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University of the Pacific

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Application of Reinforcement-Sampling Procedures
With Former Mental Patients in a Community Setting

A Thesis
Presented to
The Graduate Faculty
of the
University of the Pacific

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Master of Arts

Brett J. Dickinson
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This thesis, written and submitted by

Brett J. Dickinson

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Dated 4/1/76
Acknowledgments

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Abstract

Prompts and instructions and reinforcer-sampling procedures were used in an attempt to increase recreational activity attendance of eight former mental patients in a community setting. A multiple baseline design with a reversal component was used to assess the effectiveness of the procedures. Data indicated that there was no increase in the time subjects spent outside of their residential facility, or in the number of recreational activities they attended in the community. There was an increase in the variety of the activities attended, but this increase was not maintained. Future research suggestions for increasing activity attendance are offered, including the effects of exposure to activities with friends and increasing the time spent in reinforcer-sampling activities.
Application of Reinforcement-Sampling Procedures
With Former Mental Patients in a Community Setting

Over the past ten years the number of chronic mental patients being released from state hospitals has steadily increased. The number of former patients actively involved in the community however has not increased (Aviram & Segal, 1973; Medical World News, 1974). Most aftercare facilities appear to maintain institutional behaviors such as docility and isolation rather than provide rehabilitative services (Aviram & Segal, 1973; Lamb & Goertzel, 1971). Even when aftercare programs have been provided, most ex-patients failed to attend (Medical World News, 1974; Swann, 1973).

Several studies have examined the effects of different environmental variables on attendance at activities in institutional settings. McClannahan & Risley (1974, 1975) found that announcements were only effective in increasing attendance of nursing home residents at activities when specific contingencies were applied. Results indicated that spending money and prizes were effective contingencies for increasing attendance. In addition, a high correlation was found between attendance and participation (McClannahan & Risley, 1975). Research done in mental institutions has demonstrated that patients will increase their frequency of attendance at such activities as fairs, religious services, and social evenings (Ayllon & Azrin, 1968a), walks,
movies and music sessions (Ayllon & Azrin, 1968b), snack bar, arts and crafts, poolroom, beauty shop, and swimming pool (Curran, Lentz & Paul, 1973) if required to sample these activities. "Reinforcer-sampling" procedures not only allow the resident to take part in the product or service, but also allow them to observe other patients engaging in the activity. Residents frequently continue to attend activities even when the procedures were no longer in effect. Quilitch and de Longchamps (1974) found that activity attendance could be increased by making a well attended activity contingent on attending other recreational activities.

There has been a variety of aftercare treatment approaches dealing with community adjustment of former mental patients. Keskiner, Zalcman, Ruppert, & Ulett (1972) instituted a foster care program in two rural Missouri communities that involved collaboration between state hospital staff and community residents. Hansell & Benson (1971) increased community exposure of residents in a halfway house through social and job-skill training. Marx, Test, & Stein (1973) utilized a "total in-community treatment" approach with on site training of community living skills. Rinn, Tapp, & Petrella (1973) and Henderson & Scoles (1970) employed operant conditioning procedures in a community-based treatment for ex-mental patients. All of the above programs seemed to be effective in increasing
community involvement on the part of ex-mental patients. Relatively little has been done in the area of reinforcement-sampling applied in a community setting. Hunt & Azrin (1973) employed reinforcement-sampling as part of their "community reinforcement" approach to alcoholism. The applicability of these procedures to ex-mental patients has not been examined. The present study sought to examine the effectiveness of prompts and instructions and reinforcer-sampling on increasing the activity attendance of mental patients in the community.¹

Method

Subjects

The participants for this study were selected from a population of former mental patients in a board and care facility. The residents were chosen on the basis that they could speak English and voluntarily filled out an activity interest checklist. This selection process resulted in an experimental group of two females and six males with the following characteristics; age from 23 to 48 with an average age of 39 years, four previously employed in some form of semi-skilled work, and four who had never held a full time job. Each resident received $35.00 a month from Supplemental Security Income (SSI). This money could be used for clothing, personal care items, or entertainment.

¹An extensive literature review is found in Appendix 2.
Setting

The primary setting for the study was a board and care facility located in the central part of Stockton, California. The facility provided board, room, and a small number of supervised activities. It was a two story structure with sleeping rooms for 28 residents upstairs, a dining room, lounge with T.V., and an activity room with pool and ping-pong tables downstairs. The staff consisted of two administrators, three night attendants, and a part-time activity director. Usually there was only one staff member on duty during each eight hour shift. Within walking distance of the building were the public library, YMCA, fishing areas, churches, city parks, special events (parades, festivals, etc.), shopping, bowling, sports functions, restaurants, social clubs, and drinking establishments.

Response Definitions and Reliability

The behavior measures in the present study were, (a) amount of time spent outside facility (not including sitting directly outside the facility), (b) percentage of activities attended at the facility, (c) number of activities attended outside the facility, (d) number of times employment was sought, (e) number of times employment obtained, (f) number of different activities attended, and (g) number of resident requests for the experimenter to accompany the resident to an activity outside the facility.
Measurement of time spent out of the facility was taken by the experimenter and a staff member who was paid $10 a week for carrying out data collection tasks. Time spent out of the facility was measured using a pla-check procedure. Daily, at 3:00, 7:00, and 8:30 P.M., the names of the residents who were not at the facility were recorded. Reliability on the amount of time spent outside the facility was taken at least once during each condition. Agreement between the experimenter and the observer on whether or not a given resident was out of the facility at the three time checks was 100% for each reliability check.

Attendance at the activities in the facility (bingo, crafts, music therapy, exercise group, etc.) was recorded by the person in charge of the activity. Reliability checks were taken on bingo and music therapy attendance at least once during each condition. Inter-observer agreement was 100% for all conditions. Inter-observer agreement was not measured for attendance at crafts, exercise group, or other activities in the facility, but the same recording procedures were used by the activities directors to measure attendance at those activities.

