

Further hospitalization and treatment is recommended at a Veteran's facility. The patient is obviously not fit for duty now or in the immediate future. A marine noncommissioned officer with 11 years of service develops a disabling depressive reaction at a time of family crisis. His symptoms remit readily with treatment, he has a history of satisfactory premorbid adjustment, and he is highly motivated to return to duty. Again, this decision is clear cut on immediate clinical grounds.

Even with borderline cases, there are many other swing factors in addition to the issue of values. For instance, a psychiatrist's degree of clinical experiences with the military environment will affect his expertness in knowing who can adjust to the particular stresses involved and who cannot. I have focused on the significance of personal values as applied to the previous case study to emphasize specifically that *not all personal or ethical values influencing the psy-*

chiatrist's judgment can be reduced to "prejudice to be overcome."

While military psychiatry is a special case, the issues are not entirely different in civilian life where such values operate in more subtle fashion. For instance, in his professional dealings, the psychiatrist is influenced by the relative weight he gives his role as the agent of the patient and as the agent of society (*e.g.*, the patient's family, third party medical carrier, patient's employer etc). What is obvious in a setting of military psychiatry may exist in less pronounced fashion in the setting of civilian psychiatry.

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TOKEN ECONOMY PROGRAM IN A MAXIMUM SECURITY CORRECTIONAL HOSPITAL

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The purpose of this study was to implement a token economy program in a correctional hospital. Forty-one low functioning male patients were studied regardless of diagnostic record or criminal offense. Patients selected were indifferent, apathetic, dependent, and institutionalized. The results indicate that behaviorally inactive patients engaged in reinforced activities in order to gain access to a variety of reinforcers. Token economy programs can be an effective treatment method in a maximum security correctional hospital.

Beginning in the late 1950's, the extension of operant techniques to modify and control target behaviors of normal and psychotic humans has been growing at an ever increasing rate (3). The consequences of the application of token economies have been evaluated empirically with a variety of subject populations including groups of hospitalized psychotics (1, 2, 4), mental retardates (5, 8), remedial elementary school children (11), and juvenile delinquents (6, 9). Inasmuch as token economy programs (TEP) have focused upon the modification of behaviors of groups of patients, the token, a generalized conditioned reinforcer, has been employed in the same manner as currency is used outside the hospital and has been found to strengthen more than one response class under more than one environmental condition.

Since token economy programs have been successful for modifying target behaviors of psychotic patients in civil hospitals, it re-

mains to be determined if such programs represent an effective treatment procedure for hospitalized psychotics who also exhibit a history of criminal offenses. Unlike most civil institutions, the ward personnel in a maximum security correctional hospital are constrained much more by security precautions and security-oriented attitudes. Therefore, the purpose of the present study was to determine the efficacy of a token economy program for a ward of 41 male patients committed to the Dannemora State Hospital. This hospital serves patients who become behaviorally disordered while in the New York State correctional system.

The token economy program was initiated and administered by a senior psychologist (R. B. L.), four psychology graduate students and 12 hospital correction officers. Inasmuch as the New York State Department of Corrections prohibits withholding food and sleeping facilities from patients, we employed a variety of reinforcers which were distributed through the Ward 5 Commissary in exchange for tokens.

METHOD

PATIENTS

We selected 41 male patients in January, 1969, with a mean age of 47 years, mean completed educational grade of 8, median

