*RECREATION AS A REINFORCER:
INCREASING MEMBERSHIP AND DECREASING
DISRUPTIONS IN AN URBAN RECREATION CENTER¹*

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It is presumed that recreation activities have a variety of functions for people, from tension reduction to citizenship development; however, a recreation activity's most empirically obvious function is as a reinforcer. This study demonstrates how two recurrent problems of urban recreation programs—recruitment of members and reduction of disruptive behaviors within the program—can be handled simply by contingently adjusting the amount of time the recreation activities are available. When extra time in the recreation center was provided to those youths who brought new members, dramatic increases in membership were achieved. On the other hand, when the closing time for each evening's recreation program was publicly moved forward by a few minutes for each offense, disruptive behaviors were nearly eliminated. Recreation used as a reinforcer can thus improve the basic operation of a recreation center and might similarly enhance other presumed and desired functions of recreation.

It is commonly felt that recreation programs promote such values as social interaction, leadership, tension reduction, and citizenship (*e.g.*, Carlson, Deppe, and MacLean, 1963, pp. 14-21). The potential value of recreation programs for directing youths into activities beneficial to them and to their community has been particularly stressed (President's Commission on Law Enforcement and Administration of Justice, 1967; White House Conference on Children and Youth, 1960). Little empirical support for such assumptions is, however, available.

Gross measures of spending patterns and contemporary trends toward a reduced work week (Parker, 1971; Poor, 1970) do suggest that the opportunity to engage in leisure activities is a potent reinforcer for a large segment of society.

Recreational activities have frequently been used as reinforcers within classrooms (*e.g.*, Hopkins, Schutte, and Garton, 1971; Lovitt, Guppy, and Blattner, 1969; Osborne, 1969; Salzberg, Wheeler, Devar, and Hopkins, 1971; Sanders and Hanson, 1971) and psychiatric institutions (*e.g.*, Atthowe and Krasner, 1968; Ayllon and Azrin, 1965). In each instance, access to certain recreational activities was used to reinforce behaviors not directly related to recreation.

The present study examined the effectiveness of recreation time as a reinforcer to promote desired behaviors within a recreation center, through an investigation of two recurrent problems affecting the basic operation of urban programs—recruitment of members and reduction of disruptive behaviors within the program.

EXPERIMENT I: RECRUITMENT

The recruitment of members is a significant problem because the funding of public recrea-

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tion programs is often dependent upon a registered membership sufficient to justify the cost of hiring staff and providing facilities. Recruitment methods typically have emphasized extensive advertisement either through radio, television, or local newspapers, or through staff visits to children at school, at home, or at nearby playgrounds to urge them to attend their program (Carlson *et al.*, 1963; Meyer, Brightbill, and Sessoms, 1969; Pierce, *unpublished*).

It should be noted that registered membership is not necessarily related to actual attendance and participation in a program; in fact, in our experience an unannounced visit to an urban recreation center or summer park program is likely to reveal one or more adults who can display a long membership roster but few or no live participants. However, families are constantly moving into and out of the neighborhood, and youth normally graduate into and out of the age range served by a recreation program. Accordingly, procedures to bring new youth to the center—so that they can sample the recreation activities and enroll as new members—although not sufficient, seem necessary to maintain high levels of attendance. This experiment investigated the effectiveness of a membership-drive procedure directed solely at the youth already participating in the program and relying solely upon the reinforcing power of the recreation program itself in recruiting new members into an urban recreation center.

METHOD

Subjects and Setting

This study was conducted at the Juniper Gardens Community Center, located in the most economically deprived area of Kansas City, Kansas. This center opened in the fall of 1970 as a Model Cities community center serving all youth of the area between the ages of seven and 13.

The Juniper Gardens recreation program was conducted in a large, multi-purpose room measuring approximately 40 by 120 ft (12 by 36 m). The game room was open from 4:30

to 8:30 p.m. on Monday, Tuesday, Thursday, and Friday nights, and from noon to 4:00 p.m. on Saturdays. Two black male adults supervised the program.

