

AN INVESTIGATION OF THE POSSIBILITIES
OF PAROLE PREDICTION THROUGH THE
USE OF FIVE PERSONALITY INVENTORIES

Thesis for the Degree of Ed. D.
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of Education

Victor H. Noll
Major professor

Date February 15, 1955



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AN INVESTIGATION OF THE POSSIBILITIES OF
PAROLE PREDICTION THROUGH THE USE
OF FIVE PERSONALITY INVENTORIES

By

DONALD REID THURSTON

A THESIS

Submitted to the School of Graduate Studies of Michigan
State College of Agriculture and Applied Science
in partial fulfillment of the requirements
for the degree of

DOCTOR OF EDUCATION

Department of Foundations of Education

1954

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ABSTRACT

A review of the literature pertaining to parole prediction revealed that almost all factors previously investigated have been pre-incarceration factors. It seemed that a prediction method should also consider any differences which might exist in the thinking of the prospective parolees at the time they are being considered for parole. Consequently, the purpose of this study was to test one means of discovering whether or not there are differences in the thinking of successful and unsuccessful parolees, and if such differences were discovered, whether or not the nature and extent of such differences would have value as predictors of parole outcome.

To discover whether or not there are such differences, five personality inventories were administered to a group of inmates going on parole. The inventories administered were the Guilford-Martin Inventory of Factors GAMIN, the Guilford Inventory of Factors STDCR, the California Mental Health Analysis, the Johnson Temperament Analysis, and the Minnesota Multiphasic Personality Inventory. A total of 471 inmates from three Michigan penal institutions were tested in this manner.

After all the inmates had been on parole at least one year they were identified as successful if they were under active supervision or had been discharged, or as violators. The successful parolees were divided into two categories, the "best" and the "doubtful."

The significance of differences between mean scores of the three groups on the subtests of the inventories was determined by using the critical ratio of the difference between two means. It was found that both the "best" and the "doubtful" groups are more

masculine in attitudes and interests than the violators; the "best" are more confident than the violators; the "best" are less nervous than the violators; both the "best" and the "doubtful" are more sympathetic than the violators; the "best" are more satisfied with work and recreation than either the "doubtful" or the violators; and both the "best" and the "doubtful" indicate less psychopathic deviation than the violators. The differences on the remainder of the forty-nine traits were not significant.

The responses of one hundred of the "best" parolees, selected at random, were compared with the responses of one hundred of the violators, also selected at random, for each of the items on each of the inventories, by use of the critical ratio of differences between two proportions. There were 132 items that met the criterion of significance adopted for this study, a level of significance of .93 (7%) or higher.

All the complete sets of answer sheets for the sample population were scored using those items. The mean total score of the successful parolees exceeded the total scores of 82 percent of the violators. The value of various cut-off scores was demonstrated. For example, 73.3 percent of those who were successful on parole had scores of 40 or more, and 72.4 percent of those with scores of 40 or more were successful, while 60.4 percent of the violators had scores of less than 40.

The biserial coefficient of correlation between the scores of the successful and nonsuccessful parolees and parole outcome was .638 with a standard error of .044. The Kuder and Richardson reliability coefficient was .872 and the reliability coefficient, according to a formula developed by Froelich, was .895.

The results of this study establish, within the limitations imposed by the techniques used in the study, that there are differences

in the thinking of prospective successful and unsuccessful parolees at the time they are being considered for parole that can be measured objectively, and that these differences do have relationship to parole outcome.

ACKNOWLEDGMENTS

The writer is sincerely grateful to Dr. Victor H. Noll for his constant encouragement and advice in the planning, organization, and writing of this report. Dr. Noll, the writer's major professor, has freely given suggestions and constructive criticisms which have made possible the completion of this study. The writer would also like to thank Dr. Harry Sundwall and Dr. James S. Karslake for their helpful suggestions in regard to the procedure of the study and the statistical analysis of the data. He is also indebted to Dr. Walter F. Johnson for his assistance in the formulation of the study and his guidance during the early stages of the collection of data. The writer also thanks Dr. Cecil V. Millard for his continued interest, his encouragement, and his helpful suggestions.

Thanks are further extended to Earnest C. Brooks, formerly the Commissioner of the Department of Corrections, and to Gus Harrison, present Director of the Department, who gave permission for the study of the inmates under the jurisdiction of the Department and for the use of the facilities of that Department. The writer is also grateful to Warden William H. Bannan, Warden Dr. Garrett Heyns, and Superintendent C. D. Miles, for permitting the use of the facilities of their respective institutions and making available for study the inmates under their jurisdiction. George Bacon, Deputy Warden in charge of the Trusty Division at the State Prison of Southern Michigan, was also very gracious in permitting the inmates under his jurisdiction to take part in the study. Mr. James Silby, Institutional Parole Officer at the Jackson institution, contributed greatly to the study by aiding in the administrative routine during the early stages

of the collection of data. Two of Mr. Silby's inmate clerks contributed much of their time and initiative in the practical administration during the early stages of the study. The writer cannot express too greatly his appreciation to these clerks for their able assistance.

All of the parole officers in the state of Michigan contributed to the study by rating the parolees included in the study who were under their supervision. The parole officers were very prompt and sincere in making these ratings, and many of them have expressed continued interest and encouragement in the study.

Finally, the writer wishes to express his appreciation to his wife, Marge Thurston, for her encouragement, patience, sacrifice, and assistance.

To all of these and to the many others who have encouraged or added a little to the study, the writer wishes to extend his most sincere gratitude.

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CHAPTER I

INTRODUCTION

Purpose of Study

It has frequently been reported that 95 percent of the individuals who enter penal institutions are eventually released. Parole has long been recognized as the best available means for effecting this release. It is inherent in the philosophy of parole that the individual should be placed on parole when he is most ready to take his place as a worth-while member of the community. To this end the emphasis is being placed on the reformation or rehabilitation of the individual, rather than on the punitive aspects of incarceration. The basic assumption in modern penology is that incarceration should prepare the individual for his eventual return to society, should help him and teach him to be a better citizen, a worth-while member of a community.

The effectiveness of the correctional process should result in differences in the thinking of those individuals who are ready for parole and those who are not ready. Many of the authorities in penology feel there are differences in the inmate's attitudinal make-up which would also indicate readiness for parole. Authors of books on criminology state that the individual's attitudes toward authority and toward society, his way of reacting to life's problem, his reactions to stress, and his fundamental temperament, are all basic considerations for parolability. They speak of the emotionally mature individual, the stable person, as being ready for parole.

The sum effect of these factors should result in differences of thinking in the individuals being considered for parole which would indicate the possibility of parole success or failure. A technique for measuring such differences in their thinking and relating these differences to parole outcome would aid considerably in determining when, or if, the individual becomes ready for parole, in terms of his mental readiness.

It is the writer's purpose, in this study, to test one means of discovering whether or not there are differences in the thinking of successful and unsuccessful parolees, and if such differences are discovered, whether or not the extent of such differences will have value as a predictor of parole success or failure.

During the past twenty-five years there have been developed and standardized many instruments whose purpose is the measurement of various aspects of personality and adjustment. It is the writer's intention to use some of these standardized inventories to discover differences in the thinking of successful and unsuccessful parolees. Therefore, the hypotheses to be tested by this study are:

1. There are differences in the thinking of successful and non-successful parolees which can be measured objectively by available standardized inventories.
2. The nature and extent of such differences will have some reliability and validity as predictors of parole success or failure.

Outline of Procedure

Although the procedure of the study is discussed in detail in Chapter III, a brief outline at this time is necessary for the introduction of the study. Five personality and adjustment inventories were selected for administration to a group of inmates about to go on

parole, so that measurements of their thinking at time of parole could be obtained. The five inventories selected were the Guilford-Martin Inventory of Factors GMIN, Guilford's Inventory of Factors STDCR, the Johnson Temperament Analysis, the California Mental Health Analysis, and the Minnesota Multiphasic Personality Inventory. In selecting these inventories an attempt was made to get valid and reliable instruments that would measure a wide range of factors or traits in the most economical manner, both monetarily and chronologically.

After an adequate waiting period the successful parolees and the parole violators were identified. A more exacting classification resulted in three parole categories: the "best" of the successful parolees; the "doubtful" group of the successful parolees; and the violators. An indication of the differences in the thinking of these three parole categories was obtained by applying the Critical Ratio test of significance to the differences in the responses, as indicated by subtest mean scores, of the three groups. A further indication of differences in the thinking of successful and unsuccessful parolees was obtained by an item analysis. The item analysis indicated significant differences between the percentage of responses of successful and unsuccessful parolees on some of the items. The relationship of these differences to parole outcome was determined by comparing the scores of the successful and unsuccessful parolees for the items that had significant differences.

Justification of Study

The possibility of predicting parole success or failure has appealed to many persons. There have been several studies in this field, most of which resulted in the preparation of experience tables,

much like the actuarial tables of insurance companies. The majority of the factors included in these tables was obtained from the parole files of the subjects and is largely in the nature of preincarceration factors. If the aim of the corrective process is the rehabilitation of the inmate, then a prediction technique should give considerable weight to the results of that process. The predictive techniques so far devised include only one or two factors directly related to the effects of the individual's incarceration. Authors of textbooks on criminology and persons faced with the problem of determining parolability have come to believe that predictive techniques must include some determination of the accumulative effects of institutionalization which have taken place within the individual.

The experience tables have given releasing authorities a great deal of information regarding group characteristics of successful and nonsuccessful parolees and have made parole selection much more meaningful than a mere understanding of human nature. However, the information so obtained is based on group experience and can have little meaning for the individual, per se. The parole board or other releasing authority must still relate the information from the experience tables to the prospective parolee and then base the final decision, in part at least, on a judgment of the individual's thinking as it expresses his attitudes, his perception of his role in society, his philosophy of life, his temperament, and other aspects of his psychological make-up. There is a very urgent need for a supplemental aid such as an objective means of determining the inmate's mental readiness for parole.

The writer would like to point out, at this time, that the hoped-for results of this study would serve as a supplement to all other information obtained about the prospective parolee, including the information from the experience tables. The factors included in the



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experience tables will be discussed in detail in the review of the literature, as background information pertinent to this study. However, it is not the purpose of this study to validate those factors or discover additional factors of that nature. Rather, it is hoped that this study will result in a technique that will measure the extent of the inmate's present thinking as it reflects itself in a readiness for parole, at the time he is being considered for such release.

Knowledge of this type would be exceptionally meaningful in identifying those cases which might be released prior to the minimum sentence. The writer does not feel that a justification for early parole is necessary to this study. One who views this problem unemotionally and objectively will realize the logic of releasing as early as possible the individual who has "learned his lesson" and who can be considered as being no longer dangerous to society. This type of knowledge would also aid in identifying the parole violators and repeated offenders who have been returned to prison for some time and for whom there may no longer be a need for continued incarceration. Although previous incarcerations did not prove beneficial in those cases, it might well be that the present sentence has made the difference. An objective means of determining this fact would be a valuable aid in deciding whether it is necessary to pass or continue beyond the minimum of the indeterminate sentence, which is used almost exclusively in Michigan.

Burgess and Sellin expressed the need of continued study in this area and the possibility of the use of standardized tests in the determination of parolability. In their foreword to Ohlin's recent work, they stated:

Everyone recognizes that the prisoner's attitude is important. Especially significant are clinical studies to find out the prisoner's motivations and any personality problems which may interfere with his reformation. Intensive study is needed to probe

into his subjective life. Such study is most rewarding when the man first enters prison and during the period preceding his becoming a member of the prison community. A favorable situation is the diagnostic depot where he is detained for study in order to determine the most suitable placement for him in the institution. At present also there are a growing number of personality tests applicable to the study of criminals. Statistical predictive instruments in their present form do not take account of the data obtainable by such interviews and by personality tests. This material should be used in conjunction with the findings of statistical prediction.¹

A few pages later they ask:

What is the predictive value of personality tests of the available standardized forms? May not personality tests especially suited to the study of the criminal and of his rehabilitation be devised?²

Definition of Terms Used

"Parolability." Experience and research have taught that there are a great many factors which are likely to determine the probability of the inmate's making a successful adjustment on parole. The weight or importance of each of these factors must be determined on an individual basis. Parolability is the term commonly used to denote this complex of factors.

"Technical violation." Before an inmate is paroled, he signs the Certificate of Parole, a copy of which he retains as his own. This document contains a list of parole conditions which have been read to him and discussed with him. If he violates any of these conditions,

¹ Ernest W. Burgess and Thorsten Sellin, Introduction, Lloyd E. Ohlin, Selection for Parole (New York: Russell Sage Foundation, 1951), p. 15.

² Ibid., p. 17.

he is in technical violation of his parole. A duplication of this part of the parole certificate is reproduced in Appendix A.

"Recidivist." A repeating offender, one who has been committed to a penal institution for the second or more times is labeled a recidivist, in penological literature. In general usage this term refers to anyone who relapses into a former state or condition.

"Offense." The term "offense" is usually used to denote the crime or criminal act with which an individual has been charged. In parole prediction the term is sometimes used to denote the category which includes a comparison of the crimes or charges for which individuals have been committed to penal institutions.

"Alienist." One skilled in the study or treatment of insanity and mental disorders was termed an alienist in earlier times. The use of the term has been largely replaced by the term "psychiatrist" in present usage.

Preview of Organization

Chapter II contains a review of the literature pertinent to this study and a further justification for the study. The procedure and techniques involved in the study are discussed in Chapter III with pertinent information regarding the sample population. Five standardized tests were used in this study. The subtest scores of successful and unsuccessful parolees were analyzed by use of the critical ratio. The results of this analysis are discussed in Chapter IV. The items of the five inventories were subjected to an item analysis. The item analysis, the items for which significant differences were found, their application, and their validation are discussed in Chapter V. The summary, conclusions, and recommendations are presented in Chapter VI.

CHAPTER II

REVIEW OF THE LITERATURE

A little over 100 years ago the concept of parole for adult offenders was first being introduced to the United States. Parole originated in Europe, where it was known as conditional liberation, and was used as early as 1835 in Spain. However, the concept of parole was not generally accepted in the United States for some time, and it was not until just before the turn of the century that legislatures began passing parole laws. Parole, used in a manner comparable to present-day parole administration, had its beginning in this country in 1876 when the Elmira Reformatory in the state of New York was first opened. The statute establishing the Elmira Reformatory also provided for release by parole. By 1900 twenty states had accepted parole, and by 1910 thirty-two states and the federal government had adopted a parole system.¹ Release figures for 1953 show that there were paroles during that year in every state.² During 1953, 54.8 percent of all releases from penal institutions were by parole.³

¹ United States Department of Justice, The Attorney General's Survey of Release Procedures, Vol. 4, "Parole" (Washington: Government Printing Office, 1939), pp. 1-21.

² United States Department of Justice, National Prisoner Statistics, No. 11 (Washington: Government Printing Office, July, 1954), p. 4.

³ Ibid., p. 4.

In Michigan, parole accounted for 81.9 percent of the total releases during the same year.⁴

The reader may wonder why Michigan's parole rate is so much above the national average. Actually, Michigan was seventh highest in the nation in percentage of total releases by parole in 1953. Washington was highest with 99.5 percent, followed by New Hampshire, Colorado, Ohio, Utah, and California, in that order. At the other extreme are South Carolina with 5.1 percent and Oklahoma with 7.5 percent. There were only two states in the entire South that were at or above the national average.⁵ A major reason for such large differences in type of release from penal institutions is found in the type of sentence employed by the various states. In Michigan, for example, all prison sentences are of an indeterminate nature, with a minimum and a maximum, except life sentences and contempt of court sentences. Consequently, most of the releases are by parole. On the other hand, most of the southern states, and some of the others, make quite extensive use of the definite sentence, a rather short sentence much like a jail term. In many of these states an individual convicted of an offense for which he would go to prison in Michigan is sentenced to a county work camp for a number of months or years.

It is not the purpose of this paper to discuss the pros and cons of parole. The fact remains that 95 percent of the inmates are going to be released under one plan or the other, and the question is

⁴ The writer is indebted to Ayres Raymond, Director of Research for the Department of Corrections, and to Harold Kachelski, Assistant Director of Research, for these and all other figures related to Michigan's parolees.

⁵ United States Department of Justice, National Prisoner Statistics, op. cit., pp. 3-4.

whether or not it is better to release them outright or to have them under supervision for a period and to help them in their adjustment to society. The salient fact for this study is that parole is the most common form of release in the United States today, and as such there is need for studies that will aid paroling authorities in their decisions regarding the parolability of an individual.

Since the concept of parole is so young in this country, it is not surprising, then, that the research in the prediction of parole outcome has all been within the past thirty years. This chapter will review the parole prediction research reported in the literature. The review will discuss all the studies which have appeared in that literature, so far as the writer has been able to locate them, reporting parole prediction investigations or investigations in regard to factors related to parole success or failure.

In most of the studies that follow, a given factor is divided into subgroups or subclasses so that varying degrees of relationship to parole success or failure might be determined. In the factor of "misconduct during incarceration," for example, there might be just two subgroups; i.e., none and misconduct. On the other hand, a factor such as "age at time of parole" might have several subgroups such as under 18, 18 to 20, 21 to 22, 23 to 25, 26 to 30, 31 to 35, 36 to 40, and over 40. The subgroupings are decided upon by the individual investigators and sometimes an author reports trying several groupings in an attempt to obtain the most significant results. In some cases, however, the author reports his findings without giving detailed information regarding his subgroups.

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Previous Parole Prediction Research

Early studies. In 1923 Warner⁶ published the results of a study of the records on parole of ex-inmates of the Massachusetts Reformatory. He examined the records of 300 parolees who had been successful parolees, 300 who had violated parole, and 86 inmates who were not granted parole but were required to serve their maximum terms within the reformatory. Warner stated that an inmate was declared a success if he did not violate the conditions of his parole. Warner investigated the factors considered by the Board of Paroles in reaching its decisions, and the potential value of other items available to the board but not utilized. There was a total of sixty-four factors investigated. His conclusions were that only recidivism and offense are true criteria, and that the only item not then used which might have prognostic value was the alienist's report.

Warner's study appears to be the first of its kind published and it created a great deal of interest. A few months after the appearance of Warner's study, Hart⁷ published a criticism of the techniques used by Warner. Hart pointed out that no tests of significance had been applied in Warner's study. Hart then used Warner's data and tested the significance of relationship by computing the critical ratio of the difference between percentages, using the percentage for the factor and the average success rate. This was a technique which he admitted had not yet come into general use except among

⁶ Sam B. Warner, "Factors Determining Parole From the Massachusetts Reformatory," Journal of Criminal Law and Criminology, 14:172-207, August, 1923.

⁷ Hornell Hart, "Predicting Parole Success," Journal of Criminal Law and Criminology, 14:405-414, November, 1923.

professional statisticians. Hart next made a table of factors significant at the 1 percent level, arranged in order of decreasing success rate. The average rate of success was 49.75 percent. The factors found by Hart to be significant at the 1 percent level, with the success rate of the individuals with that factor in their histories, follow:

| | |
|--|-----|
| 1. Partly support unnamed persons | 88% |
| 2. Convicted of assault and battery | 77% |
| 3. Occupation 'none' | 75% |
| 4. No previous criminal record | 73% |
| 5. Accidental offender | 72% |
| 6. Steadily employed | 61% |
| 7. 'Responsible' and 'normal' offender . . | 58% |
| 8. Men using cigarettes | 44% |
| 9. Men convicted of fraud | 43% |
| 10. 'Bad' associates | 43% |
| 11. Men convicted of larceny | 43% |
| 12. Six or more misconducts | 41% |
| 13. Served one or more jail terms | 40% |
| 14. Men convicted of breaking and entering . | 39% |
| 15. Parents own property | 39% |
| 16. Reported regular church attendance | 38% |
| 17. Reform school records | 36% |
| 18. Uses drugs | 22% |
| 19. Mother drank | 20% |
| 20. Father served jail sentence | 6% |
| 21. Mother arrested or jailed | 0% |

Hart suggested that:

In order to profit by past experience as summarized in table I and as reinforced by other available data, so as in the future to parole as large a fraction as possible of the men who will succeed and as small a fraction as possible of the men who

will violate their paroles, all of the information under the questions which have been proved to be significant should be combined into a prognostic score for each man coming up for parole.⁸

Hart's suggestion of a prognostic score and his procedure of determining the significance of the difference between the success rate of various factors and the average success rate, or in some cases the violation rate or failure rate, has been the basis for the procedure in many of the more recent investigations.

A Wisconsin study. Apparently the articles by Warner and Hart served as impetus to additional studies. Although the first of the additional studies was not reported until four years after Hart's report, there were four investigations from four different localities reported within a few years of each other. The first of these was a report by Witmer⁹ dealing with Wisconsin subjects.

Her sample included parolees from the Wisconsin State Prison and the Wisconsin State Reformatory. The prison sample included 214 successful parolees and 116 violators who were paroled between June of 1918 and February of 1921. The reformatory sample consisted of 229 successful parolees and 48 violators paroled between June of 1921 and January of 1925. The criterion of success, as described by Witmer, was abiding by the rules laid down by the parole board for conduct on parole, as indicated by not being returned to penal institutions during the parole period. Witmer found that 88 percent of the violations were within six months after parole. She also reported that half of those who remained on parole longer than

⁸ Ibid., p. 411.

⁹ Helen Leland Witmer, "Some Factors in Success or Failure on Parole," Journal of Criminal Law and Criminology, 18:384-403, November, 1927.

six months before violating did so by committing new offenses. The majority of the violations within the six-month period were technical violations.

All of Witmer's data were obtained from the parole files. No tests of significance were cited and, apparently, her conclusions of "little," "slight," and "greater" differences were the results of a comparison of the percentages of the violation rate of the subgroups studied in each factor. Those factors that Witmer concluded showed little difference in rate of violation were:

1. Previous occupation.
2. Lengths of sentence.
3. Marks received in reformatory (demerit marks).

The factors resulting in slight differences were:

1. Age at time of parole. The younger parolees had a higher rate of violation.

2. Marital condition. The single parolees had a higher rate of violation.

3. Use of alcohol. Witmer found a slightly higher violation rate for those who were reported to use alcohol.

4. Previous record. Those with no previous record had the highest parole success rate.

5. Offense causing commitment. Those individuals convicted of offenses against property had the highest violation rate. Fifty percent of the failures had been convicted for burglary, forgery, and larceny.

6. Grades in school (reformatory only). Those with higher grades made slightly better parole records.

7. Type of community to which paroled (reformatory only). Farm placements resulted in high rate of violation, usually abscondance. Paroles to Milwaukee also resulted in a higher

rate of violation. Parolees in small cities made the best records.

Greatest differences in violation rate were found in three factors, which were.

1. Superintendent's recommendation. A favorable recommendation by the superintendent showed a "high correlation" with parole success.

2. Occupation on parole (reformatory only). Those who had worked on farms previously and were returned to farms had a high success rate. There were more successes for those who found employment that was simpler than the employment previous to incarceration.

3. Monthly earnings. The violation rate decreased as the monthly earnings increased.

Witmer concluded her report with the finding that only 3 percent of the total number of parolees violated by committing new offenses and that very few of these were of a serious nature. Witmer was not attempting to establish a prediction technique and made no conclusions in that regard.

