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ABSTRACT

The Pendleton Project residential service is a short term intensive care alternative to the long term, costly, and ineffective non-community based institutional model for treating children and families suffering from behavior problems. The residential services are designed to develop community competency from the vantage point of its unique integration of the human service delivery network. Application of behavior therapy principles is aimed at clinical outcomes that meet the expectations of the consumer. Within the therapy context, the residential treatment team has developed a "package" treatment program implemented by staff mediators by synthesizing diagnostic and treatment procedures for each resident on the basis of a token economy system. Evaluation of the treatment effectiveness has been done within single-subject and between-subject research designs, while the untreated non-random control group with pre- and post tests has been chosen as the most feasible research design. The case of 7-year-old emotionally disturbed boy demonstrates the treatment model. (Appendixes include copies of parental and referral contract sheets.) (Author/SBH)

Residential Behavior Therapy Treatment as an Intensive Care Approach to the Development of Community Competence*

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This paper was presented at the American Educational Research Association's 1977 annual meeting which was held in New York City on April 6, 1977, for the symposium entitled "Alternative Approaches to Treating Children and Families who Exhibit Behavior Problems". This is one of the six papers presented at the symposium. A comprehensive view of the symposium topic can be obtained from the other five papers in addition to the chairperson's input and discussant's feedback papers. Copies are available from the information retrieval system, ERIC Clearinghouse on Tests, Measurement, and Evaluation at the Educational Testing Service, Princeton, New Jersey 08540 (AERA 1977 Annual Meeting Program, 1977, p. 118 or Appendix A).

The Objective of the Paper

Since the community based residential treatment service is an innovative alternative concept (Pooley, 1977; Shea, Pooley, Eun, 1977), this paper will put emphases on the key number of variables with relation to the open systems perspective, the theoretical constructs of behavior therapy treatment package programs, research designs, and a case study. When we look at the treatment history of hard core behavior problem children and their families, most of the cases have been referred to the Residential Treatment Team (RTT) of the Pendleton Project after contacting several human service agencies in public and private sectors. This would indicate that as the severity of the problem increases

so does the number of treatment agents involved, with residential treatment as a last resort. The sequential and cumulative involvement of the network of human service agencies is a common phenomenon that is easily explained by the multiple baseline format, which also applies to the residential treatment delivery system.

The Dilemma of the Problems on the National and Local Levels

A. National Scene

According to the statement of Marian Wright Edelman, Director of the Children's Defense Fund (1974) made before the hearing of the subcommittee to investigate juvenile delinquency of the Committee on the Judiciary, United States Senate (1976, pp. 5-35) the following points were addressed to the committee:

1. School suspension and expulsion, migrating troublesome children from school to communities - At least two million American children between six and seventeen years of age were out of school due to several major factors. One of these was school disciplinary policies and practices, particularly the widespread use of suspension, resulting in the final expulsion. Suspension seemed to solve little. It did not get to the root of the problems, nor did it set up diagnostic or treatment programs to deal with children's problems. Often suspension does harm to children by: (1) causing marginal students to fail academically because of school work missed; (2) causing students to leave school permanently; (3) labeling students as trouble makers; (4) denying children the education and other services they need; (5) encouraging the growth of juvenile delinquency.

Juvenile justice officials agreed that it was school's failure to deal effectively with the problems exhibited, which often exacerbated the problems and led to court related trouble. Eighty percent of children with law contacts had been expelled or suspended before they got into trouble with the law.

A teacher's lack of disciplining ability and shunning of the most difficult behavior problem children leads to suspension and hence, leave the problem child with too much idle time.

2. Learning and perceptual disabilities - A study of 444 students in the custody of the Colorado Division of Youth Services in 1972 showed that 90.4 percent of them had learning and perceptual disabilities which had not been dealt with adequately. The mean grade they had completed was 8.8, but they functioned at a mean grade level of 4.6. Difficult students were ignored, given social promotions, or suspended and expelled.

   If the child's misbehavior is a response to uninteresting classes and curriculum, suspending the child addresses the wrong problem. So often schools blame their own inadequacies on children.

3. Violent children - Less than four percent of the million children now being suspended are violent and disturbed. These children should not be put out on the street to get themselves into more trouble. The school has an obligation to the violent child to refer him to the right kind of service in the community for the security and safety of all school children. Indeed, we think suspension exacerbates the problem of violence, rather than cures it.

   Almost all of these troublesome children should have been identified as having problems in school in the beginning.

School problems reflect home and community

On the other hand, the statement of Mrs. Walter G. Kimmel, President of the National Congress of Parents and Teachers, to the above hearings before the U. S. Senate Committee, presented a different viewpoint. She contends that juvenile delinquency is not a school problem alone, but a reflection in part of the home and community in which the child lives. She believes that the parents must be involved in the analysis of problems and the search for solutions. She put emphasis on home life as a basic element of society; if children are to achieve at a higher level, be educated in good health habits, and develop better emotional health through the ability to make responsible decisions relative to their personal growth and relationship with other people, the family unit must be strengthened (U. S. Senate Committee on Judiciary, 1976, p. 37).

Of course, we know that troubled homes produce troubled children. Most of the troubled children come from low income families, broken homes including single parent families, and from homes where the parents are incompetent in child behavior management. These families are exemplified by feelings of hopelessness and powerlessness coming from the economic as well as psychological disadvantages.

A troubled child cannot be seen as the sole repository of his problems, as neither the school nor the family is. We must look at the context of the child within all ecological systems. Each system's deficiency and interaction with the child is contributing to make the problem worse.

B. Local Scene

The Pendleton Project, a community based juvenile delinquency prevention project located in Virginia Beach, has been serving two cities (Virginia Beach and Chesapeake) since the summer of 1973 (Pooley, 1977; Shea, Pooley, and Eun, 1977). The Norfolk metropolitan area lies on the southern rim of the Chesapeake Bay at the point where the broad bay turns to join the Atlantic Ocean. The cities of Norfolk, Portsmouth, Virginia Beach, Chesapeake, Hampton, and Newport News, which constitute the metropolitan area, have a combined population of 1.2 million people. This area represents a heavy concentration of commercial and Navy shipping and resort areas. Because of the military transient families, the geographical mobility is extremely high.

Senator Birch Bayh's subcommittee on juvenile delinquency revealed that the cost of school vandalism, assault, and theft will amount to more than $500 million and will result in nearly 70,000 serious injuries to

teachers, and even more to students (Newsweek, June 30, 1975, p. 62).

The local newspaper, Ledger-Star (April 21, 1975), reported that Tidewater school systems are paying between $25,000 and $50,000 per year to repair the effects of school vandalism. Chesapeake School Superintendent, Kenneth E. Fulp, said instances of vandalism and theft of school property are getting more frequent and that his school system is spending $25,000 a year replacing glass and stolen property.

The Ledger-Star (November 10, 1975), expressed alarm that when a serious crime (murder, rape, burglary, larceny, and auto theft) is committed in the four city metropolitan area, chances are better than four in ten that the person arrested will be under eighteen. The chances are 60% in Virginia Beach, 47% in Norfolk, 25.4% in Portsmouth, and just under 30% in Chesapeake as shown in Table 1. In Virginia Beach, where youth population has jumped 36% in the last three years, the number of juvenile felony arrests rose 38% - from 892 in 1972, to 1,233 in 1974. Norfolk City Council looked at the juvenile delinquency problem as a number one priority problem in their city.