Information on the number of activities (movies, fishing, library, social clubs, etc.) the residents engaged in was obtained from the residents' self reports. Self report data was used because of the inherent difficulties in trying to collect data on eight residents in the natural environment.
The use of self-report data was suggested by the work of Zimmerman (1975). To obtain the information on outside activity attendance, residents were asked what activities they had engaged in during that day, and their responses recorded by the experimenter at a later time, when the residents were not able to observe the recording.

Prior to the study, the residents were told that the experimenter would be around the facility to assist them in finding out about different recreational activities in the community. By the time the data collection task was begun, the experimenter had been at the facility for at least 30 hours during the previous month, thus making the experimenter a "familiar face" at the facility. In order to reduce the reactivity of the measurement process (Lipinski & Nelson, 1974), the residents were not told that data was being collected. These procedures were used in an effort to reduce contaminating variables that might influence the self-report data.

Information on the times employment was sought and the time it was obtained was gathered through self-report of the residents or direct observation of the resident engaged in the activity.

The different activities that the residents engaged in outside the facility were verified by the experimenter observing them engaging in that behavior in the community, questioning them about the activity upon return, or asking...
another resident to verify where the resident had gone. In addition, the number of times a resident requested the experimenter to accompany him or her to an outside activity was recorded.

**Procedure**

**Baseline.** Measurement on the amount of time residents spent outside the facility and the different activities they attended was started after a month familiarization period. All other measurement was started three weeks later. During the familiarization period and first weeks of baseline, the experimenter and residents became acquainted on a first name basis. An activity interest checklist (See Appendix 1) was administered to each resident during the first two weeks of baseline (time out of facility was recorded for all residents at the facility, for the first three weeks, until the residents were finalized). Each resident was given the opportunity to identify new activities at any time during the study.

During the baseline conditions the residents were told the experimenter would assist them in finding and taking part in the recreational activities they had chosen. During the baseline conditions no experimental interventions were made. Interactions between the residents and experimenter usually consisted of brief conversations about what activities they had engaged in during the day or things they liked to do and sometimes playing of a game of pool.
Prompts and Instructions. In this condition the residents were instructed as to the availability, cost, and location of the activities for which they had expressed interest. In addition, each resident was given the opportunity to go to the area in which the activity occurred. For example, a resident might be taken to a fishing spot, shown the best fishing area, and told about the best bait and then returned to the facility. The residents were encouraged to accompany the experimenter to the location of the activities they had chosen, but they were not required to do so, and the experimenter did not join them in the activities during this condition. If a resident failed to choose a desired activity, he or she was still given information on various activities and encouraged to attend.

After the resident had been provided with the information necessary to get to and engage in an activity, he or she was prompted by the experimenter to engage in that activity. This involved describing the activity to the resident and suggesting the good time they would have if then attended. The resident might be told, for example, "There is a revival at the auditorium tonight featuring Jimmy Swaggert. He's a good preacher and sings well. Tonight he will be doing a lot of singing. Since you like listening to him on the radio, I thought you might enjoy listening to him in person. It starts at 7:30 and there's no charge. Why don't you go on over. I'm sure you would really enjoy it."
**Reinforcer-Sampling.** The reinforcer-sampling procedures were patterned after Allyon & Azrin (1968a,b), Hunt & Azrin (1973) and Curran, Lentz, & Paul (1973). Unlike previous research in which residents were required to attend the activities to be sampled, the residents in the present study participated voluntarily. To compensate for the fact that it was not possible to require a resident to sample an activity, each resident was offered transportation, the experimenter's company, and expenses if the activity cost money. If the resident was reticent about attending an activity, he or she was told "just try it for 15 minutes, if you don't like it, we will come back". If another resident assigned to the reinforcer-sampling condition was interested in the activity, he or she was allowed to come along. During this condition the experimenter also encouraged the residents to engage in activities that were within walking distance of the facility and cost a minimum of money or none at all. Each resident, except resident number seven, sampled an average of six activities with the experimenter during the reinforcer-sampling condition.

A multiple baseline design with a reversal component was used to assess the effects of the experimental conditions. The residents were divided into three groups with two in Group One and three in Groups Two and Three. Group One received five weeks of baseline, three weeks of prompts and instructions, four weeks of reinforcer-sampling, and six weeks
of prompts and instructions. Group Two received six weeks of baseline, four weeks of prompts and instructions, four weeks of reinforcer-sampling, and four weeks of prompts and instructions. Group Three received seven weeks of baseline, five weeks of prompts and instructions, four weeks of reinforcer-sampling, and two weeks of prompts and instructions. Conditions were sequenced so that no more than six of the eight residents were in the reinforcer-sampling condition at the same time. The critical comparison was between the first and second prompts and instructions conditions, rather than between the prompts and instructions conditions and the reinforcer-sampling condition.

Results

As seen in Figure 1, the amount of time residents spent outside the facility remained the same throughout all conditions. (When there is no data point, it indicates that the resident was not at the facility during that week.)

Figure 2 shows that the number of activities the residents engaged in did not significantly vary across conditions. There was, however, an increase in the variety of activities residents attended. It was possible for a resident to engage in a larger variety of activities but not necessarily increase the number of activities attended. For example, resident number eight engaged in only two different types of recreational activities during baseline but engaged in those activities on the average of six times
a week.

Table 1 shows that the variety of activities in which residents engaged increased across conditions except for residents six and eight. During baseline the number of different activities attended for all residents was 27, during the first prompts and instructions condition 25, during the reinforcer-sampling 46, and instructions condition 26.

During reinforcer-sampling, the residents attended 23 requested activities they had not attended in the previous two conditions. During the final prompts and instructions condition, however, the residents only attended six of the 23 new activities.

