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A sociological analysis of release procedures used in the vocational placement of institutionalized mental defectives

Albert Jene Shafter

Iowa State College

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A SOCIOLOGICAL ANALYSIS OF RELEASE PROCEDURES USED IN THE VOCATIONAL PLACEMENT OF INSTITUTIONALIZED MENTAL DEFECTIVES

by

Albert Jene Shafter

A Dissertation Submitted to the Graduate Faculty in Partial Fulfillment of The Requirements for the Degree of DOCTOR OF PHILOSOPHY

Major Subject: Rural Sociology

Approved:

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1953
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I. INTRODUCTION

For a number of years there has been a movement to change the philosophy of institutions for the mentally defective from custodial care to training and return to the community. As Davies said, "... the newer conception of the institution is that of a lake fed and drained by a running stream, with ample inflow and outflow." The history of this change is well described in a recent article by Gegenheimer. This paper was concerned with the Walter E. Fernald State School in Massachusetts where much of the pioneering work in community placement has been done. An older, but more general description may be found in the previously cited book by Davies. Both sources note the opposition to the idea of placement outside of the institution.

Today, however, it is generally accepted among institutional personnel that there are three types of patients. First, the custodial care cases; second, those persons who with training can perform useful tasks within the institution; and, third, patients, who after training, can leave the institution.

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When the home is suitable, the third type of patient can be returned to his relatives, but, for the great majority of patients, the home is either non-existent or inadequate. In such case, it is necessary for the institution to find employment and provide supervision for these persons until a transition from the institution to the community has been effected. Out of this situation has arisen the vocational placement program of the various institutions for mental defectives in the United States. This simply means that “suitable” patients are placed from the institution on approved jobs under the supervision of the institution.

For the past five years, the Woodward State Hospital and School, Woodward, Iowa, has been placing mentally defective patients on vocational placement throughout the state. Generally, these people have an I.Q. about 50, although a few persons in the 40-50 range have been placed. Prior to placement, a home and job are found, and then a patient is selected for placement. The institutional social service department investigates the home and work situation, and since one person has conducted the majority of these investigations, a high degree of similarity is found in the work situation for the patient. This is particularly true when placement is broken down by sex, area of placement, and occupation. Female patients generally work as domestics or nursing home aides; males as farm hands or hospital orderlies, although a greater variety of occupations has been found for them of late.

A staff conference, normally composed of two psychiatrists, a medical doctor, a psychologist, and a sociologist or a social worker
selects patients for placement. Each patient and employer is given a uniform set of rules which explains regulations relating to dating, saving money, hours of work, time off, and use of leisure time. Supervision is given daily by the employer and weekly by the social service department.

The major problem in the program at Woodward, or any other institution, has been to develop a set of release characteristics for selecting patients for placement. At the present time, patients are selected on the basis of clinical judgment as to whether they will succeed or fail on placement. An empirically tested list of release characteristics cannot be found in the literature, nor from any of the institutions for mental defectives in the United States. Institutions having a placement program utilize various criteria, while a few articles mention factors that seem to be of importance. In no case have those working in the field of mental deficiency established the statistical importance of these release characteristics. If a list of significant release characteristics could be obtained, it would then be possible to predict statistically the success or failure of future placements.

This study is designed to do three things; first, to evaluate the release characteristics used for selection of patients for placement in institutions throughout the United States; second, to evaluate release characteristics noted in the literature; third, if these characteristics evaluated at the Woodward State Hospital are found to

*See Appendix A.

**Release characteristics are here defined as those factors considered or utilized in selecting patients for vocational placement.
be statistically significant, to construct a prediction table in order to obtain the probabilities of success for future placements.
II. REVIEW OF LITERATURE

The review of the literature has been divided into two parts. This has been necessary since there are no studies directly evaluating criteria for selecting patients for vocational placement, or that have attempted to predict probable success or failure of mental defectives on vocational placement from an institution. First, there are studies in the field of mental deficiency which have commented on certain factors as appearing to have some relation to placement, but none of these assumptions has been tested statistically. Second, there are many studies in other fields that have evaluated criteria for selection, and predicted probable outcome, e.g., parole, marriage, etc. The former studies have been placed in Part A, and the latter in Part B.

A. Release Characteristics in the Field of Mental Deficiency

Johnson believed that a patient should be in residence at least two years before placement could be considered. He also stated that sterilized patients tended to be more successful on placement than non-sterilized.  

Whitcomb, examining adjustment within the institution, found that

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1 Betty Scott Johnson. A study of cases discharged from the Laconia state school from July 1, 1924 to July 1, 1934. Amer. J. Ment. Def. 50:437-445. 1946.

2 Marion A. Whitcomb. A comparison of social and intellectual levels of 100 high grade adult mental defectives. Amer. J. Ment. Def. 50:275-262. 1945.
patients were less likely to be successful on placement where they had a punishment record, history of frequent job changes, and displayed signs of independence, gregariousness and aggressiveness. It was also noted that the successful group had higher verbal intelligence than performance scores, while the opposite was true for the unsuccessful. Patients in residence for at least six years were most likely to be successful on placement.

Four different writers stated that group placements, i.e., clusters of patients on the same job, boarding house, or community, were more successful than patients isolated from others of a similar background. The rationale for such a procedure is given by Harms, although the other articles cited above have similar statements:

Since the patients were uncomfortable and stood out as "sore thumbs" in normal groups, we decided to cope with the problem in several ways which would not stigmatize them as institution products. They were therefore placed in individual homes but in clusters in a community where our social workers were active in helping them to make friends by encouraging their contact with other patients with whom they would be congenial. When they seemed ready to participate in organized group life they, as well as the leaders, were given special preparation for the experience. Also, a patient entering community groups was encouraged to take a second patient with him.


Harms, op. cit., p. 238.
Hiatt also stated that "emotional stability was a more important factor than intellectual level in community adjustment."

Michal-Smith corresponded with two hundred institutions for defectives and two hundred firms to determine what personal characteristics in mental defectives were most important in relation to vocational success. While this was an excellent idea, the study is of little aid for four reasons. First, the responses from the business groups cannot be considered valid since it was left to the administrator or owner to determine who was mentally defective. Second, no check was made to determine if these "defectives" had ever been institutionalized. Third, institutions themselves are concerned with vocational success within the institution in the very narrowest sense. Finally, Michal-Smith developed the items on personal characteristics and many of them are not of particular importance. Thus, the study was not applicable to the present problem.

Rautman feels that the best preparation for adult success is a family placement which gives the defective child "...a sense of basic security through genuine acceptance and affection by his own immediate family." However, he goes on to say:

1 Hiatt, op. cit., p. 209.


Workers in the field have observed repeatedly that, in the case of mentally retarded children living at home, a retarded youngster who comes from a family where the standards are so low as to make his own retardation inconspicuous (sometimes because of retardation on the part of his parents) has a far more favorable educational and adjustmental prognosis than does a child who has equal or even less retardation but who comes from a family setting in which his intellectual handicap places him below the level of the family aspirations. Such a retarded youngster, because he cannot come up to the expectations of his parents and siblings, is forced to live in an atmosphere of continual frustration and rejection.¹

Psychometric patterns were commented on unfavorably by Tizard and O'Connor:²

The hypothesis is that prognosis of rehabilitation is good for patients (defectives) when performance quotient is higher than their intelligence quotient (verbal) and poor for those whose verbal intelligence is better than their score on performance tests of intelligence.

Hartzler³ studied a group of 24 discharged patients, 17 of whom were successful and eight unsuccessful, and concluded that the successful were older at the time of admittance and time of release from the institution. They had lower I.Q. scores, were not behavior problems in the institution, nor had they had a history of delinquency prior to admission as compared to the unsuccessful.⁴

¹Ibid. p. 157.
⁴Ibid. p. 615.
Thomas investigated the adjustment of female patients transferred from the institution proper to colonies, and reported no differences between those who succeeded and those who failed on the basis of age; mental age; intelligence quotients; Pintner-Patterson MA; Ferguson Form Board MA; and, Healy FC's No. One and No. Two MA. The method for determining this lack of relationship is not given. Thomas then concluded:

...In view of the fact that the easily available psychological studies and the methods of training are not satisfactory to make a prognosis one must resort to the only other method available, that of trial and error.

One study was concerned specifically with successful adjustment within the institution, but is reviewed for the insights it provides. Greene used a sample of 90 females, half of whom were rated as adjusted and the remainder as unadjusted by teachers, matrons, etc. The results were:

...The adjusted group were committed from foster homes or other institutions in 82 per cent of cases while the maladjusted in only 56 per cent of cases. In fact, more significant still, only 18 per cent of the adjusted while 44 per cent of the maladjusted, came directly from home.

Analysis of the variables showed the two groups to be quite similar with respect to life age, test age, school achievement and social conditions. There were no significant differences relating to sex delinquency, race, religion, and the Cowan Delinquency Index.


2 Ibid. p. 336.


4 Ibid. p. 473.
Small differences were shown in the following. For example, the adjusted group had been in residence over a year longer; was over a year more mature in the Draw-A-Man-Test; had less neuro-pathic ancestry; had fewer commitments because of behavior difficulties; came more frequently from other institutions and foster homes. The unadjusted group showed more emotional dependency upon the home situation in the form of more visits home, more visitors from home, more letter writing, and more escapes from the institution. The unadjusted came more frequently from their own home without the intervening weaning experience of other institutions or foster homes. The unadjusted had more first-born and latter-born positions with regard to sibling rank; had less well developed recreational interests; was more aggressive in social situations and tended to take things more personally.¹

Certain writers have stated that projective tests have great value in selecting those who will succeed on placement. Sarason² states:

"...the data derived from the Thematic Apperception Test can be of value in the all-important task of placement." Elsewhere he illustrates the use of the TAT as follows:³

On the basis of the analysis of this girl's stories the writer recommended that it might be best that the girl not be placed in her mother's home—aside from the fact that this home is in an unfavorable neighborhood. A home should be found where instead of her caring for another she would be the recipient of attention, and where her desire to "belong" and to receive affection would receive outlets.

¹Ibid. p. 475-476.


Font gives examples of cases differentiating between the stable and unstable borderline and then summarizes the uses of the Rorschach:

Distinction between retardation without indication of higher potentiality and retardation accompanied by crippling anxiety, fear, and disturbance in thinking is of the utmost importance in planning suitable educational and social programs. The contribution of the Rorschach to the study of any individual is threefold: (1) Description of present intellectual and emotional adjustment; (2) Patterning of personality factors pointing toward diagnostic clues; (3) Indication of subject's maximum level of mental ability.

The most extreme statement found in the literature regarding psychological tests concerned the Babcock Mental Efficiency Examination. Burr states that the test can determine how any client will adjust "...to any of the work-demands of today, and if so, what the range of his potentialities may be."

The conclusions appearing in the literature here reviewed have not been validated by any statistical method. Generally, the articles from which they are cited do not represent what is commonly thought of as research. The majority of the statements were given as asides to the central task of describing a particular placement program. Therefore, little attention has been given to a description of the method employed since nearly all of the reviewed studies have been characterized by their lack of method. However, they have been examined for the insights provided. Indicative of the thinking in the field is the following quotation from an otherwise excellent article:

— Marion Font, Some clinical application of the rorschach technique in cases of borderline deficiency. Amer. J. Ment. Def. 54:510-511. 1950.


The mentally deficient and retarded, like all of us, have individual personalities with varying degrees of motivation and imagination. We can never measure these factors. I do not believe that any test or combination of tests will predict with mathematical exactness whether or not a given individual will succeed or fail in a given job.

It is surprising to note that this article was written in 1951, almost twenty years after it had been demonstrated that prediction was possible.

The following section is devoted to a review of investigations that has shown the theoretical and practical possibilities of prediction.

B. Studies in Prediction

Generally, prediction studies may be classified according to content of items or factors, method, and subject matter. The various studies have been arranged in chronological order since there has been reliance on preceding investigations. The differentiating factors will be noted in sequence. Finally, the sociological rationale for these studies will be reviewed. Interestingly, the theoretical sociological justifications for such studies lagged far behind empirical investigations.

One of the first studies in the field of predicting social behavior was Warner's attempt to relate recidivism to background characteristics

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of individuals. Using a sample of 680 men, 300 of whom had been successful on parole, 300 unsuccessful, and 80 not yet paroled, approximately 60 items were secured from official parole records. Warner concluded that with the exception of the alienist's report and the pre-parole criminal record, no significant differences existed between those who failed and those who succeed on parole.

Hornell Hart\(^1\), however, disagreed with Warner's conclusions. He stated that had Warner used a statistical measure of the differences between the percentage rates of violators and non-violators, the conclusions would have been different, i.e., background factors have a relation to parole outcome and could, therefore, be used to predict outcome.

Burgess\(^2\) utilized Hart's suggestions in an investigation of 3000 parolees, 1000 each from three penal institutions. Approximately one-fourth of these men were violators; violation being defined as misconduct during the parole period and was either major or minor in nature. Using 21 pre-parole items, Burgess divided these into sub-categories on the basis of information found in the records. He then computed the overall percentage violation rate, and the violation rate for each sub-category. For example, Menard Penitentiary had an


overall violation rate of 26.5 percent. One item, pre-admission work record had four sub-categories. Percentage violation rates for sub-categories were as follows: No previous work record—25.0%; record of casual work—31.4%; record of irregular work—21.3%; record of regular work—5.2%. It was obvious, if only this single factor was considered that the parolee with a record of regular work prior to admission was more likely to succeed on parole than one with a record of casual work. However, it was equally obvious that a single item is not all important. Thus, Burgess developed 21 items concerning such things as ethnic origin, criminal record, conditions pertaining to trial, social type, age, etc. To transpose these items into a measurable relationship with parole outcome, he gave one point for each sub-category whose percentage violation rate was below the overall violation rate. Thus, a prospective parolee with a history of regular work would receive one point for falling in that category. In all, it was theoretically possible to receive 21 points. In this manner 3000 prediction scores were obtained, and on the basis of these an experience table was constructed.

The method employed by Burgess was relatively simple, but criticisms were made of this study for five reasons. First, only official records were used. Second, the study was confined to conduct during the parole period. Third, subclasses in some items were subjective and overlap with each and with other items. Fourth, equal weight was given to all

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1 Ibid. p. 266.
items in the scoring though some were of more importance than others. 
Fifth, no measure of reliability or consistency of data was utilized.¹

These criticisms were taken into account by the Gluecks², with 
the partial exception of the final one, in a study that followed shortly 
after. Having almost unlimited funds, the Gluecks used both official 
records, and interviews with interested people. Their criterion for 
failure was continued criminality not only during parole, but afterwards 
as well. They selected items through the use of the coefficient of 
the mean square contingency. Through the use of this method, they 
discovered the degree to which any item was related to behavior. This 
substantially reduced the number of items necessary to predict parole 
outcome; in all they used six pre-reformatory factors. Scores were 
obtained by adding the percentage value of the failure rate found for 
each subcategory which was applicable to an individual. 

Broadly speaking, the two methods of relating background charac­
teristics of an offender have been developed, i.e., the Burgess and 
Glueck methods, or many and unweighted items, or few and weighted items. 
In 1939 the relative efficiency of the two methods was tested by Vold³

¹Cf. Sheldon and Eleanor T. Glueck. 500 criminal careers. New 
p. 16. 1931.

²Glueck and Glueck, op. cit. p. 281-282.

³Vold, op. cit., Chapter VI.
and he obtained a correlation of +0.922 between scores derived through the use of the two methods. Vold used three tests of reliability, the Pearsonian coefficient of correlation, the coefficient of mean square contingency, and analysis of scatter diagrams. Monachesi\(^1\) used the same methods as Vold in predicting the outcome of probation with a sample of 619 persons. After using both methods, he concluded:

The results obtained have indicated throughout that even though the Burgess method is crude, and subject to many objections, its use gives the most satisfactory results in that it discriminates more sharply between the classes at the lower end of the scoring scale.

In 1934, the Gluecks\(^2\) modified their method by declaring significant any item where it was found that the maximum percentage difference of the subcategories was greater than one-half the overall violation rate. This is simpler than figuring the coefficient of mean square contingency, but it retains the advantages of the weighted score.

