

REPLICATION OF THE ACHIEVEMENT PLACE MODEL
IN CALIFORNIA¹

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Attempting to replicate procedures from Achievement Place, token reinforcement procedures were used to modify savings, conversational interruptions, and table-setting of delinquent boys residing in a home-style, community based, treatment setting. The tokens (points) were redeemable for various privileges and could be earned for specified appropriate behaviors and lost for specified inappropriate behaviors. Contingent point fines reduced the frequency of interruptions. Point rewards improved table-setting, but even large point rewards did not substantially increase savings. Baseline data indicated that lateness to dinner was not a problem, as it was in Achievement Place. Withdrawal of contingent points and back-up rewards did not disrupt the clean-up behavior of two boys.

DESCRIPTORS: replication, Achievement Place, point economy, nonprofessionals, delinquents, social contingencies, tokens, Mexican-Americans, reinforcer

Numerous evaluations of the specific procedures used to teach appropriate behaviors to delinquent boys at Achievement Place, a group home in Lawrence, Kansas have been reported (Bailey, Timbers, Phillips, and Wolf, 1971; Bailey, Wolf, and Phillips, 1970; Braukmann, Maloney, Fixsen, Phillips, and Wolf, *unpublished*; Fixsen, Phillips, and Wolf, 1972; Fixsen,

Phillips, and Wolf, 1973; Kirigin, Phillips, Fixsen, and Wolf, 1971; Phillips, 1968; Phillips, Phillips, Fixsen, and Wolf, 1971).

The present studies were undertaken first, to evaluate the effectiveness of the treatment procedures on the target behaviors of delinquent boys living in Welcome Home, a community based, behavior-modification group home planned on the Achievement Place model, and second, to replicate studies reported by Achievement Place researchers. Unlike Achievement Place, Welcome Home was established by the Ventura County Probation Department without academic links and has utilized nonprofessional, rather than graduate student, houseparents.

While replications of conditions in applied studies are difficult to arrange, attempts should be made to confirm the results of original experiments to assess the generality of their findings. Establishing and maintaining identical environmental conditions are impossible whenever there are cultural, socio-economic, or other differences in the populations being compared. Behaviors targeted for intervention in one milieu may not be problematic in another setting with individuals having different cultural and reinforcement histories. However, it is important to

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establish that certain behavioral techniques are effective in spite of variations across populations, particularly when a "package" of techniques found to be effective in a "model" setting are being disseminated for wider use. Attempts to replicate original research also may uncover the need for additional investigations of techniques that were thought to be well understood.

EXPERIMENTAL SETTING AND SUBJECTS

The present five experiments were conducted with 16 delinquent boys, committed by the Juvenile Court to Welcome Home, a family style treatment center in Santa Paula, a small agricultural town of 20,000 inhabitants in Southern California. About one half of the town's population is Mexican-American.

The treatment program at Welcome Home is based on a token economy similar to the one at Achievement Place (Phillips, 1968; Phillips *et al.*, 1971). However, while the married couples who served as Teaching Parents (T-Ps) at Achievement Place were graduate students in behavioral science, those at Welcome Home were Mexican-Americans with high school education, attendance at a Bible college, and 2 yr experience counselling young people. The T-Ps were trained in behavioral techniques through a variety of workshops and professional consultations. Their training while running Welcome Home consisted of weekly consultations with a psychologist with graduate training in behavioral therapy. They attended weekly meetings led by another behavioral psychologist, aimed at teaching simple reinforcement methods to the parents of delinquent children. The T-Ps also attended an intensive, week-long workshop sponsored by the Achievement Place program on the treatment and administrative aspects of the Achievement Place model. For the first six months of the year-long evaluation, a research technician (second author) helped to develop the T-Ps observational, recording, and interven-

tion skills, spending several hours daily at the home.

Compared to the boys at Achievement Place, those at Welcome Home had some similar characteristics—*e.g.*, age, socio-economic status, and delinquent history—and some different characteristics—*e.g.*, ethnic identification, and geographical location. As in Achievement Place, the boys committed to Welcome Home are from 12 to 16 yr old; the maximum census at any one time was seven boys. While the majority of youths at Achievement Place were anglo and black, the Welcome Home population is predominantly Mexican-American, committed to Welcome Home for offenses such as burglary, that would have been classified felonies had they been committed by adults. Some of the boys had been considered "dependent neglected" or "beyond parental control". Their family backgrounds were similar to the Achievement Place boys; *i.e.*, generally from low-income families with only one parent in the home.