A New Jersey study. A year later Borden¹⁰ reported at study that he said was inspired by the articles of Warner and Hart. His subjects were 263 consecutive parolees, aged 17 to 35, from a reformatory for young men. At the time of publication, Borden was Director of Statistics of the Department of Institutions and Agencies of New Jersey. However, the name of the institution is not given.

¹⁰ Howard G. Borden, "Factors for Predicting Parole Success," Journal of Criminal Law and Criminology, 19:328-336, November, 1928.

These subjects were paroled between July 1, 1923, and June 30, 1924. The data were collected in August of 1925. Borden describes the successful as those who were still succeeding on parole over a year after release or who had completed parole. The failures are described as those who were returned to an institution for either a misdemeanor or a felony. Absconders are not included in either group and Borden makes no mention of technical violators.

Borden's findings are reported in a table which shows "the coefficient of correlation with parole success using no correction for coarseness of distribution." He listed each factor and followed it with an item in parentheses, as listed below. However, he makes no further elaboration of the meaning of the items in the parentheses; consequently, it is assumed that the coefficients of correlation indicated for the factors listed in the direction of the items indicated by the parentheses. Support for this assumption is found in Borden's discussion of intelligence, which is quoted below. However, because Borden does not make his meaning clear, there would be serious question regarding any of the writer's conclusions based on Borden's study. Therefore, Borden's findings are reported, but no conclusions will be drawn from his study in the remainder of this chapter.

| | |
|--|------|
| Age at parole (Older) | .021 |
| Nationality (Native white) | .047 |
| Mental age (Lower M.A.) | .131 |
| Intelligence (Lower) | .164 |
| Time lost for offenses in the institution (More) | .027 |
| Conduct in institution (Better) | .030 |
| Industrial rating (Lower) | .138 |
| Grade of training in institution (Higher) | .006 |
| Literacy at admission (Lower) | .085 |
| Literacy at parole (Lower) | .072 |
| Skill required for occupation recommended (Less) | .033 |
| Amenable vs. uncooperative (Amenable) | .118 |
| Active vs. passive (Passive) | .094 |
| Stable vs. unstable (Stable) | .023 |

| | |
|--|------|
| Defective delinquent vs. not (Def. delinquent) | .048 |
| Judgement in parole plans (Good) | .058 |
| Psychologist's prognosis (Favorable) | .161 |
| Percentage of time employed before (Less time) | .115 |
| Arrests (Fewer) | .105 |
| Probations (Fewer) | .072 |
| Commitments (Fewer) | .202 |
| Times at Boys' Home (Fewer) | .068 |
| Times at this institution (Fewer) | .062 |
| Months in this institution (Longer) | .011 |
| Pay on parole (More) | .046 |
| Parole job allied to training (Not allied) | .011 |
| Level of job vs. ability (Above) | .018 |
| Times worked on parole (Steadier) | .419 |
| Urban vs. rural (Rural) | .054 |

Borden points out that several factors can probably be grouped and considered as single factors such as mental age, intelligence, industrial rating, literacy at admission, literacy at parole, and skill for job, all measurements of intelligence. He adds that "the entire group gives evidence that the lower the intelligence the more likely a boy is to succeed." In regard to this finding Borden states:

The rather radical conclusion that intelligence has a negative correlation with success is partially borne out by independent investigations. Carl Murchison points out (in the Journal of Criminal Law and Criminology, August, 1924) that the intelligence level of prisoners in the penal institution is superior to that found in the army tests. It seems highly desirable that one exact investigation should be made on this subject, extending if possible outside of the institutional group, for if this conclusion is confirmed our whole train of thought must be revised.¹¹

Another of Borden's findings should be discussed. In the factor "Percentage of time employed before" the item in the parentheses is "Less time," apparently indicating that the resulting comparatively high coefficient of correlation would be interpreted as meaning that those individuals with the lesser percentage of time employed before

¹¹ Ibid., pp. 330-331.

commitment had a fair degree of relationship with parole success. Borden did not discuss this factor, but apparently did not feel that his finding in this regard was unusual. However, if the writer is correct in this interpretation of Borden's findings, then this is the only study, of those investigating degree of previous employment, where the findings of regularity of employment were not highly related to parole success.

Borden arrived at three variables as having the highest predictive value. They were "Previous commitments," "Psychologist's prognosis," and "Diagnosis of intelligence." The multiple correlation with success was .407, indicating, Borden said, "that prediction is possible with some slight degree of accuracy even with the data at hand."

An Illinois study. About 1927, the governor of the state of Illinois asked the presidents of each of the state's three large universities to appoint a member from each of their faculties to compose a committee to make a study of the operation in Illinois of the indeterminate sentence and of parole. This report was organized into five main parts. Burgess prepared Part IV which is the part related to the problem of parole prediction.¹² Burgess studied the records of 1,000 men paroled from the Illinois State Reformatory at Pontiac, 1,000 men paroled from the Southern Illinois Penitentiary at Menard, and 1,000 men paroled from the Illinois State Reformatory at Joliet. The cases were consecutive numbers of those released

¹² Ernest W. Burgess, "Factors Determining Success or Failure on Parole," Part IV, in the *Workings of the Indeterminate Sentence Law and the Parole System in Illinois*, by Andrew A. Bruce and others, Journal of Criminal Law and Criminology, 19:214-286, March, 1928.

from parole, dating backward in time from December 31, 1924. All had been released at least two and one-half years when the study was made. The average rate of violation for all institutions was 25.7 percent.

The study was undertaken to discover what specific facts about the man and his past history as stated in the record could be related to the fact that he had, or had not, violated parole. The criterion of violation, as described by Burgess, was that the individual had been returned to the institution for violation of the parole regulations or that he had received a new conviction. Conversely, "making good" meant observance of the letter of the parole regulations and refraining from crime until discharged from parole. Twenty-two factors were studied. The factors and Burgess' conclusions in regard to each factor are quoted from the original below:

1. Offense named in indictment. At all the institutions men convicted of sex offense, murder and manslaughter show a relatively low rate for violation of parole while those convicted of fraud, forgery and (except for Pontiac) burglary have disproportionately high rate for violation.

2. Number of associates in crime resulting in conviction. The most significant finding from a consideration of the relation of parole violation to number of associates was the high violation rate (except for Menard) where the offender had no associates, and the surprisingly low violation rate for all three institutions when the convict had three or more associates.

3. National or racial origin. All institutions seemed to show the tendency to find the smallest rate of violations among more recent immigrants like the Italian, Polish and Lithuanian, and to disclose the highest rates of violation among the older immigrants like the Irish, British, and German.

4. Parental status. The percentages of violations of men coming from "broken homes" were higher than the average, while those of the men coming from the better type of home were significantly lower.

5. Marital state. The two prisons show a violation rate higher than the average for single men, and lower than the average for married men. At the reformatory, on the contrary, the married youths exhibit a slightly higher rate of parole violation than the average.

6. Type of offender. The run of the figures clinches the point that the first offender is a "better risk" than the occasional offender, and the occasional offender is a "better risk" than either the habitual or professional criminal. Moreover, the larger half of the first and occasional offenders are technical and minor violators of parole, while the great majority of violations among the habitual and professional criminals are the result of detection in new crimes.

7. The criminal as a social type. The farm boy and the newly arrived immigrant both seem disposed to make satisfactory adjustments under parole. But the hobo, the ne'er-do-well from the city and the older drug addict, all are liable to become parole violators.

8. Size of community. No significant variation from the average in percentage of violations was discovered except a uniformly low rate for those whose homes had been in the open country.

9. Resident or transient in community when arrested. The parole defaulter rate was smaller than the average for actual residents of the community, but much larger for transients convicted of crime.

10. Type of neighborhood. A steady increase in violation rates from residential districts through immigrant areas, furnished apartments, rooming house districts, to Hobohemia and the criminal underworld.

11. Statement of trial judge and prosecuting attorney with reference to recommendation for or against leniency. That this statement should be given consideration may be seen by comparing the violation rate of recommendations and protests as 16.9% compared with 46.7% at Pontiac; 23.7% as compared with 27.6% for Menard, and 16.4% as compared with 31.2% for Joliet.

12. Whether or not commitment was upon acceptance of lesser plea. There seemed to be no appreciably higher rate of violation than where the paroled man had been convicted on the original charge.

13. Nature and length of sentence imposed. The striking conclusion is the low violation rate for flat sentences and (except at Pontiac) for the heavier penalties of 3 to 20 years and 1 year to life.

14. Months of sentence served. In general, the findings were that the longer the period served, the higher the violation rate.

15. Previous criminal record. At both Menard and Joliet a previous reformatory and penitentiary record show high rates of parole violation, while the lack of a criminal record, for all institutions, exhibits a lower violation rate.

16. Previous work record. The very low percentage of parole violation for men with record of regular employment is eloquent in its testimony to regular habits of work as a factor of rehabilitation.

17. Punishment record in prison. At both penitentiaries the inmates who were punished by solitary confinement had an unusually high violation rate, particularly in comparison with the low violation rates of those without recorded punishments.

18. Age at time of parole. The youngest and the oldest have the lowest violation rates according to this analysis.

19. Intelligence according to psychiatric examination.¹³
The most significant finding from this analysis is, probably, the indication that those of inferior intelligence are as likely, perhaps more likely, to observe their parole agreement than are those of average and superior intelligence.

20. Personality type according to psychiatric examination.¹⁴
The figures from Joliet, and to a lesser degree from Pontiac, seem to indicate that the paroled man with egocentric personality pattern faces greater difficulty in social readjustment. Curiously enough, the emotionally unstable seem to have the least difficulty of keeping a clean record under supervision.

¹³ Doesn't indicate how the intelligence rating was determined.

¹⁴ Only three personality types indicated: egocentric; socially inadequate; and emotionally unstable.

21. Psychiatric prognosis.¹⁵ For Pontiac and Joliet, the psychiatric prognosis gives highly satisfactory results. Menard did not have the services of a full time psychiatrist, which may account for the fact that the difference is not as great at that institution.

Burges simply cited figures for Cook County and for the rest of the state as a whole in his discussion of the twenty-second factor, "County from which committed." There was no discussion of significance or relationship to parole outcome.

There was no mention, in the report, of the use of tests of significance. Apparently, the conclusions were determined by inspection and by comparison of the violation rate of the subgroups for each factor to the average violation rate for each institution.

In regard to age at time of parole, Witmer had found that the younger parolees had a higher rate of violation. However, Burgess reports that the youngest and the oldest had the lowest violation rate. Burgess' findings support Hart in that the absence of misconduct is indicative of a high rate of success. However, Witmer's study showed that demerit marks for misconduct showed little difference in violation rate.

It is noted that Hart, Witmer, and now Burgess all reported that the individual with no prior record was more likely to succeed on parole.

Burgess devised an expectancy table indicating the expected rate of parole violation and nonviolation for each of the three institutions according to number of factors on which the inmate was above the average for the 1,000 cases of the institution. He allowed one point for each factor in which the inmate fell into a subgroup where

¹⁵ Only three classifications indicated: favorable; doubtful; and unfavorable.

experience had indicated the violation rate would be lower than the average violation rate, and computed the probability of success or failure on the basis of total points as indicated by like ratings of the 1,000 parolees studied for each institution. Thus, there was an expectancy table for each institution based on the cases studied from that institution. The expected violation rate, based on the experience of the 1,000 parolees studied was computed for each total score, described in this and other reports discussing expectancy tables, as a score-class. On the table for Joliet, for those who scored over 16 points, there were only 1.5 percent who, on the basis of past experience, would be expected to violate their parole. On the other hand, for those who scored in the lowest score-class, from 2 to 4 points, 76 percent could be expected to violate their paroles.

The method of using several factors, which had been found to be related to parole success or failure, for the purpose of parole prediction, and assigning equal weight to each factor, came to be known as the Burgess method, as compared to the Glueck method, which will be discussed below. Other studies will be discussed which are refinements of this method, but usually the system of many factors with equal weights is referred to as the Burgess system, or modified Burgess system.

The first Glueck study. Another study containing material in regard to parole prediction was published about two years later and soon gained as much prominence in the field of parole prediction as the Burgess study. This was the first book published by the Gluecks in regard to their study of the cases of 500 ex-inmates of the Massachusetts Reformatory.¹⁶ The Glueck studies are the only

¹⁶ Sheldon and Eleanor T. Glueck, Five Hundred Criminal Careers (New York: Alfred A. Knopf, 1930), 365 pp.

investigations employing actual follow-up to determine the true success or failure of the subjects. The Gluecks traced and identified 90 percent of those men who had been released between 1911 and 1922. The follow-up study took three years and cost \$11,000. All of the subjects had been released from the institution from five to fifteen years earlier. The Gluecks found that 80 percent had not reformed as indicated by subsequent behavior during the 5- to 15-year period following release from the reformatory.

The Gluecks described the successful as those who had no police, court, or prison record; no dishonorable discharge or desertion from the armed forces; and no commission of individual criminal acts. There were 21.1 percent in this category. The failures from which the violation rates were computed were the "total failures" described by the Gluecks. They were the individuals who had been known to have committed serious offenses, who had the status of fugitive from justice or being wanted for escape; who had deserted or were dishonorably discharged from the armed forces; who were known to have a continual course of minor offenses for which they had somehow escaped arrest or prosecution; who had been convicted of one or more serious offenses; and those who had convictions for more than five charges of drunkenness. There were 62.1 percent in this category.

A third category, the "partial failure" group, included 16.8 percent of the sample. They were those who had been convicted of two minor offenses or who had been arrested for not more than three minor offenses. Also included were those who were arrested for not more than two serious offenses not followed by conviction; or arrested for one serious offense not followed by conviction and not more than two minor offenses not followed by conviction. The partial

failures were not included in the group for whom violation rates were computed.

The Gluecks used the coefficient of mean square contingency as a test of significance and concluded that the following factors were related slightly or not at all to the continuance or noncontinuance of criminality:

1. Nativity.
2. Economic status of parents.
3. Educational status of parents.
4. Nativity of parents.
5. Criminality of parents.
6. Mobility.
7. Religion.
8. Regularity of church attendance.
9. Attitude toward family.
10. Age of leaving home.
11. Age when first employed.
12. Prior occupation.
13. Constructive use of leisure.
14. Frequency of previous arrests.
15. Age at time of sentence.
16. Seriousness of offense.
17. Type of offense.
18. Accomplices.
19. Intelligence.
20. Work record in the reformatory.
21. Number of assignments.
22. Violation of reformatory rules.
23. Length of time in the reformatory.

There were several factors which the Gluecks concluded were appreciably associated with the continuance or noncontinuance of criminality. These were:

1. Economic obligations. Those who were poor in meeting their economic responsibilities had the higher rate of failure.
2. Age of first delinquency. The failure rate decreased from 73.8 percent for those who were under 11 years of age to 44.5 percent for those of 17 or older.
3. Prior arrests. The failure rate of those with no arrests was 32.5 percent as compared with 69.8 percent for those who had been arrested.
4. Previous record. The nonoffender had a high rate of success while the serious offender and the continual minor offender had high failure rates.
5. Previous penal experience. There were more than twice as many failures among those with previous penal experience as there were among those without such experience.
6. Physical condition at entrance. Only twenty-seven had been described as "poor" physical condition but all of them failed in their adjustment.
7. Mental abnormality. A threefold rating of normal, psychopathic, or psychotic. The rate of failure for the psychotic was 87.8 percent, as compared with 75 percent for the psychopathic and 60.6 percent for the normal.
8. Frequency of institutional misconduct. Those with no or occasional misconduct had a much lower violation rate than those described as frequent or very frequent offenders.
9. Seriousness of institutional offenses. Those with minor offenses had a much lower failure rate than those with serious offenses.

The following factor was regarded by the Gluecks as considerably related to continuance or no continuance of criminality:

1. Prior work habits. Those rated as having good work habits were more successful than those rated as fair, while those rated as poor failed more often than the other two groups.

The prediction of parole success or failure, the Gluecks reasoned, should be based on the results of a few factors with a high degree of relationship to future adjustment. They selected seven of the factors they had found to be related to subsequent criminality as the best predictors of parole adjustment. The seven factors included by the Gluecks in their prediction table are the following:

1. Industry preceding sentence.
2. Previous record.
3. Previous arrests.
4. Previous penal experience.
5. Economic responsibility.
6. Mental abnormality on entrance.
7. Frequency of misconduct in reformatory.

The reader might question whether or not "previous record" would not include or cover "previous arrests" and "previous penal experiences." However, in their study and in their prediction tables the factors are considered separately. Thus it would seem that three of the seven predictive factors are probably very closely related.

There were various subgroups for each factor, as in all of the studies, but in this study the percent of the failures for each subgroup was taken as the score for the factor. In other words, the factor was weighted by using the actual failure rate for the subgroup in which the individuals fell on the factor instead of using equal scoring for all factors. For example, the factor "previous record" had four subgroups, as follows:

| | |
|-------------------------------------|-----|
| Nonoffender | 21% |
| Occasional minor offender | 35% |
| Frequent minor offender | 53% |
| Serious offender | 67% |

The figures in the column on the right are the percentages of total failure for each of the subgroups. A prospective parolee who was classified as a serious offender would be scored 67 for this factor, while a nonoffender would receive a score of 21.

The individual's prognostic score was obtained by totaling the percentages of total failure or the failure rates in the different subgroups in which he belonged on the seven factors. This yielded an "indication of failure score" which was interpreted from a table prepared on the basis of the scores for the 500 individuals in this study, which indicated the expected percentages of postparole successes, partial failures, and total failures for various groups of "failure scores." Although the Gluecks had pointed out that this table could be used to advantage by parole boards, it is noted that the table is interpreted in terms of postparole success or failure, as pertaining to the criteria on which it was determined. Those who had scores of 244 to 295, on the basis of this experience, would be expected to include 75 percent successes, 20 percent partial failures, and 5 percent total failures while those with scores of 396 or over should have only 5.7 percent success, with 13.7 percent failure and 80.6 percent total failure.

This method of using only a few highly related factors and weighting them by using the percentage of failure rates for the subgroups has become known as the Glueck method or system of parole prediction.

The Gluecks pointed out that the first six of the seven factors could be utilized by the court at the time of sentencing to aid in

determining what type of sentence would be given. The only additional factor that the Gluecks felt would add to the prediction of parole success or failure, as a result of the institutional experience, was the frequency of misconduct in the institution.

In regard to the question of intelligence and subsequent success or failure, the Gluecks found little or no relationship. Consequently, these findings seem somewhat in agreement with Burgess.

Burgess had also found a high violation rate for the offender who had no associates. The Gluecks found little or no significance in the relationship of number of associates and postparole success or failure.

The Glueck findings that the nonoffender, in terms of previous criminal record, had the highest rate of success of various types of offender supports the findings of previous studies in this regard.

Although the terminology of the subgroups is a little different in regard to the psychiatrist's report than that used in the Burgess study, the finding that those reported as normal had the best rate of success would seem to support the finding of Burgess that a favorable psychiatric report was indicative of parole success.

Hart, Witmer, and Burgess had all found that the parolees who had been convicted of forgery, larceny, and burglary violated their paroles more readily than the other types of offenders. The Gluecks reported little or no relationship between type of offense and subsequent criminality.

A Minnesota study. While the Gluecks were making their investigation, Vold had been studying Minnesota parolees for some time to determine what information in the parole records was of importance as indicators of probable conduct on parole. The cases studied were divided into 542 parolees from Minnesota State Prison and 652

reformatory boys who were under parole supervision from July 1, 1922, to June 30, 1927, and had since been discharged. Vold described the nonviolator as discharged from parole with no record of violation. However, included in the violator category were those who were cited for minor violations but who had not been returned to prison. The results of this study were reported in a book published in 1931.¹⁷ He analyzed forty-nine factors by computing contingency coefficients for the individual factors and outcome on parole. Eighteen factors had C value above .100. They are the following:

| | |
|--|------|
| 1. Previous criminal record | .283 |
| 2. Marital status at time of offense | .241 |
| 3. County from which received | .237 |
| 4. Prison punishment record | .227 |
| 5. Social type of inmate (six-place
classification) | .214 |
| 6. Work habits prior to conviction | .208 |
| 7. Occupation at or before conviction (six-
place scale) | .208 |
| 8. Nature of crime for which convicted | .204 |
| 9. Size and type of community in which
offense was committed | .200 |
| 10. Size and type of community in which
inmate was brought up | .183 |
| 11. Habits and character; whether honest
or dishonest | .179 |
| 12. Habits and character; whether
ambitious or lazy | .173 |
| 13. Habits and character; use of drugs | .149 |

¹⁷ George B. Vold, Prediction Methods and Parole (Hanover, New Hampshire: The Sociological Press, 1931), 135 pp.

| | |
|--|------|
| 14. Institute of Child Welfare classification
of occupation | .145 |
| 15. Habits and character; use of liquor | .145 |
| 16. Mobility of inmate before conviction | .142 |
| 17. Estimate of inmate's mentality (by
prison officials) | .139 |
| 18. Home condition (whether parents are
living, dead, or separated) | .103 |

Vold had described his factors by giving the success rates of the subgroups. He found, as was found in all the studies, that the individual with no previous record was the most successful on parole. Witmer and Burgess had both found that the married parolee was more successful than the single parolee. Vold found an equal success rate for the two categories, both above the average success rate, while it was the separated, divorced, and widowed who were below the average rate of success.

Vold also found, as had Hart, Witmer, and Burgess, that persons convicted of forgery and larceny had a lower success rate on parole than persons convicted of other types of offense. However, contrary to the others, he found that those convicted of burglary had an almost average success rate. It will be remembered that the Gluecks found no relationship in this regard.

Vold is another of those reporting little or no significant relationship between I.Q., as indicated by test results, and parole success or failure. The C value for I.Q. and outcome on parole reported by Vold was .077.

Vold also reported a low C value, .088, for number of associates and parole outcome. The Gluecks had also reported little or no relationship in this regard, while Burgess had found that those parolees who were alone at the time of offending, violated parole at a higher rate than did those who had associates.

Vold concluded that none of the factors showed a very high relationship to parole outcome, but that several of them combined might have predictive value. He devised a Burgess-type expectancy table based on the data for those factors with C values above .100. He also devised a Glueck-type expectancy table from the same data. He reported a coefficient of correlation (r) of .92 between the two methods.

Vold later applied his results, using the Burgess method because he found the Glueck method involved considerably more work, to a group of 282 inmates of the Minnesota State Prison who were paroled between 1927 and 1929. He compared the actual rate of violation to the expected rate of violation for the entire group and found the expected results within 2 percent of the actual results, using a correction to make comparable the violation rates on which the predictions were made. Even without this correction there was only a 4.6 percent error for the actual violations when compared with the predicted number of violations.

The second Illinois study. Clark Tibbitts, following a suggestion of Burgess that one thousand cases might not be a sufficient basis for purposes of practical prediction, studied the cases of three thousand parolees from the Illinois State Reformatory at Pontiac.¹⁸ He added three factors to the Burgess factors: the use of alcohol, the community to which the individual was to be paroled; and last work assignment in the institution. The 3,000 cases covered a period of slightly longer than the seven years from January 1, 1921, to

¹⁸ Clark Tibbitts, "Success or Failure on Parole Can Be Predicted," Journal of Criminal Law and Criminology, 22:11-50, May, 1932.

