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THE CONCEPT OF ADAPTIVE BEHAVIOR
IN AN INSTITUTIONAL SETTING

A Thesis Submitted to the Graduate Division in Partial
Fulfillment of the Requirements for the
Degree of Master of Science

by
John C. Jones

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Pittsburg, Kansas
July, 1963

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Grateful acknowledgement is given to Henry Leland, Ph.D., Chief Clinical Psychologist, Parsons State Hospital and Training Center for his interest, encouragement, and help in this research project.

This thesis is dedicated to the principles embodied in the stated objective of the Parsons State Hospital and Training Center:

. . . its object shall be to examine, treat, educate, train and rehabilitate the persons admitted and retained so as to make such persons more comfortable, happy, and better fitted to care for and support themselves.

ABSTRACT

The present study is an attempt to objectify the subjective concept of adaptive behavior and to show the effect of institutionalization upon adaptive behavior.

The development of an Adaptive Behavior Rating Sheet consisting of forty-five items is a major portion of this study.

The Adaptive Behavior Rating Sheet was administered to a sample of ninety patients who, at the time of administration, had been in the Parsons State Hospital and Training Center (PSH&TC) between one year six months and two years six months.

The raw scores were statistically reduced to comply with the five levels of adaptive behavior employed at PSH&TC.

The mean obtained on each of the three chronological age groups in the sample was used as the median of Level III. By the standard deviation method the raw scores were fixed in the five levels of adaptive behavior. The Chi-Square method and Contingency Coefficient were used to determine the significance between the PSH&TC ratings and the Adaptive Behavior Rating Sheet. The final results are shown in the form of correlations and percentages.

It is anticipated that this study may be of aid in the problem of determining the necessity for institutional referral in some cases and in dealing with the problems of parental acceptance and adjustment which are often present in such situations.

In its present form, the rating sheet is considered to be a non-validated instrument. It is the investigator's wish that others will find this instrument worthy of further evaluation to determine its empirical validity.

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CHAPTER I

INTRODUCTION

This project is submitted as a pilot, field type study to explore in an institutional setting, the concept of adaptive behavior as proposed by Heber.¹

Heber states that the purpose of advancing adaptive behavior as a new concept or dimension in terminology and classification in mental deficiency categorization is to achieve increased uniformity in the medical and behavioral classification of persons who are mentally retarded.

Heber feels that his behavioral classification as listed in the terminology and classification manual cited now approximates a framework for classification.

The present effort by Heber at classification, which includes the concept of adaptive behavior, is nothing new in the research work with mental retardation.

The American Association on Mental Deficiency has published five manuals on terminology and classification. The classification manuals were published in 1921, 1933, 1941, 1957, and 1961. The span of forty years of work in the area of terminology and classification in mental deficiency gives an indication of the complexity and difficulty involved.

¹R. Heber, A Manual on Terminology and Classification in Mental Retardation, A Monograph Supplement to American Journal of Mental Deficiency, (second edition; The American Association of Mental Deficiency, 1961).

Discussion of General and Specific Problems

The general problem is defined as an attempt to measure the effect of institutionalization upon an individual's adaptive behavior. The specific problem is defined as an attempt to objectify the present subjective concept of adaptive behavior through the administration of the Adaptive Behavior Rating Sheet found in Appendix A. The amount of success derived concerning both the general and specific problems will depend upon the degree of correlation between the objective adaptive behavior ratings and the subjective ratings assigned by the clinical staff at Parsons State Hospital and Training Center (PSH&TC) at Parsons, Kansas. It is anticipated that this pilot study, will indicate the possibility of the subjective concept of adaptive behavior lending itself to objectification in a local situation.

In the research of existing literature, it was discovered how very little specific work has been accomplished to prove or disprove whether or not institutionalization does help those committed. It is postulated that the effect of institutionalization cannot be adequately studied using only the dimension of measured intelligence. Delp² states that in reporting the final summary of an individual, a global description is necessary rather than merely a set of iso-

²J. H. Rothstein, Mental Retardation, Readings and Resources, (Holt, Rinehart and Winston, 1961), pp. 47-8.

lated statements about mental level, personality status, or even specific problems.

The effort applied in the working through of the general and specific problems of this study is with known mentally subnormal individuals following institutionalization at PSH&TC. The phrase, known mentally subnormal individuals, refers to those patients known and designated as being mentally subnormal by the Clinical Psychology Department, PSH&TC, and by the definition of mental retardation given by the American Association for Mental Deficiency.

Mental retardation refers to subaverage general intellectual functioning which originates during the developmental period and is associated with impairment in adaptive behavior.

Subaverage refers to performance which is greater than one Standard Deviation below the population mean of the age group involved on measures of general intellectual functioning.

The definition specifies that the subaverage intellectual functioning must be reflected by IMPAIRMENT IN ADAPTIVE BEHAVIOR. Adaptive behavior refers primarily to the effectiveness of the individual in adapting to the natural and social demands of his environment. Impaired adaptive behavior may be reflected in: (1) maturation, (2) learning, and/or (3) social adjustment. These three aspects of adaptation are of different importance as qualifying conditions of mental retardation for different age groups.³

This project is a study of patients who have been institutionalized at PSH&TC over a two year period. Since few patients were found to have been in the institution exactly two years, patients were selected who had been in the institu-

³Heber, op. cit., p. 3.

tion between one year six months and two years six months as of July 1, 1961. Observations with the sample began on July 1, 1961.

A differential diagnosis for every patient within the sample has been accomplished by the clinical team at PSH&TC and is included in Appendix C. This diagnostic categorization indicates the range of clinical types involved in this study and is of descriptive value in the final results, but is not of major importance in measuring adaptive behavior.

It is anticipated that this study will be of value in determining the necessity for institutional referral in many cases and in dealing with the problems of parental acceptance and adjustment which are often present in such situations. It appears that when counseling with parents, a professional person can speak with greater assurance and certainty in suggesting that an individual will benefit from a formal institutional training program having professional diagnosis, education, and treatment if there exists an actual study upon which to base his feelings. A portion of this study will show improvement and/or regression in adaptive behavior for this study sample between the PSH&TC staff admission levels and the staff's routine two year re-evaluations. It is not within the scope of this study to indicate whether or not institutionalization is the only factor in those patients who show improvement. This portion of the study will indicate the probability of improvement one can expect at PSH&TC over a two year period of time.

According to Rothstein,⁴ the broad function of any institution for the mentally retarded is two fold--nursing management and rehabilitation of the total individual. With so many factors involved in the development of the human organism (biological, physiological, and psychological), the functional, behavioral aspect of an individual is of prime consideration to society which feels the need for institutions because of their very existence.

Also, according to Heber, the definition of mental retardation requires that the subaverage intellectual functioning individual demonstrate deficiencies in both measured intelligence and adaptive behavior.

Within the framework of the present definition of mental retardation is a term descriptive of the current status of the individual with respect to intellectual functioning and adaptive behavior. Consequently, an individual may meet the criteria of mental retardation at one time and not at another. A person may change status as a result of changes in social standards or conditions or as a result of changes in efficiency of intellectual functioning, with level of efficiency always being determined in relation to the behavioral standards and norms for the individual's chronological age group.⁵

Neither measured intelligence nor adaptive behavior can be used as the sole criterion of mental retardation. The relation of these two factors as concerned with the sample in this study will be discussed in Chapter V.

The general problem of this study is to determine the

⁴Rothstein, op. cit., pp. 388-9.

⁵Heber, op. cit., p. 4.

effect of institutionalization upon the adaptive behavior of patients who have been in PSH&TC for a two year period. The two year period of time was arbitrarily assigned, but is considered to be a justifiable length of time in which one can expect and observe change. This length of time is further supported by the fact that all patients at PSH&TC have a routine re-evaluation by the staff every two years.

For the purposes of this study, the statistical procedures will be concerned with adaptive behavior levels. The five Adaptive Behavior Levels of functional abilities employed at PSH&TC serve as a guide for this entire study.

1. Level I Description--children of this level are those who are capable of effective social and economic functioning in a low-demand competitive environment and who will need some support and supervision in the management of their personal affairs. Objectives--the objectives for children of this level are to insure that each child acquires to the limit of his ability, those understandings, attitudes, skills, and abilities which will enable him to develop adequate self-concept, self-help, self-care, interpersonal relationships, personal responsibility, and civic responsibility.
2. Level II Description--children of this level are those who are capable of effective social and economic functioning in a non-competitive environment and who will need continuing support and supervision in the management of their personal affairs. Objectives--the objectives for children of this level are to insure that each child acquires to the limit of his ability, those understandings, attitudes, skills, and abilities which will enable him to develop adequate self-concept, self-help, self-care, interpersonal relationships, personal responsibility, and efficient economic functioning, and social responsibility.
3. Level III Description--children of this level are those who are capable of limited social and

economic functioning and who will be dependent upon total environmental control and support. Objectives--the objectives for children of this level are to insure that each child acquires to the limit of his ability, those attitudes, skills, and abilities which will enable him to develop adequate self-concept, self-help, self-care, and interpersonal relationships.

4. Level IV Description--children of this level are those who are capable of responding only to the simplest environmental stimuli, and interpersonal relationships, and who will be totally dependent upon nursing care for their survival. Objectives--the objectives for children of this level are to insure that each child develops to the limit of his ability, those conditioned responses to environmental stimuli which will achieve relief from stress through communication of basic needs, and following routines of daily living.
5. Level V Description--children of this level are those who are grossly severely physically handicapped, and who require hospitalization in order to receive the continuous medical-nursing care necessary for their survival. Objectives--the objectives for children of this level are to insure that each child will receive such medical-nursing care as will alleviate or compensate for physical disabilities and such other treatment and/or training as possible.⁶

The original work on adaptive behavior cited by Heber consisted of four levels of adaptive behavior. The five adaptive behavior levels employed at Parsons are based upon the recommendations of Leland, Chief Psychologist at Parsons. Leland felt that Heber's classification system had three major failings. "First, it does not take into consideration the nonambulatory child. Second, it seems to be tuned toward measurement of absolute capacity rather than rehabilitation

⁶C. Gorton and H. Leland, "Levels of Adaptive Behavior" (Parsons State Hospital and Training Center, 1960). (Mimeographed.)

concepts as described by Leland and Goldberg,⁷ and third, it has not established itself clearly as a dimension independent of Measured Intelligence."⁸

Another quotation from Leland's paper will explain clearly the dimension of adaptive behavior:

Adaptive Behavior by its very terminology implies the behavior the child uses to adapt himself to social demands. Since social demands differ from one community to another, it would seem to follow that an absolute, universal scale for measuring adaptive behavior would be definitely counter-indicated, and that each psychologist must utilize the demands of the social-psychological factors present in his own setting and in the surrounding areas from which he draws his patients before he can properly discuss adaptive behavior in terms of any one patient. Thus, this is really a subjective measure, and as such a test of the psychologist's knowledge of the social-cultural background of the patient, as it is any other one thing. This is an important area which has been discussed for years among professionals who have felt that a major factor has been over-looked.⁹

Table I and Table II present a picture of the adaptive behavior levels used at PSH&TC and their objectives.

An attempt will be made to ascertain the existence or lack of clinical advantages of institutionalization in the development of adaptive behavior. This effort will indicate the effect of institutional treatment and training on the adaptive behavior of the severely handicapped socially,

⁷H. Leland and I. Goldberg, "Rehabilitation of the Institutionalized Mentally Retarded," The American Psychologist, XII (August, 1957), pp. 528-530.

