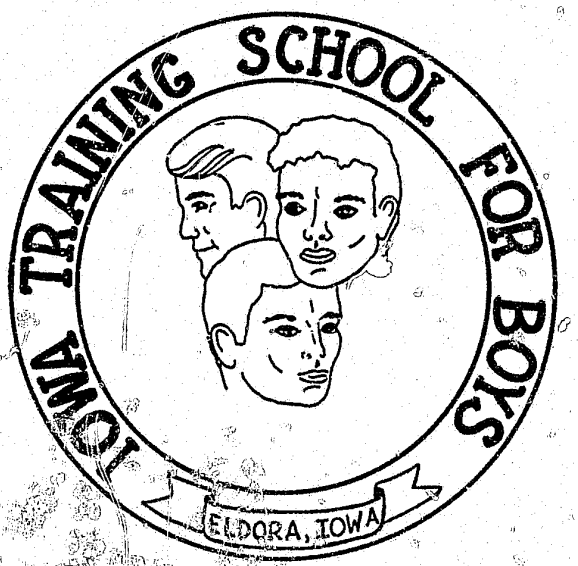
THE
IOWA DIFFERENTIAL CLASSIFICATION
AND TREATMENT PROJECT



by

Howard E. Tupker and Joseph C. Pointer

March, 1975

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STATE OF IOWA

Robert D. Ray
Governor

Kevin J. Burns
Commissioner, Department of Social Services

Catherine C. Williams
Director, Division of Community Services

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March 1975

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We are extremely grateful for the cooperation provided by Dr. Herbert C. Quay, whose instruments formed the basic core of the diagnostic process. His willingness to share these instruments and his knowledge of differential diagnosis contributed much to the project. We thank Drs. Thomas G. Eynon, Harry E. Allen, and Walter C. Reckless for permission to use their instruments which were designed to measure institutional program impact; and we also thank Drs. Rudolph H. Moos and Ernst A. Wenk for permission to use their instrument which focuses on social climate measurement.

Interest in differential diagnosis and treatment systems has a history at the Iowa Training School for Boys (ITS) dating back to at least 1968. Mr. Anthony P. Travisono, superintendent of the institution at that time, invited Dr. Marguerite Q. Warren, former program director of the Center for Training in Differential Treatment (Sacramento, California), to ITS to present a workshop on this topic and on the I-level system. The authors wish to express their appreciation to both of these

individuals for the parts they played in stimulating a high level of interest among staff members in such an approach to treatment.

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Inasmuch as it was my (H.T's) privilege to serve as chairman of the ITS Steering Committee on Differential Diagnosis and Treatment, I am aware of the role played in the project by that committee, and, as a result, a special word of appreciation is extended to the other members. They worked long and hard to help plan the project and its constituent parts and to cope with many problems after it was implemented. These individuals included Dr. Richard L. Jenkins, Fred Tully, John Nixon, Jeff Hanover, and Kenneth Walcutt.

There are numerous other ITS staff members who worked in the project and to whom a special expression of gratitude is made. A complete listing of all of them would be virtually impossible, for it very probably included almost all staff members at one time or another. Although the following

list contains the names of some individuals previously mentioned in connection with other roles, a few ITS staff members whose cooperation, involvement, and efforts were especially prominent and helpful included Fred Tully, clinical director, John Nixon, director of the Reception and Diagnostic Center (RDC), cottage directors Neal Allen, William Fields, Jeff Hanover, Preben Heidemann, John McCarville, Paul Thompson and Anne Wiesner, all the counselors and other staff members in those cottages, and the counselors and other staff members from the RDC cottage who spent a great deal of time and effort filling out checklists of various types. Thanks are also due to Bernadine Landon, who read numerous casefiles and completed many checklists, Kenneth Walcutt, who performed varied and assorted tasks during and following the period of data collection, Tracy Bigley, who handled the fiscal affairs, and Mary Smitherman, who maintained many records, scored many tests, assisted in coordinating everything and typed the manuscript.

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Chapter 1

INTRODUCTION

As contrasted with more archaic "reform" concepts that depended heavily on control and discipline, modern-day treatment and rehabilitative procedures now seem to be at least widely, if not universally, regarded as more desirable. Often, though, treatment in such settings has been only vaguely defined. In some instances, it has consisted of little more than housing the delinquent--segregating him from the larger society--for a period of time. Also, often the so-called treatment strategies utilized have been applied indiscriminantly. It was expected that all offenders assigned to such treatment and rehabilitation programs would be able to benefit from them, irrespective of the kinds of characteristics or the kinds of presenting problems displayed.

It is quite obvious, however, that correctional treatment and rehabilitation programs for adolescent offenders are not equally effective with all individuals committed to them. We know from past experience that, of those processed through any given treatment or rehabilitation program, some will succeed and some will fail. The very high recidivism rates for young offenders attest to this fact (Interdepartmental Council, 1973). Such programs seem to reach some; they appear to be ineffective with others. Observations such as these suggest the need for applying treatment that is appropriate to the specific needs and problems of those within the treatment group. Recognition of this point has led to the development of a number of typological theories and systems. These theoretical formulations and systems provide guidelines for the

subdivision of the juvenile offender population on relevant dimensions and the application of treatment or rehabilitation techniques relevant to the specific needs of each subgroup, i.e., differential treatment. The differential treatment concept involves the classification of juvenile offenders into more or less homogeneous subgroups on the basis of their dominant characteristics and/or performance, thus permitting treatment to be "tailored" to meet each group's problems and needs, and, in this manner, facilitating treatment.

Differential Diagnostic Systems

A pioneer effort in this particular problem area was Jenkins and Hewitt's (1944) development of a scheme for conceptualizing various types of personality structure. Three types of personality structure were identified and described by them--the neurotic, the unsocialized, and the socialized. Since then, a great deal of research has been conducted by Jenkins and his associates, yielding consistent findings concerning the classification of behavior disorders. No attempt will be made to do a comprehensive review of their rather extensive research here; instead, the interested reader is referred to Jenkins' (1973) recent excellent account of it. It should be noted that the problem of grouping was approached by relying heavily on the statistical analysis of behavioral characteristics obtained from large numbers of case records, i.e., by using a computer clustering technique. Groups which have emerged from this approach include (1) the overanxious, (2) the withdrawn, (3) the unsocialized aggressive, (4) the socialized or group oriented, (5) the runaway, and (6) the hyperkinetic. The American Psychiatric Association's Diagnostic and Statistical Manual of Mental Disorders (DSM-II) (1968), recognizes and now includes these

diagnostic groups in a separate section on the behavior disorders of childhood and adolescence.

Other researchers have used other approaches to the problem of identifying distinctive subgroups of adolescent offenders. One such system is the Interpersonal Maturity Level (I-level) classification system, first presented in a paper by Sullivan, Grant, and Grant (1957). The system, which classifies subjects (Ss) into levels and subtypes on the basis of how they perceive and interpret their environment and the ways in which Ss express needs and feelings in interacting with their environment, has had its most extensive application in the community setting (Palmer, 1971); however, an adaptation of the system has also been applied in institutional settings (Jesness, 1971; Jesness, DeRisi, McCormick, & Wedge, 1972). Characteristics of the Ss in each of the nine subgroups found in delinquent populations may be found in Warren's (1966a) summary.

Still another system is the one developed by Quay and his associates (Peterson, Quay & Cameron, 1959; Quay, 1964a, 1964b). They developed a system in which Ss are assigned to treatment-relevant categories on the basis of scores obtained from three factor-analytically-developed instruments. In this system, Ss receive a score on each of four personality dimensions (or factors). Input from three separate sources is used to develop the four factor scores--(1) from Ss' self-reports, (2) from raters observing the Ss' behavior over a period of time, and (3) from raters of the Ss' case histories. Early research with the Quay system (Quay & Levinson, 1967) indicated that the instruments used in the assessment process do classify Ss such that "the four subgroups do show a differential reaction pattern to the overall program of the

institution studied (p. 11)." This and other research related to the system, reviewed by Quay and Parsons (1971), indicate that the assessment instruments used have adequate validity for differentiating among the young offender group on a relatively large number of psychological, behavioral, and demographic variables.

A number of other classification systems have been formulated, however a comprehensive review of such systems will not be attempted here. While the systems are diverse, there appear to be many similarities among them, too, as is evident in Warren's (1966b) review and comparison of 16 such systems. As Rubenfeld (1967) has pointed out, such systems "are made to predict behavior, to inform the user regarding what needs to be changed to alter behavior, and, therefore, which available avenues of intervention may yield the greatest return (p. 1)."

While there appear to have been many attempts to develop schemes for classifying delinquents into homogeneous groups, the three mentioned above are perhaps the most widely known. In addition, they have been studied rather extensively, and they have been applied in actual, operational treatment programs. Perhaps this very brief review will serve to acquaint the reader with the existence of some of these major efforts in the area.

The Present Project

A proposal was made to attempt, on a trial basis, a typological approach to the diagnosis and treatment of juvenile offenders at the Iowa Training School for Boys (ITS). Following a symposium on this topic[2], a steering committee[3] was appointed to start planning for a

[2]Symposium on Differential Diagnosis and Treatment, Iowa Training School for Boys, October 6, 7, and 8, 1971.

[3]ITS Steering Committee on Differential Diagnosis and Treatment.

pilot project of this sort. The purpose of such a demonstration project, or pilot study, was to explore the usefulness, feasibility, and probable value of adopting a differential diagnosis and treatment system on a full scale within the institution by evaluating the effectiveness of such an approach as compared to the traditional approach.

The goals of the project were (1) to implement the use of a system to identify and classify residents into more or less homogeneous, treatment-relevant groups, (2) to assign such residents to the various living units participating in the project, (3) to encourage the development and application of treatment approaches consistent with the needs of the various subgroups, and (4) to evaluate the outcome. A combination clinical-Quay system was the system which was finally selected by the Steering Committee. The project, which officially began in January, 1973, was termed the Iowa Differential Classification and Treatment (IDCT) Pilot Program.

Chapter 2

METHOD

The Iowa Training School for Boys is an institution for court-committed male juvenile offenders between 12 and 18 years of age. Most of those newly admitted, regardless of the specific cottage assignment procedure being used, generally spend their first 3 weeks at the institution in the Reception and Diagnostic Center (RDC) before being assigned to a permanent program and living unit. During the initial period of residence in the RDC cottage, such things as medical and dental examinations, psychological and psychiatric evaluations, orientation sessions, and initial program planning are completed.

Diagnosis and Classification

The basic differential diagnostic system adopted was the Quay system; however, a significant modification of the system was made. It is described in later paragraphs.

The Quay system. The Quay instruments consist of (1) the Personal Opinion Study, a self-report personality inventory, (2) the Behavior Problem Checklist, involving the direct observation and rating of behavior, and (3) the Checklist for the Analysis of Life History Data, involving casefile information and the rating of it by an independent rater (or raters). These three factor-analytically-developed instruments provide scores on the following four separate dimensions for each person: (1) the inadequate-immature; (2) the neurotic-disturbed; (3) the unsocialized-psychopathic; and (4) the socialized-subcultural (Quay & Parsons, 1971). In this system, Ss are then typically classified into one of four subgroups--the specific one identified on the basis of the highest-ranking dimensional score, i.e., on the basis of the S's dominant behavioral characteristics.

Following is a brief general description of the characteristics of each of the four subgroups, based primarily on published descriptions (Quay & Parsons, 1971; U. S. Dept. of Justice, 1970). It should be emphasized that these are group descriptions. Naturally, individual differences may be expected to occur within each subgroup. These are general descriptions based on prior work with the Quay instruments and system, and they are presented in order to better acquaint the reader with the nature of the four factors or dimensions. Four dimensions are conceptualized in this system. Thus, it is possible that a given individual may display characteristics associated with one, two, three, or even all four dimensions. One or more of the dimensions may be dominant, but it should be understood that this does not preclude the occurrence of behavior common to other dimensions.

Those whose inadequate-immature characteristics are dominant have generally been perceived by others as lacking in development, lacking in ways of coping with the world, and lacking in self-confidence and feelings of self-worth. They are often described as having difficulty in seeing the relationship between their behavior and the consequences of that behavior. They are often described as displaying behavior which is inappropriate for their chronological age and as often having trouble interacting with others. Scapegoating is reported to be common, especially when they are placed in a non-immature group. They generally have very high dependency needs.

Those whose neurotic-disturbed traits are dominant are reported to frequently display anxiety and guilt. They are generally regarded as having an internalized set of values. They may occasionally be withdrawn and depressed. Frequently, their behavior is interpreted as an

attempt on their part to cope with immediate anxieties but without due regard to the long-term consequences.

Those in the unsocialized-psychopathic dominant delinquent group are generally described as aggressive, defiant, and hostile. Because of these traits, they also frequently present a control problem. They are sometimes described as "power-oriented", and it is felt that they may tend to see others in a somewhat similar light. They are also described as self-centered and may frequently attempt to control situations through manipulation. They are very frequently in conflict with those whom they perceive as authority figures. Good verbal ability may also be evident rather frequently in this group.

The socialized-subcultural group is said to present the least control problem. The group- or gang-oriented delinquent probably would be found in this group. From a psychological point of view, they tend to be fairly well socialized, but it usually is in terms of the standards and norms of the delinquent group. They seem to be unusually susceptible to the influence of the peer group. Much of their behavior is oriented toward the goal of obtaining acceptance and approval from their peers, and they generally take pride in living up to the group standards. In the institutional setting, they may have a tendency to readily conform to the structure and rules without actually changing their delinquent attitudes and values.

IDGT Program. As was indicated above, the Quay instruments were used. A decision was made by the Steering Committee to modify the usual method of classification described in the preceding paragraphs, though, insofar as the identification and classification of inadequate-immature Ss were concerned. In the modified system, the classification of

immature Ss was based, in part, on the scores derived from the Quay instruments and, in part, on staff judgments. This required the classification of the inadequate-immature Ss as the first step in the diagnostic process. Subjects whose dominant behavioral characteristics, as measured by the Quay instruments, were inadequate-immature were so classified. In addition, Ss whose inadequate-immature dimensional scores were not the highest-ranked ones, but who, nevertheless, were judged to be "inadequate-immature" by a majority of the RDC staff, were also so classified. Then, Ss were identified and classified in the usual manner (i.e., on the basis of scores on the Quay instruments) from the remaining pool of non-immature Ss.

This modification involved the redefinition of "inadequate-immature" from that usually applied in other research involving the use of the Quay instruments. In this case, "inadequate-immature" Ss included those who, in the judgment of those RDC staff members making the observations, would have had difficulty functioning in a typical heterogeneous cottage setting because of their inadequacy and immaturity and those whose performance on the Quay instruments indicated that this was their dominant behavioral characteristic. It should be noted that those making the judgments concerning the classification of inadequate-immature Ss were RDC staff members who had the opportunity to observe and study the Ss and their behavior, including that involving interaction with others (both staff and peers), in a cottage setting on an around-the-clock basis over the period of time they remained in the RDC cottage. This is a much broader definition than that typically applied to "inadequate-immature" in other research involving the Quay instruments. In spite of this, though, it was anticipated at the outset that the number (N) of Ss in this subgroup probably would be quite small.

Rather than referring to the subgroups, dimensions, and factors by the usual verbal labels, they were identified numerically. The term behavior categories (BCs) was used, following Quay and his associates (U. S. Dept. of Justice, 1970). They are as follows:

(1) BC-1 Inadequate-immature
(2) BC-2 Neurotic-disturbed
(3) BC-3 Unsocialized-psychopathic[4]
(4) BC-4 Socialized-subcultural

The above-named dimensions include all of those used in the Quay system; the IDCT pilot study, however, was concerned only with three of them--BC-1, BC-3, and BC-4.

Subjects

Although everyone admitted to ITS was regarded as a potential S, it is important to note that not all residents were Ss. First of all, only six of the ITS living units were a part of the project, and these included three homogeneous units, designated experimental (E) cottages, and three heterogeneous units, designated control (C) cottages. Excluded were the more secure living units. A resident programmed to one of these excluded units would not have been a S, unless, of course, he later transferred into the regular cottage program and met all the criteria established to qualify as a S at that time. While those whose dominant behavioral characteristics could be described as neurotic-disturbed (BC-2) were identified, of course, they were not included as Ss, and, if they were in the cottage program, they were assigned to one of the heterogeneous cottages.

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[4]Also referred to in this report as unsocialized-aggressive.

The criteria which were developed to define Ss were as follows:

(1) Be assigned to the correct treatment unit on the basis of the Quay system scores (or ratings, in the case of the "rated" BC-1s, i.e., those judged to be BC-1 dominant by RDC staff).

(2) Be in the assigned unit for 30 days or more.

(3) If a returnee, be assigned to the same treatment program as when released.

In order to insure comparability, Ss were assigned to E and C units by a random procedure within each behavior category, also balancing, at the same time, for ethnic group membership. There was an E cottage for each homogeneous subgroup (BC-1, BC-3 and BC-4) and three C cottages. The specific C cottage to which a S was assigned was determined by the S's age, since one such C unit was maintained for older, one for younger, and one for mid-age-range residents.

