PROVIDING INDEPENDENT RECREATIONAL ACTIVITIES TO REDUCE STEREOTYPIC VOCALIZATIONS IN CHRONIC SCHIZOPHRENICS

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We evaluated the effects of minimally supervised, independent recreational activities on stereotypic vocal behavior in two chronic schizophrenic patients. In baseline sessions, subjects were observed during unstructured free time in the psychiatric ward. In treatment sessions, therapists presented preferred recreational materials (magazines, models, and art projects), verbally prompted on-task behavior every 20 min, and, in one condition, administered contingent tokens. Independent recreational activities reduced medium-rate self-talk in one subject and high-rate mumbling in a second subject by 60%-70%. Results were the same with or without contingent tokens. Apparent self-maintaining characteristics of these vocal responses are discussed.

DESCRIPTORS: independent recreational activities, hallucinatory behavior, stereotypic vocalizations, schizophrenic inpatients

Repetitive and nondirected vocalizations are among the peculiarities that mark chronic psychiatric patients (Paul & Lentz, 1977). These inappropriate responses have been modified in a few behavioral investigations. Using a 10-min seclusionary time-out, Haynes and Geddy (1973) intermittently punished "hallucinatory" speech in a schizophrenic woman on the hospital ward, reducing it by about half. Alford, Fleece, and Rothblum (1982) nearly eliminated psychotic mumbling in a paranoid schizophrenic while engaging the patient in discussion unrelated to her delusional beliefs. Results of Alford et al. have been corroborated by other studies showing attenuation of self-reported hallucinations during social conversation (Turner, Hersen, & Bellack, 1977), and while listening to a radio or watching television (Magen, 1983).

Stereotypic behavior in retarded clients is well recognized; one intervention that has been applied with this population consists of presenting recre-

ational materials plus prompting and reinforcing their appropriate use (Eason, White, & Newsom, 1982; Favell, 1973). But while recreational activities have been shown to supplant stereotypic responses in retarded individuals, this technique has yet to be used with similar results in psychiatric patients. Our research assessed the effects of independent recreational activities on stereotypic vocal behavior in two chronic schizophrenics.

METHOD

Subjects and Setting

Bob was a 31-year-old man with a diagnosis of chronic schizophrenia complicated by a history of poly-drug abuse. He had a record of at least 14 psychiatric hospitalizations over the preceding 12 years. On the hospital ward, the subject paced back and forth through the unit much of the day while engaging in self-talk at varying volumes. During this study, Bob received neuroleptic medication in the form of fluphenazine hydrochloride (Prolixin) 10 mg/day.

Tom was a 37-year-old male diagnosed as a chronic schizophrenic. He exhibited frequent mumbling and solitary laughter, both ranging in volume from soft and barely audible to loud and disruptive. The present admission to Camarillo

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State Hospital was the subject's fourth hospitalization within a 12-year period. This subject received thiothixene (Navane) 30 mg/day during all phases of the experiment.

The study was conducted in the Clinical Research Unit, a 12-bed psychiatric ward with a token economy program at Camarillo State Hospital.

Response Measures

Observation sessions lasting 40 min were conducted 5 days per week, at the same time of day (approximately 1:00–1:40 p.m.). Subjects were observed wherever they were in the unit, although most observations occurred in the ward dayroom.

Self-talk, defined as any vocalization not directed at another person, excluding sounds associated with physiological functions (e.g., coughing), was the target response for Bob. Stereotypic vocalizations were monitored with a microcassette recorder (Sony model no. M-203) carried in a shirt jacket worn by the patient. The recorder received input from a tie-clip microphone (Radio Shack catalog no. 33-1058) attached to the jacket lapel. Microcassette tapes were later rated by observers who recorded the duration of self-talk with stopwatches.

Mumbling, defined as vocalizations with lips closed, was the target response for Tom. An alternate monitoring system was used with this subject that permitted simultaneous collection of primary and reliability data. A wireless FM microphone (Realistic model no. 33-1075) was attached to the subject's shirt collar and observers monitored his vocalizations through portable FM receivers (Sony FM Walkman SRF-40W) using a 15-s time sampling procedure.

Reliability

To assess the reliability of Bob's data, a naive observer independently rated 30% of the audiotapes, with a minimum of three checks in each experimental phase. Percentage of interobserver agreement was calculated by dividing the smaller duration by the larger duration and multiplying by 100. The mean percentage of agreement for

duration of self-talk across all sessions was 85% (range, 72%–98%).

For Tom's data, a naive observer simultaneously recorded data along with the primary observer using an identical FM receiver. Reliability checks were performed on 50% of the sessions, with a minimum of five done in each experimental condition. Interobserver reliability was computed by dividing the number of interval-by-interval agreements by the number of agreements plus disagreements and multiplying by 100. Mean percentages of agreement for occurrence, nonoccurrence, and combined occurrence/nonoccurrence were 84%, 78%, and 92%, respectively.

Reliability of the procedure used with Tom in the independent recreational activity plus tokens condition (see below) was also evaluated. Tape recordings were made of four reading comprehension tests given to the subject. Therapist feedback was then deleted from the tape, and subject responses on these edited recordings were rated for accuracy by an independent observer. Using an agreements divided by agreements plus disagreements formula, the mean percentage of agreement between therapist and observer was 91.4% (range, 80%–100%).