Table 1.

1974 Juvenile Felony Arrests

in Four-City Area

Jurisdiction	Total Arrests	Total Juveniles Arrested	Juvenile Percentage of Total Arrests
Norfolk	3,642	1,712	47.
Portsmouth	2,365	601	25.4
Chesapeake	609	181	29.7
Virginia Beach	2,056	1,233	60.
Four Cities	8,672	3,727	42.

We doubt that there is significant difference in terms of the seriousness of the juvenile delinquency problem at national and local levels.

Juvenile Delinquency Prevention through Community Competency Development toward the Improvement of the Quality of Life for All

As elaborated in the Pendleton Project semi-annual report (Pooley, 1977; Shea, Pooley, Eun, 1977), the Pendleton Project was conceived by the directors of the local human service agencies and corresponding state level agency heads who had had regional and psychological community feelings regarding juvenile delinquency in the state of Virginia. Through the Management Board of the Project, these directors have shared values and common problems and worked together horizontally across the two municipalities

of Virginia Beach and Chesapeake and vertically between state agencies and local human service agencies toward providing improved human services for the troubled children and families, to increase their competency in dealing with the problems of juvenile delinquency. The resulting concept is an inter-agency model. The public school systems, mental health, social services, public health, and juvenile courts from the two cities and the state have juxtaposed respective agency puzzles together for a more closely integrated human service delivery, operating through varying degrees of cooperative effort.

The inter-agency cooperation between two municipalities and state-local human agencies seems to be based on the more positive concept of delinquency prevention which views prevention as a "process of change, the purpose of which is to create conditions which promote the wellbeing of people." In this manner they are doing more than simply providing remedial services to a few; they are tackling the deficiency causing factors at the root source (MacDonald, 1976, p. 8). In developing an inter-agency approach to a variety of social problems, the Management Board of the Pendleton Project also was able to use the Pendleton concept as a reference point in decision making and problem solving within their own human service agencies.

With the Pendleton Project playing the role of catalyst to increase collaborative efforts on the part of all community

systems, the human service agencies can open channels of communication, stimulate coordination of efforts, and explore mutual problems, needs, goals and objectives.

The community based Pendleton Project concept is compatible with the concept of the competent community. The Pendleton Project does not "take over" other agency's salient social problems, such as violent behavior or learning disabilities, but works toward providing inter-agency-based action programs, fostering competence on the part of the service purchasers, and developing new types of manpower in the human service delivery system and new concepts of treating disturbing behaviors shown by children and families. Success in coping with one type of problem should broaden the repertoire of skills of the community and enhance the possibility of more effectively coping with other problems that arise.

In this way, the Pendleton Project fosters independence and succeeds to support the development of competence in the populations and communities. For example, parental effectiveness training programs for the parents with many children and in-service training in behavior management for the classroom teachers and human service agency staff are designed to foster competency rather than dependency on the Pendleton Project (Iscoe, 1974, pp. 607-613).

Sometimes, however, we run into human service consumers who have been revealed as inter-agency hoppers, who exploit all available treatment with psychological dependence, and

stagnated psychological growth. To combat this, the Pendleton Project has developed a contract concept between the service provider and the service consumer, to be signed before provision of service is actualized, to foster mutual responsibility for the problems (Appendix B and C).

Intensive Care Approach to the Residential Treatment

A. A Short Supply to the Increasing Demand for Residential Treatment Service

According to the population study on the residential children in the United States (Pappenfort, Dinwoodie, Kilpatrick, 1968), only 200 out of 2,500 child care institutions provide treatment; only 13 percent of 150,000 children, about 110,000 who were judged to be disturbed, receive treatment. The predominant service modality for those who receive treatment is inpatient care which is lengthy and costly, ranging from $500 to $1,500 monthly in private institutions (Redick, 1969). In the epidemiological studies, large numbers of children from families living on welfare and from low income groups in the community have shown marked psychiatric impairment (Langner, Herson, Demson, Goff, and McCarthy, 1969). They are likely to be placed as delinquents in training or reform schools, in homes for retarded or often jailed with juveniles who have been convicted for robbery, rape, and murder.

Attorney General Andrew P. Miller from the State of Virginia said the unrecorded number of emotionally

disturbed children are being sent to questionable, out-of-state treatment centers or being given inadequate in-state psychiatric care, and the runaways are treated as hardened felons. He also urged better coordination among state and local agencies in the handling of emotionally disturbed children (Galuszka, Peters, 1976).

CBS news correspondents, Morley Safer and Mike Wallace in "Sixty Minutes" October 17, 1976, (Diekhaus, Grace, 1976), shocked the national television viewers with deceptive practices in the name of a residential treatment:

"Interstate Commerce of Kids"

Fifty thousand children are shipped across state borders every year. There are difficult, hard to handle youngsters sent to institutions, treatment centers, psychiatric or disciplinary facilities, public and private. They are shipped out for pay, because their own families, their own states, don't have homes or adequate facilities for them.

The Montonari School in Hialeah, Florida, is typical. Its not a reform school, not a penal institution. It's called a residential treatment center. About 320 boys and girls from across the country are sent here. They range in age from three to nineteen. Their yearly tuition in taxpayer's money runs between $12,000 and $25,000 apiece.

Quality of treatment is very questionable. To serve 300 kids the center receives four million dollars per year, and the profit for the institution is from $400,000 to $500,000 per year. Believe it or not, the founder of Montonari School has been in the residential treatment business for twenty-five years.

If we sort out deceptive practices like the Montonari School, the number of congruent care-giving institutions will be far lower than 200 throughout the United States.

And this short supply is being aggravated.

Also, there is a strong movement among child advocates for youthful status offenders to be removed from the jurisdictions of the juvenile criminal behaviors. Nevertheless, status offenders clog the juvenile justice system which was originally designed to deal with juvenile "criminals".

Children who run away from home, are persistently truant, or stubbornly disobey their parents, could be corrected by competent parents and teachers.

The demand for the community-based treatment centers like the Pendleton Project will rapidly increase. The Pendleton Project service delivery strategy is an essential alternative to the handling of status offenders and drug abusers right in their own community.

Strong financial support for the implementation of the above concept including the community competency manpower training program should be seriously considered by the public.

Taking the reality of the serious lack of trained personnel and community-based treatment programs into the evaluative consideration of the treatment effectiveness, the old proverb, "When you see a bear dance, you don't ask how well," might summarize the current state of increasing demand of the qualitatively acceptable residential treatment services.

B. Short Term Intensive Care Model in Long Term Residential Treatment

The most common criticisms of residential treatment is concern about duration, cost, and subsequent institutionalization. Small community-based residential treatment programs with intensive care approaches are increasingly popular as an alternative to large state institutions isolated from natural families and communities treating juvenile pre-delinquents in terms of duration of treatment (speed), cost, generality, degree of the benefit and clinical significance.

Therapeutic approaches for children in residential treatment have been changed from staff psychologist dominated psychoanalytically oriented psychotherapy where the child is seen individually for two one-hour psychotherapy sessions each week to unit therapeutic approaches where staff psychologists provide consultation for and supervision of unit therapy, while child-care workers, behavior technicians, and teacher-counselors are carrying out treatment duties for the child, parents, home-school teachers, and other involved human service agency staff. The outcome of these changes is not only to lower operating costs of the treatment programs by reducing the number of professional hours required to see the children in individual psychotherapy, but also

to increase the efficiency of operation leading to improved delivery of service to the children in residence and their families (David, Anthony, 1975, pp. 809-814).

