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Sociological analysis of participative experiences relating to adjustment of institutionalized mental defectives and epileptics

Charles S. Chandler

Iowa State College

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UMI®
Sociological Analysis of Participative Experiences Relating to Adjustment of Institutionalized Mental Defectives and Epileptics

by

Charles S. Chandler

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of The Requirements for the Degree of Doctor of Philosophy

Major Subjects: Rural Sociology

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1955
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INTRODUCTION

In this era of governmental programs for rehabilitation of handicapped persons, mental deficiency has only recently begun to receive nation-wide attention. To date, there is no federal legislation regarding mental deficiency but the philosophy of individual state institutions throughout the country has been steadily changing from one of custodial care to training for community social and occupational adjustment. Institutionalized epileptics have only recently been given much hope for rehabilitation. Numerous institutions have reported the effects of their training programs as evidenced by the number of patients returned to society. Institutions with active Social Service Departments have placed many of the more capable patients on jobs and have supervised their activities prior to final release. Other patients have been returned to their own homes or placed in substitute homes under supervision of interested parties. Still others have been placed in colonies and sheltered workshops. Many of the latter have been incapable of total self-support but did not require intensive institutional supervision. Follow-up studies have demonstrated the effectiveness of such rehabilitative measures.

The impetus for this program of rehabilitation has come, in part, from the need for more space in institutions caused by an increasing number of admissions and a longer life span for institutional patients.
In addition, the placement of mental defectives and epileptics has progressed in accordance with a more general change in philosophy of rehabilitation of handicapped persons.

Prior to a decade ago, however, the cardinal emphasis was on training for personal growth rather than for placement. The literature of former years abounds with articles describing the founding of educational and social programs designed to develop the individual to the maximum of his capacity. The confusion seemed to be in knowing just what the maximum capacity of an individual might be. These programs took on a much greater air of respectability after the advent of certain psychological tests provided the basis for distinguishing between "low-grade" and "high-grade" defectives.

Many years later, when it was found that a number of patients who had been released from institutions were making satisfactory adjustments outside institutions, authorities further refined their classification system to include three major types of patients: those who could not benefit from training and who required continued custodial care, those who could be trained to perform useful tasks under controlled conditions within the institution, and those who could adapt themselves to society after the necessary education and training.

When it was realized that institutions could relieve their overcrowded conditions by releasing the latter group, social service workers were called upon to try their hands at being placement officers. Due to increasing employment opportunities prior to and during World War II, many of the more capable patients were placed and numerous articles again
appeared explaining, in detail, institutional educational and vocational programs designed, at that time, to prepare patients for return to the community. Some of the institutions apparently did not change their training programs materially but merely modified their emphasis by adding a heretofore de-emphasized goal: rehabilitation. Others selected for particular attention in their training programs only those patients, who the staff felt had strong possibility of being released. A new round of testimonials appeared, written by various institutional personnel, regarding the effectiveness of their developmental programs. The proof seemed to lie in the number of patients placed. Institutions originating the placement procedure earliest, and therefore having the greatest number discharged, seemed to be the most dogmatic in their claims of having "the" program for training for release. Numerous authors also described the methods whereby patients were assisted in their adjustment to self-supporting and self-directing status. Several attempted to determine characteristics possessed by those who succeeded and those who failed. Although additional analyses need be made regarding criteria for release, placement procedures, and employment opportunities, the general subject of adjustment at this critical time of institutional release has been quite thoroughly explored.

Two obvious voids appear, however, as one reviews the major periods of institutional program development. Although many commendable studies have been made regarding adjustment to society from the institution, little attention has been paid to adjustment to the institution from society. In addition, there have been no scientific evaluations of the relative merits of the numerous training methods and techniques proposed.
Herein lies an opportunity for the sociologist to contribute to the field of mental deficiency. Mendelsohn, realizing an opportunity for research, has stated:¹

Sociologists have recognized the existence of mental deficiency, but for the most part have not concerned themselves with it other than taking into account its presence as one of the many "social problems" that abound in our society. Yet, there are many aspects of the mental deficiency phenomenon which fall directly into the sociologist's bailiwick.

Although it is the educator's place to evaluate specific teaching methods, the writer is concerned with analyses of relationships between total adjustment and the broad experiential areas of group life affecting it. Patient adjustment may be considered the integration of the individual's total personality with the institutional participative experiences acting upon it.² The academic program, as an example, may be considered only one of these areas affecting adjustment. This view of adjustment provides a framework from which the sociologist may approach the problem of discerning which participative experiences are most closely related to institutional adjustment.


²Throughout this thesis, the writer used the terms institutional adjustment, personal adjustment to the institution, and patient adjustment synonymously. The view of adjustment expressed seems sufficiently all-encompassing to warrant this use of the terms. It is recognized that institutional programs are continually being "adjusted" to patients' needs. As sufficiently large numbers are admitted who possess needs different from those being provided for, departmental programs and emphases are modified. Analyses made in this thesis, however, have emphasized the aspect of personal adjustment to the institution.
Patients at the Woodward State Hospital, having been uprooted from their home communities and placed in an entirely new social milieu, are confronted with the task of adjusting to the new environment. Upon admission, they are of varying ages, mental levels, and physical conditions. They have had different home backgrounds, school experiences, and community relationships. Yet each patient is required to adapt himself, to a greater or lesser degree, to the institutional power system and to individuals within the system. This may be no easy task for the defective. He very likely has previously demonstrated his incapability of adapting himself to his environment or to the requirements of the community in such a manner as to become capable of maintaining existence independently of supervision or external support.

Throughout their stay in the hospital, patients participate in various activities which play their part in modifying behavior and affecting their adjustment to the institution. The staff tries to effect satisfactory patient adjustment by modifying patients' reactions to rules and controls. An attempt is made to change patients' concepts of their roles and status through directed participation in formal and informal group activities. Before patients may be released from the hospital, it is necessary that they be trained to act in accordance with societal expectations.

Although the Woodward Hospital administration feels its training program compares favorably with those of other institutions, it recognizes that the relative influence of these group experiences and early background experiences on patient adjustment and achievement is not known. Heretofore, the determination of which participative experiences have a
definite relationship to institutional adjustment has been made primarily on a conjectural basis. The philosophy of participation prevailing in many institutions has led to the practice of providing as great a variety of activities for each patient as possible. Institutional personnel have assumed that all organized participative activities were beneficial to patients. This assumption has been made without consideration of whether or not objective data concerning the matter were available.

The cardinal purpose of this study is to determine if factors relating to adjustment of institutionalized mental defectives and epileptics can be selected by more objective methods. Determination of which areas of participative achievement are found to be significantly related to institutional adjustment might provide the hospital administration with the basis for establishing an organized program with proven values for controlling and directing patient behavior and adjustment.

A secondary objective of this study is to determine if participative achievement in hospital activities can be prognosticated from data regarding pre-institutional experiences. Studies made heretofore have mentioned the relationship between individual characteristics previous to hospitalization and total achievement or adjustment. An attempt has been made in this study to weigh each such experience in accordance with a staff estimate of its relative influence on participative achievement and to combine these values into a comparative prognostic evaluation of the individual's achievement potential. An analysis is made to determine the success of this attempt.
To obtain a list of pre-institutional characteristics thought to have some bearing on participative achievement and to gain an indication of which hospital activities may be related to adjustment, a comprehensive review of the literature has been made. The ensuing review of studies relating to achievement and adjustment has been classified into six component areas. Although the sources found seemed to group themselves into these categories, the participative areas comprising the divisions have been selected by a panel of eight staff consultants as the primary experiences influencing patient adjustment and achievement. These areas were selected after the staff had reviewed excerpts from a portion of the literature cited.
REVIEW OF LITERATURE

To provide a substantial foundation for the present study, the writer presents a review of the literature relating to two general areas of concern. The first section provides the historical and theoretical bases for the development of American scientific evaluation of institutionalized defectives and epileptics. It shows the vacillating program philosophies found in this movement from its formative years to present day and demonstrates the dearth of objective information regarding patient adjustment. This provides an approach to the second portion of the review which includes studies regarding indicators of adjustment, participative achievement, and their inter-relationships.

Development of American Scientific Evaluation of Institutionalized Defectives and Epileptics

References to the history of mental deficiency frequently begin with the account of Dr. Jean Marc Gaspard Itard and the "savage of Aveyron." American institutional practices developed from Itard's endeavors. For it was in the year 1798 that Itard, a French otologist, began training a child who had been found running naked, feeding upon the fruits of the forest, and living like an animal. After being captured, it was found that he had no facility for speech, walked on all fours, behaved like an animal, and gave little indication of human-type intelligence. Descriptions
of the boy's condition and Itard's method of teaching have been given by Davies, Seguin, and Newry. Itard continued his work with this boy in Paris for approximately five years. Although Itard's achievements did not reach his expectations, there appeared concrete evidence of progress. The publication of his reports of 1801 and 1806 mark the beginning of scientific literature in the field of mental deficiency.

Dr. Edouard Seguin, a student of Itard, became the link between these early beginnings and American development of institutions for the mentally defective. Improving upon Itard's methods, Seguin established the first successful school for the retarded in Paris in 1837. His monumental work, The Moral Treatment, Hygiene, and Education of Idiots and Other Backward Children, published in 1846, has been recognized as a classic in the literature on mental deficiency. This book became the guidebook for those who established the first American institutions just as his companion volume, Idiocy: and Its Treatment by the Physiological Method, became the textbook for those institutions established after 1866. As Storrs pointed out, physicians, educators, and psychologists from many countries went to Paris, studied, observed, and went home to

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start similar schools.

Davies¹ has stated that by this time in America, many states had developed institutions for the blind, deaf-mutes, and insane but the feeble-minded who had no families to care for them were housed only in almshouses and jails. Several early attempts had been made to teach mentally defective children in the institutions for the blind and deaf by Dr. Samuel G. Howe, Director of the Perkins Institute for the Blind in Boston. The first private school for the education of idiots* in this country was established July, 1848, in the home of Dr. Harvey B. Wilbur, Barre, Massachusetts, after he had thoroughly examined the works of Dr. Seguin.**

Legislative action in this country was first proposed in the state of New York in 1846 when Dr. F. P. Backus gave a report of European schools and introduced a bill for the establishment of asylums for idiots but no action was taken on this proposal until 1851.

By an act of the Massachusetts legislature in 1848, the Massachusetts

¹Davies, op. cit., p. 35.

*It may be noted that the term "idiot" then included all mental defectives. The term "imbecile" referred more to physical than mental characteristics and meant weak, slender, and feeble. The term "moron" was introduced by Goddard in the twentieth century.

**There seems either to be some difference of opinion on this point or one of the historians recording this event is in error. J. E. Newrey states that Dr. George Brown opened his private school at Barre in June, 1848, while S. P. Davies claims that Dr. Harvey B. Wilbur opened his home in Barre in July, 1848, as the first private school in this country for the education of idiots.
School for Idiotic and Feeble-Minded Youth\(^1\) was established in South Boston. This institution, as the others which followed, moved its location several times as larger plots of land were purchased. The school, incorporated April 4, 1850, became the first public institution for mental defectives in America with Dr. Samuel G. Howe as its first superintendent. Dr. Seguin took non-resident charge for two months in 1852, bringing his physiological method of training to the institutional program. Since that time, Dr. Edward Jarvis, Dr. George G. Tarbell, Dr. Asbury G. Smith, and Dr. Walter E. Fernald have guided the institutional program. The institution, now located in Waverly, Massachusetts, has been changed to the Walter E. Fernald State School in honor of Fernald's developmental contributions.

The New York Asylum for Idiots\(^2\) became the second public institution for defectives in America and was established in October, 1851, in a leased house near the capitol city of Albany. Dr. Hervey Wilbur, who had founded the first private school, was selected as the first superintendent and remained in that position for more than thirty years. The institution, now known as the Syracuse State School, was moved to its permanent location in Syracuse in 1855.

\(^1\)Historical notes on institutions for the mentally defective. Amer. J. Ment. Def. 45:340. 1941.

\(^2\)Historical notes on institutions for the mentally defective. Amer. J. Ment. Def. 45:187. 1940.
The Pennsylvania Training School for Idiots and Feeble Minded Children was incorporated as a four-bed private school in April, 1853 and has been privately managed since its beginning but a large portion of the patients admitted there are wards of the Pennsylvania Commonwealth and the City of Philadelphia. The institution, known as the Elwyn Training School since 1926, was founded by James B. Richards, a teacher in Dr. Seguin's school in about 1845 and later a teacher in Dr. Howe's school in Boston. Mr. Richards resigned as superintendent in 1856 and was succeeded by Dr. Seguin, who served for only a few months. The institution was moved to its present site at Elwyn in 1859, a site chosen by Dr. Alfred L. Elwyn, the Rt. Rev. Bishop Potter, and Dorothea Dix, a vociferous promoter of training institutions.

An Ohio legislative commission studied the existing institutions and established one at Columbus in April, 1857.

The 1854 Connecticut legislature appointed Dr. Henry M. Knight and two other legislators to investigate the care of idiots in other states but no action was taken on their report so he opened his home in Lakeville to a few private patients in 1858. The state later sent cases to this school and additions were built. The state took over its operation in 1913, two years before the legislature appropriated funds for a new institution to be built on the land owned by the Connecticut Colony for Epileptics at Mansfield. The combined institution was named The Mansfield

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1Historical notes on institutions for the mentally defective. Amer. J. Ment. Def. 45:341. 1941.
State Training School and Hospital in 1918.\(^1\)

Whitney\(^2\), Davies\(^3\), and Nowrey\(^4\) record the establishment of these first American public institutions for the training of defectives. Each began with a handful of pupils but the demand rapidly grew for more and larger institutions. By 1876, there were twelve schools located in eight states: Massachusetts, New York, Pennsylvania, Ohio, Connecticut, Kentucky, Illinois, and Iowa. With the origin of each came a modification of the original philosophy underlying the care and training of mental defectives.

It should be noted that the original plea for institutions for "idiots" was that, through Dr. Seguin's physiological method of training, these individuals could be restored to normalcy. The object was to provide each pupil with the prescribed training for a few years and return him to his home community. There was no thought given to custodial care. Programs were based on the principle that the defective was not void of intelligence, sensitivity, and will but these merely lay dormant and undeveloped. It was believed that this training period improved the individual's intelligence. Kuhlmann noted some ninety years later:\(^5\)

1Historical notes on institutions for the mentally defective. Amer. J. Ment. Def. 45:340. 1941.


3Davies, op. cit., p. 36.

4Nowrey, op. cit., p. 346.

Of course, they were confusing the acquisition of skill and information with development of intelligence. But let us not judge the experts of 1850 too harshly for this confusion. Many of us think that we are still doing it. And after all, they were only anticipating the Iowa psychologists of 1940.

Not long after the first institutions were established, it was determined that even though many patients made some improvement in muscular development, behavior, self-direction, and occupational skills, the improvement shown was far below that anticipated and more and more of them were not returnable to the community. Thus increasingly higher grade mental defectives were included in the plans for rehabilitative training. Although administrators strenuously objected to the admission of untrainable cases, state institutions soon became filled with custodial care cases.*

By 1875, state schools were making many major adjustments. The program for complete rehabilitation was limited to a smaller group of higher grade pupils and the rest were expected to sit quietly. With the increasing number of custodial care patients, however, those who were not returnable but could be of some service within the institution were soon provided instruction in maintenance duties. For higher mental level patients, the program to improve intelligence was supplanted by one to provide vocational skills although this aspect was little realized and less frequently verbalized.

*Of interest to note is that the advancement of one movement in which Dorothea Dix became interested, the training of the feebleminded, was arrested by another major movement which she instigated, getting children out of jails and almshouses.
Hospitals for epileptics came into being only shortly before the turn of the century. Ohio was the first state to establish an institution solely for their care. This colony, authorized in 1890, was patterned after the one in Bielefeld, Germany. New York founded its first institution of this type three years later. Although legislation had been introduced earlier, New Jersey did not open the third institution in this country until 1898.

It is noteworthy that the only literature regarding institutionalized defectives and epileptics prior to 1900 were the annual reports of the institutions and writings of Dr. Seguin. Although programs were modified as social and political pressures changed the character of the institutions, no formal evaluative measures were attempted. The only other references to mental deficiency during this period before 1900 came from the Neo-Darwinists concerning the hereditary aspects of feeblemindedness. Dugdale's *The Jukes* attempted to emphasize the importance of environment but in reality verified the thinking of most readers regarding the hereditary nature of feeblemindedness.¹

As noted in the Philadelphia Medical Times in 1877, institutional administrators were so immersed in the details of building their physical plants and establishing programs for training defectives that they had no time for evaluation of their efforts. Not until after 1900 did any of the institutions attempt to evaluate the results of their work but, even then, not their methods.

Mathematical evaluation of intellectual functioning provided the foundation for twentieth century research in the area of mental deficiency. A quantitative intelligence scale was developed by Dr. J. Cattell in 1890 but it did not attract as much attention as that which was later received by the Binet tests. Dr. Henry H. Goddard became the director of the newly established Vineland Training School Research Laboratory in 1906 and there experimented with tests developed by Dr. Alfred Binet in Paris. He found them an aid in diagnosis and published the translated works of Binet and his associate, Dr. Simon.¹ A few years later, Terman's revision, the Stanford Scale, provided a much more manageable instrument with its added feature of the intelligence quotient.²

The view that all feebleminded persons should be committed for life gained momentum during the period immediately following 1900. This change in thinking resulted from the numerous surveys of delinquents, paupers, criminals, and known defectives conducted between 1890 and 1915. These surveys, stimulated by more accurate diagnostic measures, emphasized that defectives were sexually promiscuous, married young, produced many children, received an undue proportion of charity funds, and were potential or actual criminals. By 1910, it was almost unanimously agreed among the writers in this field that there were practically no defectives who were not a source of danger to the community.


By 1925, it was almost as unanimously agreed that the majority of high grade defectives did not need to be committed to institutions. This thinking developed following 1915 from such follow-up studies as that conducted by Dr. Fernald, pointing out the many who had made adequate community adjustments. These reports emphasized improvements in vocational fitness, living conditions, and the economic benefit to the state. Goddard\(^1\) had previously produced a study designed to examine the causes of mental deficiency and came to the conclusion that mental deficiency, excluding cases caused by specific trauma or infection, was due to the action of a recessive gene. Hereditary studies were in their infancy at this time and his findings were subjected to much criticism.

It might be noted at this point that educators adapted much of Seguin's methodology for use in the public school programs of special classes during the years following 1920.\(^2\) Although public school personnel were more conscientious in evaluating their methods employed, little attention was paid to their findings by institutional educators. Dr. Charles Berry noted, "There has been much time, money and effort wasted in the education of sub-normal children through failure to recognize clearly the proper aim of education in the case of this type of child."\(^3\)


The years following 1925 saw increased interest in the Colony Plan. Boys had been placed in one farm colony in New York as early as 1882 and the first girl's domestic colony was established in 1914. This program allowed patients to live in smaller units outside the hospital and work for wages on farms or in nearby communities. This provided training which enabled many patients to become self-supporting, thus developed a need for programs for guardianship in the community. The progress of the colony system was impeded by the depression. It developed and gained acceptance only after the economic situation eased. During this period of economic stress, the Family Care Program flourished, whereby certain patients were placed with responsible families who were paid for their care. Dearden pointed out that the World War II boom was responsible for an acceleration of placement programs. Institutional training programs and objectives were in a constant state of flux during this entire period and were molded principally by external conditions.

Between 1940 and the present, numerous articles have been published regarding rehabilitative programs. Any modification of original training


3Harriet M. Dearden. The efforts of residential institutions to meet the problem of job-finding and employment. Amer. J. Ment. Def. 56-296. 1951.
programs, however, seems to have been made on a trial-and-error basis. More frequently, institutional objectives were modified without an accompanying change in training methods. Kinder, Chase, and Buck mentioned in 1941 that the criteria of "a good institution" could no longer include only patient happiness, opportunities for learning, amusement, and physical care when a large number must be prepared for release.

