TOKEN ECONOMY SYSTEM FOR
MENTALLY RETARDED ADULTS IN
A GROUP HOME SETTING

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ABSTRACT

A token economy system for mentally retarded adults in a group home setting facilitated the self-initiation of independent living skills and supported the efficacy of a Group Home program, a community based program that assessed adaptive behavior and developed skills necessary for independent living. Prior to the introduction of the system, social reinforcement, instructions and rationales proved ineffective in facilitating the self-initiation of showering, haircombing, breakfast making and laundering. Three experiments were conducted to assess the effect of contingent token reinforcement. In Experiment I, a multiple baseline design across behaviors revealed that tokens delivered contingently resulted in the daily self-initiation of bedmaking, haircombing and breakfast making of a 46 year old mildly retarded female. In Experiment II, a multiple baseline design across individuals revealed that token delivery resulted in the daily self-initiated showering of 20 and 22-year old moderately retarded males as well as a 30-year old severely retarded female. In Experiment III, a multiple baseline design across individuals revealed that tokens facilitated the self-initiated laundering of a 31-year old severely retarded male, whereas it did not for a 22-year old moderately retarded male.

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Unresponsiveness was attributed to the 4-day delay between reinforcement opportunities. A rank-order correlation assessed the co-variation between token earnings and length of group home residency, length of institutionalization and degree of mental retardation. Initially, token earnings did not significantly co-vary with the length of group home residency, length of institutionalization, or degree of retardation. However, a second correlation which excluded the number one ranked token earner because of prior institutionalized and group home token economy exposure, revealed a significant positive correlation between token earnings and length of group home residency. This supported the efficacy of the Group Home program.

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Chapter 1

INTRODUCTION

Mental retardation, according to the American Association on Mental Deficiency (AAMD), "refers to significantly subaverage general intellectual functioning existing with deficits in adaptive behavior, and manifested during the development period" (Grossman, 1973). Hardy (1970) characterizes the mentally retarded as being "ineffective in dealing with abstract concepts and carrying out complex oral instruction." Usually the mentally retarded develop poor motor skills, language skills, self-help skills and socialization skills (Baroff, 1974). In adulthood the individual, depending on the degree of retardation, may not maintain competitive employment. In adulthood these individuals may still have poorly developed communication, socialization, self-help and vocational skills. Often these individuals are not capable of independently managing their own life style and are in need of habilitative or rehabilitative services. These services, whether institutional or community based, provide an optimistic note for those in need. Optimism is warranted no matter the deficit of intellectual and adaptive behavior. Given the correct environmental conditions these individuals are capable of improved cognitive, social and psychological development (Throne, 1975).

LIST OF FIGURES

The mentally retarded in any program "will tend to stabilize in their retarded state" unless specialized techniques are employed (Throne, 1975). It is suggested that the lower the individual's functioning level, the greater the appropriateness of behavior modification techniques (Aanes and Haagenson, 1978). These techniques are well suited for the mentally retarded (Baroff, 1974; Aanes and Haagenson, 1978; Thompson and Grabowski, 1977) and have been used in institutionalized settings (Kazdin, 1977).

During the past decade a trend in the rehabilitation of the mentally retarded has been that of deinstitutionalization. A service aligned with this trend is the community based treatment program or the group home. One such program is located in Boone, North Carolina.

Watauga Opportunities, a private, non-profit, organization operates a Group Home for Developmentally Disabled Adults. The objectives of the Group Home are two-fold: first, to assess and improve deficits in adaptive behavior by teaching skills necessary for independent or semi-independent living and second, to provide an environment that will facilitate the learning of and increase the likelihood that these adaptive behavior skills will be maintained and self-initiated in the future. Presently,

adaptive behavior skills have been developed and assessed in accordance with the Progress Assessment Chart (Gunzburg, 1972).

Group home staff have used behavioral principles. Positive reinforcers in the form of praise, smiles, nods, and handshakes have been delivered for appropriate behavior. Time-out and response cost have been utilized in order to reduce the occurrence of inappropriate behavior. Other techniques such as shaping, modeling, instruction and guided participation have been employed.

Although a program exists that will identify and assess adaptive behavior, many self-help skills are not performed independently. Skills such as showering daily, cleaning fingernails daily, washing laundry when needed, brushing teeth before bed and maintaining room appearance have not been independently initiated. These skills have been reinforced with praise, smiles, and other social reinforcers, but still they do not occur unless prompted repeatedly by group home managers. Since the group home has no systematic and consistent program capable of increasing the likelihood that group home individuals will maintain and self-initiate adaptive behavior skills, it appears that the program is in need of modification.

The Group Home needs a consistent and systematic program congruent with its second objective. The token

economy system is a consistent and systematic program. Token economies have provided structure to institutional programs as well as improved adaptive behavior of the mentally retarded (e.g. Giradeau and Spradlin, 1964; Peniston, 1975). Since token economies have been successful on an institutional level it seems logical that token economies can be implemented successfully on a group home level.

Literature Review

"Behavior Modification is the development of techniques of behavior change whose effectiveness can be explained in terms of learning theory or experimentally derived psychological principals (Begleman, 1975)." The token economy is one such technique of behavior change (see Appendix A for definitions relating to token economy).

A review of the literature reveals a paucity of studies dealing with token economies specifically designed and implemented for mentally retarded adults in a group home setting. Allyon and Azrin (1968) remarked that there existed no programs from which to base or model the Anna State Hospital Token Economy. Even though the literature is sparse, it does reveal the essential principles, components and short comings of prior token economy systems.

A token economy is a reinforcement system whose tokens are earned for a variety of behaviors and purchase a variety of back-up reinforcers (Kazdin, 1980). It is an operant approach used to establish and maintain selected overt behaviors. Its principles and applications can be traced to early animal and human laboratory studies. Wolfe (1936), Cowles (1937) and Lindsley and Skinner (1954) are examples of early animal and human laboratory studies (c.f. Bellack and Hersen, 1977).

Wolfe and Cowles studied the effectiveness of tokens as secondary reinforcers. Wolfe established that tokens could become secondary reinforcers with chimpanzees if paired with a primary reinforcer (food). Cowles reinforced a chimpanzee (named Bimba) for a simple discrimination task. When Bimba pushed the proper circle a token was delivered. Bimba could cash in the token by placing it in a "slot machine." The slot machine returned a raisin for consumption.

Lindsley and Skinner (1964) studied the use of operant conditioning techniques with 15 male psychotics. Subjects were conditioned to pull levers. A mechanical apparatus was probably utilized, although not reported in the review of the study. Subjects were reinforced with dispensed candy and cigarettes or projected colored slides when the lever of the apparatus was pulled.

These early studies and others (e.g. Bijou, 1955; Azrin and Lindsley, 1956) set forth empirical data from which the token economy could be conceived. These studies document that tokens (secondary reinforcers) reinforce behavior and that privileges, events, and activities are also effective reinforcers.

Token economies have been successfully implemented in a number of settings and with a variety of individuals; institutionalized psychotic patients (Allyon and Azrin, 1965, Atthowe and Krasner, 1968; Winkler, 1970; Ulmer, 1976) mentally retarded in cottage programs (Girardeau and Spradlin, 1961) institutionalized mentally retarded (Westphas, 1975; Peniston, 1975, Tymchuk, 1971; Roberts and Perry, 1970; Bath and Smith, 1970); seventh graders in music class (Salzberg and Greenwald, 1979) and pre-delinquent boys in a home style setting (Phillips, 1968; Bailey, Timber, Phillips, 1971).

Allyon and Azrin (1968) developed a motivating environment at Anna State Hospital in 1961. Working with female psychotics, tokens were used to reinforce behaviors that would be useful to the patient. Behaviors such as serving meals, sweeping floors, grooming ones self and working at different jobs were reinforced with tokens that could be cashed-in for toilet items, ash trays, preferred rooms, 20-minute walks around hospital ward, a private

audience with social worker, and consummable items. Allyon and Azrin conducted six experiments that document the potent motivational properties of token reinforcement.

Giradeau and Spradlin (1964) developed a cottage program based on token reinforcement. The program using principles of operant conditioning concentrated on the training, education and rehabilitation of 28 adolescent girls whose I.Q.'s ranged from 20-50. Tokens, bronze coins the size of half dollars, were contingently delivered for appropriate self-help skills, social skills, and homemaking skills. Tokens were cashed in at the cottage store for gum, lipstick, perfume and the opportunity to rent a variety of items. Response generalization was programmed into the economy via the change from continuous schedule of reinforcement to intermittent reinforcement. The program was designed to fit the present behaviors of each girl. Shaping and positive reinforcement were stressed. A before and after behavioral evaluation revealed that token reinforcement appeared to motivate severely-moderately retarded girls to learn self-help, social and homemaking skills.

Musik and Luckey (1970) implemented a token economy to improve the overall condition of moderately-severely retarded residents in the Denton State School. Prior to token economy residents were characterized as lethargic and apathetic. Also reported were deficits in work productivity, participation in group programs, courteous behaviors, self-occupation, and general impulse control. Tokens, small metal washers, were contingently delivered for improvement. Tokens earned were displayed on a board mounted on a dormitory wall. Tokens were cashed-in for admission to movies, dances, the institution canteen and other desirable events. Improved behavior in all deficit areas was reported by the thirteenth week. Improvement continued throughout the next 51 weeks.

Tymchuk (1971) reported that a token economy was effective in altering inappropriate social and job behaviors in mildly retarded adolescents. This program used positive and negative reinforcement, and time out procedures to control on the job behavior and ward behavior (e.g., preparing meals, clean-up after meals, maintenance of room). Tokens were delivered contingently. Fines were levied to decrease inappropriate behaviors. Tokens were cashed-in

once each week day and twice on Saturdays and Sundays. Excess tokens were banked. Tymchuk reported that after a five month period all adolescents but one improved behaviorally and socially.

Roberts and Perry (1970) implemented a token economy for the entire population of the Mental Retardation Center in Pueblo, Colorado. The program involved all residents, staff members, departments, and areas of the hospital. All individuals within the program were assigned specific responsibilities. Token points and "goodies" were contingently delivered by staff. Tokens were forfeited for cursing, striking other residents, or any act which violated center rules. Tokens were cashed in at the canteen for a variety of goods (e.g. clothing, shaving lotion, toys, clothing, candy, etc.). Reinforcers were delivered to maintain behavior or were used to establish behavior through a shaping procedure. Emphasis was on positive reinforcement and shaping, not punishment.

Bath and Smith (1974) implemented a token economy program involving 24 women whose ages ranged from 19 to 51 with mean Stanford-Binet (L-M) MA equaling 6 years 3 months. The goals for this program were: (1) to maintain appropriate behavior already learned; (2) to motivate women to be more active on and off the ward; (3) to teach women to be more helpful on and off the ward, and (4) to

raise group morale via reinforcement contingencies. The program ran 60 weeks. Tokens in the form of points and stars were cashed in for privileges and treats. This program was effective in reducing inappropriate behavior and increasing appropriate adaptive behavior.

Phillip (1968) developed and evaluated the effects of a token economy based on naturally available reinforcers in a homestyle residential treatment program for "pre-delinquent" boys (Achievement Place). Target behaviors selected were in social, self-care and academic areas. All target behaviors were definable in terms of observable events. Tokens, delivered for appropriate behavior, took the form of points, that were tallied on an index card and cashed in on a weekly basis for allowances, television time, games, tools, snacks, and permission to come home late after school. Points were lost for such behaviors as speaking aggressively, forgetting to wash hands before meals, arguing, disobeying or using poor grammar.

A perusal of the literature reveals that token economy programs have been successful in establishing self-help skills, communication skills, leisure time activity skills and vocational skills (e.g. Allyon and Azrin, 1965; Attohow and Krasner, 1968; Gireadeau and Spradling, 1964; Tymchuk, 1971; Roberts and Perry, 1970; Phillips, 1968). Studies have also documented the improvement of adaptive behavior for institutionalized mentally retardates

participating in token economy programs (e.g. Bath and Smith, 1974, Roberts and Perry, 1970; Musik and Luckey, 1970). Although there exist numerous studies documenting the efficacy of token economy programs, the variables responsible for success are not always apparent (Westphal, 1975). Lack of objective outcome data hinders the attribution of behavior change to some token economy programs (Bath and Smith, 1974). Bath and Smith cited studies conducted by Tymchuk (1971), Roberts and Perry (1970), and Musick and Luckey (1970) as having a "sparsity of objective outcome data."

Objective outcome data is necessary to assess the success or failure of a token economy program. Behavior modification stresses "the systematic and experimental approach to deviancy" and "the empirical validation of a technique that is therapeutically effective" (Begelman, 1975). Overcoming lack of objective data requires the selection of an appropriate method of assessment. Token economy evaluations can occur through: demonstrational studies, within subject designs, controlled group comparison with no outcome data, controlled group comparison with outcome data or token economy vs. milieu (Bellack and Hersen, 1977).

Group Home Program

In February, 1980, New River Mental Health and the Outreach Program of Western Carolina Center in conjunction with the "Bringing It All Back Home" project (BIABH), presented a five session workshop. The workshop, presented to the Group Home managers and other individuals who work with the mentally retarded, focused on the program components of the BIABH project (see Appendix B, C, and D).

