1999

The effects of a token economy on group attendance in a locked psychiatric facility

Kathleen Joanne Murphy

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THE EFFECTS OF A TOKEN ECONOMY ON GROUP ATTENDANCE IN A LOCKED PSYCHIATRIC FACILITY

A Thesis
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Social Work

by
Kathleen Joanne Murphy
June 1999
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6/10/99
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ABSTRACT

The effect of a token economy on compliance with a Special Treatment Program (STP) in a locked psychiatric facility was explored. Attendance records of fourteen clients before implementation were compared to attendance records after implementation. The variable of medication changes during each period was recorded. The length of time the clients were at the facility before the token economy was implemented was also recorded. Data analysis included a Pearson’s R to compare pre- and post-treatment measures. This study revealed that the token economy was significant in improving attendance for mentally-ill clients post-deinstitutionalization where hospital stays are shorter. No significant effect was found between medication changes and attendance. Clients at the facility for a shorter time had better attendance than those who were there longer. Future research should include a larger sample size, a control unit, and how to better transition clients to an outpatient setting.
I am indebted to Dr. Matt Riggs, Ph.D. for his guidance and support, for fitting me into his very busy schedule at the last minute, and for always having time for me.

A very special thank you to my friends, coworkers, and boss, Rosemary. Your help and encouragement on a daily basis helped me to believe that I actually was going to finish.

And most important, to my parents, Joe and Peggy, sister Kristy, brother Jeremy, “soul sister” Dawn, and “Katie-bird” I love you all very much and you were instrumental in my completing this project and the program.
To "Unkl" Art
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Table 1. DESCRIPTIVE STATISTICS AND CORRELATIONS . . 19
PROBLEM STATEMENT

There are several degrees of chronicity with the mental illness of schizophrenia. These different levels of chronicity, along with specific symptoms create an illness that is very unique to each person. Schizophrenia can be described using three clusters of possible symptoms: 1) positive symptoms, 2) negative symptoms, and 3) disordered personal relationships (Gabbard, 1994). Positive symptoms can be thought of as the presence of certain beliefs and behaviors. Positive symptoms include perceptual distortions, behavioral manifestations, and disturbances of content of thought. Gabbard describes the negative symptoms as an "absence of function." These include lack of motivation, blunted affect, apathy, and lack of speech. Schizophrenic individuals often possess difficulties in their personal relationships. This includes inappropriate expression of feelings, excessive demands on others without a thought or awareness of their feelings, and an inability to make a meaningful contact with another person. The combination of symptoms, duration of illness, and chronicity can lead to individuals not wanting to or not knowing how to participate in activities going on around them. Extra encouragement, attention, and interactions are needed to reorient and motivate some individuals to participate in their lives. Several different approaches can be used to provide this encouragement.
Behavior therapy is one of these approaches and it has been described as "the systematic application of techniques intended to facilitate behavioral changes that are based principally, but not exclusively on the conditioning theories of learning" (Thomlison and Thomlison, 1996). Skinner set the foundation for what is contemporary behavior therapy. The concept of reinforcement was at the heart of Skinner's behavior therapy (Thomlison and Thomlison, 1996). Reinforcement means that an individual's behavior could be increased if the behavior is positively or negatively reinforced. Extinction means that behavior could be decreased if a punishment is given or a reinforcement is withheld.

Behavior theorists believe that all behavior is learned and can be defined and changed. Personal problems are broken down into behaviors that are observable, measurable, and changeable. Behavior change occurs by changing what happens before and after the behavior. These contingencies of reinforcement can either replace another behavior for the target one or the behavior can be extinguished.

Social learning theory describes how behavior is learned and how it can be changed. The three elements of social learning theory are the target behavior, the antecedent, and the consequence (Thomlison and Thomlison, 1996). The observation of the interaction of these three elements is a necessary part of behavior therapy. The nature of the consequence can have a strong effect on the target behavior.
in the future. Behavior therapy involves giving the individual a more acceptable and desirable behavioral choice.

A token economy is one form or technique of behavior therapy. According to Sherman (1990), the characteristics of such a program that make it successful are the following two systems in operation at the same time. The first system is continuously providing the secondary reinforcers (valueless objects such as stickers, points, chips) while the second system of primary reinforcers (stimuli that are attractive to most people most of the time, such as food, candy, toiletries) are provided on a partial schedule. The secondary reinforcers are traded in for primary reinforcers at a store set up for this purpose.