An increased interest occurred around 1940 in the social and emotional adjustment of defectives and its relationship to intelligence and educational achievement. A controversy regarding the relative importance of environment and intelligence in the socialization of men raged for some years, fanned by the volume of environmental studies produced at the Iowa Child Welfare Research Station. A more moderate view has since been taken by Thorpe, Jersild, and Sarason. McCandless has


prepared a comprehensive analysis of this controversy. Hoakley\(^1\) demonstrated the relationship between personal adjustment of mental defectives and rise and fall in intelligence test scores as early as 1932. Despert and Pierce\(^2\) demonstrated the relationship between emotional adjustment and intellectual functioning in the area of play techniques. Projective techniques were used by Sloan,\(^3\) Hackbush and Klopfer,\(^4\) and Jolles\(^5\) to study personality disturbances which constrict mental functioning. Goodman\(^6\) studied retardation in social competence of institutionalized epileptics, using the Vineland Social Maturity Scale, and found them lacking in self-direction but competent in self-help categories. A number of investigators became involved with studies designed to show a positive relationship between mental deficiency and delinquency.\(^7\) They


\(^{4}\)F. Hackbush and Bruno Klopfer. The contributions of projective techniques to the understanding and treatment of children psychometrically diagnosed as feebleminded. Amer. J. Ment. Def. 51:15-34. 1946.

\(^{5}\)Isaac Jolles. A study of mental deficiency by the rozzcach technique. Amer. J. Ment. Def. 52:37-42. 1947.


implied that while many mental defectives are able to function adequately in a free environment, there are many who cannot, the latter becoming delinquent and subsequently institutionalized. In all, a variety of psychological techniques have been employed to study the social adjustment of the mental defective and epileptic but, as Lawrence has said, "Of the total number of studies in this area, only a handful have been conducted with the rigor which we expect from psychological research. . . ."¹

Throughout the current literature on mental deficiency, the development of patients' ability to adjust socially and vocationally outside the hospital has been emphasized.² Several investigators have attempted to determine characteristics possessed by those who succeeded and those who failed on placement. Others have proposed methods whereby patients might be assisted in their adjustment to self-supporting and self-directing status. Many more have outlined theoretical objectives of such programs.

The absence of two areas of interest becomes apparent, however, when one scrutinizes the literature of the present. Apparently none of the institutions has adequately analysed and scientifically evaluated the methods of their present or proposed programs in relation to their objectives, nor, incidentally, have they adequately analyzed their knowledge


of mental deficiency, per se, in relation to these programs. Martens has recognized this situation and stated, "... obviously, one cannot adjust a curriculum to the needs of mentally deficient children without knowing what it is one is adjusting."\(^1\) Gibson and Butler,\(^2\) emphasizing cultural factors, stated that an effective ameliorative program cannot be developed until it is known definitely which environmental forces and combination of forces operate selectively to place some children of borderline and high moron level of intelligence in institutions and allow others to remain out.

Cruickshank\(^3\) has mentioned that very little research in the area of education of the mentally deficient has been done since research staffs were depleted during World War II. Of the published institutional reports, he believes that "Most are merely reports of what is being done within the institution as a part of that institution's normal every-day program of education. The concept of research is completely lacking."\(^4\) Since before World War II, the chief, and many times the only, criterion of an effective training program has been the number of patients released as capable of partial or total self-support. In addition, there have been a number of studies pertaining to the effects of hospital training


\(^4\)Ibid. p. 309.
experiences on the adjustment of patients returning to the community but only a few have been related to evaluation of adjustment within the institution. This latter area has been selected as the object of consideration in this thesis.

Studies Regarding Indicators of Adjustment and Participative Achievement

Numerous writings regarding mental defectives and epileptics deal with the relationship between institutional adjustment and psycho-social experiences, e.g., behavior, achievement, group participative experiences, early life influences, personality characteristics, and motivation. Although comparatively few studies have sought to objectively analyze these relationships, many authors writing in the field of mental deficiency have expressed their views regarding the subject. These views, frequently coming from men who have had years of experience in the field, may provide insights helpful in determining possible indicators of adjustment.

The first three portions of this section will include studies regarding adjustment indicators, i.e., pre-institutional experiences, hospital participative experiences, and general indicators of adjustment. The latter portions will present studies concerning achievement in six component areas of hospital participative experiences, i.e., patient-peer relations, patient-staff relations, education, vocational training, recrea-
tion, and religious training. This division is merely a heuristic device which will aid in preparing the reader for the research which follows. Although the primary emphasis will be on adjustment within the institution, pertinent studies may be mentioned concerning adjustment in other social situations.

Pre-institutional indicators of hospital adjustment

Although primarily speaking of home care for the defective child, several writers have mentioned factors which may later have an effect upon institutional adjustment. Storrs\(^1\) has stated the belief that enrollment in city school ungraded classes prevents much delinquent behavior, therefore it might have an effect upon adjustment to an institution. He also suggested that children be sent to institutions only after every means of rehabilitation have been tried without success.\(^2\) It would seem to the writer that in cases where this procedure had been followed, patterns of delinquent behavior would be more firmly established and thus hinder adjustment to the institution. Shotwell\(^3\) indicated, in her study of high grade defective girls, that the chances of girls becoming emotionally stabilized were enhanced if they were admitted young enough to be entered in the institutional school where the program is geared to their intellectual level and where competition is not as great as in the

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\(^1\)Storrs, op. cit., p. 180

\(^2\)Ibid.

public school. She found that girls who had continually made poor adjustment in school frequently reacted by having temper tantrums, being uncontrollable, being truant from school, running away from home, and becoming sex delinquents.

Hungerford, DeProspo, and Rosenzweig\(^1\) stated that the mentally retarded (defined as high-grade morons and certain borderline cases) are grossly limited in the power of adjustment and no degree of modification of the regular curriculum would provide profitable schooling. They believe the mentally retarded need an entirely different developmental program in either special classes or in institutions. Martin\(^2\) has observed that the retarded child in a regular grade is a very unhappy person and, if continued there, frequently develops anti-social behavior traits due to an unsuccessful struggle with a school program unsuited to his limited capacities and his needs.

Johnson\(^3\) and Bedoian\(^4\) both did methodologically sound sociometric studies on public elementary school pupils designed to measure acceptance and rejection of underage and overage pupils. Their findings agree that


overage pupils (which include the retarded) received the lowest acceptance scores while underage pupils received significantly higher social acceptance scores than either at-age or overage pupils. Johnson concluded that the acceptance scores steadily increased and the rejection scores steadily decreased from group to group as the mean I.Q. of the group increased.¹ He also determined that the mentally defective children were seldom rejected because of low academic ability but because of unacceptable behavior such as fighting, misbehaving, showing off, lying, cheating, and bullying.²

Westwell³ corresponded with many institutional administrators and summarized the feeling that defective delinquents should be cared for in separate institutions from the non-delinquent defective. The responses indicated the lack of adequate treatment for this group with basic personality and social deviations and their effects upon non-delinquent patients. Abel and Humphreys⁴ recommended that the wise thing would be to set up separate psychiatric units in state schools for defectives.

Ordahl, Keyt, and Wright⁵, although using the Vineland Social Maturity Scale in a rather unorthodox manner, found that a number of the higher

¹Johnson, op. cit., p. 85
²Ibid.
⁵George Ordahl, Nellie L. Keyt, and Clare Wright. The social competence of high-grade mental defectives determined by self-report. Amer. J. Ment. Def. 48:367-373. 1944.
grade patients were given more responsibility than they were capable of handling while living at home and indicated that perhaps this was one reason for failure to make an adequate adjustment in that situation.

Shotwell\(^1\) studied the effectiveness of institutional training on 31 high-grade defective girls and found that inadequate social-emotional reactions prohibited many from profiting by institutional schooling and vocational training.

The intelligence of parents was considered by Rautman\(^2\) who believed that defective children coming from retarded parents have a more favorable adjustment prognosis than those coming from homes where parents have a high aspirational level. The latter situation, he believed, results in an atmosphere of continual rejection, misunderstanding, unrealistic demands, and consequent frustration. The degree to which this did occur might have some influence on subsequent adjustment within an institution.

Comparing defective parents of retarded children in the institution with the same type of parents whose children were attending public schools, Dayton\(^3\) observed that certain normal characteristics of the public-school parents compensated for the lack of intelligence to such an extent that the mental defect itself was not conspicuous. He found no such compensating characteristics in parents of the institutional

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1 Shotwell, op. cit., p. 436


children and the defect stood out in relief. The compensating factors he referred to were the areas of social, health, economics, and production. This lack of compensating characteristics could very well influence the value system of the institutionalized child.

Although concerned with military adjustment, Glass\(^1\) determined that prior work and school performance and current freedom from neurotic symptoms were better indicators of adjustment than such items as parental neuroticism, broken homes, and childhood neurotic traits. This would indicate that more recent life experiences played a greater part in an adjustment prognosis than childhood experiences.

Gegenheimer\(^2\) did not mention differential adjustments within the hospital but indicated that defectives frequently form the habit of drifting in early work life thus losing their sense of security. This, she observed, is true of those who leave public school special classes while still too young to adequately compete in many vocational situations. This pattern of instability might influence adjustment of those who have been institutionalized after gaining adult status.

Doll\(^3\) analyzed the relationship between Social Age, Life Age, Mental Age, and Paternal Occupation for institutionalized groups of defectives of all mental levels whose Life Ages were under 14 years, 14 to 24 years,

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and 25 years and over. Since there was no reason to expect a significant correlation between Life Age and Paternal Occupation, the \(-.30\) coefficient obtained in the Life Age group under 14 years as contrasted with \(0.00\) and \(-.04\) for the 14 to 24 and 25 years and over age groups was interpreted to mean that superior cultural families tend to institutionalize their children at an earlier age. Although this may not relate directly to adjustment, he also found a tendency for high-grade defectives to come from culturally low-grade stock, and for low-grade defectives to come from culturally high-grade families.\(^1\) This latter conclusions, supported by Halperin,\(^2\) has been quite generally accepted.

McCandless\(^3\) has said that the upper socio-economic-educational classes are verbal in their patterns of adjustment and handle their children through verbalization but lower socio-economic-educational class children receive little reinforcement for verbal ways of behaving. This has implications for differential adjustment to institutional life where certain patients may be incapable of adequately responding to verbalized direction. The writer believes that this may vary considerably within classes but the observation should not be discarded without further examination.

Bradley\(^4\) has observed two types of behavior disturbances in epilep-

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\(^1\)Ibid. p. 92


\(^3\)McCandless, op. cit., p. 678

tics, both of which may affect their adjustment to institutional life, just as they influence adjustment to family and school life prior to admission. Primary behavior disturbances of erratic variability in mood or behavior, hypermotility, irritability, short and vacillating attention span, and selective difficulty with mathematics have been observed in many epileptics but not in the same degree or combination in all epileptics. These traits, he explained, are associated with injury to the central nervous system. Bradley, also Lennox and Bridge, suggested that secondary behavior disturbances of epileptics are prone to occur, stemming from reactions to their illness and the counter-reactions of others. These include dread of seizures themselves, reactions toward exclusion from or control in public places, reaction toward parental and public anxieties and covert and overt rejection, and the effect of certain medications. He agrees with Lisansky, however, that epileptic children have no personality characteristics which significantly distinguish them from other children of similar background and general abilities because of the many who have no noticeable difficulties.

Green conducted one of the few studies designed specifically to analyze differential adjustment to institutional life. Staff members of


The North New Jersey Training School selected 45 well-adjusted and 45 poorly-adjusted defective girls whose social histories were then analyzed. There were no significant differences found between the two groups in their age, mental age, school achievement, sex delinquency, race, religion, family history of mental disease and defect, and reasons for commitment. Although not significant, the well-adjusted group had been in residence over a year longer, was a year more mature on the Draw-a-Man test, had less neuropathic ancestry, had fewer commitments because of behavior difficulties, and showed less emotional dependency upon the home situation. She did find that 82 per cent of the adjusted group were admitted from foster homes or other institutions as opposed to only 56 per cent of the maladjusted group. This means that 44 per cent of the poorly-adjusted group came directly from home while only 18 per cent of the well-adjusted girls lived at home immediately prior to admission. Green concluded that the degree of adjustment or maladjustment appeared to be one of weaning. It should be noted that no statistical analyses were reported other than comparing percentages in each category.

Hospital participative experiences as adjustment indicators

Although presented in separate portions, there can be no sharp distinction between pre-institutional experiences and hospital experiences as the former vitally affect each patient's degree and type of participation

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1 Ibid. p. 476.
in, attitude toward, and benefit from the latter. As Brown\(^1\) has indicated the individual is born without personality. This develops as he is encompassed by other individuals within his family group and the inter-personal relationships established begin to effect his reactions and affect future inter-personal relationships in primary and secondary associations. The mentally defective individual is somewhat slower than his normal brother in recognizing himself and his position in relation to others around him. He may continue throughout his secondary group relationships to misinterpret and be only partially cognizant of many of the social situations in which he finds himself — or, at least, is found. In fact, he may merely "float" through situation after situation with little awareness of what is going on and with a distorted view of what has gone before. He usually grasps firmly at those elements of the situation which are — or are thought to be — within his reach and hangs on to them tenaciously. In so doing, certain values, attitudes, impressions, fears, and general patterns of behavior become firmly established while others become fuzzy, impersonal, and meaningless to the individual. In addition, just as there is an individual component in each personality, there is also a cultural component. In the case of the high-grade defective, it is highly probable that his personality has been molded by habits and action patterns obtained through lower socio-economic class relationships. The personality at the time of hospital admission, then, has been "... moulded by the sum total of his inter-

personal relationships, by his social experiences, by the role he has played and is playing.\textsuperscript{1}

Brown, in his treatise on culture, society, and personality, stated:\textsuperscript{2}

Finally, when in the process called acculturation, values and goals cease to have meaning for an individual, portions of his personality have been rendered completely useless. A complete loss of values and goals would mean a complete disorganization of the personality.

Although personalities of mental defectives received at an institution are not completely disorganized, the writer believes that one cardinal objective of the institution is to attempt to reorganize the personality by substituting new values, goals, and methods of obtaining these. The degree of reorganization or modification necessary to effect an adequate adjustment depends largely upon the original degree of organization or disorganization at the time of admission. Perhaps it would be more accurate to say it depends upon the degree of similarity between the personality organization at the time of admission and that required of the individual to function effectively in the institutional milieu.

Myer\textsuperscript{3} mentioned that an early idea of child development was that children were naturally bad and that therapy must assume a negative and restrictive nature in order to eliminate the inborn bad traits. A more recent doctrine held that children were naturally all good and all that was needed was to keep hands off until this good thing grew. As Myer

\begin{itemize}
\item \textsuperscript{1}Ibid. p. 174
\item \textsuperscript{2}Ibid. p. 175
\item \textsuperscript{3}Lester N. Myer. Educational therapy and mental deficiency. Amer. J. Ment. Def. 54:442. 1950.
\end{itemize}
has indicated, however,\(^1\)

... very practical experience with the mentally defective indicates that we need to supply much more than atmosphere to have these children make adjustments of the nature that society demands. A certain amount of proper guidance and occasionally real compulsion may be required to develop the type of character that is considered satisfactory.

Hay,\(^2\) pointing out problems confronting the retarded after graduation from public schools, claimed that a sudden release from a well regulated school program, with no adequate substitute provided, caused many children to be thrust into "an emotional and psychological vacuum" where they are unable to handle many situations confronting them. This situation might equally apply to the institutional program and affect the adjustment of certain patients.

Institutional superintendents have for many years recognized that while many portions of their programs have been designed to assist patients in leading happy, productive, and well-adjusted lives during their years of residence, certain situations exist within an institution which impede behavior improvement and adjustment. Bateman and Hunham\(^3\) have provided an excellent critical evaluation of this situation as it exists in hospitals for psychotics. Although no attempt will be made in this study to evaluate the Woodward Hospital program, as such, the writer has attempted to extract from their work that which applies equally to

\(^1\)Ibid. p. 444


hospitals for defectives and epileptics. They have noted:

From one point of view, the mental hospital can be regarded as a social institution in which certain persons designated as employees or patients fill certain offices and roles recognized by the public, but who in their interpersonal relations evolve certain cultural forms which are characteristic of this particular type of institution. Thus, the employees and the patients in their interpersonal relations participate in a common collective life and influence one another.

To be sure, the duty personnel have specific positions and functions and react to the patients from the perspective of these positions and in accordance with their functions.

They further attempt to explain how the attendant cultural organization influences the patient group and in turn, how patients develop certain behavior patterns to facilitate their adjustment to the attendant personnel. The authors suggest that attendants are quite cognizant of their role and power exercised. The key has been the traditional symbol of this power as they lock the doors and carry the key. This attendant group is most crucial to the patient as they have charge of the patient daily, make the minute-by-minute decisions regarding accepted behavior, and in a real sense, determine the criteria of adjustment within the hospital. The writer has selected from the summary those factors which may tend to impede adjustment of patients to hospitals for epileptics and defectives:

\[1\text{Ibid. p. } 445\]
\[2\text{Ibid. p. } 448\]
a. The hospital culture stimulates many patients to develop a
negativistic attitude toward the doctors because being highly
sensitive they regard the formal clinical attitude of most
as evidence that they do not want to help them.
b. The culture of the employee group tends to operate in such a
way that the welfare of the patient body becomes subservient
to its function and development.
c. . . .
d. The lack of an adequate educational program for the employees
which will place . . . mental deficiency and epilepsy in
its correct scientific perspective and provide them with
appropriate techniques for handling patients operates against
the therapeutic aim.

e. The hospital culture functions to cause some employees to
react to patients in a personal manner, rather than in a
scientific or objective manner.
f. Throughout the hospital there is a general tendency to pay no
attention to the wishes of patients with respect to what they
want or what they think might be good for them.
g. The failure to distinguish between patients who violate rules
intentionally and those whose violations result from the nature
of their particular illnesses tends to produce an apprehensive
and anxious attitude among patients.
h. . . .
i. . . .
j. . . .

In addition to the above impediments to adjustment, Bateman and
Dunham feel the following factors act to facilitate improvement:¹

a. The hospital creates an opportunity for some patients to gain
respite from their conflict situations. It enables them to
gain more objective perspective with respect to their situa-
tions.
b. Certain attendants . . . and other staff members play a posi-
tive role with certain patients because through talking and
conversation they encourage them to make a more satisfactory
internal adjustment.
c. Many of the jobs to which patients are assigned in the hospital
enable them to develop certain work habits which take their
minds off their difficulties.
d. The hospital provides a program of positive medical therapy for
those patients who are physically ill or whose mental disorder
has an organic basis.

¹Ibid.
The authors add that no matter how desirous of changing the institutional program a superintendent may be, he is forced to adjust within the limits of his official position to the previously established collective habits of the institution. Only if he does adjust and enlist the cooperation of his employees will the institution continue to function with a minimum of friction.\(^1\) The superintendent desiring to drastically revise his program is always circumscribed by the amount of funds needed, the available personnel for re-employment, the entrenched habits and attitudes of employees which he dare not antagonize, the insecurity and subsequent inefficiency which he might produce, and other elements of the existing hospital culture.

Harris and Kinney\(^2\) have observed that an institutional environment presents obstacles to the gratification of four needs of the individual: the need for security, independence, experiential growth, and privacy. They report that the Coldwater State Home and Training School program, based on socialization and the recognition of individual differences, has resulted in a happier institutional atmosphere and less maladjustment. They conclude:\(^3\)

The factors which seem to have played a direct part in reducing the incidence of maladjustment within the institution may be briefly summarized as follows:

\(^1\)Ibid. p. 447


\(^3\)Ibid. p. 84
1. Having a relaxed, home-like atmosphere as free from restrictions as possible.
2. Placing all activities on an educational basis with provisions for individual guidance.
3. Providing a co-educational program which approximates as nearly as possible that of the community.
4. Maintaining community contacts on a widespread basis.
5. Making every attempt to treat each resident as a distinct personality.
6. Providing the residents at all times with interesting activities and events to which they may look forward with pleasant anticipation.

Fraser\(^1\) investigated the reasons given for running away by a number of escapees from the Provincial Training School and concluded that females were more discontent because of greater confinement and closer supervision in vocational and social activities. She failed to consider, however, that running away may be indicative of a type of discontentment rather than degree and that, among girls, it may have been considered more as a game or just "something to do" or a new experience.

Doll,\(^2\) studying a group of patients of all mental levels, found that residence had a slight positive influence on Social Age during the period of social maturation (through age 24) and a slight but negative influence after this period. Sloan and Bensberg\(^3\) administered the Full Range Picture Vocabulary Test to sixty male defectives from 10 to 35 years of age and felt that their subjects profited more from added experiences as they grew older only if they were in the brighter group.

\(^1\)A. S. Fraser. Reduction of runaways among trainees at a government training school. Amer. J. Ment. Def. 56:189. 1951.