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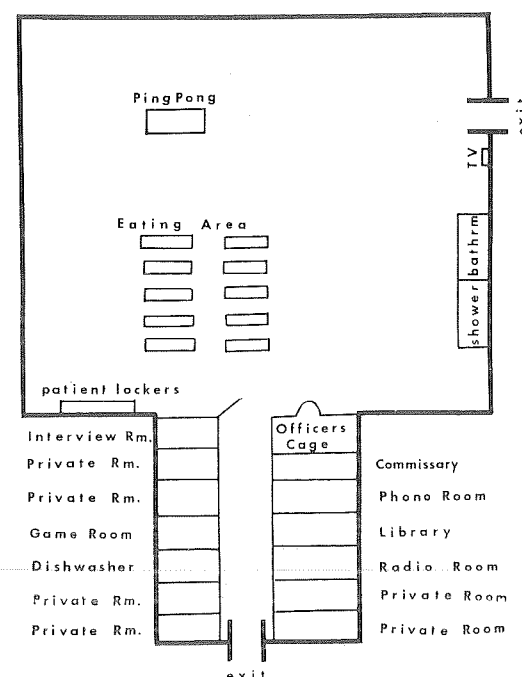


FIG. 1. Schematic representation of Ward 5 including the activity and private rooms and the main day hall. Patients could only leave the locked ward by officer escort. Patient meals were supplied from the main kitchen of the hospital.

time at Dannemora State Hospital of 10 years, and median time in a correctional facility since original sentence of 14 years. Twenty-one of the patients were convicted of murder or manslaughter, 15 of robbery, 4 of grand larceny and 1 of assault. According to hospital records, 36 of the patients were diagnosed as schizophrenic, 23 as paranoid type, 7 as chronic undifferentiated schizophrenics, 3 as hebephrenic and 3 as mixed type. The remaining 5 patients were diagnosed as psychotic with psychopathic personality. All of the diagnoses had been made no more than 1 year prior to the start of the token economy program.

APPARATUS

The TEP program was conducted on Ward 5 of Dannemora State Hospital (Figure 1). The patients were allowed free access between the day hall and the back hall,

but could only leave the locked ward by officer escort for occupational therapy, gym, school, movies and religious activities. The activity rooms were locked during the day and patients could purchase access to these rooms only between 7 to 10 p.m. Thirty-six patients slept in the open dormitory above the day hall while the remaining 5 patients slept in individual rooms on the back hall for security reasons.

The ward was staffed by three shifts of officers, the morning (7 a.m. to 3 p.m.) and the afternoon (3 p.m. to 11 p.m.) shifts being responsible for the daily operation of the token economy program. Each shift consisted of five officers and one ward charge officer.

PROCEDURE

Prior to the start of the on ward TEP, numerous decisions had to be made regarding patient selection, daily ward activities, behaviors to be reinforced, type of reinforcements and officer selection. The last item, officer selection, was the easiest to resolve as we were obliged to use the existing Ward 5 officer personnel, and, consequently, our training procedures focused primarily upon emphasis on therapeutic attitudes and familiarizing the officers with the principles of reinforcement therapies. Our officer training program included informal and formal meetings twice weekly for 5 weeks.

Behaviorally, despite diagnostic category, the patients selected were very similar. Ward 5 housed mainly regressed patients and the ward behavior of these patients was sampled by the ward officers on a variable interval 15-minute schedule for 15 consecutive days from 7 a.m. to 10 p.m. The sampled behavioral records for each patient were divided into inactive (sleeping, sitting alone, lying on the floor, etc.) and active (talking to other patients, going to gym, school, playing cards and board games, etc.) behavioral categories. Those patients with 70 per cent or more of their sampled behavior classified as inactive were selected

for the program. The patients were indifferent, apathetic, dependent and institutionalized to the point where they accepted responsibility only for the most simple aspects of living such as eating, dressing, and toileting. No attempt was made to select patients on the basis of criminal offense or diagnostic category but, rather, solely on the basis of their observable ward behaviors. In effect, the original ward was custodial in mission and apathetic and idle in practice.

To determine the types of reinforcers for the token economy program, we administered individually a commodity preference survey to all 41 patients. The survey indicated that cigarettes (2 tokens), fruits (oranges, bananas, apples, 5 tokens each), soda (5 tokens) and candy (3 tokens) were most preferred in that order. Consequently, we stocked our commissary with the above commodities as well as with commercial bar soap (25 tokens), pretzels (10 tokens), shoe polish (25 tokens), cigars (10 tokens), pipe tobacco (25 tokens), milk (15 tokens), gum

(5 tokens) and life savers (3 tokens). Also, patients could bank a maximum of 20 tokens per day toward the purchase of small items such as shoes, shirts, socks, record albums and wrist watches. Prior to the token economy, most of the Ward 5 patients were unable to purchase these small items because of inadequate personal finances. Each token was equivalent to one cent in United States currency.