December 31, 1927. The cases regarded as successful were those that had been discharged from parole. The paroles of the violators had been revoked because of technical violations or because of convictions for new offenses. The violation rate reported was 24.7 percent.

Tibbitts reported coefficients of correlation where they could be computed, but for all of the factors he followed Burgess in the technique of preparing tables of the percentage of violation of the subgroups as compared to the percentage of violation for the total group. The factors studied and a brief statement of the findings follow:

1. Offense named in the indictment. Larceny, burglary, and fraud offenders had a high violation rate. In this study the sex offender had a violation rate of only 8 percent.
2. Number of associates in crime. Much higher violation rate for the "lone wolf," with the rate decreasing as associates increased.
3. National or racial origin. The Negro group showed a greater tendency to violate than any other group. Other groups with high rates of violation were the Austrian, the Irish, and the Russian. Low violation rates resulted for the Greeks, the Lithuanians, the Jugo-Slavs, the Scandinavians, the Czechs, the Jews, the Mexicans, the Italians, and the British.
4. Type of offender. Not only were the first offenders more likely to make good than the others, but almost half the first offenders who violated parole did so by technical violation while nearly four times as many of the habitual and professional offenders violated parole by the commission of new crime as through technical violations.

5. Social type. The farm boy had the best rate of success with the criminal-by-accident quite closely second. The hobo and the ne'er-do-well had the highest violation rates.

6. Place of residence. The table showed almost no difference in the violation rate between those sent from Chicago and from small cities. However, the parolees from the open country and small towns had the best parole records.

7. Mobility in relation to record on parole. The transients have a high rate of violation. Furthermore, the rate of technical violations is almost twice as high for this group as the average.

8. Type of neighborhood in which lived at time of offense. The high violation rate neighborhoods were the underworld, Hobohemia, and the rooming house. The lowest violation rate was for those who lived in a residential neighborhood.

9. Parole community. The rooming house placement resulted in extremely high violation while the farm and residential communities had the lowest rate of violation.

10. Statement of the prosecuting attorney. The recommendation for leniency was most indicative of successful parole outcome while other recommendations resulted in little differences.

11. Acceptance of a lesser plea. In this sample those who were allowed to plead guilty to a lesser offense had a much lower violation rate than those who were not granted that opportunity.

12. Type of sentence. In general the heavier sentences, three to twenty years and ten year to life and two or more consecutive or concurrent sentences, exhibit lower rate of failure, while the very short sentences like the one to five years showed the highest rate of all.

13. Length of time served. In this study, more than a third of those individuals who had served three years or longer violated

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their paroles while the violation rate for those who served eleven months or less was only 13.7 percent.

14. Previous criminal record. Over half of the sample had no previous criminal record and the violation rate among the members of this group was considerably lower than the average for the total group. The highest violation rate was among those who had previous reformatory experience.

15. Working when arrested. Very little difference in violation rates.

16. Previous work record. The violation rate for those who worked regularly was exceptionally low, only 5.6 percent. The rate of violation increased, as the regularity of employment decreased, up to 38.4 percent for those who had no work history.

17. Last assignment in institution. There were more than fifty subgroups, but in general the barbers had the lowest violation rate, with the office clerks, drivers, library clerks, and receiving and discharge boys next lowest. The higher than average rates were found among those unfit for regular assignment, with the furniture factory, the tailor shop, and the print shop next.

18. Punishment record in the institution. Those with no punishment record were 5 percent below the average violation rate while those who had been punished, no matter how often, remained at approximately 8 percent above the violation rate.

19. Age when paroled. In this study it was the younger inmates who succeeded on parole while the highest violation rate was for those of 25 years or over.

20. Mental rating. In this study the inferior and very inferior had the highest rate of parole violation. The method of determining the intelligence rating was not reported, and the ratings were listed

as A through E. Those with the superior rating had a considerably lower rate of parole violation.

21. Personality rating. There were seven classifications used in this study: normal; feeble-minded; ego; inadequate; emotional; sexual; neuropathic; and psychotic. It was interesting to note that only 14 of the 3,000 were listed as normal. As in the Burgess study, it was the emotionally unstable group that had the best parole record. They were 8 percent below the average while the feeble-minded, the ego, the sexual, the neuropathic, and the psychotic were well above the average rate of violation.

22. Psychiatric prognosis. Those with a favorable prognosis had a violation rate of 16.9 percent; those with a doubtful prognosis had a violation rate of 25.6 percent; and those for whom the prognosis was unfavorable violated at a rate of 33.4 percent.

23. Marital status. Seemed to have little bearing, in this study, upon outcome of parole.

24. Use of alcohol. The above comment is also apropos for this factor.

Witmer had reported that the younger parolees violated at the highest rate, while Burgess found the youngest and oldest, at the extremes, to be more successful. Tibbitts found that it was the younger inmates who succeeded on parole, while those of 25 years or more had the highest violation rate.

The finding by Tibbitts of little relationship between marital status and parole outcome is in agreement with Vold, as far as single and married parolees are concerned. It will be remembered that Burgess and Witmer had found married parolees to be more successful than single parolees.

Tibbitts' finding that those with inferior and very inferior intelligence had the highest rate of parole violation while those with

superior intelligence were the most successful is the first finding in this direction. It will be remembered that Burgess, the Gluecks, and Vold had all reported little or no relationship between intelligence and parole outcome.

This is the first report where it was found that the Negro group showed a greater tendency to violate than any other group. The only other report mentioning race was that of Burgess. Although he reported that the Negro group was the second-largest group, next to native-born whites, he found that the success rate of the Negro group was almost average.

Tibbitts' finding that those who had served longer had higher violation rates is support for Burgess' finding in that respect. However, Vold and the Gluecks had found little or no relationship between time served and parole outcome.

Tibbitts also devised an expectancy table for violation and non-violation on the basis of the results of the behavior of his 3,000 sample. However, he modified the method by scoring only those subgroups where the violation rate was more than 5 percent above or 5 percent below the average violation rate. Those subgroups that were more than 5 percent below the average violation rate were given a "favorable" score, while those that were more than 5 percent higher than the average violation rate were scored "unfavorable." The final score consisted of the total favorable and unfavorable points, at a rate of one point for each factor. The table indicated the expected percentage of successes or violators, according to past experience, by score classes. All of the 3,000 parolees of the sample were scored by this method and an expectancy table prepared on that basis. All of the cases with 12 or more favorable points and no unfavorable points would be expected to succeed on parole, while 95.1 percent of those receiving between 10 and 12 favorable points with

no unfavorable points should be successful. On the other hand, only 45.4 percent of those receiving 9 unfavorable points and no favorable points would be expected to be successful, while none of those with 10 or more unfavorable points and no favorable points could be expected to succeed.

A study of federal prisoners. Sanders reports an investigation to determine the validity of parole predictions.¹⁹ He studied the records of 5,912 federal inmates whose sentences were terminated between July 1, 1933, and June 30, 1934. He reported that 89.7 percent had been discharged as successful; that is, no warrants had been issued against them. Sanders analyzed several factors by determining the significance of the difference in the success rate of subgroups and the average success rate. He reported his findings in terms of "favorable" factors, "unfavorable" factors, and those for which no significant differences were found. The factors where the success rate was significantly greater than the average, or the "favorable" factors were:

1. Age 45 or older at time of parole.
2. School through the fourth grade or less.
3. Convictions of the national prohibition act or other liquor laws; bankruptcy, national bank, and Federal Reserve acts.

4. Married.

The factors found to be "unfavorable" were:

1. Conviction of the narcotic and drug act.
2. Conviction for transporting a stolen car over state lines.

¹⁹ Barker S. Sanders, "Testing Parole Prediction," Proceedings of the Sixty-Fifth Annual Congress of the American Prison Association (New York: American Prison Association, 1935), pp. 222-233.

3. Postal burglary, larceny, and robbery.
4. Having served two years or longer.
5. Single or divorced.

Sanders reported that there was no significant relationship between the following and parole outcome:

1. Mental age.
2. Educational age.
3. English age.
4. Arithmetic age.

Sanders joins Burgess, Vold, and the Gluecks, with his finding that intelligence, or mental age, as he reports it, has little or no relationship to parole outcome. His findings also support Burgess and Tibbitts in their conclusions that the longer an individual serves the more likely he is to violate parole. Vold and the Gluecks had reported a lack of relationship in their findings. Although Sanders' offenders are federal offenders, and consequently the nature of the offenses for which they were convicted would be of a different nature than those of state inmates, the general tendency for high violation rates for those convicted of property offenses seems supported by Sanders' findings.

The "favorable" rating for married parolees, as scored by Sanders, is also in agreement with the findings of Witmer and Burgess, who found that married parolees enjoy a high rate of success.

Sanders prepared both the Burgess-type expectancy table and the Glueck-type expectancy table from his data. He scored a second sample, a sample of 2,833 parolees released between July 1, 1934, and December 31, 1934. He reported that statistical tests showed that the differences between expected violation and actual violations for the score classes, according to the Burgess system, could be attributed to chance.

Comparison of the mean success score, as determined by the Glueck method, for the successful parolees and that of the violators did result in a significant difference, but Sanders reported that the distribution of scores indicated that the method would be of little use for prediction.

Two more Glueck studies. In 1934 the Gluecks published two more studies. The first of these was a study of 500 women released from the Massachusetts Reformatory for Women.²⁰ Again, they conducted extensive follow-up investigations, after the women had been released at least five years, to establish the criterion of success or failure. Again, the Gluecks classified their subjects into three groups. There were 15.2 percent who were nondelinquent after release on parole and after expiration of sentence. The second group consisted of those who were delinquent on parole and who reverted to delinquency after expiration of sentence, if never on parole. There were 65.4 percent in the group. The third group behaved well under parole supervision but reverted to unlawful conduct after parole. There were 19.4 percent in this group. Consequently, 84.8 percent had again become delinquent sometime within the five years of their release from the reformatory.

This time, rather than using the coefficient of mean square contingency, the Gluecks determined the degree of relationship of their factors to subsequent adjustment by the amount of deviation from the average nonviolation rate. They studied 153 factors and discovered 15 that they concluded had a high relationship to future conduct. They found that the greatest proportion of those who were

²⁰ Sheldon and Eleanor Glueck, Five Hundred Delinquent Women (New York: Alfred A. Knopf, 1934), 537 pp.

later successful in their adjustment had been nondelinquent previous to their incarceration; made constructive use of leisure and had no bad habits; had made successful industrial adjustment; had a high scholarship rating previous to their incarceration; were more steadily employed; had no mental disturbances; showed competence as homemakers; had been exposed to good neighborhood influences within a year previous to their commitment; lived in homes that were in good physical condition within a year previous to their commitment; showed no retardation in school; did not attend church; were living with relatives or foster-parents rather than their own parents previous to commitment; had good work habits; met their economic responsibilities; and had good neighborhood influences during their childhood.

In keeping with their reasoning that it is best to select a few of the most highly related factors for predictive purposes, the Gluecks selected six factors to aid parole authorities in reaching a decision regarding parole. The Gluecks pointed out that the six factors selected from the fifteen that showed a high relationship were chosen on the basis of the availability of data in the records and because the intercorrelations of the factors indicated that the six would be the most representative of several closely related factors. The factors the Gluecks selected as indicative of successful parole adjustment were:

1. Retardation in school. Of those who were not retarded in school, 42.5 percent did not recidivate, while only 20.3 percent of those who were retarded one or more years did not recidivate. Of those with no schooling, the success rate was only 13.3 percent.

2. Neighborhood influences within a year of commitment. Of those who lived in neighborhoods where the influences were described as good, 45.5 percent were successful, as compared with only 27.4

percent where the influences were described as fair and 21.3 percent where they were poor.

3. Steadiness of employment. Those who were regularly employed prior to incarceration were more successful than those who were fairly regularly or irregularly employed and those who had never worked.

4. Economic responsibility. Those who met their responsibilities were much more successful than those who did not.

5. Mental abnormality. The success rate of those with no abnormality was highest at 29.2 percent. It was 22.8 percent for the psychopathic, psychoneurotic, and neurasthenic; 19.2 percent for the epileptic, congenital syphilitic, drug addict; 9.0 percent for the alcoholic deteriorate; and 0 percent for the psychotic.

6. Kind of worker in reformatory. Those rated as good had a success rate of 32.7 percent as compared to 18.0 percent for those rated fair and 15.4 percent for those rated poor.

The Gluecks indicated that the first five of these factors could be used as a prognostic instrument by the courts with the addition of the sixth factor when the instrument was to be used by the parole authorities. Again, as in their previous study, the factors were weighted by adding the percentages of the subgroup success rates for each of the subgroups in which the individual fell on each factor to obtain a score, only this time it was a "success score." This score was interpreted in terms of the expected percentage of non-delinquent behavior, delinquent behavior during parole period, and delinquent behavior after parole period but not during that period. For example, 100 percent nondelinquency would be expected for those individuals with total success scores of over 200 while 100 percent delinquency during parole would be expected of those scoring under 100.

The other Glueck study to appear in print during 1934 was a study of one thousand juvenile delinquents.²¹ These delinquents had been referred from the Boston Juvenile Court to the Judge Baker Foundation, a child-guidance clinic. The mean age was 13 years, 5 months, and all had been interviewed and studied in the clinic prior to 1922. Again, a field investigation follow-up was conducted after five years to determine the real degree of success of failure in adjustment. The judgment of recidivism was based on arrests on convictions for serious offenses and minor offenses, and on knowledge of offenses not known to the police. Also included was desertion or dishonorable discharge from the armed forces. The violation rate was 88.2 percent.

This time the relationship of the factors to subsequent adjustment was determined by the coefficients of mean square contingency. Those factors that were found by the Gluecks to have the highest relationship to subsequent adjustment and, consequently, were included in a table for the prediction of delinquent behavior were the following:

1. Discipline by father. Discipline was described as sound, fair, or unsound. The lowest recidivism rate was for the sound subgroup, while the unsound had the highest rate of recidivism.
2. Lack of school retardation. The normal and advanced had the lowest recidivism rate. For those retarded one or two years, the rate was higher, while those retarded three or more years had the highest rate of failure.
3. Conduct in school. There were two subgroups. Those for whom no misconduct in school had been reported had a recidivist rate of 72.4 percent, while those reported for truancy or other misconduct had a rate of 91.3 percent.

²¹ Sheldon and Eleanor Glueck, One Thousand Juvenile Delinquents (Cambridge: Harvard University Press, 1934), 341 pp.

4. Age at first misbehavior. The rate of recidivism went progressively higher as the age decreased.

5. Length of time between onset of delinquency and clinical examination. The rate of recidivism was progressively better as length of time became smaller.

The Gluecks prepared tables giving the percentages of subsequent delinquency found among their 1,000 delinquents for each of the subgroups for the predictive factors. The subgroup scores were given in terms of the recidivism rate and the sum of an individual's subgroup scores, in this case, would be a "recidivism score." The expectancy table resulting from scoring the 1,000 juvenile delinquents indicated that an individual scoring in the best score class would be expected to be delinquent in 50 percent of the cases while an individual in the lowest score class would be expected to be delinquent in 92.6 percent of the cases.

These two Glueck studies have been included in this review because they indicate the extensiveness of the investigations conducted by the Gluecks and because they further illustrate the Glueck method of prediction. Even though the sample populations for these two studies are all women or juveniles, at least one of the findings can be compared with the other studies reviewed thus far. That is the finding that retardation in school is indicative of recidivism in delinquency. If school retardation can be assumed to indicate inferior intelligence, then it would appear that these two studies are, somewhat at least, in support of Tibbitts' finding that the intellectually inferior individuals had a higher violation rate than the other classifications of intelligence.

The Attorney General's report. For several years the United States Attorney General's office gathered information regarding parole

outcome from seventy-five penal institutions located in forty-two states and the District of Columbia, which included the case history records of approximately 95,000 parolees. The cases included all persons of the reporting institutions whose parole began and terminated within the period of January 1, 1928, to December 31, 1935. This study was part of a survey of release procedures, which resulted in a five-volume report published in 1939.²²

It was the purpose of this part of the study to determine from an analysis of parole outcome figures which set of characteristics appear to be favorably associated with parole success or failure. A case was considered a failure on parole whenever the official records disclosed that the parolee had violated the terms of release. He was considered a violator whether or not his parole had been revoked. The term "success" means reports of violations were not found in the parolee's record. The Chi-square test of significance was used to determine whether or not a relationship was significant. This significance was determined for the nation as a whole, and also was determined for each institution, individually, and reported in tables as "favorable," "unfavorable," or "neutral." Conclusions were based on the combined figures for the country as a whole. The tables were presented so comparisons for various parts of the country, and other comparisons could be made, as needed.

Although the Attorney General's survey is not a predictive study and does not include an attempt to develop a prediction technique, it is being included with this review of literature related to parole prediction so that the Attorney General's parole outcome

²² Department of Justice, United States Attorney General's Survey of Release Procedures, Volume IV, "Parole" (Washington: Government Printing Office, 1939).

analyses can be compared with the analyses reported in the prediction studies. The characteristics studied and a brief statement of the conclusions drawn in the study follow:

1. Race. These statistics on parole violations indicate that as a race Negroes have not made as good a record as whites. The data on the other races were so limited that violation statistics based on them would have been of little value.

2. Marital status. The findings indicate that in the country as a whole, single persons were worse risks for parole than married persons.

3. Number of dependents. The findings indicate that parolees with dependents make a better record on parole than those without dependents.

4. Recidivism. Only 18 percent of the first offenders violated the terms of parole, while 37 percent of the recidivists violated parole. Twenty-four percent of the recidivists committed new offenses while on parole as contrasted with only 10 percent of the first offenders.

5. Age at time of first arrest. Criminals who first came into conflict with the law before they had reached the age of 18 years are as a rule poor risks for parole. On the other hand, criminals who were first arrested after having passed 22 years of age make comparatively good records on parole.

6. Nature of offense committed. The results of the analysis present some evidence in support of the view that offenders convicted of robbery, burglary, larceny, forgery, and counterfeiting make poorer records on parole than those convicted of criminal homicide, assault, sex offenses, and liquor law violations.

7. Number of associates participating in crime committed.

The combined statistics show that the factor of number of associates is not significantly associated with parole outcome.

8. Type and length of sentence imposed. Short-sentence prisoners made better records on parole than those who had been given long sentences.

9. Employment. Twenty-three percent of the parolees who were employed at the time of their arrest violated parole as contrasted to 36 percent of the parolees who were not employed.

10. Size of community into which parolee was released. While 37 percent of the parolees residing in cities of more than 100,000 population violated their paroles, only 17 percent of those released into communities with less than 2,500 population were recorded as violators. Of the former, 25 percent committed new offenses as contrasted with only 10 percent of the latter.

11. Nativity. Native-born persons made poorer records on parole than did foreign-born parolees.

12. Age at time of sentence. Offenders who started serving their sentences before they were 25 years old had more unsatisfactory parole records than offenders who began serving their sentences after they had reached the age of 25. On the other hand, offenders who were over 35 at the time they were sentenced seemed to have been better risks for parole than persons who were under 35.

13. Conduct in prison. The findings showed that parolees who had behaved well in prison made better records on parole than parolees who had breached prison rules.

14. Admission or denial of guilt at time of arrest. Not a significant factor as far as subsequent parole outcome is concerned.

15. Parole supervisor's prognosis of parolee. Supervisor's prognoses formed on the basis of contacts with the parolee early in

the period of supervision were largely borne out by the parolee's final record on parole.

16. Occupation on parole compared with occupation prior to crime. The findings indicate that there was no significant relationship to parole outcome.

17. Home conditions of parolee. The parolee's adjustment to community life is generally assisted if he has a wife and family to turn to when released from prison. On the other hand, the problem of social adjustment often becomes very difficult if the parolee must live in a rooming or a boarding house upon release.

The Attorney General's finding that as a race the Negroes have not made as good a record as the whites is in keeping with Tibbitts' findings in this regard, while Burgess had indicated no relationship between race and parole outcome.

The fact that married parolees have proved to be good parole risks, according to this study, supports the findings of Witmer, Burgess, and Sanders in this regard.

It will be remembered that Burgess and Tibbitts had reported finding that the offender who was without associates had the highest violation rate, while Vold and the Gluecks had reported that the number of associates showed very little relationship to parole outcome. The Attorney General's report also states finding that the number of associates is not significantly associated with parole outcome.

An Alabama study. Another study with the purpose of analyzing various factors related to parole success or failure was a study of Alabama parolees by Graham.²³ Although Graham does not attempt

²³ Mary Ruth Graham, These Came Back (University, Alabama: University of Alabama, 1946), 134 pp.

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to devise a predictive technique, she does point out that her findings would assist the parole board in its task of defining and crystallizing criteria to be used in the selection of prisoners for release on parole.

This study covers all parolees released on parole in Alabama from September, 1939, to August, 1944. All the information was obtained from the individual parole files and a total of 4,612 parolees were included. The reported violation rate was 10.9 percent. A parolee was described as successful if discharged from parole, discharged from supervision, or under active supervision. The violators had been convicted of new offenses or were returned to prison for the violation of some technical phase of parole. As in other studies, the various factors were studied in terms of subgroups. Graham obtained what she calls an "index of significance" which appears to be the critical ratio of the differences between two percentages. She computed the ratio for the differences between the subgroup violation rate and the average violation rate. She stated that an index of less than 1.00 indicates lack of significance, from 1.00 to 2.00, possible significance, from 2.00 to 3.00, probable significance, and over 3.00, undoubted significance. A list of the factors analyzed and a brief discussion of Graham's conclusions for each follows:

1. Race. This analysis revealed that Negro parolees have proved slightly better performers on parole than white parolees. However, neither difference was significant.

2. Sex. The rate of success for women was significantly above the average while that for men was not significantly different from the average.

3. Race by sex. Negro women had the only significant deviation from the average success rate. They were significantly more successful.

4. Age at time of crime. Parolees who were under 22 years old at the time of arrest had significantly high violation rates while those who were over 31 had significantly high rates of success.

5. Age at time of parole. Parolees of age 21 and less at time of parole had significantly high violation rates while those over 35 were significantly successful.

6. Education at time of crime. The amount of education was not of marked consequence in terms of adjustment on parole.

7. Mental ability (white population only). The results indicated no particular significance relative to intelligence.

8. Physical condition at time of parole. Again, no significant differences were found.

9. Venereal disease status at time of parole. The findings indicated that venereal disease is not a criterion by which to deny or grant parole.

10. Urban or rural residence at time of crime. Rural residence showed an undoubted relationship to success and urban showed an equally clear relationship to failure.

11. Marital status. Married parolees succeeded at a very high rate on parole. By contrast, single and divorced parolees were much more likely to violate parole.

12. Number of children at time of parole. Parolees with two or more children were very good risks, the rate of success increasing with the number of children.

13. Status of parents at time of parole. The only significant finding was the high rate of success for the category "Father unknown, mother living."