Token economies are used in many social work and mental health settings. They are able to be changed and adapted to work with many populations and situations. They can be used in any setting where there are maladaptive behaviors that need to be decreased or extinguished. Token economies are an important form of treatment because they reinforce positive behavior exhibited. The concept of the token economy is at a very basic level. Most clients can understand and make a connection with receiving a reward for a particular behavior. This behavior is repeated by them so as to receive another reward.

Chronically mentally ill adults are one population with which a token economy is used. Clients in locked settings
have usually failed in most other outpatient environments and require the structure of an inpatient setting. Some of these behaviors that have led to a client being unsuccessful are not taking medications, getting into drugs and/or alcohol, and not following through with day treatment groups. The token economy in a locked setting can target many different behaviors. It can focus on basic skills, such as grooming, bathing, dressing, and coming to meals. It can also target behaviors such as group attendance, medication compliance, and isolation. The token economy also targets the symptoms of schizophrenia in attempting to re-engage the clients back in their lives.

Corrigan (1997) asserts that behavior therapy can actually empower individuals with a severe mental illness. The clients are empowered because they are able to make independent decisions about their treatment. They have specific choices that they are given in the behavior interventions. These interventions are described in very concrete behavioral terms. The interventions used also provide the client with self control techniques which can help empower an individual with a mental illness. Corrigan also describes how a token economy provides a safe, secure place for individuals to try out different choices and options. Individuals are able to clarify their options and decide which have better results for themselves.
PROBLEM FOCUS

This study explored whether a token economy in a locked psychiatric facility produced an increase in attendance and participation in the rehabilitation groups in the facility and therefore, a shorter length of stay. An increase in attendance of groups was used as an indicator of improvement in this study. The facility, where this study was conducted, offers a Special Treatment Program (STP) for the clients consisting of Group Counseling, Mental Health Management, Social Skills Training, Adult Education, and Individual Counseling. In addition to the subject matter, these groups are valuable for the clients in providing symptom management, social interactions with peers, orientation to current person, place, and time.

Noncompliance with groups and facility routine will continue being a problem in psychiatric facilities due to the negative symptoms present with the illness. Clients vary in their need for motivation, encouragement, and reminders for groups from no prompting needed to hourly prompting for each group. The problem of noncompliance with STP groups is important to study because the STP was developed to provide the clients with self care skills, coping skills, social skills, and resources to be successful when discharged and not have to return to a locked environment. For the clients who do not go to groups, they are not getting as much as they can out of the program. They also remain isolated to
themselves in their rooms, sometimes being haunted by their voices. These noncompliant clients end up with a prolonged length of stay in a locked environment and they are not able to move on with their lives. For many clients, this leads to increased feelings of depression, hopelessness, and despair. A token economy can help to give the clients an incentive and reason to attend groups. The token economy provided a concrete item or "token" for their efforts.

The findings of this study were important for the field of social work because it explored how a token economy has the possibility to decrease the length of time clients have to stay in a locked environment. The clients make more out of their time while residing in such an environment. Also, this study explored the effectiveness of a token economy for clients post-deinstitutionalization. The phenomenon of deinstitutionalization has led to a push for shorter hospital stays. This means the clients are exposed to the economy for a shorter length of time. Glynn (1990) stated that the shorter hospital stays have had a negative impact on the effectiveness of inpatient token economies. The effect of a token economy in a locked facility was important to study to determine whether a token economy would still be as effective as it has been found to be in the past when a shorter exposure period is taken into consideration.

At the same time, a token economy could potentially increase the success of a client living out in the community
by teaching them new adaptive skills. This study could lead to continued work on how token economies integrate what was learned or acquired from the hospital to the client’s post-hospital environments. This would help with a smoother, more successful transition into the community.

This study explored whether group attendance for schizophrenic adults increased in a four month period after the token economy was implemented. The variables of length of stay and medication changes were explored to determine what their influence was on group attendance. The expectation was that the token economy would be found to be an effective tool in increasing group attendance for the clients while taking into consideration influences of length of time in facility and medication changes.