The daily activity schedule of the Ward 5 token economy program is presented in Table 1. Every patient received a personal copy of the activity schedule, and each activity was defined precisely with the schedule and definitions of activities posted throughout the ward. For example, under individual patient activities, a patient would earn three tokens for going to occupational therapy for 1 hour and three tokens more if he remained there for the second hour. If at the end of each hour the patient had worked on a project, he would earn four tokens for each hour of work thus earning a total of 14 tokens for occupa-

TABLE 1
*The Daily Activity Schedule of the Token Economy Program
for a Ward of 41 Male Patients*

Time	Patient Activities	Maximum Tokens
<i>a.m.</i>		
7:00-7:30	Patients arise, wash, dress and receive medication.	3
7:30-8:00	Breakfast (6-patient chow crew serves all meals on ward and each earns 8 tokens for each meal).	8
8:00-9:00	Work period: clean up dormitory, day hall washrooms, individual washrooms, activity rooms.	2-10
9:00-11:00	Individual patient activities: occupational therapy, gym, music and ward crafts, movies and ward meetings.	14
11:00-12:00	Commissary: patients can earn additional tokens from volunteer jobs, e.g., laundry detail (10 tokens), mail call (3 tokens).	2-10
<i>p.m.</i>		
12:00-1:00	Lunch (chow crew)	8
1:00-3:00	Individual patient activities: same as morning plus group and individual counseling sessions available.	14
3:00-5:00	Educational activities: writing, discussion groups, project reports, library hours.	3
5:00-6:00	Dinner (chow crew)	8
6:00-7:00	Commissary	
7:00-10:00	Free time: Patients pay for access to radio, phonograph, game and privacy rooms. Yard, weather permitting.	

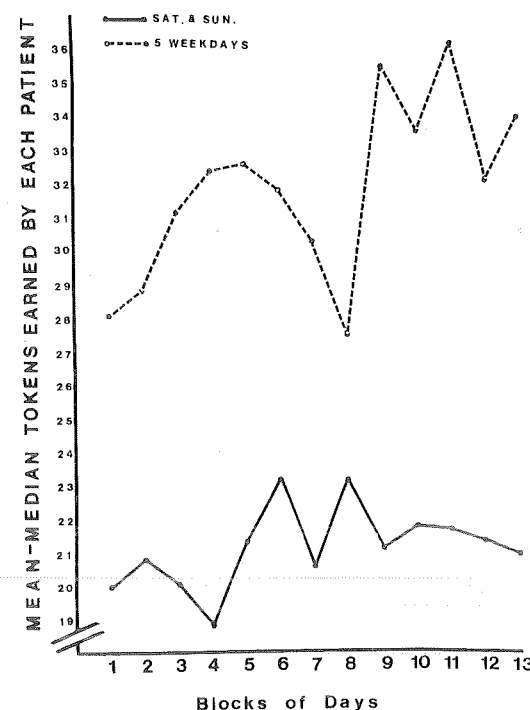


FIG. 2. The mean of the median of tokens earned by each patient for weekdays (Monday through Friday) and weekends (Saturday and Sunday) for the 91 days of the token economy program.

tional activities. Each patient could engage in any of the individual activities during the morning and afternoon sessions. Only global reinforcement contingencies were employed, and no attempt was made to establish individual patient contingencies.

On the first day of the token economy program, we met with all of the Ward 5 patients and explained to them the program, its objectives, and their role in the therapeutic contract. Patients were instructed that the program was completely voluntary, and that they could leave the program whenever they wished to do so. Also, 40 tokens were distributed gratis to each patient and all of these tokens had to be spent by the end of the first day.