14. Number of siblings. None of the conclusions were significant.

15. Occupation of father at time of parole. The parolees whose fathers were farmers proved to be the best risks. The professional background portends average success on parole. All other occupations of fathers disclosed an association to failure on parole. The highest index of significance for failure was for those whose fathers were recorded as skilled laborers.

16. Occupation of parolee at time of crime. Farmers and farm workers prior to incarceration and domestic servant and housekeepers showed a definite tendency toward success, while skilled laborers and textile workers showed a like tendency toward failure.

17. Length of tenure on last job at time of crime. The only significant finding was a marked tendency toward failure for those who had been employed six months or less.

18. Real property ownership at time of parole. A very significant rate of success was found for those who own real property.

19. Personal property ownership at time of parole. An extremely high rate of success was found for those owning personal property.

20. Reform school record. Parolees who had attended reform school violated parole at a rate three times that of other parolees, a marked significance.

21. Previous misdemeanors. Parolees with no previous misdemeanor convictions are more likely to succeed than the average parolee.

22. Previous felonies. Parolees convicted of one previous felony showed a higher failure rate than did the group as a whole. However, parolees convicted of two previous felonies showed a tendency to succeed, a favorable index of 1.55. Parolees with three or more previous felony convictions failed at a very high rate.

23. Instant offense. Violators against the public (mainly liquor law violators) and those convicted of manslaughter proved themselves likely to succeed on parole, while offenders guilty of crimes against property were very prone to resume their criminal activities upon release.

24. Associates in crime. In this study the factor of associates in crime had no significance in terms of parole outcome.

25. Single or plural instant sentences. Those with more than one sentence had a significantly higher rate of violation.

26. Length of sentence. Those serving sentences of two years or less and those serving very long sentences had proportionately greater success than those serving from two years through fifty years.

27. Length of time served. The success rate of the parolees who had served two years or less was significantly higher than the average success rate, while that of those who had served over two years was significantly below the average success rate.

28. Prison behavior. Parolees with no demotions violated parole much less frequently than the average. On the other hand, one or more demotions portend a higher rate of failure than the average.

29. Number of escapes. Parolees with escape records are quite likely to fail on parole.

Graham's finding that the Negro parolees had a better parole record than white parolees is in contradiction to the findings of Tibbitts and the Attorney General's report. However, Graham points out that neither difference was significant, which was the conclusion reached by Burgess in his study.

Two studies, Vold and the Gluecks, had found that age at the time of crime was not related to parole outcome. However, the Attorney General's report had indicated that younger offenders made

poor parole records. Graham's finding in this regard supports the Attorney General's findings.

There has been disagreement regarding the relationship of age at time of parole to subsequent parole outcome. Tibbitts had reported finding that the younger parolees were more successful. Burgess had reported the youngest and oldest more successful than all others. Graham's findings are in support of Witmer, in that it was the parolees 21 and less who had high rates of violation while the older parolees were more successful.

Another Illinois study. In 1948 Michael Hakeem released a report of a follow-up study of 1,108 parolees for whom parole success or failure had been predicted.²⁴ Hakeem's 1,108 subjects included all of the individuals paroled from an Illinois institution (not named) during the two-year period including 1939 and 1940. The parole files were studied six years later, allowing at least three years of parole for each subject. Success was determined by discharge from parole. The rate of violation was found to be 27.7 percent. Burgess-type predictions had been made for the group at the time of parole. Hakeem stated that the prediction table used was a modification of the Burgess table. The prediction table had been revised after a refinement study involving 9,729 cases paroled between 1925 and 1935. This refinement was not otherwise reported in the literature. Hakeem did not give the particulars of the refinement study, but stated that the analysis of the 9,729 cases had indicated that three of the original Burgess factors should be excluded from the expectancy

²⁴ Michael Hakeem, "The Validity of the Burgess Method of Parole Prediction," American Journal of Sociology, 53:374-386, March, 1948.

table while eight new factors should be added. The three factors excluded were:

1. County from which committed.
2. Statement of judge or prosecutor.
3. Acceptance of a lesser plea.

The eight factors that were added were:

1. Extent of contact with relatives or friends.
2. Employment at time of offense.
3. Job in prison at time of parole hearing.
4. Indulgence in drink.
5. Venereal infection.
6. Size of parole community.
7. Type of neighborhood to which paroled.
8. Type of job on release.

No further elaboration of the factors was reported and subgroup variations were not indicated. Hakeem divided his subjects into two groups, one composed of all the individuals paroled during 1939 and the other composed of all the individuals paroled during 1940. He then compared the expected rate of violation with the actual rate of violation for the various score-classes in the expectancy table. He reasoned that the total violation rates of the group on which the predictions were based and the group on which the predictions were made would have to be made comparable before the comparisons would be meaningful. Consequently, he divided the expected total violation rate by the actual total violation rate and multiplied the quotient by the uncorrected percentage of violators in each score-class to obtain what would have been the expected rate based on the actual rate of violation. Although no tests of significance were reported, Hakeem concluded the corrected differences indicated "remarkable accuracy." In comparing the predictions and

outcomes for the two groups, Hakeem said, "A comparison of the accuracy of the prediction for cases paroled in 1939 with that for cases paroled in 1940 shows no really significant differences."

Another Wisconsin study. An additional study of Wisconsin parolees was reported in 1949. This was a study by Alfred C. Schnur of 1,762 inmates paroled from the Wisconsin State Prison between January 1, 1936, and December 31, 1941.²⁵ Schnur found that 82.5 percent had successfully completed their paroles. He stated that a parolee was considered a success if he was not arrested and convicted for an offense committed within two years after release, which resulted in a sentence of at least six months on probation or commitment to an institution. His study was an analysis of some of the factors related to parole success or failure for the purpose of devising a predictive instrument. Schnur stated that the differences reported were analyzed by the conventional tests of significance and were significant at the 5 percent level or better. The factors studied and a summary of the findings follow:

1. Previous record. Ninety-five percent of those who had no previous criminal history were successful. There was a decreasing rate of success down to 60 percent for those with three or more previous convictions.

2. Amount of time spent under legal supervision from time of birth up to present sentence. There was a decline from 84 percent for those who had been under previous supervision for one year to 41 percent for those of ten years or more.

²⁵ Alfred C. Schnur, "Predicting Parole Outcome," Focus, 28:70-75, May, 1949.

3. Type of offense. Adulterers and bigamists had a success rate of 96 percent. Murderers not also engaged in a property crime had a 94 percent rate compared with 89 percent for those so engaged. Ninety-three percent of the embezzlers were successful, as were 92 percent of the sex offenders. Forgers and confidence game offenders had the lowest rate of success.

4. Age at first arrest. Of those who were over age 35 when first arrested, 92 percent were successful compared with 70 percent for those who were under age 14. Schnur gave no further data on this point.

5. Misconduct citations. Eighty-six percent of the successful parolees had never been cited for misconduct. The success rate decreased to 65 percent for those who had been cited fifteen or more times.

6. Age at leaving school. The older the individual was when he left school, the more chance there was that he would commit a new crime. This factor and the conclusion reached by Schnur did not seem meaningful to the writer, nor did further study of Schnur's discussion of this point. As a consequence, the writer elected to quote Schnur's entire discussion of this point. The quotation follows:

When we turn to success and failure after release, the next factor in significance is age at leaving school. The older a man is when he leaves school the greater are his chances of committing a new crime. This surprising statement may be explained this way. A school is operated at the prison. It is observed that the less education a man has when he comes to prison, the more likely he is to go to school in prison. Men who make use of the prison school have better than average chances of leading lawful lives.

7. Age at time of offense. The older the individual was when he came to prison, the more chance there was that he would succeed on parole.

8. Age at parole. The same conclusion as for age at time of offense.

9. Marital status. The widowed, separated, and married parolees succeeded at a rate above the average, while single parolees were less than the average.

10. Race. Negro and foreign-born succeeded at a better than average rate.

11. Venereal infection. The venereally diseased had less chance of being successful than the average.

12. Number of accomplices. The parolee who had accomplices had a better chance of being successful than those with no accomplices.

Schnur reported some factors that did not result in significant differences. Those were: parole period; prior education; intelligence; use of alcohol; and whether prior residence was rural or urban.

Schnur further complicates the picture in regard to race by reporting that the Negro succeeded at a better than average rate. Graham and Burgess had reported finding no significant differences in rate of success, while Tibbitts and the Attorney General had reported the opposite finding; namely, that Negroes had a higher violation rate.

Schnur's findings in regard to a high success rate for married parolees is in keeping with the general trend in this regard, but the fact that separated parolees also have a high success rate is not in keeping with previous findings.

Although the study was undertaken to provide a basis for a predictive instrument, Schnur concluded by saying that construction of a predictive instrument would not be attempted until a special analysis of each of the factors for which significant differences had

been found could be completed. Further perusal of the literature failed to disclose additional reports in this regard.

The most recent study. The latest report in the field of parole prediction is a book by Lloyd E. Ohlin, a research sociologist in the Illinois Division of Correction.²⁶ Ohlin's work is a further refinement of the Burgess method of parole prediction. He analyzed twenty-seven factors by using the cases of 1,000 parolees from the Joliet-Stateville and Menard Divisions of the Illinois State Penitentiary System. The thousand cases had been paroled at least five years prior to the study, and success was determined by discharge from parole.

The twenty-seven factors were divided into subgroups and the violation rate for each subgroup determined by dividing the number of violators by the total number in the group. Four statistical tests were then used to determine which of the subgroups should be selected as predictive items. These were tests of the reliability of the data; a critical ratio test of significance; a Q coefficient for the measurement of the association of attributes; and a measure of the predictive efficiency. Fifteen of the twenty-seven factors did not have subgroups that adequately met the statistical tests imposed, according to Ohlin, and were not retained for use in the prediction table. The subgroups of the remaining twelve factors were marked with 1, 0, or X, to indicate whether the subgroup was rated as favorable, neutral, or unfavorable predictive item. The factors are listed below with the subgroup ratings of each:

²⁶ Lloyd E. Ohlin, Selection for Parole (New York: Russell Sage Foundation, 1951).

1. Type of offense. Favorable: homicide and assault, and sex offenses. Neutral: robbery, larceny and stolen property, forgery and fraud, and miscellaneous. Unfavorable: burglary.

2. Sentence. Favorable: all definite sentences. All other sentences are neutral.

3. Type of offender. Favorable: first offender. Neutral: technical first, occasional, and juvenile recidivist. Unfavorable: recidivist and habitual.

4. Home status. Favorable: superior. All others were neutral.

5. Family interest. Favorable: very active. Neutral: active, sustained, and passive. Unfavorable: no family interest.

6. Social type. Favorable: erring citizen, marginally delinquent, "farmer," socially inadequate. Neutral: ne'er-do-well, and sex deviant. Unfavorable: floater, socially maladjusted, drunkard, and drug addict.

7. Prior work record. Favorable: regular. All others were neutral.

8. Community from which committed. Favorable: none. Neutral: urban and rural. Unfavorable: transient.

9. Parole job. Favorable: none. Neutral: adequate and no job. Unfavorable: inadequate.

10. Number of associates. Favorable: three or more. Neutral: none, and one or two. Unfavorable: there was no subgroup marked unfavorable.

11. Personality. Favorable: normal (no gross defects). Neutral: inadequate, unstable, egocentric, gross personality defects, no record. There were no subgroups marked unfavorable.

12. Psychiatric prognosis. Favorable: favorable. Neutral: problematic, doubtful, guarded, unfavorable, and no record. There were no subgroups marked unfavorable.

As stated previously, Ohlin excluded fifteen factors after analysis because the subclasses lacked a sufficient degree of association with outcome, or statistical significance, or reliability, or stability. Ohlin then added that he also dropped out factors which were found to be highly correlated with other factors which better met the statistical tests of inclusion. Unfortunately, Ohlin does not indicate which factors did not have subgroups that adequately met the statistical tests imposed and which were dropped because of high correlation with other factors which were included in the prediction tables. Ohlin states that each factor was tested several times with various combinations of subgroups before being finally excluded. The following list gives the factors that were excluded:

1. Time served.
2. Age.
3. Nationality and racial origin.
4. Criminal record.
5. Punishment record.
6. Marital status.
7. Working at time of offense.
8. Last institutional assignment.
9. Criminal mobility.
10. Neighborhood at offense.
11. Use of alcohol.
12. Venereal infection.
13. Parole community.
14. Parole neighborhood.
15. Mental rating.

Each parolee was given one favorable point for every favorable subgroup in which he fell, one unfavorable point for every unfavorable subgroup, and zero for every neutral subgroup. The final score is the number of unfavorable points subtracted from the favorable points. Ohlin states that the experience table is constructed by listing the violation rates for the score groups. The violation rate is computed by dividing the number of violators by the total number of persons in the group. These violation rates give the percentage of persons who have violated parole within each score group and serve to indicate the violation rate that can be expected for similar groups in the future.

A different approach. A different approach to the problem of parole prediction was presented by Ferris Laune in 1936.²⁷ Reminding the reader that penal officials had often remarked, in one way or another, that an intelligent inmate's "hunch" about the probable parole success or failure of other inmates was usually a pretty accurate guide, Laune attempted to utilize inmate "hunches" in the development of a predictive instrument. Laune obtained the cooperation of two long-term inmates who had college degrees and who possessed high intelligence. Each listed one hundred inmates for whom he believed he could hazard an intelligent guess as to the probability of success on parole and with whom he believed his collaborator was also acquainted. Each of the inmates made a guess, on a 100-point scale, of the probability of success for the 150 mutually known subjects. Then a period of from one hour to two hours daily for nearly two months was spent while the two inmates attempted to justify

²⁷ Ferris F. Laune, Predicting Criminality (Evanston: Northwestern University Press, 1936).

their 'hunches' about each of the subjects. A careful stenographic record was kept of these discussions so that the factors underlying the 'hunches' could be isolated and identified.

A total of forty-two 'hunch' factors were identified in this manner. The factors were identified by Laune but are not defined here because they were not empirical findings. The inmates' 'hunches' of the factors that would aid in predicting parole success or failure, in addition to including statements regarding the usual reference to previous record, steadiness of employment, and others found by the empirical studies, also suggested that such factors as an excessive interest in clothes, a craving for gay life, shrewdness, and conceit, among others, would identify the prospective successful or unsuccessful parolees.

Laune then went on to develop a 1,701-item questionnaire based on the 'hunches' mentioned above and designed to objectively measure the presence or absence of the factors in an individual. A final questionnaire of 161 items was developed which exhibited a correlation of .62 with Burgess-type scores. Laune's report is only concerned with the development of the scale and does not contain a report of actual administration of the scale to a group of parolees.

Because this was the only study reported in the literature that was of somewhat the same nature as the present study, the writer was particularly interested in learning more of any use that had been made of Laune's scale. However, a search of the literature failed to disclose reports of such application. Correspondence with the author disclosed that he had left the correctional field shortly after writing his book and that he had not made further application of his scale. He further stated that he did not think his scale had been officially used in any institution or parole system.

Comparison of factors. Table I has been prepared as a means of summarizing the most important findings of the various investigations of parole outcome. There were several factors on which the findings were in agreement. Ten of the studies investigated the relationship of previous record to parole outcome. All of them reported that the group of parolees who had no previous criminal history have a high rate of success on parole. These same investigators reported, also, that the group of parolees who had been sentenced previously had a low rate of success on parole.

Another factor on which there was complete agreement was that those parolees who had been steadily employed prior to incarceration also had a high rate of parole success.

The absence of institutional misconduct also seems to be related to parole success, although two investigators, Ohlin and Witmer, reported finding no relationship.

Most of the investigations reported that younger parolees were more likely to violate parole than were older parolees, if age at first arrest, age at crime, and age at parole can be grouped together in this consideration. However, two of the investigators reported findings of no relationship, and Burgess found that the younger and older parolees tend to be more successful than those in between.

In general, the married parolee is regarded as a good parole risk, according to six of the investigations. However, Vold, Tibbitts, and Ohlin found little or no relationship between marital status and parole outcome.

Those who were convicted of property offenses such as forgery, fraud, breaking and entering, burglary, and larceny were generally found to have higher violation rates than offenders for other types of crime. However, Ohlin found this true of burglary only, while the relationship of the others to parole outcome was not

TABLE I

A SUMMARY OF THE FINDINGS OF SEVERAL INVESTIGATORS
IN REGARD TO THE RELATIONSHIP OF VARIOUS
FACTORS TO PAROLE OUTCOME

| Aspect of Factor for Which
Relationship is Reported | Investigators | | | |
|--|---------------|----------------|----------------|----------------|
| | Hart | Witmer | Burgess | The
Gluecks |
| 1. Length of sentence
(shorter) | | 0 ¹ | - ² | |
| 2. Misconduct (absence of) . | + | 0 | + | + |
| 3. Age at first arrest
(younger) | | | | - |
| 4. Age at crime (younger) . . | | | | 0 |
| 5. Age at parole (younger) . | | - | ? ⁴ | |
| 6. Marital status (married) . | | + | + | |
| 7. Previous record (none) . . | + | + | + | + |
| 8. Previous record
(repeated) | - | - | - | - |
| 9. Type of offense
(property) | - | - | - | 0 |
| 10. Social type (farmer) . . . | | + | + | |
| 11. Intelligence (inferior) . . | | | 0 | 0 |
| 12. Psychiatric (favorable) . . | + | | + | + |
| 13. Associates (none) | | | - | 0 |
| 14. Prior work record
(regular) | + | | + | + |
| 15. Time served (longer) . . . | | | - | 0 |
| 16. Race (Negro) | | | 0 | |

- ¹ 0 indicates a finding of little or no relationship.
² - indicates a high relationship to parole violation.
³ + indicates a high relationship to parole success.

TABLE I (Continued)

| Investigators | | | | | | |
|----------------|----------|---------|---------------------|----------------|--------|----------------|
| Vold | Tibbitts | Sanders | Attorney
General | Graham | Schnur | Ohlin |
| 0 | - | | + ³ | ? ⁴ | | 0 |
| + | + | | + | + | + | 0 |
| | | | - | | - | |
| 0 | | | - | - | - | |
| | + | | | - | - | |
| 0 | 0 | + | + | + | + | 0 |
| + | + | | + | + | + | + |
| - | - | | - | - | - | - |
| - ⁵ | | | | | | - ⁶ |
| | - | - | - | - | - | |
| + | + | | | + | | + |
| 0 | - | 0 | | 0 | | 0 |
| | + | | | | | + |
| 0 | - | | 0 | 0 | - | 0 |
| + | + | | + | + | | + |
| 0 | - | - | | - | | 0 |
| | - | | - | 0 | + | |

⁴ ? both extremes were favorable.

⁵ Excluding burglary.

⁶ Burglary only.

significant, and Vold found burglary was the offense, of that group, whose perpetrators would most likely not violate more than the average, while the usual findings resulted for the other offenses in that group.

In those investigations where a farm background was reported, all findings agreed in that the individual with a farm background had a better than average success rate.

In those investigations that reported on the availability of psychiatric reports, there was agreement in that those individuals for whom a favorable report was made had a high rate of parole success.

Almost all of the investigators reporting findings in regard to the relationship of intelligence to parole outcome reported little or no relationship. However, Tibbitts found that the intellectually inferior parolees had a low rate of parole success.

Eight investigators reported findings in regard to the number of associates. Five of them found that there was no relationship between number of associates and parole outcome. Schnur, Tibbitts, and Burgess found a high rate of violation for the offender who was alone. None of the investigators found that having associates was related to parole failure.

On the remaining factors, for which findings were reported by several investigators, there is a lack of agreement in regard to relationship to parole outcome. One of these concerns the findings in regard to the Negro parolee. The Attorney General and Tibbitts had found that Negroes violated at a rate greater than the average. However, Schnur found that they had a better than average rate of success. On the other hand, Ohlin, Graham, and Burgess found there was no significant difference between the success rate of Negroes and the average success rate.

The relationship of length of time served to parole outcome has also been reported by several investigators. Three of the investigators found that there was no relationship, while four others found that the longer an individual served the more likely he was to violate parole.

Seven reporters investigated the relationship of length of sentence to parole outcome. Three of them found there was no relationship, while two, Burgess and Tibbitts, reported higher violation rates for those with shorter sentences. The Attorney General found, on the other hand, that those with shorter sentences were more successful on parole. Graham reported that those with short sentences and those with very long sentences were more successful than the average parolee.

As far as the writer knows, there is and has been only one state that includes with the material available to the parole board a prediction of parole success or failure based on expectancy resulting from past experience, and that is Illinois. One of the reasons for this may be that while a considerable amount of work has been done to develop prediction techniques, there has been a noticeable lack of validation of the techniques, in terms of actual outcome on parole. While investigators have been eager to devise methods and study factors, little has been done to see if predictions coincide with actual behavior. Three studies of this nature have already been discussed, those of Vold, Sanders, and Hakeem. Their findings would indicate that the expected results agreed quite closely with the actual results. These findings suggest that the prediction methods investigated were reasonably accurate. However, these are the only studies that have been reported of investigations made to determine how well predictions coincide with actual outcome, a situation which led Monachesi to state:

The paucity of data for the empirical verification of predictions based upon the relational patterns of personal and social factors of offenders and conduct has tended to impede the application of prediction techniques to the practical and everyday work of judicial and correctional authorities.²⁸

In the most recent book by the Gluecks,²⁹ they reveal that they are in the process of testing all of their prediction tables. They are also engaged in research in which well over two hundred factors in the background and make-up of offenders are being considered.

Summary

The literature pertinent to parole prediction and parole outcome reveals that numerous factors have been analyzed by various investigators to determine their relationship to parole outcome, and some authors have devised prediction methods based on such analysis. This review was intended to inform the reader of the factors which have been analyzed and that have served as a basis for predictive techniques thus far devised.

A great many factors have been analyzed to determine the relationship to parole outcome for several different populations. Study of the individual factors reveals several for which there was complete or almost complete agreement. A brief summary of the findings in regard to the factors most frequently investigated follows:

²⁸ Elio D. Monachesi, "American Studies with Prediction of Recidivism," Journal of Criminal Law and Criminology, 41:268-289, September, 1950.

²⁹ Sheldon and Eleanor Glueck, Criminal Careers in Retrospect (New York: The Commonwealth Fund, 1943), p. 218.

1. All investigations found a high rate of success for the parolee with no previous record. Conversely, they also found that the repeating offender was more likely to violate parole than those with less criminal history.
2. All investigators found a high rate of success for those who had been steadily employed prior to conviction.
3. Institutional misconduct was included in ten investigations. Eight of the findings were alike in that absence of institutional misconduct was highly related to parole success. However, two investigators reported no relationship between institutional misconduct and parole outcome.
4. The married man was found to be a good parole risk by six investigators, although three others reported finding no relationship between marital status and parole outcome.
5. Conviction for property offenses was consistently found to be related to a high rate of parole violation except for minor variations.
6. Six investigators included farm background as a subgroup of a factor. All found a high rate of success for the parolee with a farm background, as compared with those with other types of environment.
7. Five investigators reported consistent findings that individuals who received favorable psychiatric prognoses had a high rate of success.
8. One investigator found inferior intelligence related to parole failure, while six others found little or no relationship between intelligence and parole outcome. This apparent lack of agreement of findings was also found for number of associates, length of time served, race, age at time of parole, age at time of crime, type of sentence, and other factors.