LITERATURE REVIEW

Sherman (1990) described how in behavior modification, contingencies and consequences are used to help decrease unwanted behavior and increase desired behavior. The principles of operant conditioning help to explain why behavior modification is useful for some populations of people. Sherman explained that certain behaviors were rewarded and encouraged which led to an increase in this target behavior so as to get the reward. If a behavior was followed with a punishment or consequence, the desire to do this behavior decreased so as to avoid the consequence.

Corrigan (1995) provided a very clear discussion of how
to create a token economy. The first step is an identification of target behaviors. The next step is to establish contingencies for each behavior. An example of a contingency is if you attend a group, you will get three tokens. The last step is to define the exchange rules for the store. Corrigan discussed two laws that a token economy is based on. The first one of these was the "law of effect" which stated that individuals are more likely to repeat behaviors that are rewarded and less likely to repeat behaviors that are punished. The second law was the "law of association of contiguity." This law stated that secondary reinforcers (tokens) became reinforcing when they are associated with primary reinforcers (food). It is important to keep these two basic laws in mind when developing a study which is trying to extinguish certain behaviors while promoting more adaptive behaviors.

Maley, Feldman and Ruskin (1973) conducted a study with 40 chronic schizophrenic women. Twenty chronically mentally ill women were randomly assigned to a token economy treatment ward while the remaining twenty stayed were they received the typical care treatment. The recording measures that the researchers used were an interview and a videotape. The interview consisted of five tasks (orientation, spending, discrimination, command, and timed walk task). The videotaping was done unobtrusively behind a one-way mirror. This study found that the subjects on the treatment unit
exhibited more appropriate moods, were more cooperative, and were more expressive than the control group. The women in the treatment group also appeared to exhibit fewer psychotic behaviors. This was the only study reviewed that included videotaping of the subjects. This provided a strong tool to evaluate the differences between the two groups. The interview included a variety of tasks which provided for a more complete assessment. This study demonstrated that there was an improvement in mood and cooperation when exposed to a token economy. This study included only women so should not be generalized to all schizophrenic adults. The study was not clear as to whether or not the control women were kept on the same unit while the treatment women moved to another unit. If this was the case, the effects of the move could have contributed to improvements made or possibly confounded the results.

Paul and Lentz (as cited in Glynn, 1990) conducted a large scale study using 102 schizophrenic adults who were randomly assigned to either a social learning unit, a milieu program unit, or a traditional custodial care unit. The social learning program had a very specific token economy with many hours of groups daily. The milieu program was a therapeutic community group structure where the clients were placed in a living group made up of nine to ten clients. These living groups also had several daily groups. These therapeutic groups identified problems among their members
and used social and group pressure to change the undesired behavior. The traditional custodial care group was the control group in this study. What Paul and Lentz found was that the social learning clients spent less time in a hospital, had greater discharge rates, were able to stay longer in the community, and required less medication than either of the other two groups. Paul and Lentz stated that aftercare services were important in maintaining the gains made in the hospital.

One potential problem Paul and Lentz’s study (as cited in Glynn, 1990) was in the sampling method used. They started by randomly assigning 84 clients to three units. Some clients had to be replaced as some of the students were discharged to yield a final sample size of 102. This could have had a detrimental effect for the study’s internal validity if not all of the subjects started at the same time.

Shean and Zeidberg (as cited in Milby, 1975) did a matched subject design using 52 chronic psychotic men matched for age, chronicity, and diagnosis. The treatment and control groups were placed on identical units with similar client-staff ratios. The amount of medication prescribed was monitored. Observations were recorded at 6 months and 12 months after start of the economy. What was found was that the token economy ward significantly increased the clients self-care skills and work behaviors. Also, less medication was prescribed for the treatment group. This study appears to
be valid due to the fact that the subjects were matched and placed on identical units. However, one would have to use caution when generalizing this study to other psychotic clients with the same diagnosis because only men were studied. It should not be assumed that schizophrenic men and women are comparable.

