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The construction and validation of an instrument for the prediction of recidivism among juvenile delinquents in Massachusetts

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BOSTON UNIVERSITY
SCHOOL OF EDUCATION

Dissertation

THE CONSTRUCTION AND VALIDATION OF AN INSTRUMENT
FOR THE PREDICTION OF RECIDIVISM
AMONG JUVENILE DELINQUENTS IN MASSACHUSETTS

Submitted by

Lawrence Litwack

(B.A., University of Massachusetts, 1952)

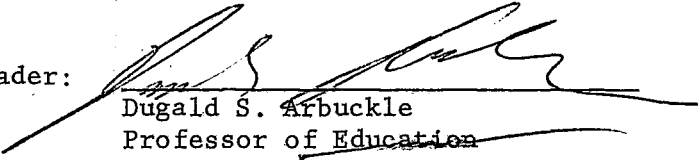
(M.A., Teachers College, Columbia University, 1955)

In Partial Fulfillment of Requirements for
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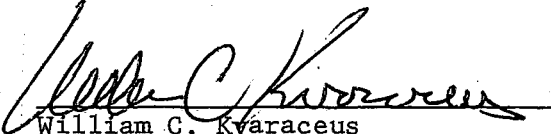
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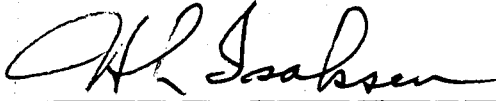

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CHAPTER I

PURPOSE OF THE STUDY

The purpose of this study is to compare significant factors in relation to recidivist and non-recidivist groups of male juvenile delinquents released from a Massachusetts training school, with the aim towards the development and validation of an instrument to predict potential recidivist tendencies among boys being considered for parole from a state training school.

1. Definition of Terms

For the purposes of this research, the terms "delinquent," "recidivist," "non-recidivist," and "violation of parole" are defined as follows:

Delinquent--a legal classification of the courts of Massachusetts which includes the delinquent child, wayward child, habitual truant, habitual absentee, and habitual school offender. These subclassifications are legally defined as follows:

Delinquent Child--a child between 7 and 17 years of age who violates any city ordinance or town by-law or commits an offense not punishable by death.

Wayward Child--a child between 7 and 17 years of age who habitually associates with vicious or immoral persons, or who is growing up in circumstances exposing him to conditions that might cause him to lead an immoral, vicious, or criminal life.

Habitual Truant--a child between 7 and 16 years of age who wilfully and habitually absents himself from school.

Habitual Absentee--a child between 7 and 16 years of age found wandering about the streets or public places, having no lawful occupation, habitually absent from school, and growing up in idleness and ignorance.

Habitual School Offender--a child under 16 years of age persistently violating reasonable regulations of the school he attends, or otherwise persistently misbehaving therein, so as to render himself a fit subject for exclusion therefrom.

Recidivist--a child on parole from a training institution who is returned to the institution for violation of parole, who is recommitted to the Division of Youth Service, or who appears in Superior Court while on parole and is sentenced to another institution.

Non-Recidivist--a child who is still on parole without having had his parole revoked, or who has been discharged, and who has no further juvenile record of institutionalization.

Violation of Parole--the failure to observe parole regulations, or violation of a law, which results in an individual's return to a training school.

The definitions used for the "recidivist" and "non-recidivist" follow the patterns established by several others who have been concerned with the problems of parole success and recidivism: Hakeem,^{1/}

^{1/}Michael Hakeem, "The Validity of the Burgess Method of Parole Prediction," American Journal of Sociology (July, 1947 to May, 1948), 53:376-386.

in discussing the Burgess method of parole prediction, states that the nonviolator (i.e., the non-recidivist) would be an individual who has not been apprehended for violation of any parole regulation or law.

^{2/} Campbell goes further in his definitions. He measures success (or non-recidivism) by the individual's ability to remain out of court, his ability to fit into his family situation without much friction, and his ability to either attend school regularly or be steadily employed.

Failure, conversely, is measured by arrests of the individual, commitment to other institutions, friction within the home or family, and/or the inability to attend school or hold a steady job.

^{3/} Mannheim followed much the same pattern in his study of the Borstal system in England. He described success as being simply no further record of crime, while failure meant a revocation of parole or an arrest while on parole. Sergio ^{4/} used a simple method in a study based

upon the same population as the one used for this study. He defined a returnee as an individual who was returned to the training school for failure of parole. Mannering, ^{5/} in a recent study in Wisconsin, used a

2/Donald H. Campbell, Prognostic Indicators of Delinquent Boys in a Training School, Unpublished Master's Thesis, Boston University, 1948.

3/Herman Mannheim and Leslie Wilkins, Prediction Methods in Relation to Borstal Training, Her Majesty's Stationery Office, London, 1955.

4/L. S. Sergio, Study of the Characteristics and Background of Returnees and Non-Returnees in a Training School for Juvenile Delinquents, Unpublished Master's Thesis, Boston University, 1953.

5/John W. Mannering, Chief, Mimeographed memorandum dated June 30, 1954, Bureau of Research and Statistics, Department of Public Welfare, State of Wisconsin.

general description to distinguish between the two groups. He described the recidivist as having a "record of failure," which meant that in some respect, the individual failed to adjust to the parole situation. Conversely, the non-recidivist had "no record of failure," which meant that he was still on parole, or that he was discharged, and there was no record of any further institutionalization, adult or juvenile.

The definition used for the purpose of this study is designed to include all boys who are returned for further training, who are re-committed by a juvenile court, or who appear in Superior Court while on parole and are subsequently committed elsewhere. An individual who returns to a training school for medical reasons or for relocation is not considered to be a recidivist. An individual who is in difficulty later as an adult is actually a recidivist, but would not be considered in this study unless he was still on parole as a juvenile at the time.

2. Locale of the Study

The locale of the study is the Lyman School for Boys, located in Westboro, Massachusetts. Established in 1846, the school is under the jurisdiction of the Division of Youth Service. Boys are sent to the school for rehabilitation and training by the Youth Service Board, or are returned to the school for disposition as parole violators. Operated on the cottage plan, the school is classified as an "open" institution, i.e., without walls or fences. The school program is almost exclusively academic in nature, with classes conducted from special ungraded sections through the tenth grade.

3. Identification of Population

The population used for this study was drawn from the total group who passed through the Lyman School for Boys during the period from January 1, 1953 to December 31, 1956. The school, exclusively for male juvenile delinquents, is comprised of an average population of between 275 and 300 boys, with at least a 75 per cent turnover during a typical six-month period. The age range of the group with few exceptions goes from 11 to 17, inclusive. The average length of stay at the school is from six to seven months' duration.

4. Justification

The justification for any study involving the detection and prevention of recidivism is practically self-evident. As long as there are boys who fail to profit from training, and who display recidivist tendencies, there is a definite need for some research into a method for the early detection and prevention of such recidivism. This is an area of research that has been virtually neglected. There has been a tendency in the field of delinquency study to place the emphasis upon the detection and prevention of delinquency itself. This emphasis is justified, but equally justified is the necessity of research into the problems of recidivism to find, if possible, the causes, methods of prevention, and detection of potential recidivists. Only through such research can the rate of recidivism be materially lowered, and the raw material for adult crime be curbed if not eliminated entirely.

The concern for the problem of recidivism permeates the field of delinquency on both the national and local levels. This concern is

neither new nor isolated to one level or area. Kvaraceus^{6/} quotes a 1936 study by Bowler and Bloodgood in which

"Seven hundred and fifty-one boys who had received treatment in five state institutions...were checked. Twenty-five per cent were returned for breaking parole soon after their release. Sixty-six per cent were found to have one or more recorded arrests...and fifty-eight per cent of the group had been convicted. Forty-two per cent of 683 boys studied were subsequently returned to one or more correctional or penal institutions."

Other researchers found similar discouraging results showing various degrees of success. Schnur^{7/} found that only 70 per cent of juveniles under the age of 14 when first arrested later succeeded. The Gluecks,^{8/} in a follow-up study on delinquents, found that 24 out of 70 boys who had been committed to a training school returned from one to four times. They go on to demonstrate pessimistically that 73 per cent of boys who had been in a correctional school underwent imprisonment in later years. Vedder^{9/} presents an equally disheartening picture. He quotes a figure of from 65 to 85 per cent rehabilitative failures among individuals who have spent time in reformatories and industrial or training schools. However, he fails to define what he considers to be a failure. Ellingston^{10/} showed the effects of recidivism when he

^{6/}William C. Kvaraceus, Juvenile Delinquency and the School, World Book Company, Yonkers-on-Hudson, New York, 1945, p. 198.

^{7/}Alfred Schnur, "Predicting Parole Outcome," Focus (May, 1949), 28: 70-75.

^{8/}Sheldon Glueck and Eleanor Glueck, Juvenile Delinquents Grown Up, The Commonwealth Fund, New York, 1940.

^{9/}Clyde B. Vedder, The Juvenile Offender, Doubleday and Company, Garden City, New York, 1954.

^{10/}John R. Ellingston, Protecting Our Children from Criminal Careers, Prentice-Hall, Inc., New York, 1948, p. 11.

stated:

"Children and youths play a major role in the prison population both as inmates and as raw material.... Crime as a habit is generally acquired in youth and strengthened by imprisonment. The careers of nearly all habitual criminals.... can be traced to a beginning in childhood or adolescence."