Vold\(^3\), in 1935, utilized the methods developed in predicting parole and probation outcome in an attempt to select different types of prisoners for the most suitable type of treatment available within

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the institution. A sample of 597 cases was used and again it was found that both the Burgess and Glueck methods produced similar results.\(^1\)

Until 1936, the primary differences between researchers had been the method used in selecting and scoring items. All students in the field had relied primarily on pre-institutional admittance factors to make up the bulk of their prediction items. Usually there was an item concerning behavior in the institution, and one or two concerning the social type of the individual, and the psychiatric prognosis. This approach was attacked by Ferris F. Laune\(^2\) as unrealistic. After stating that the purpose of the penal institution is reform and rehabilitation, and that this is effected through transformation of the attitudes of the prisoners, he said:\(^3\)

> It must depend, then, not upon static factors, which are from the outset fixed for all times; it must rest upon dynamic elements—factors which are subject to continual changes. To judge the probability of successful adjustment of a paroled inmate upon such factors as his nationality, his age, his marital status, etc., is to exclude entirely any change which may take place in his ego after his incarceration. The offender who at commitment is a twenty-six-year-old single American will after ten years be a thirty-six-year-old single American. If changes occur at all, such predetermined criteria cannot serve as useful indices.

Laune attempted to gain dynamic items by utilizing the hunches of prisoners who were acquainted with the prospective parolee. As

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\(^1\) Ibid. p. 208.


\(^3\) Ibid. p. 76.
Monachesi\(^1\) said, however:

Having made these assumptions, Laune gets involved in an elaborate and complicated statistical analysis of "munches" that tends to give his results a semblance of respectability and accuracy. It does seem, however, that unverified munches do not furnish an adequate foundation upon which to erect a prediction instrument. On the other hand, it does seem true that Laune's investigation suggests a number of possibilities for improving prediction techniques and his contention that prediction instruments be based upon dynamic aspects of behavior is commendable.

The following years were characterized by an extension of prediction methods to other fields of social behavior, as well as further work in the field of predicting recidivism. Burgess and Cottrell\(^2\) established a marriage adjustment questionnaire which was developed out of the relationship between happiness rating scales and background social factors. From this was established a table of scores which predicted the degree of marital adjustment for a couple.

In 1939, Baylor and Monachesi used six factors to predict success or failure of foster-home placements for children.\(^3\) The six factors were nativity of the father, the child's interests, problems, habits, age, and attitude toward education. The Glueck method\(^4\) of selecting

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\(^1\)Elio D. Monachesi. An evaluation of recent major efforts at prediction. Amer. Sociol. Rev. 6:480. 1941.


\(^4\)Ibid. p. 476.
factors was used, and scores were obtained by adding together the unfavorable percentage for each of the subclassifications.

Weeks\(^1\), attempting to distinguish characteristics between the delinquent and non-delinquent, and thus predict juvenile delinquency, used both the Burgess and Glueck method. In the latter method, the weight of each factor was determined by the value of the critical ratio which gave the significance of the difference between delinquents and non-delinquents. He used fourteen characteristics as predictive items.\(^2\)

Jenkins\(^3\), et al., without giving Laune credit, again attempted to inject dynamic items into the prediction instrument. After discussing various studies predicting recidivism:\(^4\)

The inclusion in these studies of elements descriptive of characteristic personality patterns have been conspicuously rare. . . . To anyone working clinically with offenders this is a conspicuous omission.

That is to say, there are obvious elements of decided prognostic significance which are not included, at least in any direct manner, in any of the quantitative methods of predicting parole success. . . . Prediction made without reference to this psychological state or to general personality patterns, may have a degree of validity, statistically speaking, which is dependent upon the fact that certain actions usually have certain significance, but such relationship is a regretably limited basis for prediction.

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2. Ibid. p. 41.
4. Ibid. p. 38.
The sample consisted of 85 well-adjusted parolees from a training school and 107 poorly adjusted parolees, i.e., returned to the institution during parole. Approximately half of the items were static and half dynamic in nature. Items were weighed from a plus four to a minus four, although it was not stated how weights were determined. The authors state that the study was designed to explore possibilities rather than to serve as useful prediction instrument.¹

Cason and Pesco's² study is chiefly of interest since it used Schrek's nomogram to select items. No attempt was made to weight items or to predict probable outcome.

Glass's³ study relied almost completely on dynamic data and parts of it can be secured only by direct questioning. Five factors were used to predict combat effectiveness: Disease and illnesses; adult neurotic manifestations; degree of insecurity; family history (neuroticism and disharmony); and, childhood neurotic traits.⁴ Glass felt⁵ that "...a partial degree of success was attained." The study

¹Ibid. p. 46.
⁴Ibid. p. 81-82.
⁵Ibid. p. 83.
is of interest since it is the only one which is so designed that all items may be completed by direct questioning.

The Gluecks' latest attempt at prediction has been in the field of juvenile delinquency. They used a matched sample of 500 delinquents and 500 non-delinquent males. Matching had been done on the basis of age (11-17); intelligence, ethnic origin; and, neighborhood. While they investigated character traits on the basis of the Rorschach, and personality traits on the basis of psychiatric interviews, the factors of interest here concerned social background. They found five factors to be significant: discipline of the boy by the father; supervision of the boy by the mother; affection of the father for the boy; affection of the mother for the boy; and, cohesiveness of the family. They obtained weighted scores by using the percentage failure of the subcategory.

The latest study in predicting recidivism, and one of the best, is that of Ohlin. He patterned his investigation after Burgess' early work. Only 12 items were used as compared to Burgess' 21, but

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3 Ibid. p. 261.
those retained are similar and cover about the same background of pre-prison factors as the earlier work. The scoring is done in somewhat the same fashion, a plus one, minus one, or zero. As for weighting the various items, Ohlin says:

In the course of prediction research carried on in Illinois, a great deal of experimentation was conducted with different methods of scoring in order to combine the information provided by the various factors. It was discovered that when only the subclasses of each factor which vary most from the average violation rate were considered, highly complicated scoring and weighting procedures add little to the value of the final table. In fact, a simple combination of widely deviant favorable and unfavorable items gives more useful and stable results than can be secured by complicated weighting systems.

Predictive items were selected on the basis of four tests:

1. The first test pertains to the reliability of the classifications in each subclass. The required information can be secured from the data on reliability already collected. A percentage of full agreement is secured for each subclass and two lists are prepared. One list is composed of those subclasses with violation rates higher than the average violation rate for the total sample of parolees, and the other shows the subclasses with violation rates that are lower.

2. The second test involves the determination of the statistical significance of each subclass. This may be accomplished by computing the significance of the difference between the subclass violation rate and the total violation rate. The resulting figure is commonly called the critical ratio of the difference between two proportions. A critical ratio over 2.58 may be regarded as significant at the 1 per cent level.

3. The third test relates to the determination of the degree of association between the subclass and parole

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*See Appendix B for the items Ohlin used.

1 Ibid. p. 56.

2 Ibid. p. 110-111.
Yule's Q coefficient for the measurement of the association of attributes has proved useful in the Illinois prediction study when it is used in conjunction with a critical ratio. . . .

The interested reader is referred to an article written by Ohlin and Duncan\(^1\) where the fourth test, a measure of predictive efficiency of the subclasses, is discussed. This is the percentage reduction in error of prediction which is said to be the ratio of the percentage of error of any specific method of prediction to the percentage of error based on knowledge of overall violation rates. It is obtained by subtracting the percent of overall violation rate from the predicted percentage of violation rate, and dividing the result into the actual percent of violation rate.\(^2\) "This test indicates the improvement in efficiency of prediction which can be realized by using the distinction afforded by the subclasses of a factor, as compared with predictions made without this knowledge."\(^3\)

Relatively few studies have concerned themselves with follow-ups of existing prediction tables, and these few have generally been disappointing. Vold\(^4\) was the first to do so in the studies here reviewed. He used Burgess' method, and after adjusting differences between overall violation rates for different periods of time, he concluded:


\(^{2}\) Ibid. p. 441-452.

\(^{3}\) Ohlin, op. cit., p. 111.

That the principal error that appears is due to the changed rate of parole violation for the institution. Parole prediction seems to have worked within the limits of about a two percent error.

Monachesi\(^1\), using 120 persons in a follow-up of an earlier study concluded that while his sample was small, serious doubts were cast on the validity of his technique.

Hakeem\(^2\) changed several of Burgess' items slightly and adjusted the experience table due to the changed violation rate in a follow-up study. He concluded, "The prediction table has been validated in this instance."\(^3\)

Thompson\(^4\) used a sample of one hundred males to test the Glueck's social factors in their book *Unraveling Juvenile Delinquency*. He concluded:

In summary, it has been found that when the Glueck Social Prediction Table was tested against a sample of 100 boys . . . it was able to identify accurately 91 percent of the boys who in the years that followed proved definitely to be either non-delinquent or delinquents.

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\(^3\) Ibid. p. 386.


\(^5\) Ibid. p. 469.
The most elaborate follow-up study to test the effectiveness of earlier works was the study previously cited by Ohlin and Duncan. In all, 14 studies were examined through the use of the percentage reduction in error of prediction method. However, there would appear to be some doubts as to the soundness of obtaining a ratio through the device of dividing one percent into another. After analyzing various prediction tables through the use of the percentage reduction in error device, they concluded that "...the routine application of these techniques to the types of data usually secured is in no sense a guaranty of substantial improvements in prediction over the crudest method available—prediction from total rates."^2

It was noted at the beginning of this section that prediction methods could be classified in three ways: content of items, subject matter, and statistical method. These three types of classification will be briefly summarized.

In general, content of items may be classified in one of two ways, static or dynamic. With but several notable exceptions, prediction studies have utilized static information although the emphasis would appear to be shifting toward the use of dynamic data where available. Reckless^3, using objective for static and subjective for

^1Ohlin and Duncan, op. cit.
^2Ibid. p. 445.
dynamic, defines static data as "...externally recognizable conditions,..." and dynamic data as "...subjective factors in a person's life and behavior,...". He feels that reliance will be placed more and more on dynamic data but goes on to say:

There is no reason, however, to neglect the use of ordinarily reported objective items in the computation of risk for the exclusive use of predictive instruments which test the operation of subjective factors. Improvements in standardising the reporting of objective information on agency records will undoubtedly have great repercussions for prediction studies as well as will the inclusion of new objective items of information in record coverage which are found to have predictive value. Just as much use should be made of the objective items in computation of risk as is possible to make until the limits of prediction with such data are discoverable.

It has been pointed out that students of prediction have concerned themselves with a wide range of interests: recidivism, probation, institutional classification, marital adjustment, foster-home placements, juvenile delinquency, and combat effectiveness.

The method of preparing prediction tables may be divided into two parts, scoring and selecting items. Items have either been assigned equal weight, or been given varying weights depending upon their relative importance to predicting results. Experience has shown that either method is satisfactory and both give about the same results. The method of selecting specific items for inclusion in the prediction table has not been resolved and apparently will not be for sometime. At the present, there is no test or combination of tests generally accepted by workers in the field.

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1Ibid. p. 477.
The theoretical sociological justifications for the prediction of social behavior came long after a number of empirical studies had gained wide acceptance. Indeed, tradition and interest marked the justifications for such studies until 1939, and even then the rationale was addressed not to sociologists but social workers. The primary point made, which is also one of the basic tenets of sociology, was that groupings to a high degree, "... have been conditioned to respond to similar stimuli in a similar fashion." A more abstract level of presentation was reached in articles by Monachesi and Reckless in 1941. Monachesi, speaking of the assumptions under which prediction studies are carried on, said:

Briefly stated, the work of these scholars is predicated on the assumption that human conduct in general is subject to scientific study which renders possible the classification of human beings and their behavior in more or less stable categories. Data that are thus derived may be used to forecast what will probably happen when certain types of human beings who possess specific characteristics are confronted with designated situations. In other words, studies in the field of social prediction attempt to record human experiences in some systematic form so as to utilize them for predicting future human conduct. The results of this procedure are usually presented in simple expectancy tables.

Reckless, in a more generic approach sees the prediction of social behavior as the raison d'être of the study of social problems:

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1 Baylor and Monachesi, op. cit.
2 Ibid. p. 469.
3 Monachesi. An evaluation of recent major efforts at prediction. p. 478.
4 Reckless, op. cit. p. 171-173.
The major scientific interest in the study of social problems has been focused primarily on causation. It is now becoming apparent in sociological research, at least, that causative factors are very elusive things, and are not satisfactory (sic) handled. Perhaps the etiology of the particular social problems which sociologists study will largely remain speculative and undetermined. Perhaps causation is not very applicable to the study of social problems in the first place. . .

In view of a frustrated etiology of social problems, the unverified although interesting analysis of behavior processes, and the unsettled condition of the spatial studies, one might propose that sociologists cultivate the actuarial study of social problems, which might indicate the risk of various categories of people for becoming officially reported to various registration agencies. . . . Sociologists have already made a respectable beginning in prediction of outcome. . . . However, the promise of the application of actuarial methods to the study of social problems does not lie in prediction of absolute, tangible, or corrected incidence but rather in the forecast of what category of persons has a better chance of being reported to an agency than another category of persons.

Beckless well summarizes the advantages and limitations of prediction methods in his final summary:

In summary, it has been pointed out that (1) the actuarial approach is one which affords sociologists the opportunity to have something demonstrable to say about social problems; (2) by being interested in what classes of persons will become known to an agency, actuarial computations sidesteps the difficulties confronting the prediction of total volume or incidence of cases; (3) actuarial methods operate effectively within the limits of agency facilities and coverage, although the results suffer somewhat from bad reporting of data; (4) the data reported in ordinary agency and institutional records are no more of a handicap to actuarial methods than are the data reported in the ordinary applications for life insurance; (5) actuarial use even can be made of data which are based on what the examinees profess to be true; (6) the outlook for prediction studies is brighter in the field of computation of categoric risks for successful and unsuccessful outcome than in the field of computation of categoric risks for successful and unsuccessful outcome than in the field of computation of categoric risks for persons to become known to an agency; and (7) valid tests of subjective factors may ultimately have to be developed to procure the really socially important indicators of risk in outcome.

Ibid. p. 477.
The review of the literature has been selective rather than exhausitive since there have been many other studies in the area of prediction. However, these studies contribute little that is unique to those discussed here.

III. METHOD OF PROCEDURE

This section has been divided into three parts; first, the objectives of the study; second, the assumptions and hypotheses used; and, third, the method of procedure.

A. Objectives of the Study

This study has three objectives; first, to determine the release characteristics of institutionalized mental defectives leaving institutions on vocational placement; second, to determine if these release characteristics are applicable to patients who have been placed on jobs from the Woodward State Hospital and School, Woodward, Iowa; third, to determine if these release characteristics differentiate between those patients who are discharged and those who are returned to the institution. If these characteristics differentiate between patients, to utilize these data to predict statistically the chances of probable success for individuals leaving the Hospital in the future on vocational placement.

B. Assumptions and Hypotheses

The basic assumption of this study is similar to that of Monachesi\(^1\).

\(^{1}\) Monachesi. An evaluation of recent major efforts at prediction, p. 475.
i.e., that human beings can be placed in more or less stable categories, and forecasts made of probable future behavior on the basis of these categories.

This study has one general hypothesis and two supporting hypotheses. The general hypothesis of this study is that the release characteristics currently used in selecting institutionalized mental defectives for vocational placement are not applicable to the patients of the Woodward State Hospital and School, Woodward, Iowa.

The two supporting hypotheses are: first, that those criteria do not differentiate between those mental defectives who are discharged or released and those who are returned to the Hospital. Second, that these criteria cannot be used to predict the adjustment of mental defectives leaving the institution in the future.

C. The Procedural Steps

1. The group studied

Four criteria were used to determine the group here studied which consisted of 75 males and 130 females for a total of 205 persons. First, persons included in the group were patients of the Woodward State Hospital and School, Woodward, Iowa. Second, the patients were
mentally deficient, but were not epileptic.* Third, patients had been placed by the Hospital's Social Service Department, according to the rules of Circular Letter Number 43. Fourth, if patients had failed on placement, it was through a fault of the patients', rather than return caused by sickness, inconsiderate employee, etc. In other words, the patient had failed through some action requiring his return.

A single criterion has been used to determine successful placements, which was a complete discharge from the Hospital approved by the Iowa Board of Control of State Institutions. Thirty-nine male and 72 female patients were classified as successful. Unsuccessful placements were defined as those who had returned to the Hospital through a fault of their own. Furthermore, to be included in this study, they would not be considered for placement again. Thirty-six male and 58 female patients were classified as unsuccessful. This made a total of 111 successful and 94 unsuccessful placements.