As seen in Table 2 there was a substantial increase in the number of residents who requested the experimenter to accompany them in an outside activity. During the baseline condition there were six requests, during the first prompts and instructions condition 10 requests, and during the final prompts and instructions condition 29 requests.

Table 3 shows that the percent of regularly scheduled activities attended in the facility remained relatively stable throughout conditions.

Only two residents engaged in "job hunting". Subject 1 looked for employment twice during baseline, twice during the first prompts and instructions condition and once during the final condition. He obtained employment once but only
worked for a day. Subject 5 sought employment twice during baseline and once during the first prompts and instructions condition but did not obtain employment at any time.
PERCENT TIME CHECKS RESIDENTS WERE OUTSIDE FACILITY

SUBJECT
1
2
3
4
5
6
7
8

Baseline
Prompts & Instructions
Reinforcer Sampling
Prompts & Instructions

Weeks
0
2
4
6
8
10
12
14
16
18

Percent
NUMBER OF ACTIVITIES ATTENDED OUTSIDE FACILITY

SUBJECT

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5

Baseline Prompts & Instructions Reinforcer Sampling Prompts & Instructions
TABLE 1

Number of Different Recreational Activities Attended Outside Facility

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Baseline</th>
<th>Prompts &amp; Instruction</th>
<th>Reinforcer Sampling</th>
<th>Prompts &amp; Instruction</th>
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</thead>
<tbody>
<tr>
<td>1</td>
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<td>4</td>
<td>6</td>
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<td>4</td>
<td>5</td>
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<td>2</td>
<td>3</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Subjects</td>
<td>Baseline</td>
<td>Prompts &amp; Instruction</td>
<td>Reinforcer Sampling</td>
<td>Prompts &amp; Instruction</td>
</tr>
<tr>
<td>----------</td>
<td>----------</td>
<td>-----------------------</td>
<td>--------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>0</td>
<td>N.A.</td>
<td>2</td>
</tr>
<tr>
<td>2</td>
<td>4</td>
<td>5</td>
<td>N.A.</td>
<td>14</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
<td>2</td>
<td>N.A.</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
<td>1</td>
<td>N.A.</td>
<td>3</td>
</tr>
<tr>
<td>5</td>
<td>2</td>
<td>2</td>
<td>N.A.</td>
<td>3</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
<td>0</td>
<td>N.A.</td>
<td>0</td>
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<tr>
<td>7</td>
<td>0</td>
<td>0</td>
<td>N.A.</td>
<td>2</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
<td>N.A.</td>
<td>1</td>
</tr>
</tbody>
</table>

N.A. = Not applicable
**TABLE 3**
Percent of Regularly Scheduled Activities Attended in the Facility

<table>
<thead>
<tr>
<th>Subjects</th>
<th>Baseline</th>
<th>Prompts &amp; Instruction</th>
<th>Reinforcer Sampling</th>
<th>Prompts &amp; Instruction</th>
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<tr>
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<td>8</td>
<td>40</td>
<td>40</td>
<td>47</td>
<td>50</td>
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</table>
Discussion

The procedures of the present study did not produce effects like those observed in previous research (Ayllon & Azrin a,b, Curran, Lentz, & Paul, 1973, Quilitch & de Longchamps, 1974, and McInnis, Himelstein, Doty, & Paul, 1974). The present study did not produce an increase in the quantity of activities residents attended outside the facility or in the amount of time they spent outside the facility.

It is possible that the lack of quantitative change in outside activity attendance by residents in the present study was a result of the differences between institutional and community settings. One of the primary variables may have been financial. The residents were required to divide their $35.00 monthly check between personal care items, clothing, and recreation. Subjects could obtain paying jobs, but did not do so, probably because their recognition that any money received through employment in excess of $20 would decrease their SSI checks. Most of the residents who participated in the study did not have sufficient job skills to enable them to obtain employment which would have paid enough to offset the loss of SSI benefits.

Aviram & Segal, (1973) and Medical World News, (1974) both document the community reaction toward ex-mental patients. This reaction discourages the ex-mental patient from engaging in activities that involve a high degree of interaction with people in the community. Only two of the residents attended
activities that involved a high degree of personal interaction. Since the residents usually did not have much money for clothing, their attire was noticeably different than the majority of people in the community. When a resident attended an activity and people turned to stare, it probably discouraged that resident from attending again. Side effects from medication also made the residents stand out in the community setting. Subject one asked to leave a youth group picnic because his leg was shaking so severely from side effects of his medication, that it had become noticeable to others. Many of the residents also retained the peculiar walking pattern learned during their stay in an institution. Four of the residents verbalized discomfort over the attention they received in public for their mannerisms and dress. Because of lack of funds, hair care and personal hygiene usually received a low priority, especially toward the end of the month. This also contributed to the residents' reluctance to engage in outside activities involving interaction with people who were not former patients.

Even though an activity might be desirable to a former patient, they do not attend that activity in the community because of some of the previously mentioned difficulties. In an institutional setting, those factors do not have the suppressing effect on behavior that they do in the community. The effort required to attend activities in an institution also is usually far less than that in the community. Trans-
portation, for example, is no problem at an institution while it is in the community.

In an institutional setting, activities are usually attended as a group. In the community to attend with a group usually requires the resident to persuade other residents to accompany him or her. If the resident does not have friends among the other residents, it is often impossible to find someone to accompany him or her in an activity. In their study on reintegrating former mental patients into the community through a community lodge system, Fairweather, Sanders, Maynard, and Cressler (1969, pp. 219 - 225) attributed a general lack of differences between the institutional and lodge groups to the fact that 65% of the lodge group reported having only few friends, 67% reported their recreation as only T.V. watching, radio listening, sitting around, walking alone, or solitary games, and 59% reported having no companion when engaging in a recreational activity. Kolodner (1973) reported that former patients who were hesitant to attend community activities would attend when accompanied by an ex-patient who attended those activities. This may account for why residents failed to continue to attend certain activities when they no longer had someone to accompany them. The following remark by one of the residents sums up the problem of attending activities alone. "I love to go fishing with a friend, but it just isn't any fun going fishing alone."