⁸H. Leland, "Suggested Revisions in the Evaluation of Adaptive Behavior" (Parsons State Hospital and Training Center, 1960.) (Mimeographed.)

⁹Ibid.

mentally subnormal, and emotionally disturbed. For the purposes of this study, severely handicapped socially is defined as children who have not profitted by regular or special class education or whose overt behavior is so socially unacceptable that institutionalization is indicated.

TABLE I

REHABILITATION OBJECTIVES¹⁰

Level of Adaptive Behavior	Objective
Level I	A level of functioning where the patient may become a full-fledged member of a non-institutional community, with ability to assume both personal and civic responsibility.
Level II	A level of functioning where the patient may become a full-fledged member of the non-institutional community, with ability to assume efficient economic responsibility, but possibly still lacking in total ability to assume personal and civic responsibility, and therefore in need of a half-way house.
Level III	A level of functioning where the patient can develop proper interpersonal relationships and relative personal responsibility with supervision, and may thus be able to leave the institution to a sheltered workshop or some other form of highly supervised work activity.
Level IV	A level of functioning where the patient can develop in terms of self-help and self-care, with particular emphasis on development of communication abilities,

¹⁰C. Gorton and H. Leland, loc. cit.

TABLE I (continued)

Level of Adaptive Behavior	Objective
	socialization, etc., with the hope of eventual placement in their home communities, in either an individual or group care program where they can be part of the outside community, but nonetheless still in a quasi-institutional setting.
Level V	A level of functioning where the patient can develop a sufficient level of self-help that they can relieve the constant need for total medical-nursing care necessary for their survival.

TABLE II

STANDARD DEVIATION RANGES CORRESPONDING
TO LEVEL OF ADAPTIVE BEHAVIOR¹¹

Adaptive Behavior	Range in Standard Deviation Units
0 No retardation of Adaptive Behavior	Equal to or greater than -1.00
1 Level I (Borderline or non-significant negative deviation, from norms and standards of Adaptive Behavior)	-1.01 to -2.00
2 Level II (Mild, but apparent and significant negative deviation from norms and standards of Adaptive Behavior)	-2.01 to -3.00
3 Level III (Moderate but definite	-3.01 to -4.00

¹¹Ibid.

TABLE II (continued)

Adaptive Behavior	Range in Standard Deviation Units
negative deviation from norms and standards of Adaptive Behavior)	
4 Level IV (Severe negative deviation from norms and standards of Adaptive Behavior)	-4.01 to -5.00
5 Level V (Profound negative deviation from norms and standards of Adaptive Behavior)	> -5.01

Scope and Limitations

The scope of this problem includes one experimentally observed group of mentally subnormal patients at PSH&TC with an N of ninety. The patients who met selection criteria and who were physically in the institution during the summer of 1961 were used in the sample. Those patients who met the criteria of two years of institutionalization at PSH&TC, but were not included in the sample selection are noted in Chapter III. The entire study population will consist of first admission mentally subnormal patients at PSH&TC (first admissions for this hospital--some patients are transfers from other state institutions).

The limitations of this problem include: (1) The sample is only ninety patients in only one hospital in Southeast Kansas. (2) The sample is restricted to patients that were in the institution during the summer of 1961 (the patients

had to be physically in the institution for observations). More able patients are apt to be the ones on summer vacation. These are the patients that have progressed sufficiently that either the institution feels a home visit during the summer will be beneficial or the parents feel that they would like to have their child home for a short period. (3) Another limitation is the CA range of six to twenty-one. However, this administrative limitation could be considered minimal since a differential diagnosis in the area of mental sub-normality will usually be accomplished more readily with younger people. (4) Probably the greatest limitation is the subjective nature of the study, since the objective findings are to be correlated with the staff's subjective findings. This project is in the area of human attributes which substantially justifies some of the subjectivity which appears within the design of the study.

At the present time, it is difficult to ascertain whether or not anyone is accurately measuring the concept of adaptive behavior. For the past two years most work in this area has been subjective in nature. Therefore, the general hypothesis for this study is that an attempt at objectification of what may become an accepted new measurement dimension is a valid approach.

CHAPTER II

REVIEW OF LITERATURE

The review of literature for this study is divided into three parts:

- A. Rehabilitation of the Mentally Subnormal
- B. Adaptive Behavior
- C. Social Adjustment

Part A is concerned with the general problems of institutionalization, types institutionalized, and functions of institutions involving the aspect of rehabilitation. Part B relates to the specific problem of this study--Adaptive Behavior. The Social Adjustment in Part C refers to the views of society concerning institutionalization. Part C casts an indirect reflection of the views of society toward those who are institutionalized and those who have been institutionalized.

A. Rehabilitation of the Mentally Subnormal

The following quotations by Leland and Goldberg explain institutional rehabilitation.

Rehabilitation is a continuous process which utilizes all services working as a team to help an individual with physical, mental, and social disabilities and handicaps to raise the level of his physical, mental, and social efficiency.

This definition is based on the hypothesis that human learning is a continuous process from birth to death only interrupted by physical, mental, and/or social barriers which can be manipulated or removed. In other words, human learning has no ceiling, and it is only the barriers which block further learning.

Rehabilitation thus conceived does not indicate the customary "helping the individual to develop to his maximum capacity." This concentration on the individual's "capacity" or "potentialities" brought about many misunderstandings. Therefore, it was decided to take the retardate as he is found, and instead of gearing him toward his maximum capacity, which cannot be determined, helping him to raise his current "physical, mental, and social efficiency."

Thus the role of the department of psychology, as with other services in an institution, should not be as an autonomous unit with separate function, but as an integral part of a patient-centered team.¹

Leland and Goldberg have thus stated that institutions are or should be very practical in performing services for those patients admitted. Rehabilitation, or in some cases habilitation, should be geared simply toward raising a patient's present level of functional efficiency. This concept appears to the investigator to be an action-oriented approach in dealing with the needs of institutional patients.

There appears to be a difference in opinion regarding the role of rehabilitation in an institutional setting among professional psychologists.

According to Louttit, the use of institutions is indicated primarily for the feeble-minded, the delinquent who is socially dangerous, or other deviates who require close supervision for the protection of themselves and others.

Louttit states that his investigations of institutions have not produced any very cheering evidence that treatment aimed at rehabilitation is a common policy. As late as 1947,

¹Leland and Goldberg, loc. cit.

he felt that even the better institutions left much to be desired. The current strength of this reference depends on how much constructive change has occurred in public institutions since 1947.

Louttit observed that too many institutions existed to segregate the feeble-minded rather than to provide treatment and training. At this time, he stated that there were three functions of institutions.

(1) to afford custodial care for the idiot and imbecile patients who are completely unable to care for themselves and who have no family in a position to do so adequately; (2) to afford custodial care for the defective delinquents who are social dangers; (3) and probably most important, to provide training for, and subsequent supervision of, the patient's vocational and social adaptation to the community in which he lives.²

Louttit recommended institutionalization for; (1) idiots and low-grade imbeciles when the family was non-existent or was unwilling to care for them; (2) all grades of feeble-minded when definite anti-social habits are present, and when the persons present a menace to other people; (3) the higher-grade feeble-minded when the community does not provide adequate training and supervisory facilities. He further indicated that temporary custodial care is more necessary for higher-grade girls than for boys.

He felt that institutionalization should not be recommended for: (1) Children of any grade whose parents are

²C. M. Louttit, Clinical Psychology of Children's Behavior Problems, (Harper and Brothers Publishers, 1947), pp. 143, 228-9.

willing and financially able to care for them by providing sufficient private training and supervision; (2) Younger children who have not had an opportunity of demonstrating whether or not they can adjust; (3) Any child, even though he has a definitely inferior performance level, who is satisfactorily adjusting to the community in which he lives, and gives promise of continuing to do so.

Many of Louttit's comments are in agreement with the current ideas of Leland and Goldberg, but in his recommendations, it appears that he minimized the advantages of professional rehabilitation.

This portion of existing literature review has been concerned with the general problem of rehabilitation of the mentally subnormal.

Stoddard states that in the fall of 1956 the number of trainables was approximately 95,000 (total U. S. school population was 31,527,695). The best estimate of those receiving training, either in or out of institutions, was about 24,000 or 25 per cent of the total.

Our institutions are equipped to receive only a small percentage of those individuals who will never be self-sufficient. Furthermore, there is a growing awareness that custodial care is not a last resort, as Michel-Smith shows. Institutionalization is no longer routinely recommended to parents as a solution; rather, efforts are directed toward life planning within the home and community.³

³H. M. Stoddard, "The Relation of Parental Attitudes and Achievements of Severely Mentally Retarded Children," American Journal of Mental Deficiency, LXIII (January, 1959), p. 576.

Stoddard seems to imply in this quotation that all institutional cases are custodial patients and that individuals can be helped more in the home or community. Custodial care is certainly not the only function at PSH&TC.

According to Goldstein,⁴ a large proportion of first admissions in public institutions are of low mental status and in the clinical categories. The trends toward an increase in the number of very young, severely mentally deficient children being admitted to public institutions would have far-reaching effects on the nature of the resident populations in that such populations would tend to become static and custodial. In keeping with such a change, the purpose of public institutions for the mentally deficient would have to undergo re-evaluation; the concept of the institution as a training and placement center might well require alteration in the direction of custodial services. The trend toward younger, custodial-type admittees will become more marked as institutions begin to feel and accede to the pressures of parent groups and social-welfare agencies and erect the facilities necessary to accomodate the very young, custodial admittee. This assumption is based on the fact that the institutions exhibiting the trend toward younger, custodial-type admittees were also the leaders in

⁴H. Goldstein, Population Trends in U. S. Public Institutions for the Mentally Deficient, Institute for Research on Exceptional Children, University of Illinois, pp. 599-603.

other trends such as the establishment of the colony and parole systems; procedures adopted later by the institutions not yet strongly demonstrating the trend toward the admission of younger custodial types.

In the investigator's review of literature, the most complete study and account of the place of a psychology department in a state institution for the mentally retarded was done by Leland and Goldberg.

According to Leland and Goldberg, the use of psychology in such institutions began at the Training School at Vineland, New Jersey. In 1908, the research laboratory, under the leadership of Henry Goddard, started to experiment with the Binet test.

In order to determine the present status of psychology in state institutions, Leland and Goldberg sent a questionnaire to 101 institutions for the mentally retarded in the United States and Canada. The questionnaire contained three questions:

1. Do you have a Psychology Department in your institution?
2. If yes, how many members?
3. What is the role and function of psychology in the program of the institution?

Replies were received from 72 per cent of the total sent. Thirteen reported that they had no psychologists. The 72 institutions which replied have 109,010 patients served by

143 full-time and 14 part-time psychologists--approximately 725 patients per psychologist.

Functions of psychology departments indicated by the above mentioned questionnaire included intelligence testing, counseling and guidance, case conferences, projective and diagnostic testing, inservice training, psychotherapy, research, outpatient clinic, achievement testing, program planning in team, functions unrelated to psychology, public education, employee testing, aptitude testing, social case work, and vocational rehabilitation.

Based on their findings, Leland and Goldberg felt that the role of a department of psychology in a state institution for the mentally retarded should best be defined as:

1. Maintaining a full-fledged partnership with the medical, social service, colony (cottage) life, business administration, and rehabilitation (education, training, and adjunctive services) departments in the total program planning of the institution.
2. Being an integral part of the diagnosis, the program planning, and the follow-up in the rehabilitative processes of all patients.
3. Centering the special skills, training, and experience of the psychologist in those areas where he can be of greatest service to the rehabilitation of the patient.
4. Initiating and/or cooperating in special areas of research aimed at finding better ways of raising the patients' physical, mental, and social efficiency.
5. Serving as part of the team in interpreting to interns, employees, parents, and to the public in general various aspects of mental retardation with all associated handicaps and disabilities.

