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INSTITUTION ENVIRONMENTS FOR MODERATE AND MILDLY RETARDED PEOPLE WHO EXHIBIT SEVERE SOCIALLY INAPPROPRIATE BEHAVIORS

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INSTITUTION ENVIRONMENTS FOR MODERATE
AND MILDLY RETARDED PEOPLE WHO EXHIBIT
SEVERE SOCIALLY INAPPROPRIATE BEHAVIORS

DISSERTATION

Presented in Partial Fulfillment of the Requirements for
the Degree Doctor of Philosophy in the Graduate
School of The Ohio State University

by

JOHN PETER AINES JR., B.A., M.A.

* * * * *

THE OHIO STATE UNIVERSITY
1979

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THE PROBLEM

Historical Perspective

Historically, society's image and expectations of the retarded have influenced the manner and type of services provided them. Attempts to trace and understand the history of public residential facilities in the United States have focused on society's concept of, and generalized response pattern (Guskin, 1963a) to deviance (White and Wolfensberger, 1969). Societies create deviants by selecting human attributes and labeling them as valued by members of the society; and all who fail to conform to these norms are, by definition, deviant (Bartel and Guskin, 1971). Society has typically dealt with its deviant members by (1) preventative measures; (2) reversal of the deviance; (3) segregation or isolation of deviant members; and (4) destruction of the deviant members (Kugel and Wolfensberger, 1969; White and Wolfensberger, 1969). The history of treatment in public residential facilities in the United States parallels this pattern.

Howe's Massachusetts School for the Idiotic and Feeble-Minded Youth was originally intended to reverse the deviance of retarded people. Seguin, Howe, Wilbur and others, applying concepts espoused by Seguin, developed "schools" where retarded people could be trained to become useful members of society. Following the pattern of the Massachusetts School, the first public facilities were small in size,
homelike in atmosphere, and located in the center of the community. Education and training focused on sensory, muscular and speech competencies as "the senses are the 'doors through which the mind issues and enters' but not the mind itself. It is useless to teach ideas before these doors are widened" (Rosen, Clark and Kivitz, 1976, p. 152).

This attempt to make the deviant "undeviant" was remarkably successful in achieving its aim of returning residents to society and public residential facilities flourished and dramatically increased in size. Their founders were replaced by others, and with the increase in size, the number of non-rehabilitated residents increased. Sheltering the deviant from society also meant to isolate them. Schools became asylums emphasizing economy rather than education and training. Residents were crowded into buildings and required to perform the labor necessary for maintenance of the asylum:

A superintendent of the Ohio institution in the mid-1880's made an often quoted boast to his legislature: 'Give me the land (1000 acres will suffice) and allow me to gather the idiotic and imbecile population now under public care together, and I agree that the institution shall be made self-sustaining, and I will pay back to the state the price of the land' (A.G. Byers, Discourse on care of the feebleminded, National Conference on Charities and Corrections Proceedings. 1890, p. 441, cited in President's Committee on Mental Retardation, 1977).

Thus the groundwork for exploitation, warehousing and dehumanization was laid (Vale, 1967).

As early philosophies were abandoned and small schools grew to ever larger asylums with dehumanizing conditions, pity changed to fear and scorn, and emphasis shifted to the protection of society from the deviant. Kerlin described "moral imbeciles" and recommended that they
should be incarcerated for life. In 1893, Fernald stated that "the brighter class of the feebleminded with their weak will power and deficient judgment are easily influenced for evil and are prone to become vagrants, drunkards and thieves..." (White and Wolfensberger, 1969, p. 7). In 1904, Martin Barr reaffirmed Kerlin's position as regards moral imbeciles, stating that the "healthy status of a nation depends upon eliminating from its arteries the most pernicious element (and placing them) where they may live out their brief day" (White & Wolfensberger, 1969, p. 8).

The next fifty years saw the entrenchment of that late nineteenth century philosophy in public residential facilities. The rediscovery of Mendelian laws of genetics in 1900 prompted a reinterpretation of Dugdale's (1877) study of the Juke family to support a genetic, rather than environmental, cause of feeblemindedness. The "eugenics movement" reached its peak with the publication of Goddard's study of the Kallikak family (1914) and his translation of the Binet-Simon instrument for use with American retarded people (Rosen, Clark, & Kivitz, 1976; President's Committee on Mental Retardation, 1977). Although the development of more sophisticated research methodology (e.g., Balyey, 1933) and increased knowledge of organic causation cast doubt on the significance of genetic causality, little in the way of institutional reform took place. This was primarily due to a consuming national concern for the restructuring of the country after World War I; the devastating effect of the depression on the national political and economic scene; and by World War II.
However, the accumulating pressure of medical and technological advances blocked by depression, war and post-war restructuring; together with a renewed commitment to the rights of all people, set the stage for the organization of parents and others interested in the plight of retarded people, into what is now known as the National Association for Retarded Citizens (NARC):

The effect of parent organization was to provide, first a source of mutual aid and comfort; second, a basis for direct action in obtaining better treatment for their own children; and third, a catalytic agent to bring about broad social change in management of a serious and widely pervasive human problem" (President's Committee on Mental Retardation, 1977, p. 58).

Working with the American Association for Mental Deficiency (AAMD), an organization of all professional disciplines in mental retardation, and the Council for Exceptional Children (CEC), an organization of professional educators interested in developing educational services for all exceptional children, NARC "served as a social catalyst at local, state and national levels to galvanize political change, modify public attitudes, and stimulate professional attention in a manner virtually without parallel among voluntary service organizations" (President's Committee on Mental Retardation, 1977, p. 59). In 1961, President Kennedy announced the appointment of a blue ribbon panel to "consider a national approach to the prevention and management of mental retardation" (President's Committee on Mental Retardation, 1977, p. 52). The panel's report, National Action to Combat Mental Retardation (1962) was translated into legislative recommendations to Congress and resulted in the enactment of Public Laws (PL) 88-156 and 88-164.
The former law consisted of the Maternal and Child Health and Mental Retardation Planning Amendments to the Social Security Act, and provided funds to states to begin comprehensive mental retardation planning. The latter law funded the establishment of Comprehensive Mental Retardation Research Centers and University Associated Facilities (UAF), both of which served personnel training needs and acted as community resource centers. These laws formed the basis, upon which, state and regional branches of NARC initiated legal action to speed the implementation of philosophies and practices consistent with the humane treatment of retarded people.

Legal Ramifications

The passage of PL's 88-156 and 88-164 by the Congress, provided federal funds for the development of a comprehensive state plan, research centers, and the training of professionals in mental retardation. However, the establishment of such mechanisms had little immediate impact on institutional reform. Consequently, NARC, and its state and local affiliates, turned to the federal courts to seek relief for the deplorable conditions in public residential facilities. Unlike the congressional action of the 60's, federal court decisions had a tremendous impact on the policies, procedures and programming in state institutions. While each state retained both the responsibility and authority for its institutions, federal court interpretations of the Constitution and its amendments have redefined the parameters within which states must operate (Scheerenberger, 1976).

Federal court decisions have affected institutional reform in three broad areas: (1) right to treatment; (2) due process; and
(3) involuntary servitude. Wyatt v. Stickney (1972) was a class action suit filed in 1970 against the Alabama Department of Mental Hygiene in the name of Ricky Wyatt, a resident at Partlow State School. The decision of the Federal District Court not only found that Wyatt's constitutional rights were being violated, but defined the minimum treatment standards which Partlow had to meet. However, a similar class action suit (Burnham v. Department of Public Health of the State of Georgia, 1972) led to a decision diametrically opposed to that of Wyatt v. Stickney. In 1972, the United States Court of Appeals, Fifth Circuit, consolidated both decisions holding that "(1) the retarded have a constitutional right to treatment; (2) federal courts can enter into cases of this nature; and (3) the court can set standards and monitor their implementation" (Scheerenberger, 1976, p. 100).

It should be noted that the minimum standards of treatment mandated by the court (Wyatt v. Stickney) were not developed by the judge himself, but were recommended by professionals knowledgeable in the field of mental retardation. In a similar right to treatment decision in Minnesota, the presiding judge in Welsch v. Likens (1974), required the Cambridge State School to meet federal Intermediate Care Facility (CF) standards.

The landmark decision concerning the equal protection clause of the Fourteenth Amendment was the U.S. District Court ruling in the case of Lessard v. Schmidt (1972). This decision declared Wisconsin's civil commitment procedures to be unconstitutional. Consequently, all involuntarily committed residents eighteen years of age or older, had to have their commitment reviewed in a formal court hearing.
Those residents who were found to be neither dangerous to self or others could be changed to voluntary commitment status; their rights had to be explained to them in terms they could understand; and the resident had to freely agree to remain in the institution. A similar case in Tennessee (Saville v. Treadway, 1974) saw the U.S. District Court rule that Tennessee's commitment procedures for minors was unconstitutional, and specified commitment procedures which safeguarded the rights of due process and equal protection for minors.

The question of involuntary servitude was addressed by the Federal Court in 1973 when Souder v. Brennan, a class action suit, was filed against the Department of Labor. In ruling on this case, the court held that minimum wage, overtime, and all other provisions of the Fair Labor Standards Act applied to all retarded people living and working in public residential facilities. Although a later ruling (National League of Cities v. Usery, 1976) excluded state and municipal employees from inclusion in the provisions of the Fair Labor Standards Act, the court ruled that resident labor practices in state institutions conform to the provisions of the Act and the Souder v. Brennan decisions.

Since federal court decisions involve interpretations of the Constitution and/or its amendments, such decisions necessitate changes in state laws, which cannot violate the provisions of the Constitution. Ohio's effort to reaffirm the basic human and constitutional rights of its retarded citizenry is embodied in Amended Substitute Senate Bill No. 336. This law is intended to accomplish the following purposes:
(A) To promote the human dignity and to protect the Constitutional rights of mentally retarded people in the state;

(B) To encourage the development of the ability and potential of each mentally retarded person in the state to the fullest possible extent, no matter how severe his degree of disability;

(C) To promote the economic security, standard of living, and meaningful employment of the mentally retarded;

(D) To maximize the assimilation of mentally retarded persons into the ordinary life of the communities in which they live;

(E) To recognize the need of mentally retarded persons whenever care in a residential facility is absolutely necessary, to live in surroundings and circumstances as close to normal as possible (S.B. 336, 1975, p. 2-3).

Additional legislation in the form of Ammended Substitute House Bill No. 455, promulgated August 27, 1976, as a result of Public Law 94-142, mandates the identification, evaluation and special education class placement for all handicapped children below the age of twenty-two, including those in public and private residential facilities. Ammended Substitute Senate Bill No. 415, promulgated July 20, 1978 provides for guardianship services to all mentally retarded or other developmentally disabled persons, and allows the guardian and others to consent to certain medical and surgical procedures on the behalf of retarded clients. In addition, this Bill specifically forbids sterilization, psychosurgery, any unusually hazardous treatment procedures, and any major aversive intervention (behavioral) without fully informed, intelligent and knowing consent.

In redefining the parameters within which state institutions must operate, the courts recognized that affirmation of the legal right to
treatment, due process of law and freedom from involuntary servitude was a necessary, but not sufficient, step in and of itself, to bring about full institutional reform. In mandating a humane physical and psychological environment, the presiding judges realized that many conditions found in institutions bordered on violation of the cruel and unusual punishment clause of the Eighth Amendment. Consequently, standards addressing environmental conditions were made a part of the mandated plan of correction. These conditions included staffing, overcrowding, sanitation, diet, medical care, restraint and seclusion, privacy, appropriate physical surroundings and protection from unchecked violence of other clients and/or staff. In order to qualify for federal monies, institutions are required to meet Intermediate Care Facility (ICF) and/or Joint Committee for Accreditation of Hospitals (JCAH) standards, and such compliance must meet all minimal standards for both program and environment.

While S.B. 336 remains the primary legal vehicle covering the commitment, habilitation, release, community care, and human and civil rights of Ohio's retarded citizens, additional guidelines in the form of Administrative Rules (AR) were promulgated to clarify sections of S.B. 336 and assure uniform implementation and application of the new laws. A.R. 5119-3-04 (Restraint of Clients) abolishes the use of seclusion rooms in all state facilities serving the retarded, and defines and establishes uniform procedures governing the safe, humane use of restraint. A.R. 5119-3-07 (Behavior Modification Interventions) defines the levels of aversive intervention, specifies the criteria and approval necessary to implement a program utilizing an aversive
intervention, and provides guidelines to protect the rights of clients involved in any behavior modification procedure. A.R. 5119-3-08 (Human Rights) establishes guidelines for "participative opportunities in the promotion of human dignity and the elimination of dehumanizing conditions, attitudes, and practices and environments within the institutions of the Department" (Ohio Department of Mental Health and Mental Retardation, 1978, p. 1). The promulgation of such legislation at national and state levels has reaffirmed the philosophy which guided Seguin's development of the "physiological method" in the training and education of retarded people.

Court decisions and the ensuing legislative changes have mandated that institution programs be geared toward the deinstitutionalization of current populations, with future admissions restricted to those with psychiatric or emotional disorders which make the person dangerous to self or others. In addition, community resources must be fully explored, and shall be preferred, even if the person meets the new admission criteria. Finally, a retarded person admitted to, or currently residing in an institution shall not remain in the facility any longer than necessary (Scheerenberger, 1976).

Such emphasis on the role and function of institutions necessitates sweeping institutional reform. Accordingly, the various aforementioned court decisions have addressed five major areas of concern: (a) a recognition of the basic human and civil rights of the retarded as citizens of this country; (b) that institutions develop programs geared toward speedy return to the community for all who are eligible; and that future admissions adhere to the newly mandated admissions criteria;
(c) that each person in the institution have an individual habilitation program designed to meet his/her total needs; (d) that aversive stimuli and other possible negative treatment procedures be severely limited, and, when used, be under the supervision of a competent professional; and (e) that the above be developed in a humane physical and psychological environment (Scheerenberger, 1976). Clearly, the challenge for institution staff at all levels is to develop institutional programs which lead to: (1) appropriate community placement for all clients; (2) programs geared toward the amelioration of those behaviors which lead to a diagnosis of psychiatric or emotional impairment of such severity, that the individual is considered dangerous to self or others; (3) that such programs be prepared to concurrently enhance each individual's level of adaptive behavior.

The speed with which these ideals are approached is complicated by a lack of fiscal and personnel resources within the institution, as well as the development and availability of appropriate community alternatives. Also, there is ample evidence to indicate that a large institution environment is not conducive to the establishment of programs for their wide range retarded population. These large institutions do not have sufficient numbers of adequately trained staff or physical resources to effectively develop and implement programs. Given that we have so many retarded people living in large institutions, the nature of the problem becomes the development of therapeutic programs which can be delivered in a large institution setting. Furthermore, this type of approach will provide alternatives to existing programs which emphasize major aversive stimuli, an approach which has raised
serious moral and ethical question in our society.

Statement of the Problem

In an effort to comply with mandated standards regarding client programming, a small segment of Orient State Institute's (OSI) population were found to be functioning significantly below their potential in a wide spectrum of behaviors, concomitant with the exhibition of severe socially inappropriate behaviors which present a danger to themselves and others. Limited program resources, the severity of their behaviors, and overcrowded residential areas, manned by poorly trained staff resulted in the use of restraint/seclusion and psychotropic medication as the primary treatment modalities. Ultimately, staff came to expect such client behavior and clients came to expect such treatment, creating a non-therapeutic environment.

Since OSI is charged with a moral, ethical and legal mandate to provide these people adequate training/treatment, and since standard approaches to programming have had little, if any, positive affect on them, the problem is one of creating, within current resources, an environment conducive to the amelioration of their severe socially inappropriate behaviors as well as the enhancement of more adaptive responses to social stimuli. The research literature concerning training and treatment modalities effective in coping with the problems of retarded people suggest that Skinnerian operant techniques (Krasner & Ullman, 1965; Ullman & Krasner, 1965) as well as Bandura's (1969) observational learning paradigm may be applied to a broad spectrum of behaviors of retarded people with a great deal of success. Consequently, a residential program utilizing these techniques was established
to accomplish the above goals.

Research Questions

Accordingly, the following research questions were posited:

1. Given the limited institutional resources, is it possible to develop and maintain a therapeutic environment in an institution?

2. As a result of participation in such a program, will the clients' experience substantial decrements in the frequency of their socially inappropriate behaviors?

3. As a result of participation in such a program, will the clients experience substantial increments in their adaptive responses to social stimuli?

4. The attitude and training of direct care staff is a crucial element of a therapeutic environment: can staff be trained to implement the necessary programs, and will their participation in the program lead to an attitudinal change toward the retarded?
REVIEW OF THE LITERATURE

Introduction

The ability of an institution to comply with court mandated reforms is directly related to the availability of appropriate community based programs and services as well as the personnel and fiscal resources to effect substantial changes in institutional settings.

The documented negative impact institutionalization has had on human development and the fiscal expenditure necessary to bring public institutions into compliance with court mandates, has led to widespread advocacy of total deinstitutionalization. Such a position assumes that community care is both feasible and appropriate for all retarded persons; and that the care provided in large public facilities is invariably inadequate. Early investigators (Casler, 1961; McCandless, 1964; Butterfield, 1967) took a critical view of the effects of institutionalization on development. However, the research of Balla, Butterfield and Zigler (1974) and Balla and Zigler (1975) have shown that pre-institutional experience influences institutional performance. Raynes, Pratt and Roses (1977) and Scheerenberger (1976) suggest that the quality of institution care rather than institutionalization per se must be examined. Leland, Shellhaas, Nihira and Foster (1967) conclude that the demands of the environment as well as the abilities of the individual must be considered. While all would agree that the
primary goal must be to provide the most humane care possible, the most effective and economically efficient systems for achieving this goal have not been demonstrated (Scheerenberger, 1975). Raynes, et al (1977) conclude that continued research will focus on the differential effects of environmental conditions that influence the quality of care provided to retarded persons.

Institutions have been condemned, and rightly so, for their effects on those confined in such conditions. It has been recognized, however, that the condition of institutionalization, like socio-economic-status and birth order, does not constitute a psychological variable, but refers to the demographic status of an individual. Recent research (Balla, et al, 1974; Balla & Zigler, 1975) raises some question as to what extent institutionalization does in fact contribute to retardation.

Conversely, the concept of deinstitutionalization has not gone without challenge (Scheerenberger, 1976). McCarver and Craig (1974) reviewed 175 published reports concerning post-institutional adjustment, and have noted a substantial decrease in the number of successful placements in recent years. Nihira and Nihira (1975) found that community placed retarded persons were potentially in danger; while Soforenko and Macy (1977) suggest that persons discharged from institutions may be living in more restrictive and debilitating environments than when they were in the institution. The Comptroller General of the United States (1977) notes that while deinstitutionalization has been a national goal since 1963, progress toward attainment of this
goal has not been substantial. The report concludes that:

Mentally disabled persons have been released from public institutions without (1) adequate community-based facilities and services being available or arranged for and (2) an effective management system to make sure that only those needing inpatient or residential care were placed in public institutions and that persons released were appropriately placed and received needed services (p. 172).

The problem lies not in the failure of institutions to carry out programs leading to greater adaptation, "But rather that their programs are much less effective than they could be under other circumstances" (Leland & Smith, 1974, p. 81). The point is that current institution models and their underlying philosophy are inconsistent with the mandate to maintain the highest levels of humanity.

In spite of longstanding deficits in rehabilitative programs and the paucity of appropriate socialization programs, the fact remains that large segments of Ohio's retarded population find themselves, through no choice of their own, living in large public institutions. Many, due to the presence of supplementary conditions (i.e., psychiatric impairment, multiple physical handicaps), cannot be placed in less restrictive environments, simply because they do not exist. It is this investigator's position, that society, condoning such practices in the past, has a continuing obligation to provide the most humane physical and psychological environment possible, simultaneous with the development of less restrictive community alternatives.

The development of institution programs, consistent with judicial mandate, require an understanding of the environmental demands, both physical and social, as well as the pertinent aspects of personality, motivation and self perception which characterize the retarded and
the treatment/training modalities which facilitate individual adjustment in the world outside the institution. Specifically, quality program development requires an understanding of:

[a] the current status of the resources available;

[b] the effect of institutionalization on human development (Butterfield, 1967);

[c] those aspects of personality, motivation and self perception which tend to represent the means by which the retarded person deals with his handicap and the social situations which arise as a consequence of it (Robinson & Robinson, 1976);

[d] the treatment/training modalities which facilitate the removal of adaptive, psychological and social barriers that come between the retarded person and effective acceptance behavior (Leland & Goldberg, 1957); and,

[e] the integration of these aspects into a program entity which may be consistently implemented with available staff and other resources (Scheerenberger, 1976).

**Demographic Status of Institutions**

Federal and state government action, stimulated primarily by judicial mandate, has resulted in significant changes in institutional conditions described by Blatt (1966) and Wolfensberger (1969, 1976). Generally, American institutions have been plagued by a four part problem: (a) overcrowding, (b) understaffing, (c) underfinancing, and (d) obsolete architecture and design.

Butterfield (1976) reported that the number of people residing in American institutions rose steadily from 143,548 in 1955 to a high of
193,188 in 1967. Since that time, the number of institutionalized people has declined to 181,058 in 1971. Official statistics are not available to confirm that this trend is still continuing, but direct inquiry by Butterfield (1976) has demonstrated that many institutions have continued to decrease their census since 1971. Figure 1 suggests that this trend is the result of a national direction in releasing more people (presumably to live in other settings).