The BIABH project, which is a community-based treatment facility, provides service for predelinquent, educable retarded and emotionally disturbed individuals. This project involves four major areas: (1) providing a family style living environment, (2) developing responsibility through self-government; (3) teaching appropriate social, self-care and academic skills - teaching interaction sequence; and (4) employing a motivational system (Timbers, G., Maloney, K., and Maloney, D., Note 1).

The BIABH staff, during the workshop, described the motivational system and teaching interaction sequence (Timbers, G., Davis, J., Thigpen, M., Note 2). It was suggested that these components could be employed with mentally retarded adults in a group home setting. However, the final consideration concerning its feasibility was left to Group Home managers.

The decision to opt for a token economy program involves considering various factors. Staff training and staff performance are two such factors. These factors are to be considered when a systematic and consistent program is in operation. The effectiveness of the program relies on and demands that the staff adhere to and consistently follow program procedures (Bath and Smith, 1974; Kaxdin and Bootzin, 1972). Other related factors to consider are staff-resident ratio; staff's ability to maintain high performance standards; staff's ability to accurately implement program policy and staff's commitment to behavioral principles. These factors are to be considered before implementing a token economy program (Kazdin, 1973; Westphal, 1975; Kazdin and Bootzin, 1972).

Variables other than staff related factors need to be considered when selecting a token economy program. The effectiveness of a program may be influenced by the schedule of reinforcement; the immediacy of reinforcement; the tangibility of reinforcement; and the effects of drugs administered to residents (Westphal, 1975). Kazdin and Bootzin (1972) cite as influential, such variables as resistance of clients to the token reinforcement system; circumvention of contingencies; and nonresponsiveness to reinforcement procedures. The proper consideration of these variables may mean the difference between the success or failure of a program. However, the true measure of

program success is judged by response generalization and stimulus generalization.

Response generalization and stimulus generalization are areas in which the ultimate success of the program is demonstrated. The main purpose of a program is to structure such a system whereby behavior eventually is controlled by more naturally occurring reinforcers outside the treatment program. Response generalization and stimulus generalization are important consideration.

Maintenance of behavior and the transfer of training outside the treatment setting is a most crucial aspect of any treatment program. In token economy programs, behaviors changed and maintained while the programs are effective do not always continue to be emitted when the programs are discontinued. Often the removal of the tokens results in a return of behaviors to baseline or near baseline levels (Kazdin and Polsten, 1973). Removal of tokens may constitute an extinction paradigm and not a generalization paradigm (Levine and Fasnacht, 1974).

Unplanned response generalization may occur in a token economy program. Kazdin (1977) offers three explanations to account for unplanned generalization. First, behavior may become controlled by non-programmed reinforcers. Secondly, events or behaviors may become

intrinsically reinforcing and maintain behavior. Thirdly, staff may continue to properly consequate behavior after the program has been discontinued (e.g. using modeling, prompting, or shaping techniques). Although unplanned generalization is better than no generalization, it must be remembered that planned response generalization is a requirement and should be designed into a token economy program.

Kazdin (1973) lists nine procedures that may facilitate response generalization and stimulus generalization. The following nine procedures are: (1) systematically substituting social reinforcers, (2) gradually fading tokens, (3) training individuals in the clients environment, (4) scheduling intermittent reinforcement, (5) varying the stimulus conditions of training, (6) self-reinforcement training, (7) self-instruction training, (8) manipulating reinforcement delay, and (9) simultaneously manipulating several reinforcement parameters. To facilitate response generalization and stimulus generalization these procedures should be considered.

It may be decided that the applicability of the motivational system, which complements the teaching-interaction sequence for youths, is feasible in a group home setting for the mentally retarded. The motivational system and the teaching-interaction sequence provides a

structured program that facilitates a transfer of training to the natural environment. The gradual token withdrawal, the increased delay between response and reinforcement the pairing of social reinforcers with tokens, and the allowance of more natural occurring reinforcers to consequate behavior methods that ensure that behavior will be emitted and maintained outside the treatment facility (Skinner, 1953; Kazdin, 1973; Kazdin and Polster, 1973; Deni, 1979). This planned response generalization makes the system very attractive. Although this system for predelinquent and emotionally disturbed youths is outstanding, it may need modification to be successful with mentally retarded adults.

Modification of the "Bringing It All Back Home" project pivots around the initial use of points as tokens. Primarily, points may not be sufficiently tangible or reinforcing for mentally retarded adults. Tokens used with the mentally retarded usually have assumed tangible more concrete forms. Tokens have taken the form of metal washers, bronze coins and stars (Girardeau and Spradlin, 1964; Musik and Luckey, 1970; Bath and Smith, 1974). With mentally retarded children the initial use of points or checks as tokens is not always practical either. Points or checks have little intrinsic value and are less reinforcing to work for than the more tangible, more physical token (Drabman, 1976). To overcome this advantage, the use

of a more concrete token, such as paper currency (Logan, 1970) is necessary.

Paper currency is a more concrete and a more practical token. The accumulation of currency and the direct contact with the token may enhance its reinforcing properties. Moreover, paper currency provides an opportunity to teach money management skills, a skill often lacking in the retarded adult.

With these points in mind, it was decided that the entry level of the token economy system should involve the use of a more concrete, more tangible token. Initially points would not be used, but as progression occurs through the system, it is highly advantageous for less tangible tokens to replace the more tangible token. With this modification the "Bringing It All Back Home" motivational system may become more appropriate for mentally retarded adults in a group home setting.

Purpose

The objective of this study was three-fold: (1) to design and implement for mentally retarded adults a token economy system that would facilitate the self-initiation of independent living skills; (2) to investigate the effectiveness of token reinforcement on the self-initiation

of laundering, showering, bedmaking, haircombing, and breakfast making; and (3) to examine the relationship between token earnings and three subject variables: length of group home residency, length of institutionalization and degree of mental retardation. It was the writer's hypothesis that token earnings were related to the length of group home residency and not to the degree of mental retardation or length of institutionalization.

Chapter 2

METHODS

Subjects

Subjects in this study were seven mentally retarded adults living in a group home setting (four males and three females) (see Appendix E and F). Individual degrees of retardation ranged from the severe to mild classification. The group's ages ranged from 20 to 46 years. Within the group, four of the seven adults were institutionalized an average of 21 years. The remaining three adults had resided at home prior to group home placement.

Design

The token economy system was divided into three areas: (1) Motivational-reinforcement system, (2) Independent living skills, and (3) Teaching-interaction sequence. The primary responsibility for the staff within this program was to teach independent living skills (see Appendix G). Priming devices employed to facilitate behavior change were modeling, instruction, guided participation, and shaping. Emphasis was on the use of positive reinforcement, not punishment. Token reinforcers

and social reinforcers were contingently delivered for specified desirable behaviors. However, response cost (e.g., removal from a setting where positive reinforcement is available) and positive practice (i.e. practicing the appropriate behavior) were utilized if house rules were transgressed. Token earnings were cashed-in for a variety of back-up reinforcers. These back-up reinforcers were readily available in the group home and community. Prior to program implementation, group home residents received a thorough five-session orientation (see Appendix H and I). Consent forms were signed by parents or guardians prior to orientation (see Appendix J). Orientation sessions lasted one hour and were delivered during five evenings. During the orientation the staff emphasized that this program is controlled by the resident's actions. Being their program, the staff stressed the point that each individual controlled and chose how, when, and what he/she earned. The progression through each level and graduation from the program was stressed as an achievement and extremely desirable. In attendance during these sessions were the three group home managers and all residents.

The teaching-interaction sequence was a part of the token economy. Components of the sequence were used during a staff-resident interaction. The seven components were Initial Positive (social reinforcers), Description of Appropriate or Inappropriate Behavior, Rationale, Acknowledgement, Practice, and Feedback and Other Praise. These components were used when teaching new skills, reinforcing desirable behaviors and when identifying and modifying inappropriate behaviors.

In the group home skills necessary for independent living were taught. Self-sufficiency, voluntary task, home-maintenance, workshop and individual goal plans constituted the components of independent living skills. Individuals received tokens contingently for self-initiation of target behaviors. These target behaviors were selected and developed with eight considerations in mind: (1) define behavior so that minimum interpretation is needed for understanding, (2) describe performance in behavioral terms, (3) arrange the situation so that some observable effect occurs in the physical environment, (4) teach behaviors that will be reinforced after training; (5) allow individuals to observe others performing target behaviors; (6) shape a response; (7) use prompting when shaping and, (3) require the individual to perform

the beginning part of a desired response (Allyon and Azrin, 1968). Target behaviors for each component were selected and developed in accordance to these considerations.

Self-sufficiency skills involved the self-initiation of skills that maintained or improved personal hygiene, physical appearance, and room maintenance. These skills existed in the behavioral repertoire of group home individuals, but needed to be prompted. It was required that individuals inform staff of the completion of a self-initiated activity. At that time staff would deliver praise paired with token reinforcement. Staff also explained why reinforcement was delivered.

Voluntary tasks were events that occurred infrequently around the household. Individuals were reinforced with tokens and social reinforcers. Praise paired with tokens were delivered by staff when informed of the completion of a voluntary task. Individuals also received feedback.

Home-maintenance skills were assigned household duties. These duties were selected because they involved the skills necessary for the upkeep and maintenance of a clean house or apartment. These skills were grouped into seven major jobs. Selection of jobs occurred during the Sunday evening group meeting. Jobs were to be maintained for seven days. New jobs were to be selected during the

Sunday evening group meeting. Each job carried a token worth of ten dollars. Staff delivered praise paired with tokens and feedback at the completion of each job. However, if necessary, staff informed individuals that job responsibilities were not met. Staff only delivered reinforcement when job responsibilities were met.

Workshop skills involved the assessment and development, by workshop and group home staff, of behaviors that would improve work performance. Selected target behaviors were recorded on a workshop card. Individuals carried the work card to the workshop daily. At the completion of the work day, the individual's supervisor rated the appropriateness of each selected target behavior. A rating from 1 - 7 for each target behavior was assigned and marked on the card. Upon return to the group home this card was surrendered to staff. Staff discussed the rating, converted the score to a token worth, dispensed socials and tokens, and discussed how workshop behaviors could be improved.

Individual goal plans were contracts between the individual and staff that helped identify and establish behaviors not existing in an individual's adaptive behavior repertoire. These written contracts contained a description of a goal (terminal behavior) and the method that would allow the individual to achieve the goal.

Social and token reinforcement delivery were documented in the methods section of the contract.

A motivational reinforcement system based on the program, "Bringing It All Back Home" was implemented. The group home's system involved five levels: Daily Currency, Daily Check, Daily Point, Merit I and Merit II (see Appendix K). Progression through these levels involved the substitution of less tangible reinforcers for more tangible ones, the shift from continuous to intermittent schedules of reinforcement and the reinforcement of responses by more "natural" occuring reinforcers.

Daily Currency was the entry level. At the Daily Currency level tokens took the form of paper dollars. Dollar denominations varied (i.e., $1, $5, $10). Staff contingently delivered tokens for specified desirable behaviors and employed appropriate components of the teaching interaction sequence.

Staff maintained individual Daily Currency cards (see Appendix K). All token earnings and selected privileges were recorded on this card. Earned token dollars were cashed in sequentially for three or four privileges. The first and second privileges were designated "Basics" and "Extras." The third and fourth privileges were labeled "Specials." For Specials, depending on the cash-in value,

the individual could work for either a 20 dollar Special or two 10 dollar Specials.

Basics, Extras, and Specials were earned sequentially. When an individual earned 20 token dollars Privilege One was received. To earn Privilege Two, the individual would have to acquire 20 more token dollars. After Privilege Two was earned, the individual could work towards earning Privilege Three or Four. When an individual earned and cashed-in 60 token dollars, all other token earnings were marked on a "Bank row." The number of tokens counted and cumulated on the Bank row determined when an individual would progress to the Daily Check level. A Bank row equalling 100 token dollars allowed the individuals to progress to Level II. Progression in five days could occur when an individual earned the daily maximum number of tokens (80) and did not lose any tokens through fines.

The Daily Check was the second level. This system operated in the same fashion as the Daily Currency, except that checkmarks were substituted for token dollars..

The third level was the Daily Point System. Neither token dollars or marks were dispensed. Points, indicated by punched holes were delivered on a fixed-interval schedule of reinforcement. Points as reinforcers were

delivered at a rate of four per hour or one-point every 15 minutes (FI-15'). Points, fines, target behaviors and back-up reinforcers were recorded on a Daily Point Card.

The Daily Point Card was maintained by the individual. New cards were given to the individual at the evening meetings. The card had the capacity to record 75 points and 68 fines. Staff recorded points and fines by punching holes into the card. At the evening meetings points and fines earned were numerically recorded on the back of the card. Subtracting fine points from earned points revealed the "net total" of earnings. The "net total" indicated the number of points that may be exchanged for privileges. These points were cashed-in for the following days privileges. An individual could earn seven privileges. Each privilege carried a cash-in value of nine points. In order to receive all seven privileges, the individual needed a "net total" equal to or greater than 63 points.