Another variable that might in part account for the lack
of effect in the present study, was the length of time the residents spent in the reinforcer-sampling condition. It could have been that the duration of the reinforcer-sampling period in the present study was not sufficient.

McInnis, Himelstein, Doty, & Paul (1974) suggest that there is a modeling effect of both use and nonuse of activities among residents. That is, the resident observes most of the other residents staying at the facility and decides to stay instead of going out. The residents in the present study had ample models of non-attendance of community activities. At least twice a week data was taken on time out of facility for all the residents of the facility. The data showed that on the average, 75% or more of the residents were inside the facility at the three time checks.

Sometimes there are unique circumstances which account for failure of a resident to engage in an outside activity. Resident six, for example, attended over 90% of all activities inside the facility but failed to attend even one activity outside the facility. A number of other residents not in the study had formed a kind of "protection racket" with resident six as the only victim. At the beginning of each month they took all of his money with the understanding that they would buy his essentials. The resident in question was instructed not to leave the facility since they would take care of his shopping for him. Since resident six had had a frightening experience in the community
(witnessed a mugging) and there were implied threats by other residents about his safety if he did attend activities in the community, resident six never left the facility except for one doctor's appointment a month.

The only areas in which there were apparent effects of the procedures of the present study were in the variety of activities attended and the number of requests that the residents made for the experimenter to accompany them to an activity. During baseline and the first prompts and instructions the residents made a total of 16 requests for the experimenter to accompany them in an activity, compared to a total of 29 requests during the second prompts and instructions condition, even though the duration of the second prompts and instructions condition was approximately half that of the baseline and first prompts and instructions conditions. This suggests that residents might have continued to attend new activities if they had been accompanied by someone.

Another important consideration is whether the emphasis should be on trying to change the community or the individual ex-mental patient. Keskiner, Zalcman, Ruppert & Ulett, (1972) suggested that the emphasis should be on changing the community. Their results indicated that their approach was effective. Finding suitable communities for that type of approach is difficult, however. The results of the present study indicate that each of the variables as suggested are probably
involved in the lack of effect if the present procedures are worthy of further research.
References


Below is a list of different activities. Check each item in the column that describes how much you like the activity. If you have never tried the activity, check the column which describes how much you would like to try the activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Not at All</th>
<th>A Little</th>
<th>A Fair Amount</th>
<th>Much</th>
<th>Very Much</th>
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<tbody>
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<td>Roller skating</td>
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</tr>
<tr>
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Appendix 2

Review of Literature on Reinforcer-Sampling and Community Mental Health

Several studies have examined the status of chronic mental patients in the community (e.g., Paul, 1969; Lamb & Goertzel, 1971; Swann, 1973; Aviram & Segal, 1973; Medical World News, 1974). In his review of recent literature Paul (1969) found four areas which were significantly related to whether patients were rehospitalized or remained in the community at least a year: (a) work, (b) social participation, (c) the occurrence of bizarre behavior, (d) the degree to which patients presented a management problem for families. Of these, occurrence of bizarre behavior was the most consistent predictor of rehospitalization. He also found that supportive living arrangements were more related to community stay than the type of treatment received in the institution. The major weakness of most programs reviewed was the lack of provisions for generalization measures, community support, and follow-up. The community, however, has been reluctant in offering its support (Aviram & Segal, 1973; Medical World News, 1974).

Aviram & Segal (1973) in their examination of discharged mental patients in California found that while the number of mentally ill had decreased from over 35,000 in
1962 to less than 10,000 in 1972, the number of former patients actively involved in the community had not increased. He classified this change as a movement from back wards to back alleys. According to Aviram & Segal (1973), the community has used a number of methods to exclude ex-mental patients from the community. Zoning laws, city ordinances and regulations, neighborhood pressure, and bureaucratic maneuvering had been used to prohibit the increase of alternative care facilities. Because of financial and administrative requirements many former patients had been forced into ghetto areas. Even when alternative care facilities such as board and care homes were available they often served to maintain institutionalized behaviors such as docility and isolation. Since alternative care facilities were paid by the number of beds filled, it was often to the operator's advantage not to structure the facility's program to shape skills which might lead to independent living on the part of the residents.

Lamb & Goertzel (1971) examined the effect of high-expectation and low-expectation environments on long-term mental patients randomly assigned to one of two community settings. The high-expectation condition included a halfway house, day-treatment center, and rehabilitation workshop while the low-expectation patients were sent to board and care facilities. The former condition required more mobility, planning, and responsibility on the part of the ex-patients.
The latter condition was characterized as a "small institution ward moved to the community." During the six month experimental phase the high-expectation group spent 77% of their time, excluding time spent at the day-treatment program, engaged in a vocational activity (sheltered workshop, work placement, volunteer job, or paid employment). The low-expectation group spent only 23% of their time engaged in similar activities. After an 18 month follow-up, the high-expectation group had spent on the average, 60 more days in the community. Lamb & Goertzel's findings supported Aviram & Segal's (1973) conclusion that board and care facilities were being paid for maintaining quiet and docile patients rather than for rehabilitation efforts.

An editorial in *Medical World News* (1974) further supported Aviram & Segal (1973) and Lamb & Goertzel (1971). Long Beach, New York, Evanston, Illinois, and San Jose, California, were three cities that were cited for community opposition to having ex-mental patients in the community. Home owners in Long Beach stated that they were fearful for the safety of their children. City officials claimed that ex-patients put a strain on garbage, fire, and police departments. Community physicians claimed that they clogged up the emergency room at the hospital. One of the biggest problems cited, was the lack of "proper care and rehabilitation." Hogarty, of Friends Medical Science Research Center in Baltimore (*Medical World News*, page 50, 1974)
felt that most chronic schizophrenics released from mental hospitals never got to aftercare clinics, and among those that did, there was a 60% dropout rate. National Institute of Mental Health (NIMH) budget cuts have made a goal of 1,500 community mental health centers by 1975 an impossibility. At present, there are only 162 halfway houses for the chronic patient. A NIMH study conducted in 1969 reported that 40% of the 376,105 patients released were not referred for further treatment. Even when board and care facilities had encouraged community involvement (sheltered workshops, daycare centers, or recreational activities) most residents did not go.