Butterfield (1976) reports similar increases in the number of full time employees and institution operating budgets. During the period 1962 - 1966, there was an estimated increase of 25,256 staff positions from 94,900 to 118,909, accompanied by a $181,070,167 increase in operating budget. The period 1967-71 saw an increase in excess of 24,000 staff positions and an operating budget which increased from $576,620,954 in 1967 to over one billion dollars ($1,002,557,588) in 1971. Although the sharp increase in operating budget provided more equitable compensation for all institution staff, state pay scales continue to run approximately twenty per cent below that of comparable positions in the private sector.

According to Butterfield's (1976) data, the net result of the national effort has been a steady decline in the number of clients per employee and an increase in the average daily expenditure per client since 1955. In that year the average client to staff ratio was 4.23 to 1 with an estimated $2.84/day expenditure per client. In 1971, the average was 1.52 clients per employee, and the estimated daily expenditure per client increased to an estimated $15.18. It is important to note that pre 1965 increases were relatively constant,
Figure 1. Number of people who were admitted to, released from or died in public institutions for the mentally retarded from 1955 to 1971 (Butterfield, 1976).
while post 1965 increases became progressively larger. This suggests that the decreases in institutional census which began in 1967 were the result of policy changes occurring prior to 1965.

There is no national data regarding progress made toward updating outmoded institution architecture and design. However, Butterfield reports that there were 160 public institutions for the retarded in 1962. This number had increased to 165 facilities by 1967, and 190 facilities by 1971. While national data does not specify the design and architecture of the new construction, it is assumed that some of the conditions exposed and criticized by Blatt and Kaplan (1966) and Wolfensberger (1969, 1976) were eliminated in the new construction. Today, all new construction and/or renovation of existing structures must be in compliance with Intermediate Care Facility/MR or Joint Committee for Accreditation of Hospitals (JCAH) standards to be eligible for federal reimbursement programs.

National trends toward population decreases and staff/budgetary increases have been paralleled at OSI. Data taken from Annual Statistical Reports on OSI's client population for Fiscal Years (FY) 1955 through 1978, and contained in Figure 2, show that the number of people residing in the institution rose steadily from 3,204 in 1955 to a zenith of 3,469 in FY 1961-62. Thereafter, the population steadily declined to 1,902 in FY 1977-78. Figure 3 demonstrates that the institution released more people than it admitted since FY 1971-72, and supports Butterfield's data showing that institutions across the country have continued to decrease its census since 1971.
Figure 2. Total institution staff and average in-house client population for Ohio's largest public institution serving the mentally retarded from fiscal year 1954-1955 through 1978-1979.
Figure 3. Number of people admitted to, released from or died in Ohio's largest public institution serving the mentally retarded from fiscal year 1954-55 through 1977-78.
During the period 1962-71, staffing patterns remained relatively constant, ranging from 800 positions in 1962 to 888 positions in 1971. (Figure 2). OSI Budget Reports for FY 1962-71 show operating budget increases resulting in an average client per diem increase from $3.15 in 1962 to $7.48 in 1971. Comparison of these figures with Ohio's statewide average (Butterfield, 1976) show that the latter figures are below the statewide averages of $4.53 in 1962 and $9.04 in 1971. Data taken from OSI Personnel Status Reports for FY 1972-78 reveal an increase from 1,077 in 1972 to its high of 1,962 staff in January 1979. Similarly, OSI Budget Reports for FY 1973-78 reveal that the Annual Operating Budget rose from $12,743,063 in FY 1973 to $26,337,775 in FY 1978. However, these increases in staff and budget were accompanied by a decrease in the number of working clients. For example, in FY 1975 there were 651 working clients with an annual payroll of $37,882, while FY 1977 saw the number of working clients reduced to 491 with an operating budget of $16,870. Thus, a portion of the staff and budgetary increases between 1972 and 1979 merely compensated for the loss of working clients, and it was not until FY 1977-78 that the institution reached a one to one client/staff ratio. The data suggest that resource allocation to the institution has been below both the state and national averages during this period. Currently, (FY 1978) OSI has 109 staff positions per 100 clients with a per diem rate of $36.47. Although there is no national figure with which to make a comparison, 1971 figures (Kugel & Shearer, 1976) show that Ohio ranked 46th in an overall rating which included (a) release and admission trends; (b) daily maintenance level; (c) changes in daily maintenance expenditures;
and (d) increased capital expenditures. To date, there is no indication that Ohio's status, relative to other states, has undergone significant change.

Although no national figures are available regarding capital expenditures for the renovation of institution physical plants, OSI Budget Reports between FY 1974-78 reveal capital expenditures of $20,670,380. However, less than 50 per cent of the five year allocation involved visible improvement of existing residential structures or support program (i.e., educational, vocational, recreational, etc.) areas. The majority of the allocation was utilized for improvement or new construction of the basic physical plant (i.e., water, heat, electrical, sewage, etc.). Although OSI has seen significant decreases in client population, and increases in staff, budget, and capital expenditures; inflation, the lack of appropriate community alternatives, and unrealistic time frames for compliance with ICF/MR standards leave the facility substantially errant with current judicial mandate.

**Effect of Institutionalization on Human Development**

Research with both normal and retarded children has shown that early parental separation adversely affects personality development. Dewey and Humber (1951) state that:

*The single most powerful factor in the personality development of the child is the happiness and stability of the home in which he spends his early years. We do not mean by such a home that it need be characterized by a high level of education, a high standard of living, or even a high degree of success in meeting its problems, important and desirable as these may be. We mean a happy and stable home, one in which there is affection and consideration among the members for each other; one in which the individual members are emotionally secure and in mental health. (p. 261)*.
Schaffer and Emerson (1964) conducted a cross-sectional study of infant attachment and found that discriminate attachment is apparent at approximately eighteen weeks of age. Lamb (1976) confirmed their finding that the intensity of the maternal-child relationship lies in the degree of maternal responsiveness and the amount of maternal interaction. Thus, maternal availability without interaction does not influence the degree of closeness. Research conducted by Robertson (1958) at the Travistock Children's Research Unit found that prolonged hospitalization for infants tended by several persons has a deleterious effect on the attachment bond. Robertson identified three stages of "settling in", (1) protest, (2) despair, and (3) denial. During the protest stage, the child screams and yells at being separated from his parents. Despair is characterized by clinging behavior when parents visit and upset when they leave. Denial is characterized by the child's positive reaction to parental visits but with no demonstrated need for intimacy. It is important to note that the process from protest to denial occurs over a matter of weeks, not years. Provo and Ritvo (1961) studied institutionalized normal children and found delay's in motor development, vocalization, poor ability to use play materials, distorted personal relationships and little spontaneity and curiosity. Provence and Lipton (1962) studied institutionalized children between four months and six years of age. The setting was neat, clean, brightly colored, with some toys, and a set routine. Beyond meeting custodial care needs, there was little interaction between personnel and residents. Their findings included a delay in differential response to attendants as opposed to strangers, tenuous emotional ties, and the absence of play
activity with others. The children failed to turn to staff for help or to solve problems and had difficulty in initiating social contact. Perhaps the most outstanding indicator of personal deprivation lay in the children's responses to the investigators. The order of the ward disappeared, the children clustered around the investigators with uplifted arms and the children who were most recently admitted cried out for their mother, a cry often taken up by others.

Clearly, early residential placement into a sterile setting results in reduced responsiveness to staff, a generally depressed level of activity and reduced affective responsivity. Goldfarb (1945) conducted a classic study of the effects of institutionalization. He studied the intellectual development of thirty children institutionalized at approximately 4.5 months of age, fifteen of whom were later placed in foster homes. The orphanage was described as lacking individual attention, personal possessions and with minimal stimulation. His comparison of intelligence scores of those in foster homes with those in the orphanage revealed the latter to be mildly retarded and significantly lacking in language development. Goldfarb (1947) studied adolescents who were institutionalized early in life prior to foster home placement. He found that those who were well adjusted when placed in the foster home were well adjusted as teen-agers. Conversely, those who were not well adjusted when placed, were not well adjusted as teen-agers. On the basis of this evidence, Goldfarb concluded that the variation in community adjustment of children institutionalized early in life is directly related to the "primary privation" experienced in the institution. Similar results were reported by Sternlicht and Siegel.
(1946) and Stedman and Eichorn (1965). The latter investigators studied forty Downs Syndrome children and twenty-five controls living at home. While the control group had no differences as regards self-help skills, walking and talking, the institutionalized group were significantly lower on all measures. In addition, mean IQ's (18 vs 36) and Social Quotients (29 vs 54) were significantly lower among the institutionalized group.

Clark and Clark (1958) studied fluctuation in measured intelligence after institutionalization. Twenty-seven months after residential placement, measured intelligence had increased by an average of 6.5 points (range 5 - 25 points). Those subjects with the lowest score at admission made the most significant gains, and came from homes considered by the investigators to be inadequate.

While previously cited studies suggest that measured intelligence increased or decreased as a result of institutionalization, research conducted by Holowinsky (1962), who studied the records of fifty-seven adults institutionalized for an average of thirty-two years, noted no significant changes in measured intelligence. His study showed that 67 per cent of the sample showed no change, 29 per cent had some decrease and 14 per cent had some increase. The decrement group was comprised primarily of the more severely retarded, especially those who had been admitted before sixteen years of age.

It seems that institutionalization may influence measured intelligence positively, negatively, or not at all. Indication from Clark and Clark (1958), Balla, Butterfield and Zigler (1974) and Balla and Zigler (1975) suggest that the quality of pre-institutional experience
(i.e., happy, stable home with emotional security) is an important factor in judging the effect of institutionalization.

There is evidence suggesting that speech and communication skills are delayed among institutionalized populations. Lyle (1959) studied the language skills of institutionalized moderately retarded people to determine whether they differed from a control group, living at home, and attending a day school. He found that the verbal intelligence in the institutionalized Downs Syndrome sample to be twelve months behind that of their non-institutionalized counterparts and six months delayed for the non-Downs Syndrome segment of the institutionalized group. Schlanger (1954) reported that institutionalized populations were delayed with respect to sentence length, and number of words used per minute. Sievers and Essa (1961) administered the Developmental Language Facilities Test to a group of institutionalized people and a similar group living in the community and found that the institutionalized group had lower scores than the community group. Spradlin (1963) found that institutionalized populations had significantly more speech defects; while Schlanger (1953) and Chapman and Cooper (1973) found a higher incidence of stuttering among institutionalized populations.

The preponderance of evidence suggests that language and communication skills are adversely affected by institutionalization. This may be the result of the lack of environmental demands, both social and environmental, to communicate. However, Tizard, Cooperman, and Tizard (1974) cite evidence to the contrary. These researchers studied the language development of eighty-five non-retarded children in a residential nursery setting and found that mean scores on both verbal and
non-verbal tests were average. It is interesting to note that these researchers sampled a number of residential nursery programs of varying quality and concluded that institutional retardation is not a necessary consequence of institutionalization. Many of the population came from lower working class parentage, and they seem to have benefited from the residential nursery program. Thus, the quality of pre-institutional experience as well as the quality of the residential program/environment must be examined to arrive at an accurate assessment of the impact, positive or negative, of institutionalization.

Effects of Institutionalization on personality, Motivation and Self-Perception

The differential effects of institutionalization noted in the above research seem attributable to the level of stability and emotional security experienced by the child prior to institutionalization, the sterility of the institution's physical and social environment, and emphasis on custodial care rather than training and treatment. The immediate impact of legal mandates affirming "right-to-treatment" and "due process of law" has precluded the admission of all but the most seriously impaired, and has allowed for the placement of most of its clients not requiring institutionalization. However, there is some question as to the appropriateness of many of these placements (i.e., Nihira & Nihira, 1975; Soforenko & Macy, 1977). In addition, the Comptroller General's (1977) report to the Congress indicates that most community alternatives have been exhausted, and communities are hesitant to engage in new program/facilities development.
Institution reform has lagged behind expansion of community alternatives on the premise that additional community resources would be developed to reduce institution populations to such an extent that existing staff and resources would be sufficient to meet ICF/MR standards. To date, Ohio's deinstitutionalization effort has fallen short of this goal, and public institutions are faced with the arduous task of developing appropriate programs/services for a predominantly lower functioning (severe and profound retardation) population, and a small segment of higher functioning (moderate and mild retardation) people, exhibiting severe socially inappropriate behaviors, for whom no less restrictive alternatives exist. The latter group, with whom this project is concerned, have spent most of their developmental period in public institutions, suffering prolonged exposure to sterile physical and psychological environments, with custodial care services. Such prolonged exposure has resulted in distortions of personality, motivation and self-perception, which facilitate the exhibition of severe socially inappropriate behaviors to cope with such conditions. Clearly, legal, moral and ethical exigencies demand that institutions develop programs to ameliorate such behaviors, concomitant with the elaboration and expansion of their repertoire of appropriate behaviors. In order to accomplish these goals, it is necessary to understand how these various aspects of personality interact with the environment to support and maintain such behavior.

Professionals working with the retarded have often placed low priority on personality evaluation, unless there is clear evidence of psychoses or other abnormal behavior. This is unfortunate, as it is
often the personality of the retarded which brings them to the attention of the legal system and mental health professionals. Additionally, an understanding of those personality effects which accrue as a result of limited behavioral efficiency is crucial when considering placement alternatives and in the determination of appropriate training/treatment modalities.

Cromwell (1967a) and his associates (i.e., Moss, 1958; Gardner, 1957, 1958; Bialer, 1960, 1961) have posited a theory of personality development based upon Rotter's (1954) Social Learning Theory. This theory postulates that the "unit of investigation for the study of personality is the interaction of the individual and his meaningful environment" (1954, p. 85). Additionally, Rotter postulates that this interaction "as described by personality constructs, has a directional aspect" (1954, p. 97), thus introducing the notion of approach and avoidance behavior. Finally, he postulates that the "occurrence of a behavior of a person is determined not only by the nature or importance of goals or reinforcements, but also by the person's anticipation or expectancy that these goals will occur" (1954, p. 102).

This body of research is based on the assumption that the average retarded person has a lower expectancy of success and a higher tendency toward avoidant behavior than the average normal person, mainly because the constitutional limitations of the retarded cause them to have more failure experiences. Heber (1957) matched groups of normal and retarded persons on a simple reaction time task. Group I received a high success condition prior to the experimental task, which raised the expectancy level. The retarded group performed better than the
normal group under the high success condition. The second matched
group were given a series of failures prior to the experimental task
with the prediction that both groups would show a performance decre­
ment. Contrary to Heber's expectation, both groups showed an incre­
ment and then a decrement in performance. Heber surmised that the
results obtained in the failure condition resulted from both groups
using the failure as a cue calling for increased effort. The continued
failure led them to the conclusion that the situation was "hopeless",
hence the performance decrement.

Gardner (1958) suggested that failure must have situational cue
properties for recategorizing failure situations. He hypothesized
that a low expectancy for success would result in a low magnitude of
failure; while a high expectancy of success would result in a high
magnitude of failure. Thus, retarded persons with limited ability would
have acquired success less often by a "try harder next time" attitude.
Again, groups of normal and retarded persons matched on a card sorting
task were presented a pencil marking task followed by high reward. The
groups then were divided according to total, partial or no failure
conditions. The normal group showed a greater magnitude of change af­
ter failure; they more often increased their performance after failure.
The control groups with no experimentally induced success or failure
demonstrated no difference in the absolute magnitude of their scores
nor a tendency to show increased effort. Finally, there were no dif­
ferences between the partial and total failure groups. Thus, the
hypothesis regarding high expectancy of success resulting in a high
magnitude of failure was upheld. The normals experienced a greater
degree of failure as a result of not expecting it. In addition, the normals increased their effort after failure more often than the retarded group. Gardner (1957) had previously reported such an increase, and the failure of the partial failure group to increase their expectancy is contrary to Gardner's previous finding and the present hypothesis.

Moss (1958) focused on avoidant behavior in an attempt to resolve the discrepancies in Heber's and Gardner's research. He surmised that if retarded people had a lower expectancy of success that they would give up attempting to be successful and focus on the prevention of additional failure. This led to constructs of success striving (SS) and failure avoiding (FA). SS people respond to cues associated with continued success, while FA people, having a low expectancy of success, would respond to negative environmental cues leading to failure prevention. These hypotheses were not confirmed. However, Stevenson and Zigler (1958), and Zigler, Hodgden and Stevenson (1958) have demonstrated the applicability of SS and FA constructs. Stevenson and Zigler (1958) presented three groups of children with a response key task where the third key was reinforced 100 percent, 67 percent, and 33 percent of the time, with each group receiving one of the reinforcement conditions. Retarded people chose the reinforced key under the 33 and 67 percent conditions, thus reaching a higher asymptote of correct performance than normals who attempted to find the sequence of keys which would yield a perfect score. In terms of SS and FA constructs, it seems that SS normal children striving for 100 percent success varied their key pressing behavior, lowering their success level. Conversely, the retarded groups, content to avoid failure, did not attempt to
identify the perfect sequence, rather, they chose the high probability stimulus, even though it was not paying off 100 percent of the time. Zigler, Hodgden and Stevenson (1958) constructed three simple tasks (peg-in-the-hole, hit-the-bar, and the block game), each having two parts so as to yield a satiation, cosatiation and error score across support and non-support conditions. Data indicated that the institutionalized retarded group spent more time playing the game under both reinforcement conditions than the normals, the retarded group spent significantly more time playing games under the support v. non-support condition, leading to a significantly greater difference in length of performance between support and non-support conditions for the retarded than for the normal group. Also, the normal group cosatiation score did not differ across reinforcement condition while the retarded group obtained a negative cosatiation score. Cosatiation scores were generally less for the retarded across reinforcement conditions. The proportion of error scores for both retarded and normal subjects did not differ. However, a significantly larger number of retarded subjects terminated the game in favor of others' at experimenter request. The SS normal group seemed interested in playing a variety of games and demonstrating their success, while the FA retarded group spent significantly longer on both parts of the game, apparently content to continue a game with which they were familiar, rather than choosing a new game and risk failure.

In addition, Bialer and Cromwell (1960), Spradlin (1960) and Miller (1961) have shown strong evidence of developmental changes in
the reactions of young children to success and failure. Thus, it was concluded that the SS and FA constructs could explain reactions to success and failure, and Moss failed to obtain the expected result because his subjects were not able to conceptualize success and failure.

Consequently, Cromwell (1963) posited new definitions of success and failure. Success is the "attainment of a goal under conditions where the individual attributes the attainment to his own effectiveness" (p. 62) while "failure is the nonattainment of a goal under conditions where the individual attributes the outcome to his own (lack of) effectiveness" (p. 62). The new definitions recognize that not all avoidant behavior is failure avoidant, some situations would be avoided, but the person would not see his own effectiveness at stake. Conversely, not all goal acquisition would be success striving. Some situations of attainment may be attributable to chance or to the efforts of others. Cromwell hypothesized that if awareness of one's own control in event outcome develops with age, then SS/FA constructs would apply to older people who could conceptualize themselves as being in control of the outcome of events.

Bialer (1960, 1961) conceptualized these formulations in terms of dual motivational systems. Children, he contends, are born with a hedonistic pleasure-pain awareness through which they learn to associate the outcome of events with their own behavior, thus developing an awareness of success and failure. The first level motivational system is based on the biological drive system of the organism, while the later system involves the conceptualized goals of success striving and failure avoiding. If effect, the child must shift from an
external to an internal locus-of-control. Bialer contends that while this shift is a necessary condition for the awareness of success and failure, "he will probably become aware of and respond to them only in situations which contain elements of competition or ego involvement. Competition involves the meeting of standards, set by society or the child himself, whereby his performance is measured against that of other individuals like himself" (1961, p. 304-305). Thus, in addition to becoming aware of the relation between the outcome of events and their own effectiveness, the child becomes motivated toward the express goal of demonstrating that effectiveness; the child becomes motivated to approach success and avoid failure.

The evolution of the earlier system involves stimuli from biologically noxious and depriving events and from secondary reinforcing stimuli, once neutral, but having acquired drive properties through association with the biologically noxious or deprived states. Also, the stimulus information concerning the outcome of events is fed back and associated with such things as the conceptualizing the child was engaged in at the time of terminal reinforcement and the behavior of others in the immediate environment when the event was taking place. Lacking an explanatory mechanism for how such feedback processes initiate the later system, it was hypothesized that the magnitude of the later system is a function of the degree to which children are able to associate the outcome of events with their own behavior. The extent to which they associate the outcome of events with the efforts of others, diminishes the magnitude of the later system.
Bialer (1960, 1961) asserts that such changes in conceptualization may be observed concomitantly along the following dimensions: "(a) a shift from response to relatively pure hedonistic cues to a sensitivity to cues associated with success and failure, (b) a shift in the perception of locus-of-control from external to internal, (c) a shift from the choice of immediate gratification to a willingness to delay gratification" (1961, p. 306). Bialer (1960) presented retarded children with two puzzles, allowing them to complete one, but interrupting them before completion of the second puzzle. He found that younger (CA), less mature (MA) retarded children tended to return to a completed puzzle, apparently seeking success, and supporting the contention that MA rather than CA was more related to the three measures of success/failure conceptualization. Overall, the retarded group were more externally oriented than the normal group. In a follow-up study Bialer (1961) used both normal and retarded children and added a questionnaire designed to measure locus-of-control and delay of gratification. He found that as MA increased, there was a tendency for both the retarded and normal groups to exhibit an internal locus-of-control, to respond to success/failure cues rather than pleasant/unpleasant ones, and to delay gratification. Bialer concluded that both retarded and normal children followed the same developmental pattern, but the retarded progressed as a slower pace.