The role of staff psychologist as diagnostic team member and team supervisor is far from simple. As professional behavior therapists, staff psychologists design the treatment program, oversee its implementation, and even monitor its effects; but the indigenous staff (PST members and RTT members) are ultimately responsible for executing it. Therefore, the staff psychologists can influence the children's behavior only by modifying the behavior of the staff mediators (Tharp, Wetzel, 1969).

That is why the staff psychologists are seriously concerned about developing staff competency and watching their emotional endurability in a potentially psychologically draining work environment at the Project. Staff should develop their own career development perspective within the limitations of the working environment.

Residential Treatment Program as a Social System

The Pendleton Project Residential Treatment Program's functional relationship within subsystems and its linkages with suprasystems such as family and the network of human service agencies (care-givers) should be well coordinated for the prevention of children's anti-social and pre-delinquent behaviors.

As in Figure 1, the management design of the Pendleton Project (Pooley, 1975), the residential treatment team (RTT) consists of one educational psychologist, six teachers, one therapeutic recreation supervisor, two behavior technicians, three child care workers, and one residential nurse. The RTT (inclient service team) has three shifts for twenty-four hours for five days of treatment a week, having three different programs:

(1) residential treatment program (twenty-four hours a day for five days a week and weekend visits home)

(2) residential day care (day school) program similar to regular public school from 8:30 a.m. to 4:00 p.m. for five days a week for those who need more than regular classroom intervention, but not full scale residential care

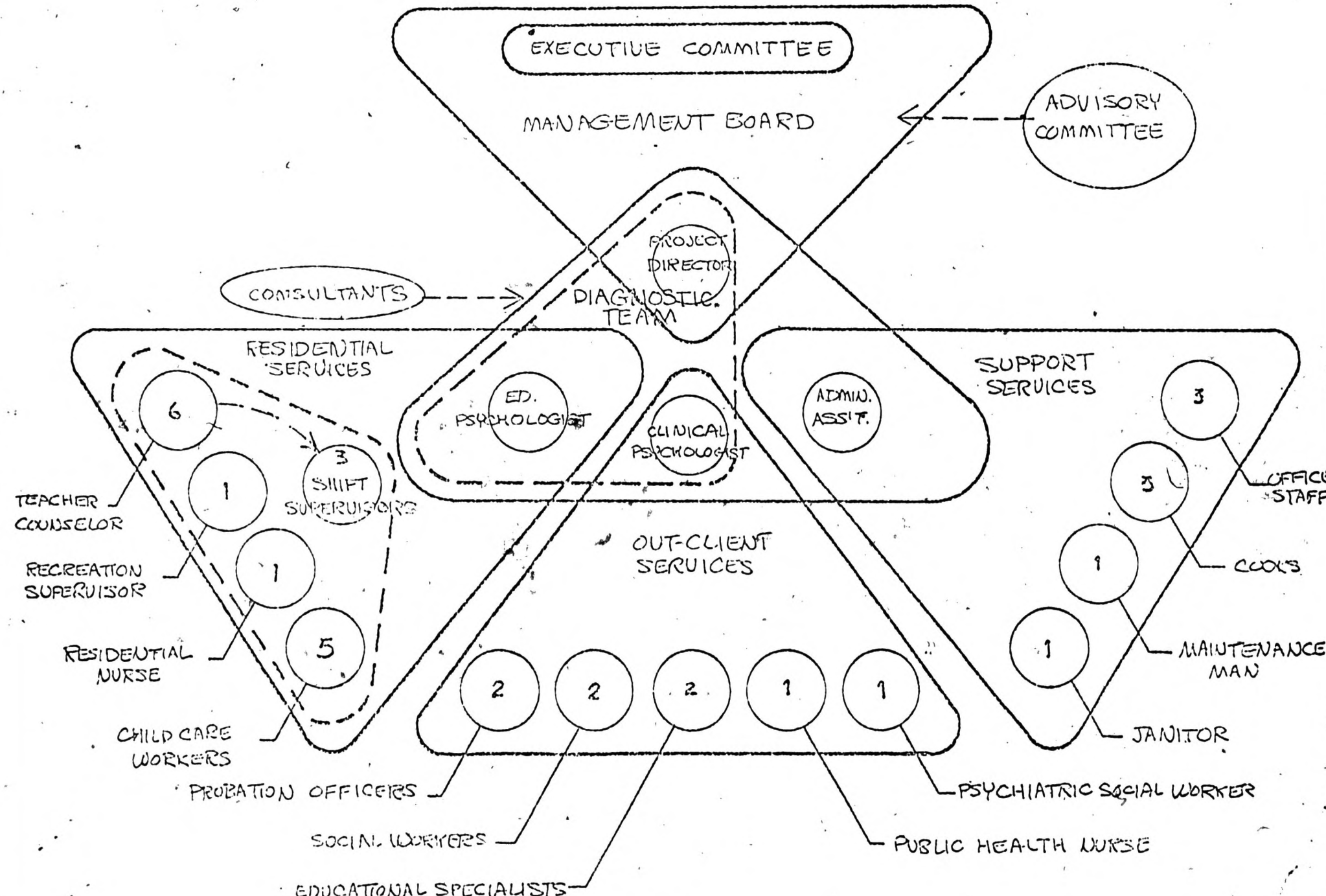
(3) residential evening care program after school (3:30 p.m.) until 9:00 p.m. for those who don't have school related problems, but for family or community related behavior problems

The average duration of the residential treatment is from six to twelve weeks. When the case is referred to the residential treatment team, we are determined to provide all possible varieties of treatment programs through intensive staff involvement by getting all possible coordination and cooperation from the sequentially and cumulatively involved care-givers and newly identified resources.

The network analysis as a method for the evaluation of service delivery system was proposed. A relatively effective program may appear ineffective because of the disorganization of the community or the lack of support

Figure 1.

PENDLETON PROJECT ORGANIZATION



services following discharge. In other words, the effectiveness of any individual institution is, to a large extent, related to the parameters and constraints of the whole network of services. The residential treatment program is an integral part of the network of human services (Durkin, R. P., and Durkin, B., 1975, p. 299).

Synthesis of Diagnostic and Treatment Approach to the Residential Treatment

A. Basic Premises to Behavior Theory

It is known that behavior is regulated by its contingencies, but the contingencies are partly of a person's own making. People play an active role in producing the reinforcing contingencies that impinge upon them (E = f (B)). Thus, behavior partly creates, and the environment influences the behavior (B = f (E)) in a reciprocal fashion. Environmental control has been overstudied by behaviorists, whereas personal control has been relatively neglected. Humanists tend to restrict their interest to personal control. Social learning encompasses both aspects of the bi-directional influence process (Bandura, A., 1974). This is why we prefer social learning theory which emphasizes both sides of the coin through modeling, imitation, and behavioral rehearsal procedures.

The goal of the residential treatment is to change maladaptive behaviors of children through helping them

experience the reciprocal contingencies between their kinds of behavior and corresponding responses from the environment.

> The principles arising from a functional analysis of behavior have been used to identify environment events that control human behavior, focusing attention on efforts to change these events so that action can be more personally satisfying and socially constructive (Bandura, A., 1974, p. 757).

The behavior therapists place primary emphasis on the achievement of positive behavioral changes through operant, respondent conditioning techniques and cognitive restructuring procedures, singly, or in combination.