The boys remained in Welcome Home, on the average, for six months, with a range of three to 15 months. They earned points for appropriate social, self care, and academic behaviors and lost points for inappropriate behaviors. Points were earned or lost on a daily or weekly basis, depending upon progress through the program, and were used to buy privileges at Welcome Home, including snacks, television time, allowance, or permission to go to a social event (see Table 1). Basic subsistence living at Welcome Home cost 5000 points per week and full privileges cost 45,000 points.

A typical day at Welcome Home starts at 7:00 a.m. The boys shower, dress, and clean their bedroom and bathroom before breakfast. After breakfast, they clean up the kitchen and go to school, where they earn points dependent upon their academic and social performances. After school, they return to the Home where they can have a snack if they have earned that privilege. They then begin their chores for that day, and usually finish by 4:00 p.m. Until dinnertime at 6:00 p.m. the boys study or en-

Table 1

Contingencies of reinforcement for the point system at Welcome Home.

	<i>Points</i>
<i>Behaviors That Earn Points</i>	
Doing dishes	6,000 per meal
Washing a car	6,000 per car
Greeting a visitor	500 per greeting
Offering refreshments to visitors	500 per response
Completing homework	6,000 per day
Serving at meals	50 per item
Performing maintenance tasks: sweeping, bed making, vacuuming	1,500 per task
<i>Behaviors That Lose Points</i>	
Rowdiness	3,000 per response
Hurting an animal	10,000 per response
Arguing	500 per response
Disobeying	3,000 per response
Stealing, lying, or cheating	20,000 per response
Cursing	5,000 per response
<i>Privileges and Back-Up Rewards</i>	
	<i>Costs per Week</i>
Basic subsistence living	5,000
Snacks	3,000
TV	3,000
Visit to natural home	6,000
No work on Saturday	6,000
\$2.00 per week allowance	6,000
No work during week	12,000
Bonds (for gifts, admission to merit system)	15,000
Special activity (e.g., going to a movie)	3,000 or more

gage in activities they have earned. After dinner, they have more free time until bedtime at 10:00 p.m.

METHODS AND RESULTS

EXPERIMENT 1: SAVINGS

Phillips and his coworkers (1971) stated that one of the major goals of Achievement Place is to teach residents to "plan for the future". This future orientation is operationalized in part as saving money. At Welcome Home, the T-Ps purchased a piggy bank for each of the boys and labelled each bank with the boy's name. There was a small opening at the top to insert money,

but it took a special key, which the T-P retained, to get money out. Initially, each boy would specify the item or activity he was saving toward. The money could be removed from the bank when he had saved the required amount. Later in the study, the boys could remove their savings at the end of each week. This procedure replicated that reported by Phillips *et al.* (1971).

The boys each could earn enough points to get an allowance of \$2.40 a week. This was given to them on Friday morning by the female T-P. In addition, most of the boys had parttime jobs at which they earned extra money to spend or save. Participating in this experiment were S1 to S4, S6, S8, and S9.

Response Measure

Each evening, the female T-P would ask if any boy had money to save for that day. This T-P would note the amount in a "savings account book" and would watch the boy put his money in the bank. As a reliability measure, the amount in the book was checked against the actual amount in each boy's bank each week by the T-P.

Experimental Design

Baseline. The date and amount of each deposit were recorded in the savings book. There were no consequences for savings. This condition lasted five weeks.

Points I. Each boy was given 10 points for each penny he deposited. Points could be earned any day of the week. This condition lasted six weeks.

Points II. Each boy was given 100 points for each penny he deposited. Points could be earned any day of the week. This condition lasted one week.

Baseline. A return to baseline conditions lasted six weeks.

Points on specific days. Each boy was given 10 points for every penny he deposited, but points could be earned only for deposits that occurred on Tuesdays and Thursdays of each week. This condition lasted three weeks.

RESULTS

The arbitrary criterion for agreement determined before the experiment was that the amount written in the savings account book and the actual amount in the banks differ by no more than five cents. The amount of money in the savings account book matched the actual savings within five cents on all of the weekly reliability checks, yielding 100% agreement.

The data from Experiment I are depicted in Figure 1. The boys saved money rarely. Throughout the experiment, the boys saved nothing on 70% of the days. Two of the seven

boys accounted for 80% of the savings and these boys also had the highest earnings from part-time jobs. The mean savings per day were as follows: baseline, \$0.07; 10 points, \$0.12; 100 points, \$0.13; return to baseline, \$0.07; and points on specific days, \$0.02. During this last condition, the boys were no more likely to save on days when savings produced points than on other days.