Miller (1961) assuming that internal locus-of-control (ILC) subjects were more motivated to show their effectiveness, would be more sensitive to cues relating to that effectiveness; while external locus-of-control subjects, motivated by the hedonistically pleasant/
unpleasant aspects of a situation would be more sensitive to the extra
task cues (i.e., social responses of others, rewards, punishments)
which determine the hedonistic properties of the situation. Miller, in
attempts to predict differences in learning rate from locus-of-control (LOC) data, further assumed that in hedonistically positive situa-
tions ELC people would develop situational ILC tendencies, that is, they would respond to cues associated with success. Conversely, ELC people faced with a hedonistically unpleasant situation would focus on extratask cues. Ultimately, he surmised that learning set is influ-
enced by the situationally developed ILC tendencies. In order to test these hypotheses, Miller selected a serial learning situation where
intra and extratask cues could be clearly delineated. Three learning climates (success, failure, neutral) were utilized, and 72 hours later, half of the subjects in the success and failure climates were shifted to the opposite climate while the remaining subjects repeated the same
learning climate.

ELC subjects were more sensitive to the extratask cues and demon-
strated greater differences between learning climates. Performance in the success climate was greater than under the failure climate, and ILC's surpassed ELC's in learning rate. In shifting from success to failure climates, the ILC group performance improved while the ELC group performance deteriorated, thus providing support for the idea that ELC people have an impeded reaction to failure. Finally, the shift from failure to success resulted in learning set increases for the ELC group.
LOC does not seem to be a pertinent variable under success conditions; ELC people seem to develop situational ILC tendencies not predictable with LOC data. However, in the failure condition ELC people were markedly impaired and they responded to the neutral climate condition as if it were a failure condition. Analysis of the climate shift conditions revealed that ILC people tended to respond to failure cues, after a time, with increased effort as predicted by Gardner (1957, 1958) and Heber's (1957) research.

The effect of institutionalization on the retarded individual's conceptualization of success and failure, suggested by Zigler and his associates, is that the retarded have a high expectancy of failure as an outgrowth of a lifetime characterized by confrontation with tasks which they are intellectually ill-equipped to handle (Zigler, 1966a). Stevenson and Zigler (1957) posited that behavioral differences between retarded and normal people on instruction initiated tasks may be related to differences in their motivation to comply with instructions. This formulation stems from their finding that sterile institution physical and psychological environments result in the retarded being relatively deprived of adult contact and approval. This formulation was tested by Zigler, Hodgden and Stevenson (1958) and Zigler (1961). The latter experimenter divided retarded populations into high and low deprivation groups, who were then administered a two part satiation-co-satiation task. Data analysis revealed that the high deprived group played the experimental game longer, more frequently made the maximum number of responses, and spent more time on Part II rather than Part I of the game. This data supports the hypothesis that the "rigid"
behaviors of retarded people are a product of their higher motivation to maintain interaction with adults and to secure approval through compliance and persistence.

Green and Zigler (1962) have demonstrated that this heightened motivation to interact with adults is related to their greater pre-institutional deprivation experiences. Zigler (1963) demonstrated that perseveration on open ended satiation tasks is the result of the enhanced effectiveness of social reinforcers stemming from the greater social deprivation experienced by the retarded. Zigler (1961) further demonstrated that the effectiveness of social reinforcers, as measured by length of playing time, is related to the amount of pre-institutional social deprivation, not length of institutionalization. While there seems to be consensus that institutionalization represents a condition of social deprivation, it seems that institutionalization per se, is not a clear measure of social deprivation. Zigler and Williams (1963) retested the population from Zigler's (1961) study and found that motivation for socialization with adults increased with length of institutionalization and was related to pre-institutional experience.

Butterfield and Zigler (1965a) studied retarded children from two institutions which differed markedly in their social climate. In order to measure their need for social reinforcement, attention, and attention plus verbal approval conditions was utilized. The group from the more "unenlightened", depriving institution had a significantly higher motivation to obtain both types of reinforcement. Given the fairly consistent findings when institutionalized and non-institutionalized people are compared, one might postulate that some unidentified
institution factor is at work. However, the paucity of cross-institutional research has prohibited isolation of such a factor. Zigler and his associates postulate that those retarded people who are institutionalized come from homes which present a common psychological environment, and it is pre-institutional social deprivation which should be examined and evaluated.

However, owing to the complexity of retarded behavior, these motivational aspects alone cannot account for the reported behavioral differences between retarded and normal populations. Zigler (1958) has demonstrated that in addition to an increased desire for social reinforcement (positive reaction tendency), that the retarded also exhibit a reluctance and wariness to interact with adults, which he termed the negative reaction tendency. This desire for adult interaction and approval concomitant with a wariness to interact has also been demonstrated by Sarason and Gladwin (1958) and Hirsch (1959).

Shallenberger and Zigler (1961), utilizing a two part satiation-cosatiation task under positive and negative reinforcement conditions, found that both negative reinforcement groups spent more time on Part II over Part I of the task. The positive reinforcement group played longer on Part I relative to Part II of the task. They concluded that the cosatiation effects are the product of motivational variables, that is, the positive and negative reaction tendencies.

These research findings led Zigler and his associates (Berkowitz, Butterfield and Zigler, 1965; Berkowitz & Zigler 1965; McCoy & Zigler, 1965) to attempt to determine whether social deprivation led to a desire for interaction or apathy and withdrawal. These studies have
produced considerable evidence indicating that prior positive or negative contact between an adult and child will respectively increase or decrease the adult's effectiveness as a reinforcer. Thus, it seems that wariness of adults, and the tasks they present result in a general attenuation in the retarded child's social effectiveness; and the failure of institutionalized retarded people in these experiments is not entirely the result of intellectual factors, but also a result of their atypically high negative reaction tendency.

This data lends credence to Cromwell's basic assumption, that the reported behavioral differences can be attributed to different environmental histories, that is, their history of successes and failures. It seems that age expectations are built into our child rearing practices and society reacts more to CA than MA expectancies. Thus, the constitutional limitations of the retarded (i.e., slower rate of development) cause them to have more failure experiences.

Zigler (1966a) maintains that a high expectancy of failure results in a style of problem solving characterized by outerdirectedness. Butterfield and Zigler (1965b) have shown that both normal and retarded people react differently to success and failure as a function of their responsivity to adults. Among the high responsive group, failure as compared to success attenuated the performance of the retarded while improving the performance of normals. Conversely, among the low responsive group, failure as compared to success attenuated the performance of the normals while improving the performance of the retarded.

Zeaman and House (1960) have shown that after a failure experience, the retarded were unable to solve an extremely simple problem, although
they were previously able to do so. This led to the assumption of a "failure set" (Zeaman & House, 1963) for the retarded. The finding by Stevenson and Zigler (1958) that the retarded would settle for a lower degree of success than a matched (MA) sample of normals, suggests that different types of behavior will be obtained with people who differ in the degree of success they have learned to expect. Institutionalized people have learned to expect and therefore settle for a lower degree of success.

Such expectations lead the retarded to distrust their own solutions to problems and to seek guides to action in the immediate environment. Zigler (1958) has shown that institutionalized retarded people tend to terminate their performance on experimental games at the experimenters suggestion to do so. Green and Zigler (1962) showed that normal populations have little tendency to terminate experimental games upon experimenter cue and that this tendency was higher in non-institutionalized v. institutionalized populations. They conclude that sensitivity to external cues, is a general component of problem solving having its antecedents in the child's history of successes and failures. Institutionalized populations, living in surroundings adjusted to their adaptive deficits, experience less failure than their non-institutionalized counterparts.

Turnure and Zigler (1964) examined normal and retarded groups, matched for MA, on imitation tasks with adult and peer models. Each group was further divided by success and failure conditions. Data analysis revealed that the retarded were more imitative following failure as compared to success experiences. The authors concluded that
the outerdirected style of the retarded, results in an oversensitivity to external models and a lack of spontaneity and creativity. Turnure and Zigler further suggested that outerdirectedness need not necessarily be detrimental to performance. They devised a second experiment (Turnure and Zigler, 1964) where items similar to the WISC Object Assembly subtest were administered to MA matched institutionalized retarded and non-institutionalized normal children. The subjects were instructed to assemble the item as fast as they could. In one condition, the experimenter assembled a second item, hypothesizing that the outerdirected retarded group would pay more attention to the experimenter, thus facilitating performance on the second object assembly item. When the subjects had completed the first item, they were given the item which the experimenter had worked on. The normal children were found to be superior on the first task, while the retarded group were superior on the second task. No significant differences were found in the control condition where the experimenter did not assemble the second test item while the subjects were assembling the first item. In addition, the authors counted the frequency with which the children glanced at the experimenter and found that the retarded group glanced at the experimenter significantly more than the normal group. Noonan and Barry (1967) compared the performance of a matched group of normals with institutionalized and non-institutionalized groups under various reward conditions. The non-institutionalized group performed for a significantly longer period of time and at a faster rate than either of the other groups under socially reinforcing conditions (i.e. presence of the experimenter, verbal encouragement). They suggest that feelings of
inadequacy which are inevitably generated as a result of the retardeds' daily experiences with normal children, place the non-institutionalized child under more pressure than his institutionalized counterpart. Success deprivation may be as important an influence on the behavior of institutionalized groups.

It is clear that there are many situations in which attendance to external cues would be either beneficial or detrimental to performance. It is equally clear that the best problem solving style requires utilization of both external cues and the person's cognitive resources. While the outerdirected problem solving style is understandable in terms of the retarded child's history of experiences, the retarded child is not more outerdirected only because he has a lower IQ. Outer-directedness seems to be the result of the level of cognitive ability and the level of success attained through employment of his cognitive resources. The shift from outer to innerdirectedness is the product of cognitive ability and the withdrawal of external cues which had previously made the outerdirected style an effective one. It seems that the crucial variable is not level of cognition, but the history of successes and failures experienced by retarded children when using their cognitive resources. The retarded child, continuously confronted with problems appropriate to his chronological rather than mental age, favors an outer rather than innerdirected problem solving style. However, if the relative proportion of successes and failures is such that the child is successful when using his cognitive resources, then it is more probable that he will move from an outer to inner directed style of problem solving.
A recurring theme in Zigler's research concerns the source of institutionalized retarded peoples' heightened motivation to interact with adults. Zigler contends that the positive reaction tendency arises as a result of the retarded being deprived of adult contact and approval, and thus their hesitancy to approach adults (negative reaction tendency). This conclusion is subject to question on at least two bases. First, examination of the research literature (i.e., Provence & Lipton, 1972) clearly shows that retarded people exhibit differential responses to staff/authority figures and strangers. It seems that the positive and negative reaction tendencies develop in response to the lack of staff/client interaction rather than to all adults. Second, Zigler's conclusion tacitly supports the idea that all retarded people are children, and as such staff/client relationships should be similar to traditional adult/child relationships. Zigler's failure to distinguish between retarded children and retarded adults as regards the appropriate staff/client relationship represents a subtle but very dehumanizing attitude towards retarded adults. Thus, it seems that positive and negative reaction tendencies and the outerdirected problem solving style emanate from the poor quality of interaction in the institution. One only need observe client reaction to strangers on the ward to realize the efficacy of this conclusion.

In terms of both Cromwell and Zigler's formulations, it seems that constitutional limitations and environmental deprivation, concomitant with societal expectation based upon chronological rather than mental age, cause the retarded to have more failure experiences, and thus to have a lower expectancy of success. Institution environments,
characterized by custodial care philosophies, administered in physical environments geared toward staff convenience, serve to intensify the deprivation. Custodial care philosophies seem characterized by a lack of meaningful interaction between staff and client, a situation highly detrimental to optimal human development, especially considering the crucial role played by adults in socialization processes. The poor quality of interaction, combined with physical environments which interfere and often prohibit the development of habilitative responses, reduce the magnitude of failure and success experiences, in that they deprive people of the type, range, and intensity of stimuli necessary for optimal development of success/failure conceptualization and lowers their opportunity for the expectancy of success.

Prolonged exposure to such conditions facilitate a variety of personality and motivational distortions necessary for the retarded to cope with such conditions. Attempts by retarded people to seek contact and approval from significant others' in their immediate environment, being met with rejection and rebuff, weaken the ability of staff to be effective reinforcers of client behavior, and creates an atmosphere of wariness on the part of clients to seek such interaction and approval, despite their need to do so. Ultimately, clients come to distrust their own solutions to problems, relying on external cues to determine the appropriate course of action. This outerdirected problem solving style inhibits the development of the second motivational system, but facilitates adaptation to the institutional environment.

Environmental conditions which typify institutionalized clients' previous experiences appear to encourage a wide variety of severe
socially inappropriate behaviors. Recognizing the high priority usually assigned the appetite for recognition in the human need hierarchy, facilitates understanding how environments, ill equipped to consistently associate satisfactory levels of this important source of reinforcement with desirable behaviors, encourage utilization of a wide variety of distressing and dangerous behaviors.

Environments equipped only to attend, on a crisis intervention basis, to the most disturbing behaviors displayed, inadvertently, but systematically reinforce them. Environments where those ostensibly possessing higher status and authority are intimidated by a lesser status individual's capacity for violence, often reinforce grossly inappropriate behaviors with attempts at appeasement. It seems obvious that institutional reform must "involve(s) a modification or improvement in attitudes, philosophies, policies, effective utilization of all available resources, and increased financing to provide adequate programs to motivate and assist individuals to reach their maximum level of functioning in the least restrictive environment possible" (National Association of Superintendents, 1974, p. 3-4).

Self Concept

Twenty years of study into the phenomenological aspects of self concept theory has left psychological and educational literature immersed in controversy. However, many researchers accept the position of Snygg and Combs (1949 who state that "what a person does and how he behaves are determined by the concept he has of himself and his abilities" (p. 78). If one also confronts the problems in the measurement of personality variables with the mentally retarded, it is not
surprising that so little in the way of empirical evidence has been forthcoming (Lawrence and Winschel, 1973). Given that self concept is usually measured by self report instruments, difficulties due to the poor reading ability, poor perception of inner feelings and deficiencies relating to the reporting of these feelings, hamper research on self concept and its development in retarded people. It is generally agreed that realistic self appraisal is desirable, but even individuals who accurately perceive themselves to be of low competence in many situations, should, at the same time, feel themselves worthy as persons in their own right. Anderson and Messick (1974) state that "here is a case in which the goal is not necessarily to develop higher and higher feelings of worth but rather to avoid any instances of extremely negative self-depreciation" (p. 289). Even with respect to the major question of whether retarded children usually see themselves in a more negative light than do normal children, there is conflicting evidence. However, the weight of the data indicates that retarded children have a more negative self concept than normals (Piers & Harris, 1964; Collins, Burger & Koherty, 1970; Harrison & Budoff, 1972). In view of the failure and frustration which appear to be the lot of the retarded, the concomitant presence of low self-esteem seems a reasonable assumption.

Although Cromwell's Social Learning based need theory does not directly address the issue of self concept and its development in retarded people, Miller (1961) and Bialer (1960, 1961) have demonstrated that in addition to becoming aware of the relation between event outcome and their own effectiveness (ELC to ILC), the addition of elements of competition or ego involvement motivates the child toward the
express goal of demonstrating that effectiveness. That is, the child becomes motivated to approach success and avoid failure. Thus, the child's "express goal" of demonstrating behavioral effectiveness becomes the source of a concept of self. The idea that developing children strive toward mastery and competence (Piaget, 1952; Hunt, 1965), and that it results in pleasure (Kagen, 1971; Harter, Schultz, & Blum, 1971; Schultz & Zigler, 1970) is not new. In addition, it has also been demonstrated that the greatest pleasure is derived when a task is optimally challenging (Zigler, Levine & Gould, 1966, 1967).

White (1959, 1960) arguing against theories that make drive the sole necessary condition for learning and activity, proposed a competence-affectance model, congruent with Cromwell's formulations, which more clearly delineates the development of a concept of self. This theory is at variance with Freud's theory of instincts which states that "the most important features of child development, the ones that are fateful for emotional well being and for the shape of personality, have their motive power in sexual energy or libido" (1960, p. 97).

Competence means the "fitness or ability to carry on those transactions with the environment which result in its maintaining itself, growing and flourishing" (1960, p. 100). Drive theories suggest that people learn as a result of powerful and persistent internal stimuli which upset the organisms hemeostatic balance and leads to activities that eliminate the deficit, return the organism to hemeostatic balance, thus reducing drive. Therefore, knowledge and competence in dealing with the world are acquired in the course of satisfying our constantly recurring needs. White notes that research (i.e., Sheffield, 1951)
has shown that instrumental learning can take place without drive reduction. For example, Olds and Milner (1954) found a connection between reinforcement and electrical stimulation of the septal and other regions of the brain. A number of researchers (Harlow, 1953; Berlyne, 1950; Myers & Miller, 1954) have demonstrated that animals show persistent tendencies toward activity, exploration and manipulation even when all known primary drives have been satiated.

One possible explanation is to posit new drives (exploratory, manipulative, activity) as they lead to the reinforcement of instrumental learning. White maintains that "exploration and manipulation have nothing to do with deficits, they appear to arise in the nervous system without visceral stimulation, and they produce instrumental learning without any signs of consummatory response or drive reduction" (1960, p. 103). Effectance has been described by White as "what the sensori-neuro-muscular system wants to do when it is not occupied with homeostatic business. Its adaptive significance lies in its promotion of spare time behavior that leads to an extensive growth of competence well beyond what could be learned in connection with drive reduction" (1960 p. 103).

The problem with the measurement of effectance lies in the fact that it does not come into sharp, decisive conflict with drives. It may be mobilized alone, but is most often mobilized in connection with other needs. A sense of competence is the cumulative result of an individual's history of efficacies and inefficacies (successes and failures). A child feels elated at new proofs of his ability and deeply humiliated when he cannot do something he thought was in his power.
Thus, a sense of competence has strong motivational properties. It is important to realize that a sense of competence is derived from social interaction as well as with the inanimate environment, and the former may well be the more important of the two.

Harter and Zigler (1974) assessed effectance motivation in normal and retarded children utilizing measures of response variation, curiosity for novel stimuli, mastery for the sake of competence and preference for challenging tasks. The authors were able to discriminate different levels of effectance motivation for institutionalized, non-institutionalized and normal children.

The impact of a predominant failure pattern has been related to concepts of self, independent of measured intelligence. Hardy (1967) found that positive self acceptance was significantly related to achievement on learning tasks, independent of IQ and chronological age. Brookover (1967, 1967), Brookover, Erickson and Joinger (1967) and others (i.e., Gorlow, Butler & Guthrie, 1963; Snyder, 1966) have found substantial relationship between positiveness of self-concept, school grades, academic achievement and intelligence. Brookover, et al (1967) states that self-concept is acquired in interaction with others and that it functions independent of measured intelligence in predicting achievement. They suggest that a child learns when he perceives he can learn, that is, the functional (not biologic) limits of one's ability are in part set by one's self conception of ability to achieve in tasks relative to others. Wink (1963) studied institutionalized girls in their late teens and found that those high in self concept initially, learned more effectively and withstood the effects of negative reinforcement.
conditions better than the low concept group.

A number of studies have compared the self concepts of retarded children placed in regular classes with those who have been placed in special classes. Borg (1966) found that the latter group had lower self-concepts; while Backer (1965), Knight (1967) and Mayer (1966) report no differences in self-concept as a result of school placement. Still other investigators (Carrol, 1967; Towne, Joiner & Schurr, 1967) have shown that special class students had higher self-concepts. The latter investigators repeatedly assessed sixty-two students prior to and through their first year of special class placement. They recorded a steady increase in self-concept.

MacMillan and Keogh (1971) report that retarded children tend to blame themselves for the fact that a particular task has not been finished. Utilizing an interrupted task paradigm, a matched sample of normal children tended to repeat a previously interrupted task significantly more than the retarded group. The normal group also interpreted the interruption as being due to something other than their own inadequacies. This difference between normals and the retarded, who blamed themselves, lies in the perception of what the interruption signified. The retarded child so often faced with his own inadequacies, immediately attributed the interruption to himself, and may be an indice of a negative self-concept.

In a study previously cited (Harrison & Budoff, 1972) and Collins and Burger, (1970), high levels of threat tended to invoke a great deal of denial, suggesting difficulties in the ways retarded people feel about themselves. Edgerton (1967) studied a group of mildly retarded
people recently discharged from an institution. He clearly noted the role of defensiveness in bolstering shattered self-concepts. Edgerton concludes:

So the desperate search for self esteem continues. The ex-patients strive to cover themselves with a protective cloak of competence. To their own satisfaction they manage to locate such coverings, but the cloaks that they think protect them are in reality such tattered and transparent garments that they reveal their wearers in all their naked incompetence. In a sense, these retarded persons are like the emperor in the fairy tale who thought he was wearing the most elegant garments but, in fact, he was wearing nothing at all (p. 218).