Swann (1973) surveyed 161 ex-mental patients in 69 board and care homes using a questionnaire covering 16 areas of behavior. The operators of the homes filled out a questionnaire for each resident. All homes were located in (70%) or near (30%) a city of 14,000 located in Saskatchewan, Canada. Approximately 48% of the residents met community standards for personal hygiene and 30% did so with prompting. Sixty-four percent exhibited acceptable table manners. Fifty-five percent of the residents were able to converse appropriately and 28% spoke in answer to questions or primarily about one subject. Ninety-five percent of the residents exhibited no unusual behavior and showed stable moods. Fifty-eight percent were friendly and responsive to others, while 17% tended to be seclusive and withdrawn. Only 24% of
the residents sampled activities in the community (White Cross programs, sheltered workshops, etc.). Only seven percent of the residents were reported as able to handle financial matters with 43% able to handle only small amounts of money. While the data were interesting, the author failed to mention any reliability measures taken on the instrument itself or on the board and care operators. The classifications of behavior seemed to leave too much room for the subjective interpretation of the operator.

Paul (1969), Lamb & Goertzel (1971), Swann (1973), Aviram & Segal (1973), and Medical World News (1974) indentified four major problem areas in returning the chronic patient to the community: (a) reluctance of community to involve ex-patients, (b) lack of aftercare programs, (c) alternative care facilities provided only "custodial" care, (d) reluctance of former patients to attend community activities. Relatively few halfway house and foster care programs have dealt with community acceptance of former patients (Keskiner, Zalcman, Ruppert & Ulett, 1972). Keskiner, et al instituted foster care programs in two rural Missouri communities that involved collaboration between state hospital staff and community residents. The development of the program involved three basic steps (l) selection of a community with a stable population under 10,000 and a defined geographical boundary outside a metropolitan area; evidence of community spirit and an active interest in human welfare, economic autonomy and
stability, racial and religious integration, and a distance of no more than an hour's drive from the hospital. (2) Information of a partnership between the hospital and community. (3) Maintenance of the program. Progressive involvement of the community was accomplished by introducing the program to community leaders first and then to the population at large. The next steps involved commitment on the part of the citizens to provide assistance in developing activities designed to provide contacts between townspeople and patients, placement of patients, integration of patients in the community, and establishment of a formal community organization to represent the community in the partnership with the hospital. A quota of patients that could be accepted was established to avoid oversaturation of residents in the community. The first program was established in New Haven, Missouri (population 1,500) in 1969 and in Troy, Missouri (population 2,500) in 1971. Since the establishment of the program in New Haven, 64 families have had 46 patients for 346 separate visits. In Troy, from May through October, 1971, 20 families responding to a survey conducted in New Haven, 72% evaluated the program as having a positive effect on the community with 28% neutral. At the time of the study, this was the only program of its kind in the United States. The greatest difficulty in implementing a program such as this on a broader scale seemed to be the lack of suitable communities which would meet all of the requirements. Another limiting factor pointed out, was
the reluctance of American families to include peripheral members.

A number of programs have concentrated on providing intensive aftercare, as opposed to "custodial" programs, with the goal of increased functioning in the community (Fairweather, Sanders, Maynard & Cressler, 1969; Henderson & Scoles, 1970; Hansell & Benson, 1971; Marx, Test & Stein, 1973; Rinn, Tapp, & Petrella, 1973; Mannino & Shore, 1973). Hansell & Benson (1971) used a highly structured halfway house to increase the social functioning of 66 mental patients with an average length of hospitalization of 14 years. The halfway house was a 30-bed facility, furnished like a motel, located in Rockford, Illinois. The program included an active daily routine with a focus on job-skills training. Throughout the program the resident was held accountable for his behavior as rated against an explicit code of expectations. Behavior was shaped by increasing the level of creature comforts with a corresponding increase in socially functional behavior. Socially unacceptable behavior was met with "amazement", "disappointment", and "occasional anger" from staff and patients. Increased community exposure was contingent on increased social and job-skill training. This allowed the patient to start looking for a job while still at the halfway house. The 66 patients spent an average of nine months in the program before leaving for non-residential extensions, discharge, or return to the
hospital. An 18-month follow-up showed that 36% of the patients were living and working in the community without financial assistance, 17% lived outside the hospital but required occasional admission for "crisis support", two percent remained in Community Return Service, 21% had returned to the state hospital and three percent had died.

Marx, Test, & Stein (1973) examined the effectiveness of "total in-community treatment" compared to a group of patients on the research staff's unit and another group housed on another unit. The groups were chosen on the following criteria: (a) a prognosis of ward staff of "not currently capable of sustained community living", (b) current admission of three to 18 months, (c) no more than 50% of the past four years spent in the hospital, (d) age 20-45, (e) any diagnostic category, excluding organicity, mental retardation, severe physical disability, or primary diagnosis of alcoholism. After making plans for community living (maximum of eight days) the experimental group was moved to either apartments, boarding houses, hotels, YMCA or YWCA, while the two control groups remained in the hospital. The treatment package involved assistance in finding jobs or sheltered workshop placement plus daily contact with employers and patients. Staff did on-site training in daily living activities such as laundry upkeep, shopping, cooking, restaurant-utilization, usage of transportation, grooming, and budgeting. In addition, the staff prompted the patients to involve themselves in
recreational and social activities, accompanying them if necessary. Contacts were made both during the daytime and evening. The group of patients in the hospital, but under the care of the research staff, received equal staff time with the experimental group in the community. Approximately 20 subjects were in each of the three groups. At the end of the five-month program the experimental group significantly differed from the control groups on autonomous job and living situations. Nine experimental subjects were employed in the competitive market compared with three subjects for each of the control groups. Seventeen experimental subjects were living independently (client performs daily functions autonomously or takes responsibility for obtaining needed services), six of the research unit group and only three of the other unit group had attained the same status. This data does not seem surprising considering the experimental group had stayed in the community 100 more days than did the control groups. The results could, therefore, have been a function of length of time in the community.