Token economies have been modified and used in a variety of settings such as with institutionalized adolescent delinquents, developmentally disabled patients, problem children in a classroom, and alcoholics. Carton and Schweitzer (1996) described the use of a token economy with a 10 year old boy who was not complying with his hemodialysis. The undesirable behaviors targeted were screaming at nurses, kicking/hitting nurses, or any other behavior that would prevent the nurses from implementing the hemodialysis procedure. A baseline was taken before and after implementation. What Carton and Schweitzer found was that there was a significant increase in compliant behavior during hemodialysis during the token economy implementation. This improvement was still observed in three month and six month follow ups.

Gustafson (1992) established a “simple” token economy on a psychogeriatric ward for 30 subjects and found a strong positive “spin-off effect” was present along with the increase in desired behaviors. The positive spin-off was that relationships between the residents and staff were more
positive with fewer conflicts. The staff were more positive toward the residents, also. Gustafson presents a few warnings that the changes made were not permanent and will likely stop when the reinforcement stops. Also, the improvements made could have been due to other factors than the token economy such as more attention, verbal communication, and praise. Despite these words of caution, this study provides support for the token economy intervention.

Carlson, Hersen, and Eisler (1972) presented a comparison of five types of token economy studies, the first critiques being that there was an issue of differential staff attention between the control group and the treatment group. They implied that it could be the Hawthorne effect’s factor of attention that caused a change in the targeted behavior rather than the reinforcing tokens. Another control group was needed which could have been called an “attention-placebo group” where all procedures of the experimental group would be included except tokens would be issued on a noncontingent basis. This would allow for comparison of the effects of the attention factor.

A second critique was that in the five studies compared, there was a lack of research on clients after discharge and follow up to see if the effects of the token economy were long-lasting. Carlson, Hersen and Eisler (1972) suggested that more studies need to be conducted on how to have a smooth transition and continue to reinforce adaptive
behaviors at home after discharge. Further studies, based on this idea, need to concentrate on how new behaviors learned would cut down on the recidivism rate for the mentally ill during the immediate post-hospitalization period. Additional studies should be conducted that would help to individualize the economies to work with especially unmotivated, delusional, or disturbed clients. This critical discussion of several token economies revealed many limitations to the studies and some very important suggestions for future research.

Corrigan (1995) discussed token economies in community settings. His comparison of token economies in inpatient and outpatient settings presented some important points to consider. Some barriers existed for outpatient settings that inpatient settings were able to control. The first one was that outpatients have access to purchase the reinforcers themselves so the potency of a community token economy was decreased. Another barrier was the fact that outpatients can leave the day treatment if they are presented with any negative consequences to their behavior. There was nothing to keep them around to benefit from a program. An inpatient token economy was more potent because there were staff available 24 hours per day to reinforce the target behaviors rather than the 8 hours or less per day that put patient staff have with the clients. An outpatient program would have a much larger number of competing parties that would reduce
the effectiveness of a token economy. For example, there could be board and care staff, medical care providers, casemanagers, and state welfare agency employees who could potentially have different, competing treatment plans. One final barrier discussed was that outpatient programs did not have the ability to control for family and friends flooding their loved ones with gifts. Locked settings had direct control over anything brought in to the clients.

Corrigan (1991) also discussed strategies to help overcome the outpatient barriers previously described. The first strategy was to have reinforcement schedules that are less punitive than those used inpatient. One reinforcement schedule discussed was called differential reinforcement of other behaviors (DRO). All other behaviors than the undesired one were reinforced. A client was rewarded for the times s/he did not yell, for example. The differential reinforcement of incompatible behaviors (DRI) reinforced clients every time they performed a behavior that was incompatible with the undesired behavior. For example, a client was rewarded when s/he made an assertive comment rather than yelling. A second strategy suggested was to provide reinforcers very cheaply so that they compete with the reinforcers in the community. Also, the payoffs for the client need to be rather generous for only a moderate level of effort. One last strategy discussed by Corrigan was the inclusion of other systems in the program. Family members need to be taught how to
reinforce desired behaviors. Families have a great impact on their loved ones. Board-and-care staff should also be involved in the outpatient token economy.

It is important to study outpatient programs because it helps researchers and inpatient program staff gain a perspective on what can be done to help with a transition from an inpatient setting to an outpatient setting. Also, in the course of examining the differences between the two programs, a new understanding and insight can be obtained as to new possibilities for token economies at inpatient settings. Token economies in outpatient programs is a new area of research that needs to be given some attention.