These percentages on recidivism become even more significant in light of the United States Senate Report on Juvenile Delinquency ^{11/} published in 1957. This report showed a 70 per cent increase in juvenile court cases from 1948 to 1955. The report predicts that over 530,000 juveniles will appear before the courts this year. The seriousness of the problem is summed up by showing that approximately 35 per cent of the children brought before the court have been there before on at least one occasion. The necessity for research into recidivism is made even stronger by the realization that in 1955 more than 40,000 juveniles were committed to some type of training school for delinquent children.

These statements show the serious nature of the problem from a nation-wide viewpoint. However, local states are equally concerned with this issue. In California the 1956 publication on delinquency and probation ^{12/} gave figures on the problem in that state. They reveal that from 1954 to 1956 approximately 25 per cent of the total admissions to

11/United States Senate Sub-Committee on Juvenile Delinquency, Juvenile Delinquency, Report #30 of the Committee on the Judiciary, 85th Congress, 1st Session, United States Government Printing Office, Washington, D. C., 1957.

12/Bureau of Criminal Statistics, Department of the Youth Authority, Delinquency and Probation in California 1956, First Annual Statistical Report prepared for the Department of the Youth Authority, California State Printing Office, Sacramento, California, 1957.

Youth Authority institutions were returns from parole. Even more enlightening is the statement that from 38 to 45 per cent of parolees had their return ordered during this same period.

From Washington, a letter from Paul Mueller, Assistant Research Analyst, ^{13/} shows equivalent figures. He has found that between 35 and 45 per cent of the Green Hill School boys and from 15 to 20 per cent of the Cedar Creek Forestry Camp boys are recidivists. The lower figure for the older boys is accounted for by the age involved, since these boys may be treated as adults after parole. In Wisconsin, Mannering ^{14/} stated in 1954 that "up to 25 per cent of the boys admitted to the Wisconsin School for Boys move on to the Reformatory or prison within five years of admission....somewhat more than 25 per cent of the boys will move on to the adult penal institutions." In 1957 he released further data on this same problem. ^{15/} He stated that

"...between 23 and 31 per cent of the 1952-1954 WSB parolees became failures within six months of parole, and between 35 and 47 per cent failed within one year of parole. The rate of failure within two years of parole increased to 45 per cent of the 1952 parolees, and to 54 per cent for 1953 parolees."

^{13/}Paul Mueller, Assistant Research Analyst, Department of Institutions, State of Washington, letter dated October 30, 1957.

^{14/}John W. Mannering, Chief, Mimeographed memorandum dated November 19, 1957, Bureau of Research and Statistics, Department of Public Welfare, State of Wisconsin.

^{15/}Ibid.

5. Summary

It is intended to study the past and present populations of the Lyman School for Boys to try to determine any significant differences between recidivists and non-recidivists. With this information, it is proposed to construct and validate an instrument which will be designed to predict potential recidivistic tendencies among boys prior to their parole. Such an instrument, if validated, could be used for parole selection, or could be used to determine those individuals in need of extra assistance and supervision. The study is justified by the need for further research into this area, and by the high percentage of failures which occur on parole. The definitions used are designed to present a common foundation upon which to build the framework of the study.

CHAPTER II

REVIEW OF THE LITERATURE

The amount of research and published material completed in the field of delinquency prevention, prediction, and treatment compared with the field of recidivism prediction and prevention shows the literature of the latter area to be comparatively sparse. There has been a vast amount of published material concerned with the causes, early detection, prevention, and treatment of delinquent youngsters. This area has received increasing attention during the past thirty years. However, there has been comparatively little done in the area of the causes, detection, prediction, and prevention of recidivism. It seems to be a safe assumption that the problem of delinquency is one that shall always be present in varying degrees of intensity and severity. Therefore, it seems warranted to place extra emphasis upon the successful rehabilitation of delinquent youngsters in order to try to prevent their failure following their parole from an institution.

A review of the literature reveals that the material concerned with recidivism falls into three major classifications. First, there are the studies concerned with the characteristics of adult and juvenile recidivists as compared with non-recidivists. This represents the largest body of knowledge in the literature. Second, there are the studies involved with the prediction of parole success among adult criminals. This is a smaller body of material. Finally, there are the

studies concerned with the prediction of parole success among institutionalized juvenile delinquents. This represents the smallest body of available research. Yet this would seem to be the most important of the three groups.

1. Characteristics of Recidivists

Studies relating to the characteristics of recidivists began to appear in the literature as early as 1930. Frank^{1/} conducted a study of 401 delinquents admitted to the New Jersey Reformatory in that year. He reached the conclusions that the individual of low intelligence showed a greater incidence of recidivism, was more likely to display conduct such as results in repeated arrests, and was more frequently the product of disorganized home and family conditions. The weakness of Frank's study lies in the fact that he does not clearly define the population used in his study, and the majority of his information is extremely general and unscientific in nature. His conclusions, although limited, served to set the stage for later studies on the characteristics of recidivists.

Four years later Cochrane and Steinbach^{2/} published a study of 50 recidivists in the Norfolk juvenile court. Their results were more comprehensive and revealing than those found previously in any other comparable study. They concluded that the greatest number of parole failures occurred among children from poor or fair neighborhoods.

^{1/}B. Frank, "Mental Level as a Factor in Crime," Journal of Juvenile Research (1931), 15:192-197.

^{2/}H. G. Cochrane and A. A. Steinbach, "Fifty Recidivists in the Norfolk Juvenile Court," Mental Hygiene (October, 1934), 18:576-590.

Almost 50 per cent of the recidivists were children not living with their parents. The parent or parents of more than half the group were of low intelligence. Ninety-six per cent had parents with inferior social outlets, and who were illiterate or of low-grade education. Seventy-two per cent had parents who were either on relief, unemployed, aided by relatives, occasionally unemployed, or employed and receiving an inadequate income. Seventy per cent of the group had failed in school. This study proved important, but concentrated heavily upon environmental, family, and school factors. It left unexplored the physical and intellectual areas within the recidivist. Even more important as a weakness is the fact that the study presents no comparative figures on non-recidivists drawn from the same total population to see if the conclusions reached are significant. Finally, the small number of cases used leaves the results open to question as to their validity.

The year 1940 saw the last of the prewar studies published. The war years made follow-up studies difficult, if not impossible. However, this year saw the publication of one section of the extensive continuous research conducted on delinquency by Sheldon and Eleanor Glueck.^{3/} They followed a group of juvenile delinquents who had been intensively studied earlier. Their conclusions seemed to dispel the idea that length of stay within an institution had a direct influence upon parole success. Speaking of recidivists who had been in a training school and who subsequently appeared before the Boston Juvenile Court, they concluded that "10.6 per cent were incarcerated for less than six months;

^{3/}Sheldon Glueck and Eleanor T. Glueck, op. cit., p. 19.

15.2 per cent for 6-12 months; 27.3 per cent for 12-18 months; 16.7 per cent for 18-24 months; 16.7 per cent for 24-30 months; and 13.5 per cent for 30 months or longer."

Eight years elapsed before the first of the postwar studies was completed and published. In the intervening years from 1948 to the present, an ever-increasing amount of research has been published to add significantly to the accumulated literature concerned with the characteristics of recidivists as a group. Each study added more information and substantiated earlier findings.

Campbell^{4/} conducted a study of recidivists drawn from the population of the Lyman School for Boys. He found that:

1. Individuals with some physical limitation were more apt to become successes on parole.
2. Chances of success are greater with boys who have four or more siblings.
3. Individuals with both natural parents living together tend towards success.
4. The younger boy has a greater chance of success after a training school commitment.
5. School retardation of more than two years definitely makes for later failure on parole.

Campbell's study presented some interesting points, but his material was in need of further substantiation with larger numbers. He leaves several areas unexplored, such as intellectual factors and adjustment

^{4/}Donald H. Campbell, op. cit.

within the training school as indicators of later parole success.

Soon after this study Clark ^{5/} published an article on adult recidivism. He was concerned with only one area, i.e., the size of the parole community. He found that men paroled to a community of the same size as the one in which they were arrested have done better on parole. Clark added to the body of knowledge concerning recidivism, but his study was too isolated and limited in nature to present more than one small aspect of the problem. It left many questions unanswered, even concerned with as specific a subject as was this one.

Black and Glick ^{6/} studied a group of 100 male juvenile delinquents at the Hawthorne-Cedar Knolls School. They found a rate of success of 70 per cent, much higher than any parole success figure obtained elsewhere. Their conclusions were simple, yet significant. They found that:

"In almost one-third of the cases of the non-recidivists, the discipline of the boy by his father had been rated as sound or fair. Of the recidivist group, only three of the thirty boys had been similarly rated.

"Of the thirty recidivists, twenty-two had truanted excessively. A much smaller proportion of the non-recidivists had been truants.

"Over sixty per cent of the recidivist group had misbehaved before they were nine years of age. This is contrasted with but 18.6 per cent of the non-recidivist group."

^{5/}Robert E. Clark, "Size of Parole Community as Related to Parole Outcome," American Journal of Sociology (July, 1951-May, 1952), 57:43-47.