The small amount of savings done at Welcome Home is in marked contrast to Achievement Place, where similar point rewards produced savings of \$0.86 to \$1.00 per day. The savings made at Welcome Home during

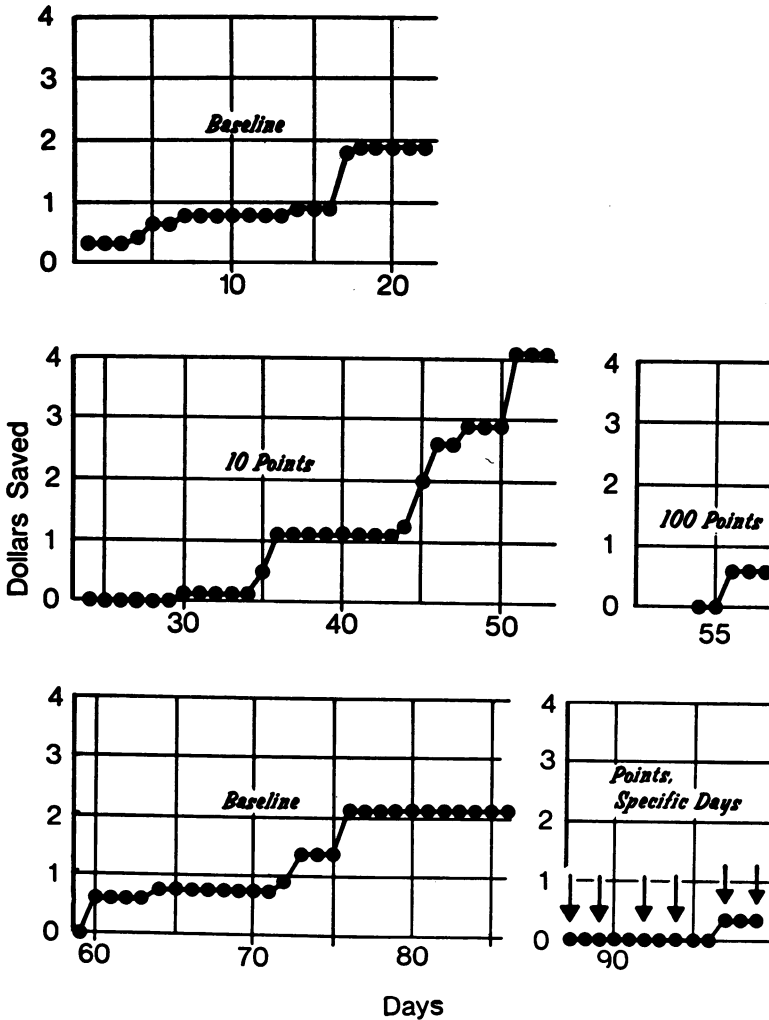


Fig. 1. The cumulative dollars saved by seven boys during each day of the experiment. The arrows mark Tuesday and Thursday, the days when points were given for savings during the final condition.

the point-reward conditions were essentially the same as those made during the baseline conditions at Achievement Place. The failure of a high reward (100 points) to produce more savings than a low reward (10 points), as well as the lack of savings associated with points on specific days, together indicate that points were not a sufficient reinforcer to increase savings significantly by the boys at Welcome Home.

EXPERIMENT II: INTERRUPTIONS

Phillips (1968) used response-contingent point fines to control the problem of aggressive speech at Achievement Place. The present experiment replicated that methodology, but the target behavior in this study was interrupting. Interrupting ongoing conversations is an annoying behavior found to occur at a high rate among the youths at Welcome Home. The following experiment describes the T-Ps program to measure and to reduce the number of interruptions; S1 to S4, S6, S8, and S9 participated.

Response Measure

During this experiment, two conversational sessions were held each week. Interruptions were recorded for all boys while the T-Ps engaged in a contrived 10-min conversation before the evening meal. The 10-min session was divided into ten, 1-min intervals. A research technician noted which boys were present during each interval and whether or not they interrupted. More than one interruption by a boy during an interval was counted as one interruption. The number of interruptions in each interval was divided by the number of boys present during that time. This procedure was used to control for variations in the number of boys present. The quotients of the 10 separate intervals were then added together for the response measure of interruptions.

An interruption was defined as a boy entering into an ongoing conversation between the T-Ps with a question or statement that did not relate topically to the conversation. Exceptions were made if the boy used "Excuse me", "Pardon

me", or if the interruption was urgent. The T-Ps decided if the matter was urgent and publicly indicated this to the boy. On eight occasions during the various experimental conditions, an additional observer collected data independent of the usual research technician. Agreement was defined by both observers rating the same boy making an interruption within the same interval. The number of agreements on observed interruptions between the raters was divided by the total number of intervals when at least one observer marked an interruption. This quotient was multiplied by 100 to obtain the per cent of effective agreement.