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*While there has been and still is a great deal of controversy as to what constitutes a definition of a mentally deficient person, it is here defined as any non-epileptic patient of the Woodward State Hospital. This has been done for four reasons: first, patients are so regarded by the community where they are placed; second, this definition is in accord with the Code of Iowa; third, psychologists are not in complete agreement as to any numerical I.Q. that could serve as a cutting line; and, fourth, it is true of most institutions for mentally deficient in the United States that they have patients with "normal" intelligence quotients. Thus, this definition is pragmatic as well as giving consideration to social and psychological factors. Cf. E. E. Doll. Is mental deficiency curable? Amer. J. Ment. Def. 51:420-428. 1947; Leo Kanner. Feeblemindedness, absolute, relative and apparent. Nervous Children. 50:365-397. 1948.
Some criticism may be raised to the approach of using discharge from the Hospital as the criterion of success, and return to the Hospital as the criterion of failure. It has been done for three reasons. First, workers in the field of prediction have used such a pragmatic definition in other studies. 1 Second, with limited funds, there is no available means of determining ultimate adjustment. Third, an Ohlin said 2 regarding parole violation warrants, "It is a clear, objective measure of success or failure which can be readily obtained from the records."

2. Securing the release characteristics

Three assumptions were made regarding release characteristics before actually beginning the study. First, it was believed that the criteria used in studies of other types of populations would be applicable to the group studied. While there are similarities and the studies provided insights, the release criteria used were not directly applicable to this group. Second, it had been assumed that there were criteria for the vocational placement of non-institutionalized mental defectives. Such criteria were not found. Third, it had been thought that the literature concerning mental deficiency would have sufficient criteria to test adequately whether significant differences existed between those that failed and those that succeeded on placement.

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1 Ohlin, op. cit. A measure of parole outcome. Chapter 3. This chapter has the historical rationale for such an approach.

2 Ibid. p. 144.
This has been found to be only partially true since various writers mentioned insights, but had never attempted to empirically verify them. For these reasons, it has been decided to write directly to the various institutions for mental defectives in the United States and determine what criteria were used by them in placement.*

Originally it had been decided to send a schedule with specific questions, but this was discarded. Gee\(^1\) points out many of the disadvantages of the questionnaire. Read in the light of the present problem, it seemed methodologically unsound to "prepare" answers where none might exist. As Lundberg\(^2\) says, "All questionnaires are necessarily formulated on the basis of some knowledge of the type of answer probable." Since this study was concerned with criteria actually being used, it was felt that a detailed questionnaire would facilitate the present tendency of institutions for mental defectives to give adherence to a vocational placement program even though one did not exist. In other words, in view of the lack of knowledge regarding the subject, it was a real fear that the answer probable might both originate and end in the writer's office.

\*Addresses were obtained from the Directory of the American Association on Mental Deficiency, 1950.


Thus, a "free" or "open-ended" letter has been sent to each state institution for mental defectives in the United States.* This letter had two advantages: first, it was believed that institutions without a program would be less likely to respond than if a ready-made answer sheet had been provided.** Second, the responses were in terms of what the respondents thought important rather than the writer.† The primary disadvantage of this approach has been in the attempt to classify the answers. However, due to the similarity of vocabulary, relatively little difficulty arose in the final classification.

As seen above, the letter had been signed by the Superintendent. After two months, the same letter with a note attached was sent to those institutions not replying.*** In all, letters were sent to 91 institutions and replies were received from 68 or 74.73 per cent. Fifteen, or 22.06 per cent had no placement program. Thus, 53 responses gave specific criteria. This was 77.94 per cent of all responses received.

*See Appendix C.

**Letters were sent only to public institutions, since the problems facing private institutions are not comparable, i.e., patients are usually returned to the family when released from private institutions.

***See Appendix D.

†Lundberg, op. cit. p. 191-193.
It is noteworthy that slightly over 25 per cent of the institutions contacted did not respond at all. Particularly so when it is remembered that almost all institutions have some routine method of answering mail of this type. Moreover, another study utilizing the questionnaire and mailed to state institutions for mental defectives received a response of 91.78 per cent without a follow-up letter.  

In that article, however, a less prominent subject was under investigation.

Fifty-three or 77.94 per cent of the responses referred to the matter of release characteristics used by that particular institution. It was necessary to discard six or 11.32 per cent in view of the responses given. Two stated that they considered "all the facts;" two said they had no set release characteristics; one said any non-delinquent was eligible for placement; and, the last said patients were placed "when they develop".

Two hundred and forty-eight release characteristics were noted by the 47 institutions which was an average of 5.3 release characteristics per institution. These characteristics were grouped into 19 categories. This, as noted above, is the problem of the open-ended questionnaire. Some overlap was found in the categories, but in the main there was a high degree of unanimity in the responses due to the similarity in terminology which, of course, facilitated classification.

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It is apparent from Table 1 that there are errors of both omission and commission. It is not likely that an institution would release sex deviates, or, if they did so, only after prolonged consideration. Yet, only three responses noted this fact. Thus, numbers and percentages may be misleading. They should be interpreted to mean only that these factors were specifically mentioned a certain number of times. In all likelihood, each factor would in some way be considered, but it is interesting to note the emphasis given to various items.

The primary problem in the release characteristics obtained is the subjectivity of many of them. For example, what is meant by the proper attitude, personality, interest, and proper use of leisure time? These characteristics were never satisfactorily explained in the responses, but were simply listed as important factors. In addition, four other release characteristics were given, but were not explained. This group included length of residence, formerly institutionalized, past history, and education. While none of these is subjective in themselves, respondents did not state what influence or in what manner these factors played a part. In each case, it was stated that these factors were considered. In other words, the eight characteristics noted above were said by respondents to be important in differentiating successful from unsuccessful placements, but no indications were given as to what their actual role might be, nor how they might be used to select successful placements.

Nine release characteristics are relatively explanatory and are primarily dependent on either skilled observation or tests. They are:
Table 1. Release characteristics considered by institutions in selecting patients for vocational placement

<table>
<thead>
<tr>
<th>Criterion</th>
<th>N</th>
<th>Per cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>I.Q. or M.A.</td>
<td>40</td>
<td>85.10</td>
</tr>
<tr>
<td>Good behavior in the institution</td>
<td>24</td>
<td>51.06</td>
</tr>
<tr>
<td>Personality</td>
<td>23</td>
<td>48.93</td>
</tr>
<tr>
<td>Age</td>
<td>21</td>
<td>44.68</td>
</tr>
<tr>
<td>Received all institution can give</td>
<td>20</td>
<td>42.55</td>
</tr>
<tr>
<td>Do job (specific)</td>
<td>19</td>
<td>40.42</td>
</tr>
<tr>
<td>Emotionally stable</td>
<td>19</td>
<td>40.42</td>
</tr>
<tr>
<td>Good physical condition</td>
<td>18</td>
<td>38.30</td>
</tr>
<tr>
<td>Education</td>
<td>14</td>
<td>29.78</td>
</tr>
<tr>
<td>Proper attitude</td>
<td>10</td>
<td>21.27</td>
</tr>
<tr>
<td>Sterilized</td>
<td>8</td>
<td>17.02</td>
</tr>
<tr>
<td>Proper use of spare time</td>
<td>7</td>
<td>14.89</td>
</tr>
<tr>
<td>Past history</td>
<td>7</td>
<td>14.89</td>
</tr>
<tr>
<td>Truthfulness</td>
<td>4</td>
<td>8.51</td>
</tr>
<tr>
<td>Personal appearance, cleanliness, etc.</td>
<td>4</td>
<td>8.51</td>
</tr>
<tr>
<td>Interests</td>
<td>3</td>
<td>6.38</td>
</tr>
<tr>
<td>Not sex deviate</td>
<td>3</td>
<td>6.38</td>
</tr>
<tr>
<td>Length of residence</td>
<td>3</td>
<td>6.38</td>
</tr>
<tr>
<td>Formerly institutionalized</td>
<td>1</td>
<td>2.12</td>
</tr>
</tbody>
</table>

TOTAL 248
good behavior in the institution; received all the institution can
give; ability to do a specific job; good physical condition; sterilized;
thruthfulness; not a sex deviate; and, personal appearance and cleanliness. In regard to the last factor, that of personal appearance, the
following statement seems pertinent: 1

Not only does the social prejudice toward one with a conspicuous or unesthetic defect tend to operate to his social and economic disadvantage, but such prejudice can play a powerful role in determining the attitude of the handicapped toward himself and his mental health.

Two release characteristics were discussed in some detail by respondents: intelligence and age. Intelligence test results were noted by 40 institutions. In almost every case, their concern was in establishing a point below which patients were not considered for placement. In terms of I.Q., six institutions said they considered those with an I.Q. of 50 or higher; one each said 45 and 40. Eight responses were concerned with M.A.; four taking eight as a cutting line; two using seven; and one each using six and five. Seven responses used classifications, with the moron mentioned three times as the lowest considered, and one each for low morons, "middle grades", imbeciles, and "the more intelligent."

Specific mention of chronological age was primarily concerned with the level below which patients were not considered for placement. Three said age 16; five used 18; two 20; and, one respondent said 21.

years of age was as young as they would consider. Two institutions cited age 25, one stating this was the "best" age, and the other saying that at the beginning of the placement program this had been the minimum age, but it had been dropped to 20. Only two institutions gave a ceiling age, 50 and 55.

When the release characteristics found in the literature and in the responses from the various institutions are compared, two conclusions appear. First, there is a high degree of similarity between the two. Since the literature is both written and read by institutional personnel, this is to be expected. Second, following this further, in neither sources are the characteristics useable from a quantitative point of view. They tend to be highly subjective and do not lend themselves to empirical verification as presented.

3. Objectifying the release characteristics

Two considerations were given to objectifying release characteristics as found in the literature and responses from individual institutions. First, each characteristic has been constructed to lend itself to statistical manipulation, but, insofar as possible, to retain the essence of the idea originally presented. Second, an attempt has been made to give emphasis to dynamic factors, and, where possible, to develop criteria from the dynamic approach as stated by Laune, Reckless, etc. This is particularly noteworthy when it is realized that previous studies in other areas have primarily used preinstitutional data for release characteristics. Since the majority of the
group studied have come to the Hospital at an earlier age, such data were either not available or not applicable. Thus, more emphasis has been given to dynamic factors than current studies in other areas.

At the onset, certain release characteristics were discarded for purposes of verification since the data were not available at the Woodward State Hospital. That patients placed in groups were more successful on placement has been noted above, but the data to determine this were not available in earlier cases. Psychometric patterns in terms of persons with higher performance than verbal I.Q. doing better on placement than those with higher verbal than performance I.Q. has also been noted above, but nowhere in the literature was any indication given of the significant difference between the two points. The same was true of an increase in I.Q. when the increase in I.Q. was from the Stanford-Binet to the Wechsler-Bellevue or visa versa.\(^1\) The various paper and pencil tests, and projective personality tests noted above had never been administered at the Woodward State Hospital, and thus were not available for use.

Four items were omitted due to the similarity of the responses between those that succeeded and those that failed on placement. All patients attended church regularly, and all expressed an interest in the type of work they would do on placement. All patients had a degree of experience on the job they would do on placement, but, had little or no skill on it or on related jobs. Only a few patients had received a psychiatric prognosis and those were favorable.

No sex deviates were ever placed from the Hospital.

What might be termed the Burgess school of prediction has utilized social types as a predictive device. Actually, these were stereotypes of criminals and were constructed from information in the institutional records. Data were not available to develop such typologies for defectives.

After discarding the above release characteristics, it was necessary to objectify those remaining. Fifty-six such characteristics have been prepared for statistical testing. They are:

1. Age at admission
2. Type of admission
   a. Court committed
   b. Voluntary
   c. Transfer
3. Number of times admitted
4. If transfer, from where admitted
   a. Anne Wittenmyer Home at Davenport
   b. Toledo Juvenile Home
   c. Training School for Boys
   d. Training School for Girls
   e. Clarinda Mental Health Institute
   f. Independence Mental Health Institute
   g. Cherokee Mental Health Institute
   h. Mt. Pleasant Mental Health Institute
1. Glenwood State School
2. Private institution
3. Number of commitments to other institutions
4. Religion
   a. Catholic
   b. Protestant
5. Nationality and origin of birth
   a. Both parents American born
   b. Both parents foreign born
   c. Father American born, mother foreign born
   d. Mother American born, father foreign born
   e. Unknown
6. Father's occupation
   a. Laborer
   b. Farm tenant or farm laborer
   c. Institutionalized
   d. Skilled laborer
   e. Farm owner
   f. Managerial
   g. Deceased
   h. Relief, public assistance, etc.
   i. Pension
   j. Store owner
   k. Clerk
   l. Salesman
   m. Unknown and no information
7. Type of home
   a. Superior home
   b. Average home
   c. Inferior home
   d. Broken home, inferior
   e. Broken home, average
   f. Broken home, superior
   g. Left home
   h. Institutions
   i. No information

* While persons from a private institution are not technically transfers, they have been included in this category to determine the relative influence of institutional life.

** The institutions are the same as those found in Number four.

*** Data were not available to determine denomination.

**** Data were not available to determine nationality.

† Persons placed in this sub-category were institutionalized before the age of three.
10. Broken or unbroken home
   a. Unbroken home
   b. Broken home
      1) by death
      2) by desertion
      3) by divorce
      4) by separation
      5) illegitimate child
      6) institutionalization
      7) suicide
      8) no information
11. If broken home, with home living
   a. Mother
   b. Institution
   c. Father
   d. Grandmother
   e. Aunt
   f. Uncle
   g. Grandfather
   h. Self
   i. Foster home
   j. Unknown
12. Economic condition of home
    a. Comfortable
    b. Marginal
    c. Dependent
    d. Unknown
13. Community
    a. Urban
    b. Rural
14. Number of Sibling
15. Sibling rank
    a. First
    b. Last
    c. Middle
    d. Only
    e. Unknown
16. Family history of criminal activities
17. Family history of mental disorders

* See Appendix E for definitions of this category.
** Incorporated towns with a population of 500 or more. Persons residing in institutions were classified in this sub-category.
*** This sub-category has been defined to mean any activity which lead to institutionalization in a local or county jail, prison, etc.
**** Only persons that have been institutionalized in a mental health institute have been included in this sub-category.
18. Other types of institutionalization for family

19. Childhood neurotic traits
   a. Enuresis
   b. Nightmares
   c. Sleepwalking
   d. Temper tantrums
   e. Abnormal fears
   f. Nail biting
   g. Excessive illness
   h. No information

20. Reason for admission to Woodward, or other institution if here on transfer. (This category assumes that the factors given are in addition to the fact of mental deficiency which was the first cause of admission.)
   a. Sex delinquent
   b. Behavior problem
   c. Backward in school
   d. Inadequate home
   e. Need special training
   f. Criminal acts
   g. Psychotic
   h. No home
   i. Born in institution
   j. No information

21. Intelligence quotient

22. Read

23. Write

24. Tell time

25. Impressions of the examiner during psychometric testing
   a. Cooperation and effort
   b. Affect
   c. Attention
   d. Motor control
   e. Auto criticism
   f. Sensory acuity
   g. Speech defect
   h. Personal appearance

26. Educational attainment
   a. Grade level
   b. Where work done

27. Emotional stability

28. Health record

29. Sterilized

30. Behavior problem

31. Runaway from Hospital
   a. Number of times

*All sex delinquents were heterosexual in nature.
32. Quarrelsome with employees
33. Quarrelsome with patients
34. Interested in opposite sex
35. Fights
36. Truthful
37. Ambitious
38. Obedient
39. Careless
40. Gregarious
41. Punishment record
42. Steals
43. Cheerful
44. Work record in Hospital
45. Evaluation of work in Hospital
46. Type of job held
47. Recreational activities
48. Neat
49. Visits home
50. Visitors from home
51. Packages from home
52. Age left Hospital on vocational placement
53. Number of years in residence at the time of placement
54. Type of work selected for vocational placement
55. City or town where patient will work
56. Institutional behavior from the time of admission to the time of placement

4. Gathering the data

Prior to admission to the Woodward State Hospital and School, an application has been completed for each new admittee. From the time of admission, a ward sheet has been kept on the patient's ward, and maintained by the attendant in charge. This represents a running account of the patient's adjustment to the Hospital routine. After being kept on the ward for a period of one year, it then becomes a part of the permanent folder. At this time, also, the ward physician begins to make progress notes, which are maintained continuously. Shortly after admission, a psychometric examination is given, and a
face sheet for the patient's folder is made. If not prior to admission, shortly afterwards a social history is obtained from the county welfare department which has the patient as a resident. With these six items as a beginning, a permanent folder is maintained for each patient, and is retained if he should leave the Hospital. Additional psychometric examinations, social histories, correspondence, medical reports, etc., are kept in this folder. It was from the patient's folder that the data to complete the standards for verification were collected.