6. Participating in various other activities not incompatible with the functions of the psychologist.⁵

Any institution which functions as a whole in the manner previously outlined for an institutional psychology department will have rehabilitation as its major role.

Israel Zangwill, a novelist of life in the London Ghetto of the closing years of the nineteenth century and the opening years of the twentieth century, states that the mission of a psychiatric staff at an intensive treatment hospital is to rehabilitate the mental patient and to return him to society in the shortest practicable time.⁶ To do this effectively, it is essential that the staff know the patient's capacity for affective adequate interpersonal relationships, and whether a loss of this capacity is temporary or permanent.

An article in Time by R. W. Waggoner, Chief of Psychiatry at the University of Michigan describes the ideal institutional setting for the emotionally disturbed child.⁷ The Children's Psychiatric Unit at the University was designed with a positive and negative factor in mind--the positive was to make a hospital for children as much like home as possible. The negative was to create a building in which the child could not destroy himself or objects. Here, there are no big wards--

⁵Leland and Goldberg, op. cit.

⁶I. Zangwill, "Dislike of the Unlike," The Psychological Service Center Journal, 9:26, August, 1957.

⁷R. W. Waggoner, "Children's Mental Hospital; Children's Psychiatric Unit," Time, 67:45-46, February, 1956.

only rooms with one to four beds. Staff members who outnumber patients two to one wear no uniforms. The unit's patient capacity is 75. Each patient gets three to five hours every week with one of the sixteen resident psychiatrists besides an individually tailored program of schooling and shop work. In the planning of the unit the first premise was that a mentally ill child has suffered a lack of something vital in his home life and it would only make things worse to keep him in an old-fashioned institution.

Nothing in the review of literature indicated, however, that this rather ideal situation is the rule for institutions.

Another article in Time stated that there were 800,000 patients in U. S. mental hospitals in 1956 and that in this year, the tremendous rise of these patients met its first reversal (7,000 under the 1955 count--despite the fact that 1956 was a record year for mental hospital admissions--8,000 more than in 1955).⁸ The reversal proved a point doctors have been making all along: "Many mental patients can be restored to society if states will only spend the money for intensified treatment and more personnel." The average daily expenditure for each state mental patient has risen since 1945 from \$1.06 to \$3.26, the ratio of employees to patients from one for every 6.8 to one for every 3.6 according to this article. The rise has made it possible to treat more patients

⁸"Hopeful Reverse," Time, 69:79, January 28, 1957.

rather than just maintain them. With the impact of the tranquilizer drugs to help, many top state mental hospitals in 1956 were discharging from 65 per cent to 80 per cent of first admissions.

The status of public mental institutions was clearly explained by W. C. Menninger in speeches that were delivered to the Oklahoma, Ohio, Pennsylvania, Michigan, and Kentucky state legislatures.⁹ Dr. Menninger stated that there is no area of illness which has potentially a higher rate of recovery than mental illness. Notwithstanding this high recovery potential, mental patients occupy half of the hospital beds in the United States. Each year 250,000 more patients enter mental hospitals. Approximately 150,000 of these (3 out of 5) never leave alive. According to Menninger, "this is criminal, because 70 per cent of patients admitted could, if adequately treated, leave the hospital within six months, and 80 per cent within a year."

Menninger has found that the national average is one psychiatrist for every 311 hospital patients. In Kansas the average is one psychiatrist for every 56 hospital patients. Seventy-five per cent of those discharged go back to productive work. This fact strongly supports the rehabilitation concept of institutions. Twenty-five per cent of those released have to return (often because there is no place for

⁹W. C. Menninger, "Mental Patients Can Be Cured," Readers Digest, 69:13-16, August, 1956.

them in their homes or communities). This rate of return to institutions suggests the need for more halfway houses throughout the nation.

In recent years, admittance in Kansas hospitals has trebled, yet the discharge rate has reduced the hospital population by 14.7 per cent. This contrasts sharply with an average increase of almost 15 per cent in the number of patients in mental hospitals across the nation. Menninger further says that some hospitals across the nation are so badly over crowded that they are still modified "snake pits."

This portion of the review of literature has been presented to give an indication of the past, relative present, and possible future status of public institutions. Most of this material justifies and defends the existence of public institutions. Parts of this literature prompt the investigator to say that some institutions are concerned about their functions and obtained results and are endeavoring to correct deficiencies that may exist and improve staffs, facilities, programs, and results.

B. Adaptive Behavior

Benoit states that mental retardation constitutes a mode of functioning which involves limitations within the human organism. On this score, the sociological or legal aspects of mental retardation must be regarded as secondary.

It is time that we who work with the mentally retarded and want to improve their functioning ability, cease behaving like tail-chasing puppies and attempt

an unbiased look at the problem. We should stop peddling dead-end definitions and turn to elaborating conceptualizations that will not only serve the necessary descriptive function of available definitions, but also have the likewise necessary advantage of helping us get out of the woods.¹⁰

Stevens and Birch point out the fact that many children with unusual and bizarre behavior do not fit easily into existing classification schemes. These authors feel especially reluctant about using the term brain-injured except where there is an actual lesion and/or deterioration of the brain. This article clearly states that any attempt at classification should be approached from the standpoint of central nervous system impairment, since this gives a better insight into the varied types of personality disorders and behavior impairment.¹¹

Kaliski says, "Considerations which should enter into the selection of members of a group or class ought to center around behavior symptoms. The gross structure, the Gestalt, of the group is as essential as the structure program in relation to the brain injured child's possible progress."¹²

¹⁰E. P. Benoit, "Toward A New Definition of Mental Retardation," American Journal of Mental Deficiency, Vol. LXIII, No. 4, (January, 1959), pp. 559-565.

¹¹G. D. Stevens and J. W. Birch, "A Proposal for Clarification of the Terminology Used to Describe Brain-Injured Children," Journal of Exceptional Children, Vol. XXIII, No. 8, (May, 1957), pp. 346-349.

¹²L. Kaliski, "The Brain Injured Child--Learning By Living in a Structured Setting," American Journal of Mental Deficiency, Vol. LXIII, No. 4, (January, 1959), pp. 688-695.

Parents sometimes comment, "It is a nightmare living with this child." This refers to overt behavior problems.

This article infers that institutionalization is a good thing for many brain-injured children by stating that a quiet, relaxed atmosphere of acceptance and belonging, firmly and definitely delineated in regard to where and when certain people must be and what tasks must be performed, gives the child necessary support and emotional security.

The following quotations from Benoit help to further support the concept of Adaptive Behavior:

In point of fact, the definitions of mental retardation usually state the existence of a functional deficit, with or without explicit reference to social milieu.

In effect, it is a behavioral deficit, with failure to measure up to statistically derived expectations.

The mentally retarded are mostly persons who cannot do things or be taught to do things, or who have no potential to achieve expected levels of problem-solving.¹³

According to Garrett,

There is a great tendency, also, to regard intelligence as a quality of behavior rather than as an entity or a thing in itself. According to this view, it would be more correct to speak of "intelligent behavior" than to use the term "intelligence."¹⁴

Table III shown on page 26, and Tables IV and V, page 27,

¹³E. P. Benoit, loc. cit.

¹⁴H. E. Garrett, "A Developmental Theory of Intelligence," American Psychologist, 1:372-378, 1946.

reflect some of Heber's work in the Manual on Terminology and Classification in Mental Retardation:¹⁵

TABLE III

STANDARD DEVIATION RANGES CORRESPONDING
TO LEVEL OF ADAPTIVE BEHAVIOR

Statistical Code	Adaptive Behavior	Range in Standard Deviation Units
0	No retardation of Adaptive Behavior	Equal to or greater than -1.00
1	Level - I (Mild but apparent and significant negative deviation from norms and standards of Adaptive Behavior)	-1.01 to -2.25
2	Level - II (Moderate but definite negative deviation from norms and standards of Adaptive Behavior)	-2.26 to -3.50
3	Level - III (Severe negative deviation from norms and standards of Adaptive Behavior)	-3.51 to -4.75
4	Level - IV (Profound negative deviation from norms and standards of Adaptive Behavior)	> -4.75

¹⁵Heber, op. cit., Table III, p. 62, Tables IV and V, pp. 58-59.

TABLE IV

STANDARD DEVIATION RANGES CORRESPONDING
TO MEASURED INTELLIGENCE LEVELS

Statistical Code	Level of Deviation in Measured Intelligence	Range in Standard Deviation Units
0	No retardation in Measured Intelligence	Equal to or greater than -1.00
1	-1	-1.01 to -2.00
2	-2	-2.01 to -3.00
3	-3	-3.01 to -4.00
4	-4	-4.01 to -5.00
5	-5	> -5.01

TABLE V

CONVERSION OF IQ SCORES ACCORDING
TO STANDARD DEVIATION VALUES

Level of Deviation In Measured Intelligence	Range of Level In Standard Deviation Units	Arthur Point Scale of Per- formance Tests	Revised Stanford Binet Tests	Wechsler- Bellevue Intell. Scale
-1	-1.01 to -2.00	83-67	83-68	84-70
-2	-2.01 to -3.00	66-50	67-52	69-55
-3	-3.01 to -4.00	49-33	51-36	54-40
-4	-4.01 to -5.00	32-16	35-20	
-5	> -5.00	> 16	> 20	

Heber states that this two-dimensional classification is not intended to suggest that Adaptive Behavior and Measured Intelligence are completely independent dimensions. Intelligence test performances are adequate predictors of some aspects of behavior (e.g., potential for academic achievement, verbalization, abstraction ability, etc.) which contribute to, and in part comprise, total or general adaptive behavior. Heber feels that although intelligence test scores and level of adaptive behavior are related there will be a sufficient number of discrepancies in level of performance on the two dimensions to justify the dual classification. Heber does not intend to substitute this classification system for a total clinical evaluation. He hopes that this system will provide a consistent and communicable method of classifying data that will be of value for administrative and treatment purposes. This classification system can be used as a helpful guideline in setting an educational or other habilitative program for an individual though it is recognized that this must be supplemented by consideration of all pertinent data.

Heber's concept of the Measured Intelligence dimension is intended for the classification of the current intellectual functioning of the individual as indicated by performance on objective tests designed for that purpose. Heber does not intend to reflect an inference of potential

or absolute level of intelligence. His classification of Measured Intelligence is based on the assumption that the abilities measured by intelligence tests are distributed in the general population according to the normal probability curve.

The concept of Adaptive Behavior is best explained by these following quotations:

The dimension of Adaptive Behavior refers primarily to the effectiveness with which the individual copes with the natural and social demands of his environment. It has two major facets: (1) the degree to which the individual is able to function and maintain himself independently, and (2) the degree to which he meets satisfactorily the culturally-imposed demands of personal and social responsibility.

Adaptive Behavior is a composite of many aspects of behavior and a function of a wide range of specific abilities and disabilities. Behaviors which have been subsumed under the designation intellectual, affective, motivational, social, motor, etc., all contribute to and are a part of total adaptation to the environment. Since the behaviors sampled by current general intelligence tests contribute to total adaptation, level of function of the Measured Intelligence dimension will correlate with level of Adaptive Behavior. There will be, however, frequent individual discrepancies in levels of performance on the two dimensions.¹⁶

The Vineland Social Maturity Scale is perhaps the best single measure of adaptive behavior currently available, according to Heber. It is fairly adequate as a measure of adaptive behavior at the pre-school level.