\(^2\)Doll, op. cit., p. 90

Many writers have indicated that the entire institutional program of socialization of the defective is based upon creating social situations with which the patient may cope and which prepare him for more complex social situations in later life. Schlotter¹ has stated that such a program prepares the individual for either a good community adjustment or adjustment within the institution. Although sprinkled with acceptable educational terminology, her views of education for the retarded appear to the writer to be highly impractical, at least for many patients. She indicated that children make more satisfactory adjustments if drill and rigid conformity in the school situation are eliminated and the children are given "... freedom to experiment, to make mistakes and to solve their own problems."² She then suggested that classes be "self-governing" and "group controlled." The writer questions whether mental defectives, without an adequate base of knowledge, habits, and values, can solve problems in a socially accepted manner if left to experiment. Those who have been taught this way in the institutional program or prior to admission may be "happier" momentarily without direction or correction but that may not be as important in the over-all scheme of adjustmental development as teaching them how to participate according to socially accepted standards, to work in prescribed manners, and thus be able to fill the roll expected of them in the next stage of their developmental program, and the next, etc.


²Ibid. p. 265.
Seemingly, Schlotter intimated that all one has to do is put the defective patient in a group, give him freedom to experiment, and he will learn to cooperate. She has apparently not considered that this group participation may reinforce unsatisfactory methods of solving problems and reacting toward social stimuli unless properly directed.

Shainman\(^1\) agreed with most writers in the field that in the area of vocational adjustment, non-manual skills, namely, habits, attitudes, and general conduct on the job, are extremely important in the final vocational and social adjustment of defectives. Gegenheimer\(^2\) pointed out that many patients are not equipped vocationally or socially to leave the hospital yet believe they are capable of maintaining themselves in the outside world. This observation may provide a clue to reasons for much maladjustment within the institution. She has said that defectives conceive of discharge as a "Castle in Spain" and "... as a happy existence where there are few restrictions or barriers to the freedom of doing as one pleases when grown up."\(^3\) Many patients who have no conception of what it means to be part of a wage earning group in a competitive society have seen others leave the hospital and have heard of former patients who are now discharged, and thus become resentful that they have not been "given a chance" to prove themselves on the outside.

\(^1\)Leo Shainman. Vocational training for the mentally retarded in the schools. Amer. J. Ment. Def. 56:113-119. 1951.

\(^2\)Gegenheimer, op. cit., p. 434

\(^3\)Ibid. p. 433
Yepsen\(^1\) wisely pointed out that mentally retarded individuals should be given an appreciation of their own limitations or they will desire to obtain ends entirely beyond them, thus making for much unhappiness and poor adjustment. There has been no agreement on which patients this situation affects the most.

There have been no studies which have objectively analyzed the contributions of religious training programs to patient adjustment but Schomer\(^2\) and others have felt that such a program has improved patients' ethical conduct, prepared them for parole, and helped in their general socialization. Schomer stated that children in the 6-18 chronological age range, whose moral habits are in the process of formation, profit more from religious education than other age groups.

Various phases of the recreational program have also been felt to contribute to the adjustment of institutionalized defectives but little research has been conducted to verify these conclusions. Soper\(^3\) has observed that socially acceptable behavior patterns are instilled in patients through the media of physical training, music, arts and crafts, and recreational activities. Storrs\(^4\) has mentioned that classes in

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\(^1\) Lloyd N. Yepsen. Counseling the mentally retarded. Amer. J. Ment. Def. 57:211. 1952.


\(^4\) Storrs, op. cit., p. 181
handtraining teach patients persistence, self-reliance and self-assurance. He believes competitive games teach the spirit of sportsmanship and fair play, thus aiding materially in accomplishing satisfactory adjustments. Schlotter\(^1\) has recognized that patients who are unable to get along in institutional industry work situations are frequently the ones placed in occupational therapy groups but felt that they there have an opportunity, at a lower level of social organization, to develop themselves and make a form of adjustment to the institution. She has also observed the beneficial effects of recreational and musical activities on patient behavior and adjustment.

Hegge\(^2\) recorded the development of a rating scale on which individual patients were to be evaluated on 18 items regarding each of eight components of adjustment. This rating scale, begun in 1935, is undoubtedly the most scientifically constructed scale designed for evaluation of institutional adjustment to be found in the literature although the writer can find no record of its being used. The eight component areas are stated in question form below:\(^3\)

1. Is he cooperative or antagonistic toward those in authority?  
2. Is he cooperative or antagonistic toward other children?  
3. Is his way of working acceptable or unacceptable?  
4. Is he honest or dishonest?  
5. Is he conforming or aggressive?  
6. Is he happy or unhappy?  
7. Is he normally outgoing or withdrawn?  
8. Is he emotionally stable or unstable?

\(^1\)Schlotter, op. cit., p. 268


\(^3\)Ibid. pp. 67-69
In this scale developed at the Wayne County Training School, the investigators took the view that adjustment was related to success and failure in the acquisition of skills and knowledge and also to attitudes of the patient and his relationships with the social environment. They felt it advisable to study eight component areas of adjustment and to combine all ratings in all categories into a single general basic score representing a general degree of adjustment. Hegge then suggested that a relative score be obtained by establishing norms for different groups within the hospital.

Thomas, on the other hand, studied 59 girls at the Wassaic State School girls colony to determine differentiating characteristics between girls making a good adjustment and poor adjustment, concluding that there were "... no tests of the verbal or manual types that can be used to determine with any accuracy the satisfactory adjustment of a mental defective in a social situation." This generalization seems rather unwarranted in view of Thomas' methodology. There were no statistical analyses employed. The writer notes that the group studied was highly homogeneous even though there were some variations in adjustment. Thomas had previously stated that all girls sent to the colony were selected after having made a satisfactory adjustment in the institution and that the basis for evaluating the girls was solely from their behavior while in the colony. He was actually studying adjustment and maladjustment among the well adjusted institutional patients and thus could expect that more refined techniques were necessary than had he been studying the entire institutional population.

1 Thomas, op. cit., p. 336
General indicators of adjustment

A number of writers have attempted to explore the relationship between institutional adjustment and certain general personality characteristics of epileptics and mental defectives, e.g., emotional stability, intelligence, motor proficiency, maturity, and social competency. They have not, as a rule, stated how these factors are related to differential adjustment of patients but have implied that there is some relationship, at least to adjustment of mental defectives in general as opposed to persons with normal intelligence. An attempt has been made to minimize the number of studies reported in this section not dealing specifically with institutionalized defectives and epileptics. Lawrence has indicated one reason for this decision:¹

All too often when comparing a group of defective individuals with non-defectives, we are confounding our variables by also comparing emotionally disturbed individuals with non-emotionally disturbed individuals by virtue of the fact that the defective group is institutionalized in contrast to the non-defective group.

Although it has been frequently asserted in psychological and educational literature that intelligence plays a major role in determining an individual's ability to adapt to his environment most writers in the field of mental deficiency have indicated that, within the population considered defective, intelligence is not as good an

¹Lawrence, op. cit., p. 503
indicator of adjustment as other personal and social factors. Jastak has pointed out that success and failure are functions of the entire organism. He stated that high intelligence, per se, is no guarantee of good adjustment or high ability and may even result in highly intelligent failure. McIntosh studied the vocational success of special class pupils and found that factors such as emotional stability and personal drive were as important as 20 points in the intelligence quotient scale within the I.Q. range of 65 to 95. Beckham determined that congeniality on the job, willingness to obey directions, desire to please, and general ability to get along characterized well adjusted laundry workers while poorly adjusted workers tended to have habits of laziness, forgetfulness, profanity, inefficiency, and were more quarrelsome.

Dewan compared ratings of 2,055 retarded and 26,192 non-retarded Canadian Army recruits who were rated by a total of forty psychiatrists over a fifteen months period, demonstrating the existence of a positive relationship between emotional stability and intelligence. Weaver studied the records of 8,000 mental defectives who successfully completed an


army special training program and who either made a satisfactory adjustment to a military environment or were discharged. Personal assets, e.g., social competency, vocabulary adequacy, and freedom from serious personality deviations tended to aid adjustment while social incompetency, vocabulary inadequacy, lack of occupational skills, and personality deviations preventing treatment tended to hinder adjustment.

Cutts and Sloan\(^1\) considered the possibility of differentiating between fifty delinquent and fifty non-delinquent institutionalized defectives on Wechsler-Bellevue Test items but concluded that patterning on the test did not offer a sufficient basis for distinguishing the two groups. They did find, however, that the more stable patients tend to get higher scores on Information and lower scores on Arithmetic items. To a lesser extent, they do better on Comprehension and Picture Completion items.\(^2\)

Sloan\(^3\) also studied the relationship between motor proficiency and intelligence, matching twenty mental defectives and twenty normal school children for chronological age. He administered the Oseretsky Test of Motor Proficiency\(^4\) to all subjects and concluded that motor proficiency


\(^2\)Ibid. p. 101


is not a distinct aspect of intellectual functioning but should be included in an adequate evaluation of adaptive capacity. He found the relationship between social maturity, as measured by the Vineland Social Maturity Test,¹ and motor proficiency to be significant at the one per cent level of confidence.

Maisner² has proposed that even normal intelligence would not have helped some children admitted to institutions escape from fears and anxieties stemming from certain family relationships. She felt that these same emotional forces, when firmly established, inhibit the full development of intelligence, causing children to function at lower levels of adaptability and mental level than otherwise may have been the case. Hoakley³ demonstrated a relationship between personal adjustment and rise and fall in I.Q. among mentally retarded children at the Wayne County Training School. Despert and Pierce⁴ found a relationship between emotional adjustment and mental functioning, employing play techniques. Sloan⁵, Hackbush and Klopfer⁶, and Jolles⁷ have used


³Hoakley, op. cit.

⁴Despert and Pierce, op. cit.

⁵Sloan, Mental deficiency as a symptom of personality disturbance, op. cit., pp. 31-36

⁶Hackbush and Klopfer, op. cit.

⁷Jolles, op. cit.
projective techniques to determine the nature of this "constricting emotional force."

Whitcomb\(^1\) studied institutional records of 100 randomly selected institutionalized females whose I.Q.'s ranged from 60 to 70 and concluded that while intellectual, social, and industrial achievement are important in institutional adjustment prior to parole consideration, the girls' moral or emotional adjustment serves as the brake or accelerator of progress. The mean C.A. of the group studied was approximately twenty-five. Of the total number, 49 were being considered for parole, 32 never had been considered for parole due to poor behavior, and 19 had not been considered because of physical defects, apathy, laziness, or indolence. Girls not being considered for parole because of poor behavior, when compared with those being considered, tended to have lower I.Q.'s, to show great moral instability, more instability on work assignments, more aggressiveness and gregariousness, and more deep-rooted emotional maladjustment, but were equal to or surpassed potential parolees in socialization, locomotion, and self-direction. Shotwell\(^2\) has confirmed that many high-grade teen-age defectives have a stormy time within the institution and fail to profit from institutional training because of their emotional and social incompetence rather than lack of intelligence.

A few writers have considered behavior characteristics of epileptics but say little directly related to the present study. Hamlett and

\(^1\)Marian A. Whitcomb. A comparison of social and intellectual levels of 100 high-grade adult mental defectives. Amer. J. Ment. Def. 50:257-262. 1945.

\(^2\)Shotwell, op. cit., p. 436
Engle\(^1\) administered the Mental Health Analysis to 36 epileptics who were successfully adjusted on parole from the institution and 27 who had been returned, finding significant differences between the two groups in freedom from behavioral immaturity, emotional stability, feelings of inadequacy, and adequate outlook and goals. He found no significant differences in freedom from concern about physical defects, nervous manifestation, adequate close personal relationships, adequate interpersonal skills, adequate social participation, and satisfying work and recreation.

Goodman\(^2\) administered the Vineland Social Maturity Scale to sixty-three female epileptics at the New Jersey State Village and concluded that institutionalized epileptics are socially incompetent due in some cases to epilepsy, per se, and in other cases to the limiting powers of mental deficiency. She also found that epileptics performed well on self-help test items and poorly on self-direction items, expressing the view that this was not a result of institutionalization but, rather, was the reason why institutionalization was necessary. She notices that, among the different age groups, the Social Quotient tended to decrease as the Life Age increased.


\(^2\)Goodman, op. cit.
Indicators of achievement in patient-peer and patient staff relations

As there is apparently some relationship between patient adjustment and achievement in certain hospital activities, it seems advisable to review the literature pertaining to indicators of achievement in these activity areas. References to achievement in the various hospital participative activities have usually been one of three distinct types. Certain articles have attempted to outline the elements of departmental activities which staff members feel aid patients to benefit from participation. Most of these have been either general descriptions of programs and objectives or attempts to explain how patients, in general, may be expected to benefit from the program as set forth. A second type of article has attempted to point out how certain early life experiences of children may affect their reactions to portions of the institutional program. Although few articles have been dedicated solely to this aim, a number of writers have mentioned such experiences incidental to their main themes. The third type of article has placed emphasis on individual reactions to certain activities, these articles usually describing improved behavior or achievement of a small number of patients who have been exposed to inadequately defined activity situations within some specific institution. Few of these have been designed as methodologically sound studies and few relate directly to differential achievement of institutionalized defectives and epileptics.

Although it has been rather widely accepted that "getting along" with others is one of the most important criteria of adjustment for defectives and epileptics within and outside of institutions, there is a
definite scarcity of literature pertaining to methods whereby patients may be aided in gaining better patient-peer relations or analyses of which patients may benefit most by assistance in this pursuit. Walker has observed that patients tend to choose for play associates those individuals with similar mentality, reject those with lower mentality, and attempt to gain acceptance of patients intellectually superior. Hays conducted a sociometric study in which 127 institutionalized females of defective, borderline, and dull normal levels gave choice friendship ratings. He verified Walker's findings and determined that patients choose friends on a basis more closely related to mental age than to chronological age or I.Q. Weiner and Wadsworth realized that staff guidance was of great importance in patient socialization but stressed the importance of social control imposed by other patients. After observing 35 institutionalized defective boys, the authors concluded that the boys introjected adult conduct norms sufficiently to recognize which of their peers conformed to these standards and to prefer their companionship. The writer has found no studies indicating reasons for choices.


Walker\(^1\) has indicated that security is the prime consideration in most of the emotional problems of defective patients. This is believed to be a rather natural phenomenon as a result of their general rejection. He, as many other writers, has observed that patients coming from mentally defective family situations often receive more acceptance than those coming from better class homes where parents tend to be more socially engaged. He also observed that defectives quickly identify institutional staff members as parental symbols although, in many cases, patients who have experienced considerable parental apathy or desertion and who have not developed firm child-adult relationships may find parental symbolizing a disturbing problem.\(^2\)

Price\(^3\) reported that through conferences with defective girls after a series of outbreaks at the Columbus State School, it became obvious that many patients had unrealistic and distorted ideas regarding the institution, services rendered, and the roles of various staff members. The writer believes this a rather common occurrence in institutions of this type, stemming primarily for misunderstandings by the patients as to why they are institutionalized.

Tizard\(^4\) conducted an excellent study, methodologically, to determine

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1Walker, op. cit., p. 138

2Ibid. p. 136


the effects of three types of supervision, designated as strict, friendly, and laissez-faire, upon the productivity and behavior of 36 high-grade defective males working in three sheltered workshops within a London institution. Nurses kept check lists, made daily conduct and production ratings, and kept diaries while Tizard made time sampling observations of behavior and kept extensive records of events throughout a three months period. He concluded:\footnote{Ibid. p. 160}

Under strict supervision, the majority of patients behaved well, but anxious or neurotic patients responded very badly. Under friendly supervision, also, the majority of patients behaved well, though some tough minded patients took advantage of what they regarded as weakness on the part of the supervisor. Few of the boys were able to work well under laissez-faire supervision. Arguments and quarrelling were most common under laissez-faire supervision.

The view has been expressed repeatedly by certain child psychologists that "we become what others say we are." In the institutional situation, this would imply that patients who are told they are mean or troublemakers might become so and those who are told they are ordinarily well-behaved might become less difficult for staff members to manage. Kates\footnote{Solis L. Kates. Subjects' evaluations of annoying situations after being described as well adjusted and poorly adjusted. J. Consult. Psychol. 16:429-434. 1952.} reported a study in which 14 subjects were informed that they were well adjusted and 14 more were informed, in identical words, that they were poorly adjusted. The two groups then completed rating blanks describing annoying social situations. It was found that those who were described as well adjusted tended to think favorably of themselves in relation to
others and therefore found certain annoying situations significantly less disturbing than did the group described as poorly adjusted.

**Indicators of achievement in school and vocational training**

Articles have been published regarding the influence of pre-institutional experiences on educational and vocational achievement although most references to these areas have stated general objectives and methods employed and the philosophy held by individual institutions.

Shotwell, as others, has mentioned the relationship between emotional problems of defectives and their level of achievement. Gegenheimer referred to the social and emotional makeup of defectives in general when she said:

> Emotionally, the defective person controls or handles himself very poorly, and is easily angered by his frustrations. He has defective reasoning powers, poor judgment, and does not think matters through, so seldom gains by experience and cannot learn rapidly why it is that certain things happen to him. He tends to lie or fight his way out of difficult situations.

Certainly patients having such characteristics as described might be expected to have a difficult time learning tasks assigned in school or on the job. Not all defectives or epileptics, it may be noted, possess these characteristics to the same extent. Other authors have felt that many defectives have emotional disturbances which prevent them from performing at the level of which they are intellectually capable.

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1 Shotwell, op. cit., p. 436

2 Gegenheimer, op. cit., p. 434
Hungerford, DeProspo, and Rosenzweig\(^1\) stated that such emotional disturbances come from defective environment, from defective physique, or from defective mentality. Mangus\(^2\) has proposed that certain children are personally and socially maladjusted because of their school failure while others fail in school because of their prior emotional conflicts.

Kirk\(^3\) noted that studies on pre-school children have shown that changes in intellectual growth may be accomplished more readily with young children because rigidity and stereotyped behavior developed during the child's early years may be extremely difficult to change by educational advantages at a later age. Bensberg\(^4\), on the other hand, administered the American School Achievement Test to 274 male and 230 female defectives under 30 years of age who had I.Q.'s over 44, matching them for chronological age and mental age, and found no differences in achievement between patients who had attended the institutional school for five years or longer and those who had attended the public schools prior to commitment and had been in the institution less than one year. He also found no differences in achievement between brain-injured and familial cases in the mental age group studied.

\(^1\)Hungerford, DeProspo, and Rosenzweig, op. cit., p. 215


Myer,\(^1\) indicating elements of the educational program which facilitate achievement, stated that children should be prepared for childhood and youth rather than just for adulthood, for if a child develops well at the time, he would be better prepared to continue the growth in the next era, and therefore continue developing to his optimal level. Delp\(^2\) suggested strongly that defective children be taught only those fundamentals he will need for use in life and that these be definitely related to the child's experiences. He also felt that these must be taught in such a way as to produce satisfaction of achievement, be meaningful, and be within his capacity. Schlotter\(^3\) emphasized that projects should be carried on in classes for defectives which teach academic skills and further the socialization of pupils. It would seem to the writer that the time which school children had been exposed to such elements of an educational program as suggested by Myer, Delp, and Schlotter and the emotional readiness for them might be indicators of achievement in school.

References to vocational training achievement have chiefly centered around analyses of skills required to perform jobs outside institutions and objectives of institutional programs whereby patients might be taught these skills. There has been practically no literature regarding vocational aptitudes of defectives and methods whereby these aptitudes could

\(^1\)Myer, op. cit., p. 444


\(^3\)Schlotter, op. cit., p. 269
be utilized to gain skills.

From information regarding released patients, it has been recognized that non-manual skills are of paramount importance in the vocational success of defectives. Shainman\(^1\) has said that vocational success or failure depends largely upon the ability to get along with others, to take criticism, to avoid accidents and remain in good health, to handle tools and materials with care, to be punctual and observe rules of cleanliness, and to maintain honesty and loyalty. Beckham\(^2\) has noted evidence that congeniality on the job, the desire to please, ability to get along, and willingness to obey directions are the primary factors influencing ratings of laundry workers by employers. Factors influencing low achievement ratings were laziness, quarrelsomeness, profanity, forgetfulness, inefficiency, and general ignorance. Prior to studying the adjusted behavior of ten mentally handicapped high school pupils, Garrison\(^3\) determined from reviewing the literature that defectives have problems of adjustment primarily in work habits, employer-employee relationships, employee-employee relationships, and three other personal-social areas.

Several writers have mentioned elements of vocational training programs which may affect achievement. Although many institutions actively support a "directive" type of vocational program, few writers have as

\(^{1}\)Shainman, op. cit., p. 113

\(^{2}\)Beckham, op. cit.

bravely stated their objectives as Garrison.¹

It was not intended to make these people more thought-
ful about what they were doing, but instead to help them to
learn to do more things in a socially acceptable manner with-
out thinking. Only as they learn to do this, are they able
to make a fuller use of their potentiality for those things
in life that require thinking.