It seems that a crucial component of self-esteem is an adequate balance of efficacies (successes) and inefficacies (failures), which allow the child to develop a sense of competence and feelings of efficacy. In effect, such a balance allows the child to become highly motivated to approach success and avoid failure, conditions necessary to the development of positive self-esteem.

Retarded children faced with societal expectations of competence based upon chronological rather than mental age, experience prolonged failure and rebuff from their world, feel worthless, inferior, insecure and ineffective. Sterile institution environments only serve to further isolate the person and intensify such feelings, as such environments deny the retarded of meaningful interactions with adults as well as depriving them of the type, range and intensity of stimuli necessary for optimal development of success/failure conceptualization. Such conditions lower their opportunity for and expectancy of success, thus contributing to low self-esteem. It is no wonder, as Edgerton (1967) reports, the extremes to which retarded people will go to
create a "cloak of competence".

The Emotionally Disturbed - Mentally Retarded Person

There has been long and often sharp debate among both theorists and practitioners regarding the differential diagnosis of mental retardation and emotional disturbance. In commenting on this issue, Halpern (1970) notes that Garfield and Wittson (1960a) addressed the question, can a differential diagnosis be made within the AAMD Manual's (Heber, 1959) guidelines?; while Canton (1960) addressed the question, should a differential diagnosis be made? Halpern, noting the overlap between the first seven categories of the Medical Classification and the behavioral syndromes listed under Category VIII, concludes that "the decision regarding a causal relationship between mental retardation and emotional disturbance within a given individual must be made on the basis of information in addition to a mere behavioral identification of the symptoms which are associated with the two syndromes" (1970, p. 799). He suggests that differential diagnosis provides for the possibility of differential treatment and, potentially, for the prevention of both mental retardation and emotional disturbance. Sternlicht (1964) concurs, stating that the benefit of differential diagnosis/treatment is that treatment goals should vary depending upon a psychogenic or neurological cause of the retardation.

Given the debate concerning the advisability and feasibility of differential diagnosis, it is not surprising that no one has yet come up with a generally acceptable delineation of the concept of emotional disturbance. Bialer (1970) states that:
The diagnostic constructs 'emotional disturbance' and 'mental retardation' may be considered as basically independent to the extent that one of these pathological conditions may manifest itself without the other, and that each has a body of theory and practice which is capable of standing on its own and which sets it apart as a professional area (p. 68).

Thus, the absence of a generally agreed upon definition of emotional disturbance necessitates the generation of an operational definition of this construct, prior to any attempt at differential diagnosis. Consequently, estimates of the incidence of emotional disturbance range from approximately 25 percent (Menolascino, 1965a) to 100 percent (Webster, 1970).

The issue of differential diagnosis hinges upon the definition of mental retardation and emotional disturbance and the extent to which the two overlap. Ultimately, identification of all relevant factors in a particular case would allow for the most effective treatment planning and disposition for that person. Assuming that such definitive differentiation is feasible, the importance of differential diagnosis is manifest in several areas: (1) Staff expectations as to the outcome of treatment may be determined by differential diagnosis. For example, if one assumes that the emotional disturbance is primary, the expectation may be that the person, upon amelioration of the emotional disturbance, would function at a non-retarded level. (2) Differential diagnosis may determine the nature of the facility to which a child is assigned for treatment/training. This is an important consideration, as inappropriate placement may lead to the child being administratively shuffled among agencies and facilities, each claiming the responsibility rests
with the other. Realistically, it is extremely difficult to arrive at a clearcut delineation of the etiologic connection between intellectual deficits and emotional adjustment in any given case.

Leland (1969), in addressing the relationship between "intelligence" and retardation, provides concepts crucial to classification and differential diagnosis. He states that "intellectual functioning is a product of an interaction between a variety of social and personal forces" (p. 533), and ability is primarily dependent on the manner in which each person copes with the relationship of these forces. Within the context of this definition, successful coping becomes intelligent behavior, while unsuccessful coping is less than intelligent behavior. It is important to note that Leland conceives of successful-unsuccessful as existing on a continuum, thus avoiding the creation of a new dichotomy.

Such a conception relegates mental retardation to the status of a social definition, with IQ "a convenient handle on which to hang an individual already defined as maladaptive" (Leland, 1969, p. 534). Thus, impairment in adaptive behavior, that is, the inability of the individual, regardless of etiology, to cope with the natural and social demands of his environment, makes him "socially visible". Since many maladaptive behaviors are amenable to modification or reversal through the application of training and treatment procedures, diagnostic classification should involve the identification of those behaviors amenable to modification, as well as those training/treatment techniques most likely to assist the individual toward successful coping behavior.

"Thus, the real test of a classification scheme must be based on how
well it serves the individual being classified" (Leland, 1969, p. 535); the most useful system being one which identifies for treatment or training purposes.

The current AAMD Manual (Grossman, 1977) provides for differential diagnosis in that psychiatric disorders is both a major category (VII) and is included under additional Medical Information (Code 60-69). According to Grossman (1977), "the principle to follow is, if the clinician considers the psychiatric disorder as an etiologic agent, it is classified under the major category; if not, the disorder is coded under additional". The conceptions of both Leland and the current AAMD Manual are subsumed in Bialer's (1970) definition of emotional disturbance, and is the one utilized in this research:

> Emotional disturbance refers to any significant emotional [or behavioral] deviation that causes the retardate to have difficulty in meeting or adjusting to the demands of his culture, or in achieving an effective relationship with the environment in which he finds himself. The emotional [behavioral] states involved may range from severe tension to outright psychotic behavior, but for our purposes the definition is not intended to cover those pathological behaviors which are subsumed by the terms 'sociopathy', 'delinquency', or 'criminality' (p. 69).

The purpose of this study was to determine the effectiveness of a program designed to reduce the frequency of severe socially inappropriate behaviors of institutionalized clients. Constructs derived primarily from the research of Cromwell, Zigler and their respective associates were utilized to guide the development and implementation of the experimental treatment program:

1. The Adaptive Behavior Scale (ABS) served to identify those
skills and abilities present in each clients' behavioral repertoire. Staff were instructed in the recognition and positive reinforcement of these skills and abilities, thus serving the dual function of easing client acclimation to the new environment and increasing the staffs' effectiveness as positive reinforcers of behavior.

2. The ABS was also utilized by the Interdisciplinary Team to establish a set of long term goals and short term objectives which would:

(a) balance the proportion of successes and failures experienced by clients;

(b) provide for the avoidance of catastrophic failure by establishing goals and objectives which are attainable with reasonable effort, thus enhancing the ability of mild failure experiences to act as cues to increased effort.

3. The extent to which these processes are successful in accomplishing their stated objectives will allow the Interdisciplinary Team to systematically withdraw external cues to behavior, thus allowing the client to progress from an outer to inner-directed style of problem solving. In addition, clients may associate goal attainment as being under their control and due to their own effectiveness.

4. Programs developed within this focus, and implemented primarily by direct care staff, will lead to spontaneous and highly positive interactions, which increases the effectiveness of the therapeutic milieu and individual therapeutic intervention by professional staff.

5. Client acclimation to these processes will allow the Interdisciplinary Team to extend these processes by instructing support staff outside the residential unit to interact with these clients in a similar
manner. This will facilitate the generalization of newly acquired competencies to other environments and enhance their internalization by the client.

6. Ultimately, client progress may be measured in terms of increases in functional independence; decreases in the frequency, intensity and duration of socially inappropriate behaviors; and decreased use of chemotherapeutic agents and restraint/seclusion to control behavior. Overall, this will allow the client to be competitive for placement in a less restrictive community setting.

Summary

Research data relative to the development of institution programs compliant with current judicial and legislative mandate were discussed in terms of the discrepancy between such mandates and the available fiscal and personnel resources. The problems of differential diagnosis as well as the detrimental impact institutionalization has had on the development of personality, motivation and self-perception among retarded populations was reviewed, and constructs derived to guide the development of an institution program designed to meet the physical, social, emotional and legal needs of its participants.
Institution Administrative Structure

The purpose of Ohio's public residential facilities serving the retarded is to protect and nurture the mental, physical, emotional and social development of each individual requiring residential services. Although S.B. 336 and the aforementioned Administrative Rules remain the source and impetus of the programmatic and administrative nature of all such facilities, wide latitude is given each facility in the development of programmatic and administrative mechanisms to meet the total needs of its clientele. Accordingly, each facility is required to have a program philosophy (Appendix B), a statement of human rights (Appendix C) and an administrative structure (Appendix D) pursuant to the needs of the individuals to be served.

Orient State Institute utilizes a "Standard Unit System" approach to administration. The superintendent, program director, operations director and medical director comprise the "Executive Staff" who approve major program and policy decisions. Each program unit is headed by a unit manager who is responsible for the program and administration of the unit. Each unit is comprised of a number of residential buildings (usually 2-3 buildings) each headed by a coordinator, who is directly responsible to the unit manager. Each residential building is assigned a Hospital Aide Supervisor II (HAS II), who is primarily
responsible for the operations aspect of the building, and supervision of the direct care staff. Each shift is assigned a Hospital Aide Supervisor I (HAS I), who is responsible for staff supervision and the programmatic and operations aspect of the shift. The Nursing Associates and/or Licensed Practical Nurses are responsible for the administration of medications and other treatments as prescribed by the Cottage Physician. A number of hospital aides are assigned to each shift, and are primarily responsible for the delivery of programs and services to the clients.

The Interdisciplinary Team, chaired by the coordinator, is responsible for the development and delivery of programs and professional services to the client population. The team is comprised of those direct care staff most familiar with the client and his program, the HAS I, and II, unit manager, registered nurse (RN), psychologist, social service worker (SSW), general activities therapist (GAT) and activities aide (AA). Clients capable of participation in their Individual Habilitation Plan (IHP) review are encouraged to attend the team meeting, as are parents/legal guardians. However, the distance of the institution from most of the 21 counties in OSI's catchment area make their participation a rarity.

Educational, vocational, occupational and physical therapy, speech, audiological and other specialized evaluations and services are handled on a referral basis due to inadequate numbers of qualified staff. These staff are not standing members of a particular team, rather, they attend when the needs of a particular client dictate their participation.
Although the various professional disciplines represented on the team are assigned directly to a particular residential building, each discipline also has a "department head", who serves in a support capacity, without line authority. These professionals coordinate the services of their profession, set professional standards, conduct training, and as a group, comprise the "administrative staff" who integrate the needs of their professional group with other professional disciplines so as to provide an integrated, comprehensive client program.

The adoption of a unit management system has a number of advantages and disadvantages. First, unitization reduces the size of the facility into smaller components where each component is a mini-facility, drawing support from the institution much as the institution draws support from the community. Administratively, unitization places decision making, accountability and responsibility at the level closest to the client (Perry, 1971). Second, unitization provides the framework for the development and maintenance of the interdisciplinary team. Third, unitization provides for focusing of human resources and energies on the growth of the client rather than on the growth of a department or discipline. Ultimately, unitization facilitates staff/client interaction, important to client growth (Klaber, 1969) and allows professional staff to act as models for direct care staff.

Conversely, movement from a centralized department system to a decentralized unit concept may lead to a weakening of professional identity. This tends to be a very real problem and tends to seriously affect morale, especially during the transitional period, and may lead to resistance and sabotaging. While a properly phased in unit system
may facilitate intra-unit cooperation, it may also increase inter unit competition beyond that which is healthy, and lead to conflict. This may be manifested in difficulties in transferring clients among units, sharing limited centralized resources, loaning staff and planning cooperative ventures. Drucken (1964, as cited in Sluyter, 1975) suggests that decentralization tends to promote the development of independent leaders. However, such leaders do not come ready made and may be difficult to find. The unit manager position requires a wide range of skills from personal relations to program monitoring, and the unit manager's developmental period tends to be rough on both staff and clients (Sluyter, 1975).

Unitization may lead to a dilution of human resources and deficits in quality control. Decentralization of human resources, already slim, may more often result in less actual service rather than more intensive service. In addition, if the process of decentralization includes poorly trained professional staff, the individual team member may lack both the maturity and experience to function without disciplinary support.

Thus, the shift from a centralized department system to a decentralized unit system may have both positive and negative aspects. The difficulties involved in such a change may become magnified depending upon the age of the older system and the relative power of any given department. Sluyter suggests that administrators contemplating such a change obtain the support of the more dominant departments, develop clear role definitions and relationships for all personnel involved, consider phasing in the planned change which should be published and disseminated with an implementation time-table, establish the manager
positions and establish a mechanism for professional monitoring and development.

Setting

This study was conducted on the grounds of Orient State Institute, one of the largest facilities serving the mentally retarded in the United States. The institution currently serves approximately 1900 clients on an 1800 acre campus and employs nearly 1900 staff to maintain the physical plant and meet client needs. The institution has been in existence for approximately 80 years with most of the physical plant reflecting early 20th century architecture.

The building in which the ongoing project is being conducted is approximately 60 years old, of two story brick construction and divided into six separate wards. The ward assigned this project was formerly utilized as a maximum security area for violent clients. The upper, above ground level houses the male population, professional staff offices, medical area, dining room and day room areas. The lower, below ground level, houses the female population and was permanently partitioned to serve as a dormitory and day room area. The unit floor plan is contained in Appendix H.

Both levels of the ward are well lit, with both natural and artificial light, and bathroom and shower facilities can be found on both levels. The upper level contains one stand-up shower, one sink and two commodes to serve ten male clients; while the lower level contains one sink, two commodes, two tubs and a gymnasium style shower, with four heads, to serve ten female clients. Each dayroom contains a color television set in a family living room setting. Most necessary goods
and services, e.g., food, laundry, medical personnel are brought to the building. Due to the nature of client problems, all outside doors remain locked and clients scheduled to leave the building for vocational, educational and recreational programs require staff assistance.

Population

The admissions criteria contained in Appendix I is consistent with the position assumed by Bialer (1970) as regards definition and differential diagnosis. Rather than be caught in the pitfalls of differential diagnosis, the intent of the comprehensive evaluation was to identify, in functional terms, each client's relative strengths and weaknesses; and to develop the individualized program based upon this data. The institution Client Tracking System (CTS), a computerized data base, was utilized to screen the institution population as regards the admission criteria. In addition, a cross check of each residential unit was made by the unit interdisciplinary teams who made additions/deletions as necessary. The finalized population was reviewed by the project interdisciplinary team, who selected ten male and ten female clients. Once the experimental group had been selected the experimenter screened the remaining members of the population, matching the control group with the experimental group on the basis of age, sex, number of clients and length of institutionalization, with the following result:

Table 1. Experimental and control group \( \bar{X} \) client age and \( \bar{X} \) length of institutionalization measured in days.
In order to demonstrate the lack of statistical significance between the experimental and control groups as regards these variables, student \( t \) tests for uncorrelated data were computed with the following result:

Table 2. Experimental v. control group mean difference for age and length of institutionalization.

<table>
<thead>
<tr>
<th></th>
<th>Age</th>
<th>Length of Institutionalization</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>( \bar{X} )</td>
<td>Std. Dev</td>
</tr>
<tr>
<td>Male</td>
<td>0.2333</td>
<td>0.1808</td>
</tr>
<tr>
<td>Female</td>
<td>0.2207</td>
<td>1.4810</td>
</tr>
<tr>
<td>Total</td>
<td>0.0250</td>
<td>0.9259</td>
</tr>
</tbody>
</table>

Sample Differences

Both the experimental and control group had access to the programs and services generally shared by all clients at the institution. These programs and services included educational, vocational and recreational programs as well as medical services. Ninety-three percent of the combined experimental and control group resided in two residential buildings serving the needs of moderate-mildly retarded people. The remaining seven percent (3 clients) selected to participate in the
experimental program were housed in other residential areas due to overcrowded living conditions. Prior to the implementation of the experimental program, the larger client population shared the available living space with approximately 150 other clients in the male residential building and 100 other clients in the female residential building. The clients selected to participate in the experimental program were transferred to the new program area, while the control group remained in their residential area.

Several distinct differences between the experimental and control group were apparent at this time. First, the experimental group had their own living area with staff specifically assigned to address their needs. The control group remaining in the much larger living area, shared space and staff attention with the other clients in the residential unit. Thus, the staff to client ratio during the waking hours was 1:3.3; while the ratio for the control group was approximately 1:12. Accordingly, the intensity of professional staff intervention was greater for the experimental group, as each residential area had the same number and type of professional staff serving them. Second, all staff serving clients at the institution had an equal opportunity to bid on positions in both the experimental and control group residential areas. Positions were awarded on the basis of seniority. However, staff successfully bidding into the experimental program area received a thirty classroom hour course in the principles and techniques of behavior modification as well as a special orientation to the experimental program. This training provided the basis for the implementation and monitoring of individual programs and the creation and
maintenance of the therapeutic environment. The quality of the residential environment (staff/client interactions) and the consistency of program implementation and monitoring were the most salient and distinguishing features between the experimental and control group programs.

**Dependent and Independent Variables**

The purpose of this study was to determine whether the experimental program was effective in:

1. Reducing the frequency of the socially inappropriate behaviors exhibited by the target population; while,

2. maintaining or increasing their current level of adaptive behavior.

It has already been demonstrated (i.e., Binder, 1979) that restraint, seclusion and chemotherapeutic agents are traditionally accepted methods of crisis control in overcrowded facilities. Consequently, measured increases in adaptive behavior concomitant with decreases in restraint/seclusion, psychotropic medications and socially inappropriate behaviors may serve as indicators of the effectiveness of the experimental program. Prior to the implementation of the program, the following dependent measures were taken for both the experimental and control groups:

1. The total amount of time spent in restraint and/or seclusion for the ninety day period immediately prior to the implementation of the program, as recorded in each clients' medical record. Restraint and seclusion time was combined for purposes of data analysis.

2. The total amount of major tranquilizing drugs administered in the ninety day period immediately prior to the implementation of the program, as recorded in each clients' medical record. All dosages were converted to milligrams. The use of minor tranquilizers was negligible and thus discounted for purposes of data analysis.
A random sample of 100 moderate and mildly retarded clients, including the experimental and control groups, was drawn from the institution population and their Adaptive Behavior Scale (ABS), Part I scores were subjected to a Principle Components Analysis with a Vari-max rotation (Barr, Goodnight, Sall & Helwig, 1976) to derive the principle Part I components. This analysis yielded three factors: Factor I was a measure of functional independence and contained Domains I, III, VI, VII, VIII, IX, and X. Factor II emerged independent of Factors I and III, and was a measure of physical development. Factor III contained Domains IV and V, which measure language development and number and time concepts. This factor is essentially a measure of educability. The rotated factor pattern is contained in Appendix J. These results were consistent with the factor analytic study which provided the basis for the 1974 revision of the ABS.

3. ABS Factors I and III were selected as the dependent measures of adaptive behavior. This data was taken during the ninety day period immediately prior to the implementation of the program. Since Factor II lacked a significant relationship to either Factor I or III, it was discounted as a dependent measure. Subsequent analysis of Factor I data supported this decision.

4. The ABS, Part II scores for each client were taken during the ninety day period immediately prior to the implementation of the program, and served as the measure of socially inappropriate behavior. The number of zero scores across clients and Domains necessitated normalization of the data prior to data analysis (Barr, et al, 1976).

The experimental group was then admitted to the program area and the experimental treatment program implemented. Post experimental period measures of the dependent variables were collected within the same time
frames, one year later. Although identified by the experimenter for purposes of the study, neither the control group nor the staff serving them were aware of the existence or composition of the control group. These people received whatever programs and services were generally available at the institution.

Group assignment and time were selected as independent variables in order to identify and analyze pre and post experiment differences between and within the two groups. The co-educational composition of the institution population necessitated the inclusion of "sex of subject" as a third independent variable. This allowed generalization of results to the entire disturbed population of the institution. In addition, visual inspection of pre-experimental measures of the tranquilizer and restraint/seclusion data suggested that the female population may be more severely disturbed than the males. Although both males and females received similar dosages of tranquilizers, the females generally received substantially greater amounts of restraint/seclusion. This suggests the possibility of differential treatment effects, and inclusion of the sex variable provided for such analysis.

Staff

There has been an increasing awareness among professionals and administrators of the need for conceptualizing the complexities of the reciprocal interaction between the social environment and the retarded. A significant component of the social context involves the attitudes held by the staff who serve the retarded (Efron & Efron, 1967). Formerly, administrators and professionals received little, if any, formal
training in the various aspects of mental retardation; gaining their knowledge and experience "on-the-job", by extending their competencies in related areas (i.e., learning theory, perception, education, medicine) to the problems of the retarded. It is interesting to note the paucity of research literature on the adequacy of institution physicians, psychologists, social workers, teachers and superintendents. Butterfield (1967) suggests that "the professional or administrator is usually the one who writes about institution personnel and one seldom finds kings burning their own castles" (p. 305). Deutsch (1975) factor analyzed the attitude survey scores of administrators, professionals and direct care staff in three Ohio institutions to determine the most efficient and economical manner of maintaining both J.C.A.H. Standards and client rights. Analysis revealed little consistency of approach between or within institutions or across similar levels of staff. However, the most startling finding was that institution administrators and to a lesser extent, professional staff responses loaded negatively, while direct care staff responses loaded more positively on Deutsch survey data. Deutsch notes that such inconsistency of outlook and approach leads to friction and hostility among staff and adversely affects the quality of their interaction with clients. Negative attitudes among administrators hinders change at all levels of staff. Deutsch concluded that administrators modified their expectations to coincide with available resources, while direct care staff were responding to the positive changes which had already occurred. Since administrators hold the power to change the orientation of their respective facilities, attitudinal change at this level must be the first
step in the development of efficient, economical methods of maintaining standards and rights.