Leland in his suggested revisions of Heber's work in Adaptive Behavior states the following:

¹⁶Ibid., p. 61.

The dimension of Adaptive Behavior as described by Heber (1959) was said to "refer primarily to the effectiveness with which the individual copes with the natural and social demands of his environment." This concept seems to be important and useful to psychologists. However, as it is presently described, Adaptive Behavior is too closely related to the concept of Measured Intelligence, and has not been able to take its place as a separate and distinct quality.

We have long felt that there was a separate and distinct dimension present in the functioning of the retarded child. This is noted for example, with many of the Mongoloid children, who may measure in IQ's somewhere between 25 and 40, but who are able to do many things for themselves in terms of self-help and self-care abilities. They are often able to develop good interpersonal relationships, and can be trained at certain occupational tasks so that they can, for example, fit into a sheltered workshop. Thus, we would say that in terms of Measured Intelligence these children would fall into the Severe or -4 level, but we would certainly want to describe them as only Moderately retarded in terms of Adaptive Behavior. There are other children with whom we are all familiar, who, because of severe orthopedic handicaps or severe physical damage, as in the case of the hydro-cephalic child, are totally bedridden, generally nonfunctional, etc., who nonetheless may have a Measured Intelligence with IQ's in the 70's and 80's or even higher. Thus, they would be children whom we would describe as Borderline or at level -1 of Measured Intelligence, who nonetheless would appear to be Profoundly retarded in terms of their Adaptive Behavior, if for example, the Vineland Social Maturity Scale was used as the criteria. These and other similar differences between the way the child functions and the way he is measured illustrate, we feel, a definite need for the consideration of the two dimensions as suggested in the Manual on Terminology and Classification (Heber 1959).¹⁷

We gain thus, a way of judging whether or not the patient could be returned to his own community or whether he should rather be returned to some other community where the needs are different and more in keeping with his actual functional level. The value of this to vocational rehabilitation counselors,

¹⁷R. Heber, loc. cit.

social workers, people operating halfway houses, sheltered workshops, etc., should be obvious. Also, within the institution it becomes a much clearer indicator of whether or not the patient's needs are primarily training or whether the extent of his emotional disturbance is such that he would also require treatment. Thus, while the measure of the IQ in no way indicated whether or not the child is primarily emotionally disturbed, the use of Adaptive Behavior as a measure with which to compare the IQ, will give valuable information in this area. Thus, we have a basis for assigning the patient to the program within the institution that is most tuned to his specific needs, as well as a way of knowing which children are ready to leave the institution and to what community area they should be assigned.

In summary then we feel that the measure of Adaptive Behavior is a valuable measure and is an important new dimension to be added to our thinking in regard to the diagnosis and evaluation of the retarded patient.¹⁸

This portion of the review of literature, for the most part, substantiates the need for the concept of adaptive behavior in the evaluation of institutional patients by professional people who work with the mentally subnormal.

C. Social Adjustment--Society's Views on Institutionalization

It is believed by the investigator, that much of the public's feeling toward public institutions in general stems from such books as The Snake Pit¹⁹ and The Shame of the States.²⁰ The investigator has empirically found that many

¹⁸H. Leland, "Suggested Revisions in the Evaluation of Adaptive Behavior" (Parsons State Hospital and Training Center, 1960.) (Mimeographed.)

¹⁹S. Undset, The Snake Pit (New York and London: Alfred A. Knopf, 1929).

²⁰A. Deutsch, The Shame of the States (New York: Harcourt, Brace and Company, 1948).

people feel that institutional life has not changed. It is sincerely hoped that conditions have changed in every institution where inhuman treatment such as brutality, sadism, degradation, etc., was the only form of treatment given.

On the other hand, the investigator feels that this type of literature has possibly helped to awaken and arouse a generally apathetic and self-centered society.

Deutsch describes in complete detail the horrible conditions once existing in such places as The Philadelphia State Hospital for Mental Diseases, Cleveland State Hospital, Manhattan State Hospital, Napa State Hospital, Ruckland State Hospital, Milledgeville State Hospital, Detroit Receiving Hospital, Letchworth Village, Mason General Hospital, Brooklyn State Hospital, and the Columbus State Hospital. The book moves rapidly from chapter to chapter and "hell hole" to "hell hole." Deutsch pulls no punches--sickening photographs are placed throughout the book and should affect anyone.

The male "incontinent ward" was like a scene out of Dante's Inferno. Three hundred nude men stood, squatted and sprawled in this bare room amid shrieks, groans, and unearthly laughter. These represented the most deteriorated patients. Winter or summer, these creatures never were given any clothing at all. Some lay about on the bare floor in their own excreta. The filth-covered walls and floors were rotting away. Could a truly civilized community permit humans to be reduced to such an animal-like level?²¹

The following quotations are from Martin's article (fourth in a series of five articles denouncing care given in mental

²¹Ibid., p. 49.

institutions) and refer to the inadequacies of some mental hospitals:

On admission he was bathed, put to bed and given calomel. That was October 1, 1933. He was bounced around several chronic wards. In 1939 he was sent to an acute ward--"We feel that they might wish to try the shock treatment on him." Electro-shock was then the shining hope that drugs are now. But there is no record that Stone ever got it.

There is indeed, no evidence that he ever received any treatment whatsoever in all his twenty-three years at Columbus State. On down the years the attendants made their useless semi-illiterate notes on him: Is very nervis...There is no change--teeth inspected by Dentes...Took shots for flew...Weight 130. During the seven years between 1942 and 1949 no doctor wrote a line on his records.²²

Some people reading accounts of institutional treatment just described, may believe that this type of treatment is still the rule today in public institutions.

These quotations by Breckenridge and Vincent are concerned with institutional life in general:

It is an unfortunate fact of our society that a certain number of youngsters will find their way into institutions, either because their homes are unable to provide for them, or because no other homes are available at the time, or because their own actions have brought them into conflict with the law. Institutional life is not a normal life for a child. To the extent that children in institutions are removed from their homes and parents and thrown into twenty-four-hour-a-day confinement with others in mass, they exist under special duress.

Cohen goes on to explain, however, that in institutions where good medical and psychological facilities exist and where the staff who handle the children day by day have real understanding of child

²²J. B. Martin, "Inside the Asylum," The Saturday Evening Post, 229:36, November 3, 1956.

needs much can be done to promote desirable physical and psychological development. The institution of tomorrow will give as much consideration to the emotional life of the children as it does to food, clothing and shelter.²³

About a century ago, Dorothea Dix began her work to improve the lot of the "human animals" that barely existed in a "Christian" civilization. Fees were charged to watch for sport the antics of these chained and tortured "animals."²⁴

The investigator believes that many of the feelings and attitudes of society toward mental institutions and their usefulness are represented in a statement from Gant's book.²⁵ Miss Gant points out, throughout her book, man's inability to completely cope with the mentally deficient and says that all mothers of mentally subnormal children should turn to God for their greatest help and comfort.

²³M. E. Breckenridge and E. L. Vincent, Child Development Physical and Psychologic Growth Through the School Years (third edition; Philadelphia and London: W. B. Saunders Company, 1955), pp. 194-195.

²⁴S. H. Holbrook, Lost Men of American History, (The MacMillan Company, 1946), pp. 152-5.

²⁵S. Gant, One of Those, The Progress of a Mongoloid Child (New York: Pageant Press Inc., 1957).

CHAPTER III

METHOD AND DESIGN

Procedures

This study has been established through the following procedures: screening of institutional files, evaluating cases studies, development of the Adaptive Behavior Rating Sheet, personal observations in the institutional setting, administration of the rating sheet, statistical reduction of findings, conclusions, and summary of findings.

The investigator decided upon the two year period of institutionalization as stated in Chapter I because one year or less would not be sufficient time to indicate the effect of institutionalization on adaptive behavior of some clinical types. With a period of time longer than two years, it was feared that the possibility of transfers and releases would greatly limit the number in the study sample.

The conclusions will be based upon the statistical reduction of experimental observations which will give the best estimate of the effect which is presumed to exist. The obtained results will be analyzed and recorded for only those aspects of adaptive behavior which are overtly recognizable and measurable as indicated on the Adaptive Behavior Rating Sheet. This does not take into account those fine behavioral qualities not readily observable which may exist.

The objective ratings were correlated with the PSH&TC

subjective ratings on the sample. In addition to the obtained correlations, additional descriptive statistical procedures were employed to yield more information concerning the Adaptive Behavior Rating Sheet.

It is not the premise of this study that institutionalization will have much effect upon a patient's measured intelligence. Hunt¹ points out that evidence from various studies strongly suggests that a delayed development in measured intelligence usually has permanent effects upon IQ.

Society is concerned with changes in the behavior of a mentally subnormal. Thus, the criterion for this study is adaptive behavior. Can adaptive behavior be quickly and objectively measured? If this type of measurement is possible, how much does institutionalization affect a patient's total behavioral status?

Development of Adaptive Behavior Rating Sheet

The first major problem was to find suitable items for the rating sheet. Items had to be selected that would be suitable for an institutional population with a wide chronological age range. The second problem in the rating sheet development was to select and word items so that they might be quickly marked plus or minus (+ or o). A pilot study of this type justifies an Aristitinian approach in the attempt

¹J. Hunt, Intelligence and Experience, (The Ronald Press Company, 1961), p. 346.

to objectify a heretofore completely subjective adaptive behavior rating system. This choice of scale rating certainly does not counter-indicate a more refined objective rating system which may evolve following validity studies.

The Adaptive Behavior Rating Sheet found in Appendix A has forty-five items.

Thirty-two items were obtained from the Vineland Social Maturity Scale,² seven from the Evans Scale,³ and six items were recommended by Leland.⁴

A list indicating the source of each individual item will be found in Appendix B.

The following materials were used in the administration of the Adaptive Behavior Rating Sheet:

pencils	typing paper	2 tables	Santa Claus picture
crayons	man's hat	gun	cat
scissors	waste basket	car	book (1st grade level)
clock	large panda	yoyo	train
hammer	rubber ball	donkey	cup, saucer, & spoon
board	baby doll	knife	airplane
nails	bean bag	duck	blocks

²E. A. Doll, Vineland Social Maturity Scale, Manual of Directions, (Educational Test Bureau, 1947), pp. 4-8.

³R. A. Evans, "The Development of a Multi-dimensional Rating Scale for Measuring Psychopharmacological Effects on the Behavior of Institutionalized Mentally Retarded Children." Unpublished Master's thesis, Kansas State College of Pittsburg, Kansas, 1961, pp. 77-85.

⁴Personal suggestion by H. Leland.

Materials which were placed on the table in front of the subject were arranged in the order shown in Figure 1 each time the Rating Sheet was administered. All other objects were handed to the subject.