Hungerford, DeProspo, and Rosenzweig² have emphasized that an effective
vocational program for defectives should consist of 25 per cent training
in the manual skills found in the work area, 25 per cent training in the
non-manual skills necessary in the work area, and 50 per cent training
in general habits, attitudes, and skills common to all good workmanship
and citizenship. Yepsen³ stressed the importance of structuring the
work training situation so that the patient is emotionally motivated to
learn, to recognize immediate and future goals, to gain insight into
his abilities, and to gain satisfaction from his accomplishments. It
becomes apparent to the writer that the degree to which individual
patients have been exposed to a similarly structured training program
might affect their vocational achievement.

Indicators of achievement in recreation and religious training

The writer has been unable to find references to differential
achievement in recreation and religious training although several arti-
cles have described individual institutional programs. There apparently

¹Ibid. p. 339
²Hungerford, DeProspo, and Rosenzweig, op. cit., p. 221.
³Yepsen, op. cit., pp. 211-212
has been an assumption made by persons directing such programs that all patients who choose to participate in these activities will benefit in one way or another presumably from the nature of the activities themselves. It seems that they have based their programs on the American tradition that recreation and religion are "just naturally good" for people. Articles describing institutional programs of this type seem to indicate that patients having physical or emotional problems are helped in alleviating them while emotionally stable patients gain by learning the more advanced social skills of cooperation and sportsmanship and by behaving in a more socially approved manner. There have been no articles found referring to the relationship between previous personal experiences or characteristics and participative achievement. In fact, investigators have apparently steered clear of recreation and religion, particularly the latter, as areas of evaluation.

Bradley\(^1\) stressed the physical benefits for patients participating in recreational programs, noting that these patients tend to have better circulation, elimination, muscle tone, and general health. He also mentioned the energy releasing and relaxing nature of recreational periods which put patients in a happier frame of mind.

Storrs,\(^2\) Soper,\(^3\) and Schlotter\(^4\) all recommended that the various

\(^1\)A. J. Bradley. Recreation for the patients in the institutions for mental defectives. Amer. J. Ment. Def. 51:301-305. 1946.

\(^2\)Storrs, op. cit., p. 181

\(^3\)Soper, op. cit., p. 298

\(^4\)Schlotter, op. cit., p. 264
occupational therapy activities comprise about half of each school day. Through the media of competitive games, crafts, physical training, music, and other recreational activities, they suggested that patients can be taught cooperation and sportsmanship and to apply themselves to a task until it is completed, to gain pride and satisfaction in accomplishment, to develop self-reliance and assurance, and to develop socially accepted behavior patterns.

Bice\(^1\) reported a survey conducted by the American Association on Mental Deficiency Committee on Education and the U. S. Office of Education in 1940 regarding institutional religious practices. The most frequently mentioned goals were to motivate the conduct of children, eliminate fears and worries and thus help promote peace of mind, and develop ethical and moral habits and attitudes. Others mentioned such terms as devotional, faith, spiritual, entertainment value, instruction, and promotion of emotional stability and emotional satisfaction. Douglas\(^2\) described the Wayne County Training School religious training program, stating that it has developed an interest and satisfaction in regular church attendance, a growing spirit of worship, an acquaintance with the elements of worship used in Protestant churches, an understanding of stories in the Bible and their moral implications for present-day living, and an acceptance of the principle that upright character evolves.

\(^1\)Harry V. Bice. Religious work with the mental defective. \textit{Amer. J. Ment. Def.} 46:519-528. 1942.

through application of the teachings of Christ. Morgan\(^1\) has observed that counseling from the Chaplain aims at creating a better adjustment between patients and the institution, assisting the patient in adjusting to his limited ability, and alleviating certain behavior problems. He has noted that the new patient, the very young patient, and the patient who has never had a healthy relationship with any parent or parent substitute seem to respond best to religious counseling. Schomer\(^2\) has also indicated that children from six to eighteen years of age, whose moral habits are in the process of formation, are more likely to profit from religious training.


\(^2\)Schomer, op. cit., p. 80
METHOD AND PROCEDURE

The method and procedure have been ordered into three parts: the assumptions, objectives and hypotheses, and the procedure. In the procedure, information is presented regarding the group studied, areas of participation analyzed, obtaining achievement prognosis scores, obtaining adjustment evaluations, obtaining achievement evaluations, and the methods of analyzing data.

Assumptions

Patients in the Woodward State Hospital, having been uprooted from their various home communities and placed in an entirely new social milieu, are confronted with the task of adjusting to the new environment. Throughout their stay in the hospital, they participate in various group activities designed to play their part in modifying patient behavior and affecting their adjustment to the institution. It is believed that their achievement in these activities largely depends upon the integration of the personality organization of the individuals and the institutional cultural milieu. Personality, in this sense, is the integration of their previous bio-psycho-social experiences.

The hospital staff attempts to effect satisfactory patient adjustment by modifying patients' reactions to rules and controls and by
changing patients' concepts of their roles and status through participation in group activities. Adjustment is considered to be directed toward persons rather than toward the existing hospital situation. Although an increase in patient satisfaction during his time in residence may be an important part of individual adjustment, the hospital staff usually recognizes this change only as it manifests itself in modified participative behavior.

Pragmatically, the degree of an individual's adjustment to any situation depends upon the degree of similarity between his behavior and that behavior desired and/or expected by the persons evaluating his adjustment. No matter what theoretical criteria of adjustment might be established, the day-to-day education, training, guidance, and control of patients are delegated to various staff members and thus these individuals, for all practical purposes, define and evaluate adjustment within the institutional setting.

Objectives and Hypotheses

The primary purpose of this study is to determine if factors relating to adjustment of institutionalized mental defectives and epileptics can be selected by scientifically sound methods. A secondary objective is to determine if participative achievement in hospital activities can be prognosticated from data regarding pre-institutional experiences.

If such relationships can be established by objective methods, the assumption may be made that behavior of mental defectives may be arrayed
in patterns of group behavior which become subject to scientific observation and analysis. Sociologists may then be encouraged to consider behavior in this mental stratum worthy of scientific investigation. Much empirical research regarding present concepts in the area of mental deficiency and epilepsy needs to be conducted before an adequate body of knowledge may be established.

From the social action viewpoint, pre-institutional experiences and hospital participative experiences found to be significantly related to adjustment might provide the hospital administration with a basis for establishing an organized program with proven values for predicting, controlling, and directing patient achievement and adjustment.

To determine factors relating to patient adjustment, four hypotheses have been selected for testing. These have been stated in the null-hypothesis form for statistical analysis. The first hypothesis is that there is no relationship between patient adjustment and their participative achievement in each of six selected areas of group life, i.e., patient-peer relations, patient-staff relations, school, vocational training, recreation, and religious training. The second hypothesis is that no relationship exists between patient adjustment and their total participative achievement in all six areas of group life. The third is that there is no relationship between patient adjustment and their achievement prognoses in each of the six selected participative areas. The fourth hypothesis is that there is no relationship between patient adjustment and their total achievement prognoses for all six participative areas.

Two secondary hypotheses proposed to determine if participative achievement can be prognosticated from data regarding pre-institutional
experiences are: first, that there is no relationship between actual patient achievement in each of the six selected experiential areas and their corresponding achievement prognoses; and second, that no relationship exists between total patient participation in all six areas of group life and their total achievement prognoses for all six experiential areas.

In addition to analyses made regarding adjustment and achievement of patients in general, the data have been further analyzed by sex and type of diagnosis, i.e., epilepsy or mental deficiency.

The Procedural Steps

The group studied

It is recognized that many patients at the Woodward State Hospital are so severely handicapped that they are not expected to adjust or achieve but are expected only to remain under permanent custodial care. For the purpose of this investigation, it was considered necessary to include only patients capable of employing communicative and adaptive processes to such an extent that they affect adjustment and achievement in one form or another. Both epileptic and mentally defective subjects were included in this study because, as Bradley\(^1\) has stated, no characteristic behavior of epileptics has been substantiated by empirical findings.

\(^1\)Bradley, Behavior disturbances in epileptic children, op. cit., p. 441.
The professional staff* has observed that many of the institutionalized non-defective epileptics are as immature in their thinking as non-epileptic defectives. In addition, approximately three-fourths of the hospital's epileptics are also mentally defective. The list of 259 subjects studied, then, was obtained from the Psychology Department's master cards and included all patients at the Woodward State Hospital with the exception of those having the following characteristics:

1. I.Q. less than 50. The majority of these persons are unable to employ communicative and adaptive processes used by higher grade mental defectives. Many have neuro-psychiatric and other medical complications.1 Others have been brain-injured.2

2. Age under 10 years. Patients under age 10, having an I.Q. of 50, have a mental age of less than five years and the reason stated above becomes applicable. Information regarding behavior prior to admission is also insufficient.

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As there have been no studies of institutional adjustment recorded in sufficient detail to set a precedent for the present research design, a panel of experts was selected from the Woodward Hospital administrative staff to act in an advisory capacity. The professional staff consulted consisted of two doctors, the male and female supervisors, the psychologist, special service director, social service director, and education director. From this panel, only the supervisors were later requested to make patient evaluations.


3. Age 45 years or over. Records are incomplete on these patients. Due to mental defectives' limited memory span, there is some question as to the effect their early life has on the adjustment of these patients.

4. In residence 20 years or more. Reasons stated in number 3 apply.

5. Less than 1 year in residence. These individuals have not had sufficient participative experiences to warrant evaluations by the same criteria as patients in residence longer.

6. Physical and psychological abnormalities preventing participation.

The total group of 259 subjects selected consisted of 51 male epileptics, 42 female epileptics, 91 male defectives, and 75 female defectives.

Areas of participation analyzed

The areas of participation analyzed in this study have been selected by the hospital professional staff as the primary influences affecting total patient adjustment. These areas were selected after they had reviewed excerpts from the literature pertaining to adjustment and achievement of mental defectives and epileptics. Adjustment has been evaluated in relation to participation in the following six areas:

1. patient-peer relations
2. patient-staff relations
3. school
4. vocational training
5. recreation
6. religious training

Four other areas recommended by the staff consultants were not analyzed because of lack of available data and/or because certain aspects of the areas have been considered in the six areas studied. These suggested areas were health, self-improvement, ability to abide by
hospital regulations, and family-hospital-patient relationships.

Each area of participation was considered to have three component characteristics. First, patients come into the hospital possessing varied abilities to benefit from participation. The assumption has been made that initial mental level and other pre-institutionalization influences provide the basis for the second characteristic, the effort put forth, and the third characteristic, the actual achievement made by patients in the various activities in which they participate. Final achievement in each participative area, then, may be considered dependent upon initial ability and the effort put forth. It was therefore deemed necessary to obtain an achievement prognosis score for each individual in each area of participation.

An attempt was made to gain an estimate of effort but most staff members evaluating achievement could not or did not distinguish between the two concepts sufficiently to warrant including separate evaluative measures.*

Obtaining achievement prognosis scores

An extensive inquiry was conducted to obtain a list of characteristics which might have some relationship to institutional adjustment and the benefit derived from participation in hospital group activities. A perusal of the literature regarding mental deficiency and epilepsy resulted in

*This situation suggests an area for possible further research. It would be helpful to know if the relationship between effort put forth and actual achievement of mental defectives is greater than that of persons with normal intelligence.
no statistically verified indicators. Most of the characteristics were not stated in a form which made them readily adaptable to empirical investigation. The type or degree of effect they have on adjustment or achievement was frequently omitted. Other writings only indirectly suggested criteria which might be examined.

From these sources, the writer obtained many possible indicators and classified them into apparently similar areas. This list was shown to a number of staff members who suggested additions and alterations. A list of eighty pre-institutional characteristics resulted and was reviewed by the eight professional staff consultants. This group was given instructions to eliminate items which they decided had doubtful relationship to achievement, items which could not be tested, and items calling for information not available at the Woodward State Hospital.

The original list included the following items:

1. age
2. age at admission
3. type of admission
4. reasons for admission
5. vocabulary adequacy
6. mental level
7. physical condition
   a. general health
   b. hearing
   c. sight
   d. speech
   e. motor control
   f. seizures
   g. health habits
   h. health record
   i. freedom from severe physical impairment
8. previous institutionalization
   a. correctional institution
   b. institution for dependent and neglected
   c. mental defective institution
   d. institution for psychotics
   e. length of residence in each institution
9.relations with adults
   a. with parents
   b. with teachers
   c. in the community
   d. reaction toward authority and regulations
   e. type of home discipline
   f. desire to please
   g. cooperative attitude
   h. visits home, visits by relatives, and packages received.
   i. dependence on home
   j. feelings of security
10. relations with peers
   a. at home
   b. in school
   c. in the community
11. pre-admission behavior
   a. truthfulness (honesty, lying, cheating)
   b. use of profane language
   c. distinguishes right from wrong
   d. nervousness
   e. obedience (conforming or aggressive)
   f. temper
   g. cruelty
   h. abusive to children
   i. destructiveness
   j. fighting
   k. cooperative attitude toward peers
   l. happiness
   m. outgoing or withdrawn
   n. emotional stability
   o. personal drive
   p. laziness
12. school behavior
   a. years retarded
   b. years in school
   c. grade achievement
   d. reading, writing, and arithmetic ability
   e. behavior problem in school
   f. enrollment in special education classes
   g. willingness to obey directions
13. type of home
   a. intact
   b. substitute
   c. broken
   d. institution
   e. family history of mental defectives
   f. family history of insanity
   g. home educative influence
   h. home religious influence
   i. home work influence
   j. socio-economic level
The process of deciding which characteristics might lend themselves to statistical manipulation was impeded because so many of the sources suggesting characteristics worded them in such a manner as to make them highly subjective. Health habits, reaction toward authority and regulations, type of home discipline, desire to please, cooperative attitude, dependence on home, feelings of security, happiness, and laziness were suggested as having some relationship to achievement in certain activities but no satisfactory uniform criteria for them has been found.

Several other items cannot be criticized for their subjectivity but the direction and relativity of their influence has not been clearly indicated. No agreement has been reached by either the staff or writers in the field as to how achievement may be related to age, age at admission, type of admission, length of residence in each previous institution, visits to and from home, and family history of insanity; but these characteristics have been mentioned.

A few of the characteristics mentioned were considered to be too complex to measure in the form stated. Emotional stability, personal drive, school behavior, socio-economic level, and cooperative attitude toward

* The items so marked were eliminated by the staff consultants.
peers may be important in patients' institutional achievement although the writer concluded that they are too comprehensive to obtain adequate evaluations of them from the records. An attempt has been made to include elements of each of these in other characteristics selected. The influence on achievement of emotional stability and socio-economic level, in particular, have been mentioned very frequently throughout the literature on mental deficiency. In descriptions of their influence writers indicate that these factors are but terms encompassing numerous more definite and distinct characteristics of achievement.

It was necessary to exclude a large number of characteristics due to insufficient or inaccurate information in the records. Several of these were subject to the same criticisms as outlined previously. The records seemed to contain incomplete information regarding the real reasons for admission, vocabulary adequacy, relations with adults in the community, fighting, whether outgoing or withdrawn, enrollment in special education classes, willingness to obey directions, and previous work experiences. Freedom from severe physical impairment was mentioned as being important to achievement in certain areas of participation but this item does not apply to this study since no subjects with severe physical impairments have been included. The staff decided that patients' physical condition at the time of admission was more important than their past health records so the latter item has been excluded.

Considering availability of data and application to statistical manipulation, the professional staff consultants selected the following fourteen characteristics from the original list as those which they
believed were significantly related to the prognosis of participative
achievement in one or more hospital activities.

1. mental level
   2. physical condition
      a. general health
      b. hearing
      c. sight
      d. speech
      e. motor control
      f. seizures
   3. previous institutionalization in
      a. correctional institution
      b. dependent institution
      c. mental defective institution
      d. insane institution
   4. relations with adults
      a. relations with parents
      b. relations with teachers
   5. relations with peers
      a. at home
      b. in school
      c. in the community
   6. pre-admission behavior
      a. truthfulness
      b. use of profane language
      c. distinguish right from wrong
      d. nervousness
      e. obedience
      f. temper
      g. cruelty
      h. abusive to children
      i. destructiveness
   7. years retarded in school
   8. reading, writing, and arithmetic ability
   9. behavior problem in school
 10. type of home
      a. intact
      b. substitute
      c. broken
      d. institution
 11. family history of mental defectives
 12. home educative influence
 13. home religious influence
 14. home work influence
The fourteen characteristics finally selected were assigned weights recommended by the staff according to their relative influence on achievement. Although the professional staff recognized that mental level was probably more important in determining school and vocational achievement than recreational or religious training achievement, they were unable to reach an agreement upon the relative weights this characteristic should be given in each area. A decision was made to weight I.Q. approximately the same in all six experiential areas due to the absence of objective data indicating that it should be treated otherwise. This decision was made with the view in mind that all characteristics may be examined individually at a later date to statistically determine which weights should be assigned. The panel of consultants also strongly indicated their view that many epileptics who were not defective had little better prognoses for achievement than did those having moron levels of intelligence. The suggestion was made that these individuals not be given additional points for having borderline or dull-normal intelligence. It was decided to give the patients one point for each I.Q. point up to a designated maximum for each area.

Each of the fourteen characteristics listed previously was considered by the staff consultants. As an example, general pre-admission behavior was considered next in importance in the school achievement prognosis. One point was added to the prognosis score for each of nine behavior traits deemed favorable, e.g., truthfulness, obedience, and good tempered. Since achievement in school depends partly on the rapport established between pupil and teacher, patients who had maintained good relations
with adults prior to admission were given four points toward their pro-
gnosis score. Those who had had poor relations with adults were given
no additional points. Patients whose relations with adults had been fair
or unknown had two points added to their score. Each characteristic was
considered in a like manner by the professional staff panel and assigned
a weighted score or rejected as having no significant relationship to
achievement in the participative area being considered. The weighted
scores for each participative area are found in Appendix A.

A scoring system was devised whereby each patient would receive an
achievement prognosis score in each area of group life in which he
participated. To determine a patient's achievement prognosis score in
any given area, begin with the I.Q. as a base (I.Q.'s over the designated
maximum for that area are given only the maximum value) and add the
prescribed additional points for each positive pre-institutional
characteristic.

Data employed to obtain achievement prognosis scores were taken from
patients' personnel records. These data have been provided chiefly by
county welfare departments, probation officers, physicians, hospitals,
and other institutions. In most cases, information regarding patients'
physical condition, previous institutionalization, and pre-admission
behavior has been taken directly from their application forms or
personnel record fact sheets. A copy of these may be found in Appendices
B and C. The mental level of each patient was obtained from reports of
Wechsler-Bellevue and Stanford-Binet psychological examinations
administered at the Woodward State Hospital. Reading, writing, and
Obtaining adjustment evaluations

As stated previously, staff members charged with the education, training, and control of patients, for all practical purposes, define and evaluate adjustment within the institutional setting. For the purpose of this study, then, an evaluation team, composed of five staff members, have evaluated the present adjustment of each patient selected. Five evaluators were selected to gain evaluations of adjustment in as many areas as feasible. In adjustment studies previously reported, Hegge\(^1\) mentioned ratings by teachers and supervisors, while Green\(^2\) obtained ratings from 20 staff members, including teachers, assignment officers, and cottage matrons. McCandless and Strauss\(^3\) obtained rankings from

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\(^1\)Hegge, The significance of measurements of adjustment in the institutional and school situation, op. cit., pp. 58-69.

\(^2\)Green, op. cit., pp. 472-476.

the Supervisor of Boys Living and his Assistant on deviations from the average personality.

Adjustment has been considered a relative phenomenon since evaluators were requested to compare each patient's adjustment with that of the others in the groups evaluated by them. Each staff member was requested to rate each patient on a five-point scale, employing certain standardized verbal suggestions from the writer as a guide to their evaluations. The average rating for each patient was calculated and accepted as his adjustment score. Three other five-point adjustment scales were found in the literature but they were designed for use with parolees. Bijou, Ainsworth, and Stockey used one to study the community adjustment of parolees from the Wayne County Training School. Kinder, Chase, and Buck studied parolees of the New York Training School for Girls and Letchworth Village, using two almost identical scales. None of these is applicable to the institutional situation.