A total of 272 residents qualified as Ss. Table 1 contains information about the entire S group, giving, also, behavior category and program.

Table 1

IDCT Project Subjects

BC	No. of Ss		Total	
	E	C	N	%
BC-1	34	28	62	22.8
BC-3	61	67	128	47.1
BC-4	48	34	82	30.1
Total	143	129	272	100.0

Of the total group, 75% were first-admissions; the remaining 25% were returnees and had been committed to ITS one or more times previously. The average time in the program was found to be 4.8 months; the average time in the institution was 7.9 months.

Other demographic and social characteristics of these Ss are presented in a separate, and later, section of this report, rather than at this point, because of the rather extensive tabular data involved.

Cottage Programs and Objectives

It should be pointed out that, while both the Steering Committee and the research staff may have offered recommendations and suggestions concerning cottage treatment programs and objectives, responsibility for planning, development, and operation of these programs remained with the ITS clinical department, i.e., with the clinical director and the individual cottage directors. The various programs and objectives are briefly described in the following paragraphs, with comments mainly limited to the major elements of each that made them somewhat different from the other cottage programs.

The program in the BC-1 homogeneous cottage emphasized activities that were designed to facilitate growth and development, particularly activities that would help residents acquire more adequate skills for handling interpersonal relationships. Activities designed to provide residents with opportunities to learn, acquire greater self-understanding, and to take more responsibility for self and others were stressed. The goal of the program included the development of a non-threatening, supportive atmosphere where maturation and learning would be enhanced. Protection of residents from scapegoating by peers was stressed. An attempt was made to provide the residents with a great deal of personal

attention--working with residents on a one-to-one basis to the extent possible. Planned social activities and carefully supervised games were also a part of the program. Small classes and individual attention characterized the educational program, with substantial emphasis placed on remedial reading.

Detailed information about certain program variables is presented in a later section of this report (because of the rather extensive tabular data involved), and it is interesting to note that, as is indicated in that section, the E BC-1s were found to have had over five times as much individual counseling as the C BC-1s. Thus, the emphasis on individual attention in the E BC-1 program is obvious.

In the BC-3 homogeneous program, a substantial amount of emphasis was placed on control and on providing opportunities for residents to receive immediate feedback concerning their performance. The goal was for a highly structured program--one which allowed residents to experience limit-setting and tried to prevent attempts at manipulation. At the outset, there were plans to develop a token economy for this group in order to provide a maximum amount of feedback to the residents and thus maximize learning. The system was never fully developed and implemented; however, a behaviorally-based educational program was used. In this system, points were awarded on an individual basis for adequate classroom performance, with daily review of the resident's performance. Classroom performance took into account, for example, such behaviors as "obeyed the classroom rules" and "completed assignment on time." The accumulation of points over and above established levels, set by means of base-line studies, provided for the awarding of privileges. The cottage program also provided opportunities for individual counseling.

Recreational and athletic activities were also regarded as important for this highly active group of residents.

In the E BC-4 cottage program, Glasser's (1965) reality therapy formed the theoretical basis for treatment. The initial step in the approach, though, was to establish a good relationship with the assigned residents. The rationale was that the establishment of a solid relationship between the individual resident and at least one treatment team member would, perhaps, represent a positive step toward his eventual complete independence from the delinquent peer group. Reducing peer group influence and increasing ability to function independently and in accord with societal norms was the goal. In order to promote the development of such staff-student relationships, "involvement meetings" were implemented, in which a staff member and, generally, one to three residents would spend an hour or more together each week on a regular basis in some non-threatening activity, perhaps in recreational activity of some sort. Small group meetings were also utilized in the program. Receiving strong emphasis, though, was the concept of resident involvement, i.e., getting the resident involved in the planning of his own rehabilitation program, setting goals and objectives, and assuming responsibilities.

As will be shown in tabular form in a later section, the E BC-4 program group had significantly less group counseling than the C BC-4 group, probably reflecting the increased emphasis on individual involvement of residents with treatment team members. Family therapy was also utilized significantly more in the E BC-4 group than in the behaviorally similar C group.

It should be mentioned at this point that, even though there were some differences among the three C cottages with respect to programs and treatment approaches emphasized, the differences were minor. Their basic approach to treatment probably could be most appropriately termed a milieu approach. These traditional programs utilized "community meetings" --large group meetings involving residents and staff alike--as well as individual and small group counseling. They also used family therapy. Details concerning hours of counseling and the utilization of other service programs in the heterogeneous C cottages will be presented in a later section.

In an attempt to obtain a more objective description of the various cottage treatment programs, a recently-developed instrument was used. It was the Correctional Institution Environment Scale (CIES) (Moos, 1968; Wenk & Moos, 1972)--an instrument designed to measure the social climate of institutions or of treatment units within an institution. The CIES, Form C, which was used, is an 86-item instrument which yields scores on nine subscales, which, in turn, may be classified into three groups. The groups and subscales are as follows:

I. Relationship dimensions
   1. Involvement
   2. Support
   3. Expressiveness

II. Treatment program dimensions
   4. Autonomy
   5. Practical Orientation
   6. Personal Problem Orientation

III. System maintenance dimensions
   7. Order and Organization
   8. Clarity
   9. Staff Control

The first group of scales is conceptualized as measuring various dimensions describing personal relationships among residents and between residents and staff; the second group of scales relates to "the type of treatment orientation the unit has initiated and developed (Wenk & Moos, 1972, p. 141);" and the third group has to do with the management or functioning of the unit. The instrument was administered near the end of the program to a sample of residents in each of the cottages.

An overview of these results indicates that the residents of all cottages saw the support they received from staff and from each other as one of the most outstanding characteristics of the social climate of their respective cottages. Generally, residents also saw their respective programs as high on clarity, i.e., the resident knowing the rules, procedures, and what to expect in the daily activities of his program.

More specifically, the profile obtained from the residents of the E BC-1 program indicated that they saw the more prominent characteristics of the social climate of their cottage as having high support (highest of all the E BC-1 cottage environmental characteristics), high with respect to the extent to which residents are encouraged to take the initiative in planning activities, and high on clarity. The E BC-3 program's more prominent characteristics included high support, a practical orientation (preparation of the resident for release), and high clarity (highest of all the E BC-3 cottage environmental characteristics). The predominant environmental traits in the E BC-4 cottage

included high support (highest), high practical orientation, and high order and organization.

In making comparisons among the three E programs, a substantial amount of variation was observed among the cottage means on most scales. For example, the residents of the EC-4 cottage saw their program as significantly higher on the characteristics that the Involvement scale measures than the residents of the other two E programs saw their's (this scale being a measure of how active and energetic residents are in the daily functioning of the program and an indicator of group pride and group spirit in the program). So, despite some commonalities with respect to prominent characteristics, each of the programs also appears to have had unique characteristics. The E EC-4 program had the top-ranked ratings of the three E cottages on the Involvement, Support, Practical Orientation, Personal Problem Orientation, and Order and Organization scales. The E EC-1 cottage had the top-ranked rating among the three cottages on the Autonomy scale only, and the E EC-3 cottage had the top-ranked scores on the Expressiveness (how much the program encourages open expression of feelings), Clarity, and Staff Control scales.

In comparing the E and C cottages, all three C cottage scores were combined without regard to the behavior categories of the C cottage respondents. These comparisons revealed the C cottages to be ranked higher than either the E EC-1 or E EC-3 cottages on all scales. Comparisons with the E EC-4 cottage revealed the latter's ratings exceeded in rank the C cottage ratings on the Support, Practical Orientation, and Order and Organization scales, while the C cottages ranked higher on all remaining scales.

Outcome Criteria

Outcome criteria may be grouped into four categories. They are as follows: (1) Pretest-posttest changes on psychometric instruments; (2) Measures from questionnaires that relate to the impact of the program (a) as perceived by the participants and (b) as perceived by staff members rating individual participants; (3) Measures based on institutional records which relate to quality of adjustment of the participants; and (4) Recidivism.

Psychometric instruments. Two psychometric instruments were used--the Jesness Inventory (Jesness, 1972) and the California Psychological Inventory (CPI) (Gough, 1969). They were administered to Ss twice--once at the time of entry into the program and again at the time of departure from the program. Differences between pretest and posttest means were calculated for each scale and served as a measure of change.

The Jesness Inventory is a 155-item self-report instrument "designed for use in the classification and treatment of disturbed children and adolescents (Jesness, 1972, p. 3)." This instrument, originally developed for assessing personality characteristics and measuring changes in attitudes of delinquents, typically provides scores on 11 scales. In this study, 12 scores were used in the analyses. The extra score was SMx, consisting of Social Maladjustment scale items that have been shown to have unusual discriminating power. The scales are as follows:

(1) SMx
(2) Social Maladjustment
(3) Value Orientation
(4) Immaturity
(5) Autism
(6) Alienation
(7) Manifest Aggression
(8) Withdrawal
(9) Social Anxiety
(10) Repression
(11) Denial
(12) Asocial Index

Included among the scales is the Asocial Index, developed through a procedure known as the discriminant function, and yielding a "score that is most closely related to, and most predictive of, delinquent behavior...(Jesness, 1972, p. 16)." It is especially useful in assessing delinquents, since it measures a generalized tendency to resolve problems of social and personal adjustment in ways ordinarily seen as showing a disregard for social rules (Jesness, 1972).

The CPI is a 480-item self-report instrument which normally yields scores on 18 scales. Gough (1969) states, "Its scales are addressed principally to personality characteristics important for social living and social interaction (p. 5)." It has been found to be especially useful in work with delinquents and those with asocial characteristics. The 18 scales, which Gough (1969, p. 5) has grouped under four categories, are as follows:

Class I. Measures of Poise, Ascendancy, Self-Assurance, and Interpersonal Adequacy

(1) Dominance
(2) Capacity for Status
(3) Sociability
(4) Social Presence
(5) Self-acceptance
(6) Sense of Well-being

Class II. Measures of Socialization, Maturity, Responsibility, and Intrapersonal Structuring of Values

(7) Responsibility
(8) Socialization
(9) Self-control
(10) Tolerance
(11) Good Impression
(12) Communality

Class III. Measures of Achievement Potential and Intellectual Efficiency

(13) Achievement via Conformance
(14) Achievement via Independence
(15) Intellectual Efficiency

Class IV. Measures of Intellectual and Interest Modes

(16) Psychological-mindedness
(17) Flexibility
(18) Femininity

Questionnaires. Two instruments--the Student Program Perception Questionnaire and the Staff Member Assessment Questionnaire--were administered at the time Ss left the program. Modifications of items used by Rymon, Allen, and Reckless (1971) made up the basic core of both of these instruments; other items were also included in order to develop information about the present situation and institution. Modifications of original items involved, among other things, rephrasing them so that they read first-person and eliminating, to the extent possible, unfamiliar slang terms.

The Student Program Perception Questionnaire, a 123-item instrument, was designed to elicit ratings of the impact of the institutional program as perceived by the individuals participating in it. Rymon et al. (1971), in factor analyzing the original instrument, found six factors. These six factor scales and titles (with one slight title modification) were used, and scores were calculated for each of them. In addition, four other scores based on this instrument were developed. The scales are as follows (with the six factor scales listed first):

(1) Interpersonal Acceptance[5]
(2) Inmate Code
(3) Rejection of Institution
(4) Inmate Pressure

[5]Originally named Interpersonal Approach.

(5) Rejection of Positive Impact

(6) Self-Labeling

(7) Peer Description

(8) Total Positive Score

(9) Not Sure

(10) Self-Concept

The Staff Member Assessment Questionnaire, a 26-item instrument, was also designed to measure the impact of the institutional program, but it required a staff member who was well acquainted with the resident to make the ratings. In fact, in order to obtain more stable and accurate scores, two such instruments were completed on each resident at the time of his release from the program, with average ratings calculated from these two independently-completed instruments. Cottage parents, counselors, cottage directors, teachers, and vocational instructors all participated in the completion of these ratings at one time or another. The two scores which were derived from this particular instrument were (1) Positive Total and (2) Interpersonal Relations.

Institutional adjustment measures. Several variables which relate to actual behavior and which, it was thought, might reflect something about the individual's adjustment while in the institution were also selected for analysis. The behavioral adjustment variables are as follows:

(1) Number of times in detention

(2) Number of days in detention

(3) Number of times AWOL from the institution

(4) Number of special leaves from ITS.

(5) Number of transfers to more secure units

Recidivism. An attempt was made to examine recidivism in the present study, although it is necessary to note that a measure of recidivism had little or no meaning at the point at which it was measured in the present study. The lack of meaning is due to the fact that the placement (parole) exposure time was so extremely short. At the time of the original planning of the study, there was, of course, no way of knowing how much recidivism would occur within the time frame planned for the study, so the variable was included and data collected relative to it.

A recidivist was defined in this study as a S who was either returned to ITS because of a parole violation or who had had an adult conviction on or before December 31, 1973 (the termination of the data collection period).

Data Analysis

Analysis of the psychometric data involved the comparison of pretest and posttest means on each of the 30 personality scales within each of the six subgroups included in the study, utilizing t tests to test for the statistical significance of the differences. These pretest-posttest differences and accompanying significance tests were then used as a basis for making comparisons between E and C subgroups within each of the three behavior categories involved in the project. Analysis of the questionnaire-derived data was accomplished by comparing the E and C subgroup means within each behavior category on each of the scales involved, again using t tests to evaluate for statistical significance. Among the institutional adjustment variables, E and C differences for the number of days in detention variable were also tested by means of t tests. Statistical tests of significance on all other outcome variables involved the use of chi-square tests. The focus of the study was entirely on the within-behavior-category comparisons of the homogeneous E groups with the traditionally-oriented, heterogeneous

C groups. The .05 level was the maximum accepted for determining statistical significance.

The general hypothesis was that those classified and assigned to a treatment program based on their special characteristics and needs (homogeneous grouping in the E cottages) would demonstrate a more favorable outcome than the heterogeneously grouped C cottage residents.

SUBJECTS' CHARACTERISTICS AND PROGRAMS

As was mentioned earlier, a total of 272 individuals met the criteria established to qualify as Ss. This includes 143 in the homogeneous E cottage programs and 129 in the traditional, heterogeneous C cottage programs. In terms of their dominant behavioral characteristics, the entire group consisted of 62 BC-1s, 128 BC-3s, and 82 BC-4s.

The first part of this section of the report contains information about selected demographic and social characteristics of these Ss; the second part provides information concerning their participation in selected institutional programs and activities.[6]

Subject Characteristics

Age. Table 2 contains information relative to the mean age of Ss at the time of commitment to the institution.

Table 2

Age (in Months) at Time of Commitment

Subgroup		Program E	Program C	t
BC-1	$\bar{X}$	187.88 (15.8)	188.18 (15.8)	-.08
	SD	15.51	15.36	
	N	34	28	
BC-3	$\bar{X}$	194.29 (16.2)	193.58 (16.2)	.32
	SD	12.66	12.22	
	N	61	67	
BC-4	$\bar{X}$	194.62 (16.3)	192.97 (16.1)	.71
	SD	9.80	11.01	
	N	48	34	

Note.--Figures in parentheses indicate mean age in years and months.

[6] It should be noted that, in some instances, information may not have been available for some Ss on a given variable, thus the number of Ss may vary slightly in some tables.

The mean differences within each behavior category were not statistically significant. Although not of primary concern, it is interesting to note that the mean age for BC-1 Ss was found to be significantly lower than the mean age of either the BC-3 ($t = 2.84$, 188 df, $p < .01$) or the BC-4 ($t = 2.77$, 142 df, $p < .01$) groups (with E and C groups combined). The mean age for the total sample was 16.1.

Education. Table 3 presents the means and standard deviations for years of education completed at time of commitment. Education completed was defined as the last whole year completed by the S before commitment. It should be noted that, with many Ss, there was a time lag between last grade completed and time of commitment since many boys drop out of, or are expelled from, school before they are committed to ITS.

Table 3

Years of Education Completed

Subgroup		Program E	Program C	t
BC-1				
	$\bar{X}$	8.16	7.68	1.31
	SD	1.57	1.25	
	N	34	28	
BC-3				
	$\bar{X}$	8.60	8.89	-1.23
	SD	1.33	1.34	
	N	61	65	
BC-4				
	$\bar{X}$	8.38	8.38	--
	SD	1.00	1.01	
	N	47	34	

The t tests revealed no significant differences between the E and C programs with respect to years of education completed. The mean number of years of education completed for all Ss was 8.45.

Ethnic group. The total group of Ss consisted of 228 Whites, 35 Blacks, and 9 others (Mexican-American or American Indian). Table 4 gives the ethnic group membership distributions for each of the six subgroups. Subjects were assigned to one of the four ethnic groups on the basis of information listed in the ITS records.