The application blank is concerned with the medical and social history of both the patient and his family prior to the time of admission.* The ward sheet is kept on the ward for one year and records such things as visitors, visits, packages, fights, temper tantrums, illness, etc.** The progress notes carry reports of physical examinations, physician's evaluation of the patient, work assignments, dates of leaves and visits, recommendations for vocational placement, etc.*** The psychometric examination reports the examiner's impressions, level and place of schooling, ability to read, write, and tell time, as well

* See Appendix F for a copy of the application sheet with sample entries selected by the writer.

** See Appendix G for a copy of the ward notes with sample entries selected by the writer.

*** See Appendix H for a copy of the progress notes with sample entries selected by the writer.
as the intelligence quotient.* The face sheet is prepared as the first sheet of the permanent file and carries essential data in summary form.** Case histories are generally prepared by the welfare department of the county of residence.***

It is apparent to anyone familiar with institutional records that the completeness and accuracy of the above forms and reports are relative. Application sheets and social histories may be subject to a community desire for institutionalization, lack of time to complete properly, etc. However, in this regard, Reckless has a particularly appropriate statement to consider.¹

The information in agency records which sociologists must use for computation of risk is just about as good as the information which life insurance actuaries must use, that is, information from the application of the insured, including even the medical examination and the inspection. No one would claim that the reporting of medical impairments in parents and siblings on the application sheet is better than the reporting of information in social agency records.

The above statement is concerned primarily with accurateness of reporting. However, there is no question that some folders were more complete than others. The result has been that not all items could be completed for each person. This has been more true of some items

*See Appendix I for a copy of the psychometric examination form with sample entries selected by the writer.

**See Appendix J for a copy of the face sheet with sample entries selected by the writer.

***See Appendix K for a social history selected by the writer.

¹Reckless, op. cit. p. 17¹.
than others.

The method used to gather the data has been to first read the
individual folder, and then complete the various items on the schedule.*
In some items, e.g., age, sex, psychometrician's impression, prior
institutionalization, etc., relatively little difficulty has been
encountered in collecting the data. In regard to such behavioral
factors as truthfulness, fighting, etc., more difficulty has been
found. It has been necessary to read both progress sheets and ward
notes as well as miscellaneous reports which from time to time have
been filled out on the patients.** In all, it is believed that the
items were completed as accurately as the original data permitted.

5. The statistical method

Once the data were gathered, they were tabulated by sex and
success or failure on placement. There were not enough cases to further
break the data by type of job and locality of placement as originally
planned. The majority of the placement standards were then tested
by means of the chi square method. Yates' correction for small

* See Appendix L for a copy of the schedule used to collect the
data.

** See Appendix M for a copy of a form used to check social behavior
with sample entries selected by the writer.
samples was used where necessary. In some cases, analysis of variance with correction for disproportionality was used. Later, when the initial selection of significant factors had been made, biserial $r$ and discriminant analysis were used for further evaluating the data.*

*The writer wishes to acknowledge the assistance that Dr. James E. Wert, Professor of Vocational Education, Iowa State College, gave in determining the types of statistical treatment to use.
IV. RESULTS

This section has been divided into four parts. First, release characteristics that were found to be not significant are presented; second, significant items that did not lend themselves to further statistical evaluation for various reasons; third, significant release characteristics that differentiated between successful and unsuccessful placements; and, fourth, through using these criteria, the development of a prediction table which can be used to predict the probability of success for future placements.

A. Non-Significant Release Characteristics

This portion of the results has been divided into three parts. First, those release characteristics for which sufficient data were not available to determine whether they differentiated between successful and unsuccessful placements. Second, release characteristics which had not been proposed before, but were tested by the writer since the data were available.* Third, release characteristics are presented which had been proposed by others in the field. This group

*This statement is indicative of the lack of knowledge regarding release criteria at the present time. In most case, the rationale for gathering these data for statistical test was that they were available and might reveal some information.
has been further divided by separating those that agree, and those that differ with the findings of this study, though in all cases, the standards did not differentiate between those who succeeded and those who failed on placement from the Woodward State Hospital.

1. Release characteristics for which insufficient data existed for statistical test purposes

Data were collected for eight release characteristics, but were too few in number or lacking in information to test statistically. Data were not available in the folders to determine childhood neurotic traits. Responses were so few for four items that they were not used. These items were concerned with sterilization; marriage, twins; and, race. In each case, there were less than five for either successful or unsuccessful placements. Thus, there were four successful and three unsuccessful sterilized males; two successful and two unsuccessful females that had been married; one unsuccessful female who had a twin; and, five successful and four unsuccessful Negroes. In three cases, there were only a few cases in a great many cells. Satisfactory combinations of the cells were not found. The three were father's occupation; type of work on placement; and, behavior while in the Hospital. The latter item was a single summary statement of behavior by the charge ward attendant for each year.

Green, op. cit., p. 473, found no differences between races on placement in terms of success or failure.
2. Release characteristics which had not been proposed before

Sixteen release characteristics fell into this category. It was found that no significant differences existed between males and females to be successful on placement, since a chi square of 0.225 was obtained.* No differences were found between those who came from urban and rural areas at the time of admission.** Chi square was 0.003. However, it is interesting to note that almost twice as many urban persons (119) as rural (60) were placed on jobs from the Hospital.***

Some sociologists of the Burgess school of prediction had considered family background, but this has not been done in regard to the mentally defective. No differences were found between families (father, mother, and siblings) of successful and unsuccessful placements in terms of criminal institutionalization ($\chi^2 = 0.332$), institutionalization in the Davenport and Toledo Children's Home and the Woodward and Glenwood schools ($\chi^2 = 1.168$), and whether foreign or American born ($\chi^2 = 0.342$). Approximately 20 per cent of the families have had one or more members in correctional institutions; and, almost 50 per cent have had one or more members in Davenport, Toledo, Woodward,

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*Unless otherwise noted, these data were tested at the 5 per cent level with one degree of freedom. Significance is reached at 3.841.

** Urban areas are defined for this study as an incorporated area with a population of 500 or more.

*** Twenty-six persons are not accounted for in these figures. Twenty-four persons were committed to an institution prior to the age of five, one person was a transient, and information was not available for one other.
The ability to read and write, and tell time did not differentiate between those that succeeded and those that failed on placement. Reading and writing were combined and through the use of Yates' correction a chi square of 2.217 was obtained. Yates' correction was also used in telling time, and the value of chi square was 0.058.

Each patient is given a psychometric examination during which time the psychologist records impressions of the patient's behavior and performance. They are rated as either good, fair, or poor on six items, and these were collected and found not to differentiate between those that succeed and those that failed on placement. They were: cooperation ($\chi^2 = 0.496$); affect ($\chi^2 = 0.077$); attention ($\chi^2 = 1.611$); motor control ($\chi^2 = 0.694$); auto criticism ($\chi^2 = 1.570$); and, sensory acuity ($\chi^2 = 3.387$). At this time also it is noted whether the patient has a speech defect ($\chi^2 = 0.670$). In all seven of these items, fair and poor were combined and tested with good.

In a few instances, patients have received some assistance and supervision from relatives, although they are under the direction and supervision of the institutional social service department. However, no significant differences existed between successful and unsuccessful ($\chi^2 = 0.039$), or successful and unsuccessful males ($\chi^2 = 0.287$), or successful or unsuccessful females ($\chi^2 = 0.001$). A significant difference is found between sexes regardless of success or failure, and this will be discussed later.

Interestingly enough, no one in the field of mental deficiency
had hypothesized regarding the area of placements. Since more than 50 per cent of the total population had been placed on jobs in Des Moines, Iowa, a test was made to determine if those placed in Des Moines were more likely to succeed than those placed elsewhere in the state. Chi square of 2.445 indicates that those placed in Des Moines do not succeed or fail in a significantly different manner than those placed elsewhere. Successful and unsuccessful placement were then classified as being placed in areas with a population over 100,000 (Des Moines), areas with a population of 2,500 to 99,999, and under 2,500 population. With two degrees of freedom, chi square was 3.73^1, indicating no significant difference between successful and unsuccessful placements.*

3. Release characteristics which have been proposed by others

a. Both previous studies and findings of this study indicating that the factor does not differentiate between successful and unsuccessful placements. Five factors were mentioned by writers in the field as not differentiating between those that failed and those that succeeded on placement, which was also found to be true when these standards were applied to the group here studied.

Greene^1 stated that religion, previous history of sex delinquency, and school achievement did not assist in differentiating successful from unsuccessful. This was found to be true in the present study.

*Significance is reached at the 5 per cent level with two degrees of freedom at 5.991.

^1Greene, op. cit. p. 473.
Roughly 10 per cent of the group here studied was Catholic and no significant differences in religion were found between successful and unsuccessful ($\chi^2 = 0.717$).

All sex delinquents were of a heterosexual nature, and no differences were found for those admitted as sex delinquents as compared to other reasons for admission ($\chi^2 = 2.159$).* This point will be discussed more completely in the following section. This concept was also tested from the institutional view. Patients were classified as either actively interested or not interested in the opposite sex. These data were available in the ward and progress notes. Between successful and unsuccessful males, chi square was 1.201, and between females, 2.563. This indicates that interest in the opposite sex has no relation to later success or failure on placement.

An analysis of variance with correction for disproportionality was used to determine whether a relationship existed between years of schooling and success or failure on placement. An F value of 1.46 was obtained which is not significant at the 5 per cent level. However, it was felt that a bias might have appeared due to the fact that many patients had attended a public school, an institutional school, or had a combination of schools. A division has been made between public school attendance only, and others, which included one or more institutional schools, and in some cases, an institutional school and a public school. Roughly 50 per cent of the population had attended public

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*This table had two degrees of freedom.
school only, and chi square was 1.022, indicating that the type of school did not differentiate between successful and unsuccessful placement. A test was also made to determine whether significant differences existed between those that had attended a single school, or had changed schools two or more times. No significant differences existed between successful and unsuccessful \( (\chi^2 = 3.695) \) in this factor.

Both Greene\(^1\) and Thomas\(^2\) stated that no differences appeared in I.Q. level as it related to institutional adjustment. An analysis of variance with correction for disproportionality was used and yielded an \( F \) of 2.72, which is not significant. A relationship between I.Q. and success on placement could not be demonstrated. I.Q. was mentioned by 40 institutions as a factor to consider, but none was specific as to any given I.Q.

Greene\(^3\) and Thomas\(^4\) also found that no differences existed between the successful and unsuccessful in age. Since both studies were concerned with a specific functioning group, this study used age of release from the Hospital to test the hypothesis. Using analysis of variance with correction for disproportionality, an \( F \) of 0.06 was found which

\(^1\) Greene, op. cit. p. 475.
\(^2\) Thomas, op. cit. p. 336.
\(^3\) Greene, op. cit. p. 475.
\(^4\) Thomas, op. cit. p. 336.
would indicate that no significant differences in age at release exist between successful and unsuccessful placements.

b. Release characteristics which have been noted by studies or institutional responses as differentiating between successful and unsuccessful placements, but which were found to be not significant in this study. Fifteen release characteristics have been proposed by studies and by responses from institutions as differentiating between successful and unsuccessful placements. In this study, however, these characteristics were not statistically significant, and thus did not differentiate between successful and unsuccessful placements.

Johnson\(^1\) had stated that sterilized patients tended to be more successful on placement than non-sterilized. Eight institutional responses mentioned sterilization as a criterion of release. There were not enough sterilized males to test differences, but for females a chi square of 2.747 was found. Thus, no differences could be demonstrated between sterilized and non-sterilized females in tendency to be successful.

Whitcomb\(^2\) believed that those adjusting most poorly to the institution had a history of frequent job changes. However, frequent job changes do not differentiate between those who succeed and those who fail on placement in the group studied (\(I^2 = 1.181\)). An attempt was

\(^1\)Johnson, op. cit. p. 435.

\(^2\)Whitcomb, op. cit. p. 260.
also made to determine whether type of job held in the Hospital was related to tendency to be successful on placement. The initial data were widely dispersed so that it became necessary to combine all jobs into either services or production. Thus, assisting on the ward, cleaning houses, janitorial jobs, etc., were classified as services, while dairy, farm, cannery, etc. were termed production. A significant difference between sexes on type of job held was found, and this will be discussed later. However, no differences were found between successful and unsuccessful \( (\chi^2 = 1.037) \), between successful and unsuccessful males \( (\chi^2 = 0.008) \), or successful and unsuccessful females \( (\chi^2 = 1.351) \) on services or production jobs.

Whitcomb\(^1\) also stated that the more gregarious made a less successful adjustment to the institution. In terms of a yes or no answer, as it relates to the group here studied, a chi square of 0.264 revealed no significant difference between successful and unsuccessful placements so far as gregariousness within the institution is concerned.

Hartzler's\(^2\) study states that the more successful had lower I. Q. scores. As noted above, this statement is not applicable to this group, since no significant differences existed between successful and unsuccessful placements in relation to I. Q.

Hartzler\(^3\) stated that the older a person was at the time of

1 Whitcomb, op. cit. p. 261.
2 Hartzler, op. cit. p. 615.
3 Ibid. p. 615.
admission, the more likely he was to succeed on placement. Through
the use of analysis of variance with correction for disproportionality,
no significant differences existed between successful and unsuccessful
placements from the Woodward State Hospital in relation to age at
admission, \( F = 2.35 \). Hartzler\(^1\) also found that the successful were
older at the time of release. As noted above, this is contrary to
the findings of this study.

Hartzler\(^2\) found that the unsuccessful had a history of delinquency prior to admission. This was tested in conjunction with Greene's\(^3\)
findings that the successful were less likely to be admitted for being
behavior problems. A chi square of 2.159 with two degrees of freedom
at the 5 per cent level was found which indicates that the reason for
admission to the Woodward State Hospital in addition to that of being
mentally defective does not differentiate successful from unsuccessful
placements.

Greene\(^4\) found that the successful were more likely to be admitted
from another institution or a foster home rather than coming directly
from home. This did not apply to the group here studied. Court

\(^1\) Ibid. p. 615.

\(^2\) Ibid. p. 615-616.

\(^3\) Greene, op. cit. p. 475.

\(^4\) Ibid. p. 475.
committed cases, voluntary admissions, and transfers were tested and between successful and unsuccessful males, chi square was 4.666 with two degrees of freedom. For successful and unsuccessful females, chi square was 0.106. This would indicate that there is no significant differences between successful and unsuccessful placements in terms of type of admission. Along these lines, transfers were classified as either from children's institutions or from correctional and mental institutions, and a chi square of 0.202 was obtained which further emphasizes the point that neither the successful or unsuccessful placement are more likely to be community problems prior to admission. One institution had noted that it gave consideration to former institutionalization, and seven to past history, but it is not clear as to what weight or emphasis was given these points.

Since many patients had been committed to one or more institutions other than Woodward, a classification was made of persons being committed to one institution other than Woodward, and those that had been committed to two or more institutions, and no significant differences were found between successful and unsuccessful placements ($\chi^2 = 1.027$).

Greene found that the unsuccessful were more likely to have neuro-pathic ancestry. The social histories did give cases where commitments to mental institutions had been made for close relatives, and if these can be equated with Greene's theory, no differences were found between successful and unsuccessful placements ($\chi^2 = 1.739$) from the Woodward State Hospital.

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1 Greene, op. cit. p. 475.
Greene also found that the unsuccessful had more emotional dependency on home in terms of visits home, visitors from home, and more letter writing. Data were not available to determine the number of letters each patient wrote so in its place, packages received from home were substituted. These three factors were combined and through the use of analysis of variance, with correction for disproportionality, an F value of 2.49 was obtained which is not significant. Thus, that family interest is related to placement outcome could not be demonstrated.

Greene also stated that the unsuccessful were more likely to have first and latter born sibling rank. Successful and unsuccessful patients were classified as being first born, latter born, an only child, and middle rank. With three degrees of freedom, chi square was 1.151 indicating that Greene's hypothesis was not verified in this study.

Greene said that those with less well developed recreational interests were not as likely to adjust to institutional life. Seven institutions stated that proper use of spare time was a characteristic to consider. Recreation was defined as being a member of the band or chorus, since the records did not give additional information regarding athletics, etc. Using only membership in band, chorus, or both, and comparing to those belonging to neither, chi square was 1.037. Thus, membership in these organizations did not assist in differentiating successful from unsuccessful placements.

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1 Greene, op. cit. p. 475.
2 Ibid. p. 473-474.
3 Ibid. p. 475.
Various characteristics in the institutional responses referred to personality traits. One such trait tested was cheerfulness, and a chi square of 1.790 would show that this trait does not differentiate between successful and unsuccessful placements.

The institutional responses mentioned neatness, cleanliness, and personal appearance as release characteristics to consider. Neither neatness and personal cleanliness ($\chi^2 = 0.080$) nor personal appearance ($\chi^2 = 3.426$) differentiated between successful and unsuccessful placements.* Physical condition was also noted, but from the ward physician's report, a chi square of 0.108 was obtained by classifying patients as having either good or fair and poor health records, which would indicate that health record does not differentiate between successful and unsuccessful placements.