Mannino & Shore (1973) examined the effects of the Family Service Community Aftercare Program's participants with a control group matched for age, sex, race, discharge date, and diagnosis. Forty-one discharged patients from the Spring Grove State Hospital in Maryland, who had participated continuously in the program for at least a year, were the subjects of the study. The program incorporated the four
main variables necessary for post-hospital rehabilitation listed on page 30 (Paul, 1969). Aftercare involved early contact with patients' families to plan the transition to home, use of former patients as program aids, and development of employment and recreational skills. Each former patient was interviewed at his or her residence by an advanced social work student. Of 15 variables, only involvement in free time activities was significant, with the aftercare group showing more involvement. Some variables which failed to show significance were use of money, vocational responsibility, social group attendance, social group participation, interpersonal relationship, social adequacy, number of rehospitalizations, and percent of time in hospital. A possible explanation for Mannino & Shores' findings could have been the fact that 45% of the controls had received some form of care other than medication. Their results demonstrate the value of using more than one indicator of community adjustment.

Rinn, et al (1973) and Henderson & Scoles (1970) both examined the effects of using operant conditioning procedures in community-based treatment for former mental patients. Rinn, et al (1973) used a crisis service, evaluation and therapy service, and aftercare service in their program. The aftercare program employed response-contingent reinforcement programs, monitored by client, therapist, and/or collateral person (e.g., family.). The use of token economy systems
were taught to family members when possible and sometimes to employers. Contingency contracting was also used. The crisis service was used to decrease the number and duration of jailings of behaviorally disturbed individuals. The evaluation and therapy service was used for behavior problems such as phobias, marital problems, psychosomatic complaints, and depression. Of the 220 patients who received therapy during 1971, 95% were not rehospitalized.

Henderson & Scoles (1970) developed a halfway house located in Philadelphia. The program involved contingent social, primary, and token reinforcement awarded for desired work, social, and incompatible behavior. The work habituation program graduated the wages received in tokens from the job requiring the least amount of skills, (floor man - 220 tokens for six day pay period), to those requiring the most skill and interpersonal competence, (foreman - 465 tokens, kitchen steward - 500 tokens). Social activities ranged from discussion groups, crafts, games, dances, to field trips, YMCA, and other in-community facilities. Residents could earn tokens for social participation. The amount of tokens received was graded according to the degree of participation, (non-social participation to initiative or role modeling), and environment where the activity took place, (in the facility or in the community). The data showed an increase in both work and social performance. When reinforcement was suspended for attendance and social activity involvement,
there was a marked decrease in these behaviors. The rein-
statement of token reinforcement was followed by an increase
in attendance and social activity involvement, indicating
that tokens were the controlling variable. During a 549 day
follow-up period, the residents that had been in the halfway
house spent more time in the community and employed with
fewer rehospitalization, than did comparable residents who
had been in state and city facilities. Only eight percent
of the halfway house group had been rehospitalized compared
to 32% of the state facility group and 28% of the city
facility group.

Fairweather, et al (1969) examined the effects of self
government and a group business in a community lodge in the
San Francisco Bay Area. The lodge consisted of a group of
buildings which had been a motel. The treatment package
involved gradually fading research staff involvement through
the use of residents as supervisors, business managers,
executive committee members, crew chiefs, and head cooks.
A self government system tried to insure that lodge duties
were carried out, medication was taken, janitorial and gar-
dening contracts were fulfilled, and new members were oriented.
Staying at the lodge and receiving wages were contingent on
performance of the above duties. When the lodge was closed
after three years of operation, nine members purchased the
janitorial supplies from the research program and continued
to operate the janitorial service. The major innovations of
the program were establishment of janitorial and gardening services run by the lodge members and the use of members as supervisors and coordinators of the lodge. Follow-up information was collected through taped interviews and questionnaires. Sample size ranged from 75 for both lodge and control samples at a six month follow-up to 16 for the lodge group and 19 for the control group at a 30-month follow-up. The control group, drawn from the same hospital population as the lodge group, spent significantly less time in the community and employed when compared with the lodge group across seven follow-ups ranging from six to forty months. During the 12-month follow-up, the lodge group reported more satisfaction with community living, (significant at .05 level), than did the control group (Fairweather, et al, 1969, pp. 205-208). In the areas of satisfaction with living conditions, leisure time activity, and community living, the lodge and control groups only differed significantly once during all seven follow-ups. Contributing factors to this general lack of differences between the two groups could be the fact that 65% of the lodge group reported having only few friends, 67% reported their recreation as only T.V. watching, radio listening, sitting around, walking alone, or solitary games, and 59% reported having no companion when engaging in a recreational activity (Fairweather, et al, 1969, pp. 219-225). Forty-four percent of the group reported some degree of loneliness while in the community.
Although community treatment programs cost less and seem more effective than hospital programs (Fairweather, et al., 1969, Henderson & Scoles, 1970), there are relatively few compared with the total number of mental patients released each year, nor does it seem likely to change (Aviram & Segal, 1973; Medical World News, 1974). Even when the programs have been available, former patients have not attended at a high frequency (Swann, 1973; Medical World News, 1974). This problem has not been peculiar to programs for ex-mental patients only. Goodman, Bley, and Dye (1974) reported that a senior citizen center in St. Louis had only 37% regular attendance from their target population. Eighteen percent were erratic attenders (attended less than seven times) and 45% were non-attenders (attended less than seven times).