One apparent similarity of some studies reviewed is that the study of the token economy was conducted on clients in hospitals for long periods of time (Atthowe and Krasner, as cited in Glynn, 1990; Maley, Feldman, and Ruskin, 1973). In Maley, Feldman, and Ruskin's study, the mean for the length of hospitalization was 87.4 months for the experimental group and 104.5 months for the control group. In Atthowe and Krasner, the length of time the study went on for was 20 months. Since deinstitutionalization of the mentally ill, the trend has been toward shorter lengths of time in state hospitals and other inpatient mental health facilities. New research studies need to be conducted on the effectiveness of token economies with clients who are staying in facilities for much shorter lengths of time. Glynn (1990) discussed how
token economies can take months and sometimes years to achieve any significant results. From new studies, it can be determined what, if any, modifications need to be made to token economies to accommodate shorter hospital stays. A study, such as this one, provided the research, which is lacking, on token economies and shorter hospital stays since this client population resides in hospitals for a shorter time on average than in the past.

The token economy was expected to be an effective tool for increasing attendance so the main expected finding was that the attendance for the period following the token economy would be higher than the period before. A second expected finding was that the length of time the clients had been at the facility would have a statistically significant effect on attendance. A third expected finding was that medication changes would have an effect on the attendance both before and after implementation.

RESEARCH DESIGN AND METHODS

The purpose of this study was to explore the effects of a token economy on the motivation of schizophrenic adults to attend their classes and groups in a locked facility. This was achieved by a one-group pretest-posttest design. This design was chosen because the token economy has been initiated for the whole population from which the sample was selected. Measures were taken from agency records for the period of time before the token economy was initiated. This
design assessed for correlation between the different variables. There were factors which were threats to internal validity. These variables were identified and were controlled for when possible.

**Sampling**

A sample of 14 schizophrenic adults was chosen from 95 chronically mentally ill adults. Out of the 14 clients' records used, four were female and ten were male. The ages ranged from 29 to 50 years old with a mean age of 40.29. The sample was chosen by examining the clients that were admitted at least four months before the token economy was implemented and were at the facility for four months after implementation. From this group, 14 subjects who did not attend the STP groups were chosen. The average length of stay is nine months to one year.

**Data Collection**

The data was collected using a data collection sheet (see Appendix A) designed for this study. The dependent variable was the group attendance of the clients that was measured before and after the independent variable was introduced. The independent variable was the token economy that was introduced into the facility. Other predictors examined were the number of medication changes made during the time that measurements were taken and how long the clients had been at the facility prior to the implementation of the token economy. Group attendance, medication changes,
and time before implementation were ratio levels of measurement. An attendance sheet was used to record attendance at groups (see Appendix B). An informed consent and debriefing statement were not needed due to the unobtrusive nature of the study.

Procedure

Permission for the study and a letter of authorization were first obtained from the facility administrator (see Appendix C). The token economy was implemented as follows: one point was given for a client attending the group but not staying the whole time; two points were given for attending and participating with prompting from the instructor; and three points were given out for staying the whole group and participating without prompting. Points were given out for four groups during the day with a total of twelve points possible per day. The implementation of the token economy was done by the counselor of each client. Four times per week, the clients were able to redeem their points in the store for sodas, candy, chips, t-shirts, and toiletries. Clients could save up their points and redeem them for special outings.

The data collection was completed by the researcher. The attendance for four months prior to the start of the token economy was recorded by the group counselor of each individual client. The attendance was also recorded for a four month period after implementation. The total hours for the month were added up and then divided by the number of
weeks for the month. The number of medication changes that were made during each four month period were tallied and recorded.

RESULTS

Descriptive statistics and correlations for the study can be found in table 1. When looking at the correlations, it is apparent that there were not any significant correlations for medication changes and attendance; consequently, medication changes were not included in subsequent analysis and discussion.