Macy (1976), commenting on this research, contends that attitudes are influenced by level of responsibility. He maintains that administrators, intimately familiar with standards, recognize the "significant gap between the real and the ideal" (p. 3), while direct care staff may lack such awareness. The significant gap between the real and the ideal leads to a high degree of frustration, which is mitigated by lowering one's expectation. It seems that administrators attempted to close this gap by responding to issues in terms of institution reform, which they see as antecedent to issues of deinstitutionalization. This hypothesis gains credence when one recognizes that the availability of appropriate community placements is diminishing and many who could be in less restrictive environments remain in the institution simply because no appropriate placement exist. There seems little doubt that little institution change can occur without adequate placement opportunities in the community, and consistency of outlook and approach in the institution. The impact of these institution variables on both client and staff await empirical validation.

While there has been a paucity of research concerning the quality of institution administrators and professional staff, much has been written about the quality of attendant staff. They constitute a majority of all institution employees (Bensberg, Barnett & Hurder, 1964); they are the main implementors of institution programs (Cleland, 1964; Taylor, 1964); and they have more client contact than any other institution staff (Fleming, 1962). In addition, the qualifications for
competency are less clear than those for almost any other institution role (Taylor, 1954); they have the highest rate of turnover (Fleming, 1962); and the cost of replacing an attendant is a substantial time and financial drain on the already inadequate resources of the institution (Cleland, 1964; Vaccaro, 1952).

Attendants are expected to fill the role of parents and provide the kinds of care the person would get at home (Butterfield, 1967). This includes providing a safe and sanitary place to live, in addition to feeding, bathing, dressing and toileting. Attendants insure that residents receive medications, exercise regularly, and arrive at the proper place at the proper time. Attendants are often charged with providing recreational outlets and with the training of simple social and occupational skills. They must discipline the clients, teach self control and other personal attributes, yet they are prohibited from punishing them (Barnett, 1964d). In addition, they are expected to serve individuals with special needs, and, "therefore should be part nurse, part physical therapist, part psychologist and part educator" (Bensberg, Barnett & Hurder, 1964).

Attempts at systematic investigation of attendant performance have been less than successful (Porter, 1961; Schmidt & Cohen, 1955). These studies lacked sufficient detail concerning attendant performance and information relative to the frequency of attendant functions. Consequently, much research has focused on desirable attendant traits (Edgett, 1951; Barnett, 1964c). However, Butterfield (1967) notes that "any evaluation of desirable attendant characteristics must be made in terms of the goals of the institution in which the attendant is to
serve" (p. 307). The magnitude of this task is made apparent in the informal observations of Taylor (1964) who notes that attendants do not constitute an occupational group in the same sense that psychologists and other professional disciplines are considered groups. Attendants come from vastly different educational and occupational backgrounds. Thus, it is difficult to arrive at selection criteria for higher quality attendants.

Essentially, one must have a practical assessment procedure that may be used as a predictor of subsequent attendant performance. Various studies have used the results of personality inventories as the predictor variable. Yerbury, Holzberg, and Allessi (1951) and Butterfield and Warren (1962) used the Rorschach and MMPI respectively, to predict attendant performance. However, the primary function of these instruments is the detection of psychopathology, and the time, expense, and professional expertise involved in the administration, scoring and interpretation of these instruments, make them impractical for attendant selection. Second, one must have a reliable and valid criterion of attendant performance to differentiate between high and low quality attendants. Various criteria, such as supervisors' rating and length of employment, have been used in this respect. The major difficulty with ratings is that the behavior being rated is not specifically defined. Also, if an investigator is uncertain as to the basis used by supervisors, the validity of the rating is in question (Shotwell, Dingman & Tarjan, 1960). Parloff (1960) asked psychiatrists to rate attendants regarding different treatment philosophies in a mental hospital. He also administered a questionnaire to evaluate change in attendant
philosophy. One psychiatrist reported that his attendants had changed their philosophy of patient care. Analysis of the questionnaires revealed that the psychiatrists' philosophy had changed to be more consistent with the attendant philosophy, which had not changed. Tarjan, Shotwell, and Dingman (1956) demonstrated that supervisors' rating on the same attendant varied significantly over a very short period of time. Cronbach (1949) summarized the problem of supervisors' ratings, stating that:

It is common to regard ratings and descriptions as information given by a competent authority who is a professional ally of the psychologist. Any report, however, is one individual's perception of another, subject to as much distortion as any perception of a fluctuating, ambiguous stimulus. Indeed, such reports often serve as information about the personality or motivational state of the rater (p. 491).

Cleland and Peck (1959) used tenure as an index of attendant quality and stated: "(1) the best attendant is of little value to the institution if he leaves after only a short period of time; and (2) some correlation between satisfactory service and tenure is inevitable". Butterfield (1969) reviewed this study and concluded that long tenure is a necessary condition for attendant effectiveness, but questions whether tenure alone is a sufficient condition to being an effective attendant. Cleland and Peck's research also suggest that the kind of attendant who adjusts well to institutional pressures may not be the most desirable attendant, as authoritarianism and rigidity favor longer tenure. Also, Butterfield, Barnett, and Bensberg (1966) found that the economic circumstance of the community in which the institution is located affects turnover in attendant staff. Butterfield (1967)
concludes that "tenure clearly is not a simple index of attendant quality. Unless the contribution of other factors is controlled, then tenure is a questionable index of attendant quality" (p. 312).

The final ingredient for the development of an effective selection process is a firm concept of what makes a good attendant. Butterfield, Barnett, and Bensberg (1966) examined twenty-six institutions for the retarded in terms of institution characteristics and factor analysis of the data produced six orthogonal factors. The authors concluded that "institutions and institutionalization are complex phenomena which deserve further investigation" (p. 786).

Institution administrators find themselves in the difficult position of having to train attendants to fill broad based responsibilities in the care and treatment of their wide range retarded populations. This problem is further complicated by the lack of independent attendant training programs, the lack of basic research on the salient characteristics of attendants, trainers, and organized material to-be-taught, and the unique needs of each institution. Administrators have attempted to fill this void by designing in-service training programs to attain the goals of their institution. The attention given to in-service training programs is evidenced by the increasing percentage of institutions responding to surveys, and the increasing proportion of institutions indicating some type of in-service training program. Pero (1949) found that in thirty-one of seventy-four institutions sampled had some type of in-service training program. Shafter, Chandler and Coe (1957) received fifty-five responses from ninety-three institutions surveyed and found thirty which utilized in-service training. Parnicky
and Zigler (1964) received one-hundred and eight responses from one-hundred and thirty-one institutions surveyed, and one-hundred and two facilities reported some type of in-service training.

The reasons cited for attendant in-service training are many and include: (1) reduction of attendant turnover; (2) improvement of the institution reputation; (3) the improvement of patient care; (4) reduction of administrative problems occurring from discrepancies in attendant understanding of institution goals (Stevens, 1963). Morris, Nellis, and Stromberg (1959) suggest that the blending of new attendant staff with more tenured staff tends to instill old philosophies and practices in new attendants. Also, the downward shift in the level of functioning of the client population has made increased demands on attendant staff.

It is interesting to note that reasons cited for not training attendant staff stem primarily from economic sources; these include lack of personnel and the time and facilities to conduct the training (Barnett, 1964c). Shafter, et al (1957) report that a high turnover rate makes it impractical to train new attendants; while Kline and Eaton (1952) report that the lack of attendant training is a deliberate attempt to keep staff from knowing what they should be doing, to keep them unaware of the inadequacies of current institution conditions.

Since in-service training is the primary vehicle available to most administrators, the variables associated with good in-service programs are of primary concern. Barnett (1964d) designed a lecture series to increase attendant knowledge of retardation and to change their attitude toward the retarded. Pre and post measures of these variables revealed
significant increases in knowledge and positive attitude change as well. Initially, knowledge and attitude were found to correlate with attendant intellectual level; while post measures were not so related. This indicates that attendants benefited equally well from the training. The problem with Barnett and others' (e.g., McDowel, 1963) research is that although attendants reported positive attitude change, on-the-job performance did not change. Parloff (1960) and Scheff (1961) both attempted to change employee attitude and behavior but were completely unable to do so, despite positive attitude change on their respective inventories. Parloff concludes that there is considerable question that any administrator is able, by any means, to effect change in attendant behavior. Parloff's pessimistic attitude is indicative of a lack of research in this area. The variables involved have not been clearly delineated, but the basic components seem to involve attendant and instructor preferred training mode, and the amenability of the material to-be-taught to be presented in the attendant/instructor preferred mode. For example, the training of custodial skills may best be conducted on-the-job, while the treatment of severe socially inappropriate behavior may best be taught by a combination of lecture, role playing and supervised experience. Each training mode would be conducted by an instructor who preferred that mode, and multi-modal presentation of the material allows attendants, unaccustomed to lectures, to acquire the needed skills through other modes (e.g., role playing and/or supervised experience).

Research is necessary to determine feasible modes of presentation of material, attendant and instructor preferred mode and the
amenability of the materials to-be-taught, to be reduced to the various pertinent modes. Attendants completing training utilizing this selection process should be compared to attendants taught by present methods, using objective indicators of attitude and job performance. The identification of such variables for the various program entities within an institution would provide the basis for such characteristics to be used in the initial selection of personnel for employment. Subsequent assignment to the preferred mode of training should result in optimization of attendant attitude and job performance. Since staff attitude and job performance seem to be salient features of a successful social environment for institutionalized retarded people, these issues deserve close scrutiny by institution administrators and training officers.

The Special Program Unit

The concept of a unit designed to manage clients with severe, socially inappropriate behaviors evolved as a result of decentralization of the various institution departments and the redefinition of residential buildings consistent with the present functional capabilities of the client population. Figure 4 illustrates the relationship between the program units, the AAMD intellectual and adaptive behavior levels and the general categories of dependence of clients placed in each unit.

It should be noted that Program Unit IV was redesignated as the Physical Disabilities Unit due to the two floor construction of thirteen of the eighteen residential units. It was felt that the placement of multiply impaired people in the two floor residential buildings presented a serious health and safety hazard for both clients and staff, as well as a more restrictive environment for the clients. For example,
<table>
<thead>
<tr>
<th>PROGRAM UNIT</th>
<th>MAJOR FOCUS OF SKILL DEVELOPMENT WITHIN THE UNIT</th>
<th>ADULT INTELLECTUAL LEVEL</th>
<th>ADULT ADAPTIVE LEVEL</th>
<th>LEVEL OF INDEPENDENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Development of physical skills and limited communication and self-care skills</td>
<td>Profound</td>
<td>4</td>
<td>DEPENDENT</td>
</tr>
<tr>
<td>II</td>
<td>Development of self-care and communication and other personal skills</td>
<td>Severe</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>III</td>
<td>Development of relationships with others, more independent self-care and maintenance skills</td>
<td>Severe</td>
<td>3</td>
<td>SEMI-INDEPENDENT</td>
</tr>
<tr>
<td>IV</td>
<td>Development of semi-independent level of socialization and maintenance skills</td>
<td>Moderate</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>V</td>
<td>Development of independent self-care and maintenance skills in a supervised environment</td>
<td>Moderate and Mild</td>
<td>2</td>
<td>INDEPENDENT</td>
</tr>
<tr>
<td>VI</td>
<td>Development of skills attitudes understanding necessary for successful community living</td>
<td>Mild and Borderline</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>VII</td>
<td>Maintenance and application of learned skills</td>
<td>all levels</td>
<td>all levels</td>
<td>All Levels</td>
</tr>
</tbody>
</table>

*American Association on Mental Deficiency

REFERENCES


Figure 4. Ohio Institution Program units, Terminology* and Level of Independence.
clients and their adaptive equipment would have to be carried up and
down concrete stairs, creating a potential health and safety hazard for
all. Emergency evacuation of the building could not readily be accom­
plished, and clients would require staff assistance to enter and leave
the building, as funds for ramps and elevators are not available. Place­
ment of multiply impaired populations in the few one floor residential
buildings precludes such health and safety hazards.

After unitization, it quickly became apparent that a relatively
small segment of each unit's population were functioning significantly
below their potential in a wide spectrum of behaviors and that this
group of people were consuming an inordinately large proportion of time
from staff attempting to cope with their clients' severe socially in­
appropriate behaviors. Limited program resources, and client expulsion
from educational, vocational and recreational programs led to excessive
use of chemotherapeutic treatment, restraint and seclusion to protect
other clients and staff from injury, property from destruction, and the
client from self-injury. Ultimately, staff came to expect such client
behavior and clients came to expect such treatment, thus creating a non­
therapeutic self-fulfilling prophecy. It was obvious that these people
were adversely affecting the quantity and quality of other clients' pro­
grams in both the residential units and support programs, and that
available approaches to programming were having little, if any, positive
affect on these people. Thus, the purpose of the Special Program Unit
became:

1. The amelioration of severely socially inappropriate behaviors;
2. the maintenance of each clients' current functional
3. and the elaboration of each client's ability to cope with the world outside the residential facility.

It was felt that the unit must be integrated into the existing program and administrative structure of the institution to maximize utilization of centralized resources within current policy and to act as a model for other staff in the development of more efficient program mechanisms. The unit's program philosophy is totally consistent with the institution philosophy, and the unit's administrative structure is contained in Appendix E.

**Treatment Modalities**

Institution administrators expressed mixed feelings as to the probability of a successful program. Some felt that the proposed programs for the intended population were not sufficient to accomplish the intended purpose of the unit and that chaos would result. However, other administrators, including the managing officer, felt that such an approach had considerable merit, and in the absence of a more viable alternative, authorized implementation of the program. Cognizant of the high potential to lose management control of client behavior, the project team focused on the development of a broadly based program which included direct services delivered by the various professional disciplines, and a full regimen of educational, vocational, social and recreational programs to be delivered within the context of a "program atmosphere" conducive to individual growth and adaptation. Kreger (1971) recognized that overcrowding and the sensory deprivation inherent in the lives of institutionalized clients, created a highly
stressful living environment, facilitated the exhibition of severe mal-adaptive behaviors, and hindered the maintenance of newly acquired behaviors. He surmised that many of his severe-profoundly retarded clients' problems could be resolved by "an environmental living situation which reduced stress and which supported the abilities, however limited, which these residents possessed" (p. 29). Therefore, he established a "compensatory environment" which he describes as a "residential milieu which effectively negates the detrimental influences of residents' handicaps while at the same time specifically and generally fostering and supporting those special areas of the residents' capabilities" (p. 29). This environment was created by maximal utilization of residential space and the introduction of a variety of novel activities conducted in small, supervised groups. Kreger observed that many of the bizarre, disturbed behaviors disappeared, and that individual training programs were more effective in that the environment facilitated the maintenance of newly acquired behaviors.

The project team strongly felt that due to the moderate-mild functional level of the target population, that these measures alone would not be sufficient to create and maintain a therapeutic milieu. Rather, it was felt that the milieu would depend on the day-to-day interactions among clients and staff. Thus, the milieu must be flexible in that it must facilitate the appropriate expression of a wide range of behaviors; be supportive of various training and treatment modalities; and be amenable to consistent implementation and monitoring by all levels of staff.
Accordingly, all staff received a thirty hour course in the principles and techniques of behavior modification (Krasner & Ullmann, 1965; Ullmann & Krasner, 1965). In addition, it was felt that the current emphasis on cognitive factors in behavior therapy (i.e., Bandura, 1969, 1974, 1977a; Meichenbaum, 1976; Lazarus, 1976) would be crucial to the establishment and maintenance of the therapeutic milieu and the success of individualized programs. Such emphasis on cognitive factors is not new; Kelly's (1955) personal construct system and Rotter's (1954) expectancy learning theory have both emphasized cognitive factors and the role of self-verbalizations in the regulation of behavior. Among the distinctive features of a social learning theory approach is the integration of the regulatory systems of antecedent, consequent and mediational influence. For example, modeling is one of the best known and widely used social learning methods. In operant conditioning, in order for learning to occur, a response must be performed and followed by a reinforcement. However, Bandura (1969) maintains that complex human behavior would never be acquired unless learning occurred through observation alone without the need for direct reinforcement of specific behaviors. A second feature of social learning theory is that psychological functioning involves a reciprocal interaction between a person's behavior and the environment. Bandura (1977a) states:

Environments have causes, as do behaviors. It is true that behavior is regulated by its contingencies, but the contingencies are partly of a person's own making. By their actions, people play an active role in producing the reinforcing contingencies that impinge upon them. . . . behavior partly creates the environment, and the environment influences the behavior in a reciprocal fashion. To the oft-repeated dictum 'change contingencies and
you change behavior,' should be added the reciprocal side 'change behavior and you change contingencies' (p. 203).

Thus, a third characteristic of social learning theory is that by recognizing that cognitions have causal influence and emphasizing the reciprocal determinism of behavior, social learning theory highlights the human capacity of self-directed behavior change. Operant conditioning accounts of behavioral self-control ultimately reduce to analyses of situational, environmental control, and fundamentally deny the notion of self control (Rachlin, 1974). Thoresen and Mahoney (1974) maintain that the importance given to cognitive processes in the explanation of how learning experiences have lasting effects and serve to activate future actions enables social learning theory to explain the intuitively obvious and experimentally demonstrable fact that humans initiate behavior that at least in part shapes their own destinies.

Finally, Bandura (1977b) has shown the theoretically consistent integration of the different sources of influence governing behavior which the theory provides. In his conceptual analysis of the modification of phobic behavior the central notion is that psychological treatment methods procure changes in the cognitive concept of self-efficacy. Expectations of self-efficacy are said to determine the activation and maintenance behavioral strategies for coping with anxiety-eliciting situations. Self-efficacy expectations are modified by different sources of psychological influence, including performance based feed-back, vicarious information, physiological changes and verbal persuasion. Bandura found that directly produced behavior change is the most effective means of altering the cognitive mechanisms that mediate
subsequent performance. This finding is consistent with previous re-
search (Bandura, Blanchard & Ritter, 1969) which has shown participant
modeling, a performance based method, to be significantly more effective
in eliminating phobic behavior than either symbolic modeling or imaginal
systematic desensitization. Similarly, Crowe, Marks, Agras, and
Leitenberg (1972) have shown the superiority of performance based treat-
ment over imaginal desensitization; Emmelkamp and Wessels (1975) over
imaginal flooding techniques; and Kockott, Dittmar, and Nesselt (1975)
report that sexual dysfunction was most effectively treated by in vivo
techniques as opposed to imaginal systematic desensitization.

Behavior modification was selected as the basis for program de-
velopment, as such an approach has led to the development of an effec-
tive set of tools, relatively simple in rationale, and applicable to a
wide range of problems and situations. The use of these techniques
with retarded children is well documented (i.e., Forness & MacMillan,
1970; Gardner, 1969; Fechter, 1971; Talkington, Hall, & Altman, 1973;
Yoder & Forehand, 1974). The research of Ross and Ross is of particular
importance, in that they have developed a curricula for teaching cogni-
tive and motor skills to young mildly retarded children. Their research
has addressed social problem solving (Ross, S., 1969a), motor skills
(Ross, S., 1969b), game skills and number concepts (Ross, D., 1970),
listening skills (Ross & Ross, 1972), and problem solving and planning
(Ross & Ross, 1973).

It is important to recognize that behavior modification is not a
panacea for all problems and that its use requires certain safeguards
to insure compliance with ethical and legal constraints. The
application of any technique to the management or control of the behavior of an individual or group must be approached circumspectly. This includes the right to be alert, self determining and the right to be a self-learner. This is especially true of the application of these techniques with captive groups (Buehler, 1973). Thus, any behavior management program must represent the least restrictive alternative available for that individual and the particular problem to be resolved. Legally and ethically this should include informed consent (Appendix F) and a set of procedural guidelines (Appendix G) protecting the rights and dignity of the client.

Specifically, with regard to positive reinforcement techniques, two concerns are evident. The first involves the goals of such reinforcement programs, which should emphasize independence and self-reliance rather than compliance and complacency. The second concern involves the client as a self-learner. While manipulation of the consequences of events has been successful, attention should be devoted to developing an environment and program conducive to self-learning and awareness.

Consequently, the utilization of behavior management techniques must convey to the clients that they are respected, if we expect them to be able to respect themselves and others. The techniques employed must allow each client to know that they have choices about their behavior and that those working with them respect those choices, even when they may be poor choices. Allowing each client to make decisions about their behavior gives them a sense of responsibility for themselves and returns to them a sense of dignity which is so often forgotten in institution environments. Thus, this program approach combines a
system of behavior modification with a system of "logical consequences" which encourages each client to examine his or her behavior, and to "think" about the manifestations of each particular behavior. This is not a system of rewards and punishments, but rather, a system of positive reinforcement for appropriate behavior and logical negative consequences for maladaptive behavior. Thus, in all interventions, four procedures may occur:

1. A simple assessment of the situation is made. For example, 'Breakfast is almost ready and you aren't dressed' or, 'your bed hasn't been made yet' or, 'it looks like you're playing with your food.'

Such non-judgmental statements act as a cue for clients to engage in a sequence of behaviors (performance based) leading toward a specific goal, and resulting in positive reinforcement from staff. If the client fails to respond after a reasonable time, a specific request is made of the client:

2. If clients do not respond, ask them once to do what they are supposed to do. For example, 'Get dressed, please' or, 'would you please make your bed' or, 'please don't play with your food.'