B. Some Categories for Diagnosis and Treatment

Most common of the referred target behaviors of the residential children are physical aggression, verbal aggression, defiance, lack of self-control, and off-task. When the Diagnostic Team (Shea, R.; Pooley, R. C.; Eun, B.; 1977) screens a possible residential candidate presented by the out-client team member, they look at the behavior management problems which are mainly interfering social behaviors and academic response problems from the context of the family-school interview with social history data. Physical, psychological, and ecological approaches with abundant information on client's demographic, developmental, medical, school achievement, and behavior rating by parents and teachers is always useful for diagnosis and treatment. Juvenile status offenses and juvenile

criminal behaviors are referred to the Project also. In fact, we are carrying out both jobs - preventing and rehabilitating children and families.

The Project Services Team (outclient team) members go out to the natural environment and try to coach parents and teachers through applied behavior analysis technique while the Residential Treatment Team treat children as well as help mediators (parents, teachers) to increase their competency in children's behavior management.

The Diagnostic Team can identify several categories for diagnosis and treatment, which is more or less the same contents as in Table 2 (Shaffer, W., 1977).

However, when we have a final analysis of the Pendleton data through a discriminant methodology, the diagnostic/prescriptive system will provide us an efficient approach to classifying types of dysfunctional behavior with empirically supported prescriptive procedures (Cunningham, Pooley, Eun, 1977).

Recommendations from the Diagnostic Team Screening meeting might be to revise the treatment procedures in the natural environment, to accept the case to the residential treatment program, or to make a partial or total referral to the other care-giver agencies.

When the Residential Treatment Team has a new resident, they will review the case at the weekly meeting,

and set up a more specific treatment plan by making a compatible pairing of two advocates from the day shift and the evening shift staff with the child.

The two advocates from the Residential Treatment Team and one Project Services Team (outclient team) member will take the major responsibility of monitoring children's progress, while coordinating treatment services are responsible for increasing contacts with parents, teachers, pediatricians, probation officers, or social workers, psychiatrists, the community mental health workers, and public health nurse on the fluctuating need basis. Also, the above total community team effort is made when the child is mainstreamed to the natural environment. The subject follow-up is made by the Project Services Team member (Shea, Pooley, Eun, 1977).

Progress evaluation is based upon the baseline data on the specific target behaviors. The single subject approach (N = 1) and pre-post experimental and control group approach have been used. The six steps of intensive counseling process model explain themselves in terms of the residential treatment process (Thoresen, Anton, 1973). There exists a tradition of objectivity, quantification, specification of procedures, experimental evaluation, and the primacy of data over speculation (Azrin, 1977).

C. Token Economy System at the Residential Unit

Due to the highly structured residential environmental setting, some of the hard-core target behaviors exhibited

in the natural environment are not observed in residence. Suddenly those behaviors may be spontaneously cured or suppressed as soon as they are admitted to the residential unit of the Pendleton Project. The frequency and intensity of the target behaviors are shrunk to a tolerable level by residential staff in several weeks.

The initial phase of a child's residential stay will be governed by a rigorous point system, but gradually this is faded into a less extremely controlled token economy system. Once the child learns what governs his behaviors with pleasant or unpleasant consequences, then a behavioral contract on a specific recalcitrant problem will be mutually agreed upon, specifying goals and objectives of treatment between the treatment agent and the child. When the child shows his readiness to return to the natural setting, the good letter system is initiated. This applies to the whole range of problem behaviors in an attempt to stimulate the natural environment as much as possible for the better transfer of his learning to the applicable situations in the natural setting.

Throughout the residential treatment, we put emphasis on the achievement of prosocial behaviors with positive reinforcement procedures in order to protect the civil liberties of the children. Coercive or intrusive intervention techniques such as aversive procedures are not

abruptly taken.

We have learned that reinforcement works and that operant analysis of behavior provides a powerful and useful tool for producing rapid changes in disturbing behaviors by the judicious application of contingent reinforcement. However, the cognitive psychologists with attribution theory claim that the intrinsic pleasure of an activity can be reduced by giving extrinsic rewards for the classroom activity. Removal of tokens constitutes an extinction paradigm, not a generalization paradigm. Disruptive behaviors bounce back when the tokens are removed. For example, task-oriented classroom behaviors were not maintained when the children were returned to their regular classrooms. We have to avoid a narrow operant perspective leading to the fact that children are simply being taught how to earn tokens.

The Pendleton Project residential treatment token (points) system is as follows: Each child can earn 168 total points and can exchange these for five privileges such as store (15 points), television (25 points), games (25 points), odyssey (50 points), and pool, in the evening (50 points). We have various ways of increasing resistance to extinction by using a procedure which involves administering tokens for 120 minutes and selecting sixty minute control periods during which no tokens are dispensed during the morning hours.

Intermittent reinforcement schedule, delay of reinforcement, giving noncontingent reinforcements during extinction are all imbedded in the above token system.

D. Increasing Effectiveness of Treatment Intervention

Treatment gains in terms of social and academic skill acquisitions through a behavioral intervention program are often short lived only displayed in certain settings. For example, disruptive children in the residential classroom can be corrected but unless school classroom is managed by contingency system, the behavior in the school will remain disruptive.

The problem of transfer of newly acquired skills from the training session to natural setting is one of stimulus generalization. The critical variable is the degree of similarity of two settings, i.e., situational similarity. If the two settings are very different, either in terms of the stimuli that are present or the contingencies of reinforcement that are operating, the child will discriminate between the two environments. His behavior in each will differ and transfer will be unlikely (Emshoff, Redd, Davidson, 1976, p. 141).

According to Bandura, "generality is usually ensured by varying stimulus configurations. These require agents and modifying treatment conditions so that both social settings and response being reinforced are increasingly similar to those encountered in the natural environment" (1969, p. 260).

To increase durability of treatment effectiveness, a high ratio of treatment agents to children in residence and different kinds of treatment menus should be programmed into the short term intensive residential treatment setting.

The Pendleton Project follow up data indicated that the proportion of the Pendleton children functioning acceptably at follow up contacts decreases from 76 percent to 68 percent at one month to 59 percent at five months, to 58 percent at twelve months, and to 42 percent after twenty four months, (Pooley, 1977, p. 73). The shrinking success rate over time remind us of the effectiveness of the support systems for the children in the Tidewater area as well as that of the Pendleton behavioral intervention program. The post discharge environment determines the client's improvement to a great degree.

Significant Therapeutic Variables and Effective Programs in the Pendleton Residential Setting

Generally, the residential therapeutic intervention programs are designed to increase children's academic and social competency on which children can build their intrinsic sources of achievement motivation.

As Pooley (1977) spelled out in terms of the academic intervention process for the learning disabled children with reading difficulties, we are developing individualized instruction programs for academic competency, including problem solving and coping skills, through regular Pendleton

classroom instruction and the Prescriptive Learning Center operation. Since we are handling a disproportionate number of learning disabled children (66 percent of the residential children), the individualized teaching tasks are enormous.

In order to help children increase their sense of reality, the career awareness program is supplementary to individual counseling. Role expectation in connection with a child's attributes as a student and a family member, relating with corresponding situational variables, are emphasized through the implementation of the career awareness classes (Lee, 1977).