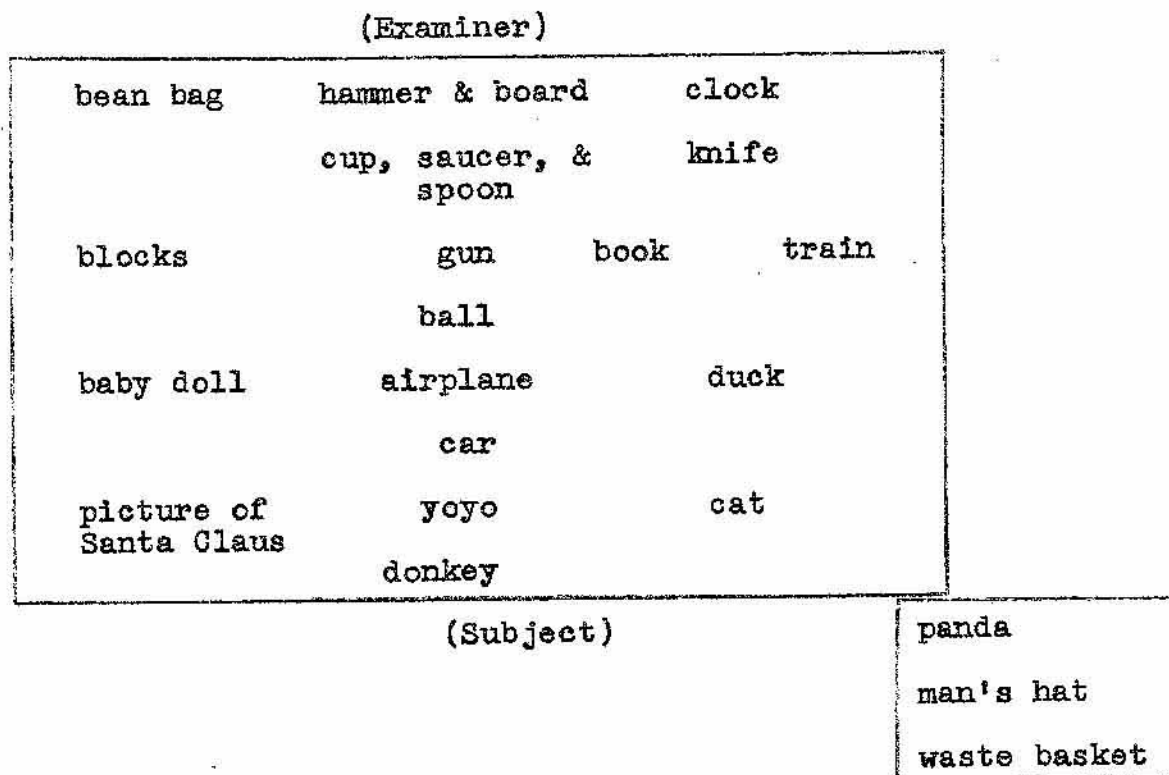


FIGURE 1

ARRANGEMENT OF MATERIALS

Screening of Institutional Files

The institutional files were first screened to determine those patients who have been institutionalized at Parsons between one year six months and two years six months. This list contained one hundred twenty-one names. Ninety patients were found to be suitable for the sample in this study. The reasons for not using the other thirty-one patients are given in Table VI.

TABLE VI

SCREENING OF PATIENTS WHO, AS OF JULY 1, 1961,
HAVE BEEN AT PSH&TC BETWEEN ONE YEAR SIX
MONTHS AND TWO YEARS SIX MONTHS

Number of Patients	Dispensation
90	Sample
28	Home visit
1	Research project
1	Contagious disease
1	Insufficient case history information

The next step in working with the files was to study the social welfare and pre-admittance testing reports, when available, to determine a probable pre-admittance adaptive behavior level. In this procedure, item 21 was not applicable and items 22, 23, and 38 were applicable when the information

represented by these items was present in the social welfare reports. These assigned levels were based on the Adaptive Behavior Rating Sheet and show a significant relationship with the admittance evaluations.

Using the team approach, the staff at Parsons evaluates each new admission within three weeks from the date of admittance and accomplishes routine two year re-evaluations on each patient. Since the staff at Parsons is the authority for this study, it is the PSH&TC staff evaluation levels which will be compared with the objective evaluation levels obtained from the results of the Adaptive Behavior Rating Sheet. The rating sheet is representative of behavior evaluated in the admittance staff meetings at PSH&TC. This data is presented and analyzed in Chapter IV.

All testing, evaluation, and diagnosis was accomplished by the Clinical Staff at Parsons with the exception of personal observations of patients in the use of the Adaptive Behavior Rating Sheet which was accomplished by the investigator in conjunction with the Clinical Psychology Department at Parsons.

Administration of Rating Sheet and Patient Observations

Items one to twenty-three and thirty-eight to forty-five were observed and marked on the rating sheet during its administration by the investigator. After these items were observed in the entire sample, items twenty-four to thirty-seven were scored by interviewing cottage aides. All cottages in the institution were represented by the sample and all

were visited by the investigator. This cottage visitation gave the examiner an opportunity to observe the sample patients in their cottage environment following the interviews.

It is felt by the investigator that these items cover the range of abilities and types of behavior for an average institutional population of this type. No one in the samples failed on all the items. Two patients scored satisfactorily on all forty-five items, but were on a lower Adaptive Behavior Level on admission evaluation.

Discussion of individual rating sheet items:

1. Patient appeared for interview alone. It was noted by the investigator from checking files that some patients who at one time had to be taken everywhere by aides, now report to various parts of the institution by themselves.
2. Attempt at speech--single words--scored plus if patient could say one or more recognizable words.
3. Speech--talks in short sentences--scored plus only if patient could form words into a complete sentence.
4. Patient has recognizable communication. Scored plus only if words and sentences made logical sense.
5. Patient shows signs of appropriate emotion--observed mostly while subject was handling or playing with toys.
6. Patient does not drool--an aspect of personal appearance, therefore, considered an aspect of total adaptive behavior.
7. Facies is not overly sad or gay. Same as item 6.
8. Recognize familiar object--man's hat. Response noted from request, "Hand me that hat please."
9. Response to commands--man's hat. "Put the hat back on that table."

10. Marks with pencil or crayon. "Make me a picture."
11. Does simple creative work--same as item 10. Scored plus if some form of a picture was actually accomplished.
12. Can write or print some words. "Write your name."
13. Can write or print a sentence. "Write a sentence about what you have done this summer."
14. Cuts with scissors. "Cut this piece of paper off for me."
15. Patient can read simple words. Subject could randomly pick any words from a first grade level book.
16. Uses names of familiar objects--3 toys--if subject did not voluntarily use names of toys, the question, "What's this?" would be asked.
17. Grasps objects within reach--toys. Some toys would be placed within reach of subject, but would not be handed to him.
18. Initiates own play activities--toys. No help given.
19. Patient unwraps a piece of candy. Subject had to attain piece of candy by any manner of unwrapping or tearing. This item was not always given at this point--was sometimes given earlier or later to reinforce rapport.
20. Uses tools or utensils--hammer, nail, and board. Subject would be handed the hammer, the board with a nail already started would be placed directly in front of him; "Hit the nail for me."
21. Disavows literal Santa Claus. Shown a picture of Santa Claus and asked, "Who is this?" Response was then obtained by asking, "What do you want Santa Claus to bring you next Christmas?"
22. Tells time to the hour--clock--hand set (2:00).
23. Tells time to the quarter hour. Clock hand set (2:15).
24. Feeds self with spoon--cottage aide. Must feed self with spoon consistently.
25. Feeds self with fork--cottage aide. Same as item 24.
26. Gets drink unassisted--cottage aide. Self explanatory.

27. Cares for self at table--cottage aide. Complete care.
28. Cares for self at toilet--cottage aide. Complete care.
29. Dresses self except for tying--cottage aide. Consistently.
30. Exercises complete care of dress--cottage aide. Self explanatory.
31. Bathes self unassisted--cottage aide. Needs no help in cleaning and drying self thoroughly.
32. Combs or brushes hair--cottage aide. Difficult to score with boys (most have very short haircuts). Scored plus if aides have knowledge that a subject has cared for hair in past or if, in their opinion, he could.
33. Performs responsible routine chores--cottage aides. Most patients who are capable have cottage duties to perform and carry messages or run errands.
34. Makes minor purchases--cottage aides. Patients do not carry money, but have canteen tickets for the purchase of refreshments or personal items.
35. Plays with other children--cottage aide. Scored plus if subject usually plays well with other children.
36. Plays competitive exercise games--cottage aide. Scored plus if subject plays a competitive exercise game which has rules such as softball.
37. No sexual disturbances noted--cottage aide. Scored minus if masturbation has been excessive or done openly or if any perversion in sexual practices has been noted.
38. Walks up and down stairs one step per tread unassisted. This item was accomplished last on all subjects. Examiner said, "Come with me." Examiner walked beside subject up and then back down a short flight of stairs just outside the examining room.
39. Patient remained relatively still during interview. On this item, normal nervous movements were allowed. Inappropriate, gross muscular involved movements were scored minus.
40. Patient does not make non-productive movements--noted mostly while subject reached for and manipulated toys.

41. Inappropriate laughter is controlled by the patient. Normal laughter while playing or talking with examiner was not scored minus.
42. Patient shows appropriate restraint in expressing hostility. Scored minus if subject openly was aggressive with examiner or acted out unusual aggression with toys. Toys such as the hammer, gun, knife, and baby doll were included in the materials used to observe this item.
43. Patient can experience normal relaxation. Unusual tension was scored minus.
44. Patient does not show a startle reaction. Scored minus if the subject was apparently oblivious to the situation or refused to speak or respond to requests. Also scored minus if subject was too hyperactive or aggressive to perform properly.
45. Patient is neither withdrawn or aggressive. Scored minus if the subject was apparently oblivious to the situation or refused to speak or respond to requests. Also scored minus if subject was too hyperactive or aggressive to perform properly.

The administration of the rating sheet with the sample took thirty-two clock hours or a little over twenty minutes with each patient. Scoring was accomplished on the item information obtained from cottage aides after the information given was confirmed by checking the night reports in each cottage kept by the night aides.

Most of the items on the Adaptive Behavior Rating Sheet are substantiated as being good indicators of adaptive behavior in conjunction with child development in Child Development, Physical and Psychologic Growth Through the School Years.⁵

⁵H. E. Breckenridge and E. L. Vincent, Child Development, Physical and Psychologic Growth (third edition; Philadelphia and London: W. B. Saunders Company, 1955.) Chaps. IV, V, VIII, XI, XIII, and XIV.

Statistics

The following statistical methods are employed in this study:

In an attempt to develop a scale that could be used with any population, the Arithmetic Mean⁶ and Standard Deviation⁷ formulas were used. The mean for each chronological age group, by definition, was used as the median for Adaptive Behavior Level III.

Since the data regarding the patients in the sample when statistically reduced represented normative data, the standard deviation method was used to determine the raw score limits for the five adaptive behavior levels. With the mean for each chronological age group as the median for Level III, two equal standard deviations established the raw score limits for each level of adaptive behavior.

The correlations used in this study were involved with ordinal data in comparing the unlike objective and subjective ratings. Therefore, the non-parametric methods of Chi-Square⁸ and Contingency Coefficient⁹ were used to compare the differences and similarities found in the five levels of adaptive behavior which represented unordered series of frequencies.

⁶E. F. Lindquist, A First Course in Statistics (revised edition; Boston: Houghton Mifflin Company, 1942), p. 52.

⁷Ibid., p. 71 and pp. 75-6.

⁸S. Siegel, Nonparametric Statistics (New York: McGraw-Hill Inc., 1956), p. 199.

⁹Ibid., p. 196.

The statistical results are presented in adaptive behavior levels and then statistically analyzed for the pre-admittance, admittance, Adaptive Behavior Rating Sheet, and two year staff re-evaluation levels.

Final results are presented for each age group in the sample by indicating the per cent of each age group which has improved, remained on the same evaluation level, and regressed to a lower evaluation level by PSH&TC standards. Percentages for the total sample are then given to show the percentages of improvement, no change, and regression by PSH&TC professional judgement.