When looking at the visual distribution (figure 1, Appendix D), the attendance before seemed to approximate

Table 1

DESCRIPTIVE STATISTICS AND CORRELATIONS

<table>
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<tr>
<th>Variable</th>
<th>ATBI_</th>
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<th>MC2_</th>
<th>AB_</th>
<th>AA_</th>
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<td>-.167</td>
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Note. ATBI = admit time before implementation; MC1 = medication changes for period 1; MC2 = medication changes for period 2; AB = attendance before; AA = attendance after

*p < .05, two-tailed.
normal distribution. The attendance after the token economy (figure 2, Appendix E) looked positively skewed. So did figure 3 (Appendix F) which displayed the amount of time the clients were at the facility before the token economy was implemented. There appeared to be homogeneity of variance, with the standard deviations of the attendance before and after being very close to the same.

A t test was run using the before and after implementation attendance numbers (figure 4, Appendix G). The hypothesis was supported as the results were statistically significant ($t=2.33, p=.037$) and the token economy increased the attendance of the clients.

One significant correlation was between the attendance period before the token economy and the length of time the clients were at the facility before the start of the token economy (Table 1, $r=-.543, p=.045$). This partially supported the second expectation that the length of admission time before implementation would have an effect on attendance.

Additional Analysis

A second t test was run using attendance data first adjusted by the covariate of length of time at facility before implementation of the token economy (figure 5, Appendix H) ($t=-7.772, p<.001$). Again this shows that the token economy appeared to have a significant effect on group attendance.
DISCUSSION

The main expectation was that the token economy would improve attendance. Figures 4 and 5 indicated that there was improvement made in the attendance after implementation of the token economy. This supported the previous research (Maley, Feldman, and Ruskin, 1973; Carton and Schweitzer, 1996; Paul and Lentz, as cited in Glynn, 1990) that the token economy had a positive effect on the behavior and attitude of patients.

The results revealed a statistically significant effect between the attendance period before implementation of the token economy and the length of time the clients were at the facility before implementation. What was found was that the shorter the clients were at the facility, the higher the attendance. This seemed to indicate a "honeymoon" effect where a period of good attendance after admission was followed by a decline in attendance the longer the client was at the facility.

The third expectation was that medication changes would effect the attendance. This was not found to be a significant factor in whether or not clients go to groups. The assumption was that some medications have a sedating effect and would negatively effect attendance. It is possible that medication does not have any impact on attendance. It might have been that the medications that the participants were prescribed may not have a sedating effect. A larger sample size may have
allowed for such an effect to reveal a significance.

The first limitation of this study was that the sample size was small. Another limitation was the sampling method used. The results could have been due to regression to the mean because poor attenders were chosen. These subjects were chosen that needed the incentive and did not go to groups. Other possible subjects not chosen were clients who were very good attenders before implementation and did not have room for improvement. Another limitation was that the tokens were distributed to the clients by different counselors. The different way the counselors prompted the clients to go to groups or praised the clients for attending groups could have had a differential effect on attendance along with the token economy.

Future research in this area would need to use a larger sample size, randomly selected, and include a unit that would be a control group not receiving the token economy or any type of praise and encouragement. A third unit could be included that received only praise, attention, and encouragement. The token economy would have to be implemented by one person or a group of people all trained to implement the token economy in the same way. This would provide a better illustration and support for the efficacy of a token economy in this setting. Future studies of this nature should also incorporate the nursing staff rewarding clients for completing daily tasks such as making their beds, grooming
(brushing teeth and hair, showering), and changing their clothes daily. Future research needs to examine ways a token economy could make the transition into an outpatient setting more smooth. Additional research could include measures of the effect the token economy has on client’s mood, affect, and assaultive behaviors.

CONCLUSION

The implications this study has for the social work field is that a token economy appears to have a positive effect on the motivation of schizophrenic adults in a locked psychiatric facility. In an inpatient setting, a token economy helps encourage clients to go to groups. It is in these groups that the clients are getting anger and symptom management, medication management, and preparation for discharge. For some clients, their length of stay can be decreased if they complete the program by attending and learning from the groups.