The main evening program of the residential unit consists of social competence development and deliberate moral dicision making classes. These affective domain-related intervention programs are designed to teach acceptable behaviors with which to replace aggressive or maladaptive target behaviors. Through social skill drills, modeling, role playing, and behavioral rehearsal, the residential children can enhance their ability to communicate with others, thus increasing the favorable conditions of the children's immediate social environments. Parents and sometimes siblings are brought into the social skill class if possible. The positive spread among the family members toward the child who hears nothing but criticism and reprimands is the key concept related to his/her environment climate indices. In a similar

format, the deliberate moral decision making exercises are practiced focusing on moral dilemma producing social and interpersonal situations. This is to increase the level of self-consciousness while the child is making a series of decisions in daily life (Ackerman, 1977).

The rest of the residential treatment program such as the therapeutic recreation program, arts and crafts, personal hygiene, biofeedback based relaxation training, and desensitization procedures designed for anxiety-ridden children are well described in detail in the Project's semi-annual report (Pooley, 1977).

The above "package" treatment programs include as many component procedures as seem necessary to obtain an ideal total treatment. However, it is impossible for the program evaluator to determine which component of the above package program is effective in terms of psychoedumetric sense and even clinical intuitive sense.

Noncontingent weekend visits home for all residential children during the residential treatment have paved the two way communication channels between the Pendleton Project and the families that we are involved with. The weekend at home is part of the residential treatment program and it is not a reward for self-control, nor contingent on points or behavior. Since parents are responsible for picking up their children each Friday afternoon and bringing them back each Sunday, the family has a regular opportunity to interact with residential treatment team members. Before and after

weekend parental conferences naturally complement and facilitate the residential treatment in connection with the family therapy aspect. Unobtrusively, we can move our emphatic points from the children's problem to the family problems by giving feedback on how their children have been doing in the residential program and by seeding our treatment goals or expectations in their interaction with children at home. By getting their feedback on the children's weekend behaviors, we are naturally in a coaching position to suggest alternative approaches to their behavior management practices. Again, weekend visits provide opportunities for families to act on advice and put suggestions into practice.

Frequencies of the parental contacts with the residential treatment agents increases from two times a week minimally, to two times a day when the child is placed in the Residential Day Care Program or the Residential Evening Program.

Research Designs

A. Single Subject Design (N = 1)

The Pendleton Project heavily relies on the single subject design (N = 1) and the case of Danny is an example that will be presented later.

An alternative to the difficulties of process evaluations, such as delineating the relationship between residential experiences (treatment variables) and current adaptive functioning (target behaviors) in the natural environment, is the single subject design, emphasizing

the importance of evaluating the success of treatment in terms of behavior changes at different points in time. For example, baseline data prior to admittance to the residential treatment compared with the residential baseline data on the referred target behaviors will reveal the relationship between behaviors in a community and those in a residential setting; this allows the residential treatment agent to elicit target behavior observed in the community setting. Before the phase out stage, behaviors at the time of discharge can be compared with the same behaviors at admission to residency. The Pendleton Project has used the phasing out procedure and the follow-up procedure on the basis of the above single subject design model.

As Azrin (1977) pointed out, operant reinforcement methods have a strong tradition of single subject (within-subject) experimental design rather than a group or between-subject design. But when the behavior could be expected to improve without the new treatment, such as in a highly structured residential setting, the group design is necessary to demonstrate treatment effectiveness, it will show specific treatment effectiveness is greater than had been experimentally demonstrated for alternative treatment.

B. Between-Subjects or Group Design

The experimental designs that are normally appropriate for laboratory investigations are often inappropriate

for action research. In fact, some issues render laboratory methods undesirable for research with human subjects. Experiments with randomized assignment to treatments would involve an arbitrary deprivation and/or deferment of the program to those designated as controls. Yet those controls are identified as subjects in great need of treatment service. There are, however, certain alternative research designs that are more appropriate to action research with human subjects (Campbell, and Stanley, 1963; Goldiamond, Dyrud, and Miller, 1965; Thorensen, and Anton, 1973; Goldiamond, 1974; and others). Such research designs may rely on the subject as his own control or may compare treatment groups to control groups who do not require the treatment in question. The treatment group is expected to approximate the characteristics of the control (i.e., "normal") group as a result of the treatment.

When a true experiment is not feasible, quasi-experimental designs which may help in evaluating social action programs are strongly recommended as an alternative to the field setting (Campbell and Stanley, 1963).

C. A Quasi-Experimental Design for the Pendleton Project

The Pendleton Project research team (Pooley, Shea, Eun, 1976) chose the untreated non-random control group design with pre-test and post-test as the most feasible research design.

According to the notation system of Cook and Campbell (1975), a quasi-experimental design is diagrammed in the following fashion:

O_1 X O_2

O_1 O_2

where X stands for a treatment; O stands for an observation; and a dashed line indicates that the groups were not randomly formed.

An Interpretation of the Quasi-experimental Empirical Results

Referring to the following analyses of behavior and self-concept data, independent "t" for between groups resulted in statistically significant differences for both time points of the pre-test and post-test, while dependent "t" for within group difference between pre-test and post-test measures were statistically significant only for the Pendleton treatment group.

Figure 2 indicates that the Pendleton treatment group improved significantly despite starting with a strong disadvantage of low pre-test score pattern, while the no-treatment control group did not seem to take advantage of superior standing on pre-test performance, showing negligible increment on the post-test.

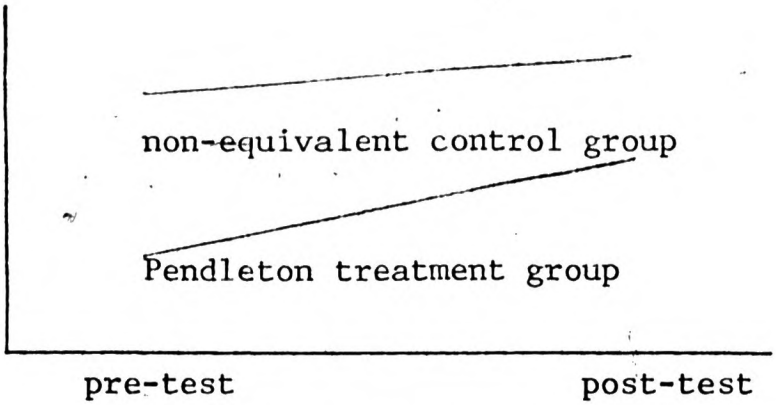


Figure 2. The Pendleton Project outcome of the no-treatment control group design with pre-test and post-test.

The validity of statistical conclusion may appear questionable on the surface due to the non-equivalent control group design. However, the results are particularly interesting in that the most probable selection and maturation interaction, regression, and history effects are ruled out.

> This is because some maturational processes are cumulative (the rich get richer and the poor get poorer), and persons scoring lower at the pre-test could be expected to be further behind at the post-test than the pre-test. When such a maturational pattern operates, the data from Figure 1 would imply that the treatment has had an effect despite the expected lower growth rate among respondents in the treatment group. (Cook and Campbell, 1975, p. 253).

A more elaborated interpretation of the research results and discussion on the basis of behavior rating and self-concept data is available (Pooley, Shea, and Eun, 1976).

The Case of Danny (Pooley, 1977)

Danny is a seven year old white male who is presently enrolled in the Center for Effective Learning in

a classroom for the emotionally handicapped. He lives with his parents, Mr. and Mrs. L. and one sister who is eleven years old. The family lives in a middle class neighborhood. Mr. L. works two jobs due to medical bills for Danny and his wife. Mrs. L. is a homemaker.