Rautman¹ had stated that the influence of the home might have great importance in later life. Ohlin² also had found the home to be important in predicting parole outcome. The data were collected along the lines proposed by Ohlin, but after collecting it, due to the spread and small number of cases in some cells, various combinations were tested. Successful and unsuccessful males were classified according to whether they came from a broken or unbroken home ($\chi^2 = 1.353$); and, females by broken home, unbroken home, or institution, if institution-

*Personal appearance was taken from the impressions of the psychologist, and was classified in one of three ways which gives two degrees of freedom.

¹Rautman, op. cit. p. 157.
²Ohlin, op. cit. p. 52.
alized prior to the age of five ($\chi^2 = 0.993$). In all instances, type of home did not differentiate between successful and unsuccessful placements on the basis of the data obtained. The causes for broken homes were found: death, desertion, divorce, and separation, illegitimate child, and institutionalization of parent. No differences were found between successful and unsuccessful as to the causes for a broken home ($\chi^2 = 1.305$). It does not assist in differentiating between successful and unsuccessful if they come from a broken home and are living with their mother, father, relative, or an institution ($\chi^2 = 2.173$).

B. Significant Release Characteristics and Significant Differences Between Sexes Which Cannot Be Further Utilized

Eleven release characteristics were found to be statistically significant in some manner, but could not be further utilized. They have been broken down into two groups and the reasons for not using them will be noted.

1. Release characteristics were differences existed between the sexes, but not between successful and unsuccessful placements

Six standards were tested where statistically significant differences existed between sex, but did not differentiate between successful and unsuccessful placements. Thus, they did not lend themselves to any method of predicting placement outcome in the future, but they have been presented for the insights they provide.
The number of times patients had left the Hospital on vocational placement prior to a definite statement of success or failure was tested and did not differentiate between successful or unsuccessful males ($\chi^2 = 0.666$) or females ($\chi^2 = 0.294$). However, females were placed out more times than males ($\chi^2 = 6.160$). This was due to the fact that the placement of males became more rapid after November, 1951, whereas females had been placed as early as July, 1948.

It has been noted above that family interest does not differentiate between successful and unsuccessful placements, but the families of females were significantly more interested than the families of males ($F = 4.80$). However, a greater number of males than females were assisted by relatives ($\chi^2 = 2.227$) on jobs once they left the Hospital. It is not clear why this contradiction exists.

Females were more likely than males to be placed on jobs in Des Moines ($\chi^2 = 8.873$), and this is due to the fact that the opportunities for placing domestics is greatest there, while men have worked on more varied jobs, including farmhands, and thus would not be as likely to work in Des Moines.

In terms of work inside the Hospital, females are more likely to be on service jobs than males ($\chi^2 = 41.584$). Over 90 per cent of the females are on service jobs, while slightly more than 50 per cent of the males are on production jobs.

Age at the time of placement did not assist in differentiating between successful and unsuccessful placements, although through the use of analysis of variance with correction for disproportionality,
the age of females at the time of release was significantly higher than males.

2. Statistically significant release characteristics which cannot be further utilized.

Four release characteristics were statistically significant but cannot be used to predict tendency for success on placement.

Economic condition of the home is determined by the Hospital.

Table 2. Economic condition of the home for successful and unsuccessful placements (1)

<table>
<thead>
<tr>
<th>Economic Condition</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Comfortable</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Marginal</td>
<td>12</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>Dependent</td>
<td>22</td>
<td>27</td>
<td>19</td>
</tr>
<tr>
<td>No information</td>
<td>0</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>No home, or came from institution and home condition unknown</td>
<td>4</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
</tr>
</tbody>
</table>

in accordance with a definition established by the National Committee for Mental Hygiene. The original data were collected in five categories. The last two items, "no information" and "no home or came from an institution" were omitted. Items one and two were combined, and compared to

dependent homes and a chi square of 9.76 was found which is significant at the 5 per cent level. However, these data could not be used in the prediction scheme since there was not enough spread between comfortable, marginal, and dependent. Moreover, the data did not lend themselves to the prediction technique finally established.

Table 3. Economic condition of the home for successful and unsuccessful placements (2)

<table>
<thead>
<tr>
<th>Economic Condition</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comfortable and marginal</td>
<td>27</td>
<td>40</td>
<td>67</td>
</tr>
<tr>
<td>Dependent</td>
<td>69</td>
<td>43</td>
<td>112</td>
</tr>
<tr>
<td>Total</td>
<td>96</td>
<td>83</td>
<td>179</td>
</tr>
</tbody>
</table>

It has been noted above that whether the home was broken did not differentiate between successful and unsuccessful placements. Apparently, this item has meaning and should be further tested with a larger group than hers studied. The significance of this item may bear out Rautman's contention that the person from a home of low standards has the best prognosis for future adjustment as compared to the child who comes from a home with higher standards.

The number of siblings in the family had not been proposed before, but it was felt that the size of the family might have some relation

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1 Rautman, op. cit. p. 157.
to type of family, i.e., socioeconomic level. Data were collected for this factor and then tested. A chi square of 14.032 is significant at the 5 per cent level.* However, a comparison of expected with actual data fails to reveal any trend as the number of siblings increase. It may well be that this is one of the five chances in 100 that occur through the use of any random sampling technique.

Emotional stability was mentioned by Hiatt, and by 19 institutions as an important factor in differentiating successful and unsuccessful placements. In this study, a yes or no answer was obtained from the impressions of the psychologist, and reports of psychiatric examinations. However, no statement was made regarding the emotional stability of 164 of the 205 persons. Through the use of Yates' correction, a chi square of 14.538 was obtained which indicated that the successful in significantly larger numbers tended to be emotionally stable. Due to the limited number of subjects in contrast to the group as a whole, no further use of this technique has been made, although the results were highly significant for the number considered.

The length of residence in the Hospital prior to placement was tested by the use of analysis of variance with correction for disproportionality. It was found that the tendency to be successful on placement differs by sex, i.e., the longer a male is in residence the

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*Significance is reached at the 5 per cent level with six degrees of freedom at 12.592.

1Hiatt, op. cit. p. 209.
less likely he is to succeed, while the longer a female is in residence the more likely she is to succeed ($P = 5.17$). Further utilization of this finding would have meant the development of separate predictive devices for male and females. In view of this fact, it was decided to eliminate this release characteristic from further consideration. However, it is not clear as to why this sex difference in length of residence in the Hospital should exist.

C. Significant Release Characteristics

Twelve release characteristics were found to be significantly differentiated between successful and unsuccessful placements. For each characteristic, after an initial chi square indicated differences greater than expected between successful and unsuccessful placements, chi square values were taken for differences between successful and unsuccessful males, successful and unsuccessful females, and between sexes regardless of their adjustment on placement. In each case, data were taken from the progress and ward notes, and the miscellaneous form prepared by the psychology department. Unfortunately, the latter forms had been filled out on less than half the group.

1 Hartzler, and 24% of the institutional responses stated that persons with good behavior were more likely to succeed on placement than behavior problems. The annual notes found in the progress notes characterized certain patients as being behavior problems, and the

\footnote{Hartzler, op. cit. p. 617.}
same is true of the ward notes which are maintained by the ward personnel. The last reports from both sources were used as the determining factor. Between successful and unsuccessful placements, chi square was 9.718; between successful and unsuccessful males with Yates' correction 1.203; successful and unsuccessful females 8.562; and

<table>
<thead>
<tr>
<th>Behavior Problem</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>14</td>
<td>8</td>
</tr>
<tr>
<td>No</td>
<td>35</td>
<td>58</td>
<td>28</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
</tr>
</tbody>
</table>

Table 4. Institutional behavior problems among successful and unsuccessful placements

between sexes 4.988. Thus, significant differences did not exist between successful and unsuccessful males. Moreover, females were more likely to be behavior problems regardless of later success or failure. However, in general, the behavior problem person is less likely to succeed on placement.

Greene said that escaping from the institution was a sign of emotional dependency on the home. This study did not investigate that concept, but it was found that persons who escaped from the institution were less likely to succeed on placement. Each time a person

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Greene, op. cit. p. 475.
escapes, a notation is made in the progress notes. Between successful and unsuccessful placements a chi square of 7.663 was obtained; between successful and unsuccessful males 0.913; successful and unsuccessful females 3.746; and, between sex 11.480. Chi squares were not significant between successful and unsuccessful males and females. However, males tended to escape more frequently than females regardless of later results on placement.

Table 5. Escapes among successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Escaped</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Yes</td>
<td>13</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>No</td>
<td>26</td>
<td>61</td>
<td>16</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
</tr>
</tbody>
</table>

Quarrelsomeness related to behavior in the institution was determined. Patients were classified as to whether they were quarrelsome with employees, and a chi square of 9.445 was found between successful and unsuccessful; between successful and unsuccessful males, with Yates' correction, 1.768; successful and unsuccessful females 8.156; and, between sexes 14.116. Thus, quarrelsomeness does not differentiate between successful and unsuccessful males, and a significantly larger number of females tend to be quarrelsome as compared to males as a group. However, the successful placements as a group are less likely to quarrel than the unsuccessful.
Data were also collected for patients who were quarrelsome with other patients. In this case, chi square for successful and unsuccessful placements was 19.142; between successful and unsuccessful males 8.473; successful and unsuccessful females 11.967; and between

<table>
<thead>
<tr>
<th>Quarrelsome with Employees</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>4</td>
<td>23</td>
<td>69</td>
</tr>
<tr>
<td>No</td>
<td>35</td>
<td>49</td>
<td>136</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>205</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Quarrelsome with Other Patients</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>24</td>
<td>37</td>
</tr>
<tr>
<td>No</td>
<td>31</td>
<td>48</td>
<td>117</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>205</td>
</tr>
</tbody>
</table>

sexes 2.316. No significant differences existed between sexes when success is disregarded.* Thus, the quarrelsome are less likely to

* These data regarding quarrelsomeness were combined into three categories; quarrelsome with neither employees and patients; quarrelsome with both employees and patients; and, quarrelsome with one but not the other. In comparing successful to unsuccessful, chi square was 23.118, and chi squares were significant between males ($X^2=11.094$), and females ($X^2=14.152$). This combination was not used, however, since it was not an independent variable in itself, and because the categories noted above also measure the same thing. Finally, this combination did not lend itself to the scoring and predictive technique as did the two criteria regarding quarrelsomeness.
succeed on placement.

Several writers had mentioned aggressiveness as a distinguishing factor between successful and unsuccessful placements. If fighting can be considered an objectification of this concept, their hypothesis appears to be valid when applied to this population. As usual, data were taken from the previous year's ward and progress notes. A chi

Table 8. Patients that fight with other patients among successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Fights</th>
<th>Successful</th>
<th></th>
<th>Unsuccessful</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>9</td>
<td>17</td>
<td>19</td>
<td>25</td>
<td>70</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>55</td>
<td>17</td>
<td>33</td>
<td>135</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
<td>58</td>
<td>205</td>
</tr>
</tbody>
</table>

square of 12.378 was found between successful and unsuccessful placements; between successful and unsuccessful males 7.075; successful and unsuccessful females 5.504; and between sexes 0.534. A significant difference is not found between sexes, but is found elsewhere which indicates that the successful as a group are less likely to fight with other patients while in the Hospital than the unsuccessful.

Truthfulness was regarded by four institutions as differentiating between successful and unsuccessful placements. It was found that the successful are more likely to be truthful than the unsuccessful.
Chi square for the comparison between successful and unsuccessful was 32.672; for successful and unsuccessful males, with Yates' correction, 11.680; successful and unsuccessful females 23.280; and between sexes 10.513. Females in a significantly larger number tend to be less truthful, but this criterion does assist in differentiating between successful and unsuccessful placements, since the successful are more likely to be characterized as truthful.

Institutional responses had spoken of the proper attitude and interests. While it is not known what point was being made, data regarding a patient's ambition, or lack of, was collected which may have some relation to what the institutions had in mind. Chi square for successful and unsuccessful placements was 8.546; between successful and unsuccessful males 1.534; successful and unsuccessful females 7.612; and, between sexes 0.786. Thus, ambition did not differentiate between successful and unsuccessful males, or between sexes, but as a group those who were not ambitious in the Hospital tended to be less successful on placement.

Table 9. Patients regarded as truthful among successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Truthful</th>
<th>Successful</th>
<th>Unsuccessful</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Yes</td>
<td>37</td>
<td>54</td>
<td>22</td>
</tr>
<tr>
<td>No</td>
<td>2</td>
<td>18</td>
<td>14</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
</tr>
</tbody>
</table>

Chi square for the comparison between successful and unsuccessful was 32.672; for successful and unsuccessful males, with Yates' correction, 11.680; successful and unsuccessful females 23.280; and between sexes 10.513. Females in a significantly larger number tend to be less truthful, but this criterion does assist in differentiating between successful and unsuccessful placements, since the successful are more likely to be characterized as truthful.

Institutional responses had spoken of the proper attitude and interests. While it is not known what point was being made, data regarding a patient's ambition, or lack of, was collected which may have some relation to what the institutions had in mind. Chi square for successful and unsuccessful placements was 8.546; between successful and unsuccessful males 1.534; successful and unsuccessful females 7.612; and, between sexes 0.786. Thus, ambition did not differentiate between successful and unsuccessful males, or between sexes, but as a group those who were not ambitious in the Hospital tended to be less successful on placement.
Obedience relates to behavior, and it was found that those most likely to succeed on placement were obedient. The data were obtained from the usual sources. Chi square was 14.595 between successful and unsuccessful placements; 6.917 with Yates' correction for successful placements:

<table>
<thead>
<tr>
<th>Ambitious</th>
<th>Successful</th>
<th></th>
<th>Unsuccessful</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>30</td>
<td>54</td>
<td>23</td>
<td>30</td>
<td>137</td>
</tr>
<tr>
<td>No</td>
<td>9</td>
<td>18</td>
<td>13</td>
<td>28</td>
<td>68</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
<td>58</td>
<td>205</td>
</tr>
</tbody>
</table>

Table 10. Patients regarded as being ambitious among successful and unsuccessful placements.

<table>
<thead>
<tr>
<th>Obedient</th>
<th>Successful</th>
<th></th>
<th>Unsuccessful</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>35</td>
<td>47</td>
<td>22</td>
<td>23</td>
<td>127</td>
</tr>
<tr>
<td>No</td>
<td>4</td>
<td>25</td>
<td>14</td>
<td>35</td>
<td>78</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
<td>58</td>
<td>205</td>
</tr>
</tbody>
</table>

Table 11. Patients regarded as being obedient among successful and unsuccessful placements.

and unsuccessful males; 8.486 between successful and unsuccessful females; and, 11.595 between sexes. Not only do the successful tend to be more obedient within the institution, but females as a group tend to be more disobedient than males.
Carelessness was defined as lack of attention to details in work, personal habits, and life on the ward. Generally, however, specific negative remarks regarding this factor were found in the war and progress notes. This characteristic does significantly differentiate between

Table 12. Patients regarded as being careless among successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Careless</th>
<th>Successful</th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>8</td>
<td>14</td>
<td>19</td>
<td>22</td>
<td>63</td>
</tr>
<tr>
<td>No</td>
<td>30</td>
<td>58</td>
<td>17</td>
<td>33</td>
<td>138</td>
</tr>
<tr>
<td>Total</td>
<td>38*</td>
<td>72</td>
<td>36</td>
<td>55*</td>
<td>201</td>
</tr>
</tbody>
</table>

* No data were available regarding this criterion for four patients.

successful and unsuccessful placements, since it was found that the unsuccessful were more likely to be careless than the successful. For the comparison between the successful and unsuccessful a chi square of 14.528 was obtained; between successful and unsuccessful males 7.823; successful and unsuccessful females 7.823; and, between sexes 1.440. While no significant differences exist between sex, this criterion does differentiate between successful and unsuccessful placements.

Information was gathered for all patients that had a record of punishment within five years prior to the time of placement. The successful had a significantly smaller number of persons with a punishment record than the unsuccessful. This conforms to Whitcomb's¹

¹ Whitcomb, op. cit. p. 261.
findings. Between the successful and unsuccessful group, chi square was 9.007; for successful and unsuccessful males 2.137; successful and unsuccessful females 7.244; and a comparison of sex 0.524. Thus, the characteristic did not differentiate between males and sex regardless of success.