^{6/}Bertram J. Black and Selma J. Glick, Recidivism at the Hawthorne-Cedar Knolls School, Research Monograph Number 2, Jewish Board of Guardians, New York, 1952, p. 28.

Although based on the previous work of the Gluecks, this study had one major flaw from the viewpoint of its application to all training schools which made the results of questionable value outside the designated setting. The school from which the sample was drawn was not a typical state training school; thus, they did not have a truly representative sample. Children with organic conditions or physical disabilities and children with I.Q.'s of 75 and under were excluded from the school. The average length of stay at the school was about two years. Thus the selectivity of admissions and the longer length of stay combine to make the results questionable in respect to the fact that this could hardly be considered a comparable typical group of juvenile delinquents. It means, first, that similar comparable studies need to be done among more unselected populations to see if similar results are obtained. Second, it raises the question as to the desirability of creating more schools of this type to at least partially provide an answer to the problem of recidivism. Only then may the results be established as valid and meaningful.

^{7/}
Sergio utilized the paired method of comparison with boys paroled from a state training school during the period from 1945 to 1950. He introduced a new element to the research by also attempting to measure the individual's adjustment within the institution. He found at the conclusion of his study that:

1. Fifty-seven per cent of the returnees were returned to the parents' home, as compared to 84 per cent of the non-returnees.

^{7/}Louis S. Sergio, op. cit.

2. About one third of the recidivists were placed with both parents, compared with close to half of the non-recidivists.
3. Thirty-three per cent of the recidivists were placed in foster homes, compared with only 9 per cent of the non-recidivists.
4. Sixty-seven per cent of the returnees were subjects of broken homes, compared with 48 per cent of the non-returnees.
5. Twenty-nine per cent of the returnees responded favorably to custody and discipline within the training school, compared with 42 per cent of the non-returnee group.

This study was relatively thorough in design and execution, but was still open to several criticisms. First, the method of pairing recidivists and non-recidivists for comparison and study has been questioned. Second, Sergio uses some terms without specifically defining them or without breaking down major headings to provide more detailed information. Third, Sergio fails to state whether or not the observed differences between the two groups are statistically significant. However, the study had merit in that it explored new areas, and suggested possibilities for further research.

The annual publication of the California Youth Authority ^{8/} in 1956 added one significant fact to the literature. Information was presented to support the statement that the longer an individual manages to stay on parole, the less likely is he to become a parole violator. This statement has important bearings on parole practices, for it seems to

^{8/}California Bureau of Criminal Statistics, Delinquency and Probation in California 1956, Annual Report to the Department of the Youth Authority, California State Printing Office, Sacramento, California, 1957.

suggest that the most crucial period for an individual released on parole is the period immediately following his release. A logical follow-up to this would seem to be the need for increased parole supervision during the months immediately following parole. Such a practice might help to decrease the percentage of recidivism.

The most recent publication concerned with the characteristics of recidivists was by Wattenberg in 1957.^{9/} In a brief article on female recidivists, he paused to discuss characteristics of recidivism among boys. He found that this group was more likely to have at least one of the following characteristics:

1. Living in a housing project.
2. Parents married but separated.
3. Father present in the home.
4. Youth living with relatives other than parents.
5. Youth living with mother alone.

He also found two factors that seemed to distinguish between repeaters and nonrepeaters. These were:

1. Youngster rated "small for age."
2. Church attendance reported irregular, i.e., less than once a week.

Wattenberg's observations proved relevant, but were not broad enough for their significance to be adequately determined.

Each of the studies discussed above added some information to the characteristics of recidivists as compared with non-recidivists insofar

^{9/}William Wattenberg, "Girl Repeaters," N.P.P.A. Journal (January, 1957), 3:48-53.

as we can identify them. The data collected by these researchers served as a supplement and a springboard to other researchers concerned with methods of parole prediction and as a systematic, scientific differentiation between recidivists and non-recidivists. As mentioned earlier, the studies concerned with the prediction of parole success (based on much of the above research) can be broken down into two major areas: those concerned with adults, and those concerned primarily with juveniles. It is only relatively recently that attention has been turned to the latter area. In any event, the literature relating to the former is important and necessary in understanding the studies concerned strictly with the latter.

2. Parole Prediction for Adults

As Ohlin and Lawrence^{10/} point out, most of the studies concerned with the prediction of parole success deal primarily with young adults or regular criminals. Much of this work was centered in the State of Illinois where a system of parole prediction based upon the work of Ohlin and his associates is being used. This emphasis seemed warranted at the time, but the increasing attention to juvenile recidivism gradually led to more extensive research into this area and its implications.

In 1929 Hackbusch^{11/} published a study of 258 inmates of the Pennsylvania Industrial Reformatory. His group ranged in age from 15 to

^{10/}Lloyd Ohlin and Richard Lawrence, "A Comparison of Alternative Methods of Parole and Prediction," American Sociological Review (1952), 17:268-274.

^{11/}F. Hackbusch, "A Study of 258 Inmates of the Pennsylvania Industrial Reformatory," Proceedings and Addresses of the American Association for the Study of the Feeble-Minded, 1929, 34:33-51.

26 years, and in mental age from 10.3 to 11.8 years. All had I.Q.'s under 75. The group as a whole had a higher percentage of sex crimes and a lower percentage of auto thefts than men with higher I.Q.'s. In attempting to predict parole success among the members of this group, he found that

"...prediction of parole success was found to be unreliable on the basis of either the Pintner-Patterson Performance Scale or the Healy Pictorial Completion III. The psychiatrists' ratings of the boys' probable success on parole was the most reliable predictor. The boys' behavior in the institution, and their degree of mentality showed a high relationship with their success on parole."

Although almost thirty years old, Hackbusch's study still holds considerable merit. His finding concerning the relationship between the boy's behavior within the institution and his success on parole was further substantiated twenty-four years later by Sergio. The work itself left much to be desired, however, such as the selection of the group and the refinement of the predictive factors, but it served to pave the way for later studies.

^{12/}Wood added to the literature a few years later with some broad statements concerning factors relating to parole success that theoretically could be applied to all age groups, although it seemed to be directed primarily towards adult prediction. He stated in 1933 that

"Case record patterns....low mentality, foreign heritage, and broken homes. A large number of others are deducible.... such as bad use of leisure, poor work record, and failure to meet family obligations. Such factors, taken singly or in combination, may be regarded as behavior patterns. The more

^{12/}Arthur Evans Wood, "Difficulties of Statistical Interpretation of Case Records of Delinquency and Crime," American Journal of Sociology (July, 1933-May, 1934), 39:204-209.

of them present in a given case, the less likely would such a one be a good parole risk assuming a given state of intelligence and efficiency in parole supervision."

Wood's study revealed some significant factors, but once again left much to be desired in the way of statistical treatment of his results. These were not systematized to permit the establishment of a parole prediction table for use. However, he gave important leads to later researchers in the field.

Almost fifteen years later came the first of two consecutive studies concerned with recidivism among adults. Hakeem^{13/} explored the material connected with the Burgess method of parole prediction. According to him, Burgess hypothesized that differences existed between recidivists and non-recidivists. These differences were summed up in a list of twelve factors by Burgess. These were:

1. Nature of offense.
2. Number of associates in committing offense for which committed.
3. Nationality of father.
4. Parental status, including broken home.
5. County from which committed.
6. Size of community from which committed.
7. Type of home neighborhood.
8. Months of sentence.
9. Previous record.
10. Punishment record in the institution.

^{13/}Michael Hakeem, op. cit.

11. Age at time of parole.

12. Mental age.

^{14/}Schnur, a year later, found eight factors that seemed to show a significant association with recidivism. These were:

1. Length of time served.

2. Accomplices.

3. Age at entrance to the institution.

4. Crime type for which committed.

5. Age at release on parole.

6. Age at first arrest.

7. Birthplace.

8. Race and birthplace of parents.

As can be seen, five of the eight factors were closely allied to the factors originally proposed by Burgess. As the amount of research grew, many researchers started to produce similar results in certain common areas. One drawback to these studies was the fact that there was no apparent effort made to draw up a formal, statistically derived, valid instrument which could be used for parole prediction. However, all of these studies served to open up new avenues of exploration and to point up the direction for needed systematized study and research to support previous findings.

^{14/}Alfred Schnur, "The Educational Treatment of Prisoners and Recidivism," American Journal of Sociology (July, 1948-May, 1949), 54:142-147.

3. Parole Prediction for Juveniles

Turning to studies concerned primarily with the prediction of recidivism among juveniles, we find the literature to be relatively sparse. Reviewing the studies, there are only three that deal with the problem in any detail. First, there was an attempt twenty years ago by Kirkpatrick^{15/} to find significant factors which had a bearing on juvenile recidivism. Examining only first offenders, he found the following factors to be relevant:

1. Age
2. Color
3. School grade
4. School problem
5. Number of children in family
6. Neighborhood
7. Type of offense
8. Number of agencies in contact with family.

Many of these factors later found their way into other studies which also found them to be significant. Kirkpatrick's work was important as an exploratory study, but it did not proceed far enough in determining specific predictive measures related to recidivism.