Experimental Design

Baseline. No point consequences were placed on the youth's interruptions during the 14 sessions of this condition. The T-Ps merely continued their conversation, or attended to the boy if they felt it necessary.

Correction. At the start of this condition, the boys were told what an interruption was, and were requested not to interrupt. A corrective statement such as, "That was an interruption, please don't do that. Wait until we are finished talking", was made by the T-Ps immediately after each interruption.

Fines. A fine of 100 points in the presence of the family only, or 500 points in the presence of guests, was made contingent on the interruption. The fine was given directly after an interruption during the conversational sessions. This condition was announced by the T-P immediately before the first session. It was not announced again throughout the condition. Between Sessions 25 and 26, sixty-one days elapsed, during which no data were collected and no fines issued.

Threats-no fines. No fines or corrections were made contingent on interruptions. At the beginning of the condition, the T-P announced, "We will not take away points for interrupting now". There were some reminders not to interrupt and threats to re-instate fines, such as "If you boys continue to interrupt, we will have to start fining you again". No threats were carried out.

Fines. The point-fine condition was re-instated for six sessions over a two-week period.

RESULTS

Agreement on eight reliability checks ranged from 87% to 100%, with a mean of 96%. The results are shown in Figure 2. The baseline condition showed an increasing trend with an average of summed quotients over the 14 sessions of 2.65. The correction condition averaged a summed quotient of 1.07. The average summed quotients of the response-cost condition was 0.85.

At a single session, after the response-cost contingency had been neglected for 61 days, the summed quotient was 4.75. A threat-no fine condition showed an average summed quotient of 1.51. A final return to fines showed an average summed quotient of 0.69 per session.

At Achievement Place, corrections reduced aggressive speech in one of three boys; similarly,

at Welcome Home, corrections were effective in suppressing interruptions the first two times they were given. Without being backed by more tangible punishment, corrections lose their effects on interruptions. The effectiveness of consistent point fines in suppressing interruptions is highlighted by the return to a baseline frequency on interruptions during the twenty-fourth session after systematic conversations and the response-cost contingency had been neglected for 61 days. While a point-fine condition was maximally effective in suppressing interruptions and aggressive statements at Welcome Home and Achievement Place respectively, a threat-no fine condition was associated with a level of inappropriate verbalizations well below the initial baseline levels in both settings.

EXPERIMENT III: TABLE SETTING

Phillips and his colleagues (1971) reported the effectiveness of point contingencies at