The number of youths in the program each night from October 1970 through May 1971 ranged from 11 to 72. Attendance was usually higher on weekday evenings than it was on Saturday afternoons. Average attendance figures reflected the decline typical of indoor recreation programs in warm weather; during October and November 1970, attendance averaged 47 on weekdays and 40 on Saturdays; in April and May 1971, an average of 29 were present during the week and 27 on Saturdays.

Procedures

When a child entered the recreation center, he gave his membership card to a volunteer, then entered the game room where he could sign up for any game of his choice. The volunteer recorded the child's name. Whenever a new member came to the center, he was given a membership card and his name was added to the attendance book with the date of his first attendance noted. A "new member" was defined as a neighborhood resident between 7 and 13 yr of age who had not participated in the program at any time between the time the center opened in the fall and the beginning of the membership drive in the spring. During baseline conditions, the new member's name was checked against a membership list at the close of the program; during membership drives, a current list was maintained at the entrance, and the child's membership status was checked immediately. An average of once per day, an observer wrote the name of each child who entered and his entry and exit time on a recording sheet, which was compared with the volunteer's record at the end of the day. Agreement on the total number of different children per day attending the program ranged from 75% to 100%, with an average agreement of 90%.

Membership drives conducted at the Juniper Gardens facility depended not on adult recruit-

ment for their effect, but on the current participants. If a member of the recreation program brought a new member to the center, both he and the new member could enter the center an hour before the regularly scheduled opening time on another recreation day during or immediately following the membership drive. If a member brought two new members, he could enter an hour earlier on two recreation days. A list of new recruits and the members who brought them was kept at the entrance; when individuals arrived for their extra hour of recreation time, their names were crossed off the list.

The availability of additional recreation time to those who brought new members was announced at the close of the recreation period immediately preceding the membership drive. A sign stating the conditions was also posted in the entrance during the drives. On the last day of each membership drive, the recreation director stated that the drive was finished and that extra recreation time was no longer available. No other methods were used to recruit new members throughout the program.

Fig. 1. The number of new members enrolled in an urban recreation program before, during, and after membership drives, in which the reward for bringing new members was additional recreation time. Average number of new members was 5.0 per day during the membership drives, as compared to 0.9 per day when no additional recreation time was offered.

RESULTS

Figure 1 presents the number of new members enrolled in the recreation program each day before, during, and after two membership drives. The number of new members averaged 0.9 per day during baseline conditions and 5.0 per day during the membership drives. Fifty-eight per cent of the new members shown in Figure 1 enrolled during the membership drives, which accounted for only 20% of the days presented in Figure 1. The 18 new members acquired during the first drive represented the greatest number during any four-day period since the program opened in the fall. Average attendance at the recreation center remained constant at 33 different children per night for the periods before, during, and after the membership drives.

EXPERIMENT II: REDUCTION OF DISRUPTIVE BEHAVIOR

Recreation specialists generally emphasize the importance of supervisory skills for effective program leadership (*e.g.*, Danford, 1964; Kraus, 1966; Shivers, 1963). Although many have stated a need to evaluate alternative leadership approaches (*e.g.*, Kraus, 1971; Shivers, 1963, 1967), little if any research has analyzed the effectiveness of various supervisory methods.

Adequate supervision of a community center game room is an especially frequent problem in urban poverty areas (Pierce, *unpublished*). Such recreation programs are generally supervised by a single staff member or by volunteers, serve all neighborhood residents, and are typically located in densely populated areas. Most attempt to provide activities for several hundred adolescents, but can afford few games and little repair or replacement of equipment, which is often damaged by vandalism and fights. Unfortunately, these problems, and the high cost of operating the program, force many facilities to close (Pierce, *unpublished*). The present study proposed to develop effective and

efficient procedures for detecting and reducing maintenance problems within a game room. Conceptually, it is similar to the study of Schmidt and Ulrich (1969) that reduced the general noise level in a classroom by providing "breaks" from schoolwork and providing extra gym time contingent upon periods of quiet in a classroom. The present study was, however, conducted in a community center game room open to all youthful neighborhood residents, and attempted to determine whether maintenance problems could be reduced by contingently shortening recreation time.