To insure adequate token management, records of earned and spent tokens were punched into patient ID cards which each

patient carried with him at all times. The top of the ID card contained the patient's photograph, name, hospital number and, on the separable lower portion of the card, his name and number. Records of token transactions were punched into the lower portion which was changed daily.

Finally, we divided the 41 patients into five groups, four groups with eight patients each and one group with nine patients, on the basis of the behavior time samples collected earlier by the officers. Group I contained the most behaviorally active patients and the least active patients were assigned to Group V. An officer from the morning and the afternoon shifts was assigned on a weekly rotating basis to each one of the five groups for observation.

RESULTS

The results of the present study indicate that a token economy program can be an effective treatment procedure in a maximum security correctional hospital. Regardless of diagnostic categories or criminal histories, all patients engaged regularly in the reinforced activities.

Figure 2 presents the mean of the median tokens earned per day by each patient across a 91-day period. It is evident from Figure 2 that patient token earnings for weekdays increased steadily over the 13 weeks of the program except for a sharp decrease during the seventh and eighth weeks. This decrease was due to a temporary unavailability of some of the commissary commodities. Also, token earnings on weekends (Saturday and Sunday) did not change dramatically over the program due to the absence of occupational therapy, gym, and music activities. The difference between the mean-median tokens earned on weekdays compared to the weekend earnings was significant ($p < .001$) by the Sign test (10). Figure 2 indicates clearly that when reinforced activities are available, patients will engage in these behaviors in order to earn tokens. The fact that token

earnings were much lower on Saturdays and Sundays due to the paucity of reinforced activities on these days supports this conclusion. It appears that a token economy program in a correctional hospital must be operational every day in order to sustain active patient behaviors. Finally, Figure 2 indicates that a global contingency token economy program was effective in increasing patient behaviors over a 13-week period for a wide variety of patients in the absence of any patient-specific contingencies.

Figure 3 presents the mean of the median tokens earned daily for blocks of 5 weekdays by each patient in each of the five behavior groups. Notice that Group I patients earned consistently the greatest amount of tokens whereas Group V patients were persistent low earners. However, the fact that Group IV patients earned consistently more tokens than Group III patients suggests that the magnitude of a patient's performance in a token economy program cannot be predicted solely from the profile of a patient's preprogram behavioral samples. A Kruskal-Wallis analysis of variance of the mean of the median tokens earned by each group was computed (10), and the results indicated that the groups differed significantly ($H = 57.53, 4 \text{ df}, p < .001$). The present findings suggest that global contingency regimes are more effective with active patients, and that patient specific contingencies may be necessary for modifying target behaviors of less behaviorally active patients as measured by preprogram behavioral observations.

To determine if patient preferences for reinforcers expressed earlier by the reinforcer survey corresponded to actual purchases of these commodities, we calculated the mean number of fruits, sodas, cigarettes and candy bars purchased per week by each patient. The greatest number of purchases were for fruits, cigarettes, sodas, and candy bars, respectively; however, the purchase of other reinforcers, such as soap, pretzels, and shoe polish, increased as the program con-