Each individual specified four of the seven privileges. The first three privileges were predetermined for everyone. The first privilege was labeled Basics; the second, Television; and the third, Community Activity. The selected four were ranked on the card from least preferred to most preferred (i.e., Privilege 4, least preferred, and Privilege 7, most preferred). Points earned in

excess of 63 were banked. When 300 banked points were accumulated, the individual progressed to level four - Merit I. This progression could occur in 25 days.

On the Merit I level, satisfactory and unsatisfactory marks were delivered for on-task and social behaviors. Staff assessed the appropriateness of on-task and social behaviors occuring during four activity periods. Marks were delivered and recorded on a Merit Card at the termination of each activity period.

On this level, the daily routine of the individual was classified under four major headings. The headings were Morning Activities, Workshop Activities, Afternoon Activities, and Evening Activities. Each activity was composed of numerous self-sufficiency skills. As mentioned, marks were delivered for on-task (i.e., performing self-sufficiency skills without prompting) and social behaviors that occurred during activity periods (e.g., maintaining eye contact with staff, speaking with an appropriate tone of voice, following instructions without mumbling, etc.). Marks were delivered and recorded at the end of each activity period. The Morning Activity period terminated for marking at 8:00 a.m.; the Workshop Activity at 3:45p.m.; and the Afternoon Activity at 5:00 p.m.; and the evening Activity at 10:00 p.m. Staff provided an explanation concerning why an individual had received satisfactory or unsatisfactory marks.

On this level all privileges were granted for the day. Privileges could be temporarily suspended when an individual received three unsatisfactory marks during the course of the day. If ten unsatisfactory marks were incurred during a seven-day period, the individual was placed back at the Daily Point Level. When the individual experienced four consecutive weeks without earning five unsatisfactory marks in a given week, progression to Merit II was possible.

The Merit II level differed from the Merit I level in two ways. First, satisfactory marks were delivered during the evening meetings, not at the termination of an activity period. Secondly, privileges were granted for a seven-day period, not for 24 hours; also they could not be suspended during the day.

On this level the individual was returned to Merit I for receiving ten unsatisfactory marks during a seven day period. The individual was off the motivational system after receiving fewer than five unsatisfactory marks for eight consecutive weeks.

As stated previously, the token economy system is divided into three major areas. There are other features existing within and are essential parts of the system. Designed response generalization and stimulus generalization, graphic recording of token earnings, and the Group Home Store are such features.

Response generalization and stimulus generalization were planned into this motivational system. This system involved the substitution of less tangible reinforcers for more tangible reinforcers; a shift from continuous reinforcement to intermittent reinforcement; and the reinforcement of responses with more "natural" occurring reinforcers. Other considerations were the teaching of behaviors that would be reinforced outside the training setting and the reinforcement of target behaviors by different individuals in various settings.

Tokens earned were displayed graphically by bar graphs for feedback purposes. During the evening meeting staff tallied and recorded on a monthly token form (see Appendix L) the daily number of tokens earned, the daily number of tokens banked, the cumulative tokens earned, the cumulative banked tokens and privileges selected. Staff, while graphing daily token earnings and cumulative banked tokens, explained to each resident the significance of the graph.

The Group Home store played an important role in the token economy system. Most of the back up reinforcers were available through the store. The store stocked

consummables and items that were desired by those involved in the economy. Many items could be purchased on a daily basis, but for those that had a high cash-in value a "lay away" program was available. Staff and individuals involved could decide upon a proper payment schedule for expensive items.

Experimental Manipulations

Three experiments and one correlational study were conducted within the context of the Daily Currency level of the token economy system. Within subject designs were employed to assess the effect contingent token reinforcement (play money) had on the self-initiation of various self-help skills. It was posited that the systematic and contingent delivery of token reinforcement would lead to the self-initiation of various self-help skills.

A multiple baseline design across individuals assessed the effect contingent token reinforcement (10 token dollars) had on the self-initiation of laundering. This design was also involved in assessing the effect of contingent token reinforcement (5 token dollars) on the daily self-initiation of showering. A multiple-baseline design across behaviors assessed the effect contingent token

reinforcement (5 token dollars) had on the self-initiation of bedmaking, hair-combing and breakfast making.

The multiple baseline design for these experiments was selected because of the absence of a reversal phase and for its systematic and sequential introduction of token reinforcement. As stated, this design does not involve the withdrawal of treatment. Control is demonstrated when a change in behavior occurs concomittantly to treatment. This design involves the sequential introduction of treatment.

The multiple baseline design across behaviors provides a clear picture of treatment over several behaviors. A problem with this element occurs when behaviors belongs to the same response class. The reinforcing of one behavior may influence the occurrence of other behaviors. This may occur even if behaviors are independent of each other. Response generalization may hinder the assessment of behavior change as a function of token reinforcement (Kazdin and Bootzin, 1972).

The multiple baseline design across individuals reveals the effectiveness of treatment through its sequential introduction of treatment to individuals.

The advantage of this design is that response generalization poses no problem. However, a possible problem with this design is that of influence. When altering the behavior of one individual the actions of this individual may serve as a model for others. Non-treated individuals may emit behavior similar to the individual receiving intervention (Kazdin and Bootzin, 1972).

The correlational study examined the following hypothesis:

> There exists a significant positive correlation between high token earnings and length of Group Home residency.

The Rank-Order correlation was the selected statistical procedure. The formula used to compute the rank-order correlation appears below:

$$r_s = 1 = \frac{6\ (Ed^2)}{N\ (N^2-1)}$$

Experiment I

This study examined the relationship between contingent token reinforcement (CTR) and the daily self-initiation of bedmaking, hair-combing, and breakfast making. Although Resident F had mastered these self-help skills she did not consistently self-initiate them prior to the introduction of contingent token reinforcement (CTR). However, the initiation of these skills consistently occurred when the

group home manager delivered a verbal prompt. The occurrence of these skills earned positive social reinforcement (i.e. praise, smiles, nods and encouragement) and instructions concerning when to perform these skills.

Baseline data recorded prior to CTR revealed that Resident F self-initiated bedmaking 1 out of 15 days; self-initiated haircombing 0 out of 15 days; and self-initiated breakfast making 5 out of 15 days.

Subject

Resident F, a 46-year old white mildly retarded female, who resided in the group home two months prior to the experiment, and who was institutionalized 31 years prior to group home placement, served as the subject.

Target Behaviors

The target behaviors were the daily self-initiation of bedmaking, haircombing and breakfast making. The words self-initiation, bedmaking, haircombing and breakfast making are defined as follows:

Self-initiation: The emittance of a target behavior without prompting from group home manager.

Bed-making: Before leaving one's room for breakfast all sheets and blankets tucked in with pillow and mattress covered neatly by bedspread.

Hair-combing: Before leaving one's room for breakfast, hair brushed neatly on sides and back of head with a straight part on the left side of the head.

Breakfast making: Before 8:00 a.m. making scrambled eggs in the microwave oven.

Each target behavior was achieved when Resident F performed the activity for five consecutive days.

Procedure

Prior to the introduction of CTR, the self-initiation of target behaviors were recorded. This baseline period lasted 15 days. During this period target behaviors which were self-initiated or prompted were reinforced by social reinforcers and instructions (i.e., an explanation concerning when target behaviors were to occur).

The multiple-baseline design across behaviors was the selected design. Through the designs systematic and sequential introduction of CTR, the effect CTR had on the self-initiation of each target behavior could be properly assessed.

Group Home staff involved in this experiment completely and accurately understood the procedure followed. The narrative below describes and explains the procedures followed during each CTR and baseline phase.

1. CTR for bedmaking: Resident F was informed that she would earn five token dollars for properly making her bed prior to leaving her room.

Resident F received token reinforcement paired with praise and followed by instruction when she self-initiated bed-making.

When Resident F did not make her bed prior to leaving her room, she was instructed to make her bed. When her bed was made social reinforcers and instruction reinforced behavior. Resident F was reminded that she could earn five token dollars for non-prompted bed-making.

Baseline for hair combing and breakfast making: The self-initiations of hair combing and breakfast making were tracked and recorded.

Resident F during baseline received social reinforcers plus instructions for prompted or self-initiated hair combing and breakfast making.

2. CTR for hair combing: When Resident F self-initiated bed-making for five consecutive days token reinforcement was delivered for hair combing.

Resident F was informed that she could earn five token dollars for combing her hair in the prescribed fashion before leaving her room for breakfast.

Token reinforcement and praise and instructions reinforced bed making for the remainder of the experiment.

When Resident F did not comb her hair prior to leaving her room, she was instructed to comb hair. Staff explained how to comb hair and when it was to occur. When hair combing was performed correctly social reinforcers and instructions reinforced her behavior. Resident F was also reminded that she could earn five token dollars for non-prompted hair combing.

Baseline for breakfast making: The self-initiation of breakfast making continued to be recorded.

Resident F during baseline received social reinforcement plus instructions for prompted or self-initiated breakfast making.

3. CTR for breakfast making: When Resident F self-initiated hair combing for five consecutive days, token reinforcement was delivered for breakfast making.

Resident F was informed that she could earn five token dollars for making breakfast before 8:00 a.m.

Token reinforcement, praise and instruction consequated hair combing for the remainder of the experiment.

When Resident F did not make breakfast, she was asked to do so. Social reinforcers plus instruction concerning when breakfast should be made reinforced her prompted behavior. Resident F was reminded that she could earn five token dollars for non-prompted breakfast making by 8:00 a.m. The experiment terminated when Resident F self-initiated breakfast making for five consecutive days.

Experiment II

This study examined the relationship between contingent token reinforcement (CTR) and the daily self-initiation of showering. Although Residents E, D, and B could properly shower, prior to the introduction of contingent token reinforcement (CTR), they did not consistently self-initiate the activity. Moreover, group home managers had to repeatedly prompt these individuals to shower. This prompting often met with resistance. Residents E and D complained about showering daily, while Residents B would just wet his hair. On a few occasions these individuals indicated that showering occurred, but in actuality it had not. When showering occurred, whether self-initiated or prompted, social reinforcement (i.e. praise, smiles and group recognition) followed the act. Instructions explaining when showering was to occur and a rationale for showering (e.g. if you look and smell good, you will probably make more friends) were presented.

Baseline data recorded prior to CTR revealed that Resident E self-initiated showering three out of 15 days, Resident D self-initiated showering 0 out of 15 days, and Resident B self-initiated showering 0 out of 15 days.

Subjects

Residents E, D, and B (see Appendix E) served as subjects.

Target Behavior

The daily self-initiation of showering was the target behavior. Showering is described below:

> showering: while in the shower, the cleaning of various body parts with soap and water as well as the shampooing of hair followed by a thorough drying of hair and body parts.

Target behavior was said to have been achieved when self-initiated for five consecutive days.

Procedure

Prior to the introduction of CTR, the daily self-initiation of showering for Resident E, D, and B were recorded. This baseline period lasted 15 days. During this period the self-initiated or prompted showering of a resident earned social reinforcers. Instruction and a rationale were also presented. Showering to be considered self-initiated had to occur before 8:00 p.m. Those individuals who did not shower by 8:00 p.m. were asked to do so. Group home managers verbally prompted them.

A multiple baseline design across individuals was the design of choice. Through the designed systematic introduction of CTR for self-initiated showering and its sequential

introduction to each resident, a functional relationship between CTR and self-initiated showering was established.

Group Home staff involved in this experiment agreed upon and understood the prescribed method of intervention. The narrative below describes and explains the method of intervention during each CTR and baseline phase.

1. CTR delivered to Resident E: Resident E was informed that she would receive five token dollars for self-initiated showering before 8:00 p.m. Social reinforcers followed by instructions and rationales were paired with five token dollars for self-initiated showering. Token dollars were not delivered for prompted showering after 8:00 p.m. Prompted showering resulted in the delivery of social reinforcement followed by instructions and rationales. A reminder that self-initiated showering earned token dollars was also provided. Baseline for Resident D and B: The self-initiated showering of Resident D and B was tracked and recorded. Social reinforcement, instructions and rationales followed prompted and self-initiated showering.

2. CTR delivered to Resident D: When Resident E achieved the target behavior, Resident D received instructions concerning the delivery of contingent token reinforcement. Procedures followed for Resident D were identical to those of Resident E. Baseline for Resident B: The

self-initiated showering of Resident B was tracked and recorded. Social reinforcement, instructions and rationales followed prompted and self-initiated showering.

3. CTR delivered to Resident B: When Resident D achieved the target behavior, Resident B received instructions concerning the delivery of contingent token reinforcement. Procedures followed for Resident B were identical to those of Resident E and D.

The experiment terminated when Resident B self-initiated showering for five consecutive days.

Experiment III

This study examined the relationship between contingent token reinforcement (CTR) and the self-initiation of laundering. Although Resident C and B were capable of properly operating a washing machine and dryer, they would not wash their clothing unless told to do so. Their clothing piled up and often spilled over and onto the floor. Group home managers checked their laundry baskets every fourth day. When laundry baskets were checked, managers provided a prompt to initiate laundering. When Residents C and B initiated laundering, positive social reinforcement (i.e. smiles, nods and praise) and instructions (i.e. when dirty clothing reached the laundry basket rim, it's time to wash clothes) were presented. Residents C and B always laundered their clothing when prompted.