One problem with the studies of aftercare programs mentioned above was the failure to systematically examine the specific variable important in getting former patients to sample community activities. Marx, et al., (1973) suggested that staff accompanying patients to an activity might be one variable. The findings of Keskiner, et al., (1972) indicated that community prompting from individual citizens might be another crucial variable. Kolodner (1973) suggested that former patients who were hesitant to attend community activities would attend when accompanied by another ex-patient or therapist. The above studies failed to use either experimental procedures employing a control group or subjects as
their own control in examining independent variables influencing attendance.

However, some investigators have attempted such an analysis. Henderson & Scoles (1970) examined the effects of tokens on activity attendance using subjects as their own control. Results indicated that tokens contingent on attending did increase attendance, but they failed to indicate what percentage of the attendance was at activities in the community. Fox and Potter (1973) found that when inpatient staff were used for aftercare of chronic patients attendance was increased. Those patients who were referred to the aftercare program but were not from the Austin Unit (unit from which inpatient staff was drawn) attended only 24% compared with 72% attendance from former patients of that unit.

Several studies have examined the effects of different environmental variables on attendance at activities in institutional settings (Ayllon & Azrin, 1968; Curran, Lentz, & Paul, 1973; McClannahan & Risley, 1974, 1975; Quilitch & de Longchamps, 1974). McClannahan & Risley (1974) examined the effects of different types of announcements on activity attendance of 99 residents of a nursing home. Of these residents 55% were ambulatory, 16% used wheelchairs, 8% used walkers, and 20% were bedfast. The activity was held in the same place, at the same time of day, and on the same days of the week. The activity provided for the residents involved
coming to a designated area, taking part in a brief conversation with the experimenter, and receiving a quarter for spending money. The spending money was contingent on completion of the first two behaviors. Three types of announcements were used: (a) announcements over the house public address system, (b) amplified announcements at tables during lunch, (c) a large print sign placed at the entrance to the dining hall before lunch. Results showed no difference between the three types of announcements. When all three types of announcements were used at once, an increase from an average of 32 to 36 residents was recorded. Removal of announcements brought about a decrease to an average of 15 residents. Direct replication yielded similar results. When both spending money and announcements was removed, the average attendance dropped to two residents.

McClannahan & Risley (1975), in a study carried out in the setting described above, compared attendance levels and participation in bingo, art, and reading activities under prize or no prize conditions. In addition, they examined the effects of snacks on exercise, music, and table game attendance. A second experiment compared the effects of snacks in maintaining attendance and participation at exercise, music, and table game groups. Activities were announced using the same procedures listed in the previous experiment. Signs and announcements identified the type of activity and whether or not prizes or snacks would be available. All
three types of announcements were used. A counterbalanced design was used to control for the effects of day of the week. Experiment I employed a multiple baseline design with a reversal component while Experiment II employed only a reversal design. In Experiment I prizes were given to winners of each bingo game while in the art and reading groups drawings were held to determine who would receive a prize. Prizes consisted of quarters, apples, oranges, writing materials, pocket combs, and playing cards all of which averaged $0.25 apiece. Bingo was the only group where participation was necessary in order to receive a prize. Under prize conditions both attendance and participation was consistently increased over no prize conditions even though there were no specific contingencies for participation in art and reading groups. In Experiment II residents who were present at exercise, music, or table game groups received snacks during the last ten minutes of the sixty minute session. Only small increases in attendance occurred under snack conditions. However, the type of activity influenced the degree of participation. Even though no contingencies were placed on participation, except in bingo, there was a high correlation between attendance and participation. McClannahan and Risley's results indicated that if residents could be attracted to attend the activity most would participate in that activity.

Another setting where research on activity attendance
has been carried out has been in psychiatric hospitals. It had been demonstrated that patients in mental institutions will increase their frequency of attendance at such activities as fairs, religious services, and social evenings (Ayllon & Azrin, 1968a), walks, movies, and music sessions (Ayllon & Azrin, 1968b), snack bar, arts and crafts, pool-room, beauty shop, and swimming pool (Curran, et al, 1973) if required to sample the activities. Residents frequently continued to attend activities even when sampling-exposure procedures were no longer in effect.

Ayllon & Azrin (1968b), developed a procedure based on the principle of stimulus generalization. That is, the probability of a response occurring in a new stimulus situation increases as a function of the degree of similarity of the new stimulus situation with the stimulus situation previously present at the moment of reinforcement. "This line of reasoning suggested that if selection of an event by a patient is to be maximal, the situation should be identical to the situation that had previously existed when the selection resulted in delivery of the reinforcer." (Ayllon & Azrin, 1968b, pg. 14). Since it was impossible to duplicate the stimulus conditions without delivering the reinforcement before the desired response had occurred, each patient was allowed to only sample the activity. Prior evidence had indicated that walking, movies, and music sessions were reinforcing activities but the residents had failed to exchange tokens for these reinforcers. Each patient was required to
sample the activity for a short period of time, thus reproducing the stimuli associated with the event, and then the resident was required to either pay a token or leave the activity. In the first experiment, walks were announced to each patient and then all 24 patients were required to assemble outside the exit door for three minutes. After this time had elapsed, the resident was asked if he would like to exchange a token in order to go on the walk. In the music sampling experiment, 33 patients were assembled outside the music room for three minutes with the door open so that the residents could hear the music. In the movie sampling experiment, 39 patients were assembled in part of the area where the movie was to be shown. All residents were required to view the first five minutes of the movie. As in the previous two experiments, the residents were required to pay a token after the sampling interval or leave the area. Statistical analysis indicated that reinforcement-sampling produced a significant increase in attendance for all three activities. After sampling procedures were removed, there was a decrease in attendance. However, patients who had been non-attenders before sampling procedures were instituted, continued to attend the activity after procedures were dropped, but not as frequently as they had during experimental conditions.