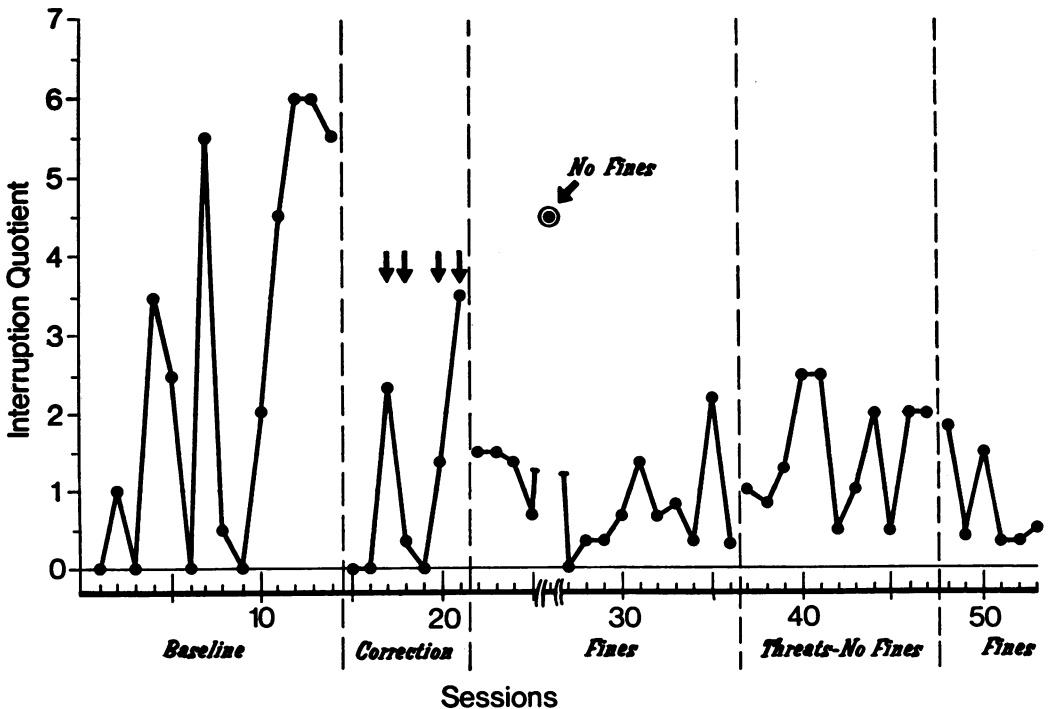


Fig. 2. Summed quotients of interruptions of T-Ps' conversations by the boys during 10-min sessions. Arrows during the correction condition indicate when corrections were administered by the T-Ps. The arrow during the first fine condition indicates a single data point taken at the end of a 61-day period when no fines were administered.

Achievement Place in maintaining high rates of room-cleaning behavior. Their experiment also demonstrated that performing chores could be maintained at a high level even when points were faded. Another experiment by Phillips (1968) showed that a manager from among the boys, given control over dispensing points, was more effective than the T-Ps in sustaining bathroom cleaning. The issues of fading from point contingencies and of status or symbolic rewards are important in the emerging technology of residential treatment facilities.

The present experiment was formulated to test the effectiveness of point contingencies in housekeeping tasks at Welcome Home and to compare the efficacy of point rewards *versus* a reward symbolic of competitive status. An additional purpose was to investigate how rapidly point rewards can be faded without the desirable behavior extinguishing. The subjects throughout all phases of this experiment were S1 to S4, S6, S8, S9, and S10.

Response Measure

A list of eight criteria constituting acceptable table-setting was made by the female T-P. These items had to be met before the boy, who volunteered to set the table, received his bonus reward. If even one item was not adequately done, the boy did not receive the bonus. The criteria for tablesetting were:

1. Plates—enough present for everyone having dinner. Plates must be in line with each other.
2. Glasses—enough present, matching (same kind), placed in upper right-hand corner.
3. Silverware—all pieces present in correct order next to dishes.
4. Tablecloth—wiped clean before setting table.
5. Centerpiece—fresh flowers placed neatly in center of table.
6. Chairs—enough present for all boys and guests, set squarely in front of plates.
7. Waterpitcher—filled with water and ice.

8. Napkins—folded neatly, placed under knife and spoon.

A research assistant made reliability checks twice during each condition with the female T-P who routinely supervised the table-setting. Each observer independently checked for satisfactory completion of criteria.

At the beginning of this study, the T-Ps demonstrated how to set a perfect table to all of the boys; as each new boy came into the Home, someone demonstrated to him how to set a perfect table.

Experimental Design

Baseline. In the baseline and all succeeding conditions, 100 points were given to the boy who volunteered to set the table for dinner. Points for volunteering to set the table were a clearly denoted part of the point system at Welcome Home. During baseline, the T-Ps asked for a volunteer and thanked him for setting the table. The baseline period lasted for 15 days.

100-point bonus. The availability of a 100-point bonus for perfect table-setting was announced to the boys at the start of the condition. The boys were also clearly told and shown what the criteria for "perfection" were. During this condition, the T-P asked for a volunteer and if a perfect table was set, the T-P said, "You did everything perfectly. Give yourself the 100-point bonus". If items were missing, the T-P notified the boy about his mistakes and did not give the bonus points. This condition lasted 14 days.

1000-point bonus. The increase in the bonus reward for a perfectly set table was announced to the boys at the start of the condition. The same prompts and acknowledgements were given as in the 100-point bonus condition. This phase lasted 18 days.

Trophy. The boys were instructed that a small trophy would be given to the one who set a perfect table. The winner of the trophy could keep it until the next boy set a perfect

table. The trophy was awarded ceremoniously and the winner could keep it on display. This condition lasted 27 days.

Withdrawal of rewards. The boys were told that for a week, no point or trophy rewards would be given. The T-Ps did not prompt or acknowledge the boys' performance in setting the table. This phase lasted seven days. The conditions were similar to the baseline phase above.

1000-point bonus. This condition was the same as the first 1000-point bonus condition, but lasted only five days.

Postcheck. The T-Ps did not announce a change in the contingencies, but no rewards were given to boys who set a perfect table. In addition, new tableware was used for the first time. When asked why they did not give bonus points for perfect table-setting, the T-Ps said that they really appreciated the fine table-setting and hoped it would continue, but they could not afford to give out bonus points anymore. After each boy began setting the table, he received much positive attention from the T-Ps, especially in the form of cheerful banter. This final condition lasted 23 days.