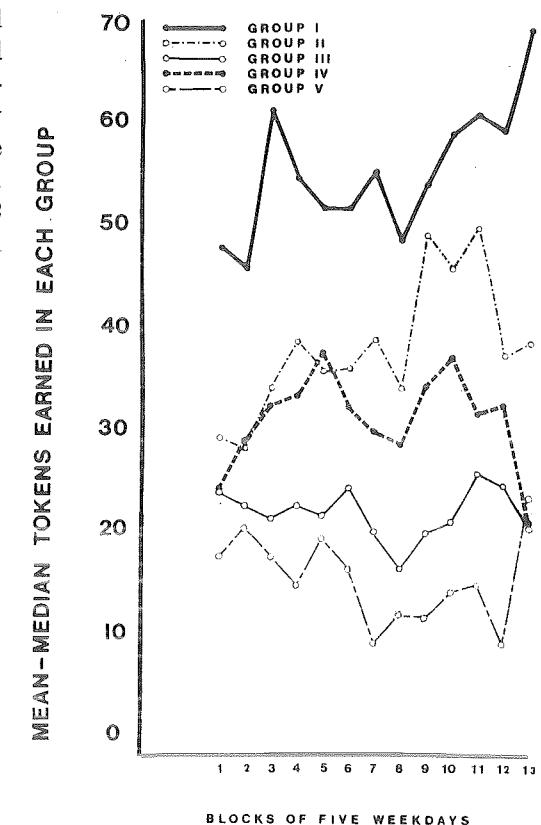


FIG. 3. The mean of the median of tokens earned by each patient in each of the behavioral groups for the weekdays (Monday through Friday) of the token economy program.

tinued. In effect, the patients' preferences for reinforcers varied over time thus necessitating a wide variety of accessible reinforcers.

Finally, 5 of the patients had banked over 1000 tokens at a rate of 20 per day and exchanged them for such items as a wrist watch, shirts, and socks. Interestingly, the earned timepiece is not accessible to the patient until he is discharged due to hospital regulations and, as a consequence, is stored with the patients' personal belongings.

In terms of program outcome for individual patients, 14 of the 41 patients were transferred to higher functioning wards in the hospital, and 2 of the 14 patients were discharged to the New York State prison system. Although 3 patients were trans-

ferred from the TEP for continued theft, none of the patients left the program voluntarily. The remaining 24 patients are still on Ward 5 without the opportunity to participate in a token economy program.

DISCUSSION

The results of the present study suggest that a global contingency token economy program can be an effective therapeutic vehicle for activating target behaviors of institutionalized and regressed patients who have a history of psychiatric and criminal adjustment problems. It should be remembered that the present study lasted for only 91 days, and, as a consequence, no attempt was made to focus upon the modification of symptomatic behaviors of individual patients. The fact that our psychiatric patients responded positively to the token economy program agrees with the earlier findings of the efficacy of reinforcement contingencies for the modification of academic behaviors of nonpsychotic juvenile delinquents (7). In effect, reinforcement therapies appear to be promising therapeutic vehicles for the modification of behaviors of incarcerated individuals in the presence or absence of psychiatric disorders.

The present findings indicate that correctional hospital patients will engage in a wide variety of behaviors to gain access to a relatively limited variety of reinforcers. The frequency of patients leaving the ward to participate actively in off ward individual patient activities (Table 1) increased sharply over the level of such behaviors before the token economy was instituted. Interviews with the patients revealed that they felt more responsible for the management of their own behavior, and that they had some control over the immediate consequences of their hospital behaviors while they were participating in the TEP. These feelings were expressed more often by patients in Groups I, II, and IV than by patients in Groups III and V.

A 1-year follow-up study indicated that none of the 12 patients transferred from Ward 5 have returned to this ward, and that the 2 patients discharged from the hospital to the New York prison system have not been readmitted to the hospital. Obviously, a more detailed longitudinal study of the stability of the behaviors acquired during the TEP is needed.

Prior to the start of the 19th century, imprisonment was employed primarily to hold suspected criminals before trial but now represents a major penal sanction which has created confined subcultures in the midst of our larger culture. The present study represents the first attempt to employ a token economy program with adult criminal offenders who also exhibit a history of profound psychiatric problems. Despite the administrative, philosophical and security constraints characteristic of maximum security correctional facilities, token economy programs probably represent a positive vehicle for dealing with individuals confined to penal institutions. This conclusion warrants further systematic investigation.

Finally, to provide some perspective for the present study it is important to remember that when a patient is discharged from Dannemora State Hospital, he is returned to prison to complete the remainder of his criminal sentence. Therefore, it is somewhat surprising that the present short term program modified the contemporary ward behaviors of regressed patients when one of the ultimate consequences of this modification is the prospect of continued institutionalization.

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