Baseline data prior to CTR revealed that Residents B and C self-initiated laundering 0 out of 8 laundering periods.

Subjects

Resident C and B (see Appendix E) served as subjects. Resident C went on vacation after the thirty-second day of the experiment and did not complete the experiment.

Experiment III

This study examined the relationship between contingent token reinforcement (CTR) and the self-initiation of laundering. Although Resident C and B were capable of properly operating a washing machine and dryer, they would not wash their clothing unless told to do so. Their clothing piled up and often spilled over and onto the floor. Group home managers checked their laundry baskets every fourth day. When laundry baskets were checked, managers provided a prompt to initiate laundering. When Residents C and B initiated laundering, positive social reinforcement (i.e. smiles, nods and praise) and instructions (i.e. when dirty clothing reached the laundry basket rim, it's time to wash clothes) were presented. Residents C and B always laundered their clothing when prompted.

Baseline data prior to CTR revealed that Residents B and C self-initiated laundering 0 out of 8 laundering periods.

Subjects

Resident C and B (see Appendix E) served as subjects. Resident C went on vacation after the thirty-second day of the experiment and did not complete the experiment.

Target Behavior

The self-initiation of laundering was the target behavior. Laundering and laundering periods were defined in the following manner:

> laundering: the washing of clothing when soiled articles pile to the top of the laundry basket rim.
>
> laundering period: every fourth day after the washing of clothes.

The target behavior was said to have been achieved when laundering was self-initiated for five consecutive laundering periods.

Procedure

Prior to the introduction of CTR, the occurrence of self-initiated laundering by Resident C and B was recorded. This baseline period lasted 32 days or 8 launderings periods. During the baseline, self-initiated launderings earned social reinforcement. Immediately after reinforcement staff provided instructions explaining when laundering was to occur.

The multiple-baseline design across individuals was the selected design. Through the designs systematic introduction of CTR for self-initiated launderings and its sequential introduction to each resident, the effect CTR had on self-initiated launderings could be properly assessed.

Group Home staff involved in this experiment understood and completely agreed upon the procedures. The narrative below describes and explains the procedures followed during each CTR and baseline phase.

1. CTR delivered to Resident C: Resident C was informed that he could earn ten token dollars for washing laundry when his soiled clothing piled up to the top of his laundry basket. Praise followed by instructions were paired with token reinforcement for self-initiated laundering. Token dollars were not delivered for prompted laundering. Prompted laundering resulted in the delivery of praise, instructions, and a reminder that self-initiated laundering earned token dollars.

Baseline for Resident B: The self-initiated laundering of Resident B was tracked and recorded. Praise and instructions followed prompted and self-initiated laundering. Staff checked Resident B's laundry basket every fourth day.

2. CTR delivered to Resident B: When Resident C self-initiated laundering for five consecutive laundering periods, Resident B received instructions concerning the delivery of contingent token reinforcement. Procedures followed for Resident B were identical to those of Resident C.

The experiment ended on the forty-eighth day. At this time the group home closed for vacation

Correlational Study

This study examined the relationship between high token earners and length of group home residency. The writer posited that a high positive correlation existed between high token earners and length of group home residency. Rank order correlations were utilized to investigate the co-variation between high token earnings and three subject variables. The variables were:

1. Length of Group Home Residency (LGHR)
2. Length of Institutionalization (LI)
3. Degree of Mental Retardation (DMR)

Information pertaining to subject variables was acquired from the personal history of each resident.

Subjects

The seven adults in the group home served as subjects (see Appendix E).

Procedure

Within the context of the Daily Currency level the token earnings of each resident were recorded and totaled at the end of 30 days. However, for statistical comparison individual rankings could not be assigned

according to total token earnings. Five of the seven residents had participated in experiments where each resident earned five tokens and ten tokens for specified self-help skills. The remaining two residents earned one token for comparable skills. To establish parity for comparison, tokens in excess were cumulated and this total subtracted from total token earnings. Individual rankings were in accordance to this adjusted token total.

The Rank-Order correlation paired token earning with length of group home residency (LGHR), token earnings with length of institutionalization (LI), and token earnings with degree of mental retardation (DMR). The formula used in the computation was:

$$r_s = 1 - \frac{6\ (Ed^2)}{N\ (N^2-1)}$$

Table 1 (p. 47) presents the rankings of each resident according to token earnings and three subject variables.

Ranks were assigned according to an individuals relative position within the group. The individual who earned the most tokens received the rank of one while the individual who earned the fewest number of tokens received a rank of seven. In regard to LGHR, the individual who resided the longest at the group home received a rank of 1, while

the individual who resided the shortest duration received a rank of 7. This ranking of one for the longest duration and of 7 for the shortest duration applied to LI. In respects to DMR the individual with the least degree of retardation received a rank of one, while the individual with the greatest degree of retardation received a rank of seven.

Table 1

Individual Rankings In Respect To
Token Earnings and Subject Variables

	Token Earnings	LGHR*	LI[1]	DMR[2]
Resident D	1	4	3	4
Resident G	2	1.5	6	6
Resident E	3	1.5	6	5
Resident C	4	3	2	7
Resident A	5	5	4	3
Resident B	6	6	6	2
Resident F	7	7	1	1

*Length of Group Home Residency

[1]Length of Institutionalization

[2]Degree of Mental Retardation

Chapter 3

RESULTS

Experiment I

Experiment I was designed to facilitate a mildly retarded adult's self-initiation of three independent living skills. Figure 1 (p. 49) reveals that contingent token reinforcement (5 token dollars) facilitated the daily self-initiation of bedmaking, haircombing, and breakfast making. Social reinforcement and instructions had proven ineffective in facilitating the self-initiation of these target behaviors. However, when contingent token reinforcement was sequentially introduced, these self-help skills were self-initiated for five consecutive days and maintained - unprompted - throughout the experiment.

Self initiated bedmaking during the contingent token reinforcement phase occurred 22 out of 27 days (81%). Baseline data revealed that bedmaking was self-initiated one out of 15 days (6%). The goal, five consecutive days of self-initiated bedmaking, was achieved on the twelfth day.

Self-initiated haircombing during the contingent token reinforcement phase occurred 14 out of 15 days (93%). Baseline data revealed that haircombing was self-initiated

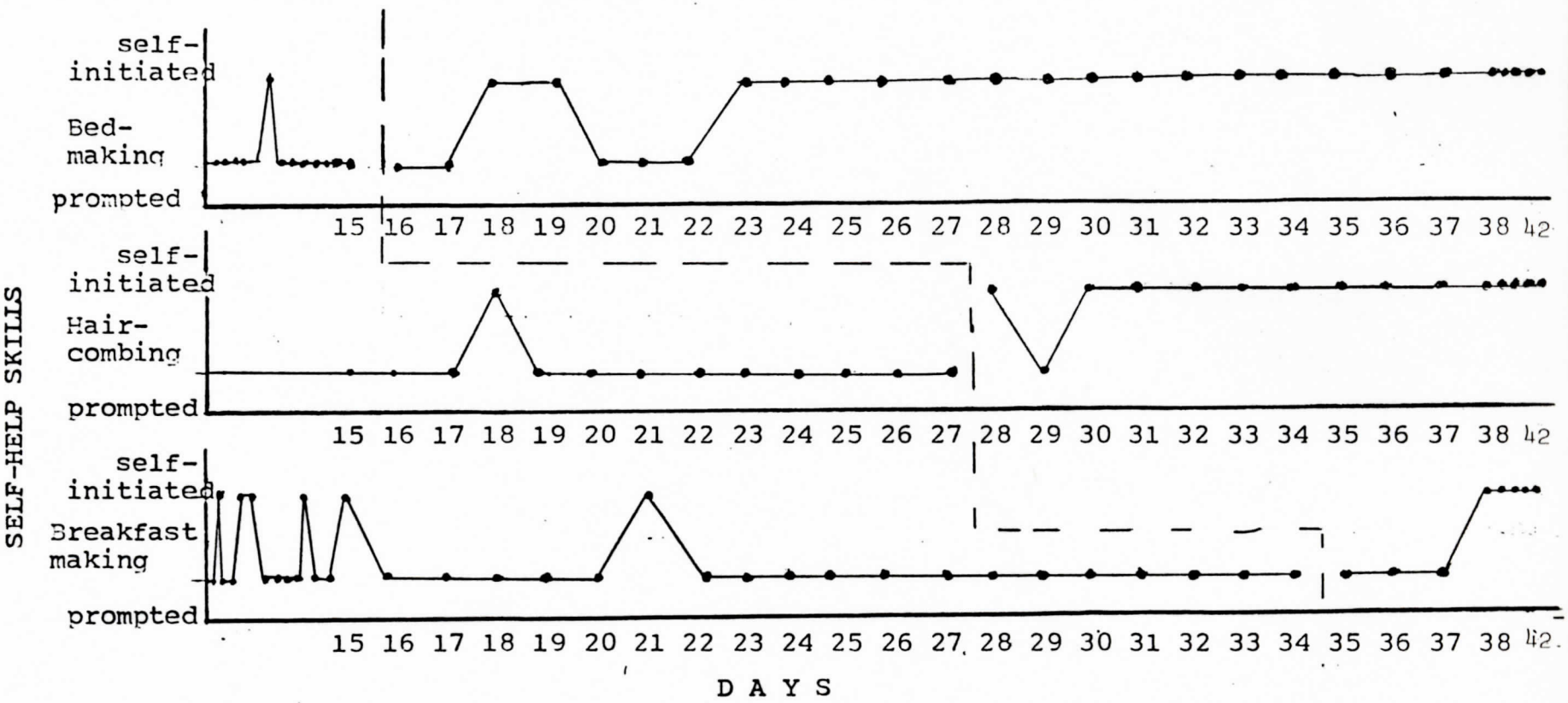

Figure 1: The self-initiated or prompted occurrence of bedmaking, hair-combing and breakfast making of Resident F.

1 out of 27 days (3%). The goal, five consecutive days of self-initiated haircombing was achieved on the seventh day.

Self-initiated breakfast making during the contingent token reinforcement phase occurred 5 out of 8 days (62%). Baseline data revealed that breakfastmaking was self-initiated 6 out of 34 days (17%). The goal, five consecutive days of self-initiated breakfast making was achieved on the eighth day.

Experiment II

Experiment II was designed to facilitate for three mentally retarded adults the self-initiation of one independent living skill. Figure 2 (p. 51) reveals that contingent token reinforcement (5 token dollars) facilitated the daily self-initiated showering of three group home residents, E, D, B. Social reinforcement, instructions and rationales had proven ineffective in facilitating the self-initiation of showering. However, when contingent token reinforcement was sequentially introduced along with social reinforcement, instructions and rationales, each resident self-initiated showering for five consecutive days and maintained unprompted showeringthroughout the experiment.

Resident E, during the contingent token reinforcement phase self-initiated showering, 17 out of 18 days (94%). Baseline data revealed that showering was self-initiated 3 out of 15 days (20%). The goal, five consecutive days of

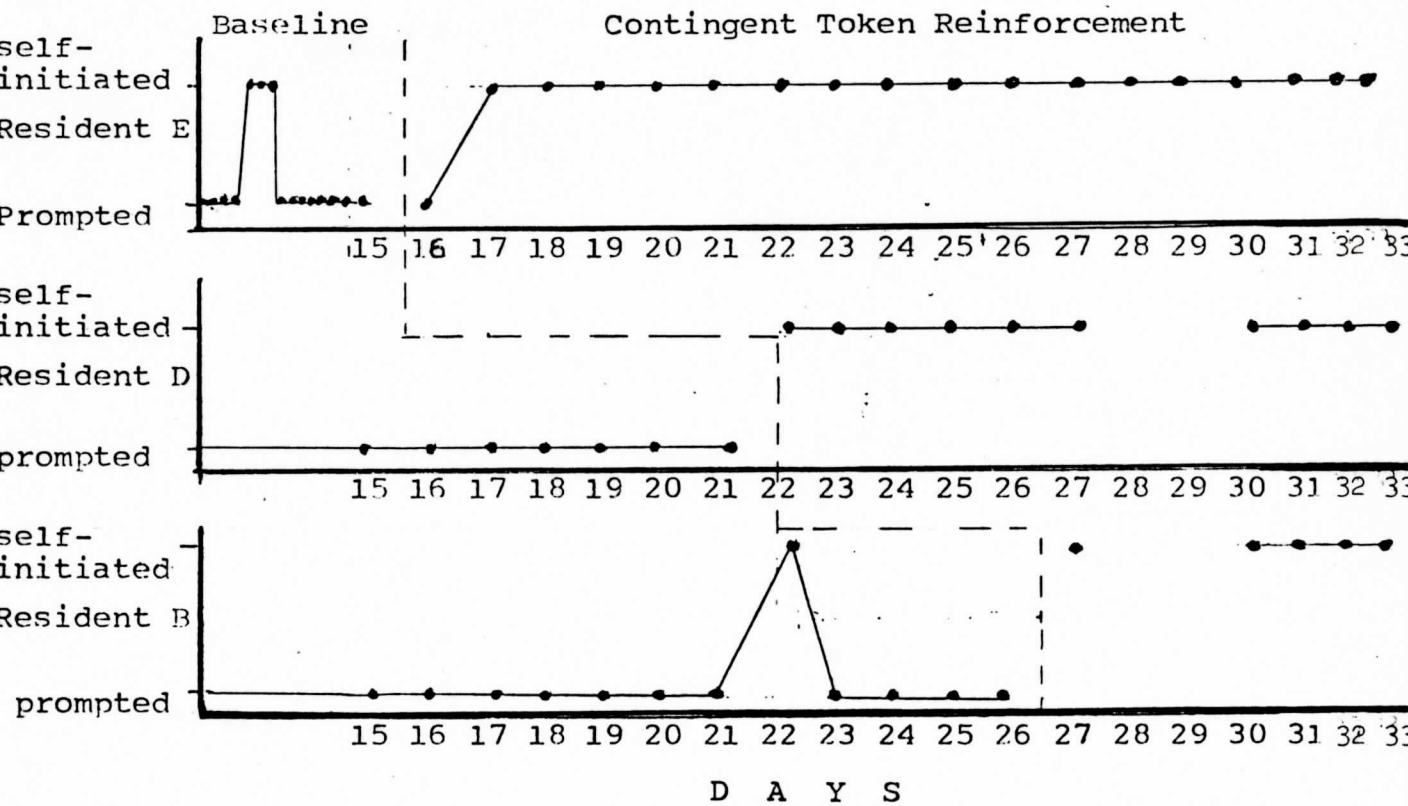

Figure 2. The self-initiated or prompted occurrence of showering for Residents E, D, and B.

self-initiated showering, was achieved on the sixth day.