Table 13. Patients having a punishment record in the past five years among successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Punishment Record</th>
<th>Successful Male</th>
<th>Successful Female</th>
<th>Unsuccessful Male</th>
<th>Unsuccessful Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>12</td>
<td>24</td>
<td>17</td>
<td>33</td>
<td>66</td>
</tr>
<tr>
<td>No</td>
<td>27</td>
<td>28</td>
<td>19</td>
<td>25</td>
<td>119</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
<td>58</td>
<td>205</td>
</tr>
</tbody>
</table>

Table 14. Patients having a history of stealing among successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Steals</th>
<th>Successful Male</th>
<th>Successful Female</th>
<th>Unsuccessful Male</th>
<th>Unsuccessful Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>4</td>
<td>11</td>
<td>9</td>
<td>20</td>
<td>44</td>
</tr>
<tr>
<td>No</td>
<td>35</td>
<td>61</td>
<td>27</td>
<td>38</td>
<td>161</td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>72</td>
<td>36</td>
<td>58</td>
<td>205</td>
</tr>
</tbody>
</table>

Data regarding a history of stealing in the past five years were collected and it is found that a significantly larger number of unsuccessful than successful will steal. Chi square between successful and unsuccessful was 9.076; between successful and unsuccessful males
While this criterion does not differentiate between successful and unsuccessful males, it does differentiate between the successful and unsuccessful as a group.

An evaluation of the quality of work the patient had done while in the Hospital was originally collected as good, fair, or poor. It was necessary, however, to combine fair and poor for testing purposes. A significantly larger number of successful placements were regarded as good workers in the Hospital as compared to the unsuccessful.

Chi square for successful and unsuccessful was 9.965; for successful and unsuccessful males 0.802; successful and unsuccessful females 10.797; and, between sexes 0.207. Thus, this criterion did not differentiate between males and sexes regardless of success.

* See Appendix N for chi square values of all release characteristics tested in this section.

### Table 15. Evaluation of quality of work done in the Hospital for successful and unsuccessful placements

<table>
<thead>
<tr>
<th>Evaluation of Work</th>
<th>Successful</th>
<th></th>
<th>Unsuccessful</th>
<th></th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
<td>Female</td>
<td></td>
</tr>
<tr>
<td>Good</td>
<td>30</td>
<td>59</td>
<td>26</td>
<td>34</td>
<td>149</td>
</tr>
<tr>
<td>Fair and poor</td>
<td>7</td>
<td>10</td>
<td>10</td>
<td>23</td>
<td>50</td>
</tr>
<tr>
<td>Total</td>
<td>37*</td>
<td>69*</td>
<td>36</td>
<td>57*</td>
<td>199</td>
</tr>
</tbody>
</table>

*No data were available regarding this criterion for six patients.
D. The Prediction Table

It has been seen that while all 12 release characteristics significantly differentiated between successful and unsuccessful placements, seven of them did not differentiate between successful and unsuccessful males. These were: behavior problem; escapes; quarrelsome with employees; ambition; punishment record; stealing; and, evaluation of work. In other words, no significant differences existed between placement outcome and these characteristics. In two cases, behavior problems and quarrelsome with employees, significant differences may have been caused by a disproportionality of females behaving in this way since a significant difference appeared between sexes, regardless of success or failure. Escapes did not significantly differentiate between either successful or unsuccessful males or females, although a significantly larger number of males escaped than females. Four characteristics, ambition, punishment record, stealing, and evaluation of work, did not differentiate between successful and unsuccessful males, or between sexes. It is not clear as to why this is so.

To determine whether the 12 criteria noted could be utilized regardless of sex, a gross behavior score was computed for each person. The gross behavior score was obtained by giving a plus two for all behavioral characteristics which were favorable to success, a plus one for a fair designation or unknown, and a zero for characteristics which were not favorable to success. For example, a person
who was regarded as a fair worker, who would steal, and who was ambi-
tious would receive a plus one, a zero, and a plus two respectively
for those three characteristics. Completing all 12 items could give
a gross behavior score ranging from zero to 24. Through the use of

Table 16. Weights for obtaining individual gross
behavior score

<table>
<thead>
<tr>
<th>Behavior Characteristics in the Hospital</th>
<th>Weight for Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Plus Two</td>
</tr>
<tr>
<td>Behavior Problem</td>
<td>No</td>
</tr>
<tr>
<td>Escaped</td>
<td>No</td>
</tr>
<tr>
<td>Quarrelsome with Employees</td>
<td>No</td>
</tr>
<tr>
<td>Quarrelsome with Patients</td>
<td>No</td>
</tr>
<tr>
<td>Fights with Patients</td>
<td>No</td>
</tr>
<tr>
<td>Truthful</td>
<td>Yes</td>
</tr>
<tr>
<td>Ambitious</td>
<td>Yes</td>
</tr>
<tr>
<td>Obedient</td>
<td>Yes</td>
</tr>
<tr>
<td>Careless</td>
<td>No</td>
</tr>
<tr>
<td>Punishment Record</td>
<td>No</td>
</tr>
<tr>
<td>Steals</td>
<td>No</td>
</tr>
<tr>
<td>Evaluation of Work</td>
<td>Good</td>
</tr>
</tbody>
</table>

individual behavior scores, an analysis of variance with correction
for disproportionality was used to determine the relationship of
successful to unsuccessful placements \(F = 32.29\), sex \(F = 3.61\),
and interaction \(F = 0.04\). Since sex and interaction are not signi-
ficant, and the differences between successful and unsuccessful are
highly significant, gross behavior scores obtained from the 12 criteria
may be used to predict placement outcome without regard to sex.

The gross behavior score for individuals was then tested by means
of biserial $r$. A value of 0.4357 was found with an $F$ of 31.31 which
is significant at the 5 per cent level. From the results of this techni-
que, it may be stated that the tendency to be successful is related to
the gross behavior score. The higher the behavior score, the greater

Table 17. Behavior scores converted to sigma scores
and chances in 100 of succeeding on placement

<table>
<thead>
<tr>
<th>Gross Behavior Score</th>
<th>Sigma Score</th>
<th>Chances in 100 of a Successful Placement</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>0.4184</td>
<td>66</td>
</tr>
<tr>
<td>23</td>
<td>0.3781</td>
<td>65</td>
</tr>
<tr>
<td>22</td>
<td>0.3378</td>
<td>63</td>
</tr>
<tr>
<td>21</td>
<td>0.2975</td>
<td>62</td>
</tr>
<tr>
<td>20</td>
<td>0.2572</td>
<td>60</td>
</tr>
<tr>
<td>19</td>
<td>0.2169</td>
<td>59</td>
</tr>
<tr>
<td>18</td>
<td>0.1766</td>
<td>57</td>
</tr>
<tr>
<td>17</td>
<td>0.1364</td>
<td>55</td>
</tr>
<tr>
<td>16</td>
<td>0.0961</td>
<td>54</td>
</tr>
<tr>
<td>15</td>
<td>0.0558</td>
<td>52</td>
</tr>
<tr>
<td>14</td>
<td>0.0155</td>
<td>51</td>
</tr>
<tr>
<td>13</td>
<td>-0.0248</td>
<td>49</td>
</tr>
<tr>
<td>12</td>
<td>-0.0651</td>
<td>47</td>
</tr>
<tr>
<td>11</td>
<td>-0.1054</td>
<td>46</td>
</tr>
<tr>
<td>10</td>
<td>-0.1457</td>
<td>44</td>
</tr>
<tr>
<td>9</td>
<td>-0.1860</td>
<td>43</td>
</tr>
<tr>
<td>8</td>
<td>-0.2265</td>
<td>41</td>
</tr>
<tr>
<td>7</td>
<td>-0.2665</td>
<td>39</td>
</tr>
<tr>
<td>6</td>
<td>-0.3068</td>
<td>38</td>
</tr>
<tr>
<td>5</td>
<td>-0.3471</td>
<td>36</td>
</tr>
<tr>
<td>4</td>
<td>-0.3974</td>
<td>35</td>
</tr>
<tr>
<td>3</td>
<td>-0.4277</td>
<td>34</td>
</tr>
<tr>
<td>2</td>
<td>-0.4680</td>
<td>32</td>
</tr>
<tr>
<td>1</td>
<td>-0.5083</td>
<td>31</td>
</tr>
<tr>
<td>0</td>
<td>-0.5486</td>
<td>29</td>
</tr>
</tbody>
</table>

the tendency is to be successful on placement. Biserial $r$, however,
does not give the probability for any given individual succeeding or
failing on placement.
The discriminant equation is used for the purpose of predicting probability of a given individual's chances of success of placement. The formula $V = 0.04029X - 0.5458$, where $X$ equals the individual's gross behavior score, gives the sigma score for an individual's tendency to be successful on placement. These sigma scores were then converted by use of the normal curve into chances in 100 of succeeding on placement. This means, of course, that it is no longer necessary to use the formula. For example, a gross behavior score of nine with the formula $(0.04029)(9) - (0.5458) = -0.18597$ or $-0.1860$. However, by use of Table 17 it is seen that a gross behavior score of nine gives a sigma score of $-0.1860$, or 43 chances in 100 of succeeding on placement. Thus, it is not necessary to utilize the formula to predict tendency for success on placement.
V. DISCUSSION

The prediction scheme advanced in this study is somewhat crude when compared to those in the field of parole. The highest prediction score in Ohlin's study gives 97 chances of success in 100 of succeeding a parole compared to 66 chances in 100 for this study. However, the first attempt to predict parole outcome was in 1923, and each succeeding investigator has had an opportunity to profit by the mistakes of those before him.

So far as this study is concerned, one of the most significant facts was the great importance that dynamic characteristics played as compared to static characteristics. The twelve release characteristics used for prediction were all of a dynamic nature. This point raises three questions. First, were dynamic characteristics important in this study due to the nature of the population under investigation? Second, would dynamic factors be equally important in predicting outcome for "normals" as well as defectives? Third, were the importance of the dynamic characteristics due to the availability of the data which might not have been present with other populations? These questions need further investigation. It is purely speculative, but it is believed that static characteristics played little or no part in predicting placement outcome simply because of the type of  

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1Ohlin, op. cit. p. 58.
group studied, i.e., one of the indices of mental deficiency may be a lack of relationship with life prior to institutionalization.

The fact that the release characteristics differentiated between females more sharply than males is not explainable. A separate study is needed to examine this problem in detail.

In regard to future research, the most apparent need is for the prediction table developed in this study to be tested elsewhere. Another important point is that those criteria found to be significant but not further used should be examined elsewhere. This is particularly true of family size and economics of the home. Moreover, all items not tested in this study due to lack of data should be evaluated.

One serious limitation of the study was the inability to develop satisfactory social types of mental defectives. This will be difficult until such time as more knowledge is available regarding the defective.

In the psychological area, three types of needed research presented themselves. In each instance, if such data had been obtainable it would have aided the study. First, no measurement was available to determine significant differences between verbal and performance I.Q. Second, no measurement was available to determine significant increases or decreases in I.Q. when one goes from the Stanford-Binet to the Wechsler-Bellevue and vice versa. Third, an item analysis of the Wechsler-Bellevue would be of interest to determine whether certain items within the test could predict placement outcome.

Finally, the primary need for research relates to the role of the defective, per se. Little or nothing is known regarding the sociology
of this type of person at the present time. It is not even clear that methods of studying the general population are applicable to this group.
For a number of years, institutions for mental defectives in the United States have been placing patients on jobs selected by the institutional staff. Various individual characteristics have been used to select patients for vocational placement. Prior to this study, however, these characteristics had never been validated. The purpose of this study has been, first, to determine if these release characteristics differentiate between successful and unsuccessful placements from the Woodward State Hospital and School, Woodward, Iowa. Second, to use significant release characteristics to predict probability of success for future placements.

The release characteristics tested have been gathered by a review of the literature, and contacting by letter each institution for mental defectives in the United States to determine the release characteristics they have been using. These characteristics have been objectified and 56 were available for statistical test purposes.

The data regarding each person in the group studied has been obtained from the personal folder maintained for each patient, from the time he enters the institution until he is discharged. Various sections maintained by ward attendants, medical doctors, psychologists, and others have been utilized.

The group studied had a total of 205 persons. Thirty-nine males and 72 females have been designated as successful placements, while
36 males and 58 females have been classified as unsuccessful. The criterion of success was a complete discharge from the institution, while the criterion of failure was return to the institution from placement through a fault of the patient. Where patients had been returned through no fault of their own, e.g., sickness, inconsiderate employee, or for other reasons, they have been eliminated from the group to be studied.

The 56 release characteristics have been tested through the use of chi square or analysis of variance, with correction for disproportionality, depending on the nature of the data.

Twelve of the 56 release characteristics significantly differentiated between successful and unsuccessful placements. Each characteristic related to behavior in the institution. In general, those patients who have adjusted to the institutional routine tend to succeed on placement. The 12 significant release characteristics were whether or not a behavior problem; escapee; quarrelsome with employees; quarrelsome with other patients; fights with other patients; truthful; ambitious; obedient; careless; punishment record; steals; and, evaluation of work.

A gross behavior score has been obtained by giving each person in the group studied a plus two for each favorable release characteristic, a plus one for a "fair" or unknown characteristic, and a zero for each characteristic unfavorable to successful placement. The range for behavior scores could be from 0 to 24. The gross behavior scores have been combined and tested by use of analysis of variance, with correction for disproportionality, and they significantly differentiated between successful and unsuccessful placements. The behavior scores were then
tested by means of biserial r. It has been found that the tendency
to be successful is related to gross behavior score, since the higher
the behavior score, the greater the tendency to be successful on
placement. Biserial r, however, does not give tendency to be successful for individuals.

The discriminant equation has been used to predict probability
of a given individual's chances of success on placement. The formula
\[ V = 0.04029X - 0.54858, \]
where \( X \) equals the individual's gross behavior score, has been used to obtain sigma scores indicating tendency to be successful on placement. The sigma scores have been converted by use of the normal curve into chances in 100 of succeeding on placement. Therefore, the probability of success on vocational placement for patients leaving the Woodward State Hospital and School, Woodward, Iowa, can be predicted through the use of individual gross behavior scores.
VII. CONCLUSIONS

On the basis of the results of this study, it is possible to predict the probabilities of success for a patient from the Woodward State Hospital going on vocational placement. It was originally stated that the release characteristics found in the literature and used by institutions for mental defectives in the United States were not applicable to the Woodward State Hospital, and would not differentiate between successful and unsuccessful placements. This hypothesis is partially rejected, since it was found that those release characteristics relating to behavior in the institution did differentiate between those that succeed and those that failed on placement.

The hypothesis that these release characteristics cannot be used to predict placement outcome is rejected, since it is possible to predict probability for success on placement.
VIII. ACKNOWLEDGEMENTS

The writer wishes to express his thanks to Dr. Grace M. Sawyer, Superintendent of the Woodward State Hospital and School, Woodward, Iowa, and the members of the Iowa Board of Control of State Institutions, Mr. Robert C. Lappen and Mr. Henry W. Burma, for making the facilities and resources available to complete this study.

Dr. W. Robert Parks, Department of History and Government, Dr. Joseph B. Gittler, Department of Economics and Sociology, Dr. William A. Owens, Department of Psychology, and Dr. Ray E. Wakeley, Department of Economics and Sociology, assisted the writer in various practical and theoretical problems concerning the study. Dr. James E. Wert, Department of Vocational Education, gave advice regarding the statistical methods to be used. The writer wishes to acknowledge the assistance given by Dr. Walter A. Lunden, Department of Economics and Sociology, under whose direction this study has been written.
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X. APPENDICES
Appendix A. Circular Letter 943 (Revised)
CIRCULAR LETTER #13
(Revised)

TO: All Personnel

SUBJECT: Rules and Procedure for all Patients on Vocational Placement

DATE: May 3, 1952

FROM: Acting Superintendent

In the light of recent experience, it is felt that the rules and procedures concerning patients leaving the Hospital on Vocational Placement should be modified. These modifications are set forth for the information of all concerned.

I. Salary for domestic help, female, will be $8.00 per week for the first six months and $10.00 per week plus maintenance for the second six months. After one year, the salary will be $12.00 per week plus maintenance. After discharge, the salary must be arranged between the patient and employer. Patients returning to the Hospital through no fault of their own will receive the former rate of salary when they are returned to Vocational Placement.

II. If the patient is placed in a Nursing Home, the salary will be $40.00 per month, plus maintenance. Increases will be considered on adjustment and type of services rendered. Salaries for male patients will be worked out on an individual basis depending on type of position and services expected, but the minimum salary shall be not less than $40.00 per month plus maintenance.