The correlations obtained will determine the success achieved in objectifying the concept of adaptive behavior.

Scattergrams, line graphs, raw numbers, and percentages are used in addition to the correlations for increased description.

Population

This sample, with prior subjective adaptive behavior ratings, represents twenty-one of the thirty-nine clinical types listed in Heber's "Simplified Medical Classification" in the American Journal of Mental Deficiency.

The twenty-one clinical types ranging in chronological age from nine years two months to twenty-one years seven months with thirteen in the eight to twelve group and thirty-nine in the twelve to sixteen group and thirty-eight in the sixteen and over group is considered by the investigator to

be an adequate and sufficiently representative sample for this study.

As stated in Chapter I, not all patients in the sample are first admissions in an institution. Table VII shows the location of all sample patients prior to admittance at PSH&TC.

TABLE VII

LOCATION OF PATIENTS PRIOR
TO ADMITTANCE AT PSH&TC

Number of Patients	Prior Location
38	Home
39	WSH&TC *a
4	BIS *b
1	GIS *c
7	KCRH *d
1	TSH *e

*a	WSH&TC	- Winfield State Hospital and Training Center
*b	BIS	- Boys Industrial School
*c	GIS	- Girls Industrial School
*d	KCRH	- Kansas Children Receiving Home
*e	TSH	- Topeka State Hospital

Since there are no objective studies presently to be found in the available literature on adaptive behavior, the fact that only thirty-eight patients in the sample are institutional first admissions should have no affect on this study. Otherwise, it could be possible for some patients to be affected by training designed specifically to raise their level of adaptive behavior.

Table VIII gives the relationship between the total population at PSH&TC and the study sample. A closer relationship in male-female percentages could not have been attained except by chance or through selective sampling which would have created a biased effect in this study.

TABLE VIII

RELATIONSHIP OF INSTITUTIONAL
POPULATION TO STUDY SAMPLE

	Male	Per Cent	Female	Per Cent	Total
Institutional Population	379	56	293	44	672
Study Sample	63	70	27	30	90

A ratio between the study sample and the one hundred twenty one patients previously mentioned is not considered necessary because its major significance is discussed in the study limitations.

A differential diagnostic description of the sample appears in Appendix C and an explanation of the AAMD simplified medical classification codes represented by the sample is located in Appendix D.

Table IX, page 49, shows those clinical types by AAMD code numbers that improved and regressed between the admission staff evaluation and the routine two year evaluation.

TABLE IX

DIFFERENTIAL DIAGNOSIS FOR PORTIONS OF
SAMPLE THAT IMPROVED AND REGRESSED

AAMD Code Number	Improved	Regressed
12	0	1
31	1	0
32	0	2
33	2	1
34	0	1
42	0	1
47	1	0
49	0	1
51	0	1
61	2	2
62	2	4
64	0	2
69	0	2
79	0	1
81	1	0
82	1	0
84	1	0
89	4	3
	<u>15</u>	<u>22</u>

This improvement and/or regression of certain clinical types will be discussed in Chapter V.

CHAPTER IV

ANALYSIS OF DATA

The following pages present in table form the statistics employed in this study and the statistical results.

The institution is administratively divided into three age groups (8-12, 12-16 and 16 and over). The sample was also divided into these age groups. The age group, to a large extent, determines a patient's educational, treatment, and vocational program in the institution, and an institutional patient's chronological age, as with normals, has a great influence on his interests. The statistical presentations are based on the three separate groups in the sample and finally on the total sample.

In the preparation of the statistical tables, the patients' scores consisted of the total number of plus signs as marked on the Adaptive Behavior Rating Sheet during its administration. The scores were then arranged from highest number of plus signs to the lowest number of plus signs for each age group. The Mean and Standard Deviation was then obtained for each age group to determine the adaptive behavior level of the patient based on the rating sheet.

Since the Adaptive Behavior Rating Sheet has been empirically found to represent the range of abilities and attributes of this institutional population (only two patients scored plus on all forty-five items and no patient scored

zero), the mean score for each chronological age distribution has been used as the middle value of Adaptive Behavior Level III.

This decision to use the Mean as the Median for Adaptive Behavior Levels I to V is further supported by showing a ratio of admittance evaluation levels with the evaluated levels for the whole institutional population.

TABLE X

RATIO OF PERCENTAGES IN AB LEVELS BETWEEN
SAMPLE AND HOSPITAL POPULATION

V	IV	III	II	I	AB Levels
1	38	45	11	5	% of Sample
8	30	33	20	9	% of Hospital Population

The investigator feels that there is a close linear relationship between the two percentage scales. The ratio of percentages occurred by chance in that the study population is a total sample of the hospital population who met selection criteria. Both percentage scales reflect normative data. The lowest relationship of percentages is found in Level III. The only way a closer ratio could be obtained for all levels would be through select sampling, which would have affected the objectivity of this study. Every patient who was physically in the institution during the research time for this thesis

from the original screening list was used in the sample. The exceptions to this have been noted in Chapter III.

Tables XI - XIV show the distribution of the sample in adaptive behavior levels at four stages for the three chronological age groups and for the total sample.

Stage 1 - Pre-admittance levels based on Adaptive Behavior Rating Sheet

Stage 2 - Staff admittance Adaptive Behavior Levels

Stage 3 - Objective Adaptive Behavior Rating Sheet Levels

Stage 4 - Staff routine two year re-evaluations

Establishment of the Adaptive Behavior Rating Sheet levels involves the following data:

In the 8-12 group, the Number is 13, the Mean 31, and the Standard Deviation 3.10.

In the 12-16 group, the Number is 39, the Mean 28, and the Standard Deviation 4.21.

In the 16-over group, the Number is 38, the Mean 31, and the Standard Deviation 3.78.

The distributions are then presented in the form of scattergrams in Table XV for more descriptive information.

TABLE XI

DISTRIBUTION OF SAMPLE BY ADAPTIVE
BEHAVIOR LEVELS AT FOUR STAGES
8-12 CHRONOLOGICAL AGE GROUP

Pre-admittance Adaptive Behavior Levels (AB Rating Sheet)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
	5	7	1		Number of Patients

Admittance Adaptive Behavior Levels (Staff ratings)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
	4	7	2		Number of Patients

Objective Adaptive Behavior Levels (AB Rating Sheet)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
3		4	5	1	Number of Patients

Routine Two Year Evaluations (Staff ratings)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
2	1	7	3		Number of Patients

TABLE XII

DISTRIBUTION OF SAMPLE BY ADAPTIVE
BEHAVIOR LEVELS AT FOUR STAGES
12-16 CHRONOLOGICAL AGE GROUP

Pre-admittance Adaptive Behavior Levels (AB Rating Sheets)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
1	21	13	3	1	Number of Patients

Admittance Adaptive Behavior Levels (Staff ratings)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
1	16	17	4	1	Number of Patients

Objective Adaptive Behavior Levels (AB Rating Sheet)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
5	4	17	11	2	Number of Patients

Routine Two Year Evaluations (Staff ratings)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
5	14	12	6	2	Number of Patients

TABLE XIII

DISTRIBUTION OF SAMPLE BY ADAPTIVE BEHAVIOR LEVELS
AT FOUR STAGES 16-over CHRONOLOGICAL AGE GROUP

Pre-admittance Adaptive Behavior Levels (AB Rating Sheet)

V	IV	III	II	I	Adaptive Behavior Levels
2	19	10	4	3	Number of Patients

Admittance Adaptive Behavior Levels (Staff ratings)

V	IV	III	II	I	Adaptive Behavior Levels
	14	15	5	4	Number of Patients

Objective Adaptive Behavior Levels (AB Rating Sheet)

V	IV	III	II	I	Adaptive Behavior Levels
6	4	14	8	6	Number of Patients

Routine Two Year Evaluations (Staff ratings)

V	IV	III	II	I	Adaptive Behavior Levels
6	10	11	7	4	Number of Patients

TABLE XIV

DISTRIBUTION OF SAMPLE BY ADAPTIVE
BEHAVIOR LEVELS FOR TOTAL SAMPLE

Pre-admittance Adaptive Behavior Levels (AB Rating Sheet)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
3	45	30	8	4	Number of Patients

Admittance Adaptive Behavior Levels (Staff ratings)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
1	34	39	11	5	Number of Patients

Objective Adaptive Behavior Levels (AB Rating Sheet)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
14	8	35	24	9	Number of Patients

Routine Two Year Evaluations (Staff ratings)

<u>V</u>	<u>IV</u>	<u>III</u>	<u>II</u>	<u>I</u>	Adaptive Behavior Levels
13	25	30	16	6	Number of Patients

TABLE XV

SCATTERGRAMS OF ADAPTIVE BEHAVIOR
LEVELS AT FOUR STAGES#1 PSH&TC
Admission
Evaluations

V				1	
IV				31	3
III			26	13	
II		7	4		
I	4	1			
	I	II	III	IV	V

Pre-admission evaluations
based on Adaptive Behavior
Rating Sheet#2 PSH&TC
Admission
Evaluations

V					1
IV		2	14	6	12
III	1	16	19	2	1
II	4	5	2		
I	4	1			
	I	II	III	IV	V

Adaptive Behavior
Rating Sheet#3 PSH&TC
Two Year
Evaluations

V					13
IV		1	15	8	1
III		10	20		
II	4	12			
I	5	1			
	I	II	III	IV	V

Adaptive Behavior
Rating Sheet#4 PSH&TC
Admission
Evaluations

V					1
IV			5	18	11
III	1	8	23	6	1
II	1	7	2	1	
I	4	1			
	I	II	III	IV	V

PSH&TC Two Year
Evaluations

The first and third scattergrams in Table XV where there is no time interval involved in comparing two frequencies show good linear correlation. Scattergrams numbered two and four which compare frequencies given at intervals of time two years apart do not show as good linear correlations.

The scattergrams yield the following descriptive information:

Scattergram #1 - 68 patients are on the same level, one patient is one level lower by PSH&TC standards than on the rating sheet, and twenty-one patients are one level higher by PSH&TC standards than on the rating sheet.

Scattergram #2 - 35 patients are on the same level, thirty-four patients are one level lower by PSH&TC standards than on the rating sheet, three patients are two levels lower by PSH&TC standards than on the rating sheet, seventeen patients are one level higher by PSH&TC standards than on the rating sheet, and one patient is two levels higher by PSH&TC standards than by the rating sheet.

Scattergram #3 - 58 patients are on the same level, twenty-nine are one level lower by PSH&TC standards than on the rating sheet, one patient is two levels lower by PSH&TC standards than on the rating sheet, and two patients are one level higher by PSH&TC standards than on the rating sheet.

Since it is with the correlation between the PSH&TC two year evaluations and the Adaptive Behavior Rating Sheet that the specific problem of this study is concerned, one must conclude that fifty-eight out of ninety patients indicates good linear correlation. For those patients not on the same level, it is evident that the rating sheet tends to score higher than the

PSH&TC subjective ratings. There is only one case in which the difference in adaptive behavior levels is more than one level.

Scattergram #4 - shows the amount of change over a two year period between two PSH&TC ratings. Fifty-three patients are on the same level. Fifteen patients are now on a higher level and twenty-two patients are now on a lower level.

The Contingency Coefficients and their statistical significance for the previously mentioned correlations is presented in Tables XVI - XIX. With the Chi-Square formula presented in twenty-five cells and the degrees of freedom being sixteen, the highest Contingency Coefficient that can be obtained is .89. Therefore, all correlation coefficients would read even higher if the data had been analyzed with the Pearson Product-Moment Coefficient of Correlation.