Corrigan (1997) states that a token economy also can empower clients. They are able to feel that they have more control because they have specific choices that they are making as to how they will conduct themselves. If a token economy is implemented in any setting, it needs to be a requirement that it be supportive, empowering, rewarding, and not punitive. The social work field is based on empowerment and self determination.
Appendix A: Data Collection Sheet

1. Age:_____
2. Gender: M______ F_______
3. Date of Admission:_____________
4. Attendance Prior to Token Economy:

<table>
<thead>
<tr>
<th>Month</th>
<th>Week Avg</th>
<th>Week Avg</th>
<th>Week Avg</th>
<th>Week Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nov 97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec 97</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jan 98</td>
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<td></td>
</tr>
<tr>
<td>Feb 98</td>
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<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mnth Avg</th>
</tr>
</thead>
</table>

5. Attendance After Token Economy:

<table>
<thead>
<tr>
<th>Month</th>
<th>Week Avg</th>
<th>Week Avg</th>
<th>Week Avg</th>
<th>Week Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mar 98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apr 98</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>May 98</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Jun 98</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Mnth Avg |

6. Number of Med Changes Before Implementation:________

7. Number of Med Changes After Implementation:________
## Appendix B: STP Attendance Sheet

<table>
<thead>
<tr>
<th>LANDMARK MEDICAL CENTER</th>
<th>STP ATTENDANCE SHEET</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group: _________________</td>
<td>Month: OCT 1997</td>
</tr>
<tr>
<td>Resident: _______________</td>
<td>Day:</td>
</tr>
<tr>
<td>Name: _________________</td>
<td>Date:</td>
</tr>
</tbody>
</table>

### SENSORY MOTOR GROUP
- a) Exercise
- b) Sports
- c) Gross Motor
- d) Weight Lifting

### ACTIVITIES FOR DAILY LIVING
- a) Grooming & Hygiene

### LIFE SKILLS
- a) Money Mgt.
- b) Health Education
- c) First Aid/Safety
- d) Personal Care

### ADULT EDUCATION
- a) Reading
- b) Math
- c) Science
- d) Writing

### ASSESSMENT GROUP
- 1:1 INTERVENTION WITH NON-COMP. PT

### PRE-VOCATIONAL GROUP

### DISCHARGE PLANNING
- a) Discharge Group
- b) Community outing

### TASK
- a) Impulse/Frustration Tolerance Groups
- b) Problem Solving Skills
- c) Arts, Crafts, & Cooking Skills

### LEISURE SKILLS DEVELOPMENT
- a) Leisure Skills Group
- b) Dance/Parties/Games

### MENTAL HEALTH MANAGEMENT
- a) Anger Control
- b) Personal Care/Use of Meds
- c) Coping Skills
- d) Behavior mod.

### RESIDENT GOVERNMENT

### INDIVIDUAL COUNSELING

### SOCIAL SKILLS TRAINING
- a) Social Counseling
- b) Interpersonal Relationships
- c) Social Activities
- d) Men/Women Issues
- e) Assertion Training

### FREE TIME/Buddy Walks

### Symbol:
- A Attends & Participates
- B Refusal
- C Total
- D Attends But No Participation
- E Excused

Totals

---

25
Appendix C: Letter of Authorization

LANDMARK MEDICAL CENTER • 2030 No. Garey Avenue • Pomona, CA 91767-2422
An Institution for Mental Diseases, with a Special Treatment Program
Marshall Horsman, M.B.A., FACHCA
Administrator
Rosemary Campos Kilby
Program Director

June 1, 1998

To Institutional and Departmental Review Board Members:

Kathleen Murphy approached me and described to me her desire to conduct a study at this agency on the
effects of the token economy in this locked psychiatric facility. We discussed what this study would mean
and the benefits it would have for the facility. This letter is to provide my approval and support for this
study. Any questions you may have about my support can be directed to myself or Rose Horsman,
Assistant Administrator.

Sincerely,

Marshall N. Horsman
Marshall Horsman, M.B.A.
Administrator
Appendix D

Figure 1: Histogram of frequencies for attendance before implementation of token economy

Std. Dev = 16.65
Mean = 43.1
N = 14.00
Appendix E

Figure 2: Histogram of frequencies for attendance after implementation of token economy

Std. Dev = 14.17
Mean = 57.0
N = 14.00
Appendix F

Figure 3: Histogram of frequencies for time at facility before implementation

Std. Dev = 2.08  
Mean = 2.0  
N = 14.00
Appendix G

Figure 4: Boxplot of attendance before and after implementation
Appendix H

Figure 5: Boxplot using predicted values of attendance before and after implementation
REFERENCES