III. Bank accounts will be established jointly with the employer shortly after the placement has been effected. This practice encourages thrift and an understanding on the part of the patient of the value of a dollar. Domestics usually deposit $5.00 to $7.00 weekly. Nursing Home employees should deposit all but $15.00 per month. This amount will be used for the purchasing of miscellaneous articles not including clothing. The amount deposited for males will be computed on the same basis as females.

IV. Both male and female patients will follow regular duty hour routine. Employers will arrange for them to attend church of their own faith weekly. Domestics will on Sundays be expected to help out with morning work, but in addition to church, may attend a movie in the afternoon. One other afternoon during the week will be free for the patient. Patients (male or female) will be in the home at 6:00 P.M. for the first three months. At the end of this period the time can be extended to 8:00 P.M. Patients will be permitted, however, to attend church or community organization meetings. This of course, will be at the discretion of the employer. After six months, hours in relation to dating will be worked out by the employer and the Social Service Department. Since Hospital and Nursing Home situations may vary in the hours on and off duty, the matter of time off will be arranged for the convenience and satisfaction of all concerned.

V. Male and female patients are restricted from dating for six months. After this time, dating under the supervision and discretion of the employer and the Social Service Department will be permitted.

VI. No visits are allowed to the home of relatives until the patient has been on completion leave for three months; emergency expected, then only when homes have been approved by the Social Service Department. Patients will not be allowed to travel unless accompanied by a responsible person of the same sex.

(con't)
Circular Letter #43 (Revised) (2) May 3, 1952

VII. The writing of letters and receiving telephone calls by friends of the opposite sex are forbidden for the first six months. Letters may be written to relatives at all times.

VIII. When the employer plans to leave the home overnight, the Social Service Department should be contacted in advance so that suitable arrangements may be made for the supervision of the patient.

IX. Patients are now eligible for Social Security benefits and at the time of employment, the Social Service Department will forward the necessary papers.

X. The employer will furnish uniforms or special clothing if required.

XI. Patients are requested to attend "Y" and church activities since this helps a great deal in making a good community adjustment. The attendance of these functions will not be compulsory.

XII. Employers in the Des Moines area are urged to join the Des Moines-Woodward Club, a group of employers who meet monthly to discuss problems of adjustment.

XIII. Social Service will instruct each patient, male and female, before leaving the Hospital on the rules and procedures as outlined above and in addition each employer will be given a copy of this Circular Letter #43 for their information and guidance.

Grace M. Sawyer, M. D.
Acting Superintendent

AJS: eh
Appendix B. Predictive Items Used by Ohlin

1. Type of offense
2. Sentence
3. Type of offender
4. Home status
5. Family interest
6. Social type
7. Work record
8. Community
9. Parole job
10. Number of associates
11. Personality
12. Psychiatric prognosis

---

1 Lloyd E. Ohlin, op. cit. p. 52.
Appendix C. Sample of Form Letter
Dear Sir:

Woodward State Hospital and School is attempting to determine various criteria for selecting mental defectives that may be placed back into the community in a job situation. In order to do this most effectively, we are writing to each institution in the United States that has mental defectives to determine the criteria that they are using, if such a program is being used. If you could refer me to any published sources which explain your criteria or criterion for selection, or if you could describe the procedures you use in selecting and placing patients back in the community, and the history of your program, it would be greatly appreciated.

We hope to compile the information which we receive and have it available to others besides ourself so that they may benefit from such knowledge.

Very sincerely yours,

Grace M. Sawyer, M.D.
Acting Superintendent
Appendix D. Follow-up Letter Sent to Institutions
Not Responding to the Original Request

Dear Sir,
The enclosed letter was mailed to you a few weeks ago. Possibly it did not arrive, or your reply was lost in transit. For that reason we are sending the letter to you again in the hopes that we will receive your reply.

G. M. S.

*This note was attached to a copy of the letter seen in Appendix C.*
Appendix E. Economic Condition of the Home

"1. Dependent. Lacking in the necessities of life or receiving aid from public funds or persons outside the immediate family.

"2. Marginal. Living on earnings but accumulating little or nothing; being on the margin between self-support and dependency.

"3. Comfortable. Having accumulated resources sufficient to maintain self and family for at least four months."

Appendix F. 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 Superintendent, Woodward, Iowa.)

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

QUESTIONS

<table>
<thead>
<tr>
<th>1. Full name</th>
<th>John Joseph Doe</th>
<th>Sex: Male</th>
<th>Color: White</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Residence</td>
<td>507 - 34th Street, Cedar Rapids, Iowa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Date of birth</td>
<td>3-19-23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Postoffice address</td>
<td>Cedar Rapids, Iowa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. In what county, town or state was the applicant born?</td>
<td>Iowa, Cedar Rapids, Iowa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. What county does applicant now live in?</td>
<td>Iowa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. How long a resident of the county?</td>
<td>Life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Weight</td>
<td>120 lbs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Height 5'7&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Are both parents living?</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Name of Father</td>
<td>John Joseph Doe Sr.</td>
<td></td>
<td>Gertrude Doe</td>
</tr>
<tr>
<td>11. Birthplace of Father</td>
<td>Salem, Oregon</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Where does each parent reside? Father</td>
<td>Cedar Rapids, Iowa</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Occupation of Father</td>
<td>Salvation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Occupation of applicant</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Name of family physician</td>
<td>Dr. J. A. Spencer</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. When and in what manner was epilepsy or feeblemindedness first manifested?</td>
<td>When he first started to school.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Does applicant appear to be improving now?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Has applicant ever had convulsions?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. At what age were they first observed?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Is applicant now epileptic?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>21. Does applicant have spasms of any kind?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Has applicant now or ever had Chorea or St. Vitus Dance?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Is applicant now paralyzed or has he ever been paralyzed?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24. Is applicant insane or ever been examined by commissioners of insanity?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25. Has applicant ever been committed to hospital for insane?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
<tr>
<td>26. If so, when and where?</td>
<td>No</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Med. 222)
64. Is the memory good? __Yes__
65. Has the applicant ever been in public school? If so, how long? __Parochial School, completed 5th__
66. Can applicant add? __Yes__ Subtract? __Yes__
67. Read? __Yes__ Write? __Yes__
68. Recognize color? __Yes__ Sing? __Yes__
69. Do an errand? __Yes__
70. What kind of work can applicant do? __Caddie, Messenger boy, Sold refreshments at__
71. Is applicant fond of children? __Seems to like children__
72. Is applicant fond of play? __Yes__
73. Does he or she hide, break or destroy things? __No__
74. How does applicant amuse himself? __Likes all kinds of sports__
75. Is applicant given to self abuse? __No__
76. Has it ever been in any institution? __No__ What institution? __None__
77. What cause has been ascribed for epilepsy or deficiency? __Mental Retardation__
78. What do you expect from a course of treatment or training? __To teach him to do some kind of work, and to help him in any way you can__
79. Who is legally responsible for the applicant’s expenses? __His father__
80. To whom should correspondence be addressed? __Mr. John J. Doe Sr., 5607-34th St., Cedar Rapids, Iowa__
81. Are parents well to do? __No__ Comfortable? __Yes__ Poor? __No__
82. Postoffice address of parent or guardian? __5607-34th St., Cedar Rapids, Iowa__
83. Residence telephone or nearest telephone? __Cedar Rapids, Iowa__
84. Nearest telegraph office? __Cedar Rapids, Iowa__
85. In the event of death, do you wish the body buried in institution cemetery? __No__ May 14__
86. Was the father of the applicant, ever in the United States Army or Navy? __U.S. Marine Corps, April 16, 1930__
87. Have we your permission to vaccinate or immunize applicant at any time we think it desirable to do so? __Yes__
88. Do we have your consent and permission to perform any surgical operation that the hospital staff sees necessary? __Yes__

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 G. Sample of Ward Notes
Dispersional Chorea

Ward Notes

Gain
Loss
Present
Previous Weight

Name, Date

Age

Date

Admitted

1979-76-99

Co""""ttage
Appendix H. Sample of Progress Notes
Woodward State Hospital and School
Woodward, Iowa
Robert J.

PROGRESS NOTES

9-27-49 Patient admitted this date.

10-27-49 1st Month Note - Patient now resident on Birches. He is in
good health and is adjusting to the hospital routine.
   Joe Doe, M.D.

10-28-49 This patient assigned to the farm for work.

11-7-49 Patient reported missing on this date.

11-8-49 Returned from missing this date.

11-8-49 This patient has been placed on restriction for one week.
   He will attend no shows, entertainment, and will be in bed
   at 7 pm. Joe Doe, M.D.

11-9-49 Service Clinic - This patient was seen on this date. He has
   recently run away. He states that he had a job offer and
   could not pass it up. He now sees the error of his ways.
   He should be considered for sterilization.

1-9-49 This patient sterilized on this date.

9-17-50 1st Year Note - This patient is in excellent health. Gets
   along well with patients and employees. Has a pleasant
   disposition and can be trusted. He works on the farm and
   does a good job. His speech and habits are good. In view
   of his adjustment, he should be considered for vocational
   placement.

3-19-50 Disposition Board - The parents of this patient have requested
   his release. However, in view of the home conditions, the
   visit must be denied. The parents should be informed that
   the patient is being considered for vocational placement.

4-7-50 Patient went on one day emergency visit with parents.
Appendix I. Sample of Psychological Examination Report Form
WOODWARD STATE HOSPITAL AND SCHOOL
Woodward, Iowa
PSYCHOLOGICAL EXAMINATION REPORT

NAME: Gladys Navy
Birth 4/24/31 CA. 15-10
Date Tested 2-10-50

REFERRED BY: Head Psychologist
REASON FOR REFERRAL: Re-evaluation
Case No. 1703

Test Used:
1 Vocational Biddleson Intelligence Scale II
2 Gray’s Standardized Oral Reading Test
3 —

BEHAVIOR DURING EXAMINATION:
Appearance nice smile
Affect Friendly, very affectional
Cooperation and Effort Good
Attention Good
Motor Control Good, left-handed
Auto Criticism Fair
Speech and Language Comprehension Good, clear speech
Sensory Acuity No defects observable

TEST PERFORMANCE:
This girl was re-tested to see if she had made any improvement
since her last test given about 3 years ago. She still gives the impression
of being much brighter than the test results indicate. The Vocational-Biddleson
Form II was used at this time and shows considerable development in the use
of concrete material. She shows better form perception, motor coordination,
and ability to see cause and effect relationships in social situations even though she is below that expected of the average person her age.
There is also some improvement in the verbal area. She seems to have gained
in general comprehension of practical situations. Her arithmetic is still
poor and her fund of information is still very meager. Her ability to do
abstract reasoning is still very poor. At this time she is functioning at
the high normal level in general with a strong preference for performance
material. She can read at the 3rd grade level. Since Gladys is rather head

IMAGINATION: strong and has little judgment and foresight; prognosis for good
adjustment outside the institution is rather doubtful unless she has very
good supervision.

MA

IQ 687 674 587
CLASSIFICATION High Risk

EXAMINER Head Psychologist
(Med. 300)
Appendix J. Sample Form of Face Sheet
LINE

County of Commitment

WOODWARD STATE HOSPITAL AND SCHOOL

(Name of Institution)

Warrant of Admission

Supported by

John Joseph Doe

Not Mentally Defective

M. A. Yrs. 12 Mos. Voluntary Guest

Case No. 4665

Date of Birth 9-19-29

Clinical Classification

Mental Status

Mental Tests Used

Retarded V-3 (1)

Family History:

Nativity of Father Oregon Mother Iowa

Citizenship of Father American Yr. arrived in U. S.

Religion Catholic Actual Residence County Linn

Economic condition: Marginal Comfortable

Name of Father John Joseph Doe, Sr. Maiden name of Mother Gertrude Doe

Family physician Dr. J. A. Spencer Address Cedar Rapids, Iowa

Correspondents:

MR. AND MRS. JOHN JOSEPH DOE SR., 5007 - 37TH STREET, CEDAR RAPIDS, IOWA

1. 

2. 

3. 

Personal History: C. A. on admission, Yrs. 18 Marital condition Single

No. of children: Living 0 Dead 0 No. of children: Legitimate 0 Illegitimate 0

Nativity Iowa

Race White Catholic

Education: None Grade-School 8th Special class None

Environment: Rural Urban Actual Residence, County Linn

Time of last residence in state Life

Probable cause of mental deficiency Unknown

Alcoholic habits: Abstainer Intemperate

Previous admissions: Institution Case No. Date Adm. Date Released

1. None

2. 

3. 

Diagnosis and condition at last discharge: None

Present Illness: Duration of present attack before this admission, Yrs. 14 Mos. Days

Somatic diseases and defects at time of admission

Date and Type: 1st Admission Readmission

Admitted from: Cedar Rapids, Iowa Accompanied by: James Perry, Deputy Sheriff

Date of birth 9/19/29 Cedar Rapids, Iowa

Height 6'7" Weight 180# Complexion Fair Complexion Color White

Veteran Yes, a Short time

Eye Color Brown Sex Male

Autopsy: Yes No

Cause of Death: Primary Contributary

Underline correct term or enter data.
Appendix K. Social History for John L.

I. John L., born in Waterloo on February 18, 1936. He is Irish - Norwegian, and attends the Church of the Nazarene.

1. School history -- John, known as Jack, has attended the ungraded room at Lowell school. Since an examination when in the 2nd grade, he has been attending the ungraded room. At present he is enrolled in Sloane Wallace school. His attendance is not good because of his dislike for school and his mother allowing him to stay out for little reason.

2. Health -- His health is not good. He has been taking weekly treatments from Dr. Doe, who states that he is in a highly nervous condition, part of which is due to his serious masturbation. Dr. Doe states that Jack has admitted to him that this occurs three or four times daily, but the school was not aware of it.

Jack has had a normal physical development but is handicapped by stuttering. This however, is not nearly as bad as it was when he was pre-school age. His parents say his vision is bad.

II. REFERRAL AND PROBLEM

The Juvenile Judge has asked that Jack be examined in the Psychopathic Clinic, for recommendation as to his future placement. While the Probation Officer urged the parents to make voluntary application for Jack at the School for Feebleminded at Woodward, they did not wish to do that, but indicated that they would abide by whatever recommendation is made at the Clinic.

Jack has always been a behavior problem, which appears to result from his lack of mentality. He has always been an irresponsible youngster, following an impulse without thinking of the consequence. Even when five or six years old he ran away over and over, and the boarding home mother who was caring for him at that time, had difficulty governing his behavior. The neighbors were constantly complaining of his breaking windows, prying lids off septic tanks, and filling them with all sorts of things. Once he threw a puppy into an outdoor toilet.

During the following years, he continued to be irresponsible and to run away from home occasionally, but not to such an extent that he was reported to the Probation Office. This last year he has run away from home five or six times, and is showing criminal
tendencies, stealing at school and at home, and shoplifting in town. Details of this will be given later.

Jack, following his last runaway begged not to be sent back home. He states that his folks are mean to him, and he wants to be in a boarding home.

His parents are beginning to realize that his stealing will increase and arrest may be necessary, and they feel that he will run away and that they may have to go for him at a distance, therefore they feel that something must be done now to prevent this.

III. AGENCIES INTERESTED

Juvenile Court
School Nurses
Visiting Teacher

IV. THE FAMILY

Father - John L. XXXXXXX  Born 1904. Attends the Church of the Nazarene, 1812 Easton Avenue. Works at Deere's. Has always been a hard worker - sometimes holding two jobs. In the past he has worked as a farmer, at Rath's and Headford's Foundry. He is as strong as an ox - earns well, but is stingy with his family other than to provide plenty of food. His wife constantly complains that he does not provide clothes or pleasures. Mr. and Mrs. XXXXXXX were both examined at the Psychopathic Clinic in August 1939. At that time, Mr. XXXXXXX was given an I.Q. of 61. On February 29, 1940, the father plead guilty to wife and child desertion and was given a jail sentence.

Mother - Grace F. XXXXXXX. Born August 28, 1915. She left school in the 6th or 7th grade and has always appeared extremely low mentally. The Psychopathic Clinic, where she was examined in August 1939, gave her an I.Q. of 51.

V. HOME SITUATION

There has always been much turmoil and quarreling in the family. The marital adjustment of the parents has always been poor with many separations and the children cared for out of the home for many years. The father is a hard worker but stingy in providing comforts for his family. The sympathy of various agencies is with the father, because the mother is so low mentally and such a wretched housekeeper and complaining and nagging.
VI. COURT RECORD

Jack's running away started in earnest in 1949 as follows:

1-10-49. Went to a boy's house to spend Friday night. Saturday afternoon the friend's mother gave him bus fare and thought he had returned home, but found him that evening hiding in the garage. An uncle came for him, but when Jack saw the uncle, he ran out the back door but was later held by a neighbor until the uncle could return him home. The uncle says that parents don't understand Jack, and he fears that Jack has not had enough to eat nor proper clothes to wear.