All Contingency Coefficients are considered to indicate good, positive correlations that are significant at the $>.001$ level of confidence.

The relatively high correlation between the two PSH&TC ratings does not in itself indicate that institutionalization has a great affect on an individual's adaptive behavior. The highest degree of correlation is between the PSH&TC two year evaluations and the Adaptive Behavior Rating Sheet which does support the general hypothesis that the subjective concept of adaptive behavior does lend itself to objectification.

The investigator analyzes changes in adaptive behavior in the following manner--a change, either up or down, is to

TABLE XVI

SIGNIFICANCE OF VARIANCE LEVELS
OF ADAPTIVE BEHAVIORPre-admission evaluations based on
Adaptive Behavior Rating Sheet

PSH&TC Admission Levels	V 1	$\frac{4}{90}$	$\frac{8}{90}$	$\frac{30}{90}$	1	$\frac{45}{90}$	$\frac{3}{90}$
	IV 34	$\frac{136}{90}$	$\frac{272}{90}$	$\frac{1020}{90}$	31	$\frac{1530}{90}$	$\frac{102}{90}$
	III 39	$\frac{156}{90}$	$\frac{312}{90}$	$\frac{1170}{90}$	26	13	$\frac{1755}{90}$
	II 11	$\frac{44}{90}$	7	$\frac{88}{90}$	4	$\frac{330}{90}$	$\frac{495}{90}$
	I 5	4	1	$\frac{20}{90}$	$\frac{40}{90}$	$\frac{150}{90}$	$\frac{225}{90}$
		I	II	III	IV	V	

$$\chi^2 = 165.873$$

$$df = 16$$

$$P < .001$$

$$C = .81$$

TABLE XVII

SIGNIFICANCE OF VARIANCE LEVELS
OF ADAPTIVE BEHAVIOR

Adaptive Behavior Rating Sheet

PSH&TC
Admission
Levels

V	1					1
		$\frac{9}{90}$	$\frac{24}{90}$	$\frac{35}{90}$	$\frac{8}{90}$	$\frac{14}{90}$
IV	34		2	14	6	12
		$\frac{306}{90}$	$\frac{816}{90}$	$\frac{1190}{90}$	$\frac{272}{90}$	$\frac{476}{90}$
III	39	1	16	19	2	1
		$\frac{351}{90}$	$\frac{956}{90}$	$\frac{1365}{90}$	$\frac{312}{90}$	$\frac{546}{90}$
II	11	4	5	2		
		$\frac{99}{90}$	$\frac{264}{90}$	$\frac{385}{90}$	$\frac{88}{90}$	$\frac{154}{90}$
I	5	4	1			
		$\frac{45}{90}$	$\frac{120}{90}$	$\frac{175}{90}$	$\frac{40}{90}$	$\frac{70}{90}$
		9	24	35	8	14
		I	II	III	IV	V

$$\chi^2 = 73.472$$

$$df = 16$$

$$P < .001$$

$$C = .67$$

TABLE XVIII

SIGNIFICANCE OF VARIANCE LEVELS
OF ADAPTIVE BEHAVIOR

Adaptive Behavior Rating Sheet

PSH&TC
Two Year V
Evaluations 13

					13
	$\frac{117}{90}$	$\frac{312}{90}$	$\frac{455}{90}$	$\frac{104}{90}$	$\frac{182}{90}$
IV 25		1	15	8	1
	$\frac{225}{90}$	$\frac{600}{90}$	$\frac{875}{90}$	$\frac{200}{90}$	$\frac{350}{90}$
III 30		10	20		
	$\frac{270}{90}$	$\frac{720}{90}$	$\frac{1050}{90}$	$\frac{240}{90}$	$\frac{420}{90}$
II 16	4	12			
	$\frac{144}{90}$	$\frac{384}{90}$	$\frac{560}{90}$	$\frac{128}{90}$	$\frac{224}{90}$
I 6	5	1			
	$\frac{54}{90}$	$\frac{144}{90}$	$\frac{210}{90}$	$\frac{48}{90}$	$\frac{84}{90}$
	9 I	24 II	35 III	8 IV	14 V

$$\chi^2 = 178.761$$

$$df = 16$$

$$P < .001$$

$$C = .82$$

TABLE XIX

SIGNIFICANCE OF VARIANCE LEVELS
OF ADAPTIVE BEHAVIOR

PSH&TC Two Year Evaluations

PSH&TC
Admission V
Evaluations 1

				1	
	$\frac{6}{90}$	$\frac{16}{90}$	$\frac{30}{90}$	$\frac{25}{90}$	$\frac{13}{90}$
IV 34	$\frac{204}{90}$	$\frac{544}{90}$	$\frac{1020}{90}$	$\frac{850}{90}$	$\frac{1112}{90}$
III 39	1 $\frac{234}{90}$	8 $\frac{624}{90}$	23 $\frac{1170}{90}$	6 $\frac{975}{90}$	1 $\frac{507}{90}$
II 11	1 $\frac{66}{90}$	7 $\frac{176}{90}$	2 $\frac{330}{90}$	1 $\frac{275}{90}$	$\frac{143}{90}$
I 5	$\frac{30}{90}$	$\frac{80}{90}$	$\frac{150}{90}$	$\frac{125}{90}$	$\frac{65}{90}$
	6 I	16 II	30 III	25 IV	13 V

$\chi^2 = 108.843$

df = 16

P = .001

C = .74

be expected due to a change of physical environment and personal contact. The increase in adaptive behavior is attributed to the professional clinical treatment and training that the institution provides. Regression in adaptive behavior may certainly be attributed in part to a failure to meet institutional goals with certain patients. Regression, however, must be considered inevitable with our present knowledge for those patients whose prognosis involves a progressive deterioration.

By examining Scattergram #4 in Table XV, the reader will find that fifty-three of the sample's ninety patients have the same two year re-evaluation level as their admittance evaluation level. This, on the surface, seems to indicate that there has been no change in these fifty-three patients after two years in the institution. According to Ieland, it is quite possible for a patient to change up or down and still remain in the same level. Slight improvement can be considered good improvement and slight regression can be considered major regression for some patients. This type of change, however, is not within the scope of this study. The above mentioned is commented on here only for clarity. It seems reasonable to the investigator that the downward change for some patients is to be expected due to a variety of treatment and training programs having different goals and to exogeneous factors beyond the control of the institution.

Table XX gives the final results in changes in adaptive

behavior from admission to the PSH&TC two year re-evaluations in relationship with measured intelligence.

TABLE XX

RELATIONSHIP OF MEASURED INTELLIGENCE TO CHANGE
IN ADAPTIVE BEHAVIOR LEVELS FROM ADMISSION
TO TWO YEAR EVALUATIONS

MI Levels	N	Adaptive Behavior Levels		
		N Improved	N Same Level	N Regressed
I	3	0	3	0
II	17	3	12	2
III	28	11	14	3
IV	21	1	12	8
V	21	0	12	9
		<u>15</u>	<u>53</u>	<u>22</u>

17% Improved
59% Same Level
24% Regressed

There is another factor to consider in the final results of the general problem that Table XX does not reflect. Of the fifty-three patients that are on the same adaptive behavior level, eighteen are considered by the staff to have shown improvement within their adaptive behavior level and some of these are being considered for a higher program change.

Table XX indicates that in this one study, those patients in Measured Intelligence Level III show the greatest chance for improvement in adaptive behavior. Those patients in Measured Intelligence Levels IV and V show regression in adaptive behavior.

CHAPTER V

SUMMARY AND CONCLUSIONS

As stated in Chapter I, the general problem of this study is defined as an attempt to measure the effect of institutionalization upon an individual's adaptive behavior. The effort applied in this study has represented an attempt to determine the amount of generalized improvement or regression of known mentally subnormal individuals following institutionalization at the Parsons State Hospital and Training Center at Parsons, Kansas. The investigator feels that one aspect of this objective has been accomplished by showing the number and per cent of those patients who have advanced to a higher level of adaptive behavior or who have regressed to a lower level. The amount of improvement or regression is defined by the institutional definition of the Adaptive Behavior Levels employed at Parsons.

The specific problem of objectifying the subjective concept of adaptive behavior has been approached through the development, administration, statistical reduction of data, and correlation of the Adaptive Behavior Rating Sheet.

Review of Scope and Limitations

The scope of this problem includes one experimentally observed group of mentally subnormal patients with an N of ninety. The entire sample consisted of first admission patients for PSH&TC who had been institutionalized at the

Parsons State Hospital and Training Center for approximately two years as of July 1, 1961.

The limitations of this study include: (1) An N of ninety patients in the sample from one hospital in Southeast Kansas. (2) The sample is restricted to patients that were in the institution during the summer of 1961. This limitation may have affected the results of this study because more able patients are apt to be the ones on summer vacation, if the institution feels that a home visit will be beneficial. (3) Another limitation is the chronological age range of six to twenty-one. This administrative limitation should be considered minimal in effect since a differential diagnosis in the area of mental subnormality will usually be accomplished more readily with younger people. (4) The greatest limitation is the subjective nature of this study. Since this study is concerned with human behavior, some subjectivity must be included as a limitation. Behavioral experimentation cannot be as specific or intuition free as laboratory experimentation. For this reason, one can be overly cautious in the conclusions of a behavioral study.

Leland¹ stated that for the last three years adaptive behavior has been subjectively studied in various parts of this country. Since these studies have been too subjective, there has been no basis for assigned adaptive behavior levels.

¹H. Leland, "New Trends in Nursing the Mentally Retarded," Part I, Division of Institutional Management, Kansas State Board of Social Welfare, Topeka, Kansas, p. 8. (Mimeographed.)

Leland also mentioned in this seminar that after a point, the concept of Intelligence Quotient does not tell us what a person can or cannot do. Many first admissions to institutions are referred without prior psychological evaluations and are sent to the institutions mainly on the basis of their adaptive behavior or complete lack of adaptive behavior in the community.

While the main usage of the Intelligence Quotient concept centers around the area of prediction, Adaptive Behavior, with its emphasis on individual functioning, individual responsibility, and social responsibility, finds its main usage in the areas of prediction, rehabilitation, and training.

To approach an individual patient from the concept of adaptive behavior rather than from the concept of measured intelligence appears to be the better approach for increasing the invisibility of the mal-adapted deviant. This point was stressed at the South Central Regional Conference of the American Association on Mental Deficiency held at Topeka, Kansas, on November 16 and 17, 1962.

Thus, an institutional study to objectify and measure the effect of institutionalization on adaptive behavior is considered by the investigator to be appropriate.

Summary of Findings

Table XX, page 66, shows that seventeen per cent of the

sample showed improvement by being placed on a higher adaptive behavior level after approximately two years of institutionalization at PSH&TC, fifty-nine per cent remained on the same level, and twenty-four per cent showed regression by being placed on a lower adaptive behavior level. This variance between admittance adaptive behavior levels and the PSH&TC two year re-evaluations was found to be statistically significant at the $<.001$ level of confidence.

Table XX also indicates that those patients in Measured Intelligence Level III are more able to improve in their adaptive behavior as the result of institutionalization than are those patients in Measured Intelligence Levels I and II. Measured Intelligence Levels IV and V show regression in adaptive behavior. Since this rating sheet has not been administered to a comparable group of individuals outside of an institution, it cannot be said unequivocally that institutionalization per se was responsible for these observed changes. Should this fact be proven through future research, then it could be said that the lowest Measured Intelligence Levels are unable to exhibit much ability in adaptation or that possibly the institution used in this study might desire to re-examine its programming procedures for Measured Intelligence Levels IV and V. However, these are the lowest level patients in the institution and much improvement is not to be anticipated. It appears from this pilot study that the institution is most effective with

MI Level III patients. PSH&TC program goals and procedures should probably receive the most appraisal for MI Levels I and II.