METHOD

Subjects and Setting

During this study, from January to May of 1970, approximately 400 black youths ranging in age from 7 to 25 yr participated at various times in the game room program of Turner House, a community center supported by the Episcopal Diocese of Kansas and located in the most economically deprived area of Kansas City, Kansas. The majority of the participants were male teenagers.

The game room program was open Monday, Wednesday, and Friday nights from 6 until 8 p.m. The following equipment was available in a room measuring approximately 25 by 80 ft: two pool tables, a bumper pool table, a ping pong table, kik-it, three jump ropes, two sets of jacks, four puzzles, one deck of cards, two checker games, one set of dominoes, and one chess set. The room was always swept and the equipment prepared before the program opened at 6:00 p.m. One white 28-yr-old male was the recreation center director.

Like most inner-city game rooms, this one in Turner House was plagued by fights, broken equipment, and littered floors. Recurrent cost, safety, and health problems required immediate action. Although much of the recreation center director's time and energy was spent trying to determine the individual responsible for a particular offense, he rarely discovered the culprit.

Procedures

One evening after several pool cues, ping pong paddles, and balls had been destroyed, the youths in the center were assembled for a meeting. The supervisor explained that the community center could not afford to replace equipment continually. He emphasized that the program was there to serve the youths, and that, therefore, they should have more respect for the center and should be responsible for its operation; the participants should not let a few individuals ruin their fun by fighting, destroying equipment, and littering the floors. The director explained that, since it was everyone's responsibility to see that the center ran smoothly and since it was often impossible to discover the individual at fault, the entire program would close earlier for each rule violation. He emphasized that in this way the youths could indicate whether or not they wanted the program to continue; if they did, they would all see that the rules were not violated.

The cost of each rule violation in number of minutes lost was established by the director, and, after discussion and modification, the youths approved. A list of rules, agreed to be necessary to the smooth operation of the program, was posted in the game room, with the cost, in number of minutes, for each violation listed (see Table 1). Each rule violation resulted in the recreation program closing earlier. For example, one piece of trash on the floor would result in a closing time of 7:59 instead of 8:00.

Observation Procedures

Two different types of records were kept during each evening: observation checks and enforcement checks. The first author made observation checks every 30 min, recording rule violations and the number of youths in each of the various game areas. Four observations, each lasting approximately 3 min, were typically made each night, with the first taking place a few minutes after the program had begun. The observer never enforced the rules, nor was infor-

Table 1

Recreation rules and the cost of each violation of these rules as posted in the game room. Rule violations were not enforced for all of these rules. Violations of rules number 1 and 4 were experimentally examined.

Recreation Rules

Lose 1 minute of recreation time for:

1. Each piece of trash or cigarette butt on floor in game room, hallway, restroom.
2. Smoking while playing pool or ping pong.
3. Each coat not hung on hanger on coat rack.
4. Pool rack not hung up.
5. Standing around in restroom and hallways.
6. Standing around tables while not playing.
7. Crowding into line.
8. Noise (yelling, beating ping pong paddles on table).
9. Toilets not flushed.

Lose 15 minutes of recreation time for:

10. Damage to cues or cue tips.
 11. Broken ping pong balls or paddles.
 12. Chipped pool balls or torn felt.
 13. Arguments.
 14. Fights—participants also leave for the night.
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mation obtained by the observer ever used by the recreation center director, who made his own enforcement checks every 15 min. Further, enforcement and observation time periods were slightly staggered.

For recording purposes, the entire center was divided into physical areas corresponding either to each game area or to the natural architectural features of the building. These areas were listed on a record sheet, with space to write the numbers of people and violations in each area. In making observation checks, the observer first counted the number of people in a particular area and then determined whether or not the rules resulting in 1 min of lost time (see Table 1) were being violated in that area at that moment.