This more specific statement provides additional cues as to the behavior required, and provides an additional opportunity for the client to engage in an appropriate sequence of behaviors. Failure to respond results in staff providing additional incentive:

3. If the client fails to respond, provide one warning concerning the logical consequences of their behavior. For example, 'If you don't get dressed, you'll miss your breakfast' or, 'if you play with your food it means that you don't want to eat it and it will be taken away.'

Failure to respond at this point results in the staff member following
through with the logical consequences of the situation. It is important that staff not threaten or make idle threats, as credibility and trust among clients and staff will be lost.

It is important for all staff to understand that this is not a system of punishment, but a system of choice with mutual respect. One respects another's right to make a bad choice, while at the same time making him or her aware in a non-vindictive way of the logical consequences that follow. Aversive techniques, regardless of their nature, are considered to represent restrictive behavior management approaches. Such a distinction often presents institution staff with a dilemma, in that aversive techniques have been used effectively in both training and treatment modalities. For example, aversive techniques have been used effectively to manage aggression (i.e., Birnbauer, 1968; Brandsma & Stein, 1973; Bucher & King, 1971; Glandas & Ball, 1975); autistic behaviors (i.e., Lovaas, Schaeffer, Johnston & Harris, 1967); self-injurious behavior (i.e., Adams, Klinge, & Keiser, 1973; Bachman, 1972; Corbett, 1975; Corte, Wolf & Locke, 1971; Green & Hoats, 1971; Kohlenberg, Levin & Belcher, 1973; Lovaas, Frietag, Gold, & Kassorla, 1965; Lovaas & Simmons, 1969); stereotypic behaviors (i.e., Azrin, Rubin, O'Brien, Aylon & Roll, 1968; Baumeister & Forehand, 1972; Hamilton & Standahl, 1969); rumination (i.e., Kohlenberg, 1970; Land & Melamed, 1969; Luckey, Watson & Musch, 1968; White & Taylor, 1967); learning (i.e., Kazdin, 1973; Kercher & Pear, 1971; Massey & Insalaco, 1969; Moore & Bailey, 1973; Rainey, 1966; Schreven & LaFond, 1973); and self-help skills (i.e., Baumeister & Klosowski, 1965; Giles & Wold, 1966; Henriksen & Daughty, 1967). Despite the procedural safeguards of
informed consent and monitoring by independent institution and department level professionals, the crux of this problem lies in the attitude of all levels of staff as well as their consistency of approach.

Deutsch's (1975) analysis of staff attitude in three Ohio institutions revealed little consistency of approach or method between or within institutions, across similar levels of staff, as well as higher negative loadings for administrators and professional staff relative to the positive loadings for direct care staff. Since the success of the experimental treatment program was contingent upon consistency of method and approach, it is possible that staff participation in the program would result in attitudinal changes of direct care staff toward the retarded. Consequently, a Likert format questionnaire (Appendix K) constructed and factor analyzed by Efron and Efron (1967) was administered to all direct care staff serving the experimental group. An equal number of direct care staff serving the control group were randomly selected, by shift, and each was also administered the survey. The group factor served as the independent variable, while the dependent variable was the mean raw score for the groups on each of the six factors comprising the questionnaire.
RESULTS

The client related variables were computer analyzed by Statistical Analysis Systems, Inc. (SAS) (Barr, et al, 1976), utilizing a 2 X 2 X 2 Split-Plot Factorial, Analysis of Variance (ANOVA), containing two between and one within groups variables. The hypothesis derived from the first research question posited that a therapeutic environment could be established and maintained in a large public institution; and would be reflected by significant decreases in the amount of major tranquilizing drugs and restraint/seclusion administered over time.

Table 3. ANOVA table for major tranquilizers administered pre and post experiment.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>1</td>
<td>10441570.05</td>
<td>0.23</td>
</tr>
<tr>
<td>Group X Time</td>
<td>1</td>
<td>25819008.80</td>
<td>0.56</td>
</tr>
<tr>
<td>Sex X Time</td>
<td>1</td>
<td>14101921.80</td>
<td>0.31</td>
</tr>
<tr>
<td>Group X Sex X Time</td>
<td>1</td>
<td>101714030.45</td>
<td>2.21</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>932445336.05</td>
<td>6.52*</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>444445348.80</td>
<td>3.11</td>
</tr>
<tr>
<td>Group X Sex</td>
<td>1</td>
<td>29267481.80</td>
<td>0.20</td>
</tr>
</tbody>
</table>

*.05*

Analysis of the major tranquilizer data revealed non-significant group differences over time and did not support the hypothesis. Figure 5 shows the pre and post experimental group differences for the
Figure 5. Experimental and control group major tranquilizer mean raw score for group and the group by time interaction.
tranquilizer data.

Table 4. ANOVA table for the combined restraint/seclusion administered pre and post experiment.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>1</td>
<td>15129.13</td>
<td>3.36</td>
</tr>
<tr>
<td>Group X Time</td>
<td>1</td>
<td>18185.58</td>
<td>4.04**</td>
</tr>
<tr>
<td>Sex X Time</td>
<td>1</td>
<td>20713.94</td>
<td>4.60*</td>
</tr>
<tr>
<td>Group X Sex X Time</td>
<td>1</td>
<td>57.24</td>
<td>0.01</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>1915.02</td>
<td>0.33</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>9595.92</td>
<td>1.65</td>
</tr>
<tr>
<td>Group X Sex</td>
<td>1</td>
<td>13464.68</td>
<td>2.32</td>
</tr>
</tbody>
</table>

However, analysis of the restraint/seclusion data support the hypothesis. Figure 6 shows the group by time interaction; while Figures 7 and 8 show the sex by time and group by sex by time interactions, respectively.

Figure 6. Experimental and control group restraint/seclusion mean raw score/hours for time and the group by time interaction.
Figure 7. Experimental and control group combined restraint/seclusion mean raw score/hours for the sex by time interaction.
The hypothesis derived from the second research question posited that client participation in the experimental treatment program would significantly decrease the frequency of their socially inappropriate behaviors.

Table 5. ANOVA table for the ABS, Part II data obtained pre and post experiment.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>1</td>
<td>0.6928</td>
<td>5.12*</td>
</tr>
<tr>
<td>Group X Time</td>
<td>1</td>
<td>2.5248</td>
<td>18.65*</td>
</tr>
<tr>
<td>Sex X Time</td>
<td>1</td>
<td>0.1551</td>
<td>1.15</td>
</tr>
<tr>
<td>Group X Sex X Time</td>
<td>1</td>
<td>0.0065</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Figure 8. Experimental and control group mean hours of restraint/seclusion for the group by sex by time interaction.
Table 5 (continued)

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
<td>1</td>
<td>0.0310</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.0330</td>
<td></td>
</tr>
<tr>
<td>Group X Sex</td>
<td>1</td>
<td>0.1331</td>
<td></td>
</tr>
<tr>
<td>£  ^05*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Analysis of the ABS, Part II data revealed significant decreases in the frequency of the experimental groups' socially inappropriate behavior over time, and supports the hypothesis. Further, this data provides further indication of the quality of the therapeutic environment, thus supporting the hypothesis derived from the first research question. Figure 9 shows the magnitude and direction of group differences for the time and group by time interaction; while Figure 10 shows the group by sex by time interaction.

The hypothesis derived from the third research question posited that participation in the experimental treatment program would significantly increase the participants measured level of adaptive behavior.

Table 6. ANOVA table for the ABS, Part I, Factor I data.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>1</td>
<td>0.9258</td>
<td>2.88</td>
</tr>
<tr>
<td>Group X Time</td>
<td>1</td>
<td>4.5146</td>
<td>14.04*</td>
</tr>
<tr>
<td>Sex X Time</td>
<td>1</td>
<td>0.0973</td>
<td>0.30</td>
</tr>
<tr>
<td>Group X Sex X Time</td>
<td>1</td>
<td>0.4819</td>
<td>1.50</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>9.6669</td>
<td>6.66*</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.5848</td>
<td>0.40</td>
</tr>
<tr>
<td>Group X Sex</td>
<td>1</td>
<td>0.3668</td>
<td>0.25</td>
</tr>
<tr>
<td>£  ^05*</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 9. Experimental and control group ABS, Part II, mean raw score for group, time, and the group by time interaction.
Figure 10. Experimental and control group ABS, Part II, mean raw score for the group by sex by time interaction.
Analysis of the Factor I data revealed significant group differences for both the experimental and control group over time. The failure of the experimental group to reach a level of functional independence significantly greater than that which could be expected in the general institution milieu is contrary to the expected result. Therefore, this data does not support the hypothesis. Figure 11 shows the group and group by time interaction for the Factor I data.

Figure 11. Experimental and control group ABS, Part I, Factor I, mean raw score for the group and group by time interaction.

The ABS, Part I, Factor III data comprised the second measure of adaptive behavior. Analysis of this data revealed non-significant group differences over the period of the experiment, and did not support the hypothesis. Table 7 contains the analysis of this data.
Table 7. ANOVA table for the ABS, Part I, Factor III data.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time</td>
<td>1</td>
<td>0.0847</td>
<td>0.31</td>
</tr>
<tr>
<td>Group X Time</td>
<td>1</td>
<td>0.1131</td>
<td>0.42</td>
</tr>
<tr>
<td>Sex X Time</td>
<td>1</td>
<td>0.4742</td>
<td>1.76</td>
</tr>
<tr>
<td>Group X Sex X Time</td>
<td>1</td>
<td>0.00003</td>
<td>0.00</td>
</tr>
<tr>
<td>Group</td>
<td>1</td>
<td>0.5348</td>
<td>0.47</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.4910</td>
<td>0.44</td>
</tr>
<tr>
<td>Group X Sex</td>
<td>1</td>
<td>0.0509</td>
<td>0.05</td>
</tr>
</tbody>
</table>

*P < .05*

The hypothesis derived from the final research question posited that staff attitude toward the retarded would undergo a positive change as a result of their participation in the experimental treatment program. Table 8 shows the mean raw score obtained by the experimental and control group staff on each of the six factors comprising the attitude survey.

Table 8. Experimental and control group staffs' mean raw score and standard deviation for the six factors comprising the Attitude survey.

<table>
<thead>
<tr>
<th>Factors</th>
<th>Experimental Group</th>
<th>Control Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Raw Score</td>
<td>Std. Dev.</td>
</tr>
<tr>
<td>Segregation via Institutionalization</td>
<td>62.73</td>
<td>7.4</td>
</tr>
<tr>
<td>Cultural Deprivation</td>
<td>24.58</td>
<td>4.4</td>
</tr>
</tbody>
</table>
Table 8 (continued)

<table>
<thead>
<tr>
<th></th>
<th>Etiology</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>26.62</td>
<td>3.4</td>
<td>25.69</td>
</tr>
<tr>
<td>Non-Condemnatory</td>
<td></td>
<td></td>
<td></td>
<td>3.6</td>
</tr>
<tr>
<td>Personal Exclusion</td>
<td></td>
<td>41.69</td>
<td>5.7</td>
<td>38.65</td>
</tr>
<tr>
<td>Authoritarianism</td>
<td></td>
<td>41.15</td>
<td>6.6</td>
<td>38.12</td>
</tr>
<tr>
<td>Hopelessness</td>
<td></td>
<td>19.96</td>
<td>3.3</td>
<td>21.15</td>
</tr>
</tbody>
</table>

Analysis of this data (Table 9) revealed significant group differences on Factors I and IV.

Table 9. Multivariate F table for the experimental and control group staff data on the Efron and Efron Attitude Questionnaire.

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Sum of Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factor I</td>
<td>1</td>
<td>462.02</td>
<td>8.76*</td>
</tr>
<tr>
<td>Factor II</td>
<td>1</td>
<td>29.25</td>
<td>1.81</td>
</tr>
<tr>
<td>Factor III</td>
<td>1</td>
<td>11.08</td>
<td>0.90</td>
</tr>
<tr>
<td>Factor IV</td>
<td>1</td>
<td>120.02</td>
<td>4.95*</td>
</tr>
<tr>
<td>Factor V</td>
<td>1</td>
<td>120.02</td>
<td>2.78</td>
</tr>
<tr>
<td>Factor VI</td>
<td>1</td>
<td>18.48</td>
<td>2.04</td>
</tr>
</tbody>
</table>

Wilk's Lambda Criterion was used to assess overall group differences, and was not significant ($F = 2.06, p = .078, df = 6, 45$). Therefore, the hypothesis was rejected. Figure 12 illustrates the magnitude and direction of the significant differences found on Factors I and IV.
Figure 12. Experimental and control group staffs' mean raw score for Factors I and IV of the Efron and Efron Attitude Questionnaire.
DISCUSSION

The research questions posited in this study related to the ability of administrators to establish a therapeutic program for aggressive clients in a large institution with limited fiscal and personnel resources. It was felt that a significant reduction in the use of crisis techniques (major tranquilizers and restraint/seclusion) over time, would be sensitive indicators of program effectiveness. In addition, a significant reduction in the frequency of socially inappropriate behavior as well as significant increases in adaptive behavior, would be further evidence of program effectiveness. Finally, it was felt that the attitude of direct care program staff would undergo a positive change as a result of their participation in the experimental treatment program.

Analysis and subsequent interpretation of the tranquilizer data revealed that the control group received a significantly larger mean dosage of tranquilizers on pre-experimental measures of this variable. Although the experimental group recorded a 44 percent decrease in tranquilizer dosage ($\bar{X} = 4263$ v. $\bar{X} = 2404$) over the experimental period, and the control group recorded a 4 percent increase ($\bar{X} = 9955$ v. $\bar{X} = 10368$) over the same period, post-experimental differences were still not significant.
Analysis of the restraint/seclusion data indicated a non-significant pre-experimental difference in time spent in restraint/seclusion, with the experimental group spending relatively more time than the control group in restraint/seclusion. Analysis of the sex of subject variable showed that the females dramatically reduced their restraint/seclusion time ($\bar{X} = 73.72$ v. $\bar{X} = 14.03$), while the males recorded a slight increase ($\bar{X} = 19.63$ v. $\bar{X} = 24.31$). Further analysis revealed that the experimental females experienced the greatest reduction over time ($\bar{X} = 107.51$ v. $\bar{X} = 15.98$); with the female controls ($\bar{X} = 39.9$ v. $\bar{X} = 12.09$) and the experimental males ($\bar{X} = 25.78$ v. $\bar{X} = 2.0$) recording less dramatic reductions over time. The increase experienced by the control males ($\bar{X} = 13.48$ v. $\bar{X} = 46.62$) accounted for the overall increase found in the analysis of the sex variable.

This data provided only partial support of the first research hypothesis. Clearly, the restraint/seclusion data reflect a decreased reliance on this crisis technique to control behavior. In addition, the main effect of time ($F = 3.36$, $p = .07$, $df = 1, 36$), while not significant, suggest that assignment to the experimental program tended to reduce the necessity of socially appropriate behavior to gain staff attention, and hence the reduced need for restraint/seclusion. The inclusion of the effect of treatment in data analysis resulted in the highly significant post-experimental group differences.

The failure of the tranquilizer data to support the research hypothesis may be explained by a comparison of the data contained in Figures 8 and 13. The experimental group experienced decreases in both major tranquilizer level and time in restraint/seclusion; while the
Figure 13. Experimental and control group major tranquilizers, mean dosage/mgs. for the group by sex by time interaction.
male controls experienced increases in restraint/seclusion and decreases in their tranquilizer dosage. Conversely, the female controls had a decrease in their restraint/seclusion time and an increase in their tranquilizer dosage. This exchange of crisis intervention technique, by sex, in combination with the relatively small tranquilizer dosage administered to the experimental males (pre and post-experiment) resulted in the non-significant post-experimental group differences.

A reduction in the frequency of the control groups' socially inappropriate behavior as a result of the exchange of crisis intervention technique would clearly establish that tranquilizer dosage and restraint/seclusion were less than adequate measures of program effectiveness. However, analysis of the ABS, Part II data showed that regardless of crisis intervention technique employed, the control group frequency of socially inappropriate behavior increased over time ($\bar{X} = 3.5$ v. $\bar{X} = 4.86$), while the experimental group significantly decreased their frequency over the same period ($\bar{X} = 5.94$ v. $\bar{X} = 2.51$). Further analysis revealed that the experimental females experienced the greatest reduction in socially inappropriate behavior ($\bar{X} = 9.1$ v. $\bar{X} = 3.5$), followed by the experimental males ($\bar{X} = 6.33$ v. $\bar{X} = 3.02$). Conversely, both the control females ($\bar{X} = 4.73$ v. $\bar{X} = 5.65$) and males ($\bar{X} = 4.38$ v. $\bar{X} = 5.54$) experienced increases in the frequency of their socially inappropriate behavior. In addition, the significant main effect of time ($F = 5.12$, $p = .03$, df = 1, 36) obtained in the analysis of the ABS Part II data, and the strong trend of the time variable toward significance in both the restraint/seclusion data ($p = .07$) and the ABS, Part I, Factor I data ($p = .09$), demonstrate that
environmental differences, without the effect of treatment, contributed, significantly, to the reduced frequency of the experimental groups' socially inappropriate behavior. Further, this data supported the contention that tranquilizer dosage and restraint/seclusion time were sensitive indicators of program effectiveness.

The third research question posited that client participation in the experimental treatment program would result in significant increases in their measured level of adaptive behavior. The Principle Components Analysis of the ABS, Part I data revealed three factors comprising adaptive behavior: Factor I - Functional Independence, Factor II - Physical Development, and Factor III - Educability. Factor II was found to be independent of Factors I and III, and was excluded from further analysis.

The Factor I data revealed significant group differences (Experimental Group \( \bar{X} = .2066 \) v. Control Group \( \bar{X} = .4267 \)) on pre-experimental measures of functional independence. This difference continued to exist after the experimental period (Experimental Group \( \bar{X} = .4837 \) v. Control Group \( \bar{X} = .6867 \)), with both groups making significant progress in their ability to accomplish those tasks and activities demanded by the general community.

Analysis of Factor III data revealed non-significant pre and post-experimental group differences. Visual inspection of the experimental group pre and post measures (\( \bar{X} = .2629 \) v. \( \bar{X} = .2527 \)) indicated a negligible decrease, probably due to differences in rater judgment over time. Control group pre and post measures (\( \bar{X} = .0242 \) v. \( \bar{X} = .1645 \)) indicate a non-significant increase. Overall, analysis of Factor I and
and Factor III data indicated that participation in the experimental treatment program did not increase adaptive behavior beyond that which could have been obtained in the general institution milieu.

The failure of the experimental group to surpass the control group on Factor I measures, and the failure of both groups to make significant progress on Factor III measures, reflect changes in the general institution milieu as well as differences in program emphasis between the two groups. First, the impact of the 1974 Ohio legislation was just beginning to affect the institution milieu in that there was a large scale effort to make all clients aware of their rights. Generally, this included more program staff and a general increase in structured activities. Executive Orders governing many facets of institution life were rewritten in the form of Administrative rules which reflected more clearly, a concern for the legal rights and basic human dignity of institutionalized persons. The Ohio Legal Rights Service began to take a more active role in the individual representation of clients in court. Seclusion rooms were abolished in all public facilities serving the retarded; and more stringent controls on the use and monitoring of aversive behavioral techniques and psychotropic medications were apparent.

Also, the control group program emphasized direct skill training in the residential unit moreso than the experimental program. For example, the focus of the experimental program as regards school and workshop programs was to assist the client to behave appropriately in such settings rather than to teach new skills. In addition, the main focus of the experimental program was the reduction of socially
inappropriate behavior, and the experimental period (one year) may not have been sufficient in length to accomplish both a reduction in inappropriate behavior and an increase in adaptive behavior. It seems that reductions in inappropriate behavior facilitated the consistent exhibition of adaptive behaviors already in the clients' repertoire. This conclusion seems supported by the fact that during the second year of the experimental program, four members of the group who were initially assessed as functioning in the moderate range of retardation (both IQ and adaptive behavior) were evaluated as being in the mild range when reassessed.

Finally, one must recognize that neither group "peaked out" on the measures of adaptive behavior. This suggests that in spite of the consistently high quality of the residential unit environment and the efforts of the activity therapist to provide community exposure, that the exposure was insufficient to overcome the effects of the institution environment outside the residential unit. Leland and Smith (1974) summarize the problem not in terms of the failure of the institution to carry out programs leading to greater adaptation, but rather that the programs are much less effective than they could be under other circumstances. It seems that normalizing experiences necessary to increased adaptive behavior are best provided in the natural environment in which those behaviors are expected to occur. Thus, the institution environment, even with pockets of enrichment, fall short of this goal.

The creation and maintenance of a therapeutic environment was a crucial program element. The basic concerns suggested by Kreger (1971)
were addressed by limiting the size of the unit to twenty, and offering a wide range of activities, other than support programs, to stimulate client interest and motivation. Basically, the clients themselves selected their preferred activity from a range of activities within the institution and those specialized activities provided by the activity therapist in the residential unit and the community. Institution activities included dances, open recreation, parties, and other similar activities. Residential activities included table games, arts and crafts, television, pocket billiards, bicycle tours, etc. Community activities included movies, shopping trips, supervised dating, sports events, museum tours, vacations with family members, and day/overnight trips to the homes of the staff. However, the most crucial element in the establishment of the therapeutic environment was the daily interactions between clients and staff. Legal mandates require that programs of habilitation and remediation show due concern for the rights and dignity of the client. Such concerns necessitated that staff model appropriate behavior in their own interactions, as well as focusing on positive behaviors in their interactions with clients. The use of the principles and techniques of behavior modification to accomplish this goal are well documented in client progress.