Staff members requested to evaluate each patient's adjustment were the night attendant in charge of his residence ward, his ward doctor, the assistant male or female supervisor, his teacher, and his present work supervisor. The night charges' acquaintanceship with patients has been based on the hours when the patients were not working. They frequently receive reports of patient adjustment in night recreational activities. The ward doctors visit their assigned wards daily and are responsible for

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2Kinder, Chase, and Buck, op. cit., pp. 572-578.
patient health, general welfare, and discipline. Due to recent changes in medical personnel, the doctors were not sufficiently familiar with almost half of the patients to evaluate their adjustment and rated only those with whom they were well acquainted. The assistant male and female supervisors frequently receive reports of patient adjustment from all other staff personnel but also felt incompetent to evaluate the adjustment of almost half the patients. An evaluation was obtained on each patient by either the ward doctor or the assistant supervisor. Evaluations were obtained from each patient's teacher only if currently in school. Evaluations of adjustment in school could be obtained for only 45 of the 259 subjects included in this study although 74 more had attended the institutional school at some time. Only the present work supervisor of each of the 211 patients in the vocational training program were asked for adjustment evaluations.

An attempt was made to allow evaluators freedom to define adjustment as they desired rather than to structure the framework from which they made their evaluations. Certain preparatory remarks were made uniformly to all evaluators. An approximate copy of these may be found in Appendix F. A 24 x 10 inch blotter, divided into five spaces, was then placed on a table before them. At the top of each space was typed one of the labels: Very Poor Adjustment, Poor Adjustment, Fair Adjustment, Good Adjustment, or Very Good Adjustment.

Each evaluator was given a number of 2 x 2 inch cards, each bearing the code number and name of a patient whom he had under his supervision on his ward, in his class, or on his work assignment crew. He was then
asked to place each patient's card in the proper space on the blotter corresponding to the appropriate degree of adjustment attained. The code numbers and corresponding degree of adjustment were then recorded on the form found in Appendix I before transfer to final statistical record sheets, Appendix J.

**Obtaining achievement evaluations**

Evaluations of achievement were obtained in a similar manner although rating categories were structured and evaluations were requested only from those staff members acquainted with patient behavior in specific areas of participation. Achievement, like adjustment, has been considered relative and evaluators were asked to compare each patient's achievement with that of the others.

Ideally, examinations, work records, and periodic behavior notes placed in each patient's folder would provide much more valid data regarding achievement in the various areas of participation than would current evaluations of past participation. As in most hospitals, however, the Woodward State Hospital's evaluative records were incomplete in relation to certain areas and individuals, inconsistent in form, not sufficiently discriminating, and were often phrased in meaningless terms.

Although the nature of the proposed evaluations indicated the advantage of employing forced choice evaluations, the peculiarities of the group studied made it advisable not to do so. An attempt was made to gain the desired spread, however, by carefully wording rank definitions and by encouraging normal distributions by evaluators.
to evaluate achievement more objectively and interpret the results. The ward doctor, for these reasons, felt that the ward doctor would be able to tell the ward doctor who evaluated both the admission and interpretation.

It was deemed necessary to introduce both evaluation by the same ward doctor and personal report by the same ward doctor. All staff personal reports were examined by the ward doctor; all staff were encouraged to consider only those in which they had been knowledgeable of patients' inter-personal relationship both off and on the ward. Teachers or former teachers, and the present ward supervisor, the ward doctor, and staff were asked to evaluate admission. A larger number of staff members were requested to provide accurate, reliable records of certain admission interpretations (see Appendix C).

Each patient's record, after having been reviewed, was placed in a sequence of extreme ratings. These data were combined to evaluate achievement and interpretation in the ward, and evaluated by the ward doctor. The ward doctor's report was made to obtain data and data from ward nurses, and doctors, reports in patient's suggestions for rank. Evaluation of achievement in the various participatory areas were
ward attendants; second, each doctor rated patients from more than one
building and could therefore evaluate each patient in respect to a larger
number of patients, irrespective of residence ward or building; and third,
an element of continuity was provided since the doctors had been assigned
to the same wards for at least two years, during which time some ward
charges had shifted positions. Although the doctors knew about half the
patients well, they did not feel competent to evaluate many others.
Ratings were obtained for these from the male or female supervisor.
Patient-peer and patient-staff relations achievement in school were
evaluated by each patient’s present teacher if currently in school or a
former teacher if he had graduated. Such evaluations were obtained for
119 of the 259 subjects. It was necessary to obtain inter-personal rela­
tionship achievement ratings from the same work supervisors who evaluated
adjustment since there were no others available who knew of their
achievement on the job, and behavior in this area was deemed too important
to be excluded.

Evaluations of achievement in school were obtained for 119 subjects
from present teachers of subjects currently in school and former teachers
of subjects who had graduated.

Vocational training achievement evaluations were obtained by averaging
the ratings of each patient’s present and last previous work supervisors.
This was done in an effort to minimize biases based on recent unpleasant
events which may have occurred and to provide an evaluation of work
achievement in more than one work situation. Two ratings were obtained
only for the 101 subjects who had worked on more than one job and who had
changed work assignments within the past two years.

Achievement of the 126 subjects participating in at least one formal recreational activity was evaluated by the athletic directors, music directors, club directors, and occupational therapy instructors. These ratings were averaged to obtain the final achievement evaluations.

The Lutheran, Protestant, and Catholic Chaplains were assisted by two members of the Special Service Department in evaluating religious training achievement of the 93 subjects participating in the religious instruction program.

The statistical method

Relationships between achievement prognosis scores, actual achievement ratings, and adjustment ratings were determined by employing three types of statistical analyses. The data were treated primarily by using the analysis of variance, both single and multiple classification, and tests of t. Where the nature of the data made it necessary, analysis of covariance was employed. In addition to analyses of the data with sex and diagnosis groups combined, the design isolated the variances for sex and diagnosis.*

---

* Valuable assistance has been provided by Dr. James E. Wert, Professor of Vocational Education, Iowa State College, in establishing the experimental design of this study and in determining the types of statistical treatment necessary.
RESULTS

This section has been divided into three parts: an introductory analysis of total and subgroup data, testing the hypotheses, and a summary of relationships.

Introductory Analysis of Total and Subgroup Data

Prior to processing the data for individual achievement areas, it was necessary to establish whether the adjustment scores for all subjects could be grouped together or whether the data should be analyzed separately by sex or type of diagnosis. As there were more males than females in both diagnosis categories, it was necessary to correct for disproportionality. The total number of subjects of each sex and type of diagnosis on which evaluations were obtained is shown in Table 1.

Table 1. Total number of patients studied by sex and type of diagnosis

<table>
<thead>
<tr>
<th></th>
<th>Mentally Defective</th>
<th>Epileptic</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>75</td>
<td>42</td>
<td>117</td>
</tr>
<tr>
<td>Male</td>
<td>91</td>
<td>51</td>
<td>142</td>
</tr>
<tr>
<td>Both</td>
<td>166</td>
<td>93</td>
<td>259</td>
</tr>
</tbody>
</table>
To overcome disproportionality for later covariance analysis, 16 male mental defectives and 9 male epileptics were eliminated from the total number of subjects by using a table of random numbers. The proportionate sample of 234 cases resulting is shown in Table 2.

<table>
<thead>
<tr>
<th>Sex</th>
<th>Mentally Defective</th>
<th>Mentally Epileptic</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>75</td>
<td>42</td>
<td>117</td>
</tr>
<tr>
<td>Male</td>
<td>75</td>
<td>42</td>
<td>117</td>
</tr>
<tr>
<td>Both</td>
<td>150</td>
<td>84</td>
<td>234</td>
</tr>
</tbody>
</table>

An examination was then made of the mean adjustment scores of these 234 patients, the mean of their achievement scores received in all six participative areas, the mean achievement prognosis scores received in all six areas, and their interrelationships. A comparison of the subgroup means in relation to each type of evaluation obtained provided an estimate of the degree of similarity among patients in the proportionate sample.

An analysis of variance of adjustment scores was made to determine differences between subjects when sex, type of diagnosis, and interaction were considered. The mean adjustment scores for each subgroup are shown in Table 3. One of the original assumptions made by the writer which caused him to include both epileptic and defective subjects in the same study was that even though epileptics, as a group, might have higher I.Q.'s than defectives, this would not necessarily mean that they would receive
Table 3. Mean adjustment scores of patients in the proportionate sample by sex and type of diagnosis

<table>
<thead>
<tr>
<th>Type of Patient</th>
<th>Male</th>
<th>Female</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epileptic</td>
<td>3.329</td>
<td>3.155</td>
<td>3.242</td>
</tr>
<tr>
<td>Mentally</td>
<td>3.456</td>
<td>3.415</td>
<td>3.435</td>
</tr>
<tr>
<td>Both</td>
<td>3.410</td>
<td>3.321</td>
<td>3.366</td>
</tr>
</tbody>
</table>

significantly higher ratings on adjustment to the hospital. Table 3 verifies this assumption and shows that mental defectives obtained even higher adjustment evaluations than did epileptics. Male defectives received the highest mean adjustment scores while female epileptics received the lowest mean scores. As indicated in Table 4, however, there

Table 4. Analysis of variance of adjustment scores of patients in the proportionate sample

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Patient</td>
<td>1</td>
<td>2.0190</td>
<td>2.0190</td>
<td>1.27</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.4622</td>
<td>0.4622</td>
<td>0.29</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>0.2369</td>
<td>0.2369</td>
<td>0.15</td>
</tr>
<tr>
<td>Within</td>
<td>230</td>
<td>364.5284</td>
<td>1.5849</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>233</td>
<td>367.2465</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note—In this and subsequent analysis of variance tables, F = 6.75 is required for significance at the 1 per cent level. F = 3.89 is required for significance at the 5 per cent level.
was no significant difference found between scores of epileptics and
defectives \((F = 1.27)\), between males and females \((F = 0.29)\), or among
subjects when sex and type of diagnosis were jointly considered \((F = 0.15)\).

An analysis of variance of achievement scores was also made to
determine differences between subjects when grouped by sex and diagnosis
type. Table 5 includes the mean achievement scores for each subgroup.

<table>
<thead>
<tr>
<th>Type of Patient</th>
<th>Male</th>
<th>Female</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epileptic</td>
<td>3.324</td>
<td>3.086</td>
<td>3.205</td>
</tr>
<tr>
<td>Both</td>
<td>3.377</td>
<td>3.325</td>
<td>3.351</td>
</tr>
</tbody>
</table>

Female epileptics gained the lowest achievement scores. Female defectives
received slightly higher achievement ratings than did male defectives.
Mental defectives, as a group, received higher achievement scores than
did defectives just as they had done in adjustment. As shown in Table 6
the difference between achievement scores obtained by defectives and
epileptics \((F = 5.83)\) was found to be significant at the 5 per cent level.
There was no significant difference found between scores of males and
females \((F = 0.35)\) or among subjects when sex and diagnosis type were
considered together \((F = 2.73)\).
Table 6. Analysis of variance of achievement scores of patients in the proportionate sample

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Patient</td>
<td>1</td>
<td>2.6778</td>
<td>2.6778</td>
<td>5.83</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.1590</td>
<td>0.1590</td>
<td>0.35</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>1.2519</td>
<td>1.2519</td>
<td>2.73</td>
</tr>
<tr>
<td>Within</td>
<td>230</td>
<td>205.6561</td>
<td>0.4594</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>233</td>
<td>209.7448</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

An analysis of variance of achievement prognosis scores was made to determine differences between subjects when sex, type of diagnosis, and interaction were considered. The mean achievement prognosis scores for each subgroup are presented in Table 7. Although female epileptics received the lowest mean scores on adjustment and achievement of any subgroup, they received the highest ability prognosis scores. Also unlike evaluation scores examined previously, both male and female epileptics received higher mean achievement prognosis scores than did
their mentally defective counterparts. As indicated in Table 8, epileptic subjects, as a group, received significantly higher mean achievement prognosis scores than did mental defectives ($F = 19.13$). There was no significant difference found between achievement prognosis scores of males and females ($F = 0.01$) or among subjects when sex and type of diagnosis were considered together ($F = 1.40$).

Table 8. Analysis of variance of achievement prognosis scores of patients in the proportionate sample

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Squares</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Patient</td>
<td>1</td>
<td>1395.53</td>
<td>1395.53</td>
<td>19.13**</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>0.04</td>
<td>0.04</td>
<td>0.01</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>101.95</td>
<td>101.95</td>
<td>1.40</td>
</tr>
<tr>
<td>Within</td>
<td>230</td>
<td>16777.37</td>
<td>72.945</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>233</td>
<td>18274.89</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Two possible situations may have been operating to cause epileptics to receive higher achievement prognosis scores than did defectives. First, epileptics may have received a larger number of points for positive pre-institutional characteristics related to home situation or behavior prior to admission. Doll,$^1$ Halperin,$^2$ and Dayton$^3$ have indicated that high grade defectives tend to come from homes providing poor educational,

$^1$Doll, Influence of environment and etiology on social competence, op. cit., p. 92.

$^2$Halperin, op. cit., p. 11.

$^3$Dayton, op. cit., p. 32.
social, and vocational influences. This situation may not apply to the same extent to epileptics included in this study. Although no analysis has been made, the writer proposes that the difference between subgroup scores is greater for characteristics relating to home situation than to general pre-admission behavior.

Secondly, many defectives in the higher I.Q. range have been placed out of the Woodward State Hospital on vocational placement during the past five years by the Social Service Department but few higher level epileptics have been released. Although no additional points have been added to prognosis scores of patients having I.Q.'s higher than 71 or 72, there may have been a larger number of epileptics receiving maximum points for this characteristic. The epileptic group, therefore, may actually have had a higher mean I.Q. than the defective group.

Investigating this matter further, an analysis of variance of I.Q.'s was made to reveal differences between subjects when grouped by sex and type of diagnosis. The mean I.Q.'s for subgroups are shown in Table 9.

Table 9. Mean I.Q.'s of patients in the proportionate sample by sex and type of diagnosis

<table>
<thead>
<tr>
<th>Type of Patient</th>
<th>Male</th>
<th>Female</th>
<th>Both</th>
</tr>
</thead>
<tbody>
<tr>
<td>Epileptic</td>
<td>70.0</td>
<td>69.6</td>
<td>69.8</td>
</tr>
<tr>
<td>Mentally Defective</td>
<td>62.2</td>
<td>59.4</td>
<td>60.8</td>
</tr>
<tr>
<td>Both</td>
<td>65.0</td>
<td>63.0</td>
<td>64.0</td>
</tr>
</tbody>
</table>
These data show that the epileptics in this study had a mean I.Q. nine points higher than did the defectives, and that epileptics of both sexes surpassed defectives with respect to this characteristic. Table 10 demonstrates that epileptics obtained significantly higher mean I.Q.

Table 10. Analysis of variance of I.Q.'s of patients in the proportionate sample

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
<th>F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Patient</td>
<td>1</td>
<td>4356.924</td>
<td>4356.924</td>
<td>40.28</td>
</tr>
<tr>
<td>Sex</td>
<td>1</td>
<td>216.346</td>
<td>216.346</td>
<td>2.00</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>77.907</td>
<td>77.907</td>
<td>0.72</td>
</tr>
<tr>
<td>Within</td>
<td>230</td>
<td>24873.819</td>
<td>108.147</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>233</td>
<td>29524.996</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

scores than did mental defectives (F = 40.28). There was no significant difference found between I.Q. scores of males and females (F = 2.00) or among subjects when sex and type of diagnosis were jointly considered (F = 0.72).

Coefficients of correlation were then calculated to determine interrelationships existing between I.Q., the mean achievement scores, the mean adjustment scores, and the mean achievement prognosis scores. These correlation coefficients are presented in Table 11. This table shows that the correlation between adjustment and the mean achievement ratings (r = 0.667) was found to be significantly different from zero at the 1 percent level. Although the achievement prognosis score was not designed to estimate adjustment, the coefficient of correlation between the mean
achievement prognosis scores and patient adjustment was calculated. This coefficient \((r = 0.178)\) was also found to be highly significant. In fact, the mean achievement prognosis scores estimate adjustment more accurately than they do general participative achievement. The coefficient of correlation between the mean prognosis scores and the mean achievement scores \((r = 0.135)\) was found to be significant only at the 5 per cent level.

To further investigate these interrelationships, these three mean scores have been analyzed with respect to mental level. Intelligence evidently does not produce much effect upon adjustment, at least as far as the group here studied is concerned. The coefficient of correlation between patient adjustment and the mean I.Q. scores \((r = 0.070)\) was not

<table>
<thead>
<tr>
<th></th>
<th>(Y)</th>
<th>(x_1)</th>
<th>(x_2)</th>
<th>(x_3)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Y)</td>
<td>--</td>
<td>0.178</td>
<td>0.667</td>
<td>0.070</td>
</tr>
<tr>
<td>(x_1)</td>
<td>0.178</td>
<td>--</td>
<td>0.135</td>
<td>0.772</td>
</tr>
<tr>
<td>(x_2)</td>
<td>0.667</td>
<td>0.135</td>
<td>--</td>
<td>0.153</td>
</tr>
<tr>
<td>(x_3)</td>
<td>0.070</td>
<td>0.772</td>
<td>0.153</td>
<td>--</td>
</tr>
</tbody>
</table>

Table 11. Coefficients of correlation between adjustment, achievement prognosis, achievement, and I.Q. of patients in the proportionate sample

\(Y = \text{Adjustment}\)  \(x_2 = \text{Achievement}\)
\(x_1 = \text{Achievement Prognosis}\)  \(x_3 = \text{I.Q.}\)

Required for significance  
5% level = \(0.128\)
1% level = \(0.168\)
found to be significantly different from zero. Considering this low
correlation coefficient and the high relationship between adjustment and
achievement, one might expect a low relationship between achievement and
mental level. This is not entirely borne out in that the correlation
between the mean I.Q. scores and the mean achievement scores \( r = 0.153 \)
was found to be significant at the 5 per cent level. The high coefficient
of correlation between I.Q. and the mean achievement prognosis scores
\( r = 0.772 \) provides evidence that the prognosis scores were quite
heavily weighted with mental level.

In summary, epileptics in the sample here studied had significantly
higher mental levels and higher achievement prognosis scores than did the
defective patients but received lower mean achievement scores than did
defectives. There were no significant differences between any of the sub-
groups with respect to adjustment. No significant differences were found
between sexes on any of these ratings or characteristics. When all
patients were grouped together, highly significant relationships were
found between adjustment and achievement as well as between achievement
prognosis scores and I.Q., and, to a lesser extent, between adjustment and
achievement prognosis scores. Achievement was found to be significantly
related to achievement prognosis scores and to I.Q. at the 5 per cent
level. There was no significant relationship between adjustment and
mental level. The findings regarding I.Q. demonstrate that perhaps
achievement prognosis scores should not have been as heavily weighted with
mental level as they were.
An analysis of covariance was made of adjustment scores when classified according to sex and type of patient, holding constant the achievement prognosis scores and achievement scores. This analysis was made for the proportionate sample of 234 patients to ascertain if the sample had to be limited to this number or if all available individuals could be included in subsequent analyses.

Separate equations were obtained in deviation form, by the usual methods of covariance as follows:

For within plus type of patient---
\[ Y = 0.012478x_1 + 0.8677736x_2 \]
which yielded a sum of squares for residuals of 200.8142.

For within plus sex---
\[ Y = 0.0137568x_1 + 0.862783x_2 \]
which yielded a sum of squares for residuals of 200.6199.

For within plus interaction---
\[ Y = 0.0136422x_1 + 0.8608112x_2 \]
which yielded a sum of squares for residuals of 200.6463.

For within alone---
\[ Y = 0.0135555x_1 + 0.8624661x_2 \]
which yielded a sum of squares for residuals of 200.6025.

In each of the four foregoing equations,
\[ Y = \text{adjustment score in deviation form}, \]
\[ x_1 = \text{achievement prognosis score in deviation form}, \] and
\[ x_2 = \text{achievement score in deviation form}. \]

The analysis of covariance is shown in Table 12. Since neither main effect nor interaction was significant, it appeared justified to ignore sex and type of patient in subsequent analysis thus increasing the group studied from 234 to 259 patients.
Table 12. Covariance tests of significance for sources of variation

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>Degrees of Freedom</th>
<th>Within Plus</th>
<th>Residuals</th>
<th>Effect</th>
<th>Sum of Squares</th>
<th>Mean Square</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of Patient</td>
<td>229</td>
<td>200.8142</td>
<td>1</td>
<td>0.2117</td>
<td>0.2117</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>229</td>
<td>200.6199</td>
<td>1</td>
<td>0.0174</td>
<td>0.0174</td>
<td></td>
</tr>
<tr>
<td>Interaction</td>
<td>229</td>
<td>200.6463</td>
<td>1</td>
<td>0.0438</td>
<td>0.0438</td>
<td></td>
</tr>
<tr>
<td>Within Alone</td>
<td>228</td>
<td>200.6025</td>
<td></td>
<td></td>
<td></td>
<td>0.8798</td>
</tr>
</tbody>
</table>

Testing the Hypotheses

To determine factors relating to adjustment and achievement, six hypotheses have been selected for testing. The first four relate specifically to adjustment. A statement regarding acceptance or rejection is made immediately after analyses regarding each hypothesis. The last two hypotheses relate specifically to participative achievement. The same procedure has been followed regarding this subject of inquiry. The results of analyses pertaining to each of the six hypotheses are given before an attempt is made to summarize the findings regarding adjustment, achievement, achievement prognosis, and their interrelationships.
Hypothesis 1: There is no relationship between patient adjustment and their participative achievement in each of six selected areas of group life.