Almost twenty years later came a summary of some of the most widely quoted research into the field of delinquency and recidivism. Eleanor

^{15/}M. E. Kirkpatrick, "Some Significant Factors in Juvenile Recidivism," American Journal of Orthopsychiatry (1937), 7:349-359.

Glueck^{16/} published a statement concerned with the status of the Glueck prediction studies developed by her husband and her. She gave first a summarization of significant factors which could be used for predictive purposes with different groups. In considering recidivism among male juvenile offenders during parole, five significant predictive factors were found. These were:

1. Birthplace of father
2. Birthplace of mother
3. Discipline by father
4. Discipline by mother
5. School misconduct.

Predicting recidivism among male juvenile offenders in correctional schools, five more factors were found to be significant and were used.

These were:

1. Moral standards of childhood home
2. Number of children in family
3. Conjugal relations of parents
4. Habits of offender
5. Time between first misbehavior and first arrest.

Finally, a prediction table for recidivism among male offenders in correctional schools under 17 years of age was established constructed on five factors. These were:

1. Family relationships

16/Eleanor T. Glueck, "Status of Glueck Prediction Studies," Journal of Criminal Law, Criminology, and Police Science (May-June, 1956), 47:18-32.

2. Age at first delinquency
3. School retardation
4. Age at leaving home
5. Age began work.

These predictive factors have proven to be relatively workable and successful in practice, but the major difficulty lies in the lack of sufficient information for their use by the staff of the average training school. Also, the emphasis of the Glueck studies was on the prediction, detection, and prevention of delinquency, rather than on recidivism. However, Eleanor Glueck made a statement in this article which serves as a warning to all who attempt to establish or to utilize parole prediction tables. She stated:

"May I emphasize that prediction tables are no substitute for clinical experience. They are not to be applied mechanically. Rather, they are supplements to clinical insight, based on objectified experience with hundreds of cases. True 'individualization' in the management of recidivists....can be made more accurate and effective, however, by the use of such tables."^{17/}

At about the same time Mannheim and Wilkins^{18/} conducted a study in England based on prediction methods used in connection with a group of Borstal boys between 16 and 23 years of age. Although this group is older than the typical group of juvenile delinquents in this country, the statistical methods and findings were significant and represented a great stride forward in contributing to the literature on recidivism. Following each individual for three years after his parole, they came

^{17/}Eleanor T. Glueck, op. cit.

^{18/}Herman Mannheim and Leslie T. Wilkins, op. cit.

up with the following findings:

1. The earlier the individual started a criminal career, the less likely was he to reform after training.
2. An individual placed on probation in the past represented a slightly worse parole risk.
3. These boys from broken homes did not appear to be worse risks than those from complete homes.
4. There was no significant difference between the rate of success of those with and those without a record of other crime in the family.
5. There was an association between truancy and failure, but not between educational retardation and failure.
6. There was a tendency for failures to have remained longer within a training school.
7. Running away during training was also associated with failure after parole.
8. The average failure remained unconvicted for eleven months after parole.
9. The period of three to six months after release saw more failures than any other period.
10. During the first six months after release, close to 40 per cent of those who ultimately failed had already failed.
11. By three or four years after release, about 80 per cent of those who will ever fail will already have failed; after twelve months, only about half of the eventual failures will have failed.

12. Experience tables based on one year's follow-up yield results in all respects similar to those based on later data.

The Borstal study did not necessarily produce any really new material, but it did refine statistical methods and opened the door for further studies utilizing the data obtained and testing the resulting conclusions.

4. Summary

A review of the literature shows that the greatest emphasis has been placed on juvenile delinquency as a whole; particularly on the areas of prediction, detection, prevention, and treatment. A much smaller body of knowledge is available in relation to the subject of recidivism. Most researchers seemed to be concerned with the characteristics of recidivists and non-recidivists, but few carried their studies the logical step further by attempting to establish prediction tables designed to predict recidivism among individuals released from institutions. Such prediction tables are being used in Illinois and Washington, but there is a great need for further research into this area, particularly in relation to juvenile recidivists. Keeping in mind always the admonition of Eleanor Glueck concerning the use of such prediction tables, it is nevertheless felt that the area of prediction factors relating to recidivism among juveniles is one which is vital in nature, and which the literature seems to leave comparatively unknown and ignored.

CHAPTER III

PROCEDURES

1. General Purpose

The purpose of this study was to determine whether or not there were any significant differences that can be statistically measured between juvenile recidivists and non-recidivists and, if there are, to use these differences in the construction and validation of an instrument to predict recidivistic tendencies among juvenile delinquents being paroled from a training school.

2. Nature of the Sample

This study is based upon a survey of a total of 500 cases. The subjects involved were all male juvenile delinquents committed to the Division of Youth Service by the courts of the Commonwealth of Massachusetts and transferred for rehabilitation to the Lyman School for Boys, Westboro, Massachusetts. The 500 cases of the total sample were made up of three separate samples, as follows:

1. A sample of 200 cases resident at Lyman School for Boys during the period from January 1, 1955 to December 31, 1956. This comprised the original basic sample group. The sample was comprised of 100 boys who failed on parole after release (recidivists) and 100 boys who succeeded on parole after release (non-recidivists). Both groups were drawn at random from the total school population during this period. The group of

recidivists were drawn from a total population of 307, with every third boy being selected to provide the random sample. The group of non-recidivists were drawn from a total population of 257, with every second and then every third boy being selected to comprise the random sample. Since every boy had a chance to be selected, the groups meet the requirements of a true random sample.

2. A sample of 200 cases resident at Lyman School for Boys during the period from January 1, 1953 to December 31, 1954. This comprised the second group used to further refine the basic items. The sample was comprised of 100 recidivists drawn from a total population of 297 and 100 non-recidivists drawn from a total population of 215. Here, again, all boys were drawn at random from the total group, with every boy having the chance to be selected.
3. A sample of 100 cases resident at Lyman School for Boys during the period from August 1, 1958 to December 1, 1958. This group was comprised of the first 100 boys being released from the training school during this period, and was used for the final refinement and validation of the prediction instrument.

There was only one restriction placed on the individuals selected for use in this study. In order to provide pure data, only those individuals who were in the school for the first time were selected. Those who had previously been in the school and were already proven to be recidivists were eliminated before the basic samples were selected. This helped to provide a common basis for all individuals.

3. Preparation of the Preliminary Instrument

Perry,^{1/} in the preparation of his index for the prediction of runaways, drew material from essentially the same sources as used in this study. Early in his dissertation, he stated that

"the number and type of items included for survey were chosen because of their availability and objectivity, rather than because they were considered crucial in the process. A goal...was to eliminate subjectivity in the determination of index items, so that the elements of intuition and personal experience would not be major factors in the prediction process."

This study followed similar procedures in the selection of items for the preliminary instrument. However, a much broader and more inclusive basis for selection was used. Availability and objectivity were two criteria used, but any items thought to be possibly significant on the basis of intuition and personal experience were also used. In addition, items found to be significant in other studies concerned with recidivism, such as the ones by Taylor^{2/} and Glueck,^{3/} were included. The plan called for the inclusion of every item that might be significant in the preliminary instrument.

The procedure was as follows:

^{1/}Joseph L. Perry, The Construction and Validation of a Technique for Predicting the Incidence of Runaways among Institutionalized Delinquent Boys, Unpublished Doctoral Dissertation, Boston University, 1953, p. 26.

^{2/}Donald Taylor, "An Analysis of Predictions of Delinquency Based on Case Studies," Journal of Abnormal and Social Psychology (1947), 42:45-56.

^{3/}Eleanor T. Glueck, "Status of Glueck Prediction Studies," Journal of Criminal Law, Criminology, and Police Science (May-June, 1956), 47:18-32.

1. A list of 163 variables in seven areas of investigation was compiled. The areas in which investigation centered were:
 - a. Physical characteristics
 - b. Intellectual characteristics
 - c. Family characteristics
 - d. Home characteristics
 - e. Previous history
 - f. Training school factors
 - g. Parole factors.
2. A separate data sheet was completed for each of the cases included in the first two comparative groups, information being gathered from the following sources:
 - a. Records of boys' physical examinations
 - b. Records of boys' psychological examinations
 - c. Social histories of boys compiled by experienced juvenile parole agents of the Boys' Parole Branch, Division of Youth Service, Massachusetts Department of Education.
3. Once compiled, the data sheets were subjected to statistical treatment. Tests of significance (critical ratio or chi-square) were used to determine whether or not observed differences between the first comparative group were truly significant. For the first exploratory stage of research, the .05 level of confidence was used. Thus, any item which was not significant at least at the .05 level of confidence was eliminated from the refined instrument.

4. The Preliminary Instrument

As indicated earlier, all items were included which were felt might show significant differences between the recidivist and the non-recidivist. Thus, the preliminary instrument of 163 items was applied to the first sample group, and statistical treatment applied to the results. The recidivist and non-recidivist in the first group were compared on the following items:

A. Physical Characteristics

1. Hearing
2. Vision
3. Child small for age
4. Child large for age
5. Premature birth
6. Enuretic
7. Tattoos
8. Physical defects
9. Birthmarks
10. Previous serious operation
11. Previous head injury
12. Race
13. Speech defects
14. Use of tobacco
15. Use of alcohol
16. Height
17. Weight

B. Intellectual Characteristics

18. Number grades repeated
19. Number years educationally retarded
20. Special class student
21. Scholarship
22. Attended public school
23. Attended parochial school
24. Attended trade school
25. Attended disciplinary school
26. Non-school attender
27. Number months between leaving school and commitment
28. School truant
29. School discipline problem
30. Level of intelligence on Wechsler-Bellevue or WISC
31. School grade completed
32. Wechsler Full Scale I.Q.
33. Wechsler Performance Scale I.Q.
34. Wechsler Verbal Scale I.Q.