RESULTS

Interrater agreement averaged 94% across all conditions with only a rare disagreement on one of the eight criteria for perfect table-setting. The data on table-setting across the conditions are pictured in Figure 3. Bonuses of 100 and especially 1000 points were effective in increasing the frequency of perfect table-setting, as demonstrated by the return to baseline performance during the withdrawal phase. The trophy also proved to be an effective intervention. During the postcheck condition, no substantial decrement in performance was noted.

The high rate of performance during the trophy condition is comparable to the results obtained by Phillips (1968) when a manager from among the residents produced a higher rate of cleaning bathrooms than when points were delivered by the T-Ps. The symbolic

status of winning a trophy, which was then displayed prominently for the tenure of its winner, is similar to the status of managerial responsibility. The importance of status with its attendant competitiveness is underscored by the Phillips (1968) experiment, which indicated that the manager consistently lost more points than the boys he supervised.

The present experiment suggests that point rewards may be discontinued for a maintenance task faster than was implied in the gradual, point-fading experiment by Phillips *et al.* (1971). During the postcheck condition, the T-Ps did not announce a change in the contingencies and used verbal prompts and acknowledgements profusely to maintain the table-setting behavior. While the bonus was discontinued for perfect table-setting, 100 points were still given to the boy who volunteered to set the

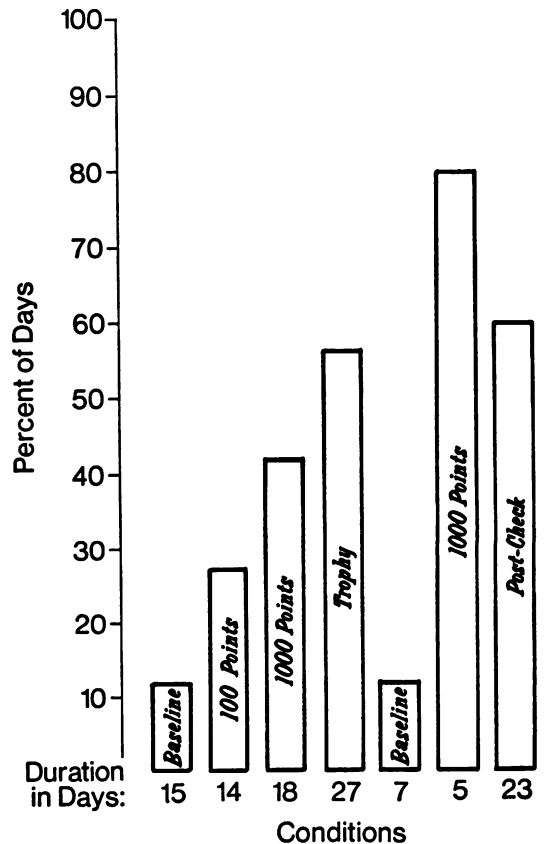


Fig. 3. Per cent of days during each condition that a "perfect table" was set.

table. Once having volunteered, the boy was the focus of warm encouragement and attention from the T-Ps, especially the female T-P who prepared the meal as the table was being set.

EXPERIMENT IV: PROMPTNESS

A baseline study of promptness to the evening meal was initiated as a first step toward replicating the Phillips *et al.* (1971) experiment on the effects of response-cost on promptness. Phillips *et al.* showed that point losses for each minute that each youth was late to the dinner table produced punctual behavior. Phillips (1968) had previously conducted an experiment showing response-cost effective in producing punctual behavior at school, bedtime, and on errands.

Response Measure

Promptness was recorded for evening meals for seven boys (S1 to S7) during the week. Five minutes before serving dinner each evening the female T-P told the boys "Dinner will be ready in five minutes". Five minutes later, dinner was announced over the intercom-loudspeaker. At the same time, a stopwatch was started. The watch was stopped when the last boy sat down at the table. The time between starting and stopping the watch was recorded as "minutes late". Interrater reliability was obtained at least twice in each experimental condition. Reliability was obtained by two observers who independently recorded minutes late to the nearest second on 20 occasions, the same procedure reported by Phillips and his colleagues (1971). The observers never differed more than 5 sec. If the two observers were within 3 sec of each other's timing, it was counted as an agreement. Number of agreements over number of timings times 100 computed to 85% agreement.

RESULTS

During a three-week baseline condition, the last boy to be seated was rarely more than 5 min late, with a range of 0 to 8.33 min and a mean of 2.25 min. Thus, lateness to dinner at Welcome Home was only half that at Achievement

Place, indicating that deviant behaviors noted at Achievement Place in Kansas are not necessarily to be found with other delinquents living in other locales. It should be noted, however, that as in Achievement Place, a point-fine contingency imposed during a subsequent six-week period (100 points lost for each minute late to dinner) did reduce lateness to a mean of 30 sec.