Evaluations of adjustment were obtained from each patient's night ward charge, ward doctor, teacher, present work supervisor, and the assistant male or female supervisor. Appendix K provides a list of staff members evaluating achievement in each participative area. Each patient's adjustment and achievement were compared with those of other patients in the groups in which he lived, worked, and played. The average ratings received by each individual were accepted as his adjustment or achievement score. Coefficients of correlation between adjustment scores and achievement scores in each participative area were calculated. The resulting coefficients are presented in Table 13.

Table 13. Coefficients of correlation between achievement in selected areas of participation and adjustment

<table>
<thead>
<tr>
<th>Area of Participation</th>
<th>N</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-Peer Relations</td>
<td>259</td>
<td>0.662</td>
</tr>
<tr>
<td>Patient-Staff Relations</td>
<td>259</td>
<td>0.695</td>
</tr>
<tr>
<td>School</td>
<td>119</td>
<td>0.254</td>
</tr>
<tr>
<td>Vocational Training</td>
<td>201</td>
<td>0.437</td>
</tr>
<tr>
<td>Recreation</td>
<td>126</td>
<td>0.295</td>
</tr>
<tr>
<td>Religious Training</td>
<td>93</td>
<td>0.408</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>259</td>
<td>0.673</td>
</tr>
</tbody>
</table>

Note—All coefficients of correlation are significantly different from zero at the 1% level.
As indicated in Table 13, achievement in all six areas was found to be significantly related to adjustment at the 1 per cent level. Achievement in the areas of patient-peer and patient-staff relations were by far the most closely related to patient adjustment, their respective coefficients being $r = 0.662$ and $r = 0.695$. Both relationships were found to be highly significant. Patients were rated on patient-peer relations with respect to their achievement in getting along with other patients, number of friends, helpfulness, consideration of others, aggressiveness, and enjoyment of group activities. Patient-staff evaluations were based upon patients' friendliness toward the staff, obedience, cooperation, dependability, ability to take direction, and respect for authority.

There are six possible reasons why adjustment was found to be more closely related to achievement in these two areas than to the other four participative areas. All or any combination of the following forces may have been acting to bring about the resulting relationships. First, the relationships found may be the true relationships. Logically, it would appear that achievement in these areas would be highly related to adjustment since a greater portion of each patient's time is spent associating with other patients and staff members than is spent on his job, in school, in recreation, or in religious activities. Second, from the literature on mental deficiency, one gains the implication that the social processes involved in achieving in the area of inter-personal relations are quite similar to those involved in adapting or adjusting to the total institutional milieu. Third, it is possible that patient adjustment in the hospital may be almost equated with achievement in patient-peer and
patient-staff relations, i.e., achievement in these areas may be, in reality, adjustment to other patients and staff members. Achievement in other areas may depend more upon vocational, educational, and recreational skills. Fourth, staff members may have been evaluating achievement and adjustment from the same framework. They may have actually conceived of the two as being two distinct phenomena but were unable to differentiate between them when evaluating individual patients. Fifth, evaluations of adjustment, patient-peer relations, and patient-staff relations were obtained for all 259 patients while the number of patients participating in the remaining four activity areas ranged from 93 to 201. Unidentified selective factors may have been operating to place certain individuals in the latter activity programs. Lastly, adjustment evaluations and achievement ratings in these two areas were made by persons representing the same five departments. Although only the ward doctors and present work supervisors rated the same group of patients on both factors, individuals from the same departments may have given similar ratings on the two factors. Achievement in each of the other four areas was evaluated by fewer persons having specific knowledge of patient participation in each area.

The coefficient of correlation between adjustment and achievement in vocational training was calculated. Achievement evaluations were obtained for 201 subjects in the vocational training program by averaging ratings received from patients' present and previous work supervisors. Two ratings were obtained only for 101 patients who had worked on more than one job within the past two years. Achievement evaluations in this area depended upon patient achievement in his work, ability to learn rapidly, retention
of skills, ability to apply knowledge, dependability, and ability to
follow instructions. The coefficient of correlation between achievement
in vocational training and patient adjustment was found to be $r = 0.437$,
which was significant at the 1 per cent level. Achievement in this
participative area proved to have the third highest relationship with
adjustment.

The coefficient of correlation between achievement in religious train-
ing and patient adjustment was calculated. Only 93 of the 259 subjects
included in this study attended religious training classes. There was
no evaluation attempted of those who attended church services only. The
three denominational chaplains were assisted by members of the Special
Service Department in rating each patient. Achievement was considered
on the basis of patients' achievement in learning and retaining moral
beliefs and standards of behavior, their ability to apply these to life
situations, participative enthusiasm, and achievement in following instruc-
tions. The coefficient of correlation between achievement in religious
training and patient adjustment ($r = 0.408$) was found to rank fourth
among the six participative areas. This relationship was significantly
different from zero at the 1 per cent level.

Recreational achievement proved to have the next highest relationship
with adjustment. Achievement scores were obtained for 126 subjects
participating in at least one formal recreational activity by averaging
ratings received from the directors of athletics, music, clubs, and
occupational therapy. Ratings on achievement were made according to the
patient's sportsmanship, achievement in learning and applying what he
learns, dependability, and initiative. The coefficient of correlation
between recreational achievement and patient adjustment \( r = 0.295 \) was found to be significant at the 1 percent level.

School achievement evaluations were obtained from the teachers of 45 pupils currently enrolled in school and 74 patients who had previously attended the institutional school. School achievement was evaluated in terms of patient achievement in learning, retention, ability to apply knowledge, and ability to follow directions. The coefficient of correlation between adjustment and school achievement \( r = 0.254 \) was calculated and found to be significantly different from zero at the 1 percent level.

In summary, achievement in each area of participation was found to be significantly related to patient adjustment. The hypothesis that there is no relationship between patient adjustment and their participative achievement in each of the six selected areas of group life must therefore be rejected.

Hypothesis 2: No relationship exists between patient adjustment and their total participative achievement in all six areas of group life.

An achievement rating was obtained for each patient in each area of group life in which he participated. An arithmetic average of the achievement ratings was obtained by averaging the three to six ratings received by each patient. This was done without consideration of the differences between variances among the six evaluation distributions to expedite obtaining an approximation of total patient participative achievement. A coefficient of correlation between these average achievement scores and patient adjustment was calculated. This calculation resulted in the
coefficient of correlation $r = 0.673$ reported in Table 13. This coefficient was found to be significantly different from zero at the 1 per cent level. Due to the decreased numbers of patients participating in four activity areas, the magnitude of this average coefficient of correlation falls between those of the coefficients found for the two areas most highly related to adjustment: patient-peer and patient-staff relations.

Referring to Table 11, the coefficient of correlation between patient adjustment and the mean of their achievement scores received in all six participative areas was found to be $r = 0.667$. Although this coefficient was obtained when using the 234 patients included in the proportionate sample, it was found to be significant at the 1 per cent level.

In summary, total achievement was found to be significantly related to adjustment. The hypothesis that no relationship exists between patient adjustment and their total participative achievement in all six areas of group life must therefore be rejected.

Hypothesis 3: There is no relationship between patient adjustment and their achievement prognosis in each of the six selected participative areas.

An achievement prognosis score was obtained for each patient in each of the areas of group life in which he participated. The score was obtained by summing points given him for certain characteristics possessed and situations he had experienced prior to institutionalization. To the patient's I.Q. was added the prescribed number of points for each pre-institutional factor which the professional staff believed to have a
marked influence on achievement in the specific activity area being considered. Additional information regarding the procedure by which achievement prognosis scores were obtained may be found in the section on methods and procedures and in Appendix A.

Although achievement prognosis scores were designed specifically to estimate achievement, Table 11 indicates that they do a better job of estimating patient adjustment than they do total achievement. To further examine this relationship, coefficients of correlation between adjustment scores and achievement prognosis scores for each participative area were calculated. Table 14 shows the resulting coefficients.

Table 14. Coefficients of correlation between achievement prognosis in selected areas of participation and adjustment

<table>
<thead>
<tr>
<th>Area of Participation</th>
<th>N</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-Peer Relation</td>
<td>259</td>
<td>.122*</td>
</tr>
<tr>
<td>Patient-Staff Relation</td>
<td>259</td>
<td>.311**</td>
</tr>
<tr>
<td>School</td>
<td>119</td>
<td>.089</td>
</tr>
<tr>
<td>Vocational Training</td>
<td>201</td>
<td>.596**</td>
</tr>
<tr>
<td>Recreation</td>
<td>126</td>
<td>.280**</td>
</tr>
<tr>
<td>Religious Training</td>
<td>93</td>
<td>-.003</td>
</tr>
<tr>
<td>Average</td>
<td>259</td>
<td>.152*</td>
</tr>
</tbody>
</table>

Note- * Significant at 5% level.  
** Significant at 1% level.
Achievement prognosis in vocational training was found to be more closely related to adjustment than were prognosis scores in the other five participative areas. Prognosis scores for the 201 subjects included points for I.Q., physical condition, relations with adults, relations with peers, pre-admission behavior, and home work influence. The coefficient of correlation between adjustment and achievement prognosis in vocational training ($r = 0.596$) was found to be significant at the 1 per cent level.

The coefficient of correlation between patient adjustment and their achievement prognosis in patient-staff relations was calculated. Prognosis scores in this area were obtained by adding points for mental level, previous institutionalization, relations with adults, pre-admission behavior, and type of home. All 259 subjects received scores in this participative area. The coefficient of correlation between patient adjustment and achievement prognosis in patient-staff relations ($r = 0.311$) was found to be significantly different from zero at the 1 per cent level.

Achievement prognosis in recreation proved to have the third highest relationship with patient adjustment. Only 126 subjects participated in one or more recreational activities. These patients received points toward their achievement prognosis score for I.Q., physical condition, relations with adults, relations with peers, and pre-admission behavior. The coefficient of correlation between patient adjustment and achievement prognosis in recreation ($r = 0.280$) was calculated and found to be significant at the 1 per cent level.

The coefficient of correlation between patient adjustment and achievement prognosis in patient-peer relations was also calculated. Points were given toward achievement prognosis scores for mental level,
previous institutionalization, relations with peers, pre-admission behavior, and type of home. All 259 subjects received achievement prognosis scores in this area of participation. The coefficient of correlation between achievement prognosis in patient-peer relations and patient adjustment was found to be \( r = 0.122 \), which was significantly different from zero at the 5 per cent level.

Prognosis scores in two activity areas were found not to be significantly related to adjustment. Prognosis scores of school achievement were obtained by summing points given for I.Q., relations with adults, relations with peers, pre-admission behavior, years retarded in school, ability in the 3 H's, behavior in school, family history of mental defectiveness, and home educative influence. Scores were obtained for 45 subjects currently enrolled in school and 74 more who had previously attended the institutional school. The coefficient of correlation between patient adjustment and school achievement prognosis \( (r = 0.089) \) was found not to be significant.

A negative correlation coefficient was obtained between achievement prognosis in religious training and patient adjustment. To obtain achievement prognosis scores for the 93 subjects enrolled in the religious training program, points were added to the I.Q. for only three pre-institutional characteristics: relations with adults, pre-admission behavior, and home religious influence. The coefficient of correlation between religious training achievement prognosis and patient adjustment \( (r = -0.003) \) was found not to be significantly different from zero.

In summary, achievement prognosis scores in four of the six participative areas were found to be significantly related to adjustment. The
hypothesis that there is no relationship between patient adjustment and their achievement prognosis in each of the six selected participative areas is partially rejected.

Hypothesis 4: There is no relationship between patient adjustment and their total achievement prognosis for all six participative areas.

An achievement prognosis score was obtained for each patient in each area of group life in which he participated. The scores obtained by each patient were averaged to gain a mean achievement prognosis score.* A coefficient of correlation between these mean prognosis scores and adjustment was calculated ($r = 0.152$) and found to be significant at the 5 per cent level.

The coefficient of correlation between patient adjustment and their mean achievement prognosis scores was calculated previously, using the 234 subjects in the proportionate sample. Table II shows this coefficient ($r = 0.178$) to be significantly different from zero at the 1 per cent level.

In summary, total achievement prognosis was found to be significantly related to adjustment. The hypothesis that there is no relationship between patient adjustment and their total achievement prognosis for all

*In each achievement prognosis score, I.Q. was used as a base upon which were added additional points for certain factors regarding life prior to admission. The practice of summing these scores may be subject to some criticism in that the I.Q., in reality, is multiplied while points for other characteristics are added to the total score. The effect this constant has on relationships between mean achievement prognosis scores and other factors has not been determined.
six participative areas must therefore be rejected.

Two secondary hypotheses are proposed to determine if participative achievement can be prognosticated from data regarding pre-institutional experiences.

Hypothesis 5: There is no relationship between actual patient achievement in each of the six selected experiential areas and their corresponding achievement prognoses.

A total of 84 staff members provided patient achievement evaluations in the six areas of group life selected by the hospital professional staff as having a marked influence on patient adjustment. Each patient was rated on a five-point scale according to his achievement in each participative area.

Data regarding pre-institutional experiences were used in obtaining a prognosis of patient ability to benefit from participation in each of the six selected areas. A scoring system was devised by which patients were given points for each positive characteristic possessed at the time of hospital admission. The number of points given for each characteristic was suggested by the staff consultants in accordance with their belief regarding its influence on achievement in the area being considered. Information regarding each patient's pre-institutional experiences was taken from his personnel folder. An achievement prognosis score for each patient was obtained in each area of group life in which he participated.

Coefficients of correlation were calculated to determine the degree to which the achievement prognosis scores could prognosticate actual patient achievement. Table 15 shows the resulting coefficients.
Table 15. Coefficients of correlation between achievement prognosis and actual achievement in selected areas of participation

<table>
<thead>
<tr>
<th>Area of Participation</th>
<th>N</th>
<th>Coefficient of Correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-Peer Relation</td>
<td>259</td>
<td>.662**</td>
</tr>
<tr>
<td>Patient-Staff Relation</td>
<td>259</td>
<td>.251**</td>
</tr>
<tr>
<td>School</td>
<td>119</td>
<td>.434**</td>
</tr>
<tr>
<td>Vocational Training</td>
<td>201</td>
<td>.077</td>
</tr>
<tr>
<td>Recreation</td>
<td>126</td>
<td>.294**</td>
</tr>
<tr>
<td>Religious Training</td>
<td>93</td>
<td>.015</td>
</tr>
<tr>
<td>Average</td>
<td>259</td>
<td>.213**</td>
</tr>
</tbody>
</table>

Note— * Significant at 5% level.  ** Significant at 1% level.

A higher relationship was found between achievement prognosis in patient-peer relations and actual patient-peer relations achievement than was found between achievement prognosis in any other area and its corresponding achievement evaluations. Evaluations of achievement were obtained for all 259 subjects included in this study. The coefficient of correlation between achievement prognosis scores and actual achievement in patient-peer relations (r = 0.662) was found to be significant at the 1 per cent level.

The selected group of pre-institutional characteristics which did the next best job of estimating patient achievement was that group prognosticating school achievement. School achievement evaluations were obtained for only 119 subjects from the total group. The coefficient of correlation between school achievement prognosis and actual achievement in
school \((r = 0.434)\) also proved to be significantly different from zero at the 1 per cent level.

The coefficient of correlation between achievement prognosis in recreation and actual achievement in recreational activities was calculated \((r = 0.294)\) and found to be highly significant. Achievement ratings in this area were obtained for 126 subjects participating in at least one recreational activity.

It was expected that achievement prognosis scores in patient-staff relations would show almost as high a relationship with actual achievement in that area as was found between patient-peer relations prognosis scores and actual achievement in patient-peer relations. This situation was not found to exist. Patient-staff relations achievement scores were obtained for all 259 subjects studied. The coefficient of correlation between achievement prognosis in patient-staff relations and achievement in that participative area \((r = 0.251)\) was less than that found for patient-peer relations but still proved to be significantly different from zero at the 1 per cent level.

Pre-institutional factors selected to prognosticate achievement in vocational training and religious training did not prove to be valuable for this purpose. Two hundred and one subjects were enrolled in the vocational training program. The coefficient of correlation between achievement in vocational training and achievement prognosis scores in that area \((r = 0.077)\) was not found to be significantly different from zero.

The coefficient of correlation between achievement prognosis in religious training and actual religious training achievement was found to be lower than those obtained for the other five participative areas. Only 93
patients attending religious instruction classes were evaluated to obtain achievement scores in this area. The correlation between patient achievement in religious training and their achievement prognosis scores \( r = 0.015 \) was not significant.

In summary, achievement prognosis scores in four areas of group life were found to be significantly related to actual achievement in their respective areas. The hypothesis that there is no relationship between actual patient achievement in each of the six selected experiential areas and their corresponding achievement prognoses can be only partially rejected.

Hypothesis 6: No relationship exists between total patient participation in all six areas of group life and their total achievement prognoses for all six experiential areas.

Each of the 259 patients included in this study was evaluated on his achievement in three to six activity areas in which he participated. An average of the ratings obtained in all areas in which he participated was accepted as his mean achievement rating.

Pre-institutional characteristics were weighted in accordance with the professional staffs' view regarding their influence in determining achievement in each specific activity area. The weighted values were combined into an achievement prognosis score for each individual in each area in which he participated. The scores obtained by each individual were averaged to obtain a mean achievement prognosis score. This mean score was taken as an approximation of the patient's total ability to benefit from participation in all six areas of group life.
The coefficient of correlation between the mean achievement scores and the mean achievement prognosis scores was obtained to determine how well the groups of pre-institutional characteristics could estimate total patient achievement. The coefficient of correlation between these two mean scores was \( r = 0.213 \). Table 15 shows this to be significant at the 1 per cent level.

In the section regarding introductory analysis of total and subgroup data, the relationship between total achievement and total achievement prognosis was determined for the proportionate sample of 234 subjects. The coefficient of correlation between mean achievement ratings and mean achievement prognosis scores (\( r = 0.135 \)) is shown in Table 11 to be significantly different from zero at the 5 per cent level.

In summary, mean achievement prognosis scores were found to be significantly related to mean patient achievement. The hypothesis that no relationship exists between total patient participative achievement in all six areas of group life and their total achievement prognoses for all six experiential areas must therefore be rejected.

Summary of Relationships

Prior to investigating individual achievement areas, it was necessary to establish whether the adjustment scores for all subjects could be grouped together or whether the data should be analyzed separately by sex or type of diagnosis. Correcting for disproportionality, the analysis of variance was employed to determine significant differences between subgroups among the 234 subjects in the proportionate sample. Epileptics
were found to have a mean I.Q. nine points higher than the mental defective. They received significantly higher achievement prognosis scores but received significantly lower mean achievement scores than did the defective patients. No significant differences were found between sexes on any of these ratings or characteristics. When patients were grouped together, highly significant relationships were found between adjustment and achievement as well as between achievement prognosis scores and I.Q.

In the proportionate sample, the relationship between adjustment and achievement prognosis was found to be significant at the 1 per cent level but was only significant at the 5 per cent level when all 259 patients were included. The relationship between total achievement prognosis and actual achievement was found to be significant at the 5 per cent level in the proportionate sample but was later found to be significant at the 1 per cent level when an analysis was made of the total patient group. There was no significant relationship found between adjustment and mental level.

Two hypotheses considered the relationships between patient adjustment and achievement in six selected areas of group life. Total participative achievement was found to be highly related to patient adjustment. Achievement in each of the six selected areas of participation was found to be significantly related to adjustment at the 1 per cent level.

Achievement in certain areas, however, proved to be more highly related to adjustment than in others. Achievement in the areas of patient-staff and patient-peer relations were by far the most closely related to patient adjustment, their respective coefficients of correlation being $r = 0.695$ and $r = 0.662$. Six possible reasons have been suggested as to
why adjustment was found to be more closely related to achievement in these two areas than in the other four participative areas. Achievement in vocational training and religious training were next most closely related to adjustment, their respective coefficients of correlation being $r = 0.437$ and $r = 0.408$. The participative areas having their achievement scores least related to adjustment were recreation and school. The respective coefficients of correlation between achievement in these areas and patient adjustment were $r = 0.295$ and $r = 0.254$.