Curran, et al, (1973) examined the effects of reinforcement-sampling procedures alternated with pass procedures in an attempt to increase use of off unit facilities by
residents of milieu and social-learning treatment units. Subjects were chronic mental patients, 29 from the milieu unit and 38 from the social-learning token economy unit. Ground passes were awarded on the basis of the level of the program the residents had achieved. The higher level residents could take "unaccompanied" passes while the lower level residents could get passes if "accompanied" by staff or volunteers. A "refamiliarization" tour was conducted to enable the residents to observe unit activities. Passes could not be obtained on this tour. After the tour a two-week baseline period was instituted. For the next eight weeks (Phase 1) announcements of the availability of specific passes to activity areas were alternated weekly with the sampling-exposure procedures patterned after Ayllon and Azrin (1968b).

After this phase, there was a return to baseline for two weeks and another eight weeks (Phase 2) of announcements alternated with reinforcement-sampling. The last week of each phase was under the announcement conditions. Each resident was required to sample the activity, (snack bar, poolroom, beauty shop, movies, arts and crafts, religious services) for ten minutes. Procedures were identical for both groups except that residents of the token economy unit were required to pay tokens in order to remain at the activity. Results indicated that the sampling-exposure procedures were effective in increasing activity attendance.
among the milieu group only. The token economy group remained at approximately its baseline level throughout the different experimental conditions. The milieu group, however, showed a high degree of variability across experimental conditions. Attendance for the milieu group during the last week of each phase (announcement conditions) either equaled or surpassed attendance during the preceding period of reinstatement of sampling-exposure conditions. In addition, attendance during the final baseline (week 22) was significantly greater than the pre-experimental baseline. These findings suggest some accumulation of effect over time.

Follow-up research (McInnis, Himelstein, Doty, & Paul; 1974) showed that when standing fines were removed and each resident was provided with enough tokens to purchase a pass, both milieu and token economy groups had equal increases in activity attendance. In the Curran, et al. (1973) study, any resident with standing fines was ineligible to attend the activities. In the second part of their study, McInnis, et al. (1974) examined the effect of allowing residents of the token economy group with standing fines to make additional payment on their fines immediately before pass sign-up and token payment in order to attend the activity. Results indicated that this was effective in increasing use of activities by the token economy group.
In both of the previously mentioned studies, the same subjects were used. When the initial baseline for the McInnis, et al. (1974) study was taken, it was found that there had been a gradual erosion of sampling-exposure effects over time. This indicates that periodic reinstatement of reinforcer-sampling procedures might be necessary to sustain activity attendance.

Quilitch and de Longchamps (1974) used contingent access to a voluntarily well-attended activity (bingo) in order to increase the participation of mental patients in other recreational activities (billiards and volleyball). During the baseline conditions, attendance at supervised volleyball and billiards was measured. During the experimental condition, residents were required to purchase bingo cards with tickets. One ticket could be earned by participating in the supervised recreational activities for 20 minutes. Each ticket could purchase one bingo card (maximum of three) for the bingo game. After nine days of experimental conditions baseline conditions were reinstated. Announcements were provided during all conditions. An average of 1.7 persons attended during the first baseline, 7.4 persons during experimental conditions, and 6.5 persons during the final baseline. The results seemed to indicate that the "contingent bingo" was effective in increasing attendance. The sustained use of the recreational activities suggest that "contingent bingo" might have acted as reinforcer-sampling for the residents who might
have never sampled the activities otherwise.

Relatively few studies have examined the applicability of reinforcement-sampling procedures to non-institutional settings. Hunt and Azrin (1973), incorporated these procedures in their community-reinforcement approach to alcoholism. Eight matched pairs of male subjects were selected from a population of diagnosed alcoholics at a state hospital located in a rural midwestern region. The basic method involved establishing a high density of reinforcers for the experimental subjects. To accomplish this, a community reinforcement program was set up. It consisted of vocational, marital and family, social, and reinforcer-access counseling. Each experimental subject was released from the hospital once he had found a satisfactory job. Marital counseling attempted to provide reinforcement for the alcoholic as a functioning marital partner and the wife for maintaining the marital relationship. Drinking alcohol was made incompatible with the improved relationship. Unmarried subjects living with families went through a similar procedure which provided reciprocal benefits between subject and family, contingent on sobriety. Subjects with neither family nor wife were provided with a foster family. Social activities that did not involve drinking were encouraged and interaction with friends who had drinking problems was discouraged. If the subject was resistant to sampling an unaccustomed activity,
the "reinforcer-sampling principle was used" (Hunt & Azrin, 1973, p. 95). The subject was asked to "just try it for one week and then we will decide after that whether to continue it." Time-out from the high density of reinforcement established by these procedures was contingent on drinking. The results showed that the experimental group spent significantly less time drinking, unemployed, away from home, and institutionalized when compared with the control group.

The previously described studies raise a number of questions. Is it possible to increase community activity sampling among former mental patients, short of a full scale aftercare program? Can reinforcement-sampling procedures be replicated in the community? Once released from an institution, the amount of control that the experimenter has over the patient's contingencies is reduced. Even in a board and care setting it is difficult if not impossible to "require" an ex-patient to sample an activity. Another problem is that activities in the community are not "geared" for ex-patients as they are in the institution. Transportation and financial difficulties also pose problems not encountered in an institutional setting. Fairweather, et al. (1969), Aviram and Segal (1973), and Medical World News (1974), all document the stigmatism associated with being an ex-mental patient. This coupled with the lack of social skills of many former patients decreases the probability that the person will find community activities reinforcing. Given
the lack of research in the area of reinforcement-sampling carried out in the community and the need for community involvement on the part of former patients (Paul, 1969), further research is required.
References


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