EXPERIMENT V: SOCIAL FEEDBACK IN TOKEN ECONOMY

Much work has demonstrated the efficacy of token systems in suppressing inappropriate behaviors and increasing appropriate behaviors in delinquent children (Birnbrauer, Wolf, Kidder, and Tague, 1965; Phillips, 1968; Phillips *et al.*, 1971). Behavioral changes within token systems are typically attributed to the tangible consequences or back-up reinforcers (Ayllon and Azrin, 1968). However, in applied, clinical settings, tokens are dispensed by people. The social attention given with delivery of tokens by staff members may confound the conditioned reinforcing effects of the tokens themselves. Although some studies have attempted to separate social from tangible reinforcers (Brodén, Hall, Dunlap, and Clark, 1970; Reynolds and Risley, 1968), no studies have systematically separated the contributions of the social *versus* material consequences of dispensing tokens to therapeutic outcome.

This experiment investigated the role of contingent social attention engineered by the operation of the token economy, as an important variable in behavior change.

The two boys involved in this study, Tim and Al, (S15, S16) were Mexican-Americans. Tim was 15 yr old and was placed in Welcome Home for paint sniffing and habitual truancy. Al was 14 yr old and was placed in Welcome Home for petty theft, failure in school, and being beyond parental control.

Response Measure

A "constant job" consists of a daily chore assigned to each boy once a week. It is his

responsibility to see that a specific area of the house is clean and orderly for the entire week. On a specific day each week, the area must be thoroughly cleaned, and on other days it must be neat and orderly. A checklist of criteria for cleanliness is available to the boys at all times. The boys can earn a specific number of points if their area is found to meet the criterion conditions. If they have to be asked twice to reclean the area, the point amount is cut in half. Their jobs must be completed by a certain time each day, at which time an inspection is made by a boy in charge of checking the constant jobs.

For reliability measures, the male T-P would flip a coin at the beginning of the day. If the coin was "heads" he would recheck the constant jobs, if it was "tails", he would not. On two occasions during each phase of the experiment, an observer came in and rechecked the constant jobs. Agreement was recorded if both observers indicated that the area was above or below criterion conditions.

Experimental Design

Contingent points, tangible rewards. Points were given and taken away according to the boy's performance each day. The usual backup reinforcers were exchanged for points earned at the end of the week. Duration of this phase was three weeks.

Contingent points, noncontingent tangible rewards. Points were given and taken away according to the boy's performance each day. All privileges, however, were given free, regardless of point earnings. No backup reinforcers were earned via the point system. This condition was announced to the boys by the T-P stating, "For the next couple of weeks you will get all your privileges free. However, we will still give and take points as we did before". This announcement was made only once. Duration of this phase was two weeks.

Contingent points, tangible rewards. Points were earned and lost and privileges were exchanged for points as in the initial condition. This condition was announced by the T-P

saying, "Now you will have to earn your privileges again". Duration of this phase was one week.

No points, noncontingent tangible rewards. Points were not earned or lost. Privileges were freely available and not contingent on point earnings. This condition was announced by the T-Ps stating, "Now for a week you will have all of your privileges free, and you will not have any point system". Duration of this phase was one week.

Contingent points, tangible rewards. A final phase lasting two weeks had the same conditions as the initial and third phase.

Social attention was left to the discretion of the T-Ps. No instructions were given to alter their distribution of social attention in any phase of the study. No systematic observations were made of the dispensing of social attention. The T-Ps had extensive training on how to give social acknowledgment contingent upon desirable behavior. The conditions held for all aspects of the point system, but only "constant jobs" were measured systematically.

RESULTS

The T-P, the boy in charge, and the outside observer agreed 100% of the time during the reliability checks. Agreements divided by agreements plus disagreements times 100 was used to compute reliability. The boys satisfactorily completed their chores to criterion levels on all but one day, which occurred in the third phase. The failure to demonstrate the control of clean-up behavior by contingencies in the point system may be a result of the duration of time elapsed since the boys entered the home. This experiment was conducted after the boys were living in the home for over three months and were about to enter the "merit" system phase of the program. Had the experiment been conducted earlier in the boys' initiation into the point system, the effects of point contingencies might have been demonstrable. It is not clear from the Kansas group's publications (e.g., Phillips, 1968), how long the subjects in Achievement

Place had been living in that home when experiments on the point system were carried out.