C. Family Characteristics

35. Both natural parents at home
36. Mother only parent at home
37. Father only parent at home
38. Natural parent and step-parent at home
39. Broken home without both natural parents
40. State ward
41. Home broken by death

42. Home broken by separation
43. Home broken by divorce
44. Home broken by desertion
45. Stepmother present in home
46. Stepfather present in home
47. Both parents of same religion
48. Both parents of same race
49. Father alive
50. Father's health good
51. Father's occupation
52. Father's work record steady
53. Father with court record
54. Father ever in jail
55. Father's birthplace
56. Father previously married
57. Father's use of alcohol more than moderate
58. Mother alive
59. Mother's health good
60. Mother's occupation
61. Mother working
62. Mother with court record
63. Mother ever in jail
64. Mother's birthplace
65. Mother previously married
66. Mother's use of alcohol more than moderate
67. Only child

68. Stepsiblings present in home
69. Siblings with court records
70. Type of offense of siblings
71. Subject illegitimate
72. Religion
73. Church attendance
74. Confirmed
75. Baptized
76. Age at which home first broken
77. Father's highest school grade achieved
78. Mother's highest school grade achieved
79. Father's age at time of boy's commitment
80. Father's age at present marriage
81. Mother's age at time of boy's commitment
82. Mother's age at present marriage
83. Number of siblings
84. Number of brothers
85. Number of sisters
86. Number of older brothers
87. Number of younger brothers
88. Number of older sisters
89. Number of younger sisters
90. Ordinal standing

D. Home Characteristics

91. Birthplace
92. City over 100,000

93. City 50,000 to 100,000
94. City 10,000 to 50,000
95. Rural (under 10,000)
96. Neighborhood quality
97. Home owned
98. Home rented
99. Single family house
100. Apartment
101. Housing project
102. Subject with own room
103. Subject shares room
104. Living with relatives
105. Living in foster home
106. Living in other placement
107. Number of rooms
108. Number of people living in home
109. Length of residence

E. Previous History

110. Runaway from home
111. Previously placed on probation
112. Previously received suspended sentence
113. Previously in boarding school
114. Previously in County Training School
115. Previously observed in mental hospital
116. Previously in detention center
117. Season committable offense occurred

118. Commitable offense while on probation
119. Commitable offense while on suspended sentence
120. Commitable offense
121. BR commitment
122. BS commitment
123. BC commitment
124. Credit goal
125. Number of court appearances
126. Age at first court appearance
127. Number of accomplices
128. Month committed
129. Age at commitment
130. Longest number months between court appearances
131. Length of stay at Reception Center
132. Month arrived at training school

F. Training School Factors

133. Length of stay in reception cottage
134. Trade at time of parole
135. Runaway attempts
136. Number times in discipline cottage
137. General adjustment to rules
138. Weekends allowed
139. Number cottages lived in after reception cottage
140. School attendance
141. Grade placement
142. Length of stay in training school

143. Number of weekends allowed
144. Maximum number of boys in last cottage
145. Age arrived at school
146. Age at time of parole
147. Month in which paroled

G. Parole Factors

148. Returned to family
149. Returned to relatives
150. Returned to foster home
151. Returned to work placement
152. Returned to school
153. Returned to work
154. Good adjustment and/or discharge
155. Recommitted to D.Y.S.
156. Returned for violation of parole
157. Sentenced to other higher institution
158. Offense for which returned
159. Offense same as original committable offense
160. Number court appearances prior to return
161. Accomplices same as in previous commitment
162. Length of time on parole prior to recidivism
163. Number of accomplices in parole violation.

5. Treatment of the Data

The 200 data sheets compiled from the basic sample group were completed and separated into recidivists and non-recidivists. Frequency tables of the occurrence of each variable among the subjects in the two groups were constructed, with a separate table for each item on the preliminary instrument. Then the test of significance was applied to each item on the instrument to determine which showed statistically significant differences between the comparative groups at least at the .05 level of confidence.

Three items were immediately eliminated because the information needed for them was unavailable. This does not mean that these items were not important, but rather that one of the limitations of a study such as this is the availability of information. Other items were eliminated as unnecessary in showing differences between the two groups. The remaining items were carefully screened for the purpose of eliminating all those which failed to meet the requirements of significant differences. As a result of this screening and statistical treatment, 31 items of the original 163 were found to meet the test of significance at least at the .05 level of confidence. Of these, 15 also met the test of significance at the .01 level of confidence. These 31 items represented the basis for the first refinement of the prediction instrument. Appendix A gives the frequency and significance of those items not found to be significant at the .05 level of confidence. The results of the analysis of the original items in terms of the 31 remaining ones are shown in the following table.

Table 1. Item Analysis of Significant Items

Item	Group	N	Mean	S.D.	Sig. .05	Sig. .01
1. Height (inches)	NR	100	64.13	3.98	Yes	Yes
	R	100	61.77	4.67		
2. Weight (pounds)	NR	100	117.99	21.86	Yes	Yes
	R	100	107.60	23.78		
3. Father's age at boy's commitment (months)	NR	100	547.97	103.12	Yes	No
	R	100	516.58	85.81		
4. Mother's age at boy's commitment (months)	NRq	100	500.89	78.87	Yes	Yes
	R	100	469.24	64.19		
5. Age at first court appearance (months)	NR	100	165.47	36.82	Yes	Yes
	R	100	150.78	36.29		
6. Age at commitment (months)	NR	100	176.91	14.78	Yes	Yes
	R	100	165.51	17.28		
7. Age arrived at school (months)	NR	100	178.37	14.70	Yes	Yes
	R	100	167.06	16.70		
8. Length stay in school (weeks)	NR	100	26.51	10.37	Yes	No
	R	100	30.73	16.37		
9. Age at time of parole (months)	NR	100	184.13	14.23	Yes	Yes
	R	100	174.76	15.33		

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Table 1. (concluded)

Item	Group	N	Mean	S.D.	Sig. .05	Sig. .01
10. Number of older sisters	NR	100	.98	1.27	Yes	Yes
	R	100	.52	.92		
11. Number of younger sisters	NR	100	.53	.82	Yes	Yes
	R	100	.89	1.91		
12. Ordinal standing	NR	100	2.86	2.32	Yes	No
	R	100	2.30	1.52		
13. School grade completed	NR	100	6.77	1.78	Yes	Yes
	R	100	5.70	1.80		

Table 2. Item Analysis of Significant Items II

Item	Alternative	NR	R	N	Sig. .05	Sig. .01
14. Child small for age	Yes	7	17	199	Yes	No
	No	93	82			
15. Race	White	97	86	200	Yes	No
	Negro	3	14			
16. School truant	Yes	35	52	200	Yes	No
	No	65	48			

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Table 2. (continued)

Item	Alternative	NR	R	N	Sig. .05	Sig. .01																																																																												
17. Previously in boarding school	Yes	11	28	199	Yes	Yes																																																																												
	No	88	72				18. Level of intelli- gence on W-B or WISC	2-	35	52	186	Yes	No	3+	55	44	19. Stepfather present in home	Yes	23	12	200	Yes	No	No	77	88	20. Father ever in jail	Yes	9	24	195	Yes	Yes	No	89	73	21. Subject's room	Own	37	21	197	Yes	No	Shared	61	78	22. Commitable offense	B&E&L	39	56	200	Yes	No	Other	61	44	23. Credit goal	500-	17	13	200	Yes	No	600+	83	87	24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes
18. Level of intelli- gence on W-B or WISC	2-	35	52	186	Yes	No																																																																												
	3+	55	44				19. Stepfather present in home	Yes	23	12	200	Yes	No	No	77	88	20. Father ever in jail	Yes	9	24	195	Yes	Yes	No	89	73	21. Subject's room	Own	37	21	197	Yes	No	Shared	61	78	22. Commitable offense	B&E&L	39	56	200	Yes	No	Other	61	44	23. Credit goal	500-	17	13	200	Yes	No	600+	83	87	24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99						
19. Stepfather present in home	Yes	23	12	200	Yes	No																																																																												
	No	77	88				20. Father ever in jail	Yes	9	24	195	Yes	Yes	No	89	73	21. Subject's room	Own	37	21	197	Yes	No	Shared	61	78	22. Commitable offense	B&E&L	39	56	200	Yes	No	Other	61	44	23. Credit goal	500-	17	13	200	Yes	No	600+	83	87	24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99																
20. Father ever in jail	Yes	9	24	195	Yes	Yes																																																																												
	No	89	73				21. Subject's room	Own	37	21	197	Yes	No	Shared	61	78	22. Commitable offense	B&E&L	39	56	200	Yes	No	Other	61	44	23. Credit goal	500-	17	13	200	Yes	No	600+	83	87	24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99																										
21. Subject's room	Own	37	21	197	Yes	No																																																																												
	Shared	61	78				22. Commitable offense	B&E&L	39	56	200	Yes	No	Other	61	44	23. Credit goal	500-	17	13	200	Yes	No	600+	83	87	24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99																																				
22. Commitable offense	B&E&L	39	56	200	Yes	No																																																																												
	Other	61	44				23. Credit goal	500-	17	13	200	Yes	No	600+	83	87	24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99																																														
23. Credit goal	500-	17	13	200	Yes	No																																																																												
	600+	83	87				24. BR commitment	Yes	91	99	200	Yes	No	No	9	1	25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99																																																								
24. BR commitment	Yes	91	99	200	Yes	No																																																																												
	No	9	1				25. BS commitment	Yes	9	0	199	Yes	Yes	No	91	99																																																																		
25. BS commitment	Yes	9	0	199	Yes	Yes																																																																												
	No	91	99																																																																															