Table IX, page 49, indicates that with this particular sample, the staff at PSH&TC has been most effective in raising the adaptive behavior levels for familial clinical types.

Those clinical types showing only regression include Phenylketonuria, congenital cerebral defects, and encephalopathies associated with structural reaction manifestations, postnatal injuries, and metabolic or nutritional disorders.

These examples of regression could be eliminated through selective admission policies involving clinical types having a poor prognosis, but this would obviate one of the institution's functions, that of nursing care and personal management. This type of institutional selection could be accomplished only if the custodial patients were segregated in pediatric oriented institutions, which might be better equipped to care for their needs.

Results concerning the general problem indicate that institutionalization has a relatively small effect on adaptive behavior. However, too many variables exist to suggest that these results are conclusive. One artifact in staff re-evaluations is the tendency of a staff member to lean rather heavily on the previous ratings. Many of the patients who were on home visit and therefore were excluded from the sample, are

those patients who display good or improved adaptive behavior. It is not within the scope of this study to include a measure of comparable patients outside of the institution. This type of measure would be most difficult in that the standards for adaptive behavior vary from community to community. On the surface, it appears that institutionalized patients exhibit poorer adaptive behavior than those mentally subnormal individuals that are not institutionalized. A comparison of the PSH&TC population with the mentally subnormal in any given community would probably show that the institution's population is less mobile, more homogeneous, more structured and has fewer social pressures with which to contend.

Conclusions

Leland has stated in the previously cited reference on page 68 that the concept of adaptive behavior is being explored because there exists a feeling among professional psychologists that the concept of Intelligence Quotient is too restricted and implies too much irreversibility for treatment and training programs. It was also pointed out that little gain will be made in the study of this new concept until it has received some objectification and standardization.

The general hypothesis that the subjective concept of adaptive behavior lends itself to objectification is accepted at the $>.001$ level of confidence. The Contingency Correlation between the subjective PSH&TC two year evaluations and the objective Adaptive Behavior Rating Sheet is .82.

At the present time, the Adaptive Behavior Rating Sheet is a non-validated instrument having only face validity and good correlation with subjective ratings.

The investigator is hopeful that other investigators will find this study worthy of further evaluation, refinement and revision if necessary, and repeated administration.

The positive correlations, which were statistically significant, obtained in this study warrants further work in objectifying the concept of adaptive behavior.

Recommendations

First, that further correlation studies be conducted under experimental conditions between the Adaptive Behavior Rating Sheet and clinically subjective ratings. Mere repetitions of an objective scale with the same sample would have no outside criteria and would yield only reliability information.

Second, that the Adaptive Behavior Rating Sheet be continually re-standardized until it encompasses the range of local considerations in the concept of adaptive behavior. This recommendation would make the rating sheet more useful for the staff at PSH&TC. It is postulated, however, that the Adaptive Behavior Rating Sheet is not restricted to use in this one institution. By using the mean and standard deviation methods, one scale when found to be empirically valid could be utilized in different institutions or commun-

ities which may have different requirements for an individual's adaptation.

Third, that other researchers be encouraged to study and explore the possibilities of the concept of adaptive behavior being useful in the areas of institutional treatment and training programs, special education, and vocational rehabilitation.

Adaptive behavior evidences promise as a new dimension for classification of the mentally retarded as proposed by Heber through observations of changes in adaptation of the mentally subnormal.

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APPENDIX

APPENDIX A

ADAPTIVE BEHAVIOR RATING SHEET

+ or 0

Name - Case Number -
Cottage - Birth Date - CA -
Admission Date - Length of Institutionalization -
Location prior to PSH & TC -
Pre Evaluation Level - Admission Evaluation Level -
MI - Post Evaluation Level -
Total number of +'s -

1. Patient appeared for interview alone
 2. Attempt at speech - single words
 3. Speech - talks in short sentences
 4. Patient has recognizable communication
 5. Patient shows signs of appropriate emotion
 6. Patient does not drool
 7. Facies is not overly sad or gay
 8. Recognize familiar object - man's hat
 9. Response to commands - man's hat
 10. Marks with pencil or crayon -
 11. Does simple creative work -
 12. Can write or print some words -
 13. Can write or print a sentence -
- "Make me a picture."
"Write your name."
"Write a sentence about what you have done this summer."

14. Cuts with scissors
15. Patient can read simple words
16. Uses names of familiar objects - 3 toys
17. Grasps objects within reach - toys
18. Initiates own play activities - toys
19. Patient unwraps a piece of candy
20. Uses tools or utensils - hammer, nail, and board
21. Disavows literal Santa Claus
22. Tells time to the hour clock - hand set
(2:00 and 2:15)
23. Tells time to the quarter hour
24. Feeds self with spoon
25. Feeds self with fork
26. Gets drink unassisted
27. Cares for self at table
28. Cares for self at toilet
29. Dresses self except for tying
30. Exercises complete care of dress
31. Bathes self unassisted
32. Combs or brushes hair
33. Performs responsible routine chores
34. Makes minor purchases
35. Plays with other children
36. Plays competitive exercise games
37. No sexual disturbances noted

Cottage Aides
Recreation
Supervisors
and/or Files

38. Walks up and down stairs one step per tread unassisted
39. Patient remained relatively still during interview
40. Patient does not make non-productive movements
41. Inappropriate laughter is controlled by the patient
42. Patient shows appropriate restraint in expressing hostility
43. Patient can experience normal relaxation
44. Patient does not show a startle reaction
45. Patient is neither withdrawn or aggressive

APPENDIX B

SOURCES OF INDIVIDUAL ITEMS ADAPTIVE BEHAVIOR RATING SHEET

Item Number	Vineland	Evans	Leland
	2	39	1
	3	40	4
	6	41	5
	8	42	7
	9	43	13
	10	44	37
	11	45	
	12		
	14		
	15		
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	36		
	38		

APPENDIX C

AAMD DIAGNOSTIC DESCRIPTION OF SAMPLE

8-12 Group

Patient Number	Chronological Age	AAMD Code Number
1	9-2	62-51
2	9-7	81-51
3	9-8	79
4	10-0	62.5-10-29-3x-40-50-6x
5	10-1	32-33
6	10-3	42-12-2x-30-40-50-6x
7	10-4	89
8	10-5	89-10-20-30-40-5x-60
9	10-6	61
10	10-8	61.x-10-20-34-40-52-60
11	11-3	81-51
12	11-7	32-10-20-34-4x-50-6x
13	11-8	61

12-16 Group

14	12-5	32-10-20-30-44-53-60
15	12-9	11.x-10-20-30-40-53-60
16	12-9	32-68.2
17	12-10	64-10-20-30-40-50-60
18	12-11	89

12-16 Group (continued)

Patient Number	Chronological Age	AAMD Code Number
19	12-11	31-10-20-30-40-5x-60
20	12-11	61x-12-2-53
21	13-0	62-04
22	13-3	52
23	13-6	69-1x-2x-30-40-53-60
24	13-6	62
25	13-6	62-5-10-20-30-40-52-60
26	13-7	61
27	13-7	32-10-20-30-44-51-60
28	13-8	64
29	13-9	61-51
30	13-9	69-4x-53
31	13-10	33-44-52
32	13-11	62-10-20-30-40-53-60
33	14-0	89-10-20-30-40-50-68-50
34	14-0	61-x-10-20-34-40-53-60
35	14-2	12-3x4-1
36	14-3	62-1x-20-30-46-53-60
37	14-3	12x-10-20-30-40-51-60
38	14-3	61-9
39	14-3	89-10-20-30-44-53-60

12-16 Group (continued)

Patient Number	Chronological Age	AAMD Code Number
40	14-3	34.x-10-2x-30-40-53-60
41	14-3	62-10-20-30-40-52-68.42
42	14-4	81-10-20-30-40-51-60
43	14-6	64-1x-20-30-40-50-60
44	14-8	64-1x-20-30-40-50-60
45	14-9	89
46	14-11	89-10-2x-30-40-50-60
47	15-6	81-1x-22-34-40-50-6x
48	15-7	64-1x-20-30-40-50-60
49	15-10	64
50	15-10	79-10-2x-30-4x-51-60
51	15-11	64-1x-20-30-40-51-60
52	15-11	89

16-over Group

53	16-0	32-10-29-30-40-53-60
54	16-1	83-6x
55	16-3	64-1x-20-30-40-52-60
56	16-5	47-10-20-30-40-50-60
57	16-6	81-10-20-30-40-51-60
58	16-7	82-10-20-30-40-5x-60
59	16-7	62.5-10-2x-30-4x-51.60

16-over Group (continued)

Patient Number	Chronological Age	AAMD Code Number
60	16-8	89 (12.2-1)
61	16-9	12.4x-44-51
62	16-9	64-1x-20-30-40-50-60
63	16-9	89-52
64	16-10	82-83
65	16-10	51
66	17-8	62
67	17-11	68-5
68	18-1	61.4-5
69	18-3	64.5x
70	18-4	84-10-20-30-44-53-60
71	18-4	89-1x-29-30-40-53-60
72	18-8	89-10-2x-30-40-3x-60
73	18-8	64-1x-20-33-40-50-6x
74	18-9	33-10-29
75	18-10	84-10-21-30-40-53-60
76	18-10	64-1x-20-30-40-50-60
77	19-1	69-10-20-30-4x-51-60
78	19-4	11.3-44-52
79	19-4	12.1-10-20-30-44-53-60
80	19-6	89-10-20-30-40-5x-60

16-over Group (continued)

Patient Number	Chronological Age	AAMD Code Number
81	19-6	12.2-10-20-30-40-50-60
82	19-6	33-53
83	19-6	89-51
84	19-9	89-10-20-30-40-50-60
85	19-11	49-52
86	20-4	62-13
87	20-6	62-10-20-3x-40-51-60
88	20-7	62-10-20-40-50-60
89	21-5	69-53
90	21-7	64-1x-20-30-40-50-60

APPENDIX D

Differential diagnostic description of sample based on
AAMD Simplified Medical Classification:

Code	Description
11	Encephalopathy congenital, associated with prenatal infection
12	Encephalopathy due to postnatal cerebral infection
31	Encephalopathy due to prenatal injury
32	Encephalopathy due to mechanical injury at birth
33	Encephalopathy due to anoxemia at birth
34	Encephalopathy due to postnatal injury
42	Phenylketonuria
47	Hypothyroidism
49	Encephalopathy, other, due to metabolic, growth, or nutritional disorder
51	Neurofibromatosis (Von Recklinghausen's disease)
52	Trigeminal cerebral angiomas (Sturge-Weber-Dimitri's disease)
61	Cerebral defect, congenital
62	Cerebral defect, congenital, associated with primary cranial anomaly
64	Mongolism
69	Other, due to unknown prenatal influence
79	Encephalopathy, other, due to unknown or uncertain cause with the structural reactions manifest

Code	Description
81	Cultural-familial mental retardation
82	Psychogenic mental retardation associated with environmental deprivation
83	Psychogenic mental retardation associated with emotional disturbance
84	Mental retardation associated with psychotic (or major personality) disorder
89	Mental retardation, other, due to uncertain cause with the functional reaction alone manifest