The treatment approach utilized in the experimental program was based upon Bandura's (1969) social learning approach, in conjunction with a system of logical consequences for inappropriate behavior. This approach is characterized by due regard for the rights and basic human dignity of each client. Thus, client goals emphasized independence, self reliance, awareness, and the right of the client to be a self
The techniques employed to cope with inappropriate behavior were designed to allow each client to make choices, even poor ones, with staff recognition of their right to make such choices. This placed responsibility for the choice on the client, and facilitated awareness of his/her cognitive control over the outcome of events. The behavioral cues provided by the client which signaled the imminent exhibition of inappropriate behavior resulted in staff recognition of the potential problem, i.e., "you seem to be getting upset". If the client failed to respond, staff would attempt to engage him in an incompatible behavior. For example, a client who was becoming agitated with his peers might be asked to discuss the problem with staff, take a walk, or lie down on his bed to calm down. If the client continued without response to these cues, the staff would say, i.e., "you still seem upset, why don't you place yourself in time-out until you calm down". If the client failed to calm down, refused to place himself in time-out and continued to escalate toward a major aggressive outburst, staff would intervene by saying, i.e., "if you don't calm down, I will have to place you in time-out". If the client failed to regain composure, refused to place himself in time-out, and continued to escalate toward an aggressive outburst, the client would be placed in time-out until behavioral control was regained. If time-out was refused, and some behavioral control was not apparent, the client would be placed in restraint/seclusion until control was regained. Once the client had regained composure, he would be released and asked to discuss the problem with staff. This afforded the client an opportunity to engage in an appropriate sequence of behaviors, resulting
in appropriate problem resolution, as well as allowing for both positive reinforcement of appropriate behavior, and a basis for comparison of his appropriate and inappropriate behavior in that particular situation. Each level of intervention provided the client with additional cues to appropriate behavior, and the intervention sequence would not proceed beyond the point where the client had sufficient cues to engage in an appropriate sequence. This procedure also provided a method of assessing client progress, in that response to a level one intervention demonstrated greater awareness and cognitive control than a level two, three, or four intervention. The major distinction between this intervention sequence and punishment is that the client had a choice of behaviors, respected by staff, who attempted to make him aware in a non-vindicative way, of the logical consequences that follow. This recognition of client right and dignity proved to be an extremely effective manner of reducing the frequency of socially inappropriate behavior, and drastically reduced the necessity of crisis intervention techniques.

Overall, the experimental group experienced significant reductions in inappropriate behavior, restraint/seclusion and major tranquilizer dosage. The experimental females had both higher pre-experimental levels and the most significant decreases in the level of these variables over time. However, despite consistent attempts to eliminate differential treatment of the sexes, their post-experimental levels were consistently higher than those recorded by the experimental males. Certainly, the females had more room for progress, which accounts for their major contribution to overall group differences, but, examination
of Appendix E reveals a major difference in the male and female environment. The males each had a private room on the upper level of the residential unit, while the females lived in a dormitory area on the lower level. The dormitory was necessary, as the residential unit was located in a larger building housing other females. This necessitated that shower facilities be shared with clients living in the next ward area. Also, J.C.A.H. standards require that a building vacated for renovation, meet physical plant standards prior to re-occupancy, and the institution lacked the funds for such extensive renovation. This environmental difference had differential effects on program effectiveness. First, the difference in the degree of privacy allowed the males to withdraw from potentially stressful situations or group contact, allowing them the flexibility of choosing when they were ready to cope with such situations. The females, on the other hand, had no such means of retreat. Thus, they were faced with and forced to cope with many more stressful situations. Consequently, they experienced a greater frequency of socially inappropriate behavior than the males. This conclusion coincides with the fact that approximately 60 percent of their aggressive outbursts occurred during the period from dinner time to bedtime. The progress made by the females attests to the importance of the environment and the effectiveness of the treatment program.

Staff Attitude

The Efron and Efron Attitude Survey was administered to the direct care staff of both groups after the experimental period to determine whether staff participation in the experimental program
affected their attitude toward retarded people. While there was no overall significant group difference, both groups of staff agreed that cultural impoverishment was a major cause of mental retardation which could be combatted by educational enrichment (Factor II). They also concurred that mental retardation was not a punishment from God for their sins (Factor III); and staff didn't feel that obedience to God would reduce the incidence of retardation (Factor V). Also, both groups concurred that the retarded could lead a happy, useful life, for example, holding a job (Factor VI).

The two groups of staff differed in their responses to Factors I and IV, with the experimental group staff responding relatively more positively than the control group staff. Factor I projects the view that the retarded should be removed from the mainstream of society as they represent a threat to its members. The experimental group staff felt that the retarded did not necessarily represent a danger to society, and thus, should not be segregated in institutions. Evidently, the control group staff felt that the retarded could best be educated to lead a happy, useful life only within the confines of an institution. Factor IV relates to the impact of having a retarded person in one's own family. The experimental staff reportedly felt comfortable with having a retarded family member; while the control group staff felt a sense of personal tragedy at having a retarded person in their family, either by birth or marriage. Evidently, the control staff felt no shame in having a mentally retarded family member as long as he weren't living with them.
Generally, both groups of staff held positive attitudes toward the retarded, with the notable exception that the control staff felt that they were best served in an institution setting, but most certainly in anyone's family but their own. The reported difference in the two groups seems to be related to the degree to which the respective staffs' were involved with the clients they were serving. The experimental program stressed "quality of interaction" as a major contributor to the therapeutic environment, and over the experimental period, the consistency of both method and approach are obvious. In addition, the experimental staff were able to observe client behavior change, and were able to associate such change, in part, to the consistency and quality of their interactions with them. Also, the experimental group staff were able to follow client progress in the community through periodic visits with them.

However, an alternative explanation for the non-significant overall group difference may be that both groups of staff responded in the manner which was "expected" of them, rather than how they really felt toward the retarded. There is a considerable body of evidence (i.e., Parloff, 1960) indicating that responses to attitude surveys had little relation to staff behavior toward the clients in the residential unit. The staff differences noted in this study may reflect different attitudes, as the ward behavior of the experimental staff was consistent with attitudes projected on the survey form. Conversely, those attitudes reported by the control group staff were not evident in their ward behavior. Ultimately, it may be that staff attitude change in the institution setting suffers the same problem
experienced by clients in their effort to increase their adaptive behavior. That is, the experiences necessary to change attitude are best provided in the natural environment conducive to such change. So long as the majority of staff time with the retarded is spent in the institution environment, one could hardly expect attitudes to change. The consistency of staff behavior and their responses on the attitude survey are probably the result of their compliance with the consistency of method and approach, merely as a condition of continued employment; and the significant differences obtained on Factors I and IV resulted from staff contact with the clients outside the confines of the institution.

There is no doubt that community based programs and services have significantly reduced the pressure on institutions, formerly the sole treatment alternative to the family. Also, there is little doubt that substantial progress needs to be made, especially in the areas of prevention, early diagnosis and treatment. Formerly, families received little, if any, assistance in training their retarded family member. Consequently, they either provided too little guidance or they attempted to do everything for them. The result in either case, would be the development of inappropriate response patterns because they were left to their own devices to learn about their world, or they rebelled against the overprotective family situation. In any event, virtually all first admissions to the institution over the past three years has been the result of behavior problems with which the family was unable to cope. The effectiveness of the experimental treatment program attests to the fact that this situation need not
exist. Early diagnosis and treatment in conjunction with a parent training program could prevent the development of many maladaptive behavior patterns and facilitate the integration of the retarded person into the family, rather than the family making major adjustments to the presence of a retarded family member. The lack of sufficient mechanisms for early diagnosis, treatment and parent training result in vastly different and ineffective means of coping with the special problems posed by a retarded family member, and probably accounts for the discrepancies reported by Menolascino (1965) and Webster (1970) regarding the incidence of emotional disturbance among the retarded. It is likely that progress in these areas will reveal that the incidence of emotional disturbance is no more prevalent among retarded populations than it is for the general population.

Summary

An experimental and control group, each consisting of ten males and ten females, matched on sex, age, and length of institutionalization, were selected to participate in a program designed to reduce the frequency of their socially inappropriate behaviors, concomitant with the expansion of their repertoire of adaptive behavior. Bandura's (1969) social learning theory in conjunction with a system of logical consequences formed the basis of the experimental treatment program, which was characterized by due concern for the basic rights and dignity of the client, especially his right to be a self-learner.

Pre and post-experimental measures of each groups' adaptive and maladaptive behaviors were secured by completion of Parts I and II of the Adaptive Behavior Scale (ABS). Part I data was subjected to a
Principle Components Analysis with a Varimax rotation, which yielded three factors. Factor I (Functional Independence) and Factor III (Educability) were selected as the dependent measures of adaptive behavior. Part II data constituted the dependent measure of socially inappropriate behavior. In addition, pre and post-experimental measures of each clients mean dose of major tranquilizers and mean time spent in restraint/seclusion were taken to establish these variables as sensitive indicators of program effectiveness.

Computer analysis of these variables utilizing a 2 X 2 X 2 Split-Plot Factorial Analysis of Variance revealed that no significant group differences existed on the ABS, Part I, Factor II; ABS, Part II, or the restraint/seclusion variables. However, the ABS, Part I, Factor I and the major tranquilizer data revealed significant pre-experimental group differences. Post-experimental data analysis revealed that the experimental group was significantly lower than the control group on the ABS, Part II and restraint/seclusion variables. The major tranquilizer data failed to reach significance due to the exchange of crisis intervention technique, by sex, across time. That is, the control males increased their time in restraint/seclusion and reduced their major tranquilizer dosage; while the control females increased their tranquilizer dosage and decreased their time spent in restraint/seclusion. This exchange, in combination with the relatively minor dosage of tranquilizers administered pre and post-experiment to the experimental males resulted in non-significant post-experimental group differences on this variable. The significant main effect of time obtained from analysis of the ABS, Part II data, and the strong trend
toward significance obtained in the ABS, Part I, Factor I and restraint/seclusion data demonstrate the importance of the environment to client habilitation and remediation. Overall, this data supports the efficacy of the experimental treatment program in reducing the frequency of socially inappropriate behavior; established restraint/seclusion and major tranquilizers as sensitive indicators of program effectiveness; and demonstrated both the importance of the environment and the ability of the experimental treatment staff to establish and maintain a therapeutic environment.

Analysis of the ABS, Part I, Factor I data revealed significant pre and post-experimental group differences, with the control group higher than the experimental group on both measures. The failure of the experimental group to exceed the control group was attributed to changes in the general institution milieu and the differing focus of the two programs. The data were discussed in terms of the limited ability of staff to establish a normalizing environment in an institution, and suggested that the training of new adaptive skills may best be conducted in the natural environment in which those behaviors are expected to occur.

Finally, the study sought to assess the effect of experimental program participation on staff attitude toward the retarded. Data analysis revealed no overall group differences, with both groups responding in a positive attitudinal direction on four of the six factors comprising the Efron and Efron Survey. Significant differences were obtained on Factors I and IV, with the experimental group staff responding more positively than the control group staff. The former
factor projects the view that the retarded should be removed from society as they represent a threat to its members; while the latter relates to the impact of having a retarded person in one's family. The data was discussed in terms of the difficulty in changing staff attitude in an environment where staff expectation is in opposition to positive attitude. Thus, the significant group differences probably resulted from behavioral changes created by the consistent method and approach indicative of the experimental treatment program; with both groups of staff generally responding in the "expected" direction.

It was concluded that the success of the experimental treatment program in accomplishing its stated goals indicated the need for substantial improvements in community programs and services, especially early diagnosis, treatment and parent training, to facilitate the ability of the family to successfully cope with a retarded family member. This would reduce the probability of the development of maladaptive behavior patterns, and probably reveal that the incidence of emotional disturbance is no more prevalent among retarded populations than it is in the general population.

Recommendations

1. In order to assess the effect of the natural v. the institution environments compared in this study, it is recommended that the study be replicated with the addition of a second control group in the community. Comparison of the relative effectiveness of the three programs would allow a more definitive statement concerning the limitations of an institution environment, and the general role of the
environment on programs of habilitation and remediation.

2. It is recommended that both medication and restraint/seclusion data be monitored on a regular basis, as these variables seem to be sensitive indicators of program effectiveness in a large institution setting.

3. Since large institution settings are plagued by chronic fiscal and personnel shortages, it is recommended that this program be attempted with a larger number of clients, within the institution, to determine the number of clients and additional staff necessary to deliver an effective program. In addition, this procedure will also provide information as to ideal program size.

4. Institution administrators should focus on the development of consistency in both method and approach, within each program, as a means of changing staff behavior on the ward and maximizing program effectiveness. Staff attitude change should be de-emphasized as the institution environment and staff tendencies to respond in the "expected" direction make this data of little value.

5. Research should be conducted to identify a set of variables which predict subsequent attendant performance. This, in conjunction with empirically based criteria of what makes a good attendant will establish a selection process which facilitates accurate attendant evaluation and promote retention of attendant staff.
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APPENDIX A
Table 10. Capital expenditures allocated to Orient State Institute from 1974 through 1979.

<table>
<thead>
<tr>
<th>1974-1975</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Equipment (New Hospital)</td>
<td>$475,000</td>
</tr>
<tr>
<td>2. Activity Therapy Building</td>
<td>$1,950,000</td>
</tr>
<tr>
<td>3. Martha Nelson Rehabilitation Center</td>
<td>$350,000</td>
</tr>
<tr>
<td>4. New Water Mains &amp; Water Tower</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>5. Electrical Distribution System</td>
<td>$250,000</td>
</tr>
<tr>
<td>6. Install Standby Generator</td>
<td>$73,000</td>
</tr>
<tr>
<td>7. Renovate Toilets (3 Cottages)</td>
<td>$1,241,000</td>
</tr>
<tr>
<td>8. Renovate Cottage L</td>
<td>$918,000</td>
</tr>
<tr>
<td>9. Improve Sewer Line</td>
<td>$400,000</td>
</tr>
<tr>
<td>10. Retube Boiler</td>
<td>$38,000</td>
</tr>
<tr>
<td>11. Repair Roof (Cottage L)</td>
<td>$45,000</td>
</tr>
<tr>
<td>12. Survey Sewer Lines</td>
<td>$15,600</td>
</tr>
<tr>
<td>13. Survey Sprinkler System</td>
<td>$6,000</td>
</tr>
<tr>
<td>14. Surface Roads &amp; Parking Lots</td>
<td>$50,000</td>
</tr>
<tr>
<td></td>
<td>$6,811,600 Total</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1976-1977</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Martha Nelson Rehabilitation Center</td>
<td>$1,000</td>
</tr>
<tr>
<td>2. Activity Therapy Building</td>
<td>$200,000</td>
</tr>
<tr>
<td>3. Water Mains</td>
<td>$30,000</td>
</tr>
<tr>
<td>4. Cottage L (Equipment)</td>
<td>$100,000</td>
</tr>
<tr>
<td>5. Electrical Distribution System</td>
<td>$20,000</td>
</tr>
</tbody>
</table>
### Table 10. (Continued)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Sewage Lines</td>
<td>$20,000</td>
</tr>
<tr>
<td>7</td>
<td>Core Complex</td>
<td>$4,128,000</td>
</tr>
<tr>
<td>8</td>
<td>Renovate Dining Area (3 Cottages)</td>
<td>$250,000</td>
</tr>
<tr>
<td>9</td>
<td>Replace Heating &amp; Condensate Lines</td>
<td>$1,250,000</td>
</tr>
<tr>
<td>10</td>
<td>Water Treatment Plant</td>
<td>$1,500,000</td>
</tr>
<tr>
<td>11</td>
<td>Renovate Sanitary &amp; Storm Sewers</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>12</td>
<td>Renovate Toilets</td>
<td>$434,000</td>
</tr>
<tr>
<td>13</td>
<td>Storm Windows (7 Cottages)</td>
<td>$275,000</td>
</tr>
<tr>
<td>14</td>
<td>Sidewalk &amp; Road Repairs</td>
<td>$500,000</td>
</tr>
<tr>
<td>15</td>
<td>Engineering Package</td>
<td>$50,000</td>
</tr>
</tbody>
</table>

**Total** $9,758,100

### 1978-1979

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Install Sprinklers</td>
<td>$20,000</td>
</tr>
<tr>
<td>2</td>
<td>Pollution Control (Boilers)</td>
<td>$19,640</td>
</tr>
<tr>
<td>3</td>
<td>Sidewalk &amp; Road Improvements</td>
<td>$17,800</td>
</tr>
<tr>
<td>4</td>
<td>Water Treatment Plant</td>
<td>$121,264</td>
</tr>
<tr>
<td>5</td>
<td>Improvements (12 Buildings)</td>
<td>$100,000</td>
</tr>
<tr>
<td>6</td>
<td>New Residential Center (Equipment)</td>
<td>$375,994</td>
</tr>
<tr>
<td>7</td>
<td>Replace Steam, Hot Water Lines</td>
<td>$1,587</td>
</tr>
<tr>
<td>8</td>
<td>New Electrical Distribution System</td>
<td>$47,752</td>
</tr>
<tr>
<td>9</td>
<td>New Residential Unit (64 Beds)</td>
<td>$1,980,000</td>
</tr>
<tr>
<td>10</td>
<td>New Boilers (2), Coal Storage</td>
<td>$900,000</td>
</tr>
<tr>
<td>11</td>
<td>Sewage Treatment Plant</td>
<td>$77,000</td>
</tr>
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</table>
Table 10. (Continued)

<table>
<thead>
<tr>
<th></th>
<th>Description</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.</td>
<td>Enlarge Sanitary &amp; Storm Lines</td>
<td>$ 436,000</td>
</tr>
<tr>
<td>13.</td>
<td>Repair Roof (Administration Building)</td>
<td>$ 3,643</td>
</tr>
</tbody>
</table>

$4,100,680 Total
APPENDIX B
The purpose of Ohio's public residential facilities for the mentally retarded are as follows:

A. To promote the human dignity and to protect the constitutional rights of mentally retarded persons in the State;

B. To encourage the development of the ability and potential of each mentally retarded person in the State to the fullest possible extent, no matter how severe his degree of disability;

C. To promote the economic security, standard of living, and meaningful employment of the mentally retarded;

D. To maximize the assimilation of the mentally retarded persons into the ordinary life of the communities in which they live; and,

E. To recognize the need of mentally retarded persons, whenever care in a residential facility is absolutely necessary, to live in surroundings and circumstances as close to normal as possible.

Pursuant to these ends, Ohio's largest public institution serving the mentally retarded is committed to uphold the basic rights of each client as specified in the Declaration of General and Special Rights of the Mentally Retarded and the provisions of Senate Bill 336.

We are committed to a philosophy of programming consistent with the principles of normalization, with programs developed on the premise that all retarded people are capable of growth, learning and development regardless of their degree of impairment. Consistent with this philosophy, we are deeply committed to a broad based program which includes prevocational, vocational education, recreational and residential habilitative programs as well as extensive opportunities for the
exhibition of skills in a community setting.

In addition, the institution is committed to the concept of deinstitutionalization in that we are committed to the belief that programs should be delivered in the least restrictive setting. However, the Office of Transition Services will not recommend community placement for any client unless there is evidence that the programs and services available are at least equal to the type, quality, and quantity of services available to the client within the institution setting.
Orient State Institute is committed to uphold the basic rights of each client as specified in the Declaration of General and Special Rights of the Mentally Retarded as adopted by the United Nations in 1971. To this end, the Department of Mental Health and Mental Retardation has promulgated Administrative Rule 5119-3-08, mandating the following safeguards:

1. A Department level Client Rights and Consumer Relations Officer, who is assigned to the Office of the Director, and is responsible for carrying out the Department's obligation to guarantee and maintain the rights of clients, as well as to review, follow-up, and respond to client and public concerns relative to client rights.

2. A Division level Client Advocacy Coordinator, assigned to the Office of the Commissioner of Mental Retardation and Developmental Disabilities, who is responsible for providing direction and support to the institution Client Advocate and concerned others, in matters related to services and treatment of clients.

3. An institution Client Advocate, assigned to the Office of the Superintendent, who is responsible for representing and assisting clients by promoting their social and economic well being, serving as advocate/resource person, and protecting the human and civil rights of clients.

4. A Citizen's Advisory Board, formed under the provisions of Section 5119.81 of the Ohio Revised Code, whose duties include the review of all employee training and continuing education programs;
Statement of Human Rights (continued)

participation in the formation of the institution objectives, adminis-
trative procedures, program philosophy and long range goals; review of
the institution budgets, programs, services and planning; report on
allegations of dehumanizing conditions and practices to the Joint Men-
tal health and Mental Retardation Advisory and Review Commission; and
to transmit the concerns of institution staff and the community to the
Joint Commission.

5. A Human Rights Committee, whose purpose is to provide input to
the institution administration on matters which relate to promoting
and preserving human dignity.