Table 4

Ethnic Group Membership

Subgroup		Program E N	Program E %	Program C N	Program C %
BC-1	White	28	82.35	24	85.71
	Black	5	14.71	3	10.71
	Mexican-American	1	2.94	0	--
	American Indian	0	--	1	3.57
	Total	34	100.00	28	99.99
BC-3	White	45	73.77	57	85.07
	Black	14	22.95	9	13.43
	Mexican-American	0	--	1	1.49
	American Indian	2	3.28	0	--
	Total	61	100.00	67	99.99
BC-4	White	42	87.50	32	94.12
	Black	4	8.33	0	--
	Mexican-American	2	4.17	1	2.94
	American Indian	0	--	1	2.94
	Total	48	100.00	34	100.00

Chi-square tests were applied to test for statistical significance. Because of the very small expected Ns in some cells of the table, it was necessary to collapse categories, so the significance tests involved the analysis of 2 x 2 tables, E and C by White and Non-White, within each behavior category. None of the resulting chi-square values were significant.

Admission status. As was mentioned in an earlier section, 75% of the total group of Ss were at the Training School for the first time and 25% had been in the institution one or more previous times. Table 5 contains

information indicating the Ns and percentages of each subgroup who were at the institution for the first time and those who were returnees.

Table 5

Admission Status

Subgroup	Program E N	Program E %	Program C N	Program C %
BC-1				
New	29	85.29	19	67.86
Returnee	5	14.71	9	32.14
Total	34	100.00	28	100.00
BC-3				
New	47	77.05	44	65.67
Returnee	14	22.95	23	34.33
Total	61	100.00	67	100.00
BC-4				
New	39	81.25	27	79.41
Returnee	9	18.75	7	20.59
Total	48	100.00	34	100.00

None of the chi-square tests applied to the admission status data revealed any significant differences between the E and C groups for any of the three behavior categories.

Type of commitment. Each individual committed to the Training School is routinely recorded as being in one of four groups according to the type of commitment. The groups are as follows:

(1) Delinquent commitment - adjudicated delinquent and committed directly to ITS.

(2) Re-placement commitment - usually for a short period of time when a new placement location is needed.

(3) Transfer commitment - committed to ITS after placement at some other state institution within the Department of Social Services.

(4) Parole violation commitment - indicates violation of parole rules or agreement, e.g., further delinquent activities.

Table 6 presents the distributions of these classifications for the E and C groups within each of the three behavior categories included in the study.

Table 6

Type of Commitment

Subgroup	Program E N	Program E %	Program C N	Program C %
BC-1				
Delinquent	29	85.29	18	64.29
Re-placement	2	5.88	4	14.29
Transfer	1	2.94	2	7.14
Parole Violation	2	5.88	4	14.29
Total	34	99.99	28	100.01
BC-3				
Delinquent	42	68.85	41	61.19
Re-placement	1	1.64	4	5.97
Transfer	5	8.20	5	7.46
Parole Violation	13	21.31	17	25.37
Total	61	100.00	67	99.99
BC-4				
Delinquent	36	75.00	22	64.71
Re-placement	0	--	3	8.82
Transfer	3	6.25	5	14.71
Parole Violation	9	18.75	4	11.76
Total	48	100.00	34	100.00

Again, chi-square tests were applied to these data on type of commitment, and, again, it was necessary to combine categories in order to avoid the problem of small expected values in some of the cells of the table. Consequently, a 2 x 2 table resulted for each behavior category, with the two dichotomies being E - C and Delinquent-Non-delinquent. No significant E vs. C differences were found.

Residence at commitment. The distributions concerning residence at time of commitment are given in Table 7. Subjects' places of residence

were classified according to rural, urban, and metropolitan. A metropolitan area was defined as a city having a population greater than 50,000; an urban community was defined as a non-metropolitan one with a population of more than 2,500; and the latter-mentioned figure marked the upper limit defining a rural area.[7]

Table 7

Residence at Commitment

Subgroup	Program E N	E %	C N	C %
BC-1*				
Rural	9	26.47	1	3.57
Urban	9	26.47	8	28.57
Metropolitan	16	47.06	19	67.86
Total	34	100.00	28	100.00
BC-3				
Rural	4	6.56	10	14.93
Urban	19	31.15	25	37.31
Metropolitan	38	62.29	32	47.76
Total	61	100.00	67	100.00
BC-4				
Rural	5	10.42	4	11.76
Urban	13	27.08	14	41.18
Metropolitan	30	62.50	16	47.06
Total	48	100.00	34	100.00

* $p < .05$

Chi-square tests of the differences between the E and C distributions indicate one significant value. It appears that BC-1s from rural areas were over-represented in the E group and under-represented in the C group ($\chi^2 = 6.19$, 2 df, $p < .05$). The values obtained for the BC-3 and BC-4 groups did not achieve significance, indicating no differences in the E and C distributions for either of these behavior categories.

[7] Population information source was The 1971 World Almanac (Newspaper Enterprise Association, Inc., New York, N. Y.).

Just to get more of an overview of where ITS residents come from, Ss from all behavior categories, combined, and E and C groups, combined, were summarized. This summary reveals that, of the total of 272, rural residents numbered 33 (12.1%), urban 88 (32.4%), and metropolitan 151 (55.5%).

Parental situation. Table 8 shows the E - C comparisons for each behavior category concerning the parental situation of Ss at the time of commitment. The criterion for being classified as being committed from a "home" was that both natural parents were living in the same residence with the S at time of commitment. All other cases, including adoptions, foster parent situations, and single parent situations, were classified "non-home." No attempt was made to evaluate the quality of relationships or physical characteristics in either case.

Table 8

Parental Situation

Subgroup	Program E N	E %	C N	C %
BC-1				
Home	9	26.47	5	17.86
Non-home	25	73.53	23	82.14
Total	34	100.00	28	100.00
BC-3				
Home	21	34.43	26	38.81
Non-home	40	65.57	41	61.19
Total	61	100.00	67	100.00
BC-4				
Home	15	31.25	14	41.18
Non-home	33	68.75	20	58.82
Total	48	100.00	34	100.00

The chi-square analyses indicated no significant values with respect to parental situation. Grouping all programs and behavior categories revealed that two-thirds of the total group of 272 residents came from

"non-home" situations, i.e., where both natural parents were not living in the same residence as the S.

Intelligence. Table 9 contains information pertaining to the Ss' Wechsler IQs. Means and standard deviations are given for each subgroup. Scores from both the Wechsler Intelligence Scale for Children and the Wechsler Adult Intelligence Scale were included.

Table 9

Wechsler IQ Scores

Subgroup	Program					
	E			C		
	Verbal	Perf.	Full Scale	Verbal	Perf.	Full Scale
BC-1						
$\bar{X}$	88.82	95.76	91.32	91.08	101.11	95.08
SD	9.26	11.25	9.86	13.33	13.32	13.50
N	34	34	34	26	26	26
BC-3						
$\bar{X}$	94.42	98.39	96.08	96.48	102.06	98.94
SD	10.97	11.52	11.08	11.42	12.31	10.93
N	61	61	61	66	66	66
BC-4						
$\bar{X}$	93.17	101.02	96.60	94.09	98.84	95.97
SD	10.09	10.26	10.03	11.46	11.15	11.28
N	48	48	48	32	32	32

Mean differences between the E and C groups were tested for significance with t tests, separately for each behavior category. All statistical tests involved E - C mean comparisons of scores of the same type, e.g., E Verbal IQ and C Verbal IQ. No significant differences were found between treatment programs within any of the three behavior categories. It is interesting to note the obtained Verbal-Performance mean directional differences consistently found in all six subgroups. The overall mean Full Scale IQ (all groups and programs combined) was found to be 96.16.

Offenses. Offenses committed by Ss, as recorded in the ITS records, were categorized into 13 groups in an effort to compare the E and C groups in each of the behavior categories. Table 10 contains these data.

Table 10

Frequency of Type of Offense

Offense	Subgroup					
	BC-1		BC-3		BC-4	
	E (N=34)	C (N=28)	E (N=61)	C (N=67)	E (N=48)	C (N=34)
Breaking & Entering	11	11	26	24	33	19
LMV[a]	16	13	17	16	25	20
Intoxication	1	5	17	19	10	4
Drugs	2	9	25	20	18	6
Petty Larceny	11	14	43	30	25	17
Robbery	6	2	7	6	9	4
Runaway	19	17	37	28	22	19
Truancy	14	5	21	18	22	10
Incorrigible	9	8	28	23	17	8
Car Prowling	2	2	12	7	3	4
Assault & Battery	4	5	15	13	6	3
Vandalism	8	8	18	14	13	7
Other[b]	18	12	40	39	23	23
Totals	121	111	306	257	226	144
Mean No. Offenses per Subject	3.56	3.96	5.02	3.84	4.71	4.24

[a] Larceny of a motor vehicle.
[b] Includes school behavior problems, driving offenses, sex offenses, and other offenses not mentioned in table.

It was necessary to combine some smaller categories of offenses to avoid the problem of small expected values in some cells of the table in testing for statistical significance, e.g., (1) intoxication and drug offenses, (2) LMV and car prowling, and (3) robbery and assault and battery. A 2 x 10 contingency table resulted. Chi-square tests applied separately

to each of the behavior categories revealed the two variables to be independent of each other in each case, i.e., E - C group and type of offense. The average number of offenses per S, also given in Table 10, was greater in the E BC-3 sample group than in any of the other sample groups, however differences were not tested for significance. By grouping total number of offenses of each type together from Table 10 over all subgroups, it was found that the six most frequent offenses, in descending rank order from the most frequent, were (1) runaway, (2) petty larceny, (3) breaking and entering, (4) LMV, (5) incorrigibility, and (6) truancy ("Other" category excluded).

Institutional Programs and Activities

Academic-Vocational. Table 11 indicates the number of Ss participating in academic, vocational, and other programs. The "Other" category, in this case, refers to a combination program or an alternate assignment.

Table 11

Number in Each Type of School Program

School Program	Subgroup					
	BC-1		BC-3		BC-4	
	E	C	E	C	E	C
Vocational	13	15	30	33	30	18
Academic	20	13	27	31	16	15
Other	1	0	4	3	2	1
Total	34	28	61	67	48	34

Chi-square tests were calculated, dropping the "Other" category to avoid the problem of too-small Ns in some cells of the table. No significant differences were found between any of the pairs of E and C groups. Over all behavior categories and all E and C groups combined, there were

139 (51.1%) vocational students, 122 (44.9%) academic students, and 11 (4.0%) in the "Other" category.

Individual counseling. In Table 12, the average number of hours of individual counseling received by Ss in each subgroup is presented.

Table 12

Mean Number of Hours of Individual Counseling

Subgroup		Program		t
		E	C	
BC-1				
	$\bar{X}$	47.90	8.64	7.08***
	SD	28.55	6.90	
	N	29	28	
BC-3				
	$\bar{X}$	7.26	9.02	-1.50
	SD	4.95	7.16	
	N	53	59	
BC-4				
	$\bar{X}$	5.37	6.42	- .67
	SD	3.96	8.77	
	N	40	31	

***p < .001

The E BC-1 group had a significantly greater number of hours of individual counseling than did the C group. The differences within the other two behavior categories did not differ significantly.

Group counseling. Table 13 contains information concerning the average number of group counseling hours received.

Table 13

Mean Number of Hours of Group Counseling

Subgroup		Program E	Program C	t
BC-1				
	$\bar{X}$	23.76	35.56	-2.30*
	SD	15.11	22.74	
	N	29	27	
BC-3				
	$\bar{X}$	29.58	30.02	- .13
	SD	18.41	16.71	
	N	55	58	
BC-4				
	$\bar{X}$	12.71	26.16	-4.85***
	SD	8.64	15.57	
	N	45	32	

*p < .05
***p < .001

Both the C BC-1 and C BC-4 Ss were found to have had a significantly greater number of hours of group counseling than did the comparable E Ss.

Family therapy. At ITS, selected residents and their families are referred for family therapy. Referrals are normally made by the residents' counselors or cottage directors. It was thought that it would be interesting to determine whether this approach to treatment was uniformly used in the E and C programs. Table 14 contains information on the number and proportion from each subgroup who participated in it.

Using 2 x 2 contingency tables, separately for each behavior category, it was found that the E BC-4 program had significantly more Ss in family therapy than did the comparable C programs ($X^2 = 5.02$, 1 df, $p < .05$).

Table 14

Number of Subjects in Family Therapy

Subgroup	Program E	Program C
BC-1	4 (.12)	5 (.18)
BC-3	6 (.10)	12 (.18)
BC-4*	16 (.33)	4 (.12)

Note.--Figures in parentheses are proportions of each subgroup's total N participating.
*p < .05

Special reading. Students may be referred for special remedial reading classes if they have a need for it. Table 15 presents the numbers and proportions of Ss participating from the various subgroups in that program.

Table 15

Number of Subjects in Special Reading

Subgroup	Program E	Program C
BC-1	22 (.65)	12 (.43)
BC-3	17 (.28)	13 (.19)
BC-4	18 (.37)	12 (.35)

Note.--Figures in parentheses are proportions of each subgroup's total N participating.

The chi-square analyses, using 2 x 2 contingency tables, reveal no significant differences between the E and C programs for any of the three behavioral subgroups.

Vocational rehabilitation. Vocational rehabilitation services are provided at ITS by an on-campus office of the state vocational rehabilitation agency (officially known as the Rehabilitation, Education, and Services

Branch, Iowa Department of Public Instruction). Selected residents are referred to that agency for services, with referrals normally made by ITS counselors or cottage directors. Again, it was thought that it would be useful to know how uniformly such referrals were made between the various E and C programs. Table 16 contains this information.

Table 16

Number of Subjects Referred for Vocational Rehabilitation

Subgroup	Program	
	E	C
BC-1	7 (.21)	8 (.29)
BC-3	21 (.34)	13 (.19)
BC-4	13 (.27)	9 (.26)

Note.--Figures in parentheses are proportions of each subgroup's total N referred.

By using 2 x 2 contingency tables for each behavior category, no significant differences were found between E and C groups for any behavior category in the frequency of referrals for such services.

Chapter 4

RESULTS: PROGRAM OUTCOME

The findings of this pilot study were based on measures that related to the individuals participating in it. Both direct and indirect measures of subjects' performance were used as outcome criteria. They may be grouped into the following four categories: (1) Measures based on psychometric instruments administered pre and post to those in the programs; (2) Measures from questionnaires of the impact of the program (a) as perceived by those participating in it and (b) as perceived by staff members rating individuals in it; (3) Variables based on institutional records which reflect quality of adjustment of the individual; and (4) Recidivism. It should be noted that a measure of recidivism probably has little or no meaning in the present study, because, at the time of data collection, too little time had passed for any but the very earliest recidivism to occur; however, in spite of the small number of subjects involved, it was included in the analysis. It should be emphasized, though, that, due to the timing of the present evaluation in relation to the termination of the project, all of the program outcome measures used in the analysis are those that may be classified as immediate, or short-term, in nature.

Psychometric Results

As was noted earlier, two psychometric instruments were used, each administered at the time individuals entered the program and again at the time they left it. The Jesness Inventory and the CPI were used in the evaluation, each of which was described in an earlier section.

With both incoming and outgoing test results available, a comparison of pretest to posttest performance was made, using group means. Tables 17 through 22 contain both the pretest and posttest raw score means and standard deviations from the Jesness Inventory for the two BC-1, BC-3, and BC-4

subgroups, and, in Tables 23 through 28, the pretest and posttest raw score means and standard deviations from the CPI are presented for these same subgroups. Posttest scores were subtracted from pretest scores in each instance, so a negative t score indicates the posttest mean was greater in magnitude than the pretest mean. A positive number, on the other hand, indicates a downward change from pretest to posttest. This procedure was followed in all tables involving pre-post testing.

The Jesness Inventory. Twelve scales are presented for the Jesness Inventory, whereas, usually, only 11 scales are scored on this instrument. The extra score is SMx, which consists of only certain Social Maladjustment items--those that were found to be especially capable of differentiating between delinquent and nondelinquent groups (Jesness, 1972).

Evaluation of outcome, when pretest-posttest change is involved, requires, of course, some prior notion of which direction is the "right" direction. In the case of the Jesness Inventory, the positive direction of change is, generally speaking, in the downward direction. That is, for most scales on the instrument, a high score is regarded as undesirable, so one would expect positive change, generally speaking, to be reflected in lower scores on the posttest, as compared to the pretest levels. There are some exceptions, however. Jesness et al. (1972) stated that "higher scores at time of posttest on three scales, Denial, Repression, and Immaturity usually indicate improvement (p. 250)." He also noted that the Denial scale has been regarded as a measure of ego strength and that it is the only scale on the instrument on which delinquents consistently score lower than nondelinquents. Accordingly, an upward change, from pretest to posttest, on the Denial scale was regarded as positive in the present analysis. It is difficult to understand, though, how an upward shift on

the Immaturity scale could be regarded as in the positive direction for BC-1 Ss, who are already regarded as immature. The fact that the BC-1 Ss scored significantly higher than either the BC-3 or BC-4 Ss on the Immaturity scale in the present study[8] would seem to suggest that the scale is, indeed, measuring maturity-immaturity as defined by the Quay instruments. If this is so, and if a BC-1 treatment goal is reduction of immaturity, then it would seem that, at least for BC-1s, the positive direction of change on this particular scale would be in the downward direction. Because, at this point, it would appear that there is a need for more information about what the Immaturity scale is measuring and if it might be measuring differentially for Ss in each of the Quay behavior categories, the scale was not considered in counting the total number of scales scored in the "right" direction in the present study. Because of some questions about the direction of change on the Repression scale which would be interpreted as positive, it was also excluded from this count.