Although there have been only a few studies aimed at validating parole prediction with actual parole outcome based on validation with a second, nonrelated group, the findings of those studies were that the predictions were remarkably accurate.

One investigator has suggested a different approach to parole prediction. He devised a questionnaire based on an analysis of inmate "hunches" regarding the probability of the parole success or failure of other inmates. This method has yet to be tried empirically.

It can readily be seen that most of the factors which have been used to predict parole success or failure are preincarceration factors. The present study has been undertaken to fill a need for an additional factor, a factor that takes into account the mental readiness of the prospective parolee at the time he is considered for parole.

CHAPTER III

PROCEDURE AND SAMPLE POPULATION

This chapter is devoted to a discussion of the procedures and techniques involved in the study, as well as a discussion of the pertinent information concerning the sample population. The discussion will point out how the materials and the sample were selected, how the data were obtained, and related information obtained in the course of the study.

Procedure

In order to determine if there are measurable differences between the thinking of successful and unsuccessful parolees by the use of standardized inventories, it was first necessary to administer such inventories to a group of prospective parolees. Because the differences sought are differences in thinking while the individuals are still incarcerated and before they are paroled, it was not possible to administer inventories to a group of successful parolees and at the same time administer the same inventories to those who had failed. It was necessary to test a group of inmates going on parole and then later identify the successful and unsuccessful.

A review of the standardized tests in the field of personal adjustment indicated that there were several which might lend themselves to a study of this nature. A group of studies compiled in a

book by Hathaway and Monachesi¹ pointed out that the Minnesota Multiphasic Personality Inventory had successfully differentiated between delinquents and nondelinquents. From this it seemed logical that this scale would have promise in the present investigation with parolees. The first report in their book, a report by Capwell, indicated that the Washburn Social Adjustment Inventory and the Vineland Social Maturity Scale did not seem to hold a great deal of promise in this regard.² These scales did not show any real difference between the delinquents and nondelinquents, according to Capwell's conclusions. Perusal of the Mental Measurement Yearbook³ indicated that many of the other available adjustment inventories should not be included, inasmuch as the reports of their validity and reliability were not satisfactory. Of those remaining, the following were selected because a study of the traits or factors included in them indicated that the composite range of factors or traits measured by these five inventories seemed inclusive enough to best measure those factors that appeared to contribute to the possible differences in the thinking of the prospective parolees, in a battery that seemed to be most economical, both monetarily and in point of time. They were: the Guilford-Martin Inventory of Factors GAMIN; Guilford's Inventory of Factors STDCR; the Johnson Temperament Analysis; the California

¹ Starke R. Hathaway and Elio D. Monachesi, Analyzing and Predicting Juvenile Delinquency with the MMPI (Minneapolis: University of Minnesota Press, 1953), et passim.

² Dora F. Capwell, "Personality Patterns of Adolescent Girls: Delinquents and Nondelinquents," ibid., pp. 29-36.

³ Oscar Krisen Buros, editor, The Third Mental Measurement Yearbook (New Brunswick: Rutgers University Press, 1949), pp. 23-4.

Mental Health Analysis; and the Minnesota Multiphasic Personality Inventory. The various factors and their descriptions, as reported in the manuals, follow:

The Guilford-Martin Inventory of Factors GAMIN.⁴

- G General pressure for overt activity. A tendency for liking and engaging in overt action.
- A Ascendancy in social situations as opposed to submissiveness; leadership qualities.
- M Masculinity of attitudes and interests as opposed to femininity.
- I Lack of inferiority feelings; self-confidence.
- N Lack of nervous tenseness and irritability.

An Inventory of Factors STDCR.⁵

- S Social introversion-extraversion. Shyness, seclusiveness, tendency to withdraw from social contacts, versus sociability, tendency to seek social contacts and to enjoy the company of others.
- T Thinking introversion-extraversion. An inclination to meditative or reflective thinking, philosophizing, analysis of one's self and others, versus an extravertive orientation of thinking.
- D Depression. Habitually gloomy, pessimistic mood, with feelings of guilt and unworthiness, versus cheerfulness and optimism.
- C Cycloid disposition. Strong emotional fluctuations, tendencies toward flightiness and emotional instability, versus uniformity and stability of moods, evenness of disposition.

⁴ J. P. Guilford and H. G. Martin, The Guilford-Martin Inventory of Factors GAMIN, Manual (Beverly Hills: Sheridan Supply Company, 1943), p. 1.

⁵ J. P. Guilford, An Inventory of Factors STDCR, Manual (Beverly Hills: Sheridan Supply Company, 1940), p. 1.

R **Rhathymia.** A happy-go-lucky, carefree disposition, liveliness, impulsiveness, versus an inhibited, over-controlled, conscientious, serious-minded disposition.

The Johnson Temperament Analysis.⁶

- A** **Nervous.** Restlessness, fidgeting, tenseness, sleeplessness, tendency to worry, and faulty muscular control are typical symptoms.
- B** **Depressive.** The best known of all the traits and properly included in most temperament tests and classifications.
- C** **Active.** The trait that is shown in the dynamic, lively, hustling, life-of-the-party, 'peppy' persons.
- D** **Cordial.** Expressive warm-heartedness.
- E** **Sympathetic.** A trait that undoubtedly arose as a biological necessity to insure the adequate care of children.
- F** **Subjective.** The trait of being highly self-centered. It may go so far that the individual interprets many things as related to himself, although there may be no real relationship.
- G** **Aggressive.** The trait which causes people to be pushful, ruthless, ambitious, conceited, persistent, and determined.
- H** **Critical.** This trait is named very naturally.
- I** **Self-mastery.** The tendency to make plans and carry them through relatively undeflected by impulse and caprice. It is nearly the opposite of impulsive and capricious. It involves a capacity to inhibit but also involves an ability to decide when and how much to inhibit and act accordingly.

⁶ Roswell H. Johnson, Johnson Temperament Analysis, Manual (Los Angeles: California Test Bureau, 1944), pp. 2-3.

The California Mental Health Analysis.⁷

- A Close Personal Relationships. The individual who possesses this asset to mental health counts among his acquaintances some in whom he can confide, who show genuine respect for him as a person, and who welcome close friendship of a warm and substantial nature. Such an individual enjoys a sense of security and well-being because of having status with those who mean something to his welfare.
- B Inter-Personal Skills. The socially skillful individual gets along well with other people. He understands their motives and is solicitous of their welfare.
- C Social Participation. The socially adjusted individual participates in a number of group activities in which cooperation and mutuality are in evidence.
- D Satisfying Work and Recreation. The well-adjusted individual experiences success and satisfaction in his work. He also participates in a variety of hobbies and recreational activities which provide release from tension. He will have chosen tasks that challenge him and that satisfy his need for approval and a sense of achievement.
- E Outlook and Goals. The mentally healthy individual has a satisfying philosophy of life that guides his behavior in harmony with socially acceptable, ethical, and moral principles. He also understands his environment and the forces and cause and effect relationships which shape his destiny as a member of a social group. He establishes approved personal goals and makes reasonable progress toward their attainment.
- L Behavioral Immaturity. The behaviorally immature individual reacts on the basis of childhood (infantile) ideas and desires. He has failed to develop emotional control and thinks primarily in terms of himself and his own comfort.

⁷ Louis P. Thorpe, Willis W. Clark, and Ernest W. Tiegs, Mental Health Analysis, Manual (Los Angeles: California Test Bureau, 1946), p. 3.

- M Emotional Instability. The individual who is emotionally unstable is characteristically sensitive, tense, and given to excessive self-concern. He may substitute the joys of a phantasy world for actual successes in real life. He is quick to make excuses for failure and to take advantage of those who will serve him.
- N Feelings of Inadequacy. The inadequate individual feels inferior and incompetent. This feeling may be related not only to particular skills or abilities but may be general in nature.
- O Physical Defects. The individual who possesses one or more physical defects is likely to respond with feelings of inferiority because of unfavorable comparisons or of handicaps in competition with other persons. It is usually not the physical defect per se that brings unhappiness but the restrictions and social disapprovals which come in its wake. Thus the extremely short, the homely, or the crippled individual may feel that his handicap is insurmountable.
- P Nervous Manifestations. The individual who is suffering from nervous symptoms manifests one or more of a variety of what appear to be physical disorders such as eye strain, loss of appetite, inability to sleep, chronic weariness, or dizzy spells.

8

The Minnesota Multiphasic Personality Inventory.

- L Lie Score. A measure of the degree to which the subject may be attempting to falsify his scores by always choosing the response that places him in the most acceptable light socially.
- F Validity Score. Not a personality scale but a check on the validity of the record. Usually indicates that the subject was careless or unable to comprehend the items. Occasionally indicates a highly individual and independent person or persons who are rather badly neurotic or psychotic.

⁸ Starke R. Hathaway and J. Charnley McKinley, The Minnesota Multiphasic Personality Inventory, Manual (New York: The Psychological Corporation, 1943), pp. 4-6; and Supplementary Manual for the Minnesota Multiphasic Personality Inventory (New York: The Psychological Corporation, 1946), p. 1.

- K Correction Score. Also not a personality scale. Essentially a correction factor which has been found to be of value in sharpening the discriminatory power of the clinical variables now measured by the inventory.⁹
- Hs The Hypochondriasis Scale. The amount of abnormal concern about bodily functions. It is characteristic of the hypochondriac that he is immature in his approach to adult problems, tending to fail to respond with adequate insight.
- D The Depression Scale. Measures the depth of the clinically recognized symptom or symptom complex, depression. A high score suggests a characteristic personality background in that the person who reacts to stress with depression is characterized by lack of self-confidence, tendency to worry, narrowness of interests, and introversion.
- Hy The Hysteria Scale. Measures the degree to which subject is like patients who have developed conversion-type hysteria symptoms.
- Pd The Psychopathic Deviate Scale. Measures the similarity of the subject to a group of persons whose main difficulty lies in their absence of deep emotional response, their inability to profit from experience, and their disregard of social mores. Although sometimes dangerous to themselves or others, these persons are commonly likable and intelligent. Except by the use of an objective instrument of this sort, their trend toward the abnormal is frequently not detected until they are in serious trouble. They may often go on behaving like perfectly normal people for several years between one outbreak and another. Their most frequent digressions from the social mores are lying, stealing, alcohol or drug addiction, and sexual immorality. They may have short periods of true psychopathic excitement or depression following the discovery of a series of their asocial or antisocial deeds. They differ from some criminal types in their inability to profit from experience and in that they seem to commit asocial acts with little thought of possible gain to themselves or of avoiding discovery.

⁹ Hathaway and Monachesi interpret K as a measure of **de-
ness and a lack of candor.** Op. cit., p. 18.

- Mf The Interest Scale. Measures the tendency toward masculinity or femininity of interest pattern. Two scoring keys were provided, for males and for females. The papers of this study were scored by both scales although the meaning of the female scale, for male subjects, is not known.
- Pa The Paranoia Scale. Persons characterized by suspiciousness, oversensitivity, and delusions of persecution, with or without expansive egotism.
- Pt The Psychasthenia Scale. Persons who are troubled by phobias or compulsive behavior. The compulsive behavior may be either explicit, as expressed by excessive hand washing, vacillation, or other ineffectual activity, or implicit, as in the inability to escape useless thinking or obsessive ideas. The phobias include all types of unreasonable fear of things or situations as well as overreaction to more reasonable stimuli.
- Sc The Schizophrenia Scale. Those persons who are characterized by bizarre and unusual thoughts or behavior. There is a splitting of the subjective life of the schizophrenic person from reality so that the observer cannot follow rationally the shifts in mood or behavior.
- Ma The Hypomania Scale. The personality factor characteristic of persons with marked overproductivity in thought and action. The word "hypomania" refers to a lesser state of mania. Although the real manic patient is the lay person's prototype for the "insane," the hypomanic person seems just slightly off normal. The hypomanic patient has usually gotten into trouble because of undertaking too many things. He is active and enthusiastic. Contrary to common expectations he may also be somewhat depressed at times. His activities may interfere with other people through his attempts to reform social practice, his enthusiastic stirring up of projects in which he then may lose interest, or his disregard of social conventions. In the latter connection he may get into trouble with the law. A fair percentage of patients diagnosed psychopathic personality are better called hypomanic.

There were other inventories that might have been included in the place of some of the above. However, the selection of this

battery was made because it included more factors or traits in an equal amount of administering time. Of the inventories selected, only the Johnson Temperament Analysis had inadequate reviews in the Mental Measurement Yearbook, mainly because at the time the review was written there had not been any reports based on its use. The writer felt that some of the traits included--specifically, the subjective, the aggressive, the critical, and the self-mastery traits--would be of particular value in identifying differences in the thinking of successful and unsuccessful parolees. The material presented by Johnson in the manual concerning research that had been carried out with the scale and of research underway, convinced the writer that the use of the scale would add to the value of the present study.

Many of the studies which have been completed on parole violation figures indicate that the majority of the violations were within the first year of parole. Witmer¹⁰ found that 88 percent of the violations in her study occurred within the first six months. The latest figures available for this state were for the first nine months of 1950. Table II shows the months served on parole prior to violation. This table shows that 75.8 percent of those who were going to violate their paroles did so before the end of one year. These figures indicated that a waiting period of one year would be adequate to identify the majority of the unsuccessful parolees. Thus, by administering the five inventories to a group of parolees and then by waiting a year to determine which of the group were successful, the writer would have obtained the responses of a group of successful parolees which could be compared to the responses of a group of unsuccessful parolees.

¹⁰ Witmer, op. cit., p. 384.

TABLE II

PAROLE SERVICE PRIOR TO VIOLATION FOR 529 VIOLATORS
DURING THE FIRST NINE MONTHS OF 1950

| Time Served | No. | Pct. |
|---------------------------------------|-----|------|
| 1 day to 1 month | 70 | 13.2 |
| Over 1 month to 3 months | 76 | 14.4 |
| Over 3 months to 6 months | 125 | 23.6 |
| Over 6 months to 9 months | 82 | 15.5 |
| Over 9 months to 1 year | 48 | 9.1 |
| Over 1 year to 1-1/2 years | 63 | 11.9 |
| Over 1-1/2 years to 2 years | 39 | 7.4 |
| Over 2 years to 2-1/2 years | 16 | 3.0 |
| Over 2-1/2 years to 3 years | 7 | 1.3 |
| Over 3 years to 3-1/2 years | 1 | 0.2 |
| Over 3-1/2 years to 4 years | 1 | 0.2 |
| Over 4 years to 4-1/2 years | 1 | 0.2 |

The use of such inventories permitted scores which could be translated into means and standard deviations for the successful and nonsuccessful groups of parolees. The determination of whether or not any obtained differences were real differences would involve some means of testing the significance of the differences. A test of significance which readily lent itself to this type of data was the "critical ratio." The difference between two statistics, such as two means, is called reliable or significant when the probability is high that the difference cannot be explained away as temporary or accidental. The "critical ratio" is a means of testing this significance. It employs a ratio of the obtained difference between two statistics and the standard error of that difference. Confidence in the significance of the difference increases as the probability of error decreases.¹¹

The answer to the question of when a difference is to be taken as statistically significant depends on the probability of the given difference arising "by chance." Usually a difference will be marked as "significant" when the gap between the two statistics points to or signifies a true difference in the parameters in the population from which the samples were drawn. It would seem to be fairly obvious, then, that before a judgment of significance or nonsignificance can be made, some point or points must be found along a probability scale which will serve to separate these two judgment categories. At the same time, it must be recognized that judgments of significance are never all-or-none, but range over a wide scale of probabilities. Experimenters have for convenience chosen several arbitrary standards--called levels of significance or confidence--of

¹¹ Henry F. Garrett, Statistics in Psychology and Education (New York: Longmans, Green and Co., 1953), pp. 212-215.

which the .95 and the .99 levels are the most often used.¹² The confidence with which one accepts a difference as significant or non-significant will depend on the level of significance reached. In the normal curve of distribution, ± 1.96 standard deviations mark off the points to the left and to the right of which lie 5 percent of the cases ($2\frac{1}{2}\%$ at each end). When a critical ratio (CR) is 1.96 or more, then it includes at least 95 percent of the cases. Therefore, a level of significance of .95 is considered significant on the grounds that in no more than once in twenty trials would the difference arise "by chance." The .99 level of significance is more exacting than is the .95 level. Again, in the normal curve of distribution, ± 2.58 standard deviations mark off points to the left and right of which lie 1 percent of the cases. Thus a CR of 2.58 would include 99 percent of the cases. If the CR is 2.58 or more, therefore, it is extremely significant on the grounds that not more than once in a hundred trials would such a difference be due to chance. It should be emphasized, again, that those standards which have been established as indicating significance are arbitrary standards usually chosen along a probability scale.

¹² In common use the levels of significance are usually referred to as the 5 percent and the 1 percent levels of confidence, respectively. There will be a great deal of discussion in this study referring to the various levels of significance. The writer has hoped to avoid confusion in this regard by consistently using the positive end of the scale of probability when referring to a significance level. Thus, through this study the closer a level of significance approaches 1.00, the greater will be the confidence in the significance of the difference. For example, later in the report are tables which report the various levels of significance obtained from several comparisons of scores on the Guilford-Martin Inventory of Factors GAMIN. These levels of significance range from .008 to .989. The .008 level of significance is almost zero and for this study indicates that very little confidence could be placed in the significance of the difference. On the other hand, the .989 level of significance is very close to 1.00 and indicates that a great deal of confidence could be placed in the significance of that difference.

Population figures for Michigan's institutions as of October, , are reported in Table III. The number of releases through le in the year 1951 for these institutions are reported in Table The latter indicated that a majority of the subjects for the study ld come from the State Prison of Southern Michigan located at kson, Michigan, inasmuch as the majority of the state's paroles re from that institution. The House of Correction and Branch ison located at Marquette, Michigan, was eliminated from the study cause of the travel distance involved, and the Detroit House of orrection located at Plymouth, Michigan, was eliminated because it as not a state-owned institution, although the state houses some of s inmates there. The Michigan Reformatory is at Ionia, Michigan, and the Cassidy Lake Technical School is at Chelsea, Michigan.

In Michigan, the parole board interviews prospective parolees to determine if parole should be granted. If parole is granted, investigations of home, community, and job placement are ordered. These investigations, together with the clerical work involved in the issuance of the parole certificate, take approximately one month. This one-month waiting period lent itself to the study at hand. The inventories to be used in this study could be administered to a group of inmates who had been granted parole and who were waiting to leave the institutions. Then, after the waiting period, the successful and unsuccessful parolees could be identified and their responses to the inventories could be compared to determine if there were differences in their thinking at the time they were granted parole.

In this manner the five inventories that had been selected for the study--i.e., the Guilford-Martin Inventory of Factors GAMIN, Guilford's Inventory of Factors STDCR, the California Mental Health Analysis, the Johnson Temperament Analysis, and the Minnesota Multiphasic Inventory--were administered to those inmates of the

TABLE III

POPULATION FIGURES FOR MICHIGAN'S PENAL INSTITUTIONS
ON OCTOBER 3, 1952

| Institution | Population |
|---|------------|
| State Prison of Southern Michigan | 5,990 |
| Michigan Reformatory | 1,275 |
| Michigan Branch Prison at Marquette | 1,054 |
| Cassidy Lake Technical School | 165 |
| Detroit House of Correction: | |
| Men | 131 |
| Women | 319 |
| Total | 8,934 |

State Prison of Southern Michigan, the Michigan Reformatory, and the Cassidy Lake Technical School who had been granted paroles and who were waiting to be released. The inmates being tested had already obtained their paroles and were further assured that the results of the tests to be taken would have nothing to do with their cases thereafter. The fact that they had already obtained their paroles tended to reduce any anxiety and apprehension regarding the testing itself.

The initial administration of the inventories took place at the State Prison of Southern Michigan. The inventories were administered in the evenings at the state prison at Jackson, Michigan, but at the other two institutions they were administered during the day. It was

TABLE IV

RELEASE THROUGH PAROLE FROM MICHIGAN'S
PENAL INSTITUTIONS DURING 1951

| Institution | Paroles |
|---|---------|
| State Prison of Southern Michigan | 1,482 |
| Michigan Reformatory | 575 |
| Michigan Branch Prison at Marquette | 127 |
| Cassidy Lake Technical School | 166 |
| Detroit House of Correction | 156 |
| Total | 2,506 |

soon discovered that the time required to complete the inventories was from five to eight hours, for those who were able to complete them. The testing period at the state prison was broken up into hour sessions. Many of the inmates were able to finish the inventories in two sittings, but a third sitting was required for the over readers. The order of administering the inventories was as follows: The Mental Health Analysis, the GAMIN, the STDCCR, the Person Temperament Analysis, and the MMPI. The Mental Health Analysis was printed with larger print than the others, was in easily understood terminology, and printed on what the publishers called "eaze" paper; consequently, the writer decided it would aid in getting the inmates in the proper frame of mind for the remainder of the testing. The MMPI was so long (566 items) that it was given

last. There was no reason for the order of administering the remaining three tests other than the writer's decision to keep the order consistent. Each man was told that he could begin a new inventory as soon as he had finished the one on which he was working. Cigarettes were placed on the tables and the men were told they could smoke as they worked.

As a means of indoctrination for each new group, the writer discussed the objectives of the study in the light of the inmates' own experiences. He pointed out to them the various ways that the results might serve to benefit the inmate population. He suggested that if a valid scale of parolability could be discovered, it would aid in the discovery of those cases that might be paroled before their minimum sentence had expired, and that it would aid in the determination of how long a parole violator would have to be detained after his return to prison. The writer also pointed out that such a scale might aid the parole board in determining whether or not an individual should be continued beyond his minimum term. This indoctrination seemed desirable to obtain the full cooperation of the inmates. If they had simply been told they were to devote approximately eight hours of their time to a very laborious task of answering 1,309 questions without understanding the reason for doing so, the inmates would undoubtedly have reacted with little interest or care. The writer could have been fearful that the answer sheets would have been marked the easiest way possible, without much thought, or possibly without the inmate's even bothering to read the questions. In deciding at this point the writer could anticipate a great deal of lost time and effort unless he obtained the interest and cooperation of the parolees. It was surprising to note the interest engendered in the inmates for the study, and almost all of them cooperated wholeheartedly. Some refused to take part, and a further few indicated passive

resistance by spoiling their answer sheets in some manner. These papers were not scorable and were not included in the study proper. At the end of five months of testing, 471 men had been tested and the writer's records indicated 400 complete sets of answers to the five inventories.

During the year interim the writer corrected the answer sheets by the use of the standardized answer scales available. He also went through the parole files to obtain the following information for each individual included in the sample:

1. Institution from which paroled.
2. Race.
3. Date of parole.
4. Time served prior to parole.
5. Offense for which sentenced.
6. Parole officer or place of parole.
7. Age at time of parole.
8. Intelligence quotient.
9. Previous criminal history.