A particular source of aggravation to both the recreation center director and the participants was the pool rack, which had previously been thrown on nearby chairs or under a pool table. A chair was placed between the two pool tables with a sign "for pool rack only". A violation was noted when the pool rack was not being used and was not on the assigned chair. If the pool rack was in use at the moment of the check, the experimenter continued his observa-

tion of other rules and then checked to see if the pool rack had been hung up.

For purposes of recording efficiency, litter was recorded by the observer as being either present or absent within each activity area in the recreation center. An exact count was obtained for all other rule violations; *e.g.*, the exact number of coats not hung up, or the number of youths loitering in the rest room, hallways, or game room.

The per cent of time during which rule violations occurred over the recreation period was calculated by dividing the number of times violations of each rule were observed by the total number of observations of each rule, and multiplying the quotient by 100.

The nature and number of rules enforced by the recreation center director and the time of enforcement were also recorded by the observer.

Seven times throughout the experiment (at least once per condition), either the recreation center director or the community center director was given the data sheet a few minutes before the recording time and was asked independently to count the number of rule violations and the number of persons in each area at the same time as the prime observer.

Agreement on the occurrence and location of rule violations ranged from 87% to 100%, and averaged 96% per observation.

Enforcement Procedures

The initial plan required that the recreation center director check the game room every 15 min for rule violations, with the first check taking place a few minutes after the program began. Whenever the director observed a violation, he wrote on a large blackboard in the game room the rule, the number of violations, the minutes removed, and the new closing time. Subsequent violations were written below so that a complete list of violations was easily observable. These violations were also explained verbally the few times that the director was questioned. Serious rule violations, such as fights or breaking of equipment, which occurred between enforcement checks were listed immediately.

Additional recreation time was lost by the continued violation of some rules. For example, if the same pieces of trash were observed during two checks of the game room, more time was deducted for the continued infraction of the rules. The recreation center director never picked up the trash himself, but indicated the infraction when questioned by the youths.

On nine different occasions during the experimental conditions, the observer independently recorded the number of violations simultaneously with the recreation center director during enforcement checks. On these occasions, the observer and the director checked the activity areas together and recorded their counts on separate record sheets. Agreement was always 100%. On all other enforcement checks, the observer recorded the amount of time lost and the particular violations that the supervisor had written on the blackboard.

Rule Enforcement

Several of the rules initially posted in the game room (Table 1) were not subsequently included in the experimental manipulation phase of this study. Posting the rules of conduct, cou-

pled with consistent, immediate enforcement of the more severe violations, appeared sufficient to eliminate these problems immediately. For a three-month period immediately following, only one fight occurred, and only two ping pong paddles were broken.

Likewise, smoking while playing pool or ping pong and crowding into line while waiting to play declined. During the first week after the rules were posted, an undergraduate university student who volunteered to act as an observer counted only seven instances of these and the more serious offenses combined. Loitering in the men's rest room to shoot craps was also very infrequently recorded, probably because the entrance of the observer invariably caused a hurried dispersal.

Loitering in the hallways, standing around tables while not playing, and unflushed toilets were noted sporadically, but these violations were never enforced because the recreation center director decided that they were unimportant. Not hanging coats was occasionally enforced but was eliminated as a problem by warm spring weather. Thus, three rule violations—littering the game room with trash, misplacing the pool rack, and littering the hallway—remained as problems and were included in the experimental manipulations.

Experimental Conditions

A multiple baseline experimental design was used in which the initial condition, or first baseline, was occasional enforcement of all three rules. Consistent enforcement was then introduced one rule at a time until all three rules were being enforced consistently.

Occasional enforcement. Because the recreation center director felt that enforcement of minor violations should occur only when they were repeated and had reached a "peak", he often did not check the game room. When he did, only a few minutes were subtracted from the closing time, even for several violations. His rationale was: "I'm here to help the kids. I want to show that I'm a nice guy." The initial baseline phase

for this study, then, is labelled Occasional Enforcement.