Significant differences between pretest and posttest were found on one scale of the Jesness Inventory in the BC-1 E subgroup and on two scales of this instrument in the BC-1 C subgroup. The E subgroup difference was on the Withdrawal scale, with the change in the downward direction. In the C subgroup, the significant changes were on the Immaturity scale and on the Repression scale, with Ss scoring lower on both of these scales at the time of the posttest.

Looking at the total BC-3 group's performance on the Jesness Inventory, significant differences were found on four scales in the E subgroup and on

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[8] BC-1 vs. BC-3 Immaturity scale means for combined E and C groups on the pretest were 13.90 and 11.90, respectively ($t=3.34$, 187 df, $p < .001$); BC-1 vs. BC-4 means were 13.90 and 12.61, respectively ($t=2.02$, 140 df, $p < .05$). The difference between the BC-3 and BC-4 pretest Immaturity scale means was not statistically significant.

Table 17

Pretest and Posttest Jesness Inventory Raw Score Means and Standard Deviations for BC-1 E Group

Scale	Pre (N=34)		Post (N=32)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
SMx	14.12	6.36	14.03	6.34	.11
Social Maladjustment	27.09	8.18	27.34	8.28	- .25
Value Orientation	16.29	7.91	17.87	9.35	-1.62
Immaturity	14.09	4.22	14.94	5.08	-1.50
Autism	9.35	4.04	9.22	4.04	.24
Alienation	9.73	5.76	10.50	5.68	-1.22
Manifest Aggression	15.03	6.81	15.44	7.50	- .51
Withdrawal	12.82	3.05	10.22	3.04	7.19***
Social Anxiety	11.35	4.10	10.81	3.81	1.29
Repression	4.41	2.45	5.00	3.43	-1.48
Denial	11.50	4.13	12.66	4.37	-1.87
Asocial Index	24.00	6.97	23.69	5.02	.34

*** $p < .001$ (30 df)

Table 18

Pretest and Posttest Jesness Inventory Raw Score Means and Standard Deviations for BC-1 C Group

Scale	Pre (N=28)		Post (N=26)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
SMx	15.93	6.81	14.77	6.17	1.31
Social Maladjustment	28.21	6.92	28.23	7.70	- .02
Value Orientation	18.82	6.59	17.77	7.84	1.16
Immaturity	13.68	3.71	12.31	3.63	2.80**
Autism	10.11	3.15	9.27	3.62	1.90
Alienation	9.61	4.15	9.31	4.84	.54
Manifest Aggression	16.93	5.39	15.92	6.21	1.40
Withdrawal	12.86	3.48	12.00	3.46	1.89
Social Anxiety	13.93	4.14	13.31	4.28	1.27
Repression	3.79	2.28	3.08	2.26	2.16*
Denial	10.46	3.80	11.58	3.62	-1.87
Asocial Index	24.18	5.54	25.08	5.89	- .96

* $p < .05$ (24 df)
** $p < .01$ (24 df)

Table 19

Pretest and Posttest Jesness Inventory Raw Score Means and Standard Deviations for BC-3 E Group

Scale	Pre (N=60)		Post (N=56)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
SMx	15.15	6.60	14.87	4.69	.51
Social Maladjustment	27.45	7.19	28.95	6.15	-2.42*
Value Orientation	17.20	7.84	17.36	6.80	- .26
Immaturity	11.70	3.24	12.20	4.64	-1.33
Autism	9.10	3.78	9.77	3.93	-1.96
Alienation	9.47	5.25	10.05	4.75	-1.38
Manifest Aggression	15.62	6.78	15.05	5.46	1.09
Withdrawal	12.02	3.06	10.75	3.41	4.37***
Social Anxiety	12.03	3.72	11.00	3.50	3.60***
Repression	3.05	2.31	3.23	2.34	- .78
Denial	11.47	3.95	12.27	3.84	-1.86
Asocial Index	24.75	5.42	26.48	4.96	-2.98**

* $p < .05$ (54 df)
** $p < .01$ (54 df)
*** $p < .001$ (54 df)

Table 20

Pretest and Posttest Jesness Inventory Raw Score Means and Standard Deviations for BC-3 C Group

Scale	Pre (N=67)		Post (N=63)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
SMx	14.67	5.02	13.84	5.14	1.86
Social Maladjustment	27.73	6.88	27.84	6.99	- .18
Value Orientation	17.27	7.11	17.54	7.36	- .47
Immaturity	12.07	4.29	11.27	3.87	2.27*
Autism	9.82	3.55	9.65	4.10	.52
Alienation	9.15	4.19	9.43	4.39	- .83
Manifest Aggression	15.63	5.96	15.97	6.13	- .71
Withdrawal	11.51	3.19	10.59	3.63	3.17**
Social Anxiety	12.46	4.04	11.73	4.34	2.32*
Repression	2.97	1.98	2.78	2.14	.98
Denial	11.49	3.72	12.09	4.46	-1.40
Asocial Index	24.82	6.00	24.19	5.38	1.05

* $p < .05$ (61 df)
** $p < .01$ (61 df)

Table 21

Pretest and Posttest Jesness Inventory Raw Score Means and Standard Deviations for BC-4 E Group

Scale	Pre (N=46)		Post (N=45)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
SMx	14.20	5.39	12.18	4.33	3.89***
Social Maladjustment	28.24	7.33	24.64	5.86	5.15***
Value Orientation	15.07	7.28	13.33	5.77	2.73**
Immaturity	12.93	3.25	12.36	4.36	1.41
Autism	8.15	3.97	7.84	3.19	.85
Alienation	8.00	4.69	6.76	3.74	3.06**
Manifest Aggression	14.20	6.35	12.73	5.96	2.51*
Withdrawal	12.09	3.22	11.07	2.77	3.34**
Social Anxiety	13.24	4.16	13.24	3.92	--
Repression	3.78	2.61	3.67	2.62	.38
Denial	12.39	3.57	14.24	3.05	-4.47***
Asocial Index	26.78	6.26	23.84	4.89	4.13***

* $p < .05$ (43 df)
** $p < .01$ (43 df)
*** $p < .001$ (43 df)

Table 22

Pretest and Posttest Jesness Inventory Raw Score Means and Standard Deviations for BC-4 C Group

Scale	Pre (N=34)		Post (N=34)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
SMx	12.97	5.91	12.26	5.98	.99
Social Maladjustment	25.50	7.45	25.41	7.95	.10
Value Orientation	15.97	7.96	15.09	7.20	1.05
Immaturity	12.18	4.13	10.38	4.55	3.47**
Autism	9.00	4.62	8.29	4.36	1.37
Alienation	8.56	4.43	8.23	5.09	.63
Manifest Aggression	14.59	6.69	13.82	5.33	1.14
Withdrawal	12.56	3.50	11.29	3.67	3.03**
Social Anxiety	13.26	4.54	13.09	3.88	.38
Repression	3.00	2.69	2.68	2.74	.91
Denial	11.50	3.92	11.85	3.70	- .64
Asocial Index	22.15	5.50	22.56	5.89	- .49

** $p < .01$ (32 df)

three scales in the C subgroup. Those changes in the former which were in the positive direction were on the Withdrawal and Social Anxiety scales; those in the opposite direction were on the Social Maladjustment and Asocial Index scales. The significant changes in the C group were all in the downward direction. Two of these changes were on the same scales as those for the E group positive changes--the Withdrawal and Social Anxiety scales; the third one was on the Immaturity scale.

As is indicated in Tables 21 and 22, in which the Jesness Inventory scores for the entire BC-4 group are presented, eight scales showed statistically significant differences for the E subgroup--all of them in the predicted, positive direction. There were no significant differences in the opposite direction. For the C subgroup, two scales reflected significant changes, with one, Withdrawal, in the expected direction. The other was a downward shift on the Immaturity scale and, therefore, ambigious with respect to positive or negative direction.

The California Psychological Inventory. The CPI was scored for the 18 basic scales, all of which were identified in an earlier section. Again, as with the Jesness Inventory, a comparison of pretest to posttest performance was made, using group means. In Tables 23 through 28, the pretest and posttest raw score means and standard deviations from the CPI are presented for the BC-1, BC-3, and BC-4 subgroups. Again, posttest scores were subtracted from pretest scores; thus, a negative $\underline{t}$ score reflects a posttest score greater than the pretest score on that scale.

Profile elevation is an important factor in the interpretation of the CPI. In reference to individual interpretation, the Manual indicates that, in the situation where "nearly all scores are above the mean standard score line, the probabilities are that the person is one who is functioning

effectively both socially and intellectually (Gough, 1969, p. 12)." In addition, Megargee (1972) mentions, "Generally, scores above the mean (T=50) indicate positive adjustment, while those below the mean indicate problem areas (p. 140)." Generally speaking, then, the positive direction of change is upward. On the Femininity scale, though, there is little or no evidence to indicate which direction would be regarded as the favorable one. No prior assumptions concerning the direction of favorable change were made for this particular scale in the present study.

As Table 23 indicates, statistically significant differences in the favorable direction were found on three CPI scales in the BC-1 E group. Those were on the Social Presence, Self-acceptance, and Sense of Well-being scales. The Femininity scale also changed to a significantly lower level at time of posttest for this group. In the BC-1 C group, four scales reflected significant differences in the favorable direction: Capacity for Status, Sociability, Self-acceptance, and Achievement via Independence. The Socialization scale changed significantly in the opposite direction in this group.

By reviewing the information presented in Table 25, it can be seen that six of the basic scales reflected a statistically significant change from pretest to posttest for the BC-3 E group. All six were in the expected direction. These scales are Capacity for Status, Sociability, Self-acceptance, Achievement via Conformance, Intellectual Efficiency, and Psychological-mindedness. In the BC-3 C group (Table 26), three scales, Dominance, Social Presence, and Communality, showed significant differences in the expected direction; and seven such differences were found to be in the opposite direction in this group. Five of these seven scales are in the Class II group of scales, i.e., those dealing with responsibility,

Table 23

Pretest and Posttest California Psychological Inventory Raw Score Means and Standard Deviations for BC-1 E Group

Scale	Pre (N=34)		Post (N=32)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Dominance	21.88	5.45	22.50	5.16	-1.00
Capacity for Status	15.06	4.22	15.91	4.22	-1.80
Sociability	20.09	4.92	20.69	5.52	-1.04
Social Presence	32.65	4.89	34.28	4.91	-2.77**
Self-acceptance	18.65	2.77	20.31	3.22	-4.42***
Sense of Well-being	27.68	6.94	29.47	6.60	-2.36*
Responsibility	17.82	5.38	17.34	5.99	.72
Socialization	25.09	6.39	25.50	5.88	- .56
Self-control	22.35	7.36	23.12	8.48	- .90
Tolerance	13.06	5.96	13.91	5.27	-1.49
Good Impression	15.35	6.51	15.59	7.04	- .33
Communality	22.00	4.24	22.22	3.67	- .44
Achievement via Conformance	18.59	5.48	17.56	6.24	1.60
Achievement via Independence	13.21	4.79	13.87	4.70	-1.28
Intellectual Efficiency	28.23	6.91	28.59	5.72	- .58
Psychological-mindedness	9.59	2.52	10.09	3.18	-1.28
Flexibility	8.65	3.51	8.91	3.85	- .55
Femininity	16.21	2.75	14.66	2.43	4.11***

* $p < .05$ (30 df)
** $p < .01$ (30 df)
*** $p < .001$ (30 df)

Table 24

Pretest and Posttest California Psychological Inventory Raw Score Means and Standard Deviations for BC-1 C Group

Scale	Pre (N=27)		Post (N=25)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Dominance	21.56	5.69	22.52	5.54	-1.30
Capacity for Status	13.30	3.79	14.44	3.25	-2.54*
Sociability	18.89	5.50	20.48	4.40	-2.88**
Social Presence	34.07	4.81	34.96	5.40	-1.28
Self-acceptance	18.67	3.52	19.84	3.88	-2.25*
Sense of Well-being	26.96	6.81	27.12	7.13	- .18
Responsibility	16.56	5.19	16.24	5.27	.47
Socialization	23.96	4.83	22.48	4.06	2.46*
Self-control	19.93	6.34	18.88	6.41	1.36
Tolerance	12.22	5.56	12.32	4.37	- .17
Good Impression	12.85	4.64	11.84	5.14	1.69
Communality	22.33	3.88	22.44	2.63	- .23
Achievement via Conformance	16.48	4.83	16.80	5.11	- .52
Achievement via Independence	12.48	4.58	13.88	3.52	-2.73*
Intellectual Efficiency	26.89	7.26	27.68	6.48	-1.05
Psychological-mindedness	10.18	3.16	9.32	3.01	1.84
Flexibility	9.70	3.91	9.20	3.12	.97
Femininity	15.52	3.79	14.96	3.12	.99

* $p < .05$ (23 df)
** $p < .01$ (23 df)

Table 25

Pretest and Posttest California Psychological Inventory Raw Score Means and Standard Deviations for BC-3 E Group

Scale	Pre (N=60)		Post (N=57)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Dominance	22.01	6.24	22.81	5.99	-1.49
Capacity for Status	14.26	3.82	15.39	3.28	-3.74***
Sociability	21.16	3.85	22.29	4.37	-3.30**
Social Presence	35.99	4.80	36.90	5.58	-1.92
Self-acceptance	20.87	3.52	21.70	3.84	-2.41*
Sense of well-being	29.32	6.60	28.89	7.63	.71
Responsibility	17.18	5.23	16.50	5.35	1.47
Socialization	23.92	5.70	24.28	4.62	- .77
Self-control	19.36	7.16	20.16	6.79	-1.42
Tolerance	13.75	5.01	14.38	5.49	-1.58
Good Impression	12.55	5.79	13.10	4.75	-1.26
Communality	22.00	4.45	21.86	5.19	.30
Achievement via Conformance	17.73	5.11	19.03	4.33	-3.32**
Achievement via Independence	13.70	4.42	13.98	4.62	- .76
Intellectual Efficiency	28.97	6.35	30.60	6.70	-3.45**
Psychological-mindedness	9.76	2.53	10.58	2.91	-2.97**
Flexibility	9.25	3.63	9.77	3.09	-1.60
Femininity	15.20	3.37	15.05	2.95	.43

* $p < .05$ (55 df)
** $p < .01$ (55 df)
*** $p < .001$ (55 df)

Table 26

Pretest and Posttest California Psychological Inventory Raw Score Means and Standard Deviations for BC-3 C Group

Scale	Pre (N=67)		Post (N=62)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Dominance	22.04	4.87	23.98	6.01	-4.18***
Capacity for Status	14.85	4.44	14.79	3.90	.18
Sociability	21.40	4.53	21.97	4.47	-1.61
Social Presence	34.95	5.67	36.73	5.57	-3.69***
Self-acceptance	20.78	3.85	21.21	3.93	-1.24
Sense of Well-being	29.30	6.09	29.68	6.40	- .76
Responsibility	17.79	6.17	16.35	5.89	2.86**
Socialization	24.01	5.70	23.06	4.94	2.09*
Self-control	21.84	7.28	20.31	7.41	2.71**
Tolerance	15.07	5.09	14.29	5.47	2.05*
Good Impression	13.78	5.92	12.76	5.61	2.29*
Communality	22.01	4.35	23.14	3.40	-3.19**
Achievement via Conformance	18.04	5.36	17.97	5.69	.16
Achievement via Independence	15.12	4.22	14.27	4.40	2.52*
Intellectual Efficiency	30.04	6.39	30.37	6.61	- .74
Psychological-mindedness	10.13	2.15	10.08	2.72	.21
Flexibility	10.22	3.77	9.14	3.74	3.16**
Femininity	15.49	3.53	13.74	3.28	4.95***

* $p < .05$ (60 df)
** $p < .01$ (60 df)
*** $p < .001$ (60 df)

Table 27

Pretest and Posttest California Psychological Inventory Raw Score Means and Standard Deviations for BC-4 E Group