6. All levels of administration solicit the support and active
participation of all family members, volunteers, and private citizens
in the development of effective, humane, habilitative programming in
the least restrictive environment.

Orient State Institute is committed to a philosophy of programming
consistent with the principles of normalization and deinstitutionaliza-
tion, with programs developed on the premise that all retarded people
are capable of growth, learning and development regardless of their
degree of impairment. Consistent with this philosophy, Orient State
Institute is deeply committed to a broad based program which includes
pre-vocational, vocational, educational, recreational, and residential
habilitative programs, as well as extensive opportunities for the
exhibition of skills in a community setting.

In addition, the institution is committed to service delivery in the
least restrictive setting. However, the Office of Transition Services
Statement of Human Rights (continued)

will not recommend community placement for any client, unless there is evidence that the programs and services available are, at least equal to the type, quality, and quantity of services available to the client within the institution setting.

The signatures and titles of key authority and program persons appear below.

__________________________________________
Superintendent

__________________________________________
Program Director

__________________________________________
Unit Chairperson
or
Department Head

__________________________________________
Date

July 1976
JPA
Figure 14. Orient State Institute Table of Organization.
Ground Level - Male Residential Area

Figure 15. Special Program Unit Floor Plan, with ground and basement levels drawn to scale.
Special Program Unit Admission Criteria

Any Client currently residing within the institution is eligible for admission to the Special Program Unit if he/she is moderate or mildly retarded (Current A.A.M.D. Definition, Grossman, 1973), and has had a current Comprehensive Evaluation which demonstrates evidence of one or more of the following criteria:

[a] Hallucinations - the experiencing of sensations in the absence of external stimuli.

[b] Delusions - the misrepresentation of actual events (i.e., false beliefs).

[c] Loss of Contact with Reality - the substantial loss of orientation to one's environment (i.e., the person loses contact with the environment to the extent that they don't know who or where they are).

[d] Uncontrolled Temper Tantrums - yelling, crying, screaming with little provocation or without apparent reason.

[e] Uncontrolled Violence - client with little provocation, or without apparent reason attempts, or actually causes physical harm to others.

[f] Self-abuse - client commonly engages in a range of behaviors such as head banging, pinching, biting or other inappropriate behaviors leading to self injury (i.e., pulling stitches or bandages from previous injuries).

[g] Destruction of Property - client regularly destroys own property, others' property or physical objects (i.e., windows) in the environment.

[h] Failure to maintain behavior necessary for participation in educational, vocational and recreational programs.

[i] History of previous mental health problems (Documented from client's Central Record).
Table 11. Rotated Factor Pattern resulting from the Principle Components Analysis of the ABS, Part I data.

<table>
<thead>
<tr>
<th>ABS, Part I DOMAINS</th>
<th>Factor I</th>
<th>Factor II</th>
<th>Factor III</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOMAIN I</td>
<td>0.75305</td>
<td>0.27841</td>
<td>0.36938</td>
</tr>
<tr>
<td>DOMAIN II</td>
<td>0.07768</td>
<td>0.96105</td>
<td>0.11835</td>
</tr>
<tr>
<td>DOMAIN III</td>
<td>0.74494</td>
<td>0.20606</td>
<td>0.27236</td>
</tr>
<tr>
<td>DOMAIN IV</td>
<td>0.35812</td>
<td>0.11452</td>
<td>0.82556</td>
</tr>
<tr>
<td>DOMAIN V</td>
<td>0.20018</td>
<td>0.11311</td>
<td>0.85195</td>
</tr>
<tr>
<td>DOMAIN VI</td>
<td>0.79339</td>
<td>0.24758</td>
<td>0.18563</td>
</tr>
<tr>
<td>DOMAIN VII</td>
<td>0.71409</td>
<td>-0.05463</td>
<td>0.32797</td>
</tr>
<tr>
<td>DOMAIN VIII</td>
<td>0.64721</td>
<td>0.04775</td>
<td>0.49198</td>
</tr>
<tr>
<td>DOMAIN IX</td>
<td>0.85660</td>
<td>-0.10355</td>
<td>0.11505</td>
</tr>
<tr>
<td>DOMAIN X</td>
<td>0.66545</td>
<td>-0.00788</td>
<td>0.48755</td>
</tr>
</tbody>
</table>
Efron and Efron Staff Attitude Questionnaire

This questionnaire is a part of my doctoral research project, and I appreciate the time you are taking to help me with my project. The purpose of the questionnaire is to determine a range of ideas of people who work with the retarded. I want to see which ideas are similar and which are different.

I want you to understand this is not a test or an evaluation, and the information will not be made available to anyone at the institution. To insure that your right of confidentiality is maintained, you will notice that there is no place for your name on this form. Since the questionnaire is designed to determine a range of ideas people have about the retarded, there is no right or wrong answer to any of the questions. Remember, I am only interested in ideas that people have about the retarded.

The questionnaire is very easy to complete. The top of each page contains six statements numbered 1 through 6. Each statement on the questionnaire is followed by the numbers 1 through six. Please read each statement and circle the number which best corresponds to your ideas about retarded people. Please answer each question as best you can. Your ideas are really important to me, and I appreciate your willingness to share them with me.

EXAMPLE

1. Retarded people lack appropriate table manners.

1 2 3 4 5 6

Strongly Agree Not sure, probably agree Not sure, probably disagree Disagree Strongly Disagree
<table>
<thead>
<tr>
<th></th>
<th>1</th>
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<tbody>
<tr>
<td>1. With the current trend in industrial technology, there are going to be fewer jobs that retardates can fill.</td>
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<tr>
<td>2. Retardates are responsible for more crimes than their proportion in the population.</td>
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<tr>
<td>3. Any perfectly normal parents may have a retarded child.</td>
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<td>4. Beautiful children are seldom retarded.</td>
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<tr>
<td>5. Every person should have complete faith in some supernatural power whose decisions he obeys without question.</td>
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<tr>
<td>6. The most important principle in teaching retardates is to protect them against experiencing failure.</td>
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<tr>
<td>7. As sad as it is to admit it, there really is little hope for the mentally retarded.</td>
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<tr>
<td>8. To be perfectly honest, this world would be a safer place to live in if there were no mentally retarded.</td>
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<tr>
<td>9. It is wrong to laugh at a mental retardate.</td>
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<td>10. A substantial cause of mental retardation is cultural and educational impoverishment.</td>
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<tr>
<td>11. Obedience and respect for authority are the most important virtues children should learn.</td>
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</table>
12. Premature children are more likely to be mentally retarded than full term children.

13. Programs such as Headstart, that broaden the child's experience at an early age, prevent cases of mental retardation.

14. Retardates should live among themselves and everything should be done to help them live happy lives.

15. Most people don't realize how much our lives are controlled by plots hatched in secret places.

16. The majority of the mentally retarded are the children of the more disadvantaged classes of our society.

17. Mental retardation often leads to mental illness.

18. Because of their condition, the mentally retarded are easily led into criminal ways.

19. It must be hard to forgive yourself if you have a child who is mentally retarded.

20. Mentally retarded children should live in special institutions where they can be supervised and protected.

21. I don't feel it is fair to your child to let him play with a mentally retarded child.

22. What this country needs most, more than laws and political programs, is a few courageous, tireless devoted leaders in whom the people can put their faith.
<table>
<thead>
<tr>
<th></th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Not Sure, But Probably Agree</th>
<th>Not Sure, But Probably Disagree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<tr>
<td>23.</td>
<td>The more severe cases of mental retardation are likely to be associated with organic defects.</td>
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<td>24.</td>
<td>Once someone is retarded little can be done for him.</td>
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<td>25.</td>
<td>All too often moral weakness and mental retardation go hand in hand.</td>
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<td>26.</td>
<td>Whether a child is born retarded is most often a matter of chance.</td>
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<td>27.</td>
<td>It would be kinder to establish separate communities for retardates where they would not feel so out of place.</td>
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<td>28.</td>
<td>Expecting retardates to fit into our highly competitive society is expecting too much.</td>
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<td>29.</td>
<td>The wild sex life of the old Greeks and Romans was tame compared to some of the goings on in this country, even in places where people might least suspect it.</td>
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<td>30.</td>
<td>In many instances, illiteracy and mental retardation are indistinguishable.</td>
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<td>31.</td>
<td>Employer prejudice is a greater detriment to the retardate than lack of ability.</td>
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<td>32.</td>
<td>It is unwise to trust a younger child with an older retardate.</td>
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<td>33.</td>
<td>If people obeyed God there would be less mental deficiency.</td>
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<td>34.</td>
<td>There is a sharp dividing line between &quot;normal&quot; and &quot;mentally retarded&quot;.</td>
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</table>

35. Separate schools for the retarded would provide them with the special programs they need.

36. Retardates should be prevented from having children by a painless operation.

37. Science has its place but there are many important things that can never possibly be understood by the human mind.

38. Decent parents are just as likely to have a mentally retarded child as any other parents.

39. Mental retardation is no different from any physical handicap.

40. A mental retardate can live just as happy a life as a normal person.

41. There are many causes for mental retardation but sinning parents is not one of them.

42. Most of our social problems would be solved if we could somehow get rid of the immoral, crooked, and feebleminded people.

43. It is unfair to the normal children to have retardates in the same classroom.

44. A mental retardate can live just as useful a life as a normal person.

45. I can see myself having a mental retardate as a true friend.
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<td>46. Minimally retarded persons are more nearly comparable to the most profoundly retarded than they are to the nonretarded.</td>
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<td>47. I would do everything in my power to prevent my daughter from marrying a mental retardate.</td>
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<td>48. Except for the fact that they are not so smart, mental retardates are the same as other children.</td>
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<td>49. Retardates are generally happier when with normals than when they are in special institutions.</td>
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<td>50. In the great bulk of cases of mental retardation, specific physical or neurological effects are usually diagnosable with modern biomedical techniques.</td>
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<td>51. I'd rather have a child born dead than mentally retarded.</td>
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<td>52. You can generally identify a retardate by his looks.</td>
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<td>53. I would trust a mentally retarded person as a baby-sitter.</td>
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<td>54. If I had a retarded child I'd feel ashamed.</td>
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<tr>
<td>55. For the retardate kindness is more important than any educational program.</td>
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<td>56. Retardation is one of the two largest causes of sex crimes.</td>
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<tr>
<td>Strongly Agree</td>
<td>Not Sure, But Agree</td>
<td>Not Sure, But</td>
<td>Disagree</td>
<td>Strongly Disagree</td>
<td></td>
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</tr>
</tbody>
</table>

57. Having a retarded child is one way God punishes people.

1  2  3  4  5  6

58. Most mental retardates are better off in an institution with others of their kind.

1  2  3  4  5  6
Figure 16. Special Program Unit Table of Organization.
INFORMED CONSENT

This document is intended to inform the client and his/her parents or legal guardian of the purpose of the Intensive Training Section and the programmatic techniques available for use. The basic documents governing client human and civil rights are AM. S.B. 336, Executive Orders G-2 (Abuse & Neglect) and G-4 (Unusual Incidents) as well as Administrative Rules 5119-3-04 (Restraint), 5119-3-05 (Research, Development and Demonstration Projects), 5119-3-07 (Behavior Modification), and 5119-3-08 (Human Rights). It is the intent of all staff at Orient State Institute that the Intensive Training Section Program will comply with both the spirit and letter of these documents.

I ________________________________ understand that the purpose of the Intensive Training Section Program is to create a total environment which takes into account the uniqueness of each client's individual needs, dignity and personality. Specifically, the Intensive Training Section will develop programs intended to "diminish the probability that specific, identifiable, maladaptive or objectionable responses will be omitted," and that opportunities will be provided for individuals to broaden their repertoire of adaptive responses.

In accordance with Administrative Rule 5119-3-07, the following techniques may be used to carry out an Individual Habilitation Plan:

<table>
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<tr>
<th>Minor</th>
<th>Major</th>
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<tbody>
<tr>
<td>[a] Withholding of routinely given benign reinforcers such as snacks;</td>
<td>[a] Loss of meals which include meal replacement or substitute for regular meal;</td>
</tr>
<tr>
<td>[b] Time-out from positive reinforcement in an unlocked room for less than 15 minutes;</td>
<td>[b] Time-out from positive reinforcement in an unlocked room for more than 15 but less than 30 minutes; and,</td>
</tr>
</tbody>
</table>
Informed Consent (Continued)

[c] Loss of routinely given privileges;
[d] Over-correction and negative practice; and
[e] Loss of dessert.

These techniques will be employed only after a positive reinforcement approach has failed. In addition, the least restrictive technique will always be employed.

I also understand that the Intensive Training Section is interested in basic and applied research so that relationships may be discovered and new techniques applied in a humane manner. To this end, programmatic information as well as any data generated as a result of participation in the Intensive Training Section Programs may be used in both basic and applied research. Client confidentiality will be fully protected, and in any instance where there is doubt that such confidentiality can be maintained, such sections of any research project will be abandoned or re-designed to insure confidentiality.

I have read this statement or it has been read to me, and full explanation has been provided in language understood by me. Accordingly, I have voluntarily affixed my signature to this document.

(Client) (Date)  (Witness) (Date)

(Parent or legal Guardian) (Date)  (Witness) (Date)

July 1976
JPA
ADMINISTRATIVE RULE 5519-3-07

OHIO DEPARTMENT OF MENTAL HEALTH
AND MENTAL RETARDATION

Intra-Departmental Communication

Date: May 12, 1978

DEPARTMENT MANUALS FOR ADMINISTRATIVE RULES
TRANSMITTAL MEMORANDUM NO. 21

TO: ALL DEPARTMENT MANUAL HOLDERS
FROM: REVA K. HALL
ADMINISTRATIVE RULES COORDINATOR
OFFICE OF LEGAL AND LABOR SERVICES

SUBJECT: RULE 5519-3-07, "BEHAVIOR MODIFICATION INTERVENTIONS"

CONTENT: To protect the rights of clients involved in behavior modification interventions and to facilitate the development of appropriate behavior modification interventions.

INSTRUCTIONS: Place the attached rule in Volume One of your Department Manual under divider tab "Chapter 3, General."

EFFECTIVE DATE: May 15, 1978
IMPLEMENTATION: No action required.

INQUIRIES TO: Jill C. Daroig, Ed.D., Curriculum Development Specialist, Office of Habilitation Services, (614) 466-6670.

RXH:jlf
Attachment

400-22
5119-3-07. Behavior modification interventions.

(A) The purpose of this rule shall be to protect the rights of clients involved in behavior modification interventions and to facilitate the development of appropriate behavior modification interventions.

(B) The provisions of this rule shall be applicable to all institutions under the managing responsibility of the department.

(C) The following definitions shall apply to this rule in addition to or in place of those appearing in rule 5119-1-01 of the Administrative Code:

(1) "Aversive intervention" means any behavior modification intervention which employs any unpleasant or aversive stimuli.

(2) "Aversive stimulus" means any event or stimulus which, presented following a behavior, decreases the likelihood of the recurrence of that behavior.

(3) "Behavior modification" means an intervention in which positive reinforcers or aversive stimuli are applied in a systematic and contingent manner to change behavior. Behavior modification interventions can be used in the context of individual or group programs.

(4) "Department behavior modification committee (DBMC)" means a committee appointed by the director to implement the provisions of this rule.

(5) "Institutional review committee (IRC)" means a group of individuals established by the managing officer in each institution to fulfill the requirements of this rule.

(6) "Overcorrection" means to correct the environmental effects of an inappropriate act by requiring the client to restore the environment to a state vastly improved from that which existed before he or she emitted the inappropriate act.

(7) "Positive practice" means to require the client to intensively practice correct forms of relevant behavior to replace an inappropriate behavior which has been emitted.
(8) "Positive reinforcer" means any event or stimulus which, presented following a behavior, increases the likelihood of the recurrence of that behavior.

(9) "Qualified behavior modification director (QBMD)" means an individual approved by an IRC or the DBMC to direct a behavior modification program, to train the participating staff, and to develop individual treatment/habilitation programs using behavior modification interventions. The DBMC approves the QBMD only when major aversive interventions are employed.

(10) "Timeout" means a behavior modification intervention through which a client, after displaying undesirable behavior, is immediately restricted from positive reinforcement for a specified period of time.

(D) Behavior modification committees

(1) The department behavior modification committee is hereby created and shall consist of a minimum of seven members. There shall be at least one representative of central office from each division; one institution representative from each division; and one member from outside the department. All members shall be appointed by the director. The functions of the DBMC are:

(a) To review and approve all behavior modification interventions involving the use of major aversive stimuli in individual treatment/habilitation plans or in the context of larger programs;

(b) To provide assistance to institutional staff in the development or refinement of any treatment/habilitation programs involving behavior modification interventions; and

(c) To ensure compliance with the provisions of this rule.

(2) The managing officer of each institution shall establish an institutional review committee by either appointing a committee which functions solely to carry out the requirements stated herein, or designating another institutional committee, also to be referred to as the IRC, to carry out the stated requirements as one of its functions. The functions of the IRC are:
(a) To identify, review, and refer to the DBMC all behavior modification programs involving major aversive stimuli;

(b) To identify and review all other existing and planned behavior modification interventions; and

(c) To monitor and evaluate all behavior modification interventions.

(E) Behavior modification interventions

(1) Major aversive interventions

(a) Major aversive interventions shall include, but not be limited to, use of the following aversive stimuli:

(i) Loss of meals;

(ii) Timeout of any duration in a locked room;

(iii) Timeout involving removal of client to another area or reduction of room illumination of over fifteen minutes;

(iv) Restraint;

(v) Electrostimulation (does not include electro-convulsive therapy); and

(vi) Noxious drugs or other substances.

(b) Major aversive interventions may be initiated only when the following conditions and procedures have been met:

(i) Institution staff shall have submitted a written proposal through the TAG to the DBMC which shall include, but not be limited to, the following information:

(a) Client(s) to be served;

(b) Behavior(s) to be modified;
(c) Documentation that positive reinforcement and minor aversive stimuli were previously utilized and proved to be ineffective or not feasible for use;

(d) Major aversive intervention to be utilized;

(e) Statement that no medical contraindications for this intervention exist and that the client will be medically monitored daily;

(f) Statement that administration of the major aversive intervention will be approved by the QMBD, or that person's designee, before each application and will be entered in the client's record;

(g) Specification of substitute behavior(s) to be reinforced and indication of appropriate treatment/habilitation plan to be used in conjunction with the major aversive intervention;

(h) Staff responsibilities and qualifications (including QMBD);

(i) Statement of guarantees of human rights;

(j) Statement of client and/or guardian informed consent as specified by applicable sections of the Ohio Revised Code; and

(k) Brief (one to two pages) summary of the proposal.

(ii) The IRC shall have submitted the proposal in quadruplicate to the DBMC with a letter of approval from the managing officer and the IRC.

(iii) The DBMC shall have reviewed the proposal and sent a report to the IRC recommending approval of the use of the proposed intervention.

(iv) The IRC shall submit a monthly progress report to the DBMC.

MAY 5 1976
(2) Minor aversive interventions

(a) Minor aversive interventions shall include, but not be limited to, use of the following aversive stimuli or procedures:

(i) Substitution for the regular meal (substituted meal content to be approved by dietitian);

(ii) Withholding of routinely given positive reinforcers such as snacks;

(iii) Timeout involving removal of social reinforcement or materials of any duration;

(iv) Timeout involving removal of client to another area or reduction of room illumination of fifteen minutes or less;

(v) Loss of routinely given privileges;

(vi) Loss of bed (mattress must be provided at all times);

(vii) Overcorrection and positive practice;

(viii) Loss of dessert; and

(ix) Loss of tokens or removal of other generalized reinforcers.

(b) Minor aversive interventions may be initiated when the following conditions and procedures have been met:

(i) Positive reinforcers have been utilized and proven to be ineffective or not feasible for use;

(ii) Institution staff shall have submitted a written proposal to the IRC; and

(iii) The IRC shall have reviewed and approved both the proposal and the QMID.
(c) The DBMC will not review such programs unless there is a question as to whether or not a specific intervention shall be defined as major or minor aversive.

(d) The use of any minor aversive intervention must be recorded immediately in the client's record.

(3) Other behavioral interventions

(a) Other behavioral interventions shall include the use of positive reinforcers and any other non-aversive behavioral interventions.

(b) Other behavioral interventions do not require prior approval but shall be monitored by the IRC on an ongoing basis.

(c) One staff member shall be designated as having primary responsibility for the implementation of the program. It is desirable but not a requirement of this rule that this staff member qualify as a QBMD.

(F) Guidelines. Further detailed guidelines on behavior modification proposals shall be prepared by the DBMC and disseminated as appropriate. New guidelines shall be observed when developing new behavior modification proposals.

(G) Implementation. No action required for prescribing guidelines under paragraph (E)(5)(c)(ii) of rule 519-1-03 of the Administrative Code.

Effective: May 15, 1978

Timothy B. Moritz, M.D.
Director
CERTIFICATION

I hereby certify that this is a true and accurate rule of the Department of Mental Health and Mental Retardation and that Timothy B. Moritz, M.D., director of the department, has charged me with the authority to so certify.

Reva K. Hall
Administrative Rules Coordinator

Date

Former rule number G-10 effective 4/29/77
Promulgated under R.C. § 111.15
Statutory authority R.C. §§ 5119.01, 5119.05, 5119.46, 5122.27, 5122.271, 5122.28, 5123.86

FILED
Legislative Reference Bureau
MAY 5 1978.