal supervision was provided by the recreational therapist during the sessions. After Tom read an article, an experimenter skimmed the piece and asked him six to eight pertinent questions. Tokens were awarded depending on the number of correctly answered questions and were exchanged for cigarettes, coffee, or candy. In this condition, Tom earned an average of 86% of the attainable tokens. Results showed that during the recreational activity alone or when augmented by tokens, mumbling and laughter decreased on average to between 23.7% and 26.8% of observations.

**Posturing and Grimacing**

To decrease the frequency of motoric stereotypies, a recreational program was designed for Fred, a 29-year-old man with a diagnosis of chronic schizophrenia and a history of assaulting women. He had been hospitalized continuously for 8 years and was often uncommunicative or hostile during interviews. Fred frequently postured in a grotesque manner, sitting or standing with neck arched and chin pointed toward ceiling. This was not tardive dyskinesia or dystonia since the posturing predated his neuroleptic drug therapy. He was maintained on a constant dose of haloperidol throughout the study. During baseline, Fred was observed to be posturing during 18% of the 15-second intervals comprising 40 minutes of unstructured time on the ward. Posturing decreased to 0% while participating in the recreational activities.

**Multiple, Single-Subject Design for Bizarre Behavior**

To see whether the behavior management effects of recreational activities on bizarre behavior could be extended in a more cost-effective manner, severely mentally ill patients were evaluated in structured group activities. The rate of both inappropriate and appropriate behaviors was examined in 10 male patients residing on the CRU. Their average age was 29.2 years and they had been ill for an average of 5.3 years. Nine patients had a diagnosis of schizophrenia, with the 10th patient having an organic brain disorder. Neuroleptic medication levels did not change during the course of the study.

The rate of appropriate and inappropriate behaviors was determined using two subscales of the Time Sample Behavior Checklist: concurrent activities and crazy behaviors (Paul and Lentz, 1977). Items that comprised the concurrent activities subscale reflected “appropriate behaviors” and included smoking, eating, watching others, playing games, and listening to others. Items in the crazy behaviors subscale represented inappropriate behaviors and included pacing, blank staring, injur-
ing self, chattering to self, and incoherent speech. During daily 40-minute observation periods, three observations lasting 2 seconds were made on each subject at randomly selected intervals. An independent observer completed the same ratings for 30% of the same intervals; the mean reliability coefficient for concurrent activities was .99 and for crazy behaviors was .97.

Observations were collected under three experimental conditions: baseline, structured group activity with contingent tokens, and structured group activity with noncontingent tokens. During baseline, subjects were provided access to a smorgasbord of recreational materials (television, stereo, books, magazines, and table games), but were neither prompted to use nor reinforced for interacting with these materials. During the contingent tokens phase, two staff members verbally prompted subjects to participate in preselected activities like basketball, volleyball, and art projects. Subjects received tokens for task-related behaviors and lost tokens for extremely bizarre, blatantly off-task, or disruptive behavior. During the structured group activity with noncontingent tokens, subjects participated in similarly directed group projects. In this condition however, all tokens were given at the beginning of the session independent of the subject’s behavior. In a yoked procedure, the amount of tokens given in a session with noncontingent tokens was equal to the amount given in the contingent session immediately preceding. An alternating treatments design was used in which conditions were randomly selected for each session.

Results showed that the subjects’ mean number of crazy behaviors decreased markedly from baseline after participating in both treatment conditions. Averaged across all subjects, the mean number of discrete crazy behaviors recorded during the three observations per session was 2.08 for baseline, .72 for structured activity with contingent tokens, and .52 for structured activity with noncontingent tokens. Similarly, the mean number of concurrent behaviors recorded in the three observations per session was 1.38 for baseline, 6.32 for structured activity with contingent tokens, and 6.88 for structured activity with noncontingent tokens.

**Discussion**

Severely psychotic patients who participated in directed recreational activity, either alone or in groups, with or without extrinsic rewards, significantly decreased the frequency of bizarre and other inappropriate behaviors and increased the frequency of prosocial behavior. The behavioral management effects of recreational activities appear to be mediated by two mechanisms: a) recreational activities are intrinsically reinforcing and thereby displace bizarre and antisocial behaviors which are incompatible with sustained engagement in the activities; and b) the instructions, cues, and prompts imbedded within recreational activities, especially when provided by a salient therapist, exert stimulus control over patients’ attentiveness to the activities. Thus, the positive effects of recreational therapy are likely to be enhanced when patients can select activities that have a favorable valence for them.

**Enhancement of recreational therapy can be achieved through several functional assessment methods:** a) conducting reinforcement surveys through questionnaires and interviews with patients and relatives; b) observing patients’ recreational and leisure preferences that are, de facto, reinforcing; and c) providing an array of recreational activities from which patients may choose. While the effects of structured activities are often prompted by active modeling and prompting by staff, clinicians must walk the tightrope between organizing activities in the psychiatric milieu that are understimulating—and lead to negative symptoms—or overstimulating—and lead to exacerbation of florid symptoms. The future design of recreational therapies can be helpfully informed by both empirical results from studies such as the ones reported in this article, and conceptual models for spiriting the development of more independent and self-directed use of leisure time by patients.

**References**