Scale	Pre (N=48)		Post (N=46)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Dominance	21.08	5.72	23.28	6.12	-3.78***
Capacity for Status	14.44	3.96	14.74	3.64	- .84
Sociability	20.83	4.80	21.96	4.38	-2.66*
Social Presence	34.04	5.82	34.83	5.20	-1.42
Self-acceptance	19.33	3.63	20.30	3.59	-2.58*
Sense of Well-being	29.52	7.29	31.30	5.98	-2.81**
Responsibility	18.52	5.47	18.80	5.73	- .51
Socialization	25.31	5.64	26.22	5.01	-1.71
Self-control	22.60	7.76	23.09	6.80	- .74
Tolerance	14.37	5.10	14.72	4.78	- .84
Good Impression	14.60	6.00	14.87	5.30	- .52
Communality	23.90	3.54	24.02	2.74	- .36
Achievement via Conformance	18.19	5.16	19.43	4.34	-2.81**
Achievement via Independence	13.17	4.64	13.67	3.72	-1.28
Intellectual Efficiency	29.52	5.91	30.30	5.91	-1.64
Psychological-mindedness	9.90	2.75	9.98	2.54	- .27
Flexibility	8.81	3.36	8.96	4.11	- .37
Femininity	15.06	2.98	13.96	3.17	2.94**

* $p < .05$ (44 df)
** $p < .01$ (44 df)
*** $p < .001$ (44 df)

Table 28

Pretest and Posttest California Psychological Inventory Raw Score Means and Standard Deviations for BC-4 C Group

Scale	Pre (N=34)		Post (N=34)		t
	$\bar{X}$	SD	$\bar{X}$	SD	
Dominance	21.71	5.25	21.88	5.70	- .27
Capacity for Status	13.29	3.78	14.09	3.76	-1.93
Sociability	19.85	4.26	21.23	4.34	-2.46*
Social Presence	33.26	5.19	36.91	4.79	-6.15***
Self-acceptance	18.68	3.02	20.47	4.34	-3.79***
Sense of Well-being	29.82	8.18	30.00	6.95	- .21
Responsibility	17.41	6.03	16.73	4.96	1.06
Socialization	24.35	4.71	23.59	4.21	1.45
Self-control	23.21	8.89	20.85	6.64	2.76**
Tolerance	13.88	5.61	13.79	4.79	.17
Good Impression	13.88	6.69	12.47	4.91	2.18*
Communality	23.26	4.11	23.35	3.02	- .20
Achievement via Conformance	19.06	5.40	17.91	4.86	2.07*
Achievement via Independence	13.88	4.24	13.82	3.76	.14
Intellectual Efficiency	28.94	6.00	30.03	5.38	-2.00
Psychological-mindedness	9.38	2.94	10.50	2.57	-3.04**
Flexibility	9.32	3.54	9.56	3.73	- .52
Femininity	14.41	2.82	13.85	2.58	1.45

* $p < .05$ (32 df)
** $p < .01$ (32 df)
*** $p < .001$ (32 df)

socialization, maturity, etc. In addition, the Femininity scale showed a significant shift in the masculine direction between pretest and posttest in the C group.

Table 27 contains the means and standard deviations for the CPI scales for the BC-4 E subgroup. Five E group scales indicated a change in the expected, positive direction, with no significant changes in the opposite direction. The specific scales involved are Dominance, Sociability, Self-acceptance, Sense of Well-being, and Achievement via Conformance. The Femininity scale also changed in the direction of significantly increased masculinity. It can be seen in Table 28 that, in the C group, four scales reflected change in the positive direction; three in the opposite direction. Specifically, the scales which changed in the positive direction were Sociability, Social Presence, Self-acceptance, and Psychological-mindedness. Those which changed in the opposite direction were Self-control, Good Impression, and Achievement via Conformance.

Questionnaire Responses

In an attempt to determine if those residents assigned to cottages on the basis of their behavioral characteristics (i.e., grouped homogeneously with respect to behavior) would evaluate their institutional program differently than those assigned to the heterogeneous cottages, the Student Program Perception Questionnaire was administered. This questionnaire, described in an earlier section, was designed to elicit boys' perceptions of the impact of the institutional program on them. It was administered just prior to their release from the institution. A modification of the items used by Eynon et al. (1971) formed the basic core of this instrument; other items were also used in order to develop information relevant to the present situation and institution.

Also, at the time of release, another instrument, called the Staff Member Assessment Questionnaire, was completed. In fact, two such instruments were completed on each individual released from the institution, each completed by a staff member who knew the resident quite well. Average ratings from these two instruments were then calculated. This instrument, the core items of which were also modified items from one of the instruments developed by Eynon et al. (1971), was used in an effort to determine if residents in the behaviorally homogeneous E cottages might be rated differently by others than those in the heterogeneous C cottages.

Mean scores were calculated for each of the six factor scales developed by Eynon et al. (1971), and E vs. C comparisons were made on each such scale, separately for each behavior category, by means of t tests. In addition to the six factor scales on the Student Program Perception Questionnaire, four other scores were developed and/or identified which were also used in comparing the E and C groups within each behavior category.

Of all the t scores calculated in all of the behavior groups, none were found to be significant. Only one scale, Peer Description, even approached significance ($t = 1.97$, 113 df), and, in this instance, the BC-3 E group scored higher than the BC-3 C group.

A further examination of the results for the BC-1 groups indicates that, while none of the 10 student questionnaire score differences were statistically significant, 9 of the 10 obtained mean differences were in the expected, or positive, direction, i.e., with these obtained differences favoring the E group. With regard to the BC-3 groups, although not significant, all 10 obtained mean difference scores were in the negative direction, insofar as the E group was concerned; and, for the BC-4 groups,

8 of the 10 nonsignificant differences were in the favorable direction, insofar as the E group was concerned.

Two scores only were derived from the Staff Member Assessment Questionnaire: the Positive Total score and the Interpersonal Relations score. Neither of these scores was significant in the E vs. C comparisons. Again, however, both obtained (nonsignificant) differences, for both the BC-1 and BC-4 groups, were in the expected direction; those for the BC-3 groups were in the opposite direction.

Institutional Adjustment

Several variables from existing institutional records were selected for examination in order to evaluate whether or not they might reflect differences between the behaviorally homogeneous E cottages and the more heterogeneous C cottages and from which it might be possible to make some inferences concerning the treatment programs in question. The variables which were selected are as follows:

1. Number of times in detention
2. Number of days in detention
3. Number of times AWOL from the institution
4. Number of special leaves from ITS
5. Number of transfers to more secure units

These variables were examined across E and C groups for each behavior category. The findings are presented in Tables 29 through 33.

Table 29 shows the distribution of Ss in each subgroup on the "number of times in detention" variable. No significant differences were found between the E and C groups within any of the three behavioral categories. As can be noted, the proportions of those in the E and C subgroups within each behavior category who were never in detention are extremely close,

e.g., 26.5% and 25.0% within the BC-1 group. The only observed difference which even approached significance was between the BC-3 E and C subgroups (χ^2=4.15, df = 2). More specifically, this sample difference involved a greater observed number in the E cell for "four or more times" than one would expect, along with fewer than one would expect in the equivalent C cell; however, as was noted, this difference was not significant. The range was from 0 to 10 times in detention. The latter record was earned by two individuals--both in the E BC-3 subgroup.

Table 29

Number of Times in Detention

Subgroup	No. of Times in Detention							
	Never		1-3		4 or more		Total	
	N	%	N	%	N	%	N	%
BC-1								
E	9	26.5	16	47.0	9	26.5	34	100.0
C	7	25.0	16	57.1	5	17.9	28	100.0
BC-3								
E	20	32.8	26	42.6	15	24.6	61	100.0
C	21	31.4	38	56.7	8	11.9	67	100.0
BC-4								
E	19	39.6	25	52.1	4	8.3	48	100.0
C	14	41.2	17	50.0	3	8.8	34	100.0

Table 30 contains data concerning the mean number of days in detention. The within-behavior category differences were not statistically significant. The greatest range was in the BC-3 C group. That range was from 0 to 87 days.

Table 30

Mean Number of Days in Detention

Behavior Category		Treatment Program E	Treatment Program C	t
BC-1				
	$\bar{X}$	15.41	18.79	- .69
	SD	16.66	22.09	
	N	34	28	
BC-3				
	$\bar{X}$	17.68	12.43	1.61
	SD	18.90	17.78	
	N	61	67	
BC-4				
	$\bar{X}$	13.00	11.94	.25
	SD	17.95	20.56	
	N	48	34	

Table 31 illustrates the distributions of number of times AWOL for each subgroup. No significant differences were evident in the E vs. C comparisons within behavior categories.

Table 31

Number of Times AWOL

Subgroup		Times AWOL: None N	None %	1 N	1 %	2 or more N	2 or more %	Total N	Total %
BC-1									
	E	21	61.8	9	26.5	4	11.7	34	100.0
	C	19	67.9	7	25.0	2	7.1	28	100.0
BC-3									
	E	43	70.5	9	14.8	9	14.8	61	100.1
	C	50	74.6	12	17.9	5	7.5	67	100.0
BC-4									
	E	33	68.8	9	18.8	6	12.5	48	100.1
	C	28	82.4	2	5.9	4	11.7	34	100.0

At ITS, residents may occasionally leave the institution on special leaves. They generally are of longer duration than trial home visits, and they often are awarded prior to release from the institution. Good conduct in the treatment program and evidence of need, such as may be the case in securing employment, are required before a special leave is granted. Because of the "good conduct" requirement, this variable was included as a measure of adjustment.

Table 32

Number of Subjects Placed on Special Leave

Subgroup		No. of Subjects on Special Leave: Sp. Leave N	Sp. Leave %	No. Sp. Leave N	No. Sp. Leave %	Total N	Total %
BC-1							
	E	11	32.4	23	67.6	34	100.0
	C	11	39.3	17	60.7	28	100.0
BC-3*							
	E	24	39.3	37	60.7	61	100.0
	C	11	16.4	56	83.6	67	100.0
BC-4							
	E	19	39.6	29	60.4	48	100.0
	C	10	29.4	24	70.6	34	100.0

*$\chi^2 = 8.44$; 1 df; $p < .01$

Table 32 depicts the frequencies with which special leaves were utilized in each subgroup. A statistically significant relationship was found between the E-C and Special Leave-No Special Leave dichotomies. A 2 x 2 table for this group yielded a chi-square 8.44 ($p < .01$, 1 df). The BC-3 E group had more special leaves than would be expected; the BC-3 C group had fewer. No significant differences were found within the BC-1 and BC-4 groups.

Residents are occasionally transferred out of one of the regular cottages to other living units that are more secure and have a more specialized program. Such transfers usually are due to serious behavior problems on the part of the resident or because the individual is a high runaway risk. They generally take place only after a thorough evaluation and staffing and after there is general agreement among the clinical staff that something more than the regular cottage program is needed. As a result, transfers were regarded as a relevant variable for making comparisons between E and C programs.

Table 33

Number of Subjects Transferred Out of Project

Subgroup	Transferred		Not Transferred		Total	
	N	%	N	%	N	%
BC-1						
E	3	8.8	31	91.2	34	100.0
C	3	10.7	25	89.3	28	100.0
BC-3						
E	8	13.1	53	86.9	61	100.0
C	7	10.4	60	89.6	67	100.0
BC-4						
E	6	12.5	42	87.5	48	100.0
C	1	2.9	33	97.1	34	100.0

Table 33 contains information about the number of individuals transferred to more secure living units. The expected values were so small in some of the cells of the 2 x 2 tables for BC-1s and BC-4s that a valid chi-square test could not be made in assessing whether or not there were significant differences between the E and C groups within the behavior categories. No significant relationship was found in such a test in the BC-3 group, where the expected values were large enough to permit such an analysis ($\chi^2 < 1$, 1 df).

In order to avoid the limitation mentioned concerning the analysis of this variable and to analyze the variable further, all three behavior categories were grouped together. As a result, a chi-square test of the relationship between transfers out and the E-C dichotomy was possible. However, no significant relationship was found ($\chi^2 < 1$, 1 df).

Reasons for transfer were classified as due to (a) behavior problems or (b) security problems and other. Because of small Ns, it was also necessary to combine groups in analyzing this variable. No significant relationship was found.

Recidivism

While it may have a number of disadvantages in terms of being an ideal measure of outcome, recidivism is one criterion that is very frequently used in evaluating correctional programs. Administrators generally look to this measure as the ultimate criterion in assessing program effectiveness. An attempt was made to examine this variable in the present study, even though, as was pointed out earlier, a measure of recidivism probably has little or no meaning at the point at which it was measured in this study. The major reason for this is because the placement (parole) exposure time was very short. Since a cut-off date of December 31, 1973 was utilized with respect to data collection, too little time had elapsed at that point for any but the very earliest recidivism to occur. While 97 (35.7%) of the total group of 272 individual Ss had been released from the institution on placement at some time prior to the end of the project, the mean length of time on placement outside the institution was only 18 weeks for them. Even with the limitation mentioned, though, it was thought that

a cursory look at this variable would be rather interesting.

There were 21 project Ss who had been returned to the Training School through December 31, 1973. This group of 21 had been out of the institution, on placement, an average (mean) of 15 weeks prior to being returned. Table 34 contains information about the behavioral classifications of the 21 returned, and, at the same time, it presents information about the number in each behavior category in the total sample so that comparisons can be made between the two groups.

Table 34

Project Returnees and Total Group of IDCT Subjects by Behavior Category

Behavior Category	Project Returnees		Nonreturnees		Total	
	N	%	N	%	N	%
BC-1	5	23.8	57	22.7	62	22.8
BC-3	7	33.3	121	48.2	128	47.1
BC-4	9	42.9	73	29.1	82	30.1
Total	21	100.0	251	100.0	272	100.0

On the basis of the very small Ns involved, it appears that the BC-3s are under-represented in the returnee group and that there are more BC-4s in it than one would expect on the basis of their proportion in the total sample. A chi-square analysis yields a value of 2.14, though, which, with 2 degrees of freedom, is not significant.

Eleven of the 21 returnees were E Ss; 10 were C Ss. On the basis of these small Ns, the two (E and C) groups did not differ significantly on this measure. The resulting chi-square value is less than one--obviously not significant.

After returning to the Training School, 11 of the 21 returnees were transferred out of the project for one reason or another, leaving only 10 returnees as Ss. Transfers were generally to more secure living units, where special programs and intensive counseling were available.

It should be pointed out that only 12 of the 21 returnees (57.1%) were returned because of parole violations, though; the other 9 were returned for re-placement, i.e., returned only until new placement arrangements could be made. It is important to note this distinction, for, in considering actual recidivism, it seems important to delete those who were returned for reasons other than recurring delinquent behavior. Accordingly, only those returnees who were returned to the institution because of parole violations were regarded as recidivists in the present study; however, additionally, those who had had an adult conviction on or before December 31, 1973, were also termed recidivists, even though they may never have returned to the institution. Two such individuals with adult convictions were identified, thus resulting in a total of 14 recidivists, altogether. Table 35 shows the behavioral subgroups from which these 14 Ss came.

Table 35

Number of Recidivists

Behavior Category	E	C	Total
BC-1	3	0	3
BC-3	1	4	5
BC-4	1	5	6
Total	5	9	14

Chi-square tests, which would compare the number of recidivists, as defined, with the number of Ss placed, did not appear to be feasible for

analysis within each of the behavioral subgroups because of the very small expected values involved in some of the 2 x 2 table cells (i.e., less than 5). The results, as shown in Table 35, appear to indicate a favorable outcome for the BC-3 and BC-4 E groups and for the BC-1 C group, but, of course, since the Ns are so small and no tests of significance were made, such statements must be considered speculative. By combining the BC-1, BC-3, and BC-4 subgroups, however, the expected values for each cell of the 2 x 2 table are sufficiently large to permit a chi-square test of significance to be made. Although the results indicate that only 10.2% of the number of E Ss placed were classified as recidivists, as compared to 18.7% of the C group who were so classified, the resulting chi-square value of 1.43, with 1 degree of freedom, is not significant for this test of the relationship between E vs. C status and recidivism.

It was found that these 14 individuals were free from either this institution or other custody an average of only 14 weeks before being classified as recidivists, as that term is defined in the present study. A comparison was then made to determine if there might be a difference between the E and C groups (with combined behavior categories) on this variable. The mean length of time which elapsed from the time of release to the time the individuals were classified recidivists was found to be 17.6 weeks for the combined E group recidivists and only 12.0 weeks for the C group. This difference was not statistically significant, however.

DISCUSSION

The measures used to assess outcome in the present pilot study provided an opportunity to observe effects, if any, in terms of (1) self-reported client change on objective personality inventories, (2) program impact as reported directly by residents and as reported by staff as they observed specific residents, (3) actual behavior of residents within the institution, which, hopefully, reflected something of the quality of adjustment of the resident, and, although preliminary, and, thus, very limited, (4) actual success, or lack of it, after release. The discussion of results, presented in this section, will follow this general order of presentation.

The pretest-posttest psychometric measures were probably the most sensitive, probably the most meaningful, and certainly the most comprehensive ones taken during the course of the study. Because of this and because the results that were based on these measures reflected the greatest detail, the discussion dealing with changes shown by these instruments is longer and more detailed than that based on the other outcome criteria.