Pre-residence Outclient Treatment

The initial referral of Danny to the Pendleton Project was made on February 11, 1976, by Mrs. Grace Woody, first grade teacher in the Virginia Beach Public School system. Referral behaviors included fighting, tantrums, verbal and physical aggression, destructiveness, backtalk, short attention span, hyperactivity, various phobias, extreme fantasizing, and facial tics and grimacing. Danny was taking Ritalin, 35mgs. daily.

After referral to the Project, a home note was started with reinforcement by his parents every afternoon and a bonus on the weekend. Mrs. Woody used primary reinforcers and praise for every 5-15 minutes of on-task behavior in the classroom. Praise was also used at home for appropriate behavior using a shaping procedure. Time out on a chair was used for temper tantrums (see home and school graphs).

Residential Treatment

Danny entered Pendleton's residential unit on July 6, 1976, for nine weeks of intensive treatment. Residential treatment was not expected to be the entire

answer to Danny's problems; focus was placed on reducing his anxiety in general and with regard to specific fears as well. Danny began day care on August 30, 1976, and was phased out on September 3, 1976.

Residential Progress

When Danny entered the residential program, he had been on medication (ritalin, 35 mgs. per day) since the age of three years. After the first day of residency, this medication was discontinued in order to determine the amount of self-control Danny could display on his own. Danny worked well in the highly structured point system of the residential unit.

Treatment Plan

The specific phobias dealt with during Danny's time in residence included:

1) separation from mother
2) washing hair
3) taking showers
4) physical examination
5) eating with a group of children
6) ears being touched or loud noises

1) Separation from mother: Danny was allowed to earn a phone call home. This was very reinforcing to him during the first week of residence. However, he gradually lost interest, During this time, Danny was allowed to realize much of his own potential, proving to himself that he was, in fact, able to be quite independent. This new found sense of self-worth and accomplishment would seem to be more reinforcing then the dependency on his mother.

2, 3) Washing hair and taking showers: (a) During the first week, Danny's washing-up consisted of washing his face, neck, and hands with a wash cloth. (b) During the second week, Danny watched other residents wash cars and play with the hose. He also was allowed to play in a

wading pool, then later taken to the beach to play at the ocean's edge. He was also given a squirt gun for free-time play. (c) During the third week, he was shown a sequential arrangement of pictures depicting water scenes while he was enjoying his meals. (d) During the fourth week, Danny was allowed to turn on his own shower to a force he felt comfortable with, and gradually asked to increase this. Danny earned snack during this week for taking a good shower. The snack was phased out during the fifth week when he was quite proud of being able to take his own shower and wash his hair without any help.

Danny had a chronic ear infection that apparently caused him a great pain when he got water in his ears. This association of pain with water, in any context, may well have precipitated his avoidance reactions to water in general.

4, 6) Physical examination: Modeling was used very successfully for treatment in this area as Danny has frequent need to use ear drops. Another resident showed Danny how he had learned to put ear drops in all by himself. Danny then allowed another resident to administer the drops to his ears. The next day, he did it with the help of another staff member until gradually he could put his ear drops in with only a minimum of supervision.

5) Eating with a group of children: Danny showed no fears or acting out at mealtime. This might have possibly been due to the point system in effect at mealtime.

Behavior often exhibited were tantrums and destructive behavior. At this time, Danny would often pretend he was a monster and make bizarre animal noises. At times, he also behaved as if he were the Bionic Man or a super powerful being. In order to reduce this fantasizing, the following treatment was begun July 19, 1976:

1) ignore fantasy verbalization
2) refocus conversation away from fantasy
3) praise his talking about "real" people, activities, etc.
4) praise his engaging in activities, such as softball, playing with other children
5) control his environment to reduce exposure to fantasy animals and people on television (i.e., the Bionic Man), and in books, etc.

On the other hand, he sometimes behaved in an extremely dependent fashion (i.e., whining and other infantile behaviors). To increase his self-esteem and independence, the following treatment was devised:

1) ignore references to himself as being a baby, weak, out of control, etc.
2) refer to Danny as a "big boy", "strong", etc., in a realistic context
3) use his art work ability (not monsters or dinosaurs) to channel his activity as well as class work
4) encourage athletic activities so he can feel his physical control over himself

To reduce general anxiety, the following biofeedback treatment was used:

Muscle relaxation procedure (Cybord Corporation, 1975) introduced to him and his parents. His anxiety reduction can be influenced by the other therapeutically conducive interventions surrounding him at the residency and at home as well.

His muscle tension was measured by EMG biofeedback machine and muscle relaxation training was administered. The results of this treatment are shown here.

Danny's EMG Readings

Date	EMG Reading in Unit Volts (uV)	Mean uV
7/12/76 (pre-measure	52 uV-151 uV	52 uV
8/30/76 (post-measure)	5.3 uV-19.1 uV	10.3 uV

The above data indicated that Danny was extremely tense on the pre-measures, but was quite relaxed on the post-measure. Readings below 4. uV indicate a remarkably relaxed state. Increased readings indicate greater degrees of muscle tension. The maximum reading on our equipment is 250 unit volts.

Self Concept

The Piers Harris Children's Self Concept Scale (The Way I Feel About Myself) was given to Danny upon entering residency on July 7, 1976, and again on September 1, 1976, when leaving residency. Pre and post tests were administered to determine any growth in self-concept after Pendleton Project residential treatment. Scores are shown below:

	Raw Score	Percentile
Pre-Test	28	6
Post-Test	63	77

Average scores are considered to be those between the 31st and 70th percentile or beteeen the raw scores of 46 to 60. Danny's pre-test score fell far below the average range. The greatest areas of growth were seen in Danny's Intellectual and School Status and Popularity subscales.

According to the diagnosis by psychiatrist Dr. Dowling and a clinical psychologist, Dr. Volenski, Danny appeared to be an extremely anxious, fearful,

and self-stimulating child. For example, yelling for no apparent reason, Making animal sounds, making monster noises and movements, cursing to himself, and nasty gestures were observed during the initial two to three weeks of his residency at the Pendleton Project.

Two behaviors that were treated were considered to be representative of the progress made in Danny's case. These behaviors are backtalking and cursing. Although these behaviors are not eminently serious or dangerous ones, they did precipitate frequent undesirable responses on the part of others which may have served to maintain Danny's problem behaviors.

As shown in Figure 3 and Figure 4, target behaviors, such as backtalking and cursing decreased from the baseline phases (A_1 and A_2) to intervention phases (B_1, C, and B_2) as follows:

Treatment and Evaluation Phases	Average Target Behavior Frequencies/Day	
	Backtalking	Cursing
A_1 (Outclient baseline)	4.4	1.9
B_1 (Outclient treatment)	3.8	5.0
A_2 (Residential baseline)	3.8	5.3
C (Residential treatment)	0.6	0.8
B_2 (Outclient treatment)	2.2	1.0

However, these target behaviors did not seem to be under his control after he was mainstreamed to his family and his public school (i.e., C=0.6 + 0.8, whereas, B_2=2.2 and 1.0). This is not unusual phenomena, rather it