The review of the literature had indicated that the usual means of determining failure on parole was the practical criterion of the issuance of a parole violation warrant. This does not necessarily mean that those parolees for whom a warrant has not been issued are therefore making a success of their parole adjustment, since warrants are requested and issued usually only as a last resort. Thus, many parolees are able to stumble through their parole period, or perhaps are led through by the parole officer, without any real capacity for adequate community adjustment. However, in a study of this nature it would not be possible to determine the actual degree of adjustment for each and every parolee from a study of his reactions to the community, the home, his employment, and his use of leisure

time. Therefore, the issuance of a parole violation warrant has been found to be the most practical means of differentiating between the successful and unsuccessful parolee. This measure of success or failure is a clear, objective measure which can be obtained from the parole files.

At the end of one year, a review of the parole files revealed that parole violation warrants had been issued for 36.5 percent of the sample population. The writer had recorded the names and numbers of the parolees under the supervision of the various parole officers. Lists were sent to each parole officer with a request that he rate his parolees as to whether their adjustment was excellent, above average, below average, or borderline. A space was also provided for the parole officer to check if the parolee had violated, this information serving as a means for double-checking the writer's figures.

The review of the parole files had revealed that thirty parolees had been discharged from their paroles and that forty-seven others had been paroled out of the state. The violators were in three groups: technical violators; violators with new sentences; and absconders.

Kelley,¹³ Forlano and Pintner,¹⁴ and others have shown that it is advisable to use extreme groups for statistical studies of this nature. Inasmuch as the three categories of parole violators would be included in the lower extreme grouping, the writer decided that the excellent and high average groups should be included in a comparable

¹³ T. L. Kelley, "The Selection of Upper and Lower Groups for the Validation of Test Items," Journal of Educational Psychology, 30:17-24, January, 1939.

¹⁴ G. Forlano and R. Pintner, "Selection of Upper and Lower Groups for Item Validation," Journal of Educational Psychology, 32: 544-49, October, 1941.

high-extreme group. This left the low-average and the borderline groups at the center of the sample population. Because the thirty dischargees had completed their paroles with satisfactory adjustment they were included in the high-extreme group. The writer studied the parole reports of the forty-seven out-of-state parolees and concluded that ten of them should also be included in the "best" group. This conclusion was based on the completeness of the parole officers' reports and the writer's knowledge of the parole systems of the various states. It was felt that if there was any question regarding the parolee's satisfactory adjustment, then that parolee should be placed in the "doubtful" category. The adjustment of those other than the ten mentioned above was questionable and the "doubtful" category seemed best suited for them. This system of classification resulted in the establishment of three categories: the violators at one extreme; the "doubtful" group in the middle; and the "best" group at the other extreme. This classification has been maintained for the first half of the study. Table V indicates the number and type of parolees that made up each category of the classifications.

For a variety of reasons it was not possible for all of the individuals to complete each of the tests. Table VI indicates the number of answer sheets available for each inventory and for each of the classifications. There were at least 147 answer sheets available for the two extreme groups with a total of at least 417 answer sheets for the entire group in each test.

Sample Population

Dividing the parolees into three categories provided a means of comparison of the three types to obtain a more complete picture of the sample population used in this study. The material presented

TABLE V

CLASSIFICATION OF PAROLEES INTO THREE CATEGORIES
ACCORDING TO PAROLE ADJUSTMENT
OR TYPE OF VIOLATION

| Parole Category | | No. | Pct. of
Total | Pct. of
Cate-
gory |
|-------------------------|------------------------------|-----|------------------|--------------------------|
| Major
Classification | Adjustment
or Violation | | | |
| Violators | | 172 | 36.52 | |
| | Technical | 78 | 16.5 | 45.4 |
| | New Sentence | 62 | 13.2 | 36.0 |
| | Absconders | 32 | 6.8 | 18.6 |
| "Best" | | 163 | 34.61 | |
| | Excellent | 32 | 6.8 | 19.6 |
| | High Average | 91 | 19.3 | 55.8 |
| | Discharged | 30 | 6.4 | 18.4 |
| | Out-of-state
Acceptable | 10 | 2.1 | 6.2 |
| "Doubtful" | | 136 | 28.87 | |
| | Low Average | 69 | 14.6 | 50.8 |
| | Borderline | 30 | 6.4 | 22.0 |
| | Out-of-state
Questionable | 37 | 7.9 | 27.2 |
| Total | | 471 | | |

TABLE VI

TOTAL NUMBER OF INVENTORIES COMPLETED FOR EACH
OF THE THREE CATEGORIES OF PAROLEES

| Inventory | Number | | | |
|----------------------------------|----------------|------|---------------|-------|
| | Vio-
lators | Best | Doubt-
ful | Total |
| Mental Health Analysis | 167 | 162 | 131 | 460 |
| Multiphasic Inventory | 147 | 147 | 123 | 417 |
| Guilford-Martin GAMIN | 163 | 159 | 126 | 448 |
| Guilford STDCR | 165 | 155 | 123 | 443 |
| Johnson Temperament Analysis . . | 163 | 153 | 126 | 442 |

in the remainder of this chapter is presented from the point of view of interest only. As stated previously, this study is not meant as a validation of the experience table factors for Michigan parolees nor to discover new factors of that type. However, the information presented hereafter was available for this population and the writer felt it should be included because of the interest it will have for many readers.

Table VII contains a comparison of the sample population according to the offense for which each was serving at the time of parole. The federal system of uniform crime reporting divides offenses into two major categories: offenses against property and offenses against persons. By using the critical ratio of the difference between percents as a test of significance, it is noted that the success

TABLE VII

A COMPARISON OF SAMPLE POPULATION ACCORDING TO
OFFENSE FOR WHICH SERVING AT TIME OF PAROLE

| Offense | Total | Vio-
lators | Non-
vio-
lators | Best | Doubt-
ful |
|--|-------|----------------|------------------------|------|---------------|
| Breaking and entering,
night | 96 | 32 | 64 | 29 | 35 |
| Breaking and entering,
day | 11 | 6 | 5 | 2 | 3 |
| Larceny from dwelling . . | 7 | 4 | 3 | 1 | 2 |
| Larceny from/in store . . | 17 | 10 | 7 | 2 | 5 |
| Larceny from/in building . | 11 | 4 | 7 | 5 | 2 |
| Entering | 4 | 3 | 1 | 0 | 1 |
| Larceny from/in factory . | 1 | 0 | 1 | 0 | 1 |
| Entering without breaking . | 1 | 0 | 1 | 0 | 1 |
| Unlawfully driving away
auto | 29 | 10 | 19 | 13 | 6 |
| Breaking and entering,
auto | 10 | 5 | 5 | 2 | 3 |
| Larceny from auto | 13 | 5 | 8 | 6 | 2 |
| Entering auto | 3 | 2 | 1 | 0 | 1 |
| Larceny by trick | 6 | 4 | 2 | 1 | 1 |
| Larceny by conversion . . | 4 | 1 | 3 | 1 | 2 |
| Larceny from person . . . | 9 | 3 | 6 | 5 | 1 |
| Grand larceny | 16 | 7 | 9 | 4 | 5 |
| Embezzling | 4 | 1 | 3 | 2 | 1 |
| Receiving stolen property . | 2 | 1 | 1 | 0 | 1 |
| False pretenses | 2 | 0 | 2 | 1 | 1 |
| Possession of burglary
tools | 1 | 1 | 0 | 0 | 0 |
| Uttering and publishing . . | 24 | 10 | 14 | 9 | 5 |
| Forgery | 9 | 6 | 3 | 1 | 2 |
| Violation of check law . . . | 10 | 2 | 8 | 6 | 2 |
| Malicious destruction of
property | 2 | 1 | 1 | 1 | 0 |
| Violation of drug law . . . | 19 | 5 | 14 | 6 | 8 |
| Carrying concealed
weapons | 8 | 2 | 6 | 3 | 3 |

TABLE VII (Continued)

| Offense | Total | Vio-
lators | Non-
vio-
lators | Best | Doubt-
ful |
|--|-------|----------------|------------------------|------|---------------|
| Escape | 5 | 3 | 2 | 0 | 2 |
| Disorderly, 3rd | 6 | 2 | 4 | 0 | 4 |
| Drunk driving, 2nd | 1 | 0 | 1 | 0 | 1 |
| Leaving scene of
accident | 1 | 1 | 1 | 1 | 0 |
| Felonious driving | 1 | 1 | 0 | 0 | 0 |
| Violation gaming law | 2 | 0 | 2 | 2 | 0 |
| Robbery, armed | 28 | 13 | 15 | 10 | 5 |
| Robbery, not armed | 27 | 5 | 22 | 9 | 13 |
| Conspiracy to rob,
armed | 2 | 0 | 2 | 2 | 0 |
| Manslaughter | 5 | 0 | 5 | 4 | 1 |
| Assault less than murder | 1 | 1 | 0 | 0 | 0 |
| Assault to murder | 2 | 0 | 2 | 2 | 0 |
| Felonious assault | 14 | 3 | 11 | 7 | 4 |
| Negligible homicide | 2 | 1 | 1 | 1 | 0 |
| Statutory rape | 16 | 3 | 13 | 12 | 1 |
| Indecent liberties | 18 | 4 | 14 | 9 | 5 |
| Gross indecency | 4 | 2 | 2 | 0 | 2 |
| Assault to rape | 7 | 1 | 6 | 3 | 3 |
| Incest | 2 | 0 | 2 | 2 | 0 |
| Sodomy | 2 | 2 | 0 | 0 | 0 |
| Attempted sodomy | 1 | 1 | 0 | 0 | 0 |
| Bigamy | 1 | 0 | 1 | 1 | 0 |
| Nonsupport | 3 | 1 | 2 | 2 | 0 |
| Abandonment | 1 | 0 | 1 | 0 | 1 |

rate of those individuals who committed crimes against property is not significantly different from the success rate for all offenders. The reader will remember that the violation rate for the total group was 36.5 percent, which would mean that the success rate is 63.5 percent. The success rate for those convicted for crimes against property is 60.4 percent, and difference of 2.9 percent. The CR of this difference is .83, with a level of significance of .59. However, a comparison of the success rate of those individuals who were convicted of offenses against persons, which is 72.8 percent, as compared to the total success rate reveals a significant difference. The difference in this case is 9.3 percent with a CR of 2.06 and a level of significance of .96. This indicates that a significantly greater number of individuals who commit offenses against persons, when compared to the average rate of success, are likely to be successful in their adjustment to the community after incarceration.

The comparison of the success rate of those individuals convicted of crimes against property, which is 60.6 percent, with the 72.8 percent success rate of individuals convicted of crimes against persons, resulted in a difference of 12.2 percent, with a CR of 2.56 and a level of significance of .989, which is a marked significance. These figures indicate that a significantly greater number of individuals who commit offenses against persons are likely to be successful in their parole adjustments than will be individuals convicted of offenses against property. These comparisons are presented in table form in Table VIII.

The writer also computed the CR for those individuals who had been sentenced for sex offenses as compared with the success rate for the total group. The success rate of those convicted of sex offenses was 74.0 percent, a difference from the average success rate of 10.5 percent. This CR was 1.56 with a level of significance of .88.

TABLE VIII

THE SIGNIFICANCE OF THE DIFFERENCES IN THE SUCCESS
RATES OF VARIOUS GROUPS OF OFFENDERS

| Classification of
Groups of
Offenders | Parole
Success
Rate
(pct.) | Com-
parisons | Differ-
ences
(pct.) | Crit-
ical
Ratios | Level
of
Sig-
nifi-
cance |
|---|-------------------------------------|----------------------|----------------------------|-------------------------|---------------------------------------|
| 1. Total success
rate | 63.5 | 1 vs. 2 ¹ | 2.9 | 0.83 | 0.590 |
| 2. Crimes against
property | 60.0 | 1 vs. 3 | 9.3 | 2.06 | 0.960 |
| 3. Crimes against
persons | 72.8 | 2 vs. 3 | 12.2 | 2.56 | 0.989 |
| 4. Sex crimes . . . | 74.0 | 1 vs. 4 | 10.5 | 1.56 | 0.880 |

¹ The numerals refer to those in the first column.

The difference here is approaching significance and would imply a tendency for more of the sex offenders to make a success on parole greater than the average offender. Reported in terms of percents, 74 percent of those individuals who were sentenced for sex offenses were making a success of their paroles at the end of one calendar year. The reader will remember that the average success rate, for the total group, was 63.5 percent. Of the two sex crimes that included the most individuals in this study (statutory rape and indecent liberties), 79.4 percent were making satisfactory adjustments. A total of 72.8 percent of those individuals who were convicted of crimes

against persons were making a success of their paroles as opposed to 60.6 percent of those who were convicted of crimes against property. The critical reader will note that the success rate for the offenders against persons and for sex offenders is approximately the same but that the CR is much different. The reason for this is found in the number of cases included in the two categories. There were 188 cases included in the offenders against persons group while there were only 50 in the sex offender group. The smaller the number of cases involved, other things being equal, the greater will be the standard error; and the resulting critical ratios, although the obtained differences might be the same, will be much different, as in this case. If the trend indicated by this study, that of 74 percent success rate for this group, were to be found in a study involving several hundred sex cases, the results could probably be accepted with confidence. There should be a study of this nature for Michigan parolees, to determine whether or not there is a significant difference in this direction.

Table IX shows the sample population by institutions. As stated previously, the violation rate for the total group was 36.5 percent. Taken by institutions we find that the violation rates for the three institutions included in this study were as follows:

| | |
|---|-------|
| State Prison of Southern Michigan | 38.0% |
| Michigan Reformatory | 32.8% |
| Cassidy Lake Technical School | 28.2% |

It is noted that the violation rates are in proportion to the total populations of the institutions. This may suggest that the amount of individual attention that the inmate receives at the respective institutions is reflected in the parole violation rate of these institutions.

TABLE IX
SAMPLE POPULATION BY INSTITUTIONS

| Parole
Classification | Institution | | | Totals |
|--------------------------|---|-------------------------|-------------------------------------|--------|
| | State Prison
of Southern
Michigan | Michigan
Reformatory | Cassidy Lake
Technical
School | |
| Total sample . | 377 | 55 | 39 | 471 |
| Violators . . . | 143 | 18 | 11 | 172 |
| Nonviolators . | 234 | 37 | 28 | 299 |
| Best | 135 | 16 | 12 | 163 |
| Doubtful | 99 | 21 | 16 | 136 |

The sample population by race is reported in Table X. Sixty-one and two-tenths percent of the parolees were white, while Negroes made up 37.4 percent of the total sample. However, only 33.3 percent of the white parolees violated parole, while 40.9 percent of the Negroes were parole violators. The difference between these percentages is 7.6 percent. The CR of this difference is 1.60 with a level of significance of .89. This is not a significant difference, though it is approaching significance.

The sample population by age at the time of parole is reported in Table XI. The range was from 16 years to 71 years. The following CR's were obtained from the differences between the mean age at time of parole for the various categories:

TABLE X
SAMPLE POPULATION BY RACE

| Parole
Classification | Race | | | | | | | | Totals |
|--------------------------|-------|------|-------|-------|--------|------|---------|------|--------|
| | White | | Negro | | Indian | | Mexican | | |
| | No. | Pct. | No. | Pct. | No. | Pct. | No. | Pct. | |
| Total sample . | 288 | 61.2 | 176 | 37.4 | 3 | 0.6 | 4 | 0.8 | 471 |
| Violators . . . | 96 | 55.8 | 72 | 41.9 | 2 | 1.15 | 2 | 1.15 | 172 |
| Nonviolators . | 192 | 64.3 | 104 | 34.8 | 1 | 0.3 | 2 | 0.6 | 299 |
| Best | 107 | 65.7 | 54 | 33.05 | 0 | 0 | 2 | 1.25 | 163 |
| Doubtful | 85 | 62.5 | 50 | 36.8 | 1 | 0.7 | 0 | 0 | 136 |

Best versus Doubtful 3.63

Best versus Violators 3.23

Nonviolators versus Violators 1.95

Violators versus Doubtful56

each case the direction of the CR was in favor of the first-men-
ned group. These CR's indicate that the difference in age between
e best and the violators, between the best and the doubtful, and be-
een the nonviolators and the violators is significant. This is another
y of indicating what many other reporters have found--that the
er parolee tends to be more successful in his adjustment.

The record folder of each parolee contains an intelligence
tient that was obtained during the quarantine period of the individ-
s incarceration. Unfortunately, the same test had not been used

TABLE XI

SAMPLE POPULATION BY AGE AT TIME OF PAROLE

| Age
in
Years | Parole Classification | | | | |
|--------------------|-----------------------|-------------------|-----------|-------|----------|
| | Total | Non-
violators | Violators | Best | Doubtful |
| 15-19 | 27 | 19 | 8 | 9 | 10 |
| 20-24 | 122 | 74 | 48 | 32 | 42 |
| 25-29 | 114 | 63 | 51 | 33 | 30 |
| 30-34 | 77 | 54 | 23 | 30 | 24 |
| 35-39 | 55 | 32 | 23 | 17 | 15 |
| 40-44 | 29 | 21 | 8 | 14 | 7 |
| 45-49 | 23 | 17 | 6 | 13 | 4 |
| 50-54 | 14 | 10 | 4 | 7 | 3 |
| 55-59 | 6 | 6 | 0 | 5 | 1 |
| 60-64 | 2 | 2 | 0 | 2 | 0 |
| 65-69 | 1 | 1 | 0 | 1 | 0 |
| 70-74 | 1 | 0 | 1 | 0 | 0 |
| Totals | 30.475 | 31.10 | 29.385 | 32.98 | 28.84 |
| Averages | 9.60 | 10.10 | 8.55 | 11.45 | 8.40 |

in all cases. The majority of the IQ's were obtained from an interpretation of the Army Alpha scores. However, the Wechsler-Bellevue had been given to those individuals who could not read and as a validation of those who had extremely low Army Alpha scores. Table XII reports the IQ as noted in the record folders of the sample population. The range of IQ's was from a low 42 to a high 134. The difference in the means of the "best" as opposed to the "doubtful" was the greatest difference. The CR of this difference was 1.22 with a level of significance of .78. This is not a significant difference. The interpretation of the above information is that for this sample the IQ, as measured and reported here, does not differentiate between the successful and the unsuccessful parolee.

Table XIII reports the time served by the various groups of the sample population. It should be pointed out that the time served, for this study, includes the total number of months served consecutively prior to the time of release. This does not necessarily mean the time served on the sentence from which paroled. For example, an individual who has been returned to prison as a parole violator with a new sentence has served an indefinite period on his old or previous sentence before starting the present one. In the same manner, an escapee continued serving on the sentence for which he was serving at the time of escape until it was terminated or annulled before he started serving the escape sentence.

As a result, it is possible that an inmate might have served several years on a previous sentence before he started serving on the sentence from which he was paroled at the time of this study. The time served as indicated by Table XIII reports the total number of months that the individual had served since he last entered prison before the present parole. Because one individual was released at the end of 20 years, it was necessary to compute both the means and

TABLE XII
SAMPLE POPULATION BY INTELLIGENCE

| IQ | Parole Classification | | | | |
|--------------|-----------------------|---------------|-----------|-------|----------|
| | Totals | Non-violators | Violators | Best | Doubtful |
| 40-44 | 1 | 1 | 0 | 0 | 1 |
| 45-49 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 1 | 1 | 0 | 0 | 1 |
| 55-59 | 2 | 0 | 2 | 0 | 0 |
| 60-64 | 3 | 1 | 2 | 1 | 0 |
| 65-69 | 14 | 8 | 6 | 6 | 2 |
| 70-74 | 34 | 24 | 10 | 11 | 13 |
| 75-79 | 60 | 38 | 22 | 18 | 20 |
| 80-84 | 60 | 38 | 22 | 20 | 18 |
| 85-89 | 47 | 31 | 16 | 20 | 11 |
| 90-94 | 51 | 32 | 19 | 18 | 14 |
| 95-99 | 59 | 42 | 17 | 21 | 21 |
| 100-104 | 40 | 23 | 17 | 10 | 13 |
| 105-109 | 33 | 19 | 14 | 10 | 9 |
| 110-114 | 22 | 16 | 6 | 12 | 4 |
| 115-119 | 21 | 10 | 11 | 7 | 3 |
| 120-124 | 11 | 7 | 4 | 5 | 2 |
| 125-129 | 7 | 5 | 2 | 2 | 3 |
| 130-134 | 5 | 3 | 2 | 2 | 1 |
| <hr/> | | | | | |
| Means | 91.82 | 91.65 | 92.115 | 92.61 | 90.495 |
| S.D. | 15.60 | 15.10 | 16.50 | 14.60 | 15.05 |

TABLE XIII

SAMPLE POPULATION ACCORDING TO TIME SERVED

| Time
Served
in
Months | Parole Classification | | | | |
|--------------------------------|-----------------------|-------------------|-----------|-------|----------|
| | Total | Non-
violators | Violators | Best | Doubtful |
| 1-6 | 22 | 13 | 9 | 8 | 5 |
| 7-12 | 119 | 74 | 45 | 38 | 36 |
| 13-18 | 107 | 71 | 36 | 39 | 32 |
| 19-24 | 68 | 39 | 29 | 16 | 23 |
| 25-30 | 39 | 22 | 17 | 8 | 14 |
| 31-36 | 33 | 23 | 10 | 12 | 11 |
| 37-42 | 16 | 11 | 5 | 9 | 2 |
| 43-48 | 24 | 16 | 8 | 10 | 6 |
| 49-54 | 7 | 4 | 3 | 4 | 0 |
| 55-60 | 7 | 5 | 2 | 4 | 1 |
| 61-66 | 7 | 3 | 4 | 0 | 3 |
| 67-72 | 7 | 5 | 2 | 4 | 1 |
| 73-78 | 5 | 5 | 0 | 4 | 1 |
| 79-84 | 4 | 3 | 1 | 2 | 1 |
| 85-90 | 1 | 1 | 0 | 1 | |
| 91-96 | 0 | 0 | 0 | 0 | |
| 97-102 | 0 | 0 | 0 | 0 | |
| 103-108 | 1 | 1 | 0 | 1 | |
| 109-114 | 2 | 1 | 1 | 1 | |
| 115-120 | 0 | 0 | | 0 | |
| 121-126 | 1 | 1 | | 1 | |
| ⋮ | | | | | |
| 235-240 | 1 | 1 | | 1 | |
| Mean | 24.2 | 26.8 | 22.44 | 28.3 | 21.5 |
| S.D. | 20.70 | 22.74 | 16.62 | 27.06 | 14.76 |
| Median | 17.99 | 17.78 | 17.83 | 17.96 | 17.56 |

the medians for the various groupings of the population. A comparison of the medians, which do not give such great weight to the extreme case, indicates that the differences were very slight. Critical ratios were not computed for the mean difference because the writer felt that the extreme case would tend to invalidate the CR's.

Table XIV compares the previous records of the sample population. The term "previous record" denotes the police record of the individual prior to the present conviction. It includes previous arrests, juvenile institutionalizations, probations, convictions, and any other recorded information that constitutes the individual's known antisocial history. There are several interesting bits of information to be gained from this table. First of all, it is noted that 80.2 percent of those who had no previous criminal history of any kind were making a success of their paroles. The difference between this success rate and the average success rate, which was 63.5 percent, was 16.7 percent. The CR of this difference was 3.64 with a level of significance of .9996, an extremely significant difference.