Changes on Personality Inventories

Several observations of a global nature can be made after reviewing the results based on pretest-posttest changes on the various scales of the two personality inventories used. First, changes were evident in all groups--in both the E and C subgroups of all behavior categories. Some groups, of course, displayed a greater number of changes than others. Second, the changes that did occur were generally very small. This may be readily seen by studying the mean scale values presented in the tables in the preceding section. This observation applies equally to the Jesness

Inventory and to the CPI.

In the way of an overview, an examination of the total number of pre-test-posttest changes that occurred on the Jesness Inventory that produced statistically significant t scores--looking at all three E groups (BC-1, BC-3, and BC-4) combined and contrasting them with all three C groups combined--reveals that a greater number of significant changes occurred in the combined E groups (13 versus 7). And, a greater number of significant changes were classified as being in the "right" direction in the combined E groups (11 versus 3). This is due, largely, to the numerous positive changes that occurred in the BC-4 E group, though--the behavior category in which the E-C Jesness scale-derived differences were most prominent. The changes for each behavior category will be discussed separately, later in this section.

It will be recalled that, in the preceding section, it was pointed out that, generally speaking, the positive direction of change on the Jesness is in the downward direction. There are three exceptions, however. An upward shift, from pretest to posttest, on the Denial scale was regarded as being in the positive direction. Because it appears that there is a need for more information about what the Immaturity scale is measuring and because there is some question that it might be measuring differentially for Ss in each of the Quay behavior categories, this scale was not considered in counting the total number of scales scored in the favorable direction. Also, because of some questions about direction of change, the Repression scale was not included in this count.

A global examination of the CPI pretest-posttest changes, similar to that performed with the Jesness changes, just discussed, indicates a more favorable outcome for the E group than for the C group. The results based on this instrument appear to be more clear-cut than those based on the

Jesness. In this case, with BC-1, BC-3, and BC-4 E groups combined and compared to the combined C groups for the three behavior categories, it was learned that, unlike the findings based on the Jesness Inventory, the C groups exhibited the greatest number of significant scale changes (23 versus 16 for the E groups). The C groups were evenly divided with respect to direction (11 such changes in the favorable direction; 11 in the negative direction; and 1 not classified as to direction). In the combined E groups, on the other hand, 14 significant changes were in the favorable direction, 2 were not classified, and there were none in the negative direction. In addition, if one looks only at direction of change on all CPI scales, irrespective of the magnitude of the change or the significance level, the same pattern emerges, with over 90% of the combined E group differences in the favorable direction as compared to only 55% for the combined C groups. The scales of this instrument show E-C differences most clearly in the BC-3 and BC-4 categories.

As was pointed out in the preceding section of the report, the expected direction of change (i.e., the direction of favorable change) on the CPI was upward for all scales except for the Femininity scale. Because of a lack of clarity with regard to expectations concerning directional changes on this scale and their meanings in a population such as that in the present situation, it was not considered in calculating the total number of changes in the favorable direction.

The overall changes, just discussed, are the net effect of several specific changes. That is, the specific differences with respect to changes within each of the three behavior categories were not taken into account in the immediately preceding general observations. These specific changes, applicable to each behavior category, are presented in later paragraphs.

Before examining the changes specific to each behavior category, though, there are several other observations of a general nature which should be pointed out and which, perhaps, will help the reader get a better understanding of the outcome as measured by the two objective type personality instruments.

There were certain scales which seemed to show consistent changes across almost all sample groups. On the Jesness, there were three such scales. The Withdrawal scale shifted downwardly over the pretest-posttest period in all six groups, with five such changes achieving statistical significance. Except for one group (the BC-4 E group, where there was no change), the Social Anxiety score also decreased over time in all groups. In addition, the Denial scale increased in all six sample groups between the pretest and posttest, however, only one such change achieved significance. As was pointed out earlier, an increase on the Denial scale was regarded as being in the favorable direction in the present study. These consistent sample trends on these three scales, which reflect affect and feeling, suggest that, perhaps, the institutional experience, irrespective of the specific program in which the individual participated, was positive with respect to reducing feelings of anxiety in interpersonal relationships, reducing feelings of depression and isolation, and increasing feelings of confidence and optimism.

On the CPI, similar consistent changes were found. Although, as with the Jesness, not all such changes achieved significance, the Dominance, Sociability, Social Presence, and Self-acceptance scales all changed in a positive direction in all six sample groups from pretest to posttest. These scales are four of the six Class I scales on the CPI, which, according to the developer of the instrument, measure poise, ascendancy, self-assurance,

and interpersonal adequacy (Gough, 1969). All of these scales also load heavily on Factor 2, as labeled by Megargee, a very stable factor that has been found consistently by those conducting factor analyses of the instrument and frequently termed Social Poise or Extraversion (Megargee, 1972, p. 112). Such consistent observed changes in all six sample groups certainly suggest that, regardless of the specific program, the institutional experience may be having the effect of increasing the residents' outgoing behavior, social confidence, and person orientation. This would seem to be especially true with respect to sociability and self-acceptance, the characteristics measured by two of these scales where four and five, respectively, of the six changes achieved significance. Intellectual Efficiency also increased in all six groups, although in only one (the BC-3 E group) did it achieve significance. This scale appears to measure interest in intellectual activities and consistently correlates significantly with measures of verbal intelligence and academic achievement (Megargee, 1972). And, finally, a scale which decreased between pretest and posttest in all six sample groups was the Femininity scale, with three such changes being statistically significant. The change was toward greater masculinity. This scale appears to reflect a psychological masculinity-femininity and not sexual psychopathology (Megargee, 1972). Further analyses of these several trends suggested by the findings would be interesting.

It should be pointed out that some of the scales on the CPI are of greater concern than others in the present study. This is due to the nature of the scales in question, the nature of the population, and the fact that much more is known about some scales than others. The Socialization scale, which was originally called the Delinquency scale, is one such scale. It has frequently been used in studies involving delinquents, and it is

reported that it has been more thoroughly researched than any other CPI scale. In fact, Megargee (1972) points out that there is "little doubt that the So (Socialization) scale is one of the best-validated and most powerful personality scales available (p. 65)." Gough (1969, p. 22) has rank ordered a series of known samples according to the mean Socialization scale score earned by them, resulting in a list which is headed by "High school" 'best citizens'" and, at the bottom of it, are samples of delinquents and prison inmates.

Before going on to a discussion of changes within specific behavior categories, it should be noted that there is an entire group of CPI scales that are of special importance in the present study. Megargee (1972) has reported on some 20 separate factor analytic studies of the CPI. The factor which accounts for the largest proportion of the variance in most of these studies, he has labeled Factor 1, and he has identified and listed 10 CPI scales from these 20 studies that have had consistently high loadings on this factor. He goes on to state, "All agree that it measures some form of positive adjustment... (p. 111)." Since there appears to be complete agreement among these 20 factor analysts that the Factor 1 scales do measure something called Adjustment or Social Conformity, they obviously have a great deal of relevance in studies involving delinquents.

BC-1 subgroups. An examination of the personality test results indicates, generally, very few differences between the BC-1 E and C subgroups. The following paragraphs focus on the changes that were observed.

The Jesness scores indicate that the BC-1 E group became much less withdrawn and depressed during the time they spent in the treatment program. The decrease was rather marked. As was noted, this type of change seemed to more or less characterize all other groups in the study, with the

possible exception of the BC-1 C subgroup, where the change failed to achieve significance. However, the E group change, being as prominent as it was in comparison to the C group and in comparison to the changes that occurred in this area in the other behavior categories, prompts speculation about a possible relationship between this positive effect and the rather massive amounts of individual counseling and attention provided in the BC-1 E cottage program. It would be interesting to explore this area further.

Significant Jesness score changes were also in evidence on the C group's Immaturity and Repression scales, with both decreasing over the period of institutionalization. It seems as if it ought to be logically sound to reason that, in a BC-1 dominant group, a decrease on these two scales would be termed a positive change, inasmuch as the changes would seem to suggest movement toward maturation and less defensiveness. However, there is a need for additional evidence concerning the meaning of changes on these scales for Ss in the various behavior categories. This appears to be especially true with respect to the Repression scale. Then, in addition, the procedure used in classifying BC-1 Ss in the present situation--i.e., identification of some Ss on the basis of staff ratings--raises additional questions concerning the appropriate direction of change for the BC-1 Ss in this study.

It should also be noted that the two BC-1 subgroups were not equal with respect to scores on the Social Anxiety scale on the Jesness at the time of pretest. This was the only psychometric scale on which the BC-1 E and C subgroups differed significantly at the outset. The C subgroup demonstrated significantly more social anxiety than the E subgroup at that point ($t = 2.45$; 60 df; $p < .05$). Both subgroups changed only insignificantly in the direction of less social anxiety during the course of their residency.

and, at the time of posttesting, the two subgroups were still unequal with regard to this trait ($t = 2.35$; 56 df; $p < .05$), with the E group showing less anxiety.

The E and C subgroups had about an equal number of significant scale changes on the CPI. Both subgroups had significant changes on scales which showed greater interpersonal awareness and movement toward more outgoing behavior, thus reflecting the change noted in this area in other groups. The C subgroup also had significant increases on a scale indicating greater interest in independent achievement. However, the BC-1 C Ss in the traditional treatment program scored significantly lower on the Socialization scale at the time of posttesting, indicating movement in the direction of less socialization, whereas the BC-1 E group's mean Socialization scale score increased, but insignificantly.

The BC-1 E and C subgroups were not differentiated on the basis of significant mean differences on the CPI Adjustment factor (Factor 1) scales. If one looks for trends only, by examining only directional differences on all Factor 1 scales, irrespective of significance levels, the E subgroup appears to have only a slight advantage over the C subgroup with respect to number of scales changing in the favorable direction.

In summary, it can be stated that, on the basis of the personality inventory scores, there were few differences between the BC-1 E and C subgroups. Commonalities were more obvious than differences. Primary among these was a tendency toward a more outgoing, less subdued orientation. Perhaps the major difference had to do with this common trend. While both subgroups seemed to become more outgoing and person oriented, the E subgroup's test performance uniquely reflected a much more prominent positive change with respect to withdrawal and depression than was the case with

the C cottage residents.

BC-3 subgroups. It should be stated at this point that the BC-3 E and C subgroups did not differ significantly on any scale of either instrument at the time of the pretest.

In the two subgroups of BC-3s, there is ambiguity with regard to the relative effectiveness of the two types of programs in terms of bringing about change on a socialized vs. asocial/antisocial continuum. For example, the Jesness indicated significantly increased Social Maladjustment and Asocial Index scores in the E subgroup, while the C subgroup's scores on these and related scales on this instrument did not change significantly. On the other hand, for the C subgroup, the CPI indicated significant changes in the negative direction on six of the scales making up the Adjustment, or Social Conformity, factor (Factor 1), with no such changes in the positive direction; while the E group had significant changes in the positive direction on three of these scales, with none in the negative direction. Inasmuch as the Factor 1 scales on the CPI have been shown to have a great deal of importance in many studies involving delinquents, and inasmuch as the Asocial Index and Social Maladjustment scale scores of the Jesness have also been shown to have the very respectable point-biserial correlations of .67 and .52, respectively, with delinquency-nondelinquency (Jesness, 1972, p. 23), the ambiguity involved in these results can be seen. One can only speculate at this time as to the reasons for these seemingly conflicting results. One possible explanation, of course, is that the scales on the two instruments may be measuring different aspects of asocial and/or antisocial tendencies. Further study of the relationships among these various scales would be desirable.

Movement in the direction of greater extraversion, less withdrawal and isolation, and less anxiety in interacting with others was evident in both

the E and C subgroups of BC-3s, as it was in other subgroups in the study. On the Jesness, this was indicated by significant decreases on both the Withdrawal and Social Anxiety scales in both groups. It was also in evidence on the CPI with significant increases on various scales of the Social Poise-Extraversion factor (Megargee's Factor 2). It might be argued by some that, for BC-3s, the "right" direction of change ought to be toward a less outgoing orientation. While this argument may be logical in some respects, it is also true that BC-3 dominant individuals are often described as very negative, self-centered, having little regard for others, and having an "antiestablishment" stance, all of which tend to interfere with personal relationships. It would, therefore, appear that they are in need of learning how to establish meaningful and permanent relationships with others, generally--not just in manipulating others to their own personal liking. It would seem that they have a need to learn how to get along better with others on an equal, give-and-take basis. In other words, there is a need for them to improve their interpersonal effectiveness. This would require, among other things, social know-how as well as positive changes in attitudes and behavior relating to self and others. At any rate, for purposes of this particular study, movement in the direction of greater extraversion and interpersonal adequacy was taken to be the positive direction.

Noteworthy were the E subgroup changes that included significant increases of scores on CPI scales that are associated with increased motivation for, and interest in, academic achievement. The C group's performance on achievement-related scales indicated a significant change in the opposite direction. This particular finding is not too surprising in view of the fact that the BC-3 E program had an academic-related system designed

specifically to meet the special needs of those in this behaviorally homogeneous subgroup. As was noted in an earlier section, it consisted of procedures whereby students were provided with immediate feedback concerning progress by the awarding of points on the basis of their academic-related performance. These results suggest that that particular aspect of the BC-3 E program was effective.

Still other noteworthy changes included one that involved the CPI scores of the E subgroup in which there was an apparent increase in insightfulness concerning others' behavior, reflected in the higher Psychological-mindedness score at the time of the posttest--a change which certainly ought to be welcomed in any delinquent group, and especially in a BC-3-dominant group. Changes in the C subgroup included a negative one involving movement toward greater rigidity, as evidenced by the significantly lower score on the Flexibility scale, and a positive one which involved an upward shift on the Communality scale. Quite probably, the latter change merely signifies that one is justified in having increased confidence in the validity of the results from the subjects' responses. Also, there was significant movement of the C subgroup toward the masculine end of the Femininity scale--a shift which was evident in all C subgroups.

If one looks only at the number of scale changes in both the positive and negative directions, the BC-3 E subgroup appears to have a rather strong advantage over the C subgroup when one looks at the CPI results only. Six E group scores changed significantly in the positive direction, with none in the negative direction; while only three scores changed significantly in the "right" direction in the C subgroup, with seven in the negative direction. If, on the other hand, one looks only at the number of scale changes in both the positive and negative directions on the Jesness Inventory, the

C subgroup appears to have an advantage. It has two scales in the positive direction, with none in the negative direction, whereas the E subgroup has two in each direction.

In summary, it must be stated that, on the basis of results from both personality inventories, there is a substantial amount of ambiguity with respect to outcome, insofar as changes in asocial/antisocial tendencies are concerned. The two instruments produced seemingly conflicting results with regard to these particular characteristics, thus pointing up the need for a better understanding of the interrelationships that exist among the various scales of these two instruments that focus on the socialization-asocialization continuum. The common movement toward more social poise, less withdrawal, and less anxiety in interpersonal relationships, visible in other groups in the study, was quite prominent in both the BC-3 E and C subgroups. Perhaps the most prominent difference between the two subgroups involved personality inventory scores that are related to motivation for, and interest in, academic achievement, with the E group shifting significantly in the positive direction and the C group in the opposite direction over the period of institutionalization.

BC-4 subgroups. On the basis of scores on both personality inventories, the BC-4 E group demonstrated a much more favorable outcome than did the C subgroup. This may be seen in several ways.

Jesness (1972) has stated that the "score that is most closely related to, and most predictive of, delinquent behavior is the Asocial Index (p. 16)". The study revealed that the BC-4 E subgroup had a highly significant reduction of the Asocial Index mean score between the pretest and posttest ($t = 4.13$; 43 df; $p < .001$). In addition, there were significant decreases of scores over time in the homogeneous E subgroup on several other Jesness scales that were

designed to reflect degree of delinquency, social maladjustment, and aggressive attitudes. These included, among others, the Manifest Aggression scale. The C subgroup had no similar changes on such scales. Thus, it seems fairly clear that the E program had a more favorable outcome than the C programs as measured by these variables.

In connection with this particular finding, it should be pointed out that the two BC-4 subgroups were not equal on the Asocial Index at the time of the pretest. The E subgroup pretest mean Asocial Index score was significantly higher than the C subgroup pretest mean score ($t = 3.44$; 78 df; $p < .001$). This was the only personality inventory scale on which the BC-4 E and C subgroups differed significantly at the time of pretesting. As was indicated in the preceding paragraph, the E subgroup moved significantly toward a less delinquent orientation between the pretest and posttest. The C group, however, moved slightly, and insignificantly, toward a more delinquent orientation in that period of time. The two subgroups were not significantly different on the Asocial Index at the time of the posttest ($t = 1.05$; 77 df).