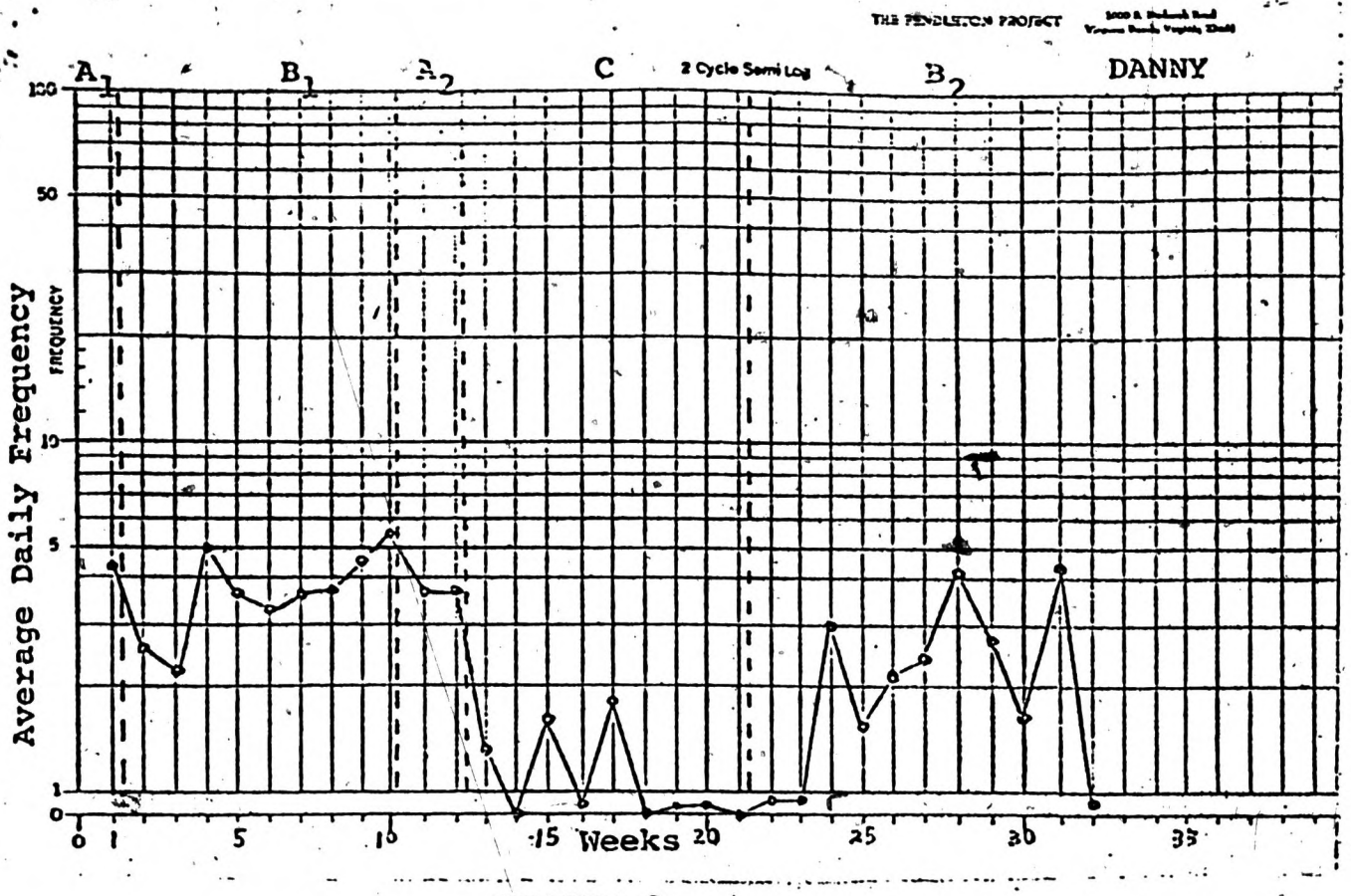


FIGURE 3

Rate of Backtalking Per Day During Each Week

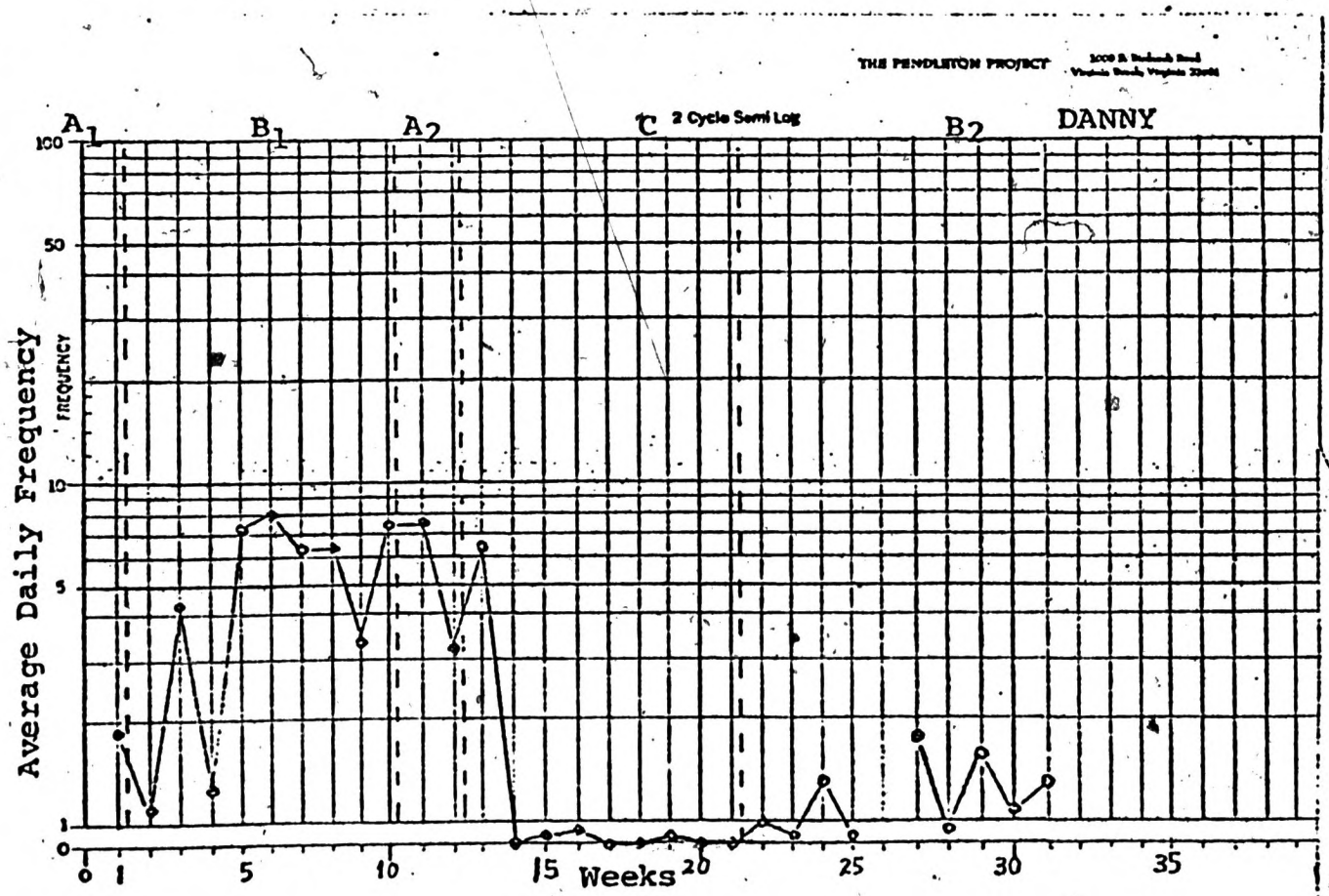


FIGURE 4

Rate of Cussing Per Day During Each Week

demonstrates the difficulty of attempting to generalize behaviors that were brought under control in a structured setting to the natural environment.