Two hypotheses considered the relationship between patient adjustment and achievement prognosis scores. These scores were designed to estimate achievement in the same six participative areas mentioned previously but have been analyzed with respect to patient adjustment to provide some indication of the relationship between certain pre-institutional characteristics and adjustment.

The relationship between total achievement prognosis and patient adjustment ($r = 0.152$) was found to be significant at the 5 per cent level. Although achievement prognosis scores in four of the six areas of group life were significantly related to adjustment, none of them were able to estimate adjustment more accurately than did the mean achievement scores.

The relationship between achievement prognosis scores in three participative areas and patient adjustment proved to be significant at the 1 per cent level. Achievement prognosis in vocational training was found to be more closely related to adjustment than were prognosis scores in the other five areas of group life, the resulting coefficient of correlation being $r = 0.596$. Prognosis scores in vocational training estimated adjustment much better than they estimated achievement in vocational
training. The coefficients of correlation between patient adjustment and their achievement prognoses in both patient-staff relations and recreation (r = 0.311 and r = 0.280) were also found to be highly significant. Also significant, but at the 5 per cent level, was the relationship between patient adjustment and achievement prognosis in patient-peer relations (r = 0.122). Prognosis scores of school and religious training achievement (r = 0.089 and r = -0.003) were found not to be significantly related to adjustment.

Finally, two hypotheses were proposed to determine if participative achievement could be prognosticated from data regarding pre-institutional experiences. A significant relationship was found to exist between total participative achievement in all six areas of group life and total achievement prognoses (r = 0.213), although achievement prognosis scores in four areas were even more highly related to actual achievement in their corresponding areas of group life. Achievement prognosis in each of these four areas was significantly related to actual achievement at the 1 per cent level.

Achievement prognosis scores in patient-peer relations did the best job of prognosticating achievement in that area. The coefficient of correlation was found to be r = 0.662. Achievement in this area was highly related to adjustment and patient-peer achievement prognosis but the relationship between the prognosis scores and adjustment was only significant at the 5 per cent level.

The next highest relationship was that between school achievement and achievement prognosis in school (r = 0.434). It may be noted that although school achievement prognosis was highly related to actual
achievement in school, it was not found to be significantly related
to adjustment. This may account for school achievement being the least
related to adjustment among the six participative areas.

Recreational achievement and recreation achievement prognosis scores
were also significantly related. The coefficient of correlation between
the two scores \( r = 0.294 \) was approximately the same as found between
achievement in this area and adjustment and between recreation achievement
prognosis scores and adjustment.

Although the relationship between achievement in patient-staff
relations and achievement prognosis in that area \( r = 0.251 \) was less
than expected, achievement prognosis scores in patient-staff relations
were able to significantly prognosticate actual achievement.

Achievement prognosis scores in vocational training and religious
training were not found to be significantly related to actual achievement
in these areas. The coefficients of correlation obtained were \( r = 0.077 \)
and \( r = 0.015 \). Of interest is the fact that patient adjustment was found
to be highly related to achievement in vocational training and to voca-
tional training achievement prognosis scores, but the prognosis scores
did a poor job of prognosticating actual achievement in that area.
Although achievement in religious training was found to be highly related
to patient adjustment, there is practically no relationship between
achievement prognosis scores in religious training and actual achievement
in that area or in the area of patient adjustment.
DISCUSSION

Perhaps the most significant contribution made by this research is to the study of scientific methodology rather than the results of analyses regarding adjustment and achievement of patients at the Woodward State Hospital. A series of questions may be raised regarding concept definitions, the content of evaluative measures employed, methods of obtaining data, and methods of analysis.

The first question which may be raised concerns the definition of adjustment. In this study, a pragmatic view was taken wherein evaluators were allowed to define adjustment as they desired. The result of this method is that the writer, even after having completed the study, is unable to state what criteria were used in the evaluators' definition of adjustment. One not accustomed to working with undefined abstracts might question the propriety of seeking factors related to an undefined quantity. A more precisely defined adjustment concept might have been obtained by structuring rank definitions so that evaluators could rate patients on stated criteria. The question of what patient adjustment in an institution for defectives and epileptics really means warrants further investigation. Additional insights might be provided by studies of adjustment patterns and processes with respect to patient age, age at admission, length of residence, and selected pre-institutional experiences. These factors have not been considered in the present investigation.

Although the hospital professional staff chose six participative
areas which they felt markedly influence patient adjustment, the writer did not expect to find as highly significant relationships between achievement in all areas and patient adjustment as were obtained. The primary question which arises is whether the high relationships found between patient adjustment and achievement in the various participative areas are the true relationships or whether they are the product of the design of the study. If it were found that they are the true relationships, one might conclude that the staff had selected the areas wisely. On the other hand, the reason for uniformly high relationships may be that achievement in the six areas are highly intercorrelated. A low multiple correlation would provide an indication that this situation existed. This matter needs further investigation.

Additional analyses might profitably be made regarding definitions of achievement in the various participative areas and methods of obtaining achievement evaluations. There were certain common elements upon which achievement evaluations in the various areas of group life were based which may have caused a high interrelationship to exist between the six achievement ratings. Achievement in learning, retention, ability to apply knowledge, taking directions, and dependability were considered in almost all of the six participative areas. The practice of constructing definitions employing these common elements might be subject to criticism but the writer has observed that these elements are no less commonly used in grading normal school pupils on achievement in algebra, biology, history, and manual training.

The high coefficient of correlation found between I.Q. and the mean achievement prognosis scores provides evidence that the prognosis scores
were quite heavily weighted with mental level. A simple method of determining whether or not I.Q. was weighted too heavily in achievement prognosis scores would be to analyze the relationships between I.Q. and achievement as well as between achievement and prognosis scores minus I.Q. The actual weights which should be assigned I.Q. and other pre-institutional characteristics could be statistically determined by analyzing the relationships between individual characteristics and achievement in each participative area.

It would not be feasible for many institutions to employ as comprehensive an evaluative scheme as was used in this study. The time consumed in obtaining evaluations would be prohibitive. There is a need for a systematic method of collecting and analyzing objective achievement and adjustment data.

One limitation of the study was the lack of comparative data regarding patients who participated in each area of group life. Significant findings might be obtained regarding differences in ages, mental level, length of hospitalization, adjustment, and achievement patterns.

Finally, one important sociological subject of inquiry has not been investigated in this study. Adjustment has been considered primarily from the standpoint of individual adaptation to the institutional power system and to the groups of individuals therein. The effect of the structure and functioning of this power system on the individual has been considered only as it manifests itself in modified patient behavior.

The questions posed and suggestions made in this section were designed to aid in establishing sound theoretical and methodological designs for further research into mental deficiency and epilepsy.
Patients admitted to a institution for mental defectives and epileptics, having been uprooted from their home community and placed in an entirely new social milieu, are confronted with the task of adjusting to the new environment. Upon admission, they are of varying ages, mental levels, and physical conditions. They have had different home backgrounds, school experiences, and community relationships. Yet each patient is required to adapt himself, to a greater or lesser degree, to the institutional power system and to individuals within the system. Throughout their stay in the institution, patients participate in various activities which play their part in modifying behavior and affecting their adjustment to the institution.

Heretofore, the determination of which participative experiences have a definite relationship to adjustment has been made primarily on a conjectural basis. Although the staff of the Woodward State Hospital feels its training program compares favorably with those of other institutions, it recognizes that the relative influence of these group experiences and early background experiences on patient adjustment has not been determined.

The primary purpose of this study was to determine if participative experiences and pre-institutional experiences relating to patient adjustment could be determined by objective methods. A secondary objective was to determine if participative achievement in selected areas of hospital
activities could be prognosticated from data regarding pre-institutional experiences.

The areas of participation analyzed in this study were selected by the hospital professional staff as the primary influences affecting total patient adjustment. Adjustment was analyzed in relation to participative achievement in patient-peer relations, patient-staff relations, school, vocational training, recreation, and religious training.

Adjustment of 259 high grade defectives and epileptics was studied. The group consisted of 75 female defectives, 42 female epileptics, 91 male defectives, and 51 male epileptics. All patients had I.Q.'s higher than 50, were between the ages of 10 and 44, and had been in residence from 1 to 19 years.

A pragmatic view of adjustment was taken whereby individual staff members evaluated adjustment in accordance with their own definitions. Adjustment evaluations were made by the patient's ward doctor, ward attendant, work supervisor, teacher, and the male or female supervisor. Each patient was compared with other patients in the group in which he lived, worked, and played. His adjustment was rated on a five-point scale.

Primarily because of lack of objective data, ratings of achievement in each area of group life were obtained from staff members specifically acquainted with behavior in that area. Patients were rated on a five-point scale which included statements of the criteria for achievement at each level.

Data regarding pre-institutional experiences were taken from each patient's personnel folder. Each such experience was assigned a weight
in accordance with the professional staff's estimate of its relative influence on participative achievement. These values were combined to form a prognostic evaluation of the individual's achievement potential in each area of group life.

The relationships between scores obtained on achievement prognosis, participative achievement, and adjustment were analyzed by analysis of variance, tests of t, and analysis of covariance.

Epileptics were found to have a mean I.Q. nine points higher than the mental defectives. They received significantly higher achievement prognosis scores but lower achievement scores than did defectives. There were no adjustment differences between the two groups. There were no sex differences in any of the analyses.

Participative achievement in each of the six selected areas was found to be significantly related to adjustment. Although achievement prognosis scores in four of the six areas of group life were significantly related to adjustment, none of them were able to estimate adjustment more accurately than were the mean achievement scores. The significant participative areas were, in order of significance, vocational training, patient-staff relations, recreation and patient-peer relations. Finally, it was determined that participative achievement in patient-peer relations, school, recreation, and patient-staff relations could be prognosticated from the weighted scores obtained from data regarding pre-institutional experiences.
CONCLUSIONS

The results of this study demonstrate that it is possible to determine by scientifically sound methods if participative experiences and pre-institutional experiences are related to patient adjustment. It was hypothesized that there is no relationship between patient adjustment and their participative achievement in each of the six selected areas of group life but this hypothesis was rejected. The hypothesis that no relationship exists between adjustment total participative achievement in all six areas of group life was also rejected. Achievement prognosis scores in four of the six participative areas were found to be significantly related to adjustment, therefore, the hypothesis that there is no relationship between patient adjustment and achievement prognosis in each selected participative area was partially rejected. The hypothesis that there is no relationship between adjustment and total achievement prognoses for all six participative areas was rejected.

The study shows that participative achievement in selected areas of hospital activities can be prognosticated from data regarding pre-institutional experiences. Achievement prognosis scores in four areas of group life were found to be significantly related to actual achievement in their respective areas. The hypothesis that there is no relationship between actual patient achievement in each of the six selected experiential areas and their corresponding achievement prognoses was therefore partially
rejected. The hypothesis that no relationship exists between total patient participative achievement in all six areas of group life and their total achievement prognoses for all six experiential areas was rejected.
ACKNOWLEDGEMENTS

The writer wishes to express his appreciation to Dr. Grace M. Sawyer, Superintendent, for permitting this study to be conducted at the Woodward State Hospital and School, Woodward, Iowa. Through her active support, complete cooperation was received from the professional staff consultants and the staff of evaluators. The Iowa State Board of Control, consisting of George W. Callenius, Chairman, Robert C. Lappen, and Henry W. Burma, deserves recognition for its policy of making facilities available for research in the social sciences.

In addition, the writer wishes to acknowledge assistance received in developing the theoretical and methodological foundation upon which this study has been built. Dr. Ray E. Wakeley, Department of Economics and Sociology, under whose direction this study has been written, and the other five committee members provided valuable counsel regarding the experimental design and methods of statistical analysis.
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APPENDICES
WEIGHTED SCORES FOR PRE-HOSPITALIZATION CHARACTERISTICS

To determine a patient's achievement prognosis score in any area, begin with the I.Q. as a base (I.Q.'s over the designated maximum are to be given only the maximum rating) and add the additional points designated below for each positive pre-institutional characteristic pertaining to that area.

<table>
<thead>
<tr>
<th>Characteristics Scored</th>
<th>Minimum Scores</th>
<th>Mid Scores</th>
<th>Maximum Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to Benefit From Patient-Peer Relations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental level</td>
<td>I.Q. 50</td>
<td></td>
<td>72</td>
</tr>
<tr>
<td>Prev. institut. in correctional</td>
<td>Yes 0</td>
<td>-</td>
<td>No 3</td>
</tr>
<tr>
<td>Prev. institut. in dependent</td>
<td>Yes 0</td>
<td>-</td>
<td>No 1</td>
</tr>
<tr>
<td>Prev. institut. in ment. def.</td>
<td>Yes 0</td>
<td>-</td>
<td>No 1</td>
</tr>
<tr>
<td>Prev. institut. in insane</td>
<td>Yes 0</td>
<td>-</td>
<td>No 3</td>
</tr>
<tr>
<td>Relations with peers</td>
<td>Poor 0</td>
<td>Fair, unknown 4</td>
<td>Good 8</td>
</tr>
<tr>
<td>Pre-admission behavior</td>
<td>No right 0</td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Type of home</td>
<td>Institution 0</td>
<td>(Broken 1)</td>
<td>Intact 3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Substitute 2)</td>
<td></td>
</tr>
</tbody>
</table>

Ability to Benefit From Patient-Staff Relations

<p>| Mental level                                | I.Q. 50        |            | 72             |
| Prev. institut. in correctional             | Yes 0          | -          | No 3           |
| Prev. institut. in dependent                | Yes 0          | -          | No 1           |
| Prev. institut. in ment. def.               | Yes 0          | -          | No 1           |
| Prev. institut. in insane                   | Yes 0          | -          | No 3           |
| Relations with adults                       | Poor 0         | Fair, unknown 4 | Good 8      |
| Pre-admission behavior                      | No. right 0    |            | 9              |
| Type of home                                | Institution 0  | (Broken 1) | Intact 3       |
|                                            |                | (Substitute 2) |                |</p>
<table>
<thead>
<tr>
<th>Characteristics Scored</th>
<th>Minimum Scores</th>
<th>Mid Scores</th>
<th>Maximum Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability to Benefit Participation in School</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental level</td>
<td>I.Q. 50</td>
<td>Fair, unknown 2</td>
<td>Good 4</td>
</tr>
<tr>
<td>Relations with adults</td>
<td>Poor 0</td>
<td>Fair, unknown 1</td>
<td>Good 2</td>
</tr>
<tr>
<td>Relations with peers</td>
<td>Poor 0</td>
<td>Fair, unknown 1</td>
<td>Good 2</td>
</tr>
<tr>
<td>Pre-admission behavior</td>
<td>No. right 0</td>
<td>Fair, unknown 1</td>
<td>Good 2</td>
</tr>
<tr>
<td>*Years retarded</td>
<td>5 or more 0</td>
<td>3 - 4 2</td>
<td>0 - 2 4</td>
</tr>
<tr>
<td>Read, write &amp; arith. ability</td>
<td>No 0</td>
<td>Unknown 2</td>
<td>Yes 4</td>
</tr>
<tr>
<td>Behavior problem in school</td>
<td>Yes 0</td>
<td>Unknown 1</td>
<td>No 2</td>
</tr>
<tr>
<td>Family hist. of ment. defect.</td>
<td>Yes 0</td>
<td>-</td>
<td>No 2</td>
</tr>
<tr>
<td>Home educative influence</td>
<td>Poor 0</td>
<td>Fair, unknown 1</td>
<td>Good 2</td>
</tr>
<tr>
<td>Ability to Benefit Participation in Vocational Training</td>
<td></td>
<td></td>
<td>71</td>
</tr>
<tr>
<td>Mental level</td>
<td>I.Q. 50</td>
<td>Fair 3</td>
<td>Good 6</td>
</tr>
<tr>
<td>Physical condition</td>
<td>Poor 0</td>
<td>Fair, unknown 4</td>
<td>Good 8</td>
</tr>
<tr>
<td>Relations with adults</td>
<td>Poor 0</td>
<td>Fair, unknown 2</td>
<td>Good 4</td>
</tr>
<tr>
<td>Relations with peers</td>
<td>Poor 0</td>
<td>Fair, unknown 2</td>
<td>Good 4</td>
</tr>
<tr>
<td>Pre-admission behavior</td>
<td>No. right 0</td>
<td>Fair, unknown 1</td>
<td>Good 2</td>
</tr>
<tr>
<td>Home work influence</td>
<td>Poor 0</td>
<td>Fair, unknown 1</td>
<td>Good 2</td>
</tr>
<tr>
<td>Ability to Benefit Participation in Recreation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental level</td>
<td>I.Q. 50</td>
<td>Fair 4</td>
<td>Good 8</td>
</tr>
<tr>
<td>Physical condition</td>
<td>Poor 0</td>
<td>Fair, unknown 2</td>
<td>Good 4</td>
</tr>
<tr>
<td>Relations with adults</td>
<td>Poor 0</td>
<td>Fair, unknown 4</td>
<td>Good 8</td>
</tr>
<tr>
<td>Relations with peers</td>
<td>Poor 0</td>
<td>Fair, unknown 4</td>
<td>Good 8</td>
</tr>
<tr>
<td>Pre-admission behavior</td>
<td>No. right 0</td>
<td>Fair, unknown 4</td>
<td>Good 8</td>
</tr>
</tbody>
</table>

*Unknown = 2 pts. (Give 4 pts. if grade achievement is 5 or more. In so doing, patients who have attended school for a longer period will not be penalized because information regarding years in school is not in the record.)
### Characteristics Scored

<table>
<thead>
<tr>
<th>Characteristics Scored</th>
<th>Minimum Scores</th>
<th>Mid Scores</th>
<th>Maximum Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental level</td>
<td>I.Q. 50</td>
<td>Fair, unknown 5</td>
<td>Good 10</td>
</tr>
<tr>
<td>Relations with adults</td>
<td>Poor 0</td>
<td>Fair, unknown 5</td>
<td>Good 10</td>
</tr>
<tr>
<td>Pre-admission behavior</td>
<td>No. right 0</td>
<td>Fair, unknown 5</td>
<td>Good 10</td>
</tr>
<tr>
<td>Home religious influence</td>
<td>Poor 0</td>
<td>Fair, unknown 5</td>
<td>Good 10</td>
</tr>
</tbody>
</table>
Appendix B. Sample of Application Form for Admission to the Woodward State Hospital and School
APPLICATION FOR ADMISSION TO THE
Woodward State Hospital and School
WOODWARD, IOWA

(To be used for Epileptic or Feebleminded Applicants)

(Parents, guardians or relatives will answer the following questions in writing, in the appropriate spaces, stating fully all facts regarding the applicant with which they are familiar or which they are able to obtain from any source. Please use black ink. Return application to Dr. Grace M. Sawyer, Superintendent, Woodward, Iowa.)

Do not bring applicant to the institution until notified to do so by the Superintendent.

QUESTIONS

1. Full name ________________________ Sex Male Color White

2. Residence ________________________

3. Date of birth ________________________ Religion Methodist

4. Postoffice address ________________________

5. In what county, town or state was applicant born? Guthrie

6. What county does applicant now live in? Guthrie

7. How long a resident of the county? 20 years And State 20 years

8. Weight 145 lbs. Height 5'7.5"

9. Are both parents living? Father is Unknown re: mother

10. Name of Father ________ Mother’s maiden name ____________

11. Birthplace of Father ________ Mother ________

12. Where does each parent reside? Father Omaha, Nebraska Mother unknown

13. Occupation of Father ________ Mother ________

14. Occupation of applicant odd jobs only

15. Name of family physician and address ________________

16. When and in what manner was epilepsy or feeblemindedness first manifested?

At an early age. Unable to determine exactly when.