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Table 2. (concluded)

Item	Alternative	NR	R	N	Sig. .05	Sig. .01																																														
26. Runaway attempts	Yes	13	28	199	Yes	No																																														
	No	86	72				27. Number times in discipline cottage	0	68	52	200	Yes	No	1+	32	48	28. School attendance	Yes	76	90	200	Yes	No	No	24	10	29. Grade placement	7-	29	50	200	Yes	No	8+	71	50	30. Paroled to school	Yes	59	87	200	Yes	No	No	41	13	31. Paroled to work	Yes	41	13	200	Yes
27. Number times in discipline cottage	0	68	52	200	Yes	No																																														
	1+	32	48				28. School attendance	Yes	76	90	200	Yes	No	No	24	10	29. Grade placement	7-	29	50	200	Yes	No	8+	71	50	30. Paroled to school	Yes	59	87	200	Yes	No	No	41	13	31. Paroled to work	Yes	41	13	200	Yes	Yes	No	59	87						
28. School attendance	Yes	76	90	200	Yes	No																																														
	No	24	10				29. Grade placement	7-	29	50	200	Yes	No	8+	71	50	30. Paroled to school	Yes	59	87	200	Yes	No	No	41	13	31. Paroled to work	Yes	41	13	200	Yes	Yes	No	59	87																
29. Grade placement	7-	29	50	200	Yes	No																																														
	8+	71	50				30. Paroled to school	Yes	59	87	200	Yes	No	No	41	13	31. Paroled to work	Yes	41	13	200	Yes	Yes	No	59	87																										
30. Paroled to school	Yes	59	87	200	Yes	No																																														
	No	41	13				31. Paroled to work	Yes	41	13	200	Yes	Yes	No	59	87																																				
31. Paroled to work	Yes	41	13	200	Yes	Yes																																														
	No	59	87																																																	

6. The Refined Instrument

The statistical treatment applied to the original 163 items on the preliminary instrument resulted in the immediate elimination of 132 items. The remaining 31 items were then examined to study their content. As a result of this examination, two of the items were combined with others, resulting in a final revised instrument of 29 items. BR and BS commitments were combined into one item, and paroled to school and work were combined into one item. The resulting revised instrument thus contained the following items:

1. Height
2. Weight
3. Father's age at time of boy's commitment
4. Mother's age at time of boy's commitment
5. Age at first court appearance
6. Age at commitment
7. Age arrived at training school
8. Length of stay in training school
9. Age at time of parole
10. Child small for age
11. Race
12. School truant
13. Previously in boarding school
14. School grade completed
15. Level of intelligence on W-B or WISC
16. Stepfather present in home

17. Father ever in jail
18. Subject's room alone or shared
19. Number of older sisters
20. Number of younger sisters
21. Ordinal standing
22. Commitable offense
23. Type of commitment
24. Credit goal
25. Runaway attempts
26. Number times in discipline cottage
27. School attendance
28. Grade placement
29. Paroled to.

The refined instrument was then administered to the second sample group of 200, with individual data sheets being completed on each individual case. The data sheets were then divided into 100 recidivists and 100 non-recidivists. Statistical treatment was once again applied to see which of the 29 items still met the test of significance at the .05 level of confidence. This step was aimed partially at establishing the reliability of the items, as well as rechecking their statistical significance in differentiating between the two groups.

7. Results of Second Administration

Statistical treatment of the refined instrument showed that 14 of the 29 items, or slightly under 50 per cent, met the test of significance at least at the .05 level of confidence. Of these, ten met the

test of significance at the .01 level of confidence. This group of 14 items comprised the nucleus for the final prediction checklist. The significant items remaining from the second administration are shown in the following table.

Table 3. Item Analysis of Refined Instrument

Item	Group	N	Mean	S.D.	Sig. .05	Sig. .01
1. Height	NR	100	63.13	4.08	Yes	Yes
	R	100	60.46	5.13		
2. Weight	NR	100	111.22	20.20	Yes	No
	R	100	103.31	24.94		
3. Father's age at time of boy's commitment	NR	100	541.89	83.43	Yes	No.
	R	100	512.95	85.44		
4. Mother's age at time of boy's commitment	NR	100	485.44	72.20	Yes	Yes
	R	100	456.90	61.88		
5. Age at first court appearance	NR	100	158.52	27.87	Yes	Yes
	R	100	145.25	24.08		
6. Age at commitment	NR	100	175.19	16.03	Yes	Yes
	R	100	159.59	21.08		
7. Age arrived at training school	NR	100	176.51	15.94	Yes	Yes
	R	100	161.23	19.62		

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Table 3. (concluded)

Item	Group	N	Mean	S.D.	Sig. .05	Sig. .01
8. Age at time of parole	NR	100	183.42	15.61	Yes	Yes
	R	100	168.92	19.62		

Table 4. Item Analysis of Refined Instrument II

Item	Alternative	NR	R	N	Sig. .05	Sig. .01
9. School grade completed	6-	51	70	200	Yes	Yes
	7+	49	30			
10. Father ever in jail	Yes	19	27	184	Yes	Yes
	No	76	62			
11. Number times in discipline cottage	0	67	47	200	Yes	Yes
	1+	33	53			
12. Grade placement	7-	47	62	200	Yes	No
	8+	53	38			
13. Paroled to	School	67	88	200	Yes	Yes
	Work	33	12			
14. Previously in boarding school	Yes	7	18	200	Yes	No
	No	93	82			

8. Development of the Recidivist Prediction Checklist

An examination was made of the 14 items which proved to be statistically significant at the conclusion of the second administration. Items 9 and 12 were found to be basically the same and it was decided to combine them into one item. Further study led to the decision to eliminate all items which failed to meet the test of significance at the .01 level of confidence. This figure implies that the results obtained will hold true 99 out of 100 times. Ordinarily, an exploratory study such as this might be done utilizing the .05 level of confidence. However, because of the nature of the checklist and its planned use, it was felt more desirable to apply more stringent tests of significance to strengthen the final checklist.

As a result of this process of selection, ten items remained of the original 163 to comprise the final experimental form of the recidivist prediction checklist. A prediction table was constructed from these ten items which would provide a method for differentiating between boys with and without recidivistic tendencies. The final experimental instrument is shown in Appendix B.

9. Testing the Final Instrument

The final refined experimental form of the recidivism prediction checklist was tested on the third group of boys to validate the instrument. The third group was comprised of 100 boys who were paroled from Lyman School for Boys during the period from August 1, 1958 to December 1, 1958. The August 1st starting date was selected so that the majority of the test period would occur within the times that the public schools would normally be open. The selection of the group was not at random. Instead, with the exception of those boys who were already recidivists, the first 100 boys paroled during this period were selected as the validation group.

Data sheets were prepared on each of the individuals concerned, and the results tabulated on each boy. Then a minimum waiting period was started, at the end of which an examination would be made of each individual to see whether he was a success or failure, based on the definitions arrived at earlier in the study. At the cut-off date, the data sheets were separated into recidivist and non-recidivist groups, and a statistical analysis was made of each item to see whether or not it successfully predicted the outcome.

A minimum of eight months beyond the date of release was used for the testing of the original obtained data. Of the group of 100, all were on parole at least eight months, 73 per cent were on parole at least nine months, 53 per cent were on parole at least ten months, and 33 per cent were on parole at least eleven months. The length of this trial period appears defensible for the following reasons:

1. Studies done elsewhere seem to reveal that an eight-month cut-off period takes in a large proportion of individual recidivists. In California^{4/} it was found that at least 50 per cent of first paroles which ultimately failed, failed by the eighth month. Mannering^{5/} found in Wisconsin that an average of 26 per cent of parolees fail within six months. In Washington, Mueller^{6/} stated that of 87 boys returned from placement in 1957, the average length of stay on parole was 154 days, or approximately five months.
2. Using the 200 cases from the first two groups utilized as samples for this study, it was found that of the random sample of recidivists during a four-year period that:
 - a. 46.5 per cent returned in six months or less
 - b. 57.5 per cent returned in nine months or less
 - c. 75.5 per cent returned in one year or less
 - d. 97.5 per cent returned in two years or less.

Thus it was felt that an eight-month cut-off point provided sufficient time to test an instrument devised for an exploratory study such as this.