6-7-49. Jack giving a fictitious name, picked up by a traveling salesman in the country. He was defiant and said that he was hitch-hiking to California. Parents promised to take Jack to a doctor but instead took him to a chiropractor. This chiropractor states that he has been treating Jack for the last two months. He says Jack is very nervous and masturbates badly.

8-22-49. Giving a dozen fictitious names, Jack was picked up in station at midnight with a ticket to Chicago. He "just wanted to ride around and have fun." Sent home to parents to await recommendations from Iowa City.

9-12-49. Jack brought in by the sheriff having been returned from Washburn. Jack was riding the steers in a farm yard, threatened to let them out, had big rocks in his pocket, which he said he was going to use to break into a store. Had a fountain pen which he had shoplifted and gave the town marshall a 5-mile chase. Returned home with parents.

The parents are willing to abide by the decision of the Psychopathic Clinic as to further placement, but would not agree to anything without the examination in the Hospital.

LETTER FROM PSYCHOPATHIC HOSPITAL, IOWA CITY, IOWA

We are writing to see if it would be possible for your staff to give special consideration to the admission of the above-named boy to your school. We are making this special request because John has been running away from home, has engaged in petty stealing, and is operating on a mentally defective level.

John's mother, Mrs. Grace XXXX, was tested by the psychologist here in 1939 and obtained an I.Q. of 51. She is completely unable to effectively manage a household, is extravagant with money, and nags her husband because she does not have luxuries. She is so disorganized...
that it takes all of her time to do the housework, leaving no time for her to manage or even attempt to supervise the children.

John's father also was tested in 1939 and was found to have an I.Q. of 84. He is a strong, big-boned man who has always worked very hard to support his family. He has worked at Rath's Packing Company for the past nine years and has made a good record there. Mr. XXXXX has tried to conserve and adequately support the family financially but has found this difficult to do because of the lack of cooperation from his wife. He is out of the home most of the day, leaving the mother to supervise the children. His disciplinary measures are harsh and he admits to beating the children for their misdeeds.

John is the third of six siblings. His eldest sister, XXXXX, is now at your school. XXXXX, age 16, seems to be the brightest member of the family. He is a senior in high school this year and plays football. Mrs. XXXXX is always comparing John to XXXX and very openly favors XXXX. This is one of the reasons that John is so unhappy at home. XXXX, age 11, has been in the opportunity room since the first grade. XXXX, age 10, reportedly has an I.Q. of 89 and has been placed in various boarding homes, but has been unable to adjust because of lying and sex play with other children. At the present time he is in the parental home attending the public school. XXXX XXXX, age 6, is now in the first grade, but it is feared that she will also be moved to the opportunity room.

John started school when he was six years of age but was transferred to the opportunity room when in the second grade and has remained there. Two years ago he was transferred to the Junior High Opportunity Room because of his age, but has continued to do poorly there. His attendance is not good because of his dislike of school and his mother allows him to miss school frequently for little reason.

When John was four years old his parents were separated for a time while Mr. XXXXX served a six month jail sentence for desertion of the family. At this time John was placed in a boarding home where he was active in various delinquencies such as running away, prying lids of septic tanks, and being cruel to animals. His behavior was irresponsible and he seemed to follow impulses without thinking of the consequences.

John was returned to the parental home after his parents reunited and his behavior continued to be irresponsible. But during the past year his behavior has become exaggerated. John has been staying out all night sleeping in cars or on porches. He took $20 which was to be used to pay the grocery bill from home and bought a ticket to Chicago but
was apprehended. John has done some petty stealing in the school and has shop-lifted small articles such as fountain pens.

John was examined in our out-patient clinic September 21, 1949, and was given the Stanford-Binet Intelligence Scale, Form L, and received an I.Q. of 55. His mental age is seven years, five months. He was unable to read and seemed hesitant and anxious about using a pencil. His motor coordination was poor and he failed consistently on memory items.

The physical examination was essentially negative, except for carious teeth and a slight scoliosis.

It is our recommendation that John be placed in your school at Woodward on the basis of his mental defectiveness and impulsive behavior. Also, because of the inadequate home situation where John cannot be adequately supervised and cared for, he should be placed elsewhere as soon as possible. We feel that a boarding home placement would not be satisfactory.

Mrs. Doe, the Juvenile Court Worker, plans to file an application with you at once for John, but asked that we write you also. Thank you for your cooperation.

Sincerely yours,
Appendix L. Copy of the Schedule Used to Collect the Data
Group: Successful - Unsuccessful
1. First try ___ 1. First try ___
2. Second try ___ 2. Second try ___
3. Third try ___ 3. Third try ___
Status: Discharged _____ In Hosp. _____

No. _______
Name ____________________________ Sex ________ Date of Birth _______________

Date of entrance to Hospital ___________________ Age at admittance ___________

Date of re-entrance to Hospital if here before ____________________________

Type of admittance: Court Comm. ______ Voluntary ______ Transfer ______
No. of times ______ From where adm. ______
No. of Commitments to other Institutions______ Type ______ Date ______

Religion: Catholic ______ Protestant ______ Denomination ______ No information ______

Nationality and racial origin:
Both parents American born ______
Both parents foreign born ______
Father American born, mother foreign born ______
Mother American born, father foreign born ______
No information ______
Nationality of father ______
Nationality of mother ______
No information ______

Type of Home:
Superior Home ______ Unbroken Home ______ Comfortable ______
Average Home ______ Broken Home ______ Marginal ______
Inferior Home ______ 1. by death ______ Dependent ______
Broken Home ______ 2. by desertion ______ Unknown ______
Superior Home ______ 3. by divorce ______
Average Home ______ 4. by separation ______
Inferior Home ______ 5. Illegitimate ______
Left Home ______ 6. Institutionalization ______
Institution ______ 7. Suicide ______
No information ______ 8. No information ______
a. 'With whom living ______

Community: Urban ______ Rural ______ Name of community _________________

Number of Siblings: Brothers ______ Sisters ______ Total ______ No information ______

Sibling Rank of Patient: First ______ Last ______ Middle ______ Only ______ No information ______

Family History of criminal activities:
Father: Institutionalized ______ For ______
Mother: " " ______ For ______
Brother: " " ______ For ______
Sister: " " ______ For ______
Others: " " ______ For ______

Family History of mental disorder:
Father: Institution ______ Manifestation ______
Mother: " " ______ For ______
Brother: Institution _______ Manifestation _______
Sister: " " _______ " " _______

Other types of Institutionalization for Family:

Childhood neurotic traits:
1. Enuresis (Year when stopped)
2. Nightmares
3. Temper Tantrums
4. Abnormal fears
5. Nail biting
6. Excessive illness
No information

Reason for admittance to Woodward or other institution if here on transfer:
1. Sex Delinquent
2. Behavior problem
3. Backward in school
4. Inadequate home
5. Need special training
6. Crime
7. Psychotic
8. No home
9. Born in institution
10. No information

Latest I.Q. S.B. W.B.: Full Verbal Performance ___
Read Write Tell time: Yes No Approximately

Cooperation and effort: Good Fair Poor Unknown
Affect: Good Fair Poor Unknown
Attention: Good Fair Poor Unknown
Motor Control: Good Fair Poor Unknown
Auto Criticism: Good Fair Poor Unknown
Sensory Acuity: Good Fair Poor Unknown
Speech defect: None Slight Pronounced Unknown
Personal Appearance: Grotesque "Average" Good Unknown

Educational attainment (Years)
Where (By year):
Hospital School
Public School
Others

Emotional stability:

Health record: Good Poor No record

Sterilized: Yes No

Behavior problem: Yes No No information

Runaway from Hospital: Yes No Number of times

Quarrels with employees: Yes No
" " patients: Yes No With both patients and employees:
Yes No
Interested in opposite sex: Yes____ No____ No information______

Fights: Yes____ No____ No information______

Truthful: Yes____ No____ No information______

Ambitious: Yes ____ No____ No information______

Obedient: Yes ____ No____ No information______

Careless: Yes ____ No____ No information______

Gregarious: Yes ____ No____ No information______

Punishment record: Yes ___ No ___ No information______

Steals: Yes ___ No ___ No information______

Cheerful: Yes ___ No ___ No information______

Neat: Yes ____ No____ No information______

Work record: Good_____ Type of job held: _______________________

Regular____ Fair_____
Irregular____ Poor_____ 
Student____ No information_____

Recreational activities: None____ Band____ Chorus____ Athletics____ Others____

Interests:

Visits Home: More than once each year____ From once a year to more_____ Never_____

Visitor from home: More than once each year____ From once a year to more_____ Never_____

Family ask to bring home but refused: Yes__No__Often__Seldom__Never__Ask___

Packages from Home: More than once each year____ From once a year to more_____ Never_____

At time of Placement: (Most recent, if more than once)

Date left Hospital ______ Type of work ____________________

Age____ Years in Hospital ______ Where placed___________

Number of supervisory visits: weekly____ Monthly____ 2-6 Months____ 6-12 Months____

Status: If discharged, date________________ Never___ Out to

If returned:

Date________________ How long out____________

Why______________________________
At time of Placement:
Date left Hospital: __________ Type of work: __________
Age: ______ Years in Hospital: ______ Where placed: ______
Number of supervisory visits: Weekly ______ Monthly ______ 2-6 Months ______ 6-12 Months ______ Never ______

Status: If discharged, date __________
If returned:
  Date __________ How long out __________
  Why ____________

If patient has been placed out before, repeat below:

At time of Placement:
Date left Hospital: __________ Type of work: __________
Age: ______ Years in Hospital: ______ Where placed: ______
Number of supervisory visits: Weekly ______ Monthly ______ 2-6 Months ______ 6-12 Months ______ Never ______

Status: If discharged, date __________
If returned:
  Date __________ How long out __________
  Why ____________
Appendix M. Copy of a Form Used to Check Social Behavior
**BOARD OF CONTROL OF STATE INSTITUTIONS**  
Division of Psychological Services  
**REPORT OF PROGRESS**

<table>
<thead>
<tr>
<th>Name</th>
<th>John Doe</th>
<th>Index No.</th>
<th>Admitted</th>
<th>Date of Birth</th>
<th>Cottage No.</th>
<th>Grade</th>
<th>Work Assignment</th>
<th>Report made by</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>12-20-37</td>
<td>12-19-37</td>
<td></td>
<td></td>
<td>Laundry</td>
<td>Joe</td>
<td>11-5-53</td>
</tr>
</tbody>
</table>

**INSTRUCTIONS:** Compare this child with all the others of the same age and sex in the cottage (or classroom, or work assignment), consider how he (or she) has behaved during the past month, then place a (v) check mark in front of each statement in the following lists which best describe his (or her) behavior. Underline the words or phrases which are most appropriate, and cross out those on the same line that do not apply to the child.

Where it says "other description"—write any word or phrase which describes this particular child, and which has not been included in the foregoing list.

1. **PERSONAL CLEANLINESS**
   - (a) Very clean and tidy.
   - (b) Clean and fairly tidy.
   - (c) Rather careless about cleanliness and tidiness.
   - (d) Very untidy, but fairly clean.
   - (e) Smart and tidy, not always clean.
   - (f) Dirty and untidy, has body odor.
   - (g) Other description

2. **WORK EFFICIENCY**
   - (a) Very responsible, capable, quick and efficient
   - (b) Fairly efficient, quick, careful, trustworthy.
   - (c) Steady worker, but slow, reliable in simple tasks.
   - (d) Hasty, somewhat careless, quick but clumsy.
   - (e) Rather lazy, works well by spells.
   - (f) Slow, careless, unreliable, generally inefficient.
   - (g) Other description

3. **DISPOSITION**
   - (a) Cheerful, friendly, not easily upset.
   - (b) Generous, unselfish, frank.
   - (c) Excitable, flighty, emotional, changeable.
   - (d) Shy, timid, retiring, tense.
   - (e) Rather aggressive, noisy, impulsive.
   - (f) Surly, "ornery", moody.
   - (g) Selfish, mean, greedy.
   - (h) Dishonest, deceitful, treacherous.
   - (i) Other description

4. **ATTITUDE TOWARDS COTTAGE MATRON, OR TEACHER OR SUPERVISOR**
   - (a) Friendly, helpful and considerate, polite.
   - (b) Affectionate, clinging, follows about, makes presents.
   - (c) Polite and agreeable, independent.
   - (d) Rather aloof, indifferent, says very little.
   - (e) Cowed, nervous, afraid.
   - (f) Unfriendly, uncooperative, "sassy" in speech.
   - (g) Other description
5. ATTITUDE TOWARD OTHER CHILDREN
   (a) Sociable, friendly, plays fair in games.
   (b) Stands up for own rights, protects little ones.
   (c) Has one or two special friends, ignores others.
   (d) Submissive; follows, lets others take his (her) turn.
   (e) Bossy, orders others, wants to be "it."
   (f) Quarrelsome, unkind, spiteful.
   (g) Holds aloof, seldom plays or talks with others.
   (h) Other description

6. ATTITUDE TOWARDS DISCIPLINE
   (a) Cooperative, self-controlled, well-behaved.
   (b) Fairly cooperative, sometimes negligent.
   (c) Complies with requests grudgingly, tardy.
   (d) Evasive and deceptive, tries to avoid duty.
   (e) Openly resents discipline, defiant, answers back.
   (f) Other description

7. ANY NOTABLE HABIT OR BEHAVIOR
   (a) Twitching, blinking, head-nodding, fidgeting.
   (b) Biting nails, sucking fingers.
   (c) Smoking.
   (d) Swearing, making offensive remarks.
   (e) Cheating, lying, stealing, truanting.
   (f) Indecent exposure, rude interference with others.
   (g) Undesirable sex practices, masturbation.
   (h) Uncontrolled giggling, shouting, grimacing.
   (i) Bed-wetting occasionally or often.
   (j) Sleep-walking, talking in sleep.
   (k) Other habits

8. ANY SPECIAL ACCOMPLISHMENTS
   (a) Singing, gardening, milking, basketball, needlework.
   (b) Other accomplishments.

9. MOST LIKEABLE QUALITIES
   (a) Sense of humor, good loser, plenty of pluck.
   (b) Other qualities

10. IMPROVEMENT SINCE LAST REPORT
    (a) Much improvement in
    (b) A little improvement in
    (c) No improvement in

11. COMPOSITE STATEMENT:
Appendix N. Chi Square Values for Significant Release
Criteria between Successful and Unsuccessful Placements, Successful and Unsuccessful Males, Successful and Unsuccessful Females, and Sex Regardless of Success

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Placements</th>
<th>Male</th>
<th>Female</th>
<th>Sex</th>
</tr>
</thead>
<tbody>
<tr>
<td>Behavior Problem</td>
<td>9.718</td>
<td>1.203</td>
<td>8.562</td>
<td>4.988</td>
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<tr>
<td>Escapes</td>
<td>7.663</td>
<td>0.913</td>
<td>3.746</td>
<td>11.480</td>
</tr>
<tr>
<td>Quarrelsome with Employees</td>
<td>9.445</td>
<td>1.763</td>
<td>8.156</td>
<td>14.116</td>
</tr>
<tr>
<td>Quarrelsome with Patients</td>
<td>19.432</td>
<td>8.1158</td>
<td>11.967</td>
<td>2.316</td>
</tr>
<tr>
<td>Fights</td>
<td>12.378</td>
<td>7.075</td>
<td>5.504</td>
<td>0.534</td>
</tr>
<tr>
<td>Truthful</td>
<td>32.672</td>
<td>11.680</td>
<td>23.280</td>
<td>10.513</td>
</tr>
<tr>
<td>Ambitious</td>
<td>8.546</td>
<td>1.534</td>
<td>7.612</td>
<td>0.786</td>
</tr>
<tr>
<td>Obedient</td>
<td>14.595</td>
<td>6.917</td>
<td>8.486</td>
<td>11.598</td>
</tr>
<tr>
<td>Careless</td>
<td>14.528</td>
<td>7.823</td>
<td>11.271</td>
<td>1.440</td>
</tr>
<tr>
<td>Punishment Record</td>
<td>9.007</td>
<td>2.137</td>
<td>7.244</td>
<td>0.524</td>
</tr>
<tr>
<td>Steals</td>
<td>9.076</td>
<td>2.840</td>
<td>6.435</td>
<td>1.197</td>
</tr>
<tr>
<td>Evaluation of Work</td>
<td>9.965</td>
<td>0.802</td>
<td>10.797</td>
<td>0.207</td>
</tr>
</tbody>
</table>

*All values are at the 5 per cent level with one degree of freedom. Significance is reached at 3.841.