DISCUSSION

At Welcome Home, a version of Achievement Place, the indigenous nonprofessional T-Ps trained in behavior modification have instituted many of the same procedures used in Achievement Place. A point system, based on the Achievement Place model, is operating for the delinquent youths living at Welcome Home. Outcome data indicate that the boys improve their academic records and their recidivism with the courts (Lieberman and Ferris, *unpublished*). Four of the present experiments, however, provide only qualified evidence for the effectiveness of *point* rewards and fines in modifying social and task behaviors of the Welcome Home residents.

While it was demonstrated that points had a controlling influence over promptness, interruptions, and table-setting, other variables besides the tangible point-backup contingencies appear to be at work. For example, differences between the two group homes in the saving of money may be attributable to differences in the values, expectancies, and modelled behavior of the T-Ps. At Welcome Home, the T-Ps did not emphasize the importance of saving money either in their personal lives or in their communications to the boys. Perhaps the "Protestant ethic" favoring savings was more prominent in the behavior of the T-Ps at Achievement Place in Kansas. It is also possible to explain the relative ineffectiveness of point rewards to increase savings by the fact that most of the boys in Welcome Home were earning money through parttime jobs. However, a site visit by the second author to Achievement Place revealed parttime jobs held by a similar proportion of the residents there. Total income for boys in both facilities was similar. Another explanation may lie in the closer proximity of stores and the downtown commercial area to Welcome Home than to Achievement Place. The boys at Welcome

Home had easier access to stores and this may have facilitated their spending money, with savings adversely affected.

The threat-no fine condition in the interruption experiment revealed that prosocial behaviors could be sustained in the absence of point contingencies. This finding may be accounted for by generalization induced by the T-Ps increasing instructional control over the boys as time passes.

Results from the fifth experiment ("constant jobs") indicated that high performance levels were maintained through conditions when points and backup reinforcers were given noncontingently as well as contingently. While negative results such as these are difficult to interpret, they suggest that variables in addition to contingencies of points and back-up rewards may be responsible for maintaining the boys' job performances. Contingent use of points and back-up rewards may be more critical for *acquisition* of desirable behavior during the early phases of a youth's introduction into a setting than during the later periods when maintenance of behavior is required.

Some light is shed on the possible reason for these sustained effects in the experiment on table-setting. During the postcheck condition, the T-Ps purposely issued many supportive and friendly prompts and encouragements to the boys, thereby maintaining table-setting without point rewards. The importance of verbal and nonverbal prompts and feedback on performance has been discussed in recent review articles (Kazdin, 1973; Kazdin and Bootzin, 1972). The developers of the Achievement Place model (Phillips *et al.*, 1973) attribute the success of T-Ps to their social interaction skills. The T-Ps' frequent use of prompts, explicit instructions, encouragement, praise, and negative feedback, together with the use of peers as therapists, group contingencies, self-government, and the "merit" system, facilitate effectiveness of the token economy in Achievement Place.

The point system may be obtaining part of its effectiveness by serving as a necessary instruc-

tional device for T-Ps to learn how to dispense their social attention in clear, explicit, consistent, and contingent fashion. Any token system may cue those who dispense tokens to monitor consistently and prompt appropriate behavior and contingently to acknowledge appropriate behavior with verbal and nonverbal approval. In a classroom setting, for example, a teacher attends more closely to student's behavior during token economy than during baseline conditions (Brodén, Hall, Dunlap, and Clark, 1970; Mandelker, Brigham, and Bushell, 1970). The nonverbal qualities of prompts and feedback are also important determinants of behavior change in targeted recipients (Kazdin and Klock, 1973). It is important to conduct experiments analyzing the relative contributions of contingent points (tokens) and back-up rewards in token economies located in different types of facilities and with various deviant populations. It is likely that contingent dispensing of rewards backing up tokens are more instrumental with some types of patients (e.g., severely retarded) than with others.

The T-Ps at Welcome Home, with no formal college or graduate school training, learned to implement the token procedures in a practical on-the-job manner. When they initiated a new point-reward or point-fine condition, it was likely to be accompanied by a correlated thrust of social and verbal contingencies. Returning to baseline or threat conditions may not have necessarily meant that they withdrew their social contingencies from the behaviors in question. It is possible that the T-Ps from Achievement Place, more behaviorally trained and sophisticated and aware of the theoretical importance of switching contingencies, may have been more thorough in withdrawing or reversing both the point and the social contingencies. Thus, the sophistication and bias of the T-Ps may affect the rapidity and the degree to which behavior change occurs from one experimental condition to another.

In conclusion, a replication of Achievement Place in another state and by different investi-

gators has revealed that the procedures are capable of successful dissemination with desirable behavior changes produced among residents of the home. Replication of procedures did not ensure close similarity of results between the two settings.

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