^{4/}Bureau of Criminal Statistics, Delinquency and Probation in California 1956, Annual Report to the Department of the Youth Authority, California State Printing Office, Sacramento, California, 1957.

^{5/}John W. Mannering, Unpublished memorandum dated November 19, 1957, Bureau of Research and Statistics, Department of Public Welfare, State of Wisconsin.

^{6/}Paul Mueller, Unpublished letter dated December 4, 1957, Department of Institutions, Division of Children and Youth Services, State of Washington.

10. Summary

In order to try to develop an accurate instrument for the prediction of recidivistic tendencies among institutionalized male juvenile delinquents being paroled for the first time from a state training school, a study was made of 500 boys from the Lyman School for Boys, Westboro, Massachusetts. A preliminary list of 163 items was compiled, on which 100 recidivists and 100 non-recidivists were compared. Thirty-one items showed significant differences between the two groups and were reapplied to a second group of 100 recidivists and 100 non-recidivists. Statistical treatment revealed 14 items which showed significant differences between the two groups. Of these, ten met the test of significance at the .01 level of confidence and formed the framework for the experimental form of the recidivism prediction checklist. This form was administered for validation purposes to 100 boys being released from Lyman School during a four-month period, and an eight-month waiting period was completed before the results were tabulated and analyzed.

CHAPTER IV

ANALYSIS OF THE DATA

At the conclusion of the minimum eight-month waiting period, a study was made of the 100 members of the experimental group. Previous studies based on similar populations had shown an approximate figure of 45 per cent for recidivism among first paroles. Of these recidivists, 46.5 per cent had returned in six months or less. With these figures in mind, the expectation was for an approximate total of twenty boys to return out of the experimental group. In addition, it was felt that the variables used on the checklist, previously proven statistically significant, would serve to differentiate between the two groups.

The study of the experimental group revealed the following results: Of the original group of 100 boys released for the first time, two had been discharged from parole because they were originally school offenders and had reached the age of sixteen; five had appeared in court for various offenses, but had not been returned to the training school; and nineteen were returned to the training school as failures on parole. Thus, of the original group, only nineteen returned within the control period.

The experimental group was then separated into recidivists and non-recidivists, according to the original definitions used for the purposes of this study. The data sheets were examined to see whether

or not any statistically significant difference appeared between the two groups on the items on the check list. Each individual had originally been rated on ten items at the time of parole, and checks placed in a success, failure, or question column. Thus, the maximum number of checks in the success column was ten, in the failure column ten, and in the question column six.

When the results were tabulated, it was expected that the successes would include primarily those individuals with a predominant number of checks in the success column, while the failures would include those with a predominant number of checks in the failure or question columns. Table 5 shows the final breakdown of individuals based on the number of checks in the success column.

Table 5. Final Analysis of Success Checks among Experimental Group

Total Number Success Checks	Final Successes	Final Failures
10	1	0
9	11	1
8	19	5
7	8	3
6	5	1
5	10	4
4	14	2
3	7	1
2	6	2
Total	81	19

An examination of the information contained in Table 5 quickly indicated that two conclusions seemed in order. First, it was impossible to establish a critical or cut-off score on the check list for

prediction purposes. Second, it appeared that the recidivism prediction check list failed in its primary purpose--i.e., to distinguish between recidivists and non-recidivists from a prediction standpoint. By inspection, there was no significant difference between the two groups. There was no question about the fact that the items on the check list showed significant differences between the original validation groups. However, on the basis of the final results, it can only be concluded that there are apparently other factors that play an influential role in affecting recidivism. This point will be discussed further in the following chapter.

Summary

At the end of the control period, an examination was made of the experimental group of one hundred boys released for the first time. Of this group, eighty-one were found to be successes, and nineteen to be failures according to the original definitions used for this study. By inspection, a comparison of the two groups on the various items of the recidivism prediction check list failed to reveal any significant difference between the two groups. Thus, it is assumed that the prediction check list failed to predict successfully.

CHAPTER V

FINDINGS AND CONCLUSIONS

The major findings resulting from this research project are:

1. Research reveals that almost all training schools for juvenile delinquents seem to be faced with the problem of recidivism among their parolees.
2. Few studies were found that distinguished between recidivists and non-recidivists, or that found statistically significant differences between the two groups which might be used for the purpose of constructing an instrument for the prediction of recidivism.
3. Criteria can be established to satisfactorily identify boys paroled from a training school as either recidivists or non-recidivists.
4. Boys who fell into the recidivist group differed significantly from those in the non-recidivist group in the following characteristics:
 - a. Height
 - b. Mother's age at time of boy's commitment
 - c. Age at time of first court appearance
 - d. Age at time of commitment
 - e. Age at time of arrival at training school
 - f. Age at time of parole.
 - g. School grade completed

- h. Father's record (ever in jail)
 - i. Number of times in discipline cottage.
 - j. Type of parole (work or school).
5. There apparently are other significant factors which enter into recidivism which did not emerge during this study; i.e., any prediction instrument for recidivism cannot be based on only the above ten significant characteristics.
6. These other possibly significant factors may be found in the emotional and psychological areas which were not included in the scope of this study.

1. Implications for the Field of Juvenile Delinquency

It is readily obvious that much additional study is needed in the field of recidivism. The success of a training school rehabilitation program can be measured only partially in terms of the rate of success among the paroles from the institution. The seeds of recidivism may be found within the psychological framework of the individual, within the practices of a training school, or within the parole practices of any given state.

There is no question about the desire and the need to reduce the rate of recidivism among juvenile delinquents, particularly from the viewpoints of cost and the adult criminal population. It is hoped that the characteristics shown to be significant in this study may be of help to individuals concerned with research in the field of delinquency, and that they may point the way toward the eventual development of a

satisfactory instrument for the prediction of recidivism among juvenile delinquents.

2. Limitations of the Study

The conclusions and interpretations of this research project are subject to the following limitations:

1. Subjects involved in the study were identified as juvenile delinquents in terms of legal statutes of the Commonwealth of Massachusetts.
2. The delinquent boys involved in the study were part of a group ranging in age from twelve to sixteen. Since the age range for all juvenile delinquents in Massachusetts is seven to seventeen, it would appear that the mean chronological age of the study group differs somewhat from the mean age for all delinquents.
3. Local conditions at Lyman School for Boys may have a specialized effect upon the boys resident there, which may not be typical or representative of the effect training school experience has upon delinquent boys elsewhere.
4. Items selected for the initial form of the recidivism prediction check list included none from the emotional and psychological areas of the individual, with the exception of those few that were purely factual in nature.
5. The cut-off period selected for the final experimental group may have been too brief to present a true picture of the prediction check list; i.e., a truer picture might have been obtained by waiting until each individual in the final group had

either been discharged from parole or had failed. Thus, instead of a cut-off period of ~~five~~^{eight} months, a period of three years may have been more indicative.

6. Information for the items on the check list was drawn in part from social histories compiled by experienced juvenile parole agents of the Boys' Parole Branch, Division of Youth Service. Not all of these histories were complete. The training of the agents is vastly different, so that the comparative reliability of the information contained in their case histories may be questioned. Information that might have had possible significance in the study was not always included.

3. Suggestions for Further Research

As a result of this research project, a number of problems for further investigation have suggested themselves. These include:

1. A follow-up study of the final control group in terms of the items on the final form of the prediction check list to determine the final disposition of each case, and its relationship to original prediction check list.
2. A study designed to identify other variables which might be used as the basis for more valid prediction techniques for the identification of potential recidivists.
 - a. A study of differences between recidivists and non-recidivists based on emotional and psychological factors not included in this study.

- b. A study of differences between recidivists and non-recidivists based on responses to some type of personality-evaluation technique.

4. Summary

The original hypothesis tested in this research project may be stated thus:

It may be possible to develop a valid prediction instrument comprised of selected statistically significant items for the purpose of identifying potential recidivists among institutionalized delinquent boys.

On the basis of the results of this study, the hypothesis is still in doubt.