Resident D, during the contingent token reinforcement phase self-initiated showering 10 out of 10 days (100%). Baseline data revealed that showering was self-initiated 0 out of 21 days (0%). The goal was achieved on the fifth day.

Resident B, during the contingent token reinforcement phase self-initiated showering 5 out of 5 days (100%). Baseline data revealed that showering was self-initiated 1 out of 26 days (4%). The goal was achieved on the fifth day.

Experiment III

Experiment III was designed to facilitate for two mentally retarded adults the self-initiation of one independent living skill. Figure 3 reveals that contingent token reinforcement (10 token dollars) facilitated the self-initiated laundering of one resident. Prior to contingent token reinforcement, Resident C and Resident B received social reinforcement and instruction for laundering. However, self-initiated laundering did not consistently occur. When contingent token reinforcement was introduced along with social reinforcement and instructions, Resident C self-initiated laundering and maintained this skill (see Figure 3, p. 53).

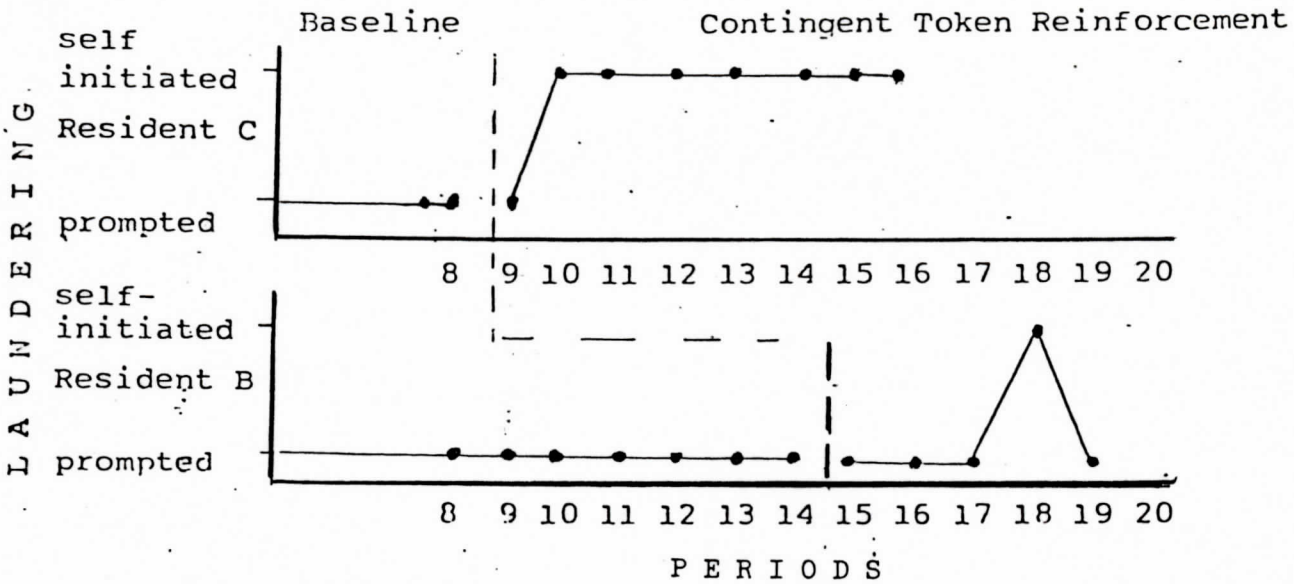

Figure 3 The self-initiated or prompted occurrence of laundering for Resident C and B.

Resident C, during the contingent token reinforcement phase self-initiated laundering 7 out of 8 periods (88%). Baseline data revealed that self-initiated laundering occurred 0 out of 8 periods (0%). The goal, five consecutive self-initiated launderings, occurred on the day of the sixth laundering period.

Resident B, during the contingent token reinforcement phase self-initiated laundering 1 out of 5 periods (20%). Baseline data revealed that self-initiated laundering occurred 0 out of 14 periods (0%). The goal was never achieved.

Correlational Study

The results of the rank order correlation between token earnings and subject variables appear in Table 2. It was found that high token earnings did not significantly co-vary with length of group home residency (r_s = +.776, n = 7, $p > .05$), length of institutionalization (r_s = -.25, n = 7, $p > .05$), or degree of mental retardation (r_s = -.26, n = 7, $p > .05$). Although no significant correlations existed, high token earnings and length of group home residency showed a high positive co-variation. This suggests that individuals who resided at the group home the longest were those who earned the most tokens.

Table 2

The Correlation Coefficient Between Token Earnings and Each Subject Variable

	LGHR*	LI[1]	DMR[2]
Token Earnings	+.776	-.25	-.26

*Length of Group Home Residency
[1]Length of Institutionalization
[2]Degree of Mental Retardation

Chapter 4

DISCUSSION

In a group home setting for mentally retarded adults token reinforcement facilitated the self-initiation of selected self-help skills. Prior to contingent token reinforcement, social reinforcers, instructions and rationales proved ineffective in facilitating the consistent self-initiation of showering, bedmaking, hair-combing, breakfast making and laundering. These self-help skills which existed in the behavioral repertoire of each resident, were not consistently performed. However, when contingent token reinforcement was introduced, these self-help skills were self-initiated and maintained throughout each experiemnt.

The potent effects of token reinforcement were revealed in Experiments I, II and III. Independent of age, length of group home residency, length of institutionalization, degree of mental retardation or prior token economy experience, five of the six residents associated response with reinforcement and consistently self-initiated targeted self-help skills.

Experiment II revealed that self-initiated showering occurred immediately after the introduction of contingent token reinforcement. Immediate behavior change occurred for two of the three residents. Resident E did not self-initiate showering on the first day of contingent token delivery, but did do so on day two. This immediacy of behavior change was comparable to the reports of Allyon and Azrin (1968) and Phillips (1968). Resident F did not achieve the criteria, five consecutive self-initiated bedmakings, until the twelfth day of contingent token delivery. Immediacy of behavior change was more apparent for the second than the third target behaviors. Resident F began to consistently self-initiate haricombing on the third day. Self-initiated breakfast making occurred on the fourth day of contingent token reinforcement.

Resident F's initial unresponsiveness is not uncommon in token economy programs. Kazdin (1973) reported that numerous studies exist in which clients have failed to respond to reinforcement contingencies and that this is not unique to the mentally retarded population. Factors contributing to Resident F's unresponsiveness were her brief stay of two months in the Group Home and thirty-one years of institutionalization. When Resident F arrived at the Group Home, she exhibited a great amount of

passivity and dependency. She often required and requested help in the performance of self-help skills. Resident F often preferred to sit and look out windows, behaviors not uncommon in institutional programs for severely and profoundly retarded persons (Baroff, 1974). It was these behaviors that probably accounted for Resident F's initial unresponsiveness.

In Experiment III behavior change occurred immediately for Resident C, whereas Resident B was non-responsive. Modeling was expected to influence behavior since both residents were rommates. However, Resident C's self-initiated laundering did not influence Resident B's behavior. Resident B did not self-initiate laundering until the tenth laundering period, some eight days after Resident C left the Group Home for vacation. Resident B self-initiated laundering only once in twelve laundering periods.

What caused Resident B's unresponsiveness? Kazdin (1968) suggested that unresponsiveness be attributed to lack of powerful reinforcing events; the absence of behavior in the individual's behavioral repertoire; the inability to understand response-reinforcement relationships; and long delays between response and reinforcement. These reasons may be valid in many instances; however, these reasons are not applicable in this instance.

Resident B participated in Experiment II, and in that experiment behavior change was immediate. Resident B quickly understood the response-reinforcement relationship and showered daily for 5 token dollars. Token dollars were powerful reinforcers. Behavior change was immediate in this experiment and should have been in Experiment III; however, it was not.

In Experiment III the target behavior, laundering, was in Resident B's behavioral repertoire; token worth was 10 dollars for each self-initiated laundering - a powerful reinforcer; reinforcement was delivered immediately after a self-initiation; and Resident B understood response-reinforcement relationship. For these reasons behavior change should have occurred. Nevertheless, it did not and could have had something to do with the number of reinforcement opportunities available.

Target behaviors that occur more closely together in time are more amenable to the effects of token reinforcement. In Experiment II showering was reinforced once daily while in Experiment III laundering was reinforced every fourth day. In a twelve day period, showering could be reinforced twelve times whereas laundering could be reinforced only three times. This long delay probably accounted for Resident B's unresponsiveness.

An experiment to test the above hypothesis was conducted a short while after the completion of Experiment III. In this experiment Resident B was asked to select a most desirable reinforcer to reinforce self-initiated launderings. Resident B selected three Milky-way candy bars. Resident B was informed that he would receive the candy bars immediately after self-initiating laundering. Resident B said he understood the response-reinforcement relationship. As of this writing, five launderings have elapsed. During this time Resident B only once self-initiated laundering -- the first laundering period. Resident B has four four consecutive periods not self-initiated laundering. These results support the notion that Resident B's unresponsiveness was caused by this long delay between reinforcement opportunities and that delay minimizes the reinforcing properties of chosen reinforcers.

The aforementioned experiments provided objective outcome data necessary for the assessment of token reinforcement. However, this assessment occurred only in three isolated experiments. A comparison study might more strongly support the efficacy of the token reinforcement program.

A comparison study would ideally involve two group homes matched according to the following variables: number of residents, age, years institutionalized, length of group home residency, staffing policy and intelligence. Initially, both group homes for two months would reinforce self-help skills with social reinforcement. However, during the next two month period one group home would reinforce self-help skills with token reinforcement. At the end of this two month period the effects of social reinforcement would be compared to that of token reinforcement. This comparison would provide objective outcome data necessary to assess the efficacy of the token reinforcement program.

The reported correlational study failed to substantiate the hypothesis that a significant correlation existed between token earning and length of group home residency. However, a high positive correlation (+.776) existed between these variables. Whereas the co-variations between token earnings and length of institutionalization or degree of mental retardation were negligible correlations indicate that earning tokens is not facilitated by comparatively high degrees of intelligence or hindered by the time an individual is institutionalized. Although a paucity of studies examining subject variable and its effects on

token earnings exist, these findings are shared by those of Allen and Magaro (1971), who found that age and length of hospitalization did not effect responsiveness to contingencies. Research suggests that "sex, age, intelligence, patient diagnosis, years of institutionalization are not clearly related to the efficacy of reinforcement procedures, ... or to token reinforcement in particular" (Kazdin, 1977). Subject variables, as research indicate, do not facilitate or hinder an individuals ability to earn tokens. However, a closer examination of the subject variable "length of group home residency" may indicate to the contrary.

When the background data of the resident who earned the number one rank in token earnings was examined,two important points surface. That subject had prior token economy exposure while institutionalized and while at the group home. He had resided for eleven years in an institution which employed a consistent and systematic token economy system. He also participated in an individualized token reinforcement program which lasted roughly 30 days. This program was implemented to reduce uncertainty and promote Group Home adjustment. This prior exposure provided the subject with a familiarity, a clear understanding of response-reinforcement contingencies. It is probable that this exposure resulted in high token earnings.

Excluding Resident D in the rank-order correlation alters the correlation. When correlating token earnings and length of Group Home residency for six individuals a significant high positive correlation exists (r_s = + .986, n= 6, p< .05). This correlation statistically supports the hypothesis that high token earners are associated with length of Group Home residency. This high positive correlation has implications for the Group Home program.