17. Does applicant appear to be improving now? No

18. Has applicant ever had convulsions? No

19. At what age were they first observed? __________

20. Is applicant now epileptic? No

21. Does applicant have spasms of any kind? No How often?

22. Has applicant now or ever had Chorea or St. Vitus Dance? No

23. Is applicant now paralyzed or has he ever been paralyzed? No

24. Is applicant insane or ever examined by commissioners of insanity? No

25. Has applicant ever been committed to hospital for insane? No

26. If so, when and where? __________

(Med. 222)
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the memory good?</td>
<td>Fair</td>
</tr>
<tr>
<td>Has the applicant ever been in public school? If so, how long?</td>
<td>Completed 6th grade at Menlo</td>
</tr>
<tr>
<td>Can applicant add? Subract?</td>
<td>No</td>
</tr>
<tr>
<td>Read?</td>
<td>Fair</td>
</tr>
<tr>
<td>Write?</td>
<td>Yes</td>
</tr>
<tr>
<td>Recognize color? Yes Sing?</td>
<td>Yes</td>
</tr>
<tr>
<td>Do an errand? Yes, Simple errands.</td>
<td></td>
</tr>
<tr>
<td>What kind of work can applicant do?</td>
<td>Mows lawns, cuts wood, helps put up hay, add jobs.</td>
</tr>
<tr>
<td>Is applicant fond of children? Yes</td>
<td></td>
</tr>
<tr>
<td>Is applicant fond of play? Yes, Especially listening to radio</td>
<td></td>
</tr>
<tr>
<td>Does he or she hide, break or destroy things?</td>
<td>No</td>
</tr>
<tr>
<td>How does applicant amuse himself? Likes to watch T.V., looks at comic books</td>
<td></td>
</tr>
<tr>
<td>Is applicant given to self abuse?</td>
<td>No</td>
</tr>
<tr>
<td>Has it ever been in any institution?</td>
<td>No</td>
</tr>
<tr>
<td>What institution? Mastold (according to the grandmother's statement)</td>
<td></td>
</tr>
<tr>
<td>What do you expect from a course of treatment or training? Learn a trade and to receive medical attention, Learn a hobby.</td>
<td></td>
</tr>
<tr>
<td>Who is legally responsible for the applicant's expenses? Alva Jones</td>
<td></td>
</tr>
<tr>
<td>To whom should correspondence be addressed? Mrs. James Burkholder</td>
<td></td>
</tr>
<tr>
<td>Are parents well to do? Comfortable? Poor? X</td>
<td></td>
</tr>
<tr>
<td>Postoffice address of parent or guardian Alva Jones, 1613 McCarthy Rd., Omaha, Nebraska</td>
<td></td>
</tr>
<tr>
<td>Residence telephone or nearest telephone Mrs. Charles Friley, Menlo</td>
<td></td>
</tr>
<tr>
<td>Nearest telegraph office? Menlo, Iowa</td>
<td></td>
</tr>
<tr>
<td>In the event of death, do you wish the body buried in institution cemetery? No</td>
<td></td>
</tr>
<tr>
<td>Was the father of the applicant, ever in the United States Army or Navy? No</td>
<td></td>
</tr>
<tr>
<td>Have we your permission to vaccinate or immunize applicant at any time we think it desirable to do so? Yes</td>
<td></td>
</tr>
<tr>
<td>Do we have your consent to perform any surgical operation that the hospital staff sees necessary? Yes, Notify father or grandmother.</td>
<td></td>
</tr>
</tbody>
</table>

This application must be signed by both parents, or guardian, and by the County Attorney, and approved by the Board of County Supervisors. It is agreed by the parties hereto that the parent or guardian will give the hospital at least three days notice in writing before the release of patient from the hospital.

Sign Here |

Application approved by the patient acknowledged as a resident of ____________ County, and approved by the Board of County Supervisors.

Signed ____________________________

Chairman of Board

Attest ____________________________

County Auditor

Do not bring applicant to the institution until notified to do so by the Superintendent.
Appendix C. Sample of Face Sheet Form
Name: Jones, Frank LeRoy

Diagnosis No. 000-xxx

Family History: Mental Deficiency

Type: Undifferentiated

Support by: County of Commitment Physicians Cert., Court Order

(Name of Institution)

Case No. 42735

Marshall

Woodward State Hospital and School

Physician's Cert., Court Order

- Committed Voluntary Guest

Personal History:

Age on Admission: 6 Yrs.

Number of children: None

Marital condition: Single

Age of youngest child: --

Race: White

Citizenship: American

Religion: Protestant

Occupation: None

Education: Illiterate

No. of previous attacks: None

No. of previous admissions: None

Date of Diagnosis: 9-1-52

Place: Marshalltown, Iowa

Date of admission: 1-17-40

Date of release: --

Date of discharge: --

Date of leaving hospital: --

Date of birth: 1-17-40

Height: 6'7" Weight: 45 lbs.

Complexion: Fair

Eyes: Blue

Veteran: Yes

Sex: Male

Yes (Father) Color: White

Identifying Features: None

Doctor: John Ark, Welfare Worker

Date and type: First Admission

Admitted from: Home

Duration of hospital residence: (Excl. visits, etc.)

1.

2.

3.

Date of leaving hospital on convalescent leave, missing, visit (prior to discharge):

Separation: Discharge, Transfer, Death, Hospital Extramural Care.

Condition on discharge: Recovered, Improved, Unimproved, Without Psychosis.

Discharge to the custody of:

Address

Autopsy: Yes

Cause of Death: Primary

Contributory

Coroner's case: Yes

(Underline correct term or enter data)

(Med. 11)
Appendix D. Sample of Psychological Examination Report Form
PSYCHOLOGICAL EXAMINATION REPORT

NAME: Frank Lee Jones

Birth 1-7-40 CA 12-5

Date Tested 6-10-53 MD or EPJ

Tests Used:
1. Wechsler-Bellevue I

Reason for referral: Re-evaluation

Case No. 42095 Admitted 1-10-47

Education Grade 2. Can read a little.

Read: Yes, name Tell time: Yes

Writing: Yes, name Arithmetic Little

Behavior during examination:

Appearance normal - well developed - regular features

Motor Control visual motor incoordination

Affect very friendly

Attention short spanned

Speech distinct - verbalizes excessively

Auto Criticism has insight into difficulties

Sensory Acuity no abnormality noted

Language Comprehension expected for N.A.

Test performance: Changing his expression little during the testing period, Frank appeared as a well developed, 13 year old, white male. He is rather friendly but golden natured. He verbalizes excessively and has to be reminded occasionally that he is in a testing situation. He obtained a Verbal Scale I.Q. of 58, with no significant deviations among his sub-test scores. He obtained a Performance Scale I.Q. of 59 which is an estimate of his real performance ability. It was necessary for the examiner to provide much encouragement for the boy to remain at the tasks assigned to obtain even this performance score. He obtained a Full Scale I.Q. of 53 which was deemed to be a more accurate estimate of his total level of mental functioning.

Impression: In the opinion of the present examiner, the above test results validly indicate this patient's present level of intellectual functioning. It is noted that these results are in substantial agreement with those previously obtained. He is accordingly classified at the moderately retarded level of mental deficiency.

IQ: 58, 49, 53

Jerome T. Kirby, Jr. Psychol. APPROVED

Head Psychologist

Med-300
Appendix E. Schedule for Pre-hospitalization Characteristics
SCHEDULE FOR PRE-HOSPITALIZATION CHARACTERISTICS

No. ___________

Name ____________________________

M____F____ Sex

_____ Age (To nearest year from birth date to 1-1-55)

_____ Age at admission (To nearest year)

_____ Length of residence (To nearest year from admission date to 1-1-55, with adjustment for years on leave from Hospital)

Diagnosis:

____ MDU (Mental deficiency - Undifferentiated)
____ MDF (Mental deficiency - Familial)
____ MDCBS (Mental deficiency - Chronic brain syndrome)
____ EPS (Epilepsy - Symptomatic)
____ EPID (Epilepsy - Idiopathic)
____ EPCBS (Epilepsy - Chronic brain syndrome)
____ Mental level (Full scale I.Q. on Wechsler Bellevue or Stanford Binet)

G____F____ P Physical Condition

Possible Defects:

_____ General health _____ Sight _____ Motor control
_____ Hearing _____ Speech _____ Seizures

Note: Good - no defects, Fair - 1 defect, Poor - 2 or more defects

Previous institutionalization (yes or no):
N____ Y____ Correctional institution
N____ Y____ Dependent institution
N____ Y____ Mental defective institution
N____ Y____ Insane institution

G____ F____ P____ U _____ Relations with adults Combine parents and teachers ratings:
G____ F____ P____ U _____ Relations with parents fair + good = Good
G____ F____ P____ U _____ Relations with teachers poor + good = Fair
fair + poor = Poor

If either parent or teacher rating is unknown, give known rating.

G____ F____ P____ U _____ Relations with peers
G____ F____ P____ U _____ Home Combine home, school, and community ratings:
G____ F____ P____ U _____ School Adjoining ratings are marked as the majority.
G____ F____ P____ U _____ Community Non-adjoining ratings are marked "Fair"

If ratings are unknown, give known ratings.
Pre-Admission Behavior Score

Y_N_U_Truthful
Y_N_U_Uses profane language
Y_N_U_Distinguish right from wrong
Y_N_U_Nervous
Y_N_U_Obedient
Y_N_U_Good tempered
Y_N_U_Cruel
Y_N_U_Abusive to children
Y_N_U_Destructive

Behavior score is the number right according to the ideal. Count half the unknowns as right. When an odd number of unknowns, divide by 2 and use the nearest even number.

Years retarded

Grade achievement

Years in school

Y_N_U_Read, write, and arithmetic ability

N_Y_U_Behavior problem in school

Type of Home:

Intact
Substitute
Broken
Institution

N_Y_Family history of mental defectives

G_F_P_U_Home educative influence

G_F_P_U_Home religious influence

G_F_P_U_Home work influence
Appendix F. Instructions to Evaluators of Adjustment
INSTRUCTIONS TO EVALUATORS OF ADJUSTMENT

I'm trying to get some information about the adjustment of a number of our higher grade patients. With your experience, you ought to be able to tell me what I need to know. I want to get a picture from you and other staff members of how well adjusted these patients are to the hospital.

Of course, you know what a variety of background our patients have when they come to the hospital and what a difficult time some have in making an adequate adjustment. Even within our hospital, patients have different experiences which may affect their final adjustment. I'm trying to find out just how important these hospital and background experiences are in determining this. I've gained some ratings of achievement and need you to help evaluate their adjustment. You probably know as much about many of these patients as anyone.

I have a card for each patient under your supervision with an I.Q. of 50 or more. I've taken out those who have physical defects and I'm not counting patients under 10 years of age or over 44. So you see, I've taken out the very young and the older ones. It shouldn't take too long to run through all of them. Let's take the first one.

At the top of this blotter, I've mentioned 5 degrees of adjustment ranging from Very Poor to Very Good. I'd like to leave the definition of adjustment up to you. You might consider it as the end result of all the patient's experiences since he's been here in the hospital. You might think of it in terms of patient satisfaction with life in general within the institution. You may want to consider how well he has adapted to the requirements of the institution, but it's up to you to decide. You'll be comparing each patient with the others in this group.

Although it may be difficult to decide on some patients, please put each name card under the rating you feel most nearly describes his degree of adjustment.
Appendix G. Instructions to Evaluators of Achievement
INSTRUCTIONS TO EVALUATORS OF ACHIEVEMENT
(Work Supervisors)*

I'm trying to get some information about the achievement of a number of our higher grade patients. With your experience, you ought to be able to tell me what I need to know. I want to get a picture from you and other staff members of how these patients get along with other patients, with the staff, in school, on their job, in religious training.

Many of the patients behave about the same in whatever they do but some get along much better in school or on the ward than they do on their job. Some patients get along with the staff just fine but are always getting into trouble with other patients. With some of the patients, it's the other way around. Haven't you noticed this?

I want to get some ratings from you work supervisors as to how well these high grade patients do on their job. You probably know as much about them as anyone. I'm also getting ratings of how they do in school, on the ward, in recreation, and religious activities. I'd like to compare their achievement in each of these activities with their over-all adjustment to the hospital.

I have a card for each patient under your supervision with an I.Q. of 50 or more. I've taken out those who have physical defects and I'm not counting patients under 10 years of age or over 44. So you see, I've taken out the very young and the older ones. There may be a few cards here for patients who have worked for you before.

I'd like you to rate these patients on 3 different things:
1. How well they get along with other patients,
2. How well they get along with the staff,
3. How well they do their job.

It shouldn't take too long to run through all of them. Let's take the first one.

At the top of this blotter, I've described 5 types of behavior ranging from Very Poor to Very Good. Although none of them may fit any one patient exactly, I'd like you to decide which description most nearly described his achievement in getting along with other patients (getting along with the staff, vocational training). These descriptions are just to be used as guides to your ratings. You'll be comparing each patient with the others in this group.

Read the descriptions carefully so that you know them well. Although none of them may fit any one patient exactly, it's up to you to decide which description most nearly describes his behavior.

*Instructions to other evaluators of achievement were the same except that the title "work supervisor" was replaced by their occupational description title.
Appendix H. Rank Definitions Employed to Evaluate Achievement

Achievement in Patient-peer Relations

VG. Gets along well with other patients. Good natured and has many friends. Helpful and considerate of others. Enjoys doing things with other patients.

G. Usually friendly toward other patients but may get in an occasional spat. Isn't always considerate of others but most patients seem to like him.

F. Gets along fairly well with other patients but may be loud or mischievous at times. Although he may have no real enemies, he probably has few close friends.

P. Frequently argues with other patients and is stubborn but usually doesn't start trouble. May have a few special friends but also many that he doesn't get along with.

VP. Constantly getting into trouble with other patients. Is bossy, quarrelsome, fighting, stubborn, sneaky, and jealous. Has a chip on his shoulder.

Achievement in Patient-staff Relations

VG. Practically no trouble in management. Friendly and good natured. Obedient and cooperative. Usually quite helpful and dependable. Respects and likes the staff as a rule.

G. Little trouble in management and is usually cooperative if handled right. May be loud and complaining once in a while but usually gets along well with the staff.

F. Gets along fairly well with the staff but may be mischievous at times. Does what he has to do without argument most of the time but is not a willing worker. Neither one of the better patients or a troublemaker.

P. Frequently dissatisfied and becomes moody and sullen. Complains a lot and is sometimes stubborn. Doesn't like to be corrected. Tries to get out of work but not usually sassy and quarrelsome.

VP. Troublesome and hard to manage. Resents authority. Frequently needs correction. Quarrelsome, sassy, stubborn, untruthful, and sneaky. Has to be watched constantly. Can't be trusted. Starts trouble. Has a chip on his shoulder.
Achievement in School

VG. One of the better pupils. Learns quite rapidly and retains much of what he learns. Shows ability to apply what he learns to new situations. Especially good in some things.

G. May not do some things well or learn them quickly but ordinarily does better than average work. Can usually follow instructions if given clearly. Retains what he learns fairly well even though he sometimes can't use it in new situations.

F. Does about average work. Sometimes seems to understand work and sometimes not. Does neither very well or very poorly on anything.

P. Ordinarily does poorer than average work. Can do some things fairly well after repeated instructions but doesn't learn new work until much drill has been given. Can't comprehend instructions unless very simply stated.

VP. Does poorer than most and gains little from school. Gets confused easily and can't comprehend when new tasks are assigned. Seldom if ever learns new things right away. Has difficulty in retaining what he does learn. Can't apply learning to new situations. Especially poor in some things.

Achievement in Vocational Training

VG. One of the better workers. Learns quite rapidly and retains much of what he learns. Shows ability to apply what he learns when doing new jobs. Is dependable. Especially good on some jobs.

G. May not do some things well or learn them quickly but ordinarily does better than average work. Can usually follow instructions if given clearly. Retains what he learns fairly well even though he sometimes can't use it when doing new jobs.

F. Does about average work. Sometimes seems to understand work and sometimes not. Does neither very well or very poorly on anything.

P. Ordinarily does poorer than average work. Can do some jobs fairly well after repeated instruction but doesn't learn new jobs until shown how over and over. Can't understand or follow directions unless very simply given.

VP. Does poorer than most and gains little from vocational training. Gets confused easily and can't understand when new tasks are given him. Seldom if ever learns new things right away. Has difficulty in retaining what he does learn. Can't apply learning to new situations. Does especially poor on some jobs.
Achievement in Recreational Activities

WC. One of the better patients. Learns quite rapidly and retains much of what he learns. Shows ability to apply what he learns to new situations. Especially good in some activities. Is dependable and shows initiative. Demonstrates good sportsmanship.

G. May not do some things well or learn them quickly but ordinarily does better than average. Can usually follow instructions if given clearly. Retains what he learns fairly well even though he sometimes can't use it in new activities.

F. Can do the activities about as well as the average. Does what he's supposed to without argument most of the time but is not an enthusiastic participant. Does neither very well or very poorly on anything. Sometimes understands and sometimes not.

P. Can do some things fairly well after repeated instruction but doesn't learn new activities until shown how over and over. Can't comprehend or follow rules or instructions unless very simply given. May complain and get moody if he doesn't have own way. Prefers to watch others.

VP. Does poorer than most and gains little from recreational activities. Seldom if ever learns new things right away. Has difficulty in retaining what he does learn. Can't apply learning to new situations. Does not show good sportsmanship.

Achievement in Religious Training

WC. One of the better patients. Learn quite rapidly and retains much of what he learns. Shows ability to apply what he learns to life situations. Enjoys participating in group activities. Is dependable and shows initiative in his actions or thinking.

G. May not do some things well or learn them quickly but ordinarily does better than average. Can usually follow instructions if given clearly. Retains what he learns fairly well even though he sometimes can't relate it to new information or situations.

F. About average achievement in religious training. Sometimes seems to understand work and sometimes not. Does what he's supposed to do without argument most of the time but is not an enthusiastic participant. Does neither very well or very poorly on anything.

P. Can do some things fairly well after repeated instructions but doesn't learn new material until told and shown over and over. Can't comprehend material or follow instructions unless very simply given. May prefer to watch others rather than participate actively.

VP. Does poorer than most and gains little from religious training. Seldom if ever learns new things right away. Has difficulty in retaining what he does learn. Can't apply learning to life situations.
Appendix I. Sample of Form Used to Record Adjustment and Achievement Evaluations
RATINGS

ACHIEVEMENT IN PATIENT-PEER RELATIONS

V.P.
P.
F.
G.
V.G.

ACHIEVEMENT IN PATIENT-STAFF RELATIONS

V.P.
P.
F.
G.
V.G.

ACHIEVEMENT IN SCHOOL (Vocational Training, Recreation, or Religious Training)

V.P.
P.
F.
G.
V.G.

ADJUSTMENT

V.P.
P.
F.
G.
V.G.
Appendix J. Samples of Final Statistical Record Sheets
## Ratings On Patient Adjustment

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Ratings On Patient Achievement In Patient-Staff Relations

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Ratings On Patient Effort And Achievement In School

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Ratings on Patient-Effort and Achievement in Religious Training

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Appendix K. Persons Evaluating Adjustment and Achievement in Each Area of Participation

Adjustment

Doctors (2)
Assistant Supervisors (2)
Night Ward Charges (16)
Teachers (6) (present pupils only)
Work Supervisors (25) (present workers only)

Achievement in Patient-peer Relations

Doctors (2)
Supervisors (2)
Day Ward Charges (17)
Teachers (6) (present and former pupils)
Work Supervisors (25) (present workers only)

Achievement in Patient-staff Relations

Doctors (2)
Supervisors (2)
Day Ward Charges (17)
Teachers (6) (present and former pupils)
Work Supervisors (25) (present workers only)

Achievement in School

Teachers (7) (present and former pupils)

Achievement in Vocational Training

Work Supervisors (25) (present and former workers)

Achievement in Recreation

Athletics Directors (2)
Music Directors (2)
Clubs Directors (2)
Occupational Therapy Instructors (2)

Achievement in Religious Training

Chaplains (3) and/or Special Service Assistants (2)
Appendix L. Ratings Made by Each Evaluator

Ward Doctors (2)

- Adjustment
- Achievement in patient-peer relations
- Achievement in patient-staff relations

Supervisors (2)

- Achievement in patient-peer relations
- Achievement in patient-staff relations

Assistant Supervisors (2)

- Adjustment

Night Ward Charges (16)

- Adjustment

Day Ward Charges (17)

- Achievement in patient-peer relations
- Achievement in patient-staff relations
- Achievement in vocational training (only for boys working on wards)

Teachers (7)

- Adjustment (present pupils only)
- Achievement in patient-peer relations (present and former pupils)
- Achievement in patient-staff relations (present and former pupils)
- Achievement in school (former and present pupils)

Work Supervisors (25)

- Adjustment (present workers only)
- Achievement in patient-peer relations (present workers only)
- Achievement in patient-staff relations (present workers only)
- Achievement in vocational training (former and present workers)

Athletics Directors (2)

- Achievement in athletics

Music Directors (2)

- Achievement in musical activities
Clubs Directors (2)

Achievement in club activities

Occupational Therapy Instructors (2)

Achievement in occupational therapy

Chaplains (3) and/or Special Service Assistants (2)

Achievement in religious training.