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APPENDIX A

Frequency Distribution and Significance of Items on Preliminary Checklist Which Failed to Meet the .05 Level of Confidence

Item	Alternative	NR	R	Chi Square
1. Hearing	Good	96	99	B.I.*
	Poor	4	1	
2. Vision	Good	77	86	2.12
	Poor	23	14	
3. Child large for age	Yes	23	20	.09
	No	77	79	
4. Premature birth	Yes	4	1	.82
	No	96	99	
5. Enuretic	Yes	10	16	1.11
	No	90	84	
6. Tattoos	Yes	0	0	B.I.
	No	100	100	
7. Physical defects	Yes	2	9	3.46
	No	98	91	
8. Birthmarks	Yes	0	0	B.I.
	No	100	100	
9. Previous serious operation	Yes	0	2	B.I.
	No	100	98	
10. Previous head injury	Yes	5	14	3.72
	No	95	86	
11. Speech defects	Yes	2	2	B.I.
	No	98	98	
12. Use of tobacco	Yes	68	68	B.I.
	No	32	32	
13. Use of alcohol	Yes	5	2	.59
	No	95	98	
14. No grades repeated	None	44	35	1.21
	1+	56	64	

*By inspection

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Item	Alternative	NR	R	Chi Square
15. No. years educ. retarded	None	40	35	.28
	1+	60	64	
16. Special class student	Yes	10	21	3.70
	No	89	79	
17. Scholarship	Good	9	8	B.I.
	Fair	40	33	
	Poor	51	58	
18. Attended public school	Yes	84	85	B.I.
	No	16	15	
19. Attended parochial school	Yes	3	8	1.54
	No	97	92	
20. Attended grade school	Yes	10	7	.26
	No	90	93	
21. Attended disc. school	Yes	3	3	B.I.
	No	97	97	
22. Non-school attender	Yes	5	1	1.55
	No	95	99	
23. No. months between leaving school and commitment	None	95	99	1.55
	1+	5	1	
24. School disc. problem	Yes	40	44	.18
	No	60	56	
25. Both natural parents at home	Yes	40	40	B.I.
	No	60	60	
26. Mother only parent at home	Yes	21	28	.97
	No	79	72	
27. Father only parent at home	Yes	4	3	B.I.
	No	96	97	
28. Natural parent and step-parent at home	Yes	27	16	2.96
	No	73	84	

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Item	Alternative	NR	R	Chi Square
29. Broken home w/o both natural parents	Yes	57	60	.08
	No	43	40	
30. State ward	Yes	5	3	.13
	No	95	97	
31. Home broken by death	Yes	6	12	1.53
	No	94	88	
32. Home broken by separation	Yes	12	9	.21
	No	88	91	
33. Home broken by divorce	Yes	29	27	B.I.
	No	71	73	
34. Home broken by desertion	Yes	13	13	B.I.
	No	87	87	
35. Stepmother present in home	Yes	4	4	B.I.
	No	96	96	
36. Both parents of same religion	Yes	90	92	B.I.
	No	10	8	
37. Both parents of same race	Yes	99	98	B.I.
	No	1	2	
38. Father alive	Yes	89	87	B.I.
	No	9	11	
39. Father's health good	Yes	77	78	B.I.
	No	21	19	
40. Father's occupation	DOT 6 down	49	45	.09
	DOT 7 up	48	50	
41. Father's work record steady	Yes	64	67	.39
	No	34	28	
42. Father with court record	Yes	37	44	.87
	No	61	53	
43. Father's birthplace	Foreign	10	13	.22
	Native	88	84	

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Item	Alternative	NR	R	Chi Square
44. Father previously married	Yes	5	6	B.I.
	No	93	91	
45. Father's use of alcohol more than moderate	Yes	33	27	.53
	No	65	70	
46. Mother alive	Yes	98	96	B.I.
	No	2	3	
47. Mother's health good	Yes	89	94	1.64
	No	11	5	
48. Mother's occupation	Housewife	61	71	2.43
	Other	39	27	
49. Mother working	Yes	38	27	2.00
	No	62	71	
50. Mother with court record	Yes	12	19	1.52
	No	88	79	
51. Mother ever in jail	Yes	5	6	B.I.
	No	95	92	
52. Mother's birthplace	Foreign	10	4	1.87
	Native	90	95	
53. Mother previously married	Yes	4	8	.83
	No	96	91	
54. Mother's use of alcohol more than moderate	Yes	12	7	.84
	No	88	91	
55. Only child	Yes	19	13	.93
	No	81	87	
56. Stepsiblings present in home	Yes	21	22	B.I.
	No	79	78	
57. Siblings with court records	Yes	15	24	2.04
	No	85	76	
58. Type of siblings' offenses	None	87	78	1.82
	Other	13	21	

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Item	Alternative	NR	R	Chi Square
59. Subject illegitimate	Yes	12	12	B.I.
	No	88	88	
60. Religion	Catholic	70	80	2.16
	Other	30	20	
70. Church attendance	Regular	46	49	.08
	Irregular	54	51	
71. Confirmed	Yes	37	33	.25
	No	62	67	
72. Baptized	Yes	78	87	2.22
	No	22	13	
73. Birthplace	Foreign	1	0	B.I.
	Native	99	100	
74. City over 100,000	Yes	46	51	.32
	No	54	49	
75. City 50,000 to 100,000	Yes	13	9	.46
	No	87	91	
76. City 10,000 to 50,000	Yes	24	31	.90
	No	76	69	
77. Rural--under 10,000	Yes	17	9	2.17
	No	83	91	
78. Neighborhood quality	Good	42	33	B.I.
	Fair	39	37	
	Poor	18	30	
79. Home owned	Yes	36	25	2.37
	No	63	74	
80. Home rented	Yes	63	74	2.37
	No	36	25	
81. Single-family house	Yes	36	27	1.49
	No	63	72	
82. Apartment	Yes	62	72	1.87
	No	37	27	

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Item	Alternative	NR	R	Chi Square
83. Housing project	Yes	9	13	.46
	No	90	86	
84. Living with relatives	Yes	1	5	1.55
	No	99	95	
85. Living in foster home	Yes	4	5	B.I.
	No	96	95	
86. Living in other placement	Yes	4	0	B.I.
	No	96	100	
87. Runaway from home	Yes	22	23	B.I.
	No	78	77	
88. Previously placed on probation	Yes	39	52	2.90
	No	61	48	
89. Previously received suspended sentence	Yes	38	44	.74
	No	62	55	
90. Previously in county training school	Yes	2	2	B.I.
	No	98	98	
91. Previously observed in mental hospital	Yes	4	11	2.59
	No	96	89	
92. Previously in detention center	Yes	16	24	1.53
	No	84	76	
93. Season commutable offense occurred	Fall	31	21	B.I.
	Winter	28	33	
	Spring	21	30	
	Summer	20	16	
94. Commutable offense while on probation	Yes	39	46	.74
	No	61	54	
95. Commutable offense while on suspended sentence	Yes	37	42	.33
	No	63	58	
96. B. C. commitment	Yes	0	1	B.I.
	No	100	99	

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(concluded)

Items	Alternative	NR	R	Chi Square
97. Length of stay in reception cottage	2 weeks	57	66	1.35
	3+	43	34	
98. Trade at time of parole	Yes	49	39	1.64
	No	51	61	
99. General adjustment to rules	Good	67	53	B.I.
	Poor	33	43	
100. Weekends allowed	Yes	68	78	1.48
	No	30	22	
101. No. cottages lived in after reception cottage	1	53	47	.50
	2+	47	53	
102. Returned to family	Yes	86	86	B.I.
	No	14	14	
103. Returned to relatives	Yes	4	6	B.I.
	No	96	94	
104. Returned to foster home	Yes	3	4	B.I.
	No	97	96	
105. Returned to work placement	Yes	7	4	B.I.
	No	93	96	

Item	Mean		Total Mean	Critical Ratio
	NR	R		
106. Wechsler Full Scale I.Q.	90.82	89.99	90.41	.21
107. Wechsler Verbal Scale I.Q.	87.25	86.62	86.94	.12
108. Wechsler Performance Scale I.Q.	96.36	95.27	95.82	.27
109. Age at which home first broken (in months)	33.07	38.78	35.89	.68
110. Father's age at present marriage (in months)	303.34	307.16	305.31	.10
111. Mother's age at present marriage (in months)	259.97	268.32	264.28	.77
112. No. of siblings	3.08	3.17	3.13	.06
113. No. of brothers	1.56	1.76	1.66	.67
114. No. of sisters	1.51	1.41	1.46	.24
115. No. older brothers	.88	.78	.83	.34
116. No. younger brothers	.68	.98	.83	3.00
117. No. of rooms	5.32	4.96	5.14	3.23
118. No. of people living in home	5.27	5.61	5.44	1.15
119. No. of court appearances	2.51	2.84	2.68	2.42
120. No. accomplices	1.84	1.54	1.69	.82

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(concluded)

Item	Mean		Total Mean	Critical Ratio
	NR	R		
121. Months committed	6.53	5.92	6.23	1.44
122. Longest no. months between court appearances	7.70	10.77	9.26	3.22
123. Length of stay at reception center (in weeks)	5.16	2.61	4.96	1.14
124. Month arrived at school	6.33	6.25	6.29	.02
125. No. weekends allowed	1.51	1.64	1.58	.47
126. Maximum no. of boys in last cottage	36.82	36.29	36.56	.67
127. Month in which paroled	6.76	6.65	6.70	.06

APPENDIX B

Table 3. Experimental Prediction Checklist

Item	Success	Failure	Question
1. Height	S -- 63 in. up	F -- 60 in. or less	
	?	-- 61-62 in.	
2. Mother's age at time of boy's commitment	S -- 485 mos. up	F -- 457 mos. down	
	?	-- 458-484 mos.	
3. Age at first court appearance	S -- 159 mos. up	F -- 145 mos. down	
	?	-- 146-158 mos.	
4. Age at commitment	S -- 175 mos. up	F -- 160 mos. down	
	?	-- 161-174 mos.	
5. Age arrived at training school	S -- 177 mos. up	F -- 161 mos. down	
	?	-- 162-176 mos.	
6. Age at time of parole	S -- 183 mos. up	F -- 169 mos. down	
	?	-- 170-182 mos.	
7. School grade completed	S -- Grade 7 and up	F -- Grade 6 and down	
8. Father ever in jail	S -- No	F -- Yes	
9. Number of times in discipline cottage	S -- None	F -- At least one	
10. Paroled to	S -- Work	F -- School	