Consistent enforcement. After nine sessions (three weeks), the recreation center director agreed that occasional enforcement was not effective in reducing these minor rule violations and agreed to enforce consistently the rule concerning trash in the game room. Initially, the experimenter reminded the director when it was time for him to make checks. Every 15 min, the director counted the number of trash pieces in the game room and recorded the rule violation as arranged. Next, the director also began consistently enforcing the rule on hanging up the pool rack and, finally, the rule on trash in the hallway.

RESULTS

During the first nine days of the study, when rules were only occasionally enforced, the minor rule violations of trash in the game room and the hallway and failure to hang up the pool rack occurred frequently. During this initial phase of the study, enforcement of these rule violations was extremely sporadic, and the recreation center director's time between checks varied from 7 min to 1 hr. The number of violations of these rules each night was often as high as 50, with no time lost from the scheduled closing time.

Figure 2 shows the occurrence of these violations during baseline and consistent enforcement conditions. Consistent enforcement produced an immediate and marked reduction in violations of all three rules. Trash littering the game room, which was present during 96% of the checks on the last day of occasional enforcement, was present only 33% of the time on the first day of the consistent enforcement condition, and continued to decline until the study ended when the program closed in May. The pool rack, which was out of place 50% of the time on the last day of occasional enforcement, was always hung up on the first day of consistent enforcement. Littering in the halls was present only 17% of the time the first day the rule was

Fig. 2. The per cent of time during each 2-hr recreation period that rule violations were observed by an independent observer who never enforced rule violations. Dashed lines are used for the period when the recreation center director only occasionally enforced violations of a rule. Solid lines are used for the period when he made enforcement checks every 15 min and then enforced every violation.

enforced consistently, compared to 90% of the time the last day of occasional enforcement.

Consistent enforcement of these rule violations resulted in very little time lost from the program. Out of a possible 120 min, the mean time lost per day was only 10.5 min throughout all conditions of consistent enforcement. In addition, the number of youths attending the game room did not change throughout all conditions, but remained at a mean of 25 at any one time, with a range from seven to 42.

DISCUSSION

In both experiments reported here, the basic operation of an urban recreation center was im-

proved by contingently adjusting the amount of time the recreational activities were available. Contingently providing additional recreation time functioned as a potent positive reinforcement procedure to increase recruitment of new members in an urban recreation center for preteenagers. Likewise, contingently reducing the recreation time available functioned as a powerful response-cost procedure that appeared to eliminate immediately major offenses such as fights and damaged equipment as problems, and demonstrably reduced the frequency of less serious rule violations when the rules of conduct were consistently enforced in an urban recreation center for teenagers.

Since the extra recreation time offered for bringing new members was available to only a few youths, the old member was more likely to be able to spend more time at the game of his choice (usually pool). Similarly, the new recruit was able to sample more freely the available activities at a time when the center was uncrowded.

Reducing recreation time for inappropriate behavior was found to be particularly appropriate to the older, larger youths in the second study in that the contingency was impersonal and, therefore, did not generate any counterreaction, disputes, or resistance when delivered. Instead, the contingency appeared to increase the prompting for appropriate behavior by youths' peers rather than by the adult authority.

These studies demonstrated how two recurrent problems of a recreation program might be resolved simply by using the reinforcing properties of recreation in a contingent manner. This does not imply that access to all activities should be restricted and available only to those who have performed certain tasks. These studies do, however, suggest some management procedures that may efficiently recruit members and reduce costs. With the basic operation of a recreation center functioning smoothly, staff may devote time and energy formerly spent in managerial roles to activities such as instruction and leisure counselling. Recreation pro-

grams provide a potentially important training ground to promote skills of daily living such as social interaction and leadership, and to reinforce abilities developed in the school and the home. Thus, recreation programs may become a significant medium for the promotion and maintenance of socially desirable behavior.

If individuals are to achieve their maximum potential, service agencies must develop routines that permit such growth. Applied behavior analysts may contribute to the achievement of these goals by helping to develop total living environments, in which recreation programs and other nonwork settings should be of fundamental importance.

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