The movement of the E subgroup in the direction of less asocialization, seen on the Jesness, was also visible on the CPI, although the results were somewhat less clear-cut than they were on the Jesness. This may be seen by examining the changes on the Factor 1 scales, which reflect general adjustment and social conformity. There were significant shifts in the positive direction on two of these scales--Sense of Well-being and Achievement via Conformance. In addition, a trend may be seen on the Factor 1 scales. All 10 of the obtained Factor 1 scale differences (i.e., significant and insignificant, combined) were in the positive direction in the E subgroup. Perhaps more important, though, is the finding that the C group showed

significant changes in the negative direction on several CPI Factor 1 scales--on the Self-control scale, an almost pure measure of Factor 1 (Megargee, 1972, p. 119), the Good Impression scale, and the Achievement via Conformance scale--and in the positive direction on only one such scale--Psychological-mindedness.

Both instruments again, as in the case of the other subgroups, picked up changes which reflected a shift in the direction of more extraversion, greater sociability, less withdrawal, and greater self-acceptance. Changes such as these, as was noted, appear to have been very general.

Another change which should be noted is the significant increase of the Jesness Inventory's Denial scale score over the pretest-posttest period within the homogeneous BC-4 E subgroup. Jesness (1972), in discussing the Denial scale, has pointed out that "a moderately elevated score may be indicative of good emotional adjustment and optimism (p. 16)." Jesness et al. (1972) also noted that the Denial scale has been looked upon as a measure of ego strength, with an increase regarded as "positive." This mean score change was, therefore, regarded as one favorable to the E subgroup. The heterogeneous C subgroup's change on this scale did not achieve significance.

It is felt that the changes that occurred on the CPI's Achievement via Conformance scale merit comment. According to Megargee (1972), this scale "has consistently correlated with achievement in high school settings (p. 76)." The scores on this scale showed a significant increase in the E subgroup and a significant decrease in the C subgroup. These results suggest E program effectiveness over the C programs in terms of bringing about change in motivation for, and interest in, academic achievement.

There was also a significant lowering of the Alienation scale mean on the Jesness in the BC-4 E subgroup. Finding this change in the responses of the Ss in the homogeneous cottage program while, at the same time, finding no such change in the responses of the BC-4s in the heterogeneous C cottages suggests an E program advantage in coping with problems relating to distrust of authority figures, skepticism, hostility, and estrangement from society and its system of values within a BC-4 dominant group.

Other score changes in the two BC-4 subgroups involve a shift toward greater masculinity in the E subgroup and a movement toward less immaturity in the C subgroup, both of which were mentioned earlier in the discussion in connection with general changes.

Analysis of the number of scales changing in the favorable (or unfavorable) direction revealed that, on the CPI, the E subgroup had five scale changes in the positive direction, with none in the negative direction. The C subgroup had four scale changes in the positive direction--nearly as many as the E group; however, in contrast to the E group, three scales shifted in the negative direction. On the Jesness Inventory, the E Ss had eight significant changes in the positive direction, with none in the negative direction; whereas the C group had only one positive scale change, with none in the opposite direction on this instrument.

In summary, it can be concluded that the BC-4 Ss' performance on personality inventories provided the most clear-cut evidence of the existence of differences between the E and C programs of any of the outcome measures used and of any of the behavior categories studied. These differences clearly and consistently reflected a more favorable outcome for the E subgroup, particularly in terms of scale changes indicative of improved socialization and social conformity, improved general adjustment, reduced

hostility, less distrust of authority figures, more optimism, and improved motivation for, and interest in, academic achievement. As was the case in the other behavior categories, the general movement toward greater social poise and less withdrawal was evident in both subgroups of BC-4s.

Questionnaire Responses

Residents' perceptions of the institutional programs in which they had participated were elicited through the Student Program Perception Questionnaire, completed by Ss just prior to their release. Staff members' perceptions of the impact of the institutional programs on individual residents were obtained through the Staff Member Assessment Questionnaire, also completed at the time residents were released from the institution. These two instruments, the core items of which were based on items from instruments developed by Eynon et al. (1971), were used in the present study to compare the E and C subgroups within each behavior category.

Generally speaking, the within-category E-C mean differences were very small. As was stated in the results section, none of the differences based on these instruments achieved significance, i.e., at the .05 level of significance. The results were then inspected to see if any other information could be gleaned from them. The observations are discussed in the following paragraphs.

BC-1 subgroups. Although none of the 10 BC-1 score differences on the Student Program Perception Questionnaire were significant, 9 of the obtained differences were in the positive direction, insofar as the E subgroup was concerned. In addition, both of the Staff Member Assessment Questionnaire scale means were in the positive direction for the E subgroup. The largest obtained differences were on the Rejection of Institution and Rejection of Positive Impact scales of the student questionnaire (i.e.,

with the E subgroup rejecting less) and on the Interpersonal Relations scale of the staff questionnaire, with the E Ss scoring higher. All 3 of these would be significant only if the .20 level of probability were used.

BC-3 subgroups. In the BC-3 category, all 10 mean score differences on the student questionniare were in the negative direction with respect to the E subgroup. One student questionnaire scale approached significance--the Peer Description scale ($t = 1.97$; 113 df; $p < .10$). (A t score of 1.98 would have been considered significant at the .05 level in this case.) This suggests that perhaps the residents of the homogeneous E cottage may have had a tendency to see their peers as somewhat "more delinquent" than the C group residents saw their peers in the heterogeneous cottages. This finding would certainly appear to be consistent with the reality of the situation and in accord with what one would expect. At least, it seems logical that the residents of a cottage housing an all-BC-3 group would be seen as "more delinquent" than a more heterogeneous group. As was the case with the student questionnaire, both staff questionnaire scales were in the negative direction. The Interpersonal Relations scale reflected the largest mean difference.

BC-4 subgroups. In this behavior category, analysis of the direction of the obtained E-C mean differences revealed that 8 of the 10 differences were in the positive direction for the E subgroup. The largest sample differences (those which would have been significant only if the .20 level of probability had been used to assess significance) were on the Inmate Code scale (E subgroup mean indicated that they subscribed less to delinquent residents' system of values and beliefs), Rejection of Positive Impact scale (E subgroup mean indicated less rejecting of positive influences),

and Total Positive score (E subgroup had a more positive score). Both staff questionnaire scale scores were in the positive direction for the E BC-4 subgroup, i.e., both the Positive Total score and Interpersonal Relations scale score. Both differences were large enough to be statistically significant only if the .20 level of probability had been adopted as the required level for determining significance.

In summary, it can be stated that neither the student-completed questionnaire nor the staff member-completed questionnaire provided much information concerning differential outcome. The Peer Description scale appeared to discriminate best between the two groups of BC-3s. As stated, generally, the E-C mean differences were small and variance values fairly large. There is the evidence based on direction of differences only which suggests that the E BC-1 and BC-4 Ss may have tended to feel more positive toward their programs than their counterparts in the C groups and that the E BC-3 Ss may have tended to feel more negative about their program than the C BC-3s. Because the differences were not significant, though, there is considerable probability that the differences were merely due to chance, and, therefore, such an interpretation should be regarded as strictly speculative. The consistent lack of significant differences between the E and C groups in all three behavior categories may have been because all of the Ss saw their respective programs as more or less alike or because the differences, if they actually existed, were not measured by the instruments used. The experimental nature of the instruments used should be recognized. Even though no conclusions can be drawn in this case as to why the instruments consistently failed to show any significant results, measuring program impact by means of questionnaires completed by those participating in the program and by those working closely with the

participants is an interesting concept which deserves further attention. Continued research using such an approach would be desirable.

Institutional Adjustment

It was reasoned that observation of actual within-the-institution behavior of Ss ought to be a valid way of making comparisons between the approach involving the treatment of behaviorally homogeneous groups and the treatment of groups made up of Ss displaying a wide range of behavioral characteristics. Several such variables reflecting institutional adjustment were examined. These variables, based on existing institutional records, yielded extremely little in the way of significant differences in the E and C comparisons within behavior categories. It now seems likely that there were simply too many extraneous variables influencing these particular outcome measures (i.e., other than the one under study) for them to yield significant differences.

Detention. Since detention occurs as a result of inappropriate behavior and the violation of rules on the part of residents, the number of times in detention and the number of days spent in detention by residents would appear to be valid measures of the institutional adjustment level achieved by each group studied. As was reported in the Results section, though, none of the E-C comparisons indicated any significant differences.

Generally speaking, the proportions of the E and C subgroups (i.e., within each behavior category) representing the Ss who were never in detention were found to be nearly identical. This generalization extends to all three behavior categories. The greatest E-C sample difference observed occurred in the BC-3 dominant group, but, as noted, this difference was very small and not statistically significant. The mean number of days spent in detention, similarly, shows the greatest sample difference to be

between the BC-3 E and C subgroups, with the latter spending a shorter period of time in detention; however, this difference would have been considered significant only if the .20 level had been used.

Although not directly related to the basic hypothesis of the present study, it is interesting to note the effects of combining the E and C groups within each behavior category. The detention data then reveals a possible trend for the BC-4s to have fewer cases of "4 or more" times in detention than would be expected on the basis of their frequency in the sample and more than expected in the "never in detention" category, as compared with the other two behavior categories. In contrast, something of an opposite situation was observed in the BC-1 category. In other words, there may be a slight tendency for BC-4s to have fewer cases of multiple detentions and, possibly, a tendency for BC-1s to have more. Also, by doing the same thing with the "time in detention" variable, the combined samples reveal the mean number of days range from 12.6 for BC-4s to 16.9 for BC-1s, with the BC-3 group at 14.9 days--the combined BC-4 sample groups again looking more positive in terms of outcome on this variable. It should be emphasized, though, that neither of these findings achieved significance at the .05 level.

AWOLS. Runaways and unauthorized absences from the institution generally indicate avoidance behavior on the part of the resident, and, as such, the frequency of the occurance in a group ought to be a valid measure of the adjustment level of the group. First of all, it was expected that AWOLs would occur more frequently in the BC-1 groups. Second, it was expected that a special program designed to deal with a more homogeneous set of behavioral characteristics, as would occur in an E cottage program, would be better able to cope with runaway behavior than the C cottage

programs. There is only the slightest tendency for the sample values to show the incidence of AWOLs as greater in the BC-1 groups, and this difference is far from significant. Neither did the homogeneous E programs show any general advantage with respect to minimizing the number of AWOLs. In fact, the biggest E-C proportional difference, insofar as number of times AWOL was concerned, was in the opposite direction, and it occurred in the BC-4 group. However, again, the obtained values were not significantly different.

Special Leaves. Only in the BC-3 category was a significant difference found to exist between the E and C subgroups with respect to the number of Ss placed on special leave, with a greater number of E Ss placed on such leave. This measure of institutional adjustment was examined because of the "good conduct" requirement in obtaining special leaves. Unfortunately, however, special leaves are not a direct measure of resident behavior. They may reflect something of resident behavior, but it should be recognized that the measure is also a reflection of cottage director behavior. As a result, all that can be said with certainty is that special leaves were used significantly more often in the BC-3 E program than they were used in working with BC-3s in the C programs.

Transfers. It was originally thought that the E programs designed to cope with the more homogeneous behavioral characteristics of a specific behavior category would be more effective in coping with the serious behavior problems of Ss participating in them and that they would, as a result, probably find it necessary to transfer fewer Ss to more secure living units. This expectation was not supported by the data. It was also supposed that the BC-3 groups probably would have the highest incidence of transfer of the three behavior categories. Neither was this expectation

supported.

Recidivism

A distinction was made between those classified as returnees to the institution and those classified as recidivists. A recidivist was defined as one who had been returned to the institution because of parole violation or who had had an adult conviction. A total of 14 individuals were so classified.

This early recidivism data indicated fewer recidivists were from the homogeneous E programs than from the programs in the C cottages, but the difference was not statistically significant. A further breakdown (i.e., by behavior categories) was made, but because of the very small numbers involved, no chi-square tests were attempted. As has been pointed out several times in earlier sections, this measure (recidivism) has extremely limited meaning in this study because the placement (parole) exposure time was so limited.

It is interesting to note that, while the Ss who were on placement were out of the institution an average of 18 weeks, the recidivists were free from the institution or other custody an average of only 14 weeks. When one examines the elapsed time from release date to the date each S was classified a recidivist, separately for the E and C subgroups, i.e., with all three behavior categories combined, the resulting sample means also indicate a favorable outcome for the E subgroup. The E Ss were on placement an average of 5.6 weeks longer than the C subgroup. Neither was this difference statistically significant.

Although these findings concerning recidivism are interesting, they really tell us very little or nothing. It would be extremely interesting to conduct a follow-up study of the present study's sample, either now or

in the near future, after a large proportion of the Ss have had a longer period of exposure on placement (parole), in an attempt to ascertain whether or not the homogeneous grouping approach may have had an advantage over the other with respect to recidivism.

SUMMARY AND CONCLUSIONS

A pilot project--termed the Iowa Differential Classification and Treatment Project--was developed and implemented at the Iowa Training School for Boys. The purpose of the project was to try out such a system, examine its effectiveness as compared to the traditional approach, and, in this way, explore the usefulness, feasibility, and probable value of adopting such a system on a full scale at the institution.

A modified Quay system of diagnosis and classification was used. Subjects were classified into four groups, or behavior categories, as follows: (1) BC-1, or the inadequate-immature; (2) BC-2, or the neurotic-disturbed; (3) BC-3, or the unsocialized-aggressive; and (4) BC-4, or the socialized-subcultural. Because of limitations with respect to the number of living units available at the institution, attention was focused only on three of the four behavior categories--the BC-1s, BC-3s, and BC-4s.

Three E cottages were used, each containing a single homogeneous group, insofar as behavior category was concerned, and three C cottages were operated, each of which was heterogeneous with respect to behavior category and more or less homogeneous with respect to age. That is, there was a C cottage for each: the younger, the older, and the mid-age range residents. Once a S's behavior category was determined, he was assigned, on a random basis, either to one of the E cottages (the one appropriate to his behavior category) or to one of the C cottages (the one appropriate to his age).

A final total of 272 individuals met the criteria which had been established for determining S eligibility. This group was made up of a final total of 143 E and 129 C Ss, and it consisted of 62 BC-1s, 128 BC-3s, and 82 BC-4s. Of the total group, 75% were first-admission residents;

25% had been at the Training School before. The mean age for the total sample was 16 years, 1 month, and the average age for the various groups of the total sample ranged from 15 years, 8 months (both groups of BC-1s) to 16 years, 3 months (E BC-4s). The BC-1s were found to be significantly younger than either the BC-3 or BC-4 Ss. Average number of years of education completed for the entire group was 8.45. The total sample was composed of 228 Whites (83.8%), 35 Blacks (12.9%), and 9 others (3.3%) (Mexican-American or American-Indian). The mean Wechsler Full Scale I.Q. for the entire group of 267 for whom test results were available was 96.16. Except for "residence at commitment," for which it was found that the E BC-1 program had significantly more classified as from rural areas than did the C BC-1 program, no significant differences were found between any of the E and C groups on any of the other demographic variables.

A treatment program appropriate for meeting the needs, and coping with the problems, of those in one of the three behavior categories was established in each of the three E cottages. The E BC-1 program was designed to deal more effectively with, among other things, the very high dependency needs, the immaturity, and the low self-esteem of the BC-1 Ss, e.g., by providing large amounts of individual counseling. The E BC-3 program was designed to cope more effectively with the more aggressive, manipulative, and power-oriented individuals assigned to it by developing, for example, a program with a relatively high level of structure and with direct, immediate feedback concerning progress in school. The E BC-4 program was patterned, to a large extent, after reality therapy (Glasser, 1965). Treatment, in this case, was geared to the needs and the problems of the socialized and group-oriented individuals assigned to it. The program was designed to deal more effectively with minimizing the effects of the

delinquent peer group as a reinforcer and to the development of individual responsibility.

It was hypothesized that selected outcome measures would reflect a more positive outcome for those in the behaviorally homogeneous E cottage programs than for those in the traditional C cottage programs. The primary focus of the evaluation involved making comparisons between two similarly classified groups of Ss--the one group in the E program and the other in one of the conventional-program C cottages. The measures used to assess outcome included (1) self-reported pretest-posttest changes of residents reflected on personality inventories, (2) questionnaire responses indicating program impact as reported by both residents and staff, (3) indices of actual behavior of residents within the institution, and (4) post-release success. The latter-mentioned measure had only very limited meaning because, at the time of data collection, too little time had passed for any but the very earliest recidivism to occur.

For all practical purposes, all of the differences that occurred between the E and C groups occurred in the data reflecting pretest-posttest changes on the two psychometric instruments--the CPI and the Jesness Inventory. With only one exception, the other kinds of measures showed no significant differences between the E and C groups. Changes on these two psychometric instruments were evident in all groups included in the study. It should also be noted, however, that, even though many of these changes may have been statistically significant, they generally were very small.