The success rate for what are normally regarded as first offenders, which includes those with no previous records, was 68.3 percent. In penology, the term "first offender" includes all those persons who are serving their first prison sentence. They may have been in various juvenile institutions, in jail many times, or even on probation as a result of a felony conviction, but they are still regarded as "first offenders" because they are serving a sentence in prison for the first time. This would automatically include those who have had no previous criminal record of any kind. Without the "no previous record" group, the success rate for the so-called "first offenders," for the sample in this study, drops to 61.6 percent.

TABLE XIV

SAMPLE POPULATION ACCORDING TO PREVIOUS RECORD

| Previous Record | Parole Classification | | | | |
|--|-----------------------|----------------|------------------------|------|---------------|
| | Total | Vio-
lators | Non-
vio-
lators | Best | Doubt-
ful |
| None (no previous history
of any kind) | 101 | 20 | 81 | 50 | 31 |
| Juvenile institutions | 16 | 7 | 9 | 3 | 6 |
| Probation | 61 | 18 | 43 | 27 | 16 |
| Juvenile institutions and
probation | 4 | 3 | 1 | 1 | 0 |
| Many arrests | 19 | 5 | 14 | 5 | 9 |
| Jail | 36 | 18 | 18 | 6 | 12 |
| Probation and jail | 22 | 9 | 13 | 7 | 6 |
| Juvenile institutions,
probation, and jail . . . | 6 | 3 | 3 | 2 | 1 |
| One parole violation | 19 | 9 | 10 | 4 | 6 |
| Two parole violations . . . | 8 | 3 | 5 | 0 | 5 |
| Three parole violations . . | 1 | 0 | 1 | 1 | 0 |
| Juvenile, probation, and
parole violation | 4 | 3 | 1 | 1 | 0 |
| One previous sentence . . . | 49 | 20 | 29 | 17 | 12 |
| One previous and
juvenile institution . . . | 9 | 0 | 9 | 5 | 4 |
| One previous and jail . . . | 25 | 14 | 11 | 4 | 7 |
| One previous and parole
violation | 9 | 4 | 5 | 4 | 1 |
| One previous and P.V.
with new sentence | 20 | 8 | 12 | 6 | 6 |
| Two previous sentences . . | 30 | 15 | 15 | 10 | 5 |
| Two previous and many
arrests | 1 | 0 | 0 | 0 | 1 |
| Two previous and
juvenile institutions . . . | 3 | 0 | 3 | 1 | 2 |
| Two previous and
parole violation | 2 | 1 | 2 | 0 | 1 |
| Two previous and P.V.
with new sentence | 7 | 4 | 3 | 2 | 1 |

TABLE XIV (Continued)

| Previous Record | Parole Classification | | | | |
|--|-----------------------|----------------|------------------------|------|---------------|
| | Total | Vio-
lators | Non-
vio-
lators | Best | Doubt-
ful |
| Three previous | 10 | 2 | 8 | 4 | 4 |
| Three previous and
parole violation | 1 | 1 | 0 | 0 | 0 |
| Three previous and P.V.
with new sentence | 1 | 1 | 0 | 0 | 0 |
| Four previous | 3 | 1 | 2 | 2 | 0 |
| Five previous | 1 | 1 | 0 | 0 | 0 |

The reader will remember that the average success rate for all parolees was 63.5 percent. Comparing the average success rate to the success rate for "first offenders," excluding those with no previous history, results in a difference of 1.9 percent, with a CR of .39 and a level of significance of .303. There is a good possibility that a difference of this size would result from chance factors and very little confidence can be placed in its significance.

The reader will note that a heavy line has been drawn above the classification of three previous sentences. It will be noted that sixteen individuals who were a part of this study had served three previous sentences or more at the time of their present incarceration. It is interesting to note that 62.5 percent of these individuals were making a success of their paroles. As a matter of fact, the CR of the difference between the success rate of the so-called "first offenders," which was 68.3 percent when compared with the success rate of those individuals with three previous sentences or more, a

rence of 5.8 percent, is .49 with a level of significance of .376. difference in the success rates of the "first offenders," excluding the group with no previous arrests, and the offenders with three or more previous sentences is .9 percent. The CR of this difference is .07, with a level of significance of .056. Both differences are very likely to be due to chance alone. However, these figures can only be regarded as meaningful because of the small number of cases in the group with three or more previous sentences.

It should be pointed out that because there were only sixteen cases in one of the groups for the figures just cited, there would be good reason to question the reliability of the figures. However, the implication of these figures, that the success rate for individuals with no previous record of any kind is comparatively high, that more than half of the individuals with three previous sentences or more are successful parolees, and that the success rate of the "first offenders," excluding those with no previous record, is not significantly different from repeated offenders, should be explored more completely in regard to the Michigan parole population.

Summary

The California Mental Health Analysis, the Guilford-Martin Inventory of Factors GMIN, the Guilford Inventory of Factors STDICR, the Johnson Temperament Analysis, and the Minnesota Multiphasic Personality Inventory were administered to a total of 471 inmates who were about to begin their paroles. Because 75 percent of the individuals who are going to violate their paroles have violated at the end of the first year, the determination of parole success or failure, using the issuance of a violation warrant as the criterion, was established at the end of that period. Those who were still

making a success of their paroles were rated by their parole officers and the total sample population was divided into three classifications: the violators; the "best"; and a "doubtful" group. Tables were prepared which permitted a comparison of these three groups to parole outcome. They were presented as points of interest for a Michigan population and not as a means of validating previous studies or of discovering new historical factors that could be used in prediction.

A comparison of the three parole groups, on the basis of the offenses for which sentenced, indicated that those individuals who were sentenced for offenses against persons were significantly more successful on parole than the average rate of success for all offenses. Comparison of the violation rates of the various institutions included in the study indicated that the violations were in proportion to the total population of the institution, implying that the amount of individual attention may have a definite relationship to parole adjustment. The comparison by race indicated no significant relationship. The comparison for age pointed out that the older inmates tended to be the more successful parolees. The IQ did not prove to be significant. The comparison of successful and unsuccessful parolees by previous records brought out the fact that a Michigan population is much like others which have been reported, in that the best index of parolability, in this regard, was "no previous record." On the other hand, the success rate of the so-called "first offender," excluding those with no previous records, was not significantly different from the average success rate or the success rate of those offenders with three or more previous commitments.

CHAPTER IV

ANALYSIS OF STANDARDIZED INVENTORY FACTORS

The five adjustment inventories used in this study provided a total of forty-nine characteristics for which there were scoring scales supplied by the authors. This chapter will deal with an analysis of those characteristics through the comparison of the three groups of the sample population: the violators; the "best" of the successful parolees; and the "doubtful" group of the successful parolees.

The next five tables (Tables XV through XIX) have been included to permit a comparison of the sample population averages with those of the normative populations. The manuals of the inventories did not contain sufficient information in regard to the normative populations so that tests of the significance of the differences between the normative population and the sample population could be utilized. As a matter of fact, the mean scores for the normative populations were interpolated from the tables of norms provided in the manuals although the significance of the differences cannot be determined, the tables have been included because there will be many readers interested in this information.

The meaning of the difference between the normative average score and the sample average score was noted for each factor. If the sample population score was the more desirable score, the difference was noted as "better." However, if the normative score indicated was more desirable, the difference was noted "worse." This was done to indicate whether the difference was favorable or

TABLE XV

COMPARISON OF SAMPLE POPULATION SCORES WITH NORMS
ON THE GUILFORD-MARTIN INVENTORY OF FACTORS GAMIN

| GAMIN Factors | Norm ¹
Mean | Sample ² | | Differ-
ence ³ | Meaning
of
Differ-
ence ⁴ |
|---|---------------------------|---------------------|------|------------------------------|---|
| | | Mean | S.D. | | |
| G. General pressure
for overt activity . . | 13.0 | 10.03 | 4.52 | -2.97 | worse |
| A. Ascendency versus
submissiveness . . . | 20.5 | 20.02 | 5.70 | -0.48 | worse |
| M. Masculinity versus
femininity | 19.0 | 19.24 | 5.41 | +0.24 | better |
| I. Lack of inferiority
feelings | 34.0 | 31.41 | 9.28 | -2.59 | worse |
| N. Lack of nervous
tenseness | 25.5 | 25.38 | 9.38 | -0.12 | worse |

¹ 160 university students.

² 448 parolees.

³ + indicates that the mean of the sample exceed the norm.
- indicates that the mean of the sample is below the norm.

⁴ Better = sample population score is more desirable.
Worse = normative population score is more desirable.

TABLE XVI

COMPARISON OF SAMPLE POPULATION SCORES WITH NORMS
ON THE GUILFORD INVENTORY OF FACTORS STDCR

| STDCR Factors | Norm ¹
Mean | Sample ² | | Differ-
ence ³ | Meaning
of
Differ-
ence ⁴ |
|---|---------------------------|---------------------|------|------------------------------|---|
| | | Mean | S.D. | | |
| S. Social introver-
sion-extraversion. . | 16.5 | 17.8 | 8.3 | +1.3 | worse |
| T. Thinking introver-
sion-extraversion. . | 35.5 | 29.6 | 10.0 | -5.9 | better |
| D. Depression | 20.5 | 17.8 | 10.7 | -2.7 | better |
| C. Cycloid disposition. | 28.0 | 21.5 | 12.6 | -6.5 | better |
| R. Rhathymia | 41.5 | 36.5 | 11.2 | -5.0 | worse |

¹ 388 university students.

² 443 parolees.

³ + indicates that the mean of the sample exceeds the norm.
- indicates that the mean of the sample is below the norm.

⁴ Better = sample population score is more desirable.
Worse = normative population score is more desirable.

TABLE XVII

COMPARISON OF SAMPLE POPULATION SCORES WITH NORMS
ON THE CALIFORNIA MENTAL HEALTH ANALYSIS

| Mental Health Factors | Norm ¹
Mean | Sample ² | | Differ-
ence ³ | Meaning
of
Differ-
ence ⁴ |
|--|---------------------------|---------------------|-------|------------------------------|---|
| | | Mean | S.D. | | |
| A. Close personal
relationships | 14 | 15.97 | 3.29 | +1.97 | better |
| B. Interpersonal
skills | 13 | 16.42 | 2.88 | +3.42 | better |
| C. Social participation. | 15 | 12.54 | 3.95 | -2.46 | worse |
| D. Satisfying work
and recreation . . . | 17 | 14.29 | 3.24 | -2.71 | worse |
| E. Outlook and goals . | 15 | 16.86 | 3.76 | +1.86 | better |
| I. Mental health
assets | 73.5 | 76.05 | 12.30 | +2.55 | better |
| L. Behavioral
immaturity | 17 | 12.19 | 3.17 | -4.81 | worse |
| M. Emotional
instability | 16 | 11.69 | 3.89 | -4.31 | worse |
| Feelings of
inadequacy | 15 | 13.41 | 3.79 | -1.59 | worse |
| Physical defects . . | 14 | 18.36 | 2.54 | +4.36 | better |
| Nervous
manifestations | 16 | 15.68 | 3.40 | -0.32 | worse |
| Mental health
inabilities | 76.5 | 71.38 | 13.27 | -5.12 | worse |

¹ 1200 adults in eight communities.² 460 parolees.³ + indicates that the mean of the sample exceeds the norm.

- indicates that the mean of the sample is below the norm.

⁴ Better = sample population score is more desirable.

Worse = normative population score is more desirable.

TABLE XVIII

COMPARISON OF SAMPLE POPULATION SCORES WITH NORMS
ON THE JOHNSON TEMPERAMENT ANALYSIS

| Temperament Factors | Norm ¹
Mean | Sample ² | | Differ-
ence ³ | Meaning
of
Differ-
ence ⁴ |
|---------------------------|---------------------------|---------------------|------|------------------------------|---|
| | | Mean | S.D. | | |
| A. Nervous | 5.0 | 5.11 | 3.23 | +0.11 | worse |
| B. Depressive | 4.0 | 6.66 | 2.70 | +2.66 | worse |
| C. Active | 9.0 | 9.13 | 2.60 | +0.13 | better |
| D. Cordial | 12.5 | 11.92 | 3.33 | -0.58 | worse |
| E. Sympathetic | 12.3 | 12.49 | 3.07 | +0.19 | better |
| F. Subjective | 6.5 | 8.42 | 3.09 | +1.92 | worse |
| G. Aggressive | 7.8 | 7.97 | 2.45 | +0.17 | worse |
| H. Critical | 4.2 | 6.59 | 3.58 | +2.39 | worse |
| I. Self-mastery | 14.4 | 12.68 | 4.11 | -1.72 | worse |

¹ Unweighted norms from 100 men from business college,
ght school of high school level, and a few university students.

² 442 parolees.

³ + indicates that the mean of the sample exceeds the norm.
- indicates that the mean of the sample is below the norm.

⁴ Better = sample population score is more desirable.
Worse = normative population score is more desirable.

TABLE XIX

COMPARISON OF SAMPLE POPULATION SCORES WITH
NORMS ON THE MINNESOTA MULTIPHASIC
PERSONALITY INVENTORY

| Multiphasic Scales | Norm ¹
Mean | Sample ² | | Differ-
ence ³ | Meaning
of
Differ-
ence ⁴ |
|---|---------------------------|---------------------|-------|------------------------------|---|
| | | Mean | S.D. | | |
| L. Lie | 4.0 | 5.37 | 2.70 | +1.37 | worse |
| F. Validity | 3.0 | 7.36 | 7.27 | +4.36 | worse |
| K. Correction | 13.0 | 15.54 | 5.13 | +2.54 | worse |
| Hs(c). Hypochondriasis | | | | | |
| (with K) | 11.3 | 14.96 | 5.17 | +3.66 | worse |
| Hs. Hypochondriasis | 4.5 | 6.83 | 4.78 | +2.33 | worse |
| D. Depression | 16.6 | 19.47 | 4.50 | +2.87 | worse |
| Hy. Hysteria | 16.5 | 19.70 | 5.35 | +3.20 | worse |
| Pd(c). Psychopath (with K) | 19.0 | 27.50 | 3.50 | +8.50 | worse |
| Pd. Psychopath | 14.0 | 21.50 | 3.70 | +7.50 | worse |
| Mf. Interest (male) | 20.5 | 23.84 | 4.61 | +3.34 | worse |
| Mf ^m . Interest (female) | 37.5 | 25.33 | 4.40 | -12.17 | (5) |
| Pa. Paranoia | 8.0 | 10.53 | 3.97 | +2.53 | worse |
| Pt(c). Psychasthenia | | | | | |
| (with K) | 23.0 | 26.45 | 5.59 | +3.45 | worse |
| Pt. Psychasthenia | 10.0 | 11.11 | 7.42 | +1.11 | worse |
| Sc(c). Schizophrenia | | | | | |
| (with K) | 22.0 | 29.86 | 9.13 | +7.86 | worse |
| Sc. Schizophrenia | 9.5 | 14.45 | 10.73 | +4.95 | worse |
| Ma(c). Hypomania | | | | | |
| (with K) | 17.0 | 21.86 | 4.60 | +4.86 | worse |
| Ma. Hypomania | 14.0 | 19.00 | 4.95 | +5.00 | worse |

¹ 700 visitors to the University Hospital.

² 417 parolees.

³ + indicates that the mean of the sample exceeds the norm.
- indicates that the mean of the sample is below the norm.

⁴ Better = sample population score is more desirable.
Worse = normative population score is more desirable.

⁵ Score could not be interpreted for a male population.

unfavorable for the sample population with the realization that the differences could not be regarded as having significant meaning.

There were forty-nine factors for which sample population scores were obtained. On one factor a decision regarding desirability of score could not be made. The writer scored the sample population answer sheets with the Female scoring key for the Interest scale on the Minnesota Multiphasic Personality Inventory because he wanted to make as many comparisons between successful and non-successful as he could. However, there is no interpretation of that score for a male population.

The normative population score was the more desirable score for the majority of the factors, in fact, for thirty-six of the forty-nine factors.

It is recognized that the statistical significance of those differences is not known and that many of them may have little or no meaning, but the fact that the sample population had less desirable scores on 75 percent of the factors should be pointed out.

It is of similar interest to inspect the individual tests in this regard. On the Guilford-Martin Inventory of Factors GAMIN, the sample population had less desirable scores on four of the five factors.

On the Guilford Inventory of Factors STDICR and on the California Mental Health Analysis there are an approximately equal number of factors for which the sample population had the most desirable scores and for which the normative population had the most desirable scores.

However, on the Johnson Temperament Analysis and on the Minnesota Multiphasic Personality Inventory there is, again, a marked difference. On the former the sample population had less desirable scores for seven of the nine factors. On the latter the sample

population was below the average on all of the factors. Again it is noted that these differences may not be, and many of them do not seem to be, statistically significant, but the direction of the differences seemed worthy of note.

Table XX reports the means and the standard deviations for the three parole categories as obtained on the Guilford-Martin Inventory of Factors GAMIN. The differences between these means and the critical ratios based on those differences with the resulting levels of significance are reported in Table XXI. The critical ratio, as reported throughout this chapter, was computed with the following formula:

$$\text{Critical Ratio} = \frac{D}{\sigma_D}$$

where

$$\sigma_D = \sqrt{\sigma_{M_1}^2 + \sigma_{M_2}^2}$$

In these formulas D represents the difference between the means;

σ_{M_1} is the standard error of mean 1; and σ_{M_2} is the standard error of mean 2.

There were no significant differences for the Guilford-Martin Factor of General Pressure for Overt Activity or for the Guilford-Martin Factor of Ascendancy in Social Situations. However, both the "best" and the "doubtful" groups were significantly more masculine in their attitudes than the violators, according to the way this factor is scored by the Guilford-Martin inventory. The reader will remember that the description of this factor merely stated "masculinity of attitudes and interests as opposed to femininity." The writer cannot explain why this characteristic should differentiate between successful and unsuccessful parolees. There seems to be decided meaning for all successful parolees because both the "best" and the "doubtful"

TABLE XX

COMPARISON OF THE MEANS AND STANDARD DEVIATIONS OF
THE THREE PAROLE CATEGORIES FOR THE GUILFORD-
MARTIN INVENTORY OF FACTORS GAMIN

| Factors | Parole Classification | | | | | |
|---------|-----------------------|------|----------|------|-----------|------|
| | Best | | Doubtful | | Violators | |
| | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| G | 9.99 | 4.42 | 9.90 | 4.25 | 10.18 | 4.78 |
| A | 19.62 | 6.01 | 19.76 | 5.21 | 19.83 | 5.87 |
| M | 19.85 | 5.44 | 19.86 | 5.36 | 18.65 | 5.37 |
| I | 32.43 | 9.04 | 31.62 | 9.47 | 30.41 | 9.58 |
| N | 27.63 | 8.66 | 26.71 | 8.93 | 25.17 | 8.51 |

groups are significantly more masculine in their attitudes and interests than are the violators.

In the factor described by Guilford-Martin as indicating a lack of inferiority feelings or, conversely, self-confidence, it is noted that the "best" group was significantly more free from inferiority feelings than the violators. The "doubtful" group was between the other two, but not significantly different in either case. The authors, in this regard, speak of self-confidence as one pole of this characteristic, with feelings of inferiority at the opposite extreme. There is a distinction in the way the "best" of the successful parolees think of themselves and the way the violators think of themselves, in this regard. The "best" of the successful parolees seems to feel more

TABLE XXI

THE DIFFERENCES BETWEEN THE MEANS OF THE THREE
PAROLE CATEGORIES FOR THE GAMIN WITH THE
RESULTANT CRITICAL RATIOS AND
LEVELS OF SIGNIFICANCE

| Factors | Parole Classification | | | |
|-------------|-----------------------------------|-----------------------------------|------|---------------------|
| | Best versus Violators | | | |
| | Dif-
fer-
ence ¹ | Score ²
Fa-
vors | CR | Level
of
Sig. |
| G | -0.19 | V | 0.38 | 0.296 |
| A | -0.21 | V | 0.31 | 0.243 |
| M | +1.20 | B | 1.99 | 0.953 |
| I | +2.01 | B | 2.11 | 0.965 |
| N | +2.46 | B | 2.57 | 0.989 |

¹ + indicates difference is algebraically greater for the first-mentioned category.

² B = score most desirable for Best; V = score most desirable for Violators; D = score most desirable for doubtful.

TABLE XXI (Continued)

| Parole Classification | | | | | | | |
|-----------------------|----------------------|------|---------------------|---------------------------|----------------------|------|---------------------|
| Best versus Doubtful | | | | Doubtful versus Violators | | | |
| Dif-
fer-
ence | Score
Fa-
vors | CR | Level
of
Sig. | Dif-
fer-
ence | Score
Fa-
vors | CR | Level
of
Sig. |
| +0.09 | B | 0.18 | 0.134 | -0.28 | V | 0.54 | 0.410 |
| -0.13 | D | 0.21 | 0.164 | -0.07 | V | 0.11 | 0.084 |
| -0.01 | D | 0.01 | 0.008 | +1.21 | D | 1.89 | 0.938 |
| +0.81 | B | 0.74 | 0.538 | +1.21 | D | 1.22 | 0.774 |
| +0.92 | B | 0.87 | 0.614 | +1.54 | D | 1.49 | 0.860 |

sure of himself, more secure and adequate. The violator apparently is not so sure of himself, does not have the same sense of security or adequacy. Some writers have suggested that this feeling of inferiority is related to thoughts of feeling 'not worthy,' usually of someone's love and affection or friendship. This is quite an interesting finding because it suggests two possibilities. One is that the return to crime is a form of compensation for the violator's feeling of inferiority. By doing something against the law and by outwitting the guardians of the law he proves his worth and also buys his attention and esteem from others of his kind. The other possibility that suggests itself is that the feelings of inferiority are so hampering the violator that he feels he cannot compete on the open market, either in gainful employment or in personal relationships. On the one hand he steals to get the things he cannot earn and on the other hand he forces the attentions he cannot win (sex crimes).

The 'doubtful' group was between the other two groups but not significantly different from either.

The Guilford-Martin factor N is reported as indicating a lack of nervous tenseness or irritability. In this regard, the 'best' group was very significantly less irritable or bothered by nervous tenseness than were the violators. Again, the 'doubtful' group was between the other two, but not differing to a significant degree from either of the others. Nervous tenseness and irritability are manifestations of a condition that could be the result of a great many causes. Such conditions are frequently manifestations of emotional conflicts. The writer hesitates to suggest an interpretation of the difference in the thinking of these two groups in this regard. It might be, however, that the fact that the 'best' of the parolees feels less nervous tenseness and irritability goes hand in glove with his feelings of confidence. He is sure of himself and at peace with himself. He has either

solved his conflicts or has developed a more satisfactory emotional balance. This is only speculation. The only interpretation that can safely be given, according to the available evidence, is that the violators feel more nervous tenseness and irritability than do the "best" of the successful parolees, as measured by this inventory.