In order to maintain the low rate of the above and other target behaviors, the following recommendations were made upon his discharge from residential treatment.

Recommendations:

Home

1) Encourage Danny's grown-up behavior.
2) Ignore artificial pleas for help.
3) Ignore verbalizations of fears; instead, praise other models for their grown-up behavior.
4) Encourage Danny to take responsibility upon himself.
5) Give Danny directions in a clear, firm voice. If in doubt of his comprehension, ask him to repeat the directions to you before execution.

School

1) Placement in a E.D. classroom.
2) Remediate pin-pointed academic deficits.
3) Utilize instructions on an individual basis or a very small group.
4) Clarify and be explicit in task instructions.
5) Frequently reward task performance.
6) Present tasks in a step-wise fashion.

Post-residence Outclient Treatment

During the eleven weeks following Danny's residential treatment, a home program using happy faces associated with verbal praise by parents has been used. Time out on a chair is implemented when necessary. The Center for Effective Learning, Danny's E. D. placement, has a token economy. Danny brings a note home daily regarding his behavior. If the note is good, he is

rewarded with a snack after school and verbal praise. In addition, the parents are recording (self-monitoring) each time they punish, reward, and spank Danny. The goal is to increase a positive relationship between Danny and his parents since he responds more appropriately in general, to a positive environment.

At present, Danny's behavioral and academic performance at the Center for Effective Learning (C.E.L.) is very good. According to the teacher, he is performing and improving at an adequate rate. Danny's behavior is maintained at home under a highly structured program. Many of his behavioral problems have come under self-control. At present, the most outstanding difficulty is his overactivity which manifests itself in several behavioral problems. We are continuing to work with Danny and his family on a weekly outclient basis. It is anticipated that this work will continue until the inappropriate behaviors are replaced by acceptable acts in a stable manner. Danny will attend C.E.L. indefinitely. It is also anticipated that Danny will always be an anxious person, but he appears to have the intellectual ability to compensate and redirect his anxiety in constructive ways.

APPENDIX A

AERA 1977 Annual Meeting Program

April 6, 1977

Murray Hill A. (Hilton) 12:25-1:55

14.03 / ALTERNATIVE APPROACHES TO TREATING CHILDREN AND FAMILIES WHO EXHIBIT BEHAVIOR PROBLEMS (Symposium, Division E)

Chair	Richard C. Pooley, Old Dominion University
Participants	Behavioral Problem Children and the Public Schools: Alternatives of Treatment. William Nichols, Chesapeake (VA) Public Schools
	The Program of Clinical Services for Children and Families Developed by Psychiatric Associates, Ltd. of Virginia Beach and Portsmouth, Virginia. Leonard T. Volenski, Psychiatric Associates, Ltd.
	A Juvenile Justice "Systems Approach" to Community Based Alternatives for Children in Trouble. C. Ray Mastracco, Commonwealth of Virginia Youth Services Program
	A Diagnostic/Prescriptive Model which Might be Used to Match Treatments to Types of Children Displaying Specific Dysfunctional Behaviors. William G. Cunningham, Old Dominion University
	Interagency Outclient Service Delivery to Young Children and Their Families. Richard J. Shea, Virginia Beach (VA) Comprehensive Mental Health Services
	Residential Treatment as an Intensive Care Unit for Behavior Therapy. Bong-soo Eun, Chesapeake (VA) Public Schools
Critic	Carl Hanbury, Virginia Beach (VA) Department of Social Services

APPENDIX B

PARENTAL CONTRACT

I/We the undersigned, parent(s) of _____, a resident of the Pendleton Project realize that for him/her to experience success at Pendleton my/our cooperation is essential. Therefore, I/we agree to the following:

To provide transportation such that his/her week at Pendleton may begin at _____a.m./p.m. on _____ of each week. During the week the Pendleton Project will provide food, emergency or minor medical care, housing, educational and treatment needs. I/We understand that he/she has been referred to Pendleton because of _____ behavior(s) and that Pendleton intends to correct these as well as other problem behaviors that might be discovered while he/she is in residence. To this end, I/we will regularly attend parental counseling sessions at _____a.m./p.m. on _____ to _____a.m./p.m. on _____.

I/We will adhere to the provisions of behavioral contracts established to monitor his/her behavior while he is in my/our care on weekends from _____ a.m./p.m. on_____ to _____a.m./p.m. on _____.

I/We will provide transportation such that his/her week at Pendleton ends and his weekend stay at home in my/our care begin at _____a.m./p.m. on _____of each week.

I/We agree that when the specific goals of _____ have been met, Pendleton may make further recommendations concerning his/her treatment. I/We understand that my/our child's progress at Pendleton will be monitored and updated when necessary and therefore at some time Pendleton may be determined to be an inappropriate facility and recommendations will be made concerning the best alternative treatment.

_____
Parent

_____
Parent

_____
Richard C. Pooley, Director

APPENDIX C

the pendleton project
1000 South Birdneck Rd., Virginia Beach, Va. 23451 Phone 804 425-6692

Name:
Birthdate:
School:
Grade:

Referral Contract

The above mentioned child has been referred to the Pendleton Project Residential Treatment Team (RTT) for possible admittance. In order for acceptance, the following contract is needed between school personnel and the Pendleton Project staff.

PART A

School Agrees To:	Pendleton PST Agrees To:
1. Keep a frequency record of the exhibited referral behaviors.	1. Discuss alternative techniques of recording this data.
2. Complete a residency checklist on school related behavior.	2. Complete a residency checklist on home related behavior.
3. Send a comprehensive medical report to the Pendleton Project Diagnostic Team, c/o the Medical Staff.	3. Have Pendleton's Public Health Nurse interview parents concerning medical history.
4. Share relevant information on what school system has done for the case.	4. Use the information for screening the case and set up a treatment plan.

Upon completion of Part A, _____ will be screened by Pendleton Project Diagnostic Team for possible admittance. If the child is accepted, Part B of this contract will become effective.

PART B

School Agrees To:	Pendleton Project RTT Agrees To:
1. Provide books and lesson plans to run concurrent with the child's stay in residency on the basis of diagnosis and prescription.	1. Provide prescriptive individualized instruction utilizing the given lesson plans.

2. Prepare for the child's readmittance into the classroom by frequent progress checks while he is in residency and by confering with the Pendleton Project staff to discuss specific treatment plans and recommendations upon the child's termination from residency.

2. Report on the child's progress and compile academic, behavioral, and medical recommendation write-ups.

The termination of the child's stay in residency will activate Part C of the contract.

PART C

School Agrees To:	Pendleton Project Agrees To:
1. Accept the child back into the classroom.	1. Meet with teacher on child's first day back into the class.
2. Actualize Pendleton Project recommendations.	2. Make follow up visits for 4 weeks to record adjustments and discuss problems.
3. Complete follow up checklist form.	3. Assess validity of recommendations during follow up visits.
4. Maintain effective procedures in the classroom.	4. Terminate the case.
5. Provide periodic feedback every 2 weeks for 2 months periods, after termination of the case.	5. Analyze and discuss feedback data with school personnel.

Principal	Pendleton Project Director
Special School Personnel	Case Coordinator (PST)
Teacher	Case Coordinator (RTT)
School Nurse	Medical Staff Representative

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