The correlational study suggests that increased exposure to the group home program results in the acquisition of skills necessary for independent living. The program is geared to help residents acquire social and self-help skills and in theory increased exposure to the program would result in the acquisition of such skills. Token earnings would reflect this acquisition since individuals earned token dollars for the performance of social and self-help skills. The efficacy of the Group Home program was demonstrated through this correlation study.

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REFERENCE NOTES

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APPENDICES

APPENDIX A

Definitions

Back-Up Reinforcer: A reinforcer that is purchased with earned tokens.

Baseline: The frequency that a target (selected) behavior occurs prior to the intervention strategy.

Chaining: The development of a series of behavioral responses that occur in a fixed order. The performance of one component of a series acts as a cue that makes possible the next component.

Fixed-Interval: An intermittent schedule of reinforcement. The delivery of reinforcement occur when the first target behavior is emitted after a fixed amount of time has elapsed.

Guided Participation: A response establishing technique where an individual is first shown the behavior and helped to perform it.

Instruction: A response establishing technique where an individual has a response described verbally or in writing to him.

Modeling: The procedure in which an individual observes another individual's behavior and then trys to replicate that behavior.

Overcorrection: A punishment procedure that involves two components. The first is environmental restitution. This means that the consequence of an act are corrected. The second is positive practice. This means that a desirable behavior, one incompatible with the undesirable act,is thoroughly practiced.

Primary Reinforcer: (unconditional reinforcers) A reinforcer that does not need to be associated with another reinforcer to have reinforcing properties. Food and water are examples of primary reinforcers.

Reinforcer: Any event or stimulus which if introduced following a response results in an increased occurrence of the response.

Response Cost: A punishment procedure in which a positive reinforcer is removed or a penalty imposed after an inappropriate behavior.

Response Generalization: The observation that if one member of a response class is reinforced other members of that response class (similar behaviors) will increase in frequency.

Secondary Reinforcer:(conditional reinforcer) A reinforcer whose reinforcing properties are dependent upon its association with a primary reinforcer or another secondary reinforcer. Love and praise are examples of secondary reinforcers.

Shaping: A response establishing technique. The development of a desired response occurs in three steps: (1) the identification of a target behavior (terminal response), (2) the identification and reinforcement of an initial response, and (3) the reinforcement of intermediate responses that successively approximate the target behavior.

Stimulus Generalization: The observation that a response occurs in the presence of a stimulus that is similar to the original training stimulus. Because of stimulus generalization behavior is transferred and maintained in other situations.

Target Behavior: A behavior that has been identified for treatment and/or assessment in a behavior modification program.

Time Out: A punishment procedure whereby an individual is removed or has all possible positive reinforcers removed contingently for a period of time (usually five minutes).

Tokens: A tangible object such as poker chips, stars, points, and play paper money. These reinforcers are earned contingently and are traded in for back-up reinforcers. Once associated with a variety of reinforcers tokens become generalized conditioned reinforcers.

Token Economy: A reinforcement system where secondary reinforcers are earned for the performance of specified target behaviors and cashed in for a number of different back-up reinforcers whose rate of exchange has been specifically set.

APPENDIX B

"BRINGING IT ALL BACK HOME" - GROUP HOME PROJECT [1,2]

Western Carolina Center
Morganton, North Carolina 28655
(Drs. Gary Timbers, Karen Maloney, and Dennis Maloney)

Phoenix Home for Girls	Morganton	Mike and Liz Dreisbach
Phoenix Home for Boys	Morganton	Greg and Mary Helen Jones
Youth House	Rutherfordton	Jack and Chris White
Agape House	Marion	Jack and Mary Freeman
Plumtree House	Plumtree	Rick and Kathy Luciotti
Copper Kettle House	Scottville	David and Dianne Smart
Wilkes Home	North Wilkesboro	Jim and Jan Green
Horizon House	Hiddenite	Dean and Susan Woods

[1] The project has served a larger number of children than referred to in the "Reasons for Admission" section. Information in this section and other sections is presented on a representative sample of youths served by the project.

[2] This project is supported in part by Section 202 of the Appalachian Regional Development Act of 1965, as amended, Grant No. 04-H-000696-01-0, awarded by the Community Mental Health Service, Health Services and Mental Health Administration, Public Health Service Department of Health Education and Welfare and by Grant No. 43-012-172-13 from the Law Enforcement Assistance Administration (Division of Law and Order).

BRINGING IT ALL BACK HOME:

COMMUNITY-BASED, FAMILY-STYLE TREATMENT HOMES

The Bringing It All Back Home Project is designed to provide community-based, family-style treatment services for youths between the ages of ten and sixteen who are in danger of being, or who have been, removed from their natural environments due to severe behavior disorders. These children include those who have been variously described as "pre-delinquent," "undisciplined," "delinquent," "emotionally disturbed," and "educable retarded". Individuals in this group often exhibit a pattern of academic failure, thievery, truancy, running away, drug abuse, defiance, physical and verbal aggressiveness and emotional upheavals. The most common approach to the treatment of such children has been institutional placement or probation and placement back in the natural home. Group home placement is another alternative for these children.

The community-based approach seeks to demonstrate that working with such children in small groups within the context of family, school, and community agencies provides an excellent treatment setting.

The treatment model followed by the project has been called the Teaching-Family Home. It provides for a trained, married couple (called Teaching-Parents) to live in a home with six to eight children, providing the children with 24-hour a day care and supervision as well as training and instruction aimed at correcting the behavioral deficits that led to the youths' problems. The children go to their natural homes for weekly visits; it is at this time that the Teaching-Parents have an opportunity to work with some of the poor parent-child relationships. The Teaching-Parents work closely with each child's teachers, probation counselor, and other involved agencies to ensure a comprehensive coordinated approach to the child's individual needs.

The treatment program consists of four components. The first of these components is the motivation system according to which appropriate behaviors earn points which are exchangeable for privileges and inappropriate behaviors lose points and therefore privileges. This type of motivational system has been demonstrated to be very effective when used with small groups of adolescents and when good supervision is provided.

Teaching new ways of behaving is a second critical component. Even the simplest chore is an occasion for the Teaching-Parent to teach, not reprimand, the problem child, thus fostering a therapeutic relationship between an adult parent figure and the youth. A variety of social, self-care, maintenance and academic skills are taught to the youth.

The third major component is the self-government system. After dinner in the evening, a daily family conference is held in which youths discuss problems and propose solutions, modify home rules, and learn to accept responsibility for each other.

The fourth major component is a strong emphasis on family-style living and an atmosphere of family togetherness. In a family-style group home, the youths receive a great deal of individual counseling and day-to-day attention from the Teaching-Parents. Warm and lasting relationships are fostered by a relaxed atmosphere in which the youths and Teaching-Parents share in recreation and communication.

Each child lives in the home approximately six months before returning to his natural home. Because his family has been closely involved in his treatment program and because he has continued to go to school at the same public school, the transition from the treatment program to his normal life situation is carried out smoothly. Additionally, should problems recur,

because the home is located in the community, return to the treatment setting is simple. No child is abandoned at the end of treatment.

Each home is under the local control of an Advisory Board. The board is made up of representatives from agencies providing services to children and interested community citizens. The board has responsibility for community relations, raising of money, overseeing the group home facility, admissions to the group home and they make the final decision in the selection of Teaching-Parents.

Homes are located in Morganton (one boys' home and one girls' home), Rutherfordton (girls' home), Marion (boys' home), Plumtree (boys' home), Scottville (co-educational), Wilkesboro (girls' home), and Hiddenite (co-educational). All homes are licensed by the Division of Facility Services.

APPENDIX C

BRIEF DESCRIPTIONS OF INDIVIDUAL TEACHING COMPONENTS

1. Initial Praise = a brief compliment or praise statement that starts interaction in a pleasant manner.

2. Description of Inappropriate = specific description of all components of inappropriate behavior by youth.

3. Description of Appropriate = specific listing of all behavior components that youth does correctly, or should do.

4. Rationale = explanation to youth of real life consequences for inappropriate and appropriate behavior by youth.

5. Point Consequences = delivery of appropriate points to youth according to home's token economy.

6. Request for Acknowledgement = trainee verbally requests whether youth understands portions of teaching interaction.

7. Practice and Feedback = youth practices appropriate behavior described as trainee gives continual feedback on accuracy of youth following trainee's teaching.

8. Other Praise = any additional praise given during interaction beyond the initial praise.

APPENDIX D
THE MOTIVATION SYSTEM

GENERAL METHOD

The motivation system at Achievement Place is designed to provide a maximum amount of feedback to a youth when he first enters the program. Then, as the youth's skills and self-control develop, the structured elements of the program are faded out and replaced by a more natural set of feedback conditions. The motivation system has three major components: the point system, the social reinforcement system and the self-government system.

The Point System

The point system begins by having the target behaviors followed immediately by positive or negative consequence. In order to achieve this, a token reinforcement procedure is applied. A token which can be immediately and rapidly administered is used to bridge the delay between the occurrence of some behavior and a future, less easily manipulated but more important consequence. At Achievement Place, tokens take the form of points. The youths are given points for appropriate behavior and have points taken away for inappropriate behavior. Thus, the points can be earned (rewards) or lost (fines) immediately. Points later can be used by the youths to purchase various privileges the youths have demonstrated they will work for. Within several weeks the youths can earn their way from the point system to the less structured Merit System where they receive all of their privileges free. Under the Merit System the youths continue to be responsible for all of the same behaviors that used to earn or lose points. The youths can be returned to the point system if they fail to maintain their appropriate behavior while on the merit system.

Since the use of punishment, even very mild forms of punishment, in treatment programs for youths is somewhat controversial, some discussion

needs to be presented about the use of fines for modifying inappropriate behavior in the Teaching-Family point system. When any token economy is developed, the goal is to establish or modify certain target behaviors with the consequences that are available. Although this goal is common to all token economies, the arrangement of the economy itself can vary across at least two important dimensions, the sign and the flexibility of the economy.

In regard to sign, an economy could be completely positive, that is, tokens could be given for certain specified behaviors and no tokens could be taken away once they were earned. Or, an economy could be all negative where, for example, each youth could begin each day with a full complement of tokens and could lose them for certain behavior but no tokens could be earned. A third possibility would be an economy where tokens could be both earned and lost, a positive and negative economy. A second important dimension is the flexibility of the token economy. Flexibility concerns the relationship between the opportunities for earning tokens and the number of tokens needed to acquire the privileges. Many token economies are inflexible in that there are a limited number of tokens available for specified behaviors each day and an equal number of tokens are required to purchase the privileges. In a limited economy there is no way to make-up unearned tokens. In a limited economy, therefore, it is somewhat arbitrary whether the sign of the economy is described as positive or negative. Failure to earn 100 tokens in a limited positive economy would be equal to losing 100 tokens in a limited negative economy since each would result in the loss of some privilege. Thus, while a limited token economy may be formally described as a positive economy, it still could have an aversive quality since there would be no way of earning back unearned tokens or lost privileges.

It is also possible to construct a flexible economy where there are nearly unlimited opportunities to earn as well as to lose tokens for target behaviors. In this unlimited economy tokens that were unearned or lost could be made up in a variety of ways. Thus, the loss of tokens would not necessarily mean the loss of privileges, only that additional effort would have to be made in order to earn tokens to buy the privileges.

In the Teaching-Family token economy, points can be earned and lost. It is a positive and negative economy. While a set number of points are required to earn privileges, there are a great many opportunities for earning points and, therefore, it is always possible to earn more points than are required each day. Thus, it is also a flexible economy.

There are several advantages to the Teaching-Family system. First, certain appropriate behaviors that have an initially low baseline rate can be strengthened using only positive points (no points can be lost). Second, certain inappropriate behaviors that have an initially high baseline rate can be eliminated by using only fines. Third, positive and negative consequences can be used (points can be either made or lost depending upon the level of the behavior) for certain behaviors that are critical to the overall treatment program or to the operation of the home. The fourth advantage is that points can be earned in a variety of ways and point losses can be made up. In a flexible system such as this, point losses do not necessarily mean that the privileges are lost. Rather, point losses mean that additional appropriate behaviors must be engaged in in order to recoup the lost points so all the privileges can be acquired. This is, in fact, what the youths generally do. In a recent 13-week period, only one of the seven boys at Achievement Place failed to earn a sufficient number of points to buy all of the first four privileges in Table II-1. He was unable to buy "permission to leave Achievement Place" for that week.

While the Teaching-Family token economy depends partially on mild punishment through contingent loss of points for its effectiveness, the flexibility in the economy means that, in reality, the boys seldom suffer the loss of their privileges. On the other hand, one can conceive of a more limited token economy based entirely on "positive reinforcement" but where the participants would frequently fail to earn all the back-up reinforcers. Thus, the aversiveness of a token economy would seem to be better measured by the degree of success that the participants have in earning the back-up reinforcers, rather than by the presence or absence of contingent fines. A further very important advantage of the system that includes point fines is the opportunity they present to develop a very important social behavior. One of the most important goals in the social skill curriculum of the Teaching-Family program is to teach these youths how to react appropriately to criticism. Inappropriate, aggressive, defiant and belligerent behavior when criticized has frequently been reported by parents, teachers, and employers. As described in the chapter on Social Skills, the fining of inappropriate behavior provides an excellent opportunity to observe and to teach appropriate responses to criticism and negative feedback. Treatment programs which avoid the use of such mild punishment and negative feedback with their youths because such criticism tends to "send the youths off" may be neglecting to teach their youths this extremely important social skill.