Apparent in the results based on the two personality inventories were some general trends that were consistent across nearly all of the sample groups studied--E and C alike. The consistent nature of the observed directional differences on the Withdrawal, Social Anxiety, and Denial

scales of the Jesness, which reflect affect and feeling, suggested a trend toward reduced isolation and depression, reduced anxiety in interpersonal relationships, and increased confidence and optimism among residents, generally. This was complemented by consistent positive directional changes found on a number of the CPI scales which measure such traits as social poise, extraversion, self-assurance, and interpersonal adequacy. These consistent score trends suggest that perhaps the institutional experience, irrespective of the specific program in which the individual participates, may produce some general movement away from isolation, withdrawal, depression, and social anxiety and toward extraversion, social poise, self-acceptance, and outgoing behavior on the part of institutional residents, generally. The similar trend on separate instruments lends additional validity to this interpretation.

Although involving an apparent trend that was far less definite and clear-cut, because there were relatively few groups with significant score changes, consistent directional differences were also found across all six subgroups on the Intellectual Efficiency and Femininity scales of the CPI. The obtained scores on the Intellectual Efficiency scale all increased (i.e., moved in the positive direction); the Femininity scale scores all changed in the masculine direction. One probably is not justified in attaching a great deal of importance to such score changes in this instance because so few of them were large enough to be statistically significant, but the consistent nature of these sample mean changes is noteworthy.

Analysis of the data with regard to change and outcome for the BC-1 Ss revealed few differences between the E and C subgroups. Some changes were visible on the personality inventories, but most of these changes involved commonalities rather than differences between the two BC-1 subgroups. Both

groups, for example, had significant changes on several scales which reflected movement toward greater extraversion, person orientation, and self-acceptance. Changes of this type characterized all other groups in the study; however, there was one notable E-C difference visible between the two BC-1 groups which was related to this common change that merits special mention. The E subgroup's test performance reflected an especially marked movement specifically toward less withdrawal and depression, whereas the C subgroup's did not. Since the mean number of hours of individual attention of this type in the E BC-1 program was about five times that in the C programs, this prompts speculation about the possibility of a relationship existing between this effect and the relatively large amounts of individual counseling provided in the E BC-1 program. Further exploration of the relationship of these two variables would be interesting.

While a few other personality scale changes occurred, the two BC-1 groups were not highly differentiated on these kinds of measures. None of the measures of program impact derived from the two questionnaires or from the institutional adjustment measures revealed any significant differences. The recidivism measure was not tested for significance.

Differences between the two BC-3 groups, of course, were most apparent on measures based on the personality inventories. Unlike the BC-1s, though, there were numerous indications of change. Despite the number of changes, however, there was a substantial amount of ambiguity concerning outcome on indicators of asocial/antisocial tendencies. The two psychological instruments used in the study produced what appears to be conflicting results with regard to these particular characteristics. For example, six CPI Factor 1 scales, reflecting adjustment and/or social conformity, changed significantly in the negative direction in the C subgroup, while, in the E subgroup, three

of these scales moved significantly in the positive direction. On the other hand, in the E subgroup, two scales on the Jesness that correlate with the delinquency-nondelinquency dichotomy changed in the negative direction. It is not clear at this point why there was not greater agreement than was observed between the two sets of scales on the two instruments. Such findings point up the need for additional study of the relationships among these various scales and their meanings.

The movement toward improved social poise, greater extraversion, less withdrawal and depression, and less anxiety in interacting with others, also visible in other groups in the study, was rather prominent in both the BC-3 E and C subgroups.

Probably one of the most clear-cut differences found between the two BC-3 subgroups, though, had to do with scales that prior research has shown correlate consistently with academic achievement and, thus, indicate something of the respondents' motivation for, and interest in, academic achievement. Since the E group changed significantly in the positive direction and the C group moved significantly in the opposite direction on measures of this sort over the period of institutionalization, the results suggest some degree of effectiveness for the behaviorally-oriented system used in connection with the BC-3 E program's academic activities. It is important to bear in mind, though, that the criteria used in the present case were not measures of achievement (e.g., grades earned), but, rather, personality scale scores that prior research has shown to be related to academic success. In addition, a cautious interpretation demands that there be an awareness that there may have been other, unmeasured factors which could have accounted for the results. Nevertheless, the findings are regarded as significant, and further study of such a system with students who have BC-3-dominant

characteristics would perhaps be worthwhile. Other noteworthy changes included a significant upward shift for the BC-3 E group over the period of institutionalization on a scale that suggests an increase in insightfulness concerning others' behavior and a significant downward change for the BC-3 C group on a scale that measures flexibility-rigidity (i.e., in the direction of greater rigidity).

As was the case in the BC-1 comparisons, none of the measures of program impact obtained from the student and staff questionnaires indicated any significant differences between the BC-3 E and C subgroups. On indices reflecting behavioral adjustment within the institution, they differed significantly on only one measure--number of residents placed on special leave. Special leaves were used significantly more often in the BC-3 E program than they were with BC-3 residents in the C cottages. This measure was examined because of the "good conduct" requirement in obtaining such a leave; however, it should be remembered that it is not a direct measure of resident behavior. Another important, and unmeasured, factor, of course, is the attitude of the cottage director concerning the value and use of special leaves. The measure of recidivism was not tested.

Analysis of the data pertaining to the BC-4s revealed that the only significant E-C differences found were on variables derived from the personality inventories. The BC-4s' data, however, probably provided the most clear-cut evidence of the existence of differences between the E and C programs of any of the behavior categories studied. These psychological scale differences clearly pointed in the direction of a more positive outcome for the homogeneous BC-4 E program.

One of the most significant of these differences had to do with scales that were designed to reflect asocial/antisocial tendencies. The BC-4 E

group's mean Asocial Index score and Social Maladjustment score changes were both in the positive direction and highly significant, while the C group had no similar changes on such scales. It will be recalled that these two scale scores correlate .67 and .52, respectively, with delinquency-nondelinquency (Jesness, 1972, p. 23). Other changes, also indicative of a more positive outcome for the E group on measures relating to delinquency and social conformity, were found on the Manifest Aggression scale of the Jesness and on the CPI's Factor 1 scales.

Thought to be very important, too, is the highly significant positive change of the BC-4 E subgroup on the Denial scale of the Jesness Inventory. Such a shift, not seen in the BC-4 C subgroup's scores, is interpreted as indicative of an increase in ego strength and optimism.

Because the Achievement via Conformance scale is one of the most thoroughly researched CPI scales and because it has been found to consistently correlate with achievement in high school settings, the changes of this scale are regarded as noteworthy. These changes, which clearly differentiated the E and C subgroups, involved a significant increase for the E subgroup and a significant decrease for the C subgroup.

Barriers encountered by those working in treatment and rehabilitation programs for delinquents often include the delinquents' own hostility, their distrust of others, especially of authority figures, and their estrangement from society and its accepted system of values. Such alienation from the larger society, and from adults in particular, makes the delinquent peer group of great importance as a reinforcer. Such barriers to treatment seem to be especially evident among those with a history of group-related delinquent activities, i.e., BC-4-dominant individuals. As a result, finding that the Jesness Inventory's Alienation scale, which was

designed to measure these kinds of traits, decreased significantly in the BC-4 E subgroup, while finding no such change in the C subgroup, certainly suggests an E program advantage in coping with problems of this nature.

Again, evidence of changes toward increased extraversion, greater self-acceptance, greater sociability, and reduced withdrawal and depression were present in both BC-4 subgroups.

As was the case with the BC-1s and BC-3s, no significant differences between the two BC-4 subgroups were found on any of the scores derived from the two questionnaires. Also, there were no E-C differences within the BC-4 behavioral group on any of the measures of institutional adjustment examined. No test of significance was made on the recidivism measure.

In summary, it is clear that the psychological instruments were, for all practical purposes, the only measures used in the present study to provide evidence of significant E-C differences. These measures, however, reflected some definite changes over the pretest-posttest period. Some of these changes were common to all sample groups included in the study, as, for example, the general positive movement of Ss away from isolation and toward other people; some changes were much more specific to a single subgroup.

The most distinct and clear-cut personality scale differences were those which occurred between the two BC-4 subgroups. These changes tended to support the general hypothesis, namely, that the E subgroup's score changes were more positive than those of the C subgroup. The most outstanding of these included positive changes on scales which were indicative of improved socialization, social conformity, optimism, interest in academic activities, and reduced alienation. Differences were less clear-cut for the BC-3 Ss, although there were changes present which, primarily, suggested a more

positive outcome for the E subgroup on personality scales related to academic achievement. Thus, insofar as personality measures were concerned, the general hypothesis was regarded as only partially supported for this group. Differences were much less discernable yet between the two BC-1 subgroups, and it is concluded that the general hypothesis was not supported for this group; however, there was a very prominent scale change indicative of markedly reduced withdrawal and depression within the E group which was of some interest.

Analysis of the overall results from the perspective of negative changes emphasizes even more the positive nature of the E programs' outcome, i.e., by the relative lack of negative scale changes as compared with the C programs. In the homogeneous E programs, there were only two instances of statistically significant negative changes on the personality scales over the pretest-posttest period, both of these occurring in the BC-3 E subgroup, where offsetting positive results on other scales on the other instrument made the net effect ambiguous with respect to outcome; while there were 11 instances of significant negative changes in the C programs (seven of them occurred in the BC-3 C group).[9]

Even though there were positive personality scale-derived results associated with the E programs, some words of caution would seem to be in order at this point with respect to the interpretation of them. As was briefly mentioned earlier, many of the personality scale score changes that occurred, while statistically significant, were very small. The small magnitude of these changes raises questions concerning their practical

[9]As was pointed out in the Results section, the Femininity, Immaturity, and Repression scales were excluded from consideration with respect to positive or negative direction.

significance or importance. There is, quite frankly, no way of knowing at this point what a 2- or 3-point change in a given group average raw score may mean in terms of habilitating, or rehabilitating, adolescent-age delinquents. Does a positive change of this magnitude, for example, of the Asocial Index mean score for a particular group have practical value? Does it really indicate a meaningful change of the group with regard to degree of asocialization? Unfortunately, from the perspective of clinicians and others working directly in treatment programs for delinquents, answers to such questions are simply not available at this time with our present level of knowledge.

Another area for which some words of caution would also appear to be appropriate at this point concerns the definition of BC-1s in the present study. Because it was possible for the BC-1 classification to be arrived at either by objective appraisal, through use of the Quay instruments, or by the subjective clinical judgment of RDC staff, the results pertaining to BC-1 Ss will have to be interpreted accordingly. The extent to which the results can be generalized to BC-1s as they are usually defined (i.e., on the basis of objective test results only) is, as a result, in question.

What about other possible limitations? Hawthorne effect is such an area of concern in the present study. For example, did the E groups perform better merely because they were so designated? While there were some indications that this probably did not occur, the possibility remains.

Notwithstanding the small changes that occurred on the personality scales and the other limitations of the study just mentioned, though, it is concluded that, as measured by the personality scale criteria used, the differential approach was found to be more effective in certain areas and with certain groups than the conventional approach.

While it is true that differences generally did not appear in measures of actual institutional behavior and adjustment, it must be borne in mind that the average length of time spent in the program was brief--4.8 months for the entire group, E and C combined. Perhaps changes would have been greater if Ss had participated in the programs for a longer period of time, e.g., for their entire length-of-stay in the institution. Also, there were extraneous factors, over which there was no control and for which there was no way to measure the effect, that might have, and probably did, influence these particular outcome measures, thus tending to make the variables under study more difficult to measure, e.g., variation of policy among the cottages concerning when detention or special leaves should be used.

The BC-3 and BC-4 E programs of the pilot study were terminated on December 31, 1973, as originally planned. The BC-1 E program had been terminated 2 months earlier, on October 31, 1973, primarily because of dissatisfaction with it on the part of staff and administration, alike. Among other things, it was generally felt that the stress and strain on cottage staff of working with the homogeneous group of BC-1s was such that this action was warranted. Additional staff and/or rotation of staff might have alleviated the problem, but neither was feasible at the time. In the light of later experience, knowledge, and understanding, it appears that the method by which BC-1s were defined in the present project may have played a role in this problem. Using objective classification procedures only in classifying BC-1s (i.e., with the instruments only) would have been preferable.

Although not a part of the planned evaluation of the pilot study (and, therefore, not presented in the Results section), several surveys were conducted during the period the project was in operation in order to assess staff opinions and attitudes about the project and to obtain feedback of

information from those working directly with residents. Clearly indicated were general staff satisfaction, favorable attitudes, and staff enthusiasm on the part of those staff members in the E BC-4 program and general dissatisfaction and opposition among many of the staff members in the difficult-to-work-with groups in the BC-1 and BC-3 homogeneous programs.[10] It would appear that the degree to which groups are perceived as difficult to work with has a great deal to do with job satisfaction and morale for those working directly with delinquent residents. These findings and observations certainly point up the importance of staff matching in the development and implementation of differential treatment programs, i.e., matching resident needs and staff personality, interests, and abilities.

If some of the problems relating to staffing the homogeneous cottages could be dealt with effectively, there might be some merit in giving consideration to re-implementing such a system, or at least parts of it. To solve these problems, however, it appears that additional staff would be required in those cottages housing the two most difficult-to-work-with groups (BC-1s and BC-3s). Because cottages are so minimally staffed already, it is doubtful if a sufficient number of staff members could be transferred from the easier-to-work-with groups' cottages (i.e., the BC-2 and BC-4) to those living units housing the difficult-to-work-with residents to significantly alleviate this problem. Then, in addition, in order to be assured of obtaining enthusiastic and effective treatment personnel, the use of staff matching would also be highly desirable, if not essential. This probably would be very difficult to achieve successfully, considering the limited number of staff members available and other

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[10] Summarized in "Analysis of E Cottage Staff Responses on Questionnaire Concerning IDCT Program," mimeo report, Iowa Training School for Boys, December 12, 1973.

constraints which might limit it. For these reasons, re-implementation of such a system in its entirety probably would not be feasible at the Iowa Training School for Boys at this time.

It may be more realistic to consider a partial re-implementation of the system. Because of the favorable findings of the pilot study with respect to personality scale changes made by the BC-4s in the homogeneous E program, as contrasted with BC-4s in the conventional program, and because of the apparent staff satisfaction with the BC-4 E program, it might be worthwhile to consider the re-establishment of a separate cottage specifically geared to meet the needs of this group--again probably based largely on reality therapy principles. Consideration would have to be given to such matters as whether or not the potential benefits would be of sufficient value to warrant such a move. It, of course, should be borne in mind that the positive changes in the present study were observed only on the personality scales, and, as was pointed out earlier, there is no way of really knowing at this time how important such changes may be in the rehabilitation of adolescent age delinquents. Consideration would also have to be given to any disadvantages that might possibly be produced as a result of such a change. There, no doubt, would be some problems involved in fitting a single homogeneous living unit, such as this, into the existing organizational structure. Then, in addition, it should be recognized that the establishment of a BC-4 cottage would have the effect of removing the BC-4 residents from the remaining cottages. Since their presence is often regarded as a stabilizing factor in a cottage, such a move might be met with less than enthusiastic support by staff members in the other cottages.

Completely aside from the question of whether or not to re-implement all or a part of the system, though, it must be emphasized that the project was regarded as a valuable and worthwhile one, and one which yielded important positive residual effects. For one thing, the Quay factors, or dimensions, have provided staff members with another conceptual framework within which to think and work--a new clinical tool. Communication has been facilitated, and, without doubt, it has been a positive factor in staff development. Furthermore, there has been a continuing demand for scores derived from the Quay diagnostic instruments since the termination of the project. Even though these data are no longer used in grouping according to dominant behavioral characteristics, many staff members regularly use this information in working with clients on an individual basis. For example, it was found that, among cottage staff members, over 80% of the respondents used the Quay behavior categories to describe or think about boys more than "rarely" in an average day, that all but 6% felt that the classification system helps them in thinking about the characteristics of boys, and that all but 6% believed the behavior categories constitute a meaningful way of describing clients.[11] Obviously, such information is perceived by a large majority of the staff as valuable to them in their work with residents.

There is an obvious need for further study. First of all, in order to learn more about whether or not the small but consistent positive personality scale changes observed in certain groups in the present study might have some significance in terms of the actual rehabilitation of adolescent age offenders, a follow-up study is needed. An examination of

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[11] Summarized in "Report on Survey of Quay Behavior Category Use at ITS," mimeo report, Iowa Training School for Boys, May 5, 1974.

post-project behavior and adjustment variables, including recidivism, for those who have been released, along with an examination of measures of institutional adjustment for those not yet released, would appear to provide some interesting and useful information.

Then, in addition, it should be noted that the study also pointed up the need for further research that relates to the system itself. One area, in particular, that needs further study and work has to do with the utilization of all of the dimensional scores in the classification process--i.e., those factor scores that are low as well as high for a given individual. Such a refinement probably would be very difficult to develop, but it would be helpful. Differential diagnosis and treatment systems appear to hold a great deal of promise for bringing about more effective treatment and rehabilitation programs in the field of corrections, and additional research is needed to provide more knowledge and understanding of this vital area of concern.

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