Tables XXII and XXIII report the same type of information for the Guilford Inventory of Factors STDCR. A study of Table XXIII indicates no significant differences. Apparently such factors as Social Introversion-extraversion, Thinking Introversion-extraversion, Depression, Cycloid disposition, and Rhathymia, as measured by this inventory, do not differentiate between the thinking of successful and unsuccessful parolees.

TABLE XXII

COMPARISONS OF THE MEANS AND STANDARD DEVIATIONS
OF THE THREE PAROLE CATEGORIES FOR THE
GUILFORD INVENTORY OF FACTORS STDCR

| Factors | Parole Classification | | | | | |
|---------|-----------------------|-------|----------|-------|-----------|-------|
| | Best | | Doubtful | | Violators | |
| | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| S | 17.55 | 8.49 | 17.32 | 7.58 | 18.36 | 8.54 |
| T | 29.26 | 9.45 | 28.39 | 8.63 | 29.18 | 10.18 |
| D | 17.39 | 11.09 | 17.22 | 9.74 | 18.04 | 10.58 |
| C | 20.75 | 12.52 | 21.72 | 12.29 | 22.06 | 12.98 |
| R | 37.17 | 10.76 | 37.12 | 11.35 | 36.97 | 11.26 |

TABLE XXIII

THE DIFFERENCES BETWEEN THE MEANS OF THE THREE
PAROLE CATEGORIES FOR THE STDCR WITH THE
RESULTANT CRITICAL RATIOS AND
LEVELS OF SIGNIFICANCE

| Factors | Parole Classification | | | |
|-------------|-----------------------------------|-----------------------------------|------|---------------------|
| | Best versus Violators | | | |
| | Dif-
fer-
ence ¹ | Score ²
Fa-
vors | CR | Level
of
Sig. |
| S | -0.81 | B | 0.85 | 0.604 |
| T | +0.08 | V | 0.07 | 0.056 |
| D | -0.65 | B | 0.53 | 0.406 |
| C | -1.31 | B | 0.92 | 0.642 |
| R | +0.20 | B | 0.17 | 0.131 |

¹ + indicates difference is algebraically greater for the first-mentioned category.

² B = score most desirable for Best; V = score most desirable for Violators; D = score most desirable for Doubtful.

TABLE XXIII (Continued)

| Parole Classification | | | | | | | |
|-----------------------|----------------------|------|---------------------|---------------------------|----------------------|------|---------------------|
| Best versus Doubtful | | | | Doubtful versus Violators | | | |
| Dif-
er-
nce | Score
Fa-
vors | CR | Level
of
Sig. | Dif-
fer-
ence | Score
Fa-
vors | CR | Level
of
Sig. |
| -0.23 | D | 0.24 | 0.186 | -1.04 | D | 1.09 | 0.724 |
| +0.87 | D | 0.79 | 0.573 | -0.79 | D | 0.71 | 0.522 |
| +0.17 | D | 0.14 | 0.263 | +0.82 | V | 0.68 | 0.501 |
| -0.97 | B | 0.65 | 0.484 | -0.34 | D | 0.23 | 0.182 |
| +0.05 | B | 0.04 | 0.032 | +0.15 | D | 0.11 | 0.088 |

The statistics for the Johnson Temperament Analysis are reported in Tables XXIV and XXV. The most important fact appearing from these tables is the very significant difference in favor of the "best" group, with an also significant difference in favor of the "doubtful" group, as compared with the violators, in the factor Sympathetic. The author describes this characteristic as a trait that undoubtedly arose as a biological necessity to insure the adequate care of children. However, a study of the individual items included in this scale would seem rather to indicate a general feeling of well-being toward or regard for one's fellow men. The "best" group of the successful parolees is extremely more sympathetic than the violators, but the "doubtful" group of the successful parolees is also significantly more sympathetic than the violators. Johnson does not adequately define the trait, Sympathetic, in the manual for his inventory. The items used to measure the trait are based on the manifestations of the trait that permit an estimation of the degree of the sympathetic trait in the individual but they do not indicate the dynamics of the trait. The writer does not feel that he has enough information upon which to attempt an interpretation.

The other significant difference is in the trait described as Nervous. The violator is much more nervous than the "best" while the "doubtful" tends to be more like the "best" although this difference is not significant. This finding is much like the finding for the Guilford-Martin factor N which indicates a lack of nervous tenseness or irritability. The reader will remember that there was a significant difference in favor of the "best" of the parolees, as in the Nervous scale for this inventory.

TABLE XXIV

COMPARISONS OF THE MEANS AND STANDARD DEVIATIONS OF
THE THREE PAROLE CATEGORIES FOR THE
JOHNSON TEMPERAMENT ANALYSIS

| Factors | Parole Classification | | | | | |
|---------|-----------------------|------|----------|------|-----------|------|
| | Best | | Doubtful | | Violators | |
| | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| A | 4.85 | 3.18 | 4.95 | 3.30 | 5.58 | 3.18 |
| B | 6.52 | 2.76 | 6.63 | 2.64 | 6.80 | 2.66 |
| C | 8.89 | 2.70 | 9.20 | 2.51 | 9.23 | 2.60 |
| D | 11.75 | 3.34 | 11.94 | 3.32 | 11.80 | 3.32 |
| E | 12.89 | 3.07 | 12.69 | 3.28 | 11.88 | 3.01 |
| F | 7.92 | 3.09 | 8.20 | 3.22 | 8.42 | 3.09 |
| G | 7.56 | 2.43 | 7.76 | 2.56 | 7.96 | 2.54 |
| H | 6.45 | 3.74 | 6.44 | 3.28 | 6.87 | 3.63 |
| I | 13.50 | 3.73 | 13.42 | 3.62 | 12.85 | 3.67 |

TABLE XXV

THE DIFFERENCES BETWEEN THE MEANS OF THE THREE
PAROLE CATEGORIES FOR THE JTA WITH THE
RESULTANT CRITICAL RATIOS AND
LEVELS OF SIGNIFICANCE

| Factors | Parole Classification | | | |
|-------------|-----------------------------------|-----------------------------------|------|---------------------|
| | Best versus Violators | | | |
| | Dif-
fer-
ence ¹ | Score ²
Fa-
vors | CR | Level
of
Sig. |
| A | -0.73 | B | 2.04 | 0.958 |
| B | -0.28 | B | 0.90 | 0.681 |
| C | -0.34 | V | 1.16 | 0.752 |
| D | -0.05 | V | 0.14 | 0.101 |
| E | +1.01 | B | 2.95 | 0.996 |
| F | -0.50 | B | 1.43 | 0.846 |
| G | -0.40 | B | 1.33 | 0.816 |
| H | -0.42 | B | 1.03 | 0.696 |
| I | +0.65 | B | 1.58 | 0.884 |

¹ + indicates difference is algebraically greater for the first-mentioned group.

² B = score most desirable for Best; V = score most desirable for Violators; D = score most desirable for Doubtful.

TABLE XXV (Continued)

| Parole Classification | | | | | | | |
|-----------------------|----------------------|------|---------------------|---------------------------|----------------------|------|---------------------|
| Best versus Doubtful | | | | Doubtful versus Violators | | | |
| Dif-
er-
ence | Score
Fa-
vors | CR | Level
of
Sig. | Dif-
fer-
ence | Score
Fa-
vors | CR | Level
of
Sig. |
| 0.10 | B | 0.26 | 0.204 | -0.63 | D | 1.63 | 0.894 |
| 0.11 | B | 0.35 | 0.268 | -0.17 | D | 0.52 | 0.396 |
| -0.31 | D | 0.99 | 0.678 | -0.03 | V | 0.12 | 0.091 |
| -0.19 | D | 0.37 | 0.288 | +0.14 | D | 0.48 | 0.368 |
| +0.20 | B | 0.51 | 0.392 | +0.81 | D | 2.16 | 0.960 |
| -0.28 | B | 0.73 | 0.532 | -0.22 | D | 0.59 | 0.441 |
| -0.20 | B | 0.68 | 0.502 | -0.20 | D | 0.67 | 0.496 |
| +0.01 | D | 0.02 | 0.016 | -0.43 | D | 1.08 | 0.718 |
| +0.08 | B | 0.19 | 0.150 | +0.57 | D | 1.33 | 0.815 |

The differences between the successful and the unsuccessful
lees on the remaining traits measured by the Johnson Tempera-
t Analysis did not prove to be significant. Therefore, such traits
Depressive, Active, Cordial, Subjective, Aggressive, Critical, and
i-mastery, as measured by this inventory, did not differentiate
ween those who succeed on parole and those who fail.

The same type of statistics are reported for the California
ental Health Analysis in Tables XXVI and XXVII. The one factor
which there are significant differences is that identified by the
uthors as Satisfying Work and Recreation. There is very little
difference in this regard between the "doubtful" and the violator
groups, but both are significantly less satisfied in their work and
recreation than the "best." The description of this trait in the
manual of the Mental Health Analysis outlines the manifestations by
which a sense of satisfaction with work and recreation are revealed
but does not aid in an understanding of the dynamics of the char-
acteristic. The writer's interpretation is a subjective one, without
conclusive evidence upon which it can be based. However, it seems
to the writer that satisfaction in one's work and recreation reflects
an attitude that stems, again, from the individual's feelings of self-
confidence, security, and adequacy. On the other hand, it might be
that the feeling of satisfaction in work and recreation results in a
feeling of confidence, security, and adequacy. One of the interesting
facts in regard to this trait is that it is the first trait on which the
"doubtful" group is significantly different from the "best" group. In
this regard the "doubtful" group and the violators are both signifi-
cantly less satisfied with their work and recreation.

Although none of the other subtests on the Mental Health
Analysis resulted in significant differences, the trend indicated by
one subtest should be discussed because of its relationship to subtests

TABLE XXVI

COMPARISONS OF THE MEANS AND STANDARD DEVIATIONS OF
THE THREE PAROLE CATEGORIES FOR THE
CALIFORNIA MENTAL HEALTH ANALYSIS

| Factors | Parole Classification | | | | | |
|-------------|-----------------------|-------|----------|-------|-----------|-------|
| | Best | | Doubtful | | Violators | |
| | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| A | 16.30 | 3.12 | 15.67 | 3.13 | 15.88 | 3.68 |
| B | 16.77 | 2.51 | 16.15 | 2.94 | 16.31 | 3.14 |
| C | 12.72 | 3.95 | 12.37 | 3.96 | 12.51 | 3.93 |
| D | 14.61 | 2.82 | 13.86 | 3.42 | 13.88 | 3.45 |
| E | 17.10 | 2.42 | 16.52 | 2.91 | 16.90 | 2.83 |
| Assets | 77.12 | 11.63 | 75.06 | 12.17 | 75.20 | 13.57 |
| L | 12.19 | 3.23 | 12.40 | 3.14 | 12.05 | 3.12 |
| M | 12.02 | 3.99 | 11.77 | 3.96 | 11.30 | 3.94 |
| N | 13.74 | 3.71 | 13.13 | 3.76 | 13.02 | 3.90 |
| O | 18.32 | 2.35 | 18.15 | 3.05 | 18.49 | 2.16 |
| P | 15.56 | 3.23 | 15.69 | 3.50 | 16.11 | 3.48 |
| Liabilities | 71.66 | 13.11 | 71.39 | 13.92 | 71.08 | 13.32 |

TABLE XXVII

**E DIFFERENCES BETWEEN THE MEANS OF THE THREE
PAROLE CATEGORIES FOR THE CMHA WITH THE
RESULTANT CRITICAL RATIOS AND
LEVELS OF SIGNIFICANCE**

| Factors | Parole Classification | | | |
|-------------------|-----------------------------------|-----------------------------------|------|---------------------|
| | Best versus Violators | | | |
| | Dif-
fer-
ence ¹ | Score ²
Fa-
vors | CR | Level
of
Sig. |
| ..... | +0.42 | B | 1.13 | 0.742 |
| B | +0.46 | B | 1.47 | 0.858 |
| C | +0.21 | B | 0.48 | 0.368 |
| D | +0.73 | B | 1.95 | 0.949 |
| E | +0.20 | B | 1.05 | 0.706 |
| Assets | +1.92 | B | 1.38 | 0.832 |
| L | +0.14 | B | 0.38 | 0.296 |
| M | +0.72 | B | 1.66 | 0.903 |
| N | +0.72 | B | 1.72 | 0.914 |
| O | -0.17 | V | 0.69 | 0.444 |
| P | -0.55 | V | 1.49 | 0.864 |
| Liabilities | +0.58 | B | 0.40 | 0.310 |

¹ + indicates difference is algebraically greater for the first-mentioned category.

² B = score most desirable for Best; V = score most desirable for Violators; D = score most desirable for Doubtful.

TABLE XXVII (Continued)

| Parole Classification | | | | | | | |
|-----------------------|---------------|------|---------------|---------------------------|---------------|------|---------------|
| Best versus Doubtful | | | | Doubtful versus Violators | | | |
| Dif-fer-ence | Score Fa-vors | CR | Level of Sig. | Dif-fer-ence | Score Fa-vors | CR | Level of Sig. |
| +0.63 | B | 1.72 | 0.915 | -0.21 | V | 0.53 | 0.404 |
| +0.62 | B | 1.89 | 0.940 | -0.16 | V | 0.43 | 0.334 |
| +0.35 | B | 0.74 | 0.538 | -0.14 | V | 0.29 | 0.212 |
| +0.75 | B | 1.99 | 0.953 | -0.02 | V | 0.03 | 0.024 |
| +0.58 | B | 1.87 | 0.938 | -0.38 | V | 1.13 | 0.741 |
| +2.06 | B | 1.47 | 0.857 | -0.14 | V | 0.10 | 0.074 |
| -0.21 | D | 0.57 | 0.424 | +0.35 | D | 0.94 | 0.652 |
| +0.25 | B | 0.55 | 0.410 | +0.47 | D | 1.02 | 0.792 |
| +0.61 | B | 1.45 | 0.852 | +0.11 | D | 0.25 | 0.196 |
| +0.17 | B | 0.54 | 0.412 | -0.34 | V | 1.10 | 0.728 |
| -0.13 | D | 0.35 | 0.272 | -0.42 | V | 1.01 | 0.688 |
| +0.27 | B | 0.17 | 0.134 | +0.31 | D | 0.19 | 0.150 |

her inventories. The results of the scale labeled Nervous manifestations are almost in complete disagreement to those found in the Guilford-Martin GAMIN and the Johnson Temperament Analysis.

In this case it is the violators who tend to be most free from nervous manifestations while the "best" group are more symptomatic in this regard. While the difference is not significant, it is approaching significance, and is large enough to cause concern over the apparent contradiction with the findings of the other two inventories. The reader will remember that the Guilford-Martin GAMIN indicated a significant difference in that the "best" were much less irritable or hampered by nervous tenseness than the violators. The Johnson Temperament Analysis also resulted in a significant difference in that the violators were more nervous than the "best." Both differences were significant and in agreement. The finding on the Mental Health Analysis, although not significant, is not in agreement with the former two. In view of the fact that the other two are significant and are in agreement, it would seem to raise serious doubt about the validity of the Nervous scale of the Mental Health Analysis. If all three inventories are measuring the same factor, and they should be inasmuch as they are labeled alike, then the results for all three should be alike in relationship to parole outcome.

The CR's for the remainder of the traits included in the Mental Health Analysis do not indicate significant differences. This means that such traits as Behavioral Immaturity, Emotional Instability, Feelings of Inadequacy, Physical Defects, Outlook and Goals, Close Personal Relationships, Inter-Personal Skills, and Social Participation, as measured by this inventory, do not differentiate between successful and unsuccessful parolees.

Tables XXVIII and XXIX report the statistics for the Minnesota Multiphasic Personality Inventory. The only significant

TABLE XXVIII

COMPARISONS OF THE MEANS AND STANDARD DEVIATIONS OF
THE THREE PAROLE CATEGORIES FOR THE MINNESOTA
MULTIPHASIC PERSONALITY INVENTORY

| Tests | Parole Classification | | | | | |
|-------------------|-----------------------|-------|----------|-------|-----------|-------|
| | Best | | Doubtful | | Violators | |
| | Mean | S.D. | Mean | S.D. | Mean | S.D. |
| D | 19.29 | 4.94 | 19.76 | 4.47 | 19.43 | 4.49 |
| F | 7.29 | 6.86 | 7.81 | 8.10 | 7.31 | 7.12 |
| K | 15.70 | 4.94 | 15.56 | 5.34 | 15.54 | 5.13 |
| L | 5.59 | 2.69 | 5.46 | 2.81 | 5.09 | 2.59 |
| Mf _m | 23.52 | 3.87 | 23.90 | 4.50 | 24.15 | 5.24 |
| Pt | 10.69 | 6.98 | 11.29 | 7.78 | 11.59 | 7.57 |
| Pt _(c) | 26.21 | 5.64 | 26.88 | 5.23 | 26.33 | 5.51 |
| Sc | 14.20 | 10.16 | 14.61 | 11.31 | 14.55 | 10.78 |
| Sc _(c) | 29.88 | 8.94 | 30.05 | 9.70 | 29.67 | 8.81 |
| Mf _f | 26.36 | 3.68 | 26.51 | 3.85 | 26.41 | 4.82 |
| Pd | 21.06 | 4.02 | 21.15 | 3.48 | 22.05 | 3.76 |
| Pd _(c) | 27.15 | 4.35 | 27.31 | 3.63 | 28.01 | 4.23 |
| Hs | 7.16 | 5.31 | 6.47 | 4.62 | 6.81 | 4.54 |
| Hs _(c) | 15.41 | 5.40 | 14.66 | 5.24 | 14.70 | 4.78 |
| Ma | 18.61 | 4.85 | 19.20 | 5.03 | 19.10 | 5.11 |
| Ma _(c) | 21.71 | 4.50 | 22.28 | 4.42 | 22.19 | 4.71 |
| Hy | 20.57 | 5.40 | 20.39 | 4.75 | 19.90 | 5.54 |
| Pa | 10.82 | 3.95 | 10.29 | 4.28 | 10.76 | 3.75 |

TABLE XXIX

THE DIFFERENCES BETWEEN THE MEANS OF THE THREE
PAROLE CATEGORIES FOR THE MMPI WITH THE
RESULTANT CRITICAL RATIOS AND
LEVELS OF SIGNIFICANCE

| Scales | Parole Classification | | | |
|---------------------------|-----------------------------------|-----------------------------------|------|---------------------|
| | Best versus Violators | | | |
| | Dif-
fer-
ence ¹ | Score ²
Fa-
vors | CR | Level
of
Sig. |
| D | -0.14 | B | 0.26 | 0.202 |
| F | -0.02 | B | 0.03 | 0.024 |
| K | +0.16 | V | 0.60 | 0.451 |
| L | +0.50 | V | 1.62 | 0.895 |
| Mf _m | -0.63 | B | 1.17 | 0.758 |
| Pt | -0.90 | B | 1.06 | 0.711 |
| Pt(c) | -0.12 | B | 0.18 | 0.142 |
| Sc | -0.35 | B | 0.28 | 0.220 |
| Sc(c) | +0.21 | V | 0.20 | 0.158 |
| Mf _f | -0.05 | | 0.10 | 0.078 |
| Pd | -0.99 | B | 2.17 | 0.970 |
| Pd(c) | -0.86 | B | 1.72 | 0.914 |
| Hs | +0.35 | V | 0.60 | 0.231 |
| Hs(c) | +0.71 | V | 1.18 | 0.763 |
| Ma | -0.49 | B | 0.84 | 0.599 |
| Ma(c) | -0.48 | B | 0.90 | 0.630 |
| Hy | +0.67 | V | 1.05 | 0.706 |
| Pa | +0.06 | V | 0.14 | 0.104 |

¹ + indicates difference is algebraically greater for the first-mentioned category.

² B = score most desirable for Best; V = score most desirable for Violator; D = score most desirable for Doubtful.

TABLE XXIX (Continued)

| Parole Classification | | | | | | | |
|-----------------------|----------------------|------|---------------------|---------------------------|----------------------|------|---------------------|
| Best versus Doubtful | | | | Doubtful versus Violators | | | |
| Dif-
fer-
ence | Score
Fa-
vors | CR | Level
of
Sig. | Dif-
fer-
ence | Score
Fa-
vors | CR | Level
of
Sig. |
| -0.47 | B | 0.57 | 0.432 | +0.23 | V | 0.55 | 0.416 |
| -0.52 | B | 0.56 | 0.428 | +0.50 | V | 0.53 | 0.402 |
| +0.14 | D | 0.22 | 0.174 | +0.02 | V | 0.03 | 0.025 |
| +0.13 | D | 0.39 | 0.296 | +0.37 | V | 1.11 | 0.732 |
| -0.38 | B | 0.75 | 0.540 | -0.25 | D | 0.41 | 0.318 |
| -0.60 | B | 0.66 | 0.490 | -0.30 | D | 0.32 | 0.250 |
| -0.67 | B | 1.02 | 0.694 | +0.55 | V | 0.84 | 0.600 |
| -0.41 | B | 0.30 | 0.238 | +0.06 | V | 0.04 | 0.034 |
| -0.17 | B | 0.15 | 0.118 | +0.38 | V | 0.33 | 0.258 |
| -0.15 | | 0.45 | 0.346 | +0.10 | | 0.19 | 0.153 |
| -0.09 | B | 0.19 | 0.142 | -0.90 | D | 2.04 | 0.958 |
| -0.16 | B | 0.33 | 0.258 | -0.70 | D | 1.46 | 0.854 |
| +0.69 | D | 0.56 | 0.422 | -0.34 | D | 0.60 | 0.231 |
| +0.75 | D | 1.19 | 0.764 | -0.04 | D | 0.11 | 0.086 |
| -0.59 | B | 0.96 | 0.664 | +0.10 | V | 0.15 | 0.118 |
| -0.57 | B | 1.08 | 0.718 | -0.42 | D | 0.17 | 0.134 |
| +0.18 | D | 0.29 | 0.228 | +0.49 | V | 0.78 | 0.564 |
| +0.53 | D | 1.07 | 0.714 | -0.47 | D | 0.96 | 0.664 |

difference for this inventory was obtained where it might have been expected, on the Psychopathic Deviate (Pd) scale. However, it is important to note that the difference is significant for both the "best" and the "doubtful" as compared with the violators. According to the manual of the Minnesota Multiphasic Personality Inventory, the Pd scale measures the similarity of the subject to a group of persons whose main difficulty lies in their absence of deep emotional response, their inability to profit from experience, and their disregard of social mores. The manual goes on to say:

Although sometimes dangerous to themselves or others, these persons are commonly likable and intelligent. Except by the use of an objective instrument of this sort, their trend toward the abnormal is frequently not detected until they are in serious trouble. They may often go on behaving like perfectly normal people for several years between one outbreak and another. The most frequent digressions from the social mores are lying, stealing, alcohol or drug addiction, and sexual immorality. They may have short periods of true psychopathic excitement or depression following the discovery of a series of their asocial or antisocial deeds. They differ from the criminal types in their inability to profit from experience and in that they seem to commit asocial acts with little thought of possible gain to themselves or of avoiding discovery.

From the evidence resulting from this study, it can be said