While a fine system can serve an important role there is no doubt that the use of token systems involving fines by inexperienced or untrained personnel should be discouraged. There is the danger that unsophisticated users of token systems may be abusive in their application. Untrained personnel have been observed to rely solely on the great power of the token economy to modify unwanted behavior and to neglect the essential teaching function.

This can make a program suppressive rather than educational. Conversely, teaching-parents who are experienced and trained in all the teaching-family procedures, not only in the token economy, can make sensitive use of the educational techniques of instructions, prompts, and opportunities to guide, counsel, and schedule consequences for approximations to appropriate behavior. In the hands of a skillful teaching-parent, the fine system is simply an important tool that is needed to help make their teaching function effective. It is this teaching function that is the heart of the teaching-family program.

Social Reinforcement

A second very important component of the motivation system is the social reinforcement system which involves the praise, encouragement, attention, criticism and affection that is given to the youths by the teaching-parents. Although the token economy is very important in producing behavioral improvements, it is only one aspect of a larger program designed to improve the youths' appropriate behavior and to discourage their inappropriate behavior. In addition to occasionally giving or taking away points the teaching-parents must continually provide social feedback to the youths. The teaching-parents must give compliments; they must present criticism in a non-aversive, non-emotional, non-punitive way; they must constantly interact with the youths by instructing, demonstrating and helping the youths practice appropriate skills; and most importantly, they must develop genuine affectionate behavior toward each of the youths. All of these aspects must be present to have a successful program.

APPENDIX E
RESIDENT PROFILE

Resident 'A'

This resident is a mildly retarded white male. He is a good worker who consistently earns high wages. This resident seeks others out, is conversive and friendly, however, when upset and agitated he speaks loudly and abruptly. He often avoids and runs away from staff when upset.

This resident knows his age and his home address. He is capable of telling time; he can use the telephone; he can write his name; recite the days of the week and months of the year. He likes attention and responds with a smile to praise and recognition. He enjoys talking to others, listening to his radio, watching "Joker's Wild," playing with dogs and going to the movies.

Resident 'B'

This resident is a moderately retarded white male. An average worker. He has good self-help skills although he prefers staff and others to perform self-help skills he is capable of doing. He is friendly, polite, very conversive; always discusses daily events with staff and others. When unhappy he is quiet, does not engage in conversation and does not respond to questions. All questions must be repeated before a reply is returned. He is capable of reading signs, such as, "do not enter," "private property," "men at work," and "don't walk," He knows his address, the days of the week, the months of the year, different types of birds, cars, and cloud conditions. He enjoys praise and recognition from others. He is capable of using the telephone and household appliances. He likes cars, movies, his stereo set and basketball games.

Resident 'C'

This resident is a severely retarded white male. A good worker and consistent top wage earner. Excellent self-help skills. Maintains a neatly kept wardrobe. Clothes are always folded and neatly placed in dresser drawers. Always prepares for next days clothing at bed time. He enjoys cooking activities. He is capable of making meals with minimal supervision. Often he initiates activities without prompting, although prompting is required for some activities. Usually a very friendly individual. His conversation skills vary. When comfortable, sentences are four to six words in length and spoken clearly. When uncomfortable, he does not maintain eye contact and conveys his thoughts in one or two words. On occasion this individual is not capable of imitation and not able to repeat two or more numbers. He cannot dial the telephone or count beyond 20. His style of dress and personal appearance are appropriate for his age. He is capable of planning his own leisure time activities. He enjoys athletic events, his stereo, going to the movies, saving his money, and good looking women.

Resident 'D'

This resident is a moderately retarded white male. He is a good worker. A good wage earner. He budgets his money. He has good self-help skills. Usually he dresses neatly, but needs reminding to do so on occasion. On occasion he must be reminded to shower and clean his fingernails. He is very conversive and usually initiates conversation by asking a question. Sentences are usually three or five words in length. Voice tone is usually loud and his words are not articulated well. When conversing with staff, he does not consistently maintain eye contact. Usually he turns his head downward and to the right. He helps others with their tasks. He cannot use the telephone independently, count accurately beyond 10, or repeat the days of the week in order. He is capable of occupying his leisure time without supervision. He enjoys his stereo, cutting the grass with the electric riding mower, chewing tobacco, listening to his stereo, and saying "hi" to college girls.

Resident 'E'

This resident is a severely retarded white female. She is an average worker whose earnings fluctuate depending on her desire to work. This resident has good self-help skills. She is usually neatly dressed, wearing clean clothing and maintaining clean and combed hair. She expresses her needs verbally. She usually maintains a consistent mood, although when upset she will cry and curse. She does not know her age, but does know her address, and her telephone number. She cannot write her name without assistance and does not differentiate between monetary values. She is very helpful. She does her housework thoroughly. She likes little children, enjoys movies, enjoys walks, she is willing to try new activities, likes to dance and particularly enjoys coffee.

Resident 'F'

This resident is a white, mildly retarded female. She is a good worker and good wage earner. She has average self-help skills. She often needs to be reminded to perform particular self-help activities. This resident does not manage her leisure time constructively. She prefers to sit and look through the living room windows. She is friendly and conversive. She often reaches out and holds the arm of the person she is talking to. She volunteers information and discusses daily events regularly. Her sentences contain six to eight words and her words are spoken clearly but softly. She often does not maintain eye contact. She usually looks down towards her feet. She often walks with her head down. She collects "tidbits" of trash as she walks. This resident usually repeats what is spoken to her. She knows her address, her telephone number, with minor prompting, the days of the week, and the months of the year. She cannot use the telephone, she cannot write her name nor does she recognize money of different denomination. She enjoys others company, she likes to attend movies in the community, she likes to please and receive praise for her activities around the house.

Resident 'G'

This resident is a severely retarded while female. She is an excellent worker who consistently earns the highest group earnings. This resident has good self-help skills. Her clothing is always clean and her hair always washed and combed. This resident is capable of occupying her leisure time constructively. She discusses daily events as well as events that have taken place several months past. Her sentences are five to six words long. Often her words are not spoken clearly, although expressed loudly at times. She does a thorough job for all activities she is assigned. She is frustrated easily and tends to shake and cry when she cannot complete an act she initiates. She recognizes numbers, although has trouble identifying money of different denominations. She can write her name, she knows her telephone number and address. She knows the days of the week, the months of the year, and her age. When asked she will help others and correct their mistakes. She will remind others not to engage in undesirable behavior. She needs little supervision and is willing to try new activities. She communicates her needs readily. She likes playing the piano, drinking "Dr. Pepper," going on picnics, watching movies, going bowling and writing her "lesson," i.e., copying words from a school book onto a piece of writing paper.

APPENDIX F

RESIDENTS STATISTICS

RESIDENT	SEX	AGE	CLASSIFICATION	TIME IN INSTITUTION	TIME IN GROUP HOME	PRIOR TOKEN ECONOMY EXPOSURE
A	Male	21 yrs.	Moderate	2 yrs.	7 mos.	Yes
B	Male	22 yrs.	Moderate	---	7 mos.	No
C	Male	31 yrs.	Severe	22 yrs.	12 mos.	Yes
D	Male	20 yrs.	Moderate	11 yrs.	11 mos.	Yes
E	Female	30 yrs.	Severe	---	14 mos.	No
F	Female	46 yrs.	Mild	31 yrs.	2 mos.	Yes
G	Female	22 yrs.	Severe	---	14 mos.	No

APPENDIX G

WATAUGA OPPORTUNITIES GROUP HOME
STAFF SCHEDULE

I. WORK SCHEDULE

A. The live-in manager's position is a 40-hour per week schedule. Monday through Friday with regular hours being 3:30 p.m. until 10:30 p.m. - sleeping over - and 7:00 a.m. until 8:00 a.m.

B. The Week-end Relief manager's position is a 32-hour week-end schedule. Saturday through Sunday with regular hours being 7:00 a.m. until 11:00 p.m. each day. Managers alternate every other week-end.

II. STAFF COMPOSITION

A. The Live-In manager is a male

B. Each of the Week-end Relief managers are female.

APPENDIX H

TOKEN ECONOMY ORIENTATION OUTLINE

I. GENERAL OVERVIEW OF ECONOMY

1. Program Explanation
2. Handbook Distribution
3. Reading and Review of Handbook
4. Presentation of Token Dollars, Point and Check Marks
5. Explanation of How Tokens Will be Earned and Recorded
6. Discussion of Back-up Reinforcers
7. Discussion of Different Levels
8. Discussion of Evening Meetings

II. DAILY CURRENCY LEVEL

1. Presentation of Token Dollars and Daily Currency Card
2. Discussion of How Token Dollars are Earned, Lost, Recorded and Cashed-in
3. Review of How Token Dollars Are Earned in the Following Areas:
   a. Self-sufficiency
   b. Voluntary Task
   c. Household Maintenance Skills
   d. Individual Goal Plans
   e. Workshop Skills
4. Role Play Token Earnings and Lose for These Areas:

OUTLINE (Continued)

a. Staff interacting with staff

b. Staff interacting with resident

5. Role Play Cashing-in Tokens for Back-ups:

a. Staff interacting with staff

b. Staff interacting with resident

6. Discussion of Evening Meetings:

a. Counting daily token earnings

b. Charting daily token earnings and banked earnings

c. Review of days progress: discussion of appropriate and inappropriate behaviors and suggested alternatives

d. Selecting next day reinforcers.

III. DAILY POINT LEVEL

1. Distribution of Point Cards

2. Contrasting Daily Point to Daily Currency

3. Explanation of Card and What It Is Used For

4. Card Handling Responsibilities

5. Discussion of Privileges:

a. How they are earned

b. How they are not earned

c. When they are received

6. Discussion of Fines

7. Role Play Earning and Losing Points:

a. Staff interacting with staff

b. Staff interacting with residents

OUTLINE (Continued)

8. Discussion of Evening Meetings

IV. MERIT I LEVEL

1. Distribution of Merit Card
2. Explanation of Card Usage
3. Description of Day Activities
4. Model Interaction (staff/resident)
   a. Morning Activity
   b. Work Activity
   c. Afternoon Activity
   d. Evening Activity
5. Suspension of Privileges and Demotion Back to Daily Point
6. Criteria for progression to Merit II

V. MERIT II LEVEL

1. Card and Description
2. Discussion of Privileges
3. Suspension of Privileges and Demotion to Merit I
4. Criteria for and off the Motivational System

APPENDIX I

Watauga Opportunities

Group Home

Token Economy System Handbook

Preface

This handbook lists the privileges you can receive, the things you can do to earn token dollars and the rules of the house. This is your handbook and should be kept in a safe place. We will read and talk about it at different meetings.

Introduction

This Token Economy System is your program. In this program, you can control what privileges you earn or do not earn. Agreeing to participate in the program allows you to choose and receive many things.

This is your program and it is a program that will help you learn new skills. Learning new skills means that you will be better able to take care of yourself and need less help from your supervisor at the workshop and group home.

We (staff) will help you earn what you want. We will be here to keep track of the things you do to earn your token dollars or points and remind you that you have earned the privileges you worked hard for.

Every night, we will have a group meeting. At this meeting, you can choose what you want to earn. Also, we will count the token dollars or points you earned and chart your earnings.

TIME SCHEDULE

Weekday

Time	Mon	Tues.	Wed.	Thur.	Fri.
7:00-8:25	MA	MA	MA	MA	MA
8:30-3:30	WS	WS	WS	WS	WS
3:45-4:00	AA	AA	AA	AA	AA
4:00	T	T	T	SL	T/GM
4:30	HMS	HMS	HMS	HMS	HMS
5:00	FT	FT	FT	FT	FT/HMS
5:30	D	D	D	D	D/CA
6:00	T	FT	T	FT	FT/CA
6:30	T	GM	GM	GM	GM/CA
7:00	T	T	T	T	T/GM
7:30	GM	CA	GM	S	T/CA
8:00	T	CA	T	S	T/CA
9:00	T	CA	T	T	T CA
10:00	EA	EA	EA	EA	EA

MA: Morning Activity

AA: Afternoon Activity

CA: Community Activity

EA: Evening Activity

WS: Workshop

GM: Group Meeting

HMS: Home Maintenance Skills

FT: Free Time

SL: Shopping List

S: Shopping

T: Television

D: Dinner

The following pages are a list of the many things you can do to earn token dollars or points. You must remember that someone else may earn more token dollars or points than you do for doing the same thing. We do not want to be unfair, but since we are all unique people with different likes and dislikes, we must be fair to everyone. If you believe you are not being treated fairly please tell us. But, please remember that this program is individualized. We are trying to be fair to everyone.