Procedure

Baseline. These sessions assessed subject behavior in the hospital ward during periods of unstructured free time. Subjects had access to recreational materials kept in the ward dayroom (television, stereo, books, magazines, cards, and table games), but they were neither prompted to use nor reinforced for using these resources. During the first baseline session, subjects were shown their monitoring apparatus and were told that their vocalizations would be recorded on certain days to assess the therapeutic value of recreational activities.

Independent recreational activity. Bob displayed an interest in military models, adventure coloring books, and leather crafts during the regular unit recreation sessions; activities for this subject were fashioned around these materials. At the beginning of each session, Bob was asked to select

Figure 1. Percentage of each session engaged in self-talk in baseline and independent activity conditions (Bob).

one or two recreational items for the day. He was then escorted to a table in the dayroom and instructed to work on the activity for 20 min. After 20 min elapsed, the therapist again prompted the subject to attend to the assigned task. No other prompts were given to the subject, even if he stopped performing the task or left the area. At the end of the 40-min session, the subject was told that his recreation time was over and the recreational materials and recording equipment were removed.

Reading was designated as the independent activity for Tom because we learned that he formerly had been an avid reader and that he still occasionally read printed matter on the ward. Sessions began by asking the subject to make a selection from an assortment of magazines, and then to choose

several articles from the magazine that he would like to read. The subject was taken to the dayroom and was told that he should read his selection carefully for 20 min, although he would not be given any rewards for doing so. After 20 min, the therapist asked the subject to select a second set of readings and repeated the instructions given earlier. No additional prompts were given to the subject, even if he put down his reading materials or left the dayroom. At the end of 40 min, the therapist informed the subject that his recreation session was over, then took back the magazine and removed the microphone.

Independent recreational activity plus tokens (Tom only). Sessions resembled those from the previous condition, except that at the beginning of the session the subject was told that he would be

Figure 2. Percentage of intervals scored mumbly or solitary laughter in baseline sessions (circles), in recreation sessions with independent activity (squares), and in sessions with independent activity plus contingent tokens (Tom).

tested on his readings after each 20-min period and be given tokens depending on how well he performed. The therapist skimmed the articles after each 20-min period and asked 6–8 questions about key words and central points of the text. The subject was given 0–6 tokens at the end of the session, with the amount of tokens delivered proportional to the number of correct answers. Two tokens could be exchanged for a cigarette, a cup of coffee, or a candy bar. In this condition, the subject earned an average of 86% of the attainable tokens (range, 50%–100%).

Experimental Designs

An A-B-A-B design was used to evaluate treatment effects obtained with Bob. An alternating treatments design with three phases and two treatment conditions was used with Tom.

RESULTS AND DISCUSSION

Figure 1 shows the percentage of each session that Bob engaged in self-talk. In the first baseline phase, a moderate and variable rate of stereotypic vocalizations was obtained with an overall mean of 46.9%. During the first independent activity phase, the mean percentage of each session engaged in self-talk fell to 18.2%. In session 17, a recreation session with an unusually high rate of self-talk, Bob worked on a model of a sport passenger van (a nonmilitary vehicle). The subject complained that the model was boring and this type of project was not offered in later recreational sessions. When the baseline condition was reinstated in the third phase, the amount of self-talk increased to a mean of 53.4%. Finally, when the independent activity was reintroduced in the fourth phase, self-talk once again declined to a mean of 18.5%.

Figure 2 displays the percentage of intervals scored with the occurrence of stereotypic mumbling and laughter for Tom. Intervals scored with mumbling averaged 76.7% across all baseline sessions. This measure fell to a mean of 23.7% during the independent activity in Phases 1 and 2, and to a mean of 26.8% during the independent activity plus contingent tokens in Phase 2.

Results showed that independent recreational activities were effective in reducing stereotypic vocalizations in these two schizophrenic subjects, and that contingent tokens given to one subject for on-task behavior did not contribute significantly to the treatment impact. Replacement of inappropriate behavior was achieved by introducing competing as opposed to physically incompatible alternative responses. Subjects were able to engage in stereotypic vocalizations during recreation sessions, and did so, but for a shorter average duration per session. Recreational behavior was actuated with few prompts and was independently sustained, probably by reinforcement intrinsic to the activity.

In both subjects, the rate of stereotypic behavior during baseline sessions fluctuated from day to day but remained at stable levels over the span of the study. This occurred despite the fact that on no occasion was a staff member or fellow patient seen praising or otherwise reinforcing a subject for emitting these behaviors. Persistence of stereotypic vocal responses under discriminable conditions where there is no apparent external reinforcement has been reported before (Finch, Wallace, & Davis, 1976); thus, data are accumulating to suggest that certain stereotypic responses in psychotic patients may be self-maintaining.

More data are needed on stereotypic vocal responses in psychotics and the degree to which they

are influenced by antecedent and consequent stimuli. Historically, this behavior has gained importance as being a manifestation of hallucinations and a symptom of schizophrenia. Traditional psychiatry has produced few interventions to treat the behavior itself and has generally overlooked situational variables that could modify it. Our research reaffirms that stereotypic vocalizations in chronic schizophrenics can be strongly affected by environmental conditions.

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