INDEPENDENT SELF-SUFFICIENCY SKILLS

ppropriate Behavior	*Token Worth*
Morning Activity	
. *Maintaining eye contact while greeting manager in the morning*	*1*
. *Greeting other residents in the morning*	*1*
. *Returning morning greeting*	*1*
. *Appropriate bed making in the morning*	*1*
. *Correct washing of hands, face and neck area*	*1*
. *Brushing teeth correctly and gargling*	*1*
. *Combing hair*	*1*
. *Applying deoderant*	*1*
. *Shaving all facial hair*	*1*
. *Dressing neatly; appropriate clothes, shirt tucked in*	*1*
. *Making breakfast independently*	*1-2*
. *Placing used dishes, cups, glasses, utensils in dishwasher*	*1*
. *Wiping table after breakfast*	*1*
. *Wiping counter top after breakfast*	*1*
. *Cleaning pans and drying pans*	*1*
. *Brushing teeth after breakfast*	*1*
. *Shutting lights in room after 8:00 a.m.*	*1*
Afternoon Activity:	
. *Properly placing away coat or wrap upon return from workshop*	*1*
. *Changing dirty clothing and putting on clean clothes*	*1*
. *Correctly washing hands, face and neck area*	*1*
. *Brushing teeth correctly and gargling*	*1*

Appropriate Behavior (con't)	Token Worth
22. Combing hair	1
23. Applying deordant	1
24. Cleaning all fingernails by 4:00 p.m.	1 - 2
25. Cutting all fingernails by 4:00 p.m.	1
Evening Activities	
26. Maintaining eye contact with manager while saying goodnight	1
27. Saying goodnight to one or more residents	1
28. Appropriate reply to a residents "goodnight"	1
29. Correctly washing hands, face and neck area	1
30. Correctly using presicribed medication	1
31. Reminding manager of medication dispensing	1
32. Brushing teeth before bedtime	1
33. Preparing next days clothing	1
34. Changing into sleepwear and placing dirty clothing in laundry basket	1
35. Closing bedroom curtains	1
36. Shutting bedroom lights	1
Social behaviors	
37. Following managers instructions	2
38. Maintaining eye contact with manager during interactions	2
39. Speaking at an appropriate (conversive) level	2
40. Appropriately greeting strangers or friends	2
41. Helping others with tasks	2
42. Asking for help when needed	2
43. Answering telephone correctly	2
44. Replying thank you when appropriate	2
45. Politely asking for things (e.g. May I...or Please pass..)	2
Others	
46. Showering daily or bathing daily	1

Appropriate Behavior (con't)	*Token Worth*
47. Shampooing and drying hair properly	*1*
48. Placing used towels in the hamper	*1*
49. Vacuuming room once per week	*1*
50. Washing and drying laundry when needed	*1 - 2*
51. Folding, hanging, and properly placing away clean clothes	*1*
52. Shopping and placing groceries away at the group Home	*1*
53. Workshop Skills	*Varies*
54. Household maintenance skills	*10-12*
55. Voluntary Tasks	*Varies*
56. Individual Group Plans	*Varies*

VOLUNTARY TASKS

Events	*Token Worth*
1. *Checking and/or bringing mail into the house from the mailbox*	*1*
2. *Replacing light bulbs when needed*	*1*
3. *Shutting livingroom and television curtains after sunset*	*1*
4. *Showing new guest(s) around the house*	*2-3*
5. *Delivering messages to the workshop*	*1*
6. *Depositing five dollars or more into savings account*	*5*
7. *Attending group meetings*	*1*
8. *Placing trash barrel at pick-up point on Thursday*	*1*
9. *Asking others to play: ping-pong, checkers, cards or ball*	*2*
10. *Emptying kitchen trashbag and replacing bag*	*1*
11. *Returning trash barrel to porch after pick-up*	*1*
12. *Participation in group meetings*	*1*
13. *Participation in half-hour exercise period*	*varies*
14. *Cleaning refrigerator*	*3*
15. *Cleaning driveway after snowstorms*	*2*
16. *Cleaning off porch after snowstorms*	*2*
17. *Mowing grass with ridermower or weedeater*	*2*
18. *Raking leaves and grass*	*2*
19. *Mopping downstairs hall*	*2*
20. *Sweeping outside stairs and porch*	*2*
21. *Sweeping basement stairs*	*1*
22. *Cleaning the van: outside and inside*	*2*
23. *Notifying manager of needed repair work*	*1*
24. *Assisting manager with repair work*	
25. *Mopping hallway*	*2*

This list will remind you of the many different things you may receive or cash-in for token dollars or points. If you think there are some things missing, tell us and we will try to add it to our list.

BACK-UP REINFORCERS

Reinforcers	*Token Exchan*
1. Basics: free-time, listening to radio or stero, walks around the house, (package deal)	
2. Snacks: fruits, lemonade, milk, cheese, crackers, peanuts, peanuts, coffee or tea (2 cup limit)	
3. Television	
Choice of special program	
4. Community Activity: movies in town, dining out, trip to A.S.U., sports events	
5. Specials: choice of favorite edibles or items: free pinball game on Tuesday or Thursday	
piano playing at the University (15 minutes)	
buying donuts at Granny's Donut Shop	
washing van at the car wash	
choice of seat in van (1 ride)	
choice of sessert	
6. Insurance Policy	*12 - 20*
7. Music Library	
One hour rental of 8 tract tape or record	*10 - 20*
8. Group Home Store	
shampoo	*10 - 20*
toothpaste	*10 - 20*
comb	*10 - 20*
brush	*10 - 20*
mouthwash	*10 - 20*
cologne	*10 - 20*
chewing tobacco	*10 - 20*
cigarettes	*10 - 20*
chewing gum	*10*
M & M	*10*
pencil	*10*
pen	*10*
eight track tape	*100*
L P record	*80*
frisbee	*60*
straw hat	*100*
magazine	*15*
perfume	*10*
book	*10*
posters	*20*
battery	*15*

TOKEN LOSS SCHEDULE
RESPONSE COST

Token Loss Situation	*Token Lo*
1. Token Theft	*6*
2. Hitting other individuals	*6*
3. Cursing or name calling directed at staff or others	*4*
4. Deliberate property damage	*4*
5. Inappropriate yelling or screaming	*2*
6. Running away from staff	*2*
7. Slamming door(s)	*2*
8. Spitting on others	*4*
9. Voluntary urination on floors or furniture	*6*
10. Noncompliance with staff's requests	*2*
11. Not answering the telephone appropriately	*2*
12. Illegal consumption of snacks or specials	*6*
13. Inappropriate voice tone or verbalizations	*2*
14. Inappropriate facial expression	*2*
15. Programmed Response Cost at Workshop	*varie*

Punishment Techniques	*Situatic*
1. Token loss plus time-out (5 minutes)	*2,5,8*
2. Token loss plus positive practice	*6,7*
3. Token loss plus environmental restitution	*4*
4. Token loss plus 24 loss of most reinforcing event or stimulus	*9*

APPENDIX J

TOKEN ECONOMY SYSTEM

CONSENT FORM

Having received a description, and explanation concerning how the Token Economy System works, as well as having discussed the main objectives and individual goals within the program, I hereby allow_____ to participate in Watauga Opportunities Group Home Token Economy System.

_____ _____

NAME GROUP HOME STAFF

_____ _____

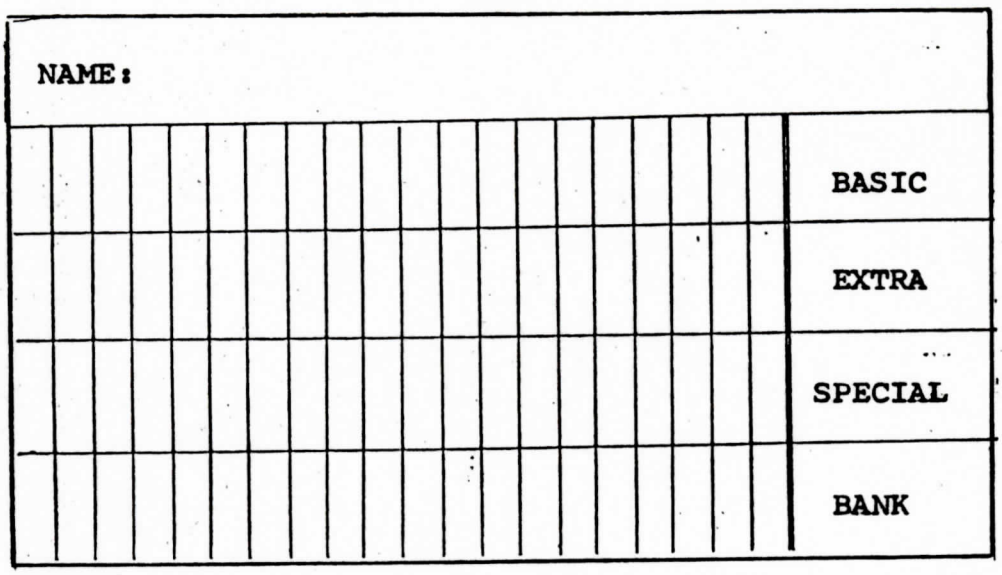
DATE DATE

APPENDIX K

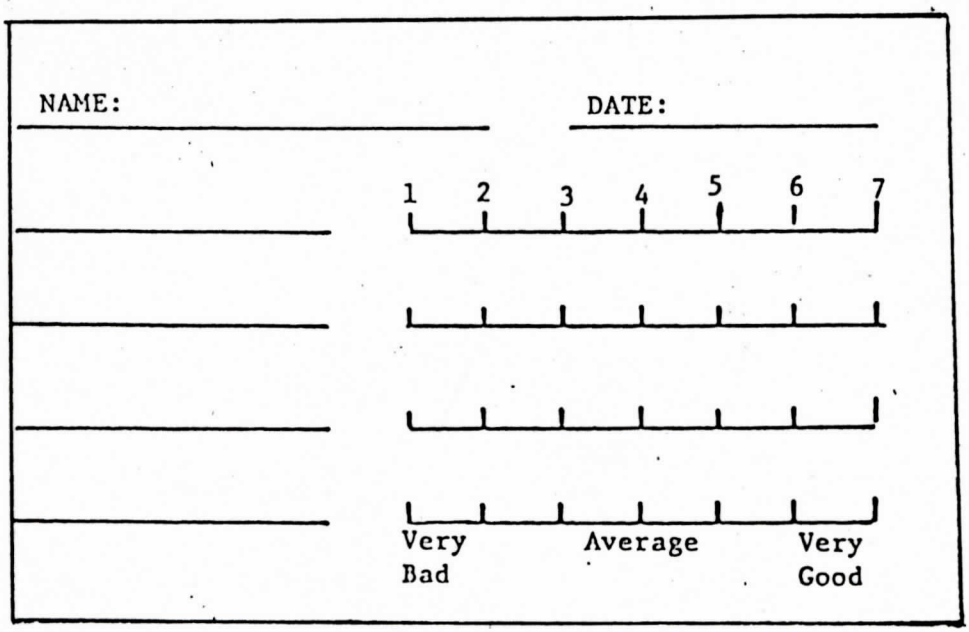
MOTIVATIONAL SYSTEM CARDS

DAILY CURRENCY CARD

DAILY CHECK CARD



WORKSHOP CARD



DAILY POINT CARD (FRONT VIEW)

NAME:_____ Date:_____

0	5	10	15	20	25	30	35	40	45	50	55	60	65	70
1	6	11	16	21	26	31	36	41	46	51	56	61	66	71
2	7	12	17	22	27	32	37	42	47	52	57	62	67	72
3	8	13	18	23	28	33	38	43	48	53	58	63	68	73
4	9	14	19	24	29	34	39	44	49	54	59	64	69	74

0 2 4 6 8 10 12 14 16 18 20 22 24
26 28 30 32 34 36 38 40 42 44 46
48 50 52 54 56 58 60 62 64 66 68

1 2
0
3 4
1 2
0
3 4
1 2
0
3 4
1 2
0
3 4
1 2
0
3 4

DAILY POINT CARD (BACK VIEW)

Earned:
Fined:
NET:
PRIVILEGES
1.
2.
3.
4.
5.
6.
7.
- =
NET-PRV=DIFF

MERIT I AND MERIT II
WEEKLY CARD

NAME: _____ DATE: _____

	MON		TUES		WED		THURS		FRI		SAT		SUN		TOTAL		
	OT	S	OT	S	OT	S	OT	S	OT	S	OT	S	OT	S	OT	S	
Morning																	
Workshop																	
Afternoon																	
Evening																	
TOTAL																	

CODE: OT = on task
S = social
√ = satisfactory
O = unsatisfactory

APPENDIX L

Monthly Token Forms

DAILY CURRENCY-CHECK FORM

NAME _____

MONTH _____

DATE	BACK-UP REINF.	TOKENS E.	CB/CTE	DATE	BACK-UP REINF.	TOKENS E.	CB/CTE
1				17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16							

DAILY POINT FORM

NAME:

MONTH:

DATE	BACK-UP REINF. / FINES (f)		CTE/CB	DATE	BACK-UP REINF. / FINES (f)		CTE/CB
1		(f)		17			
2				18			
3				19			
4				20			
5				21			
6				22			
7				23			
8				24			
9				25			
10				26			
11				27			
12				28			
13				29			
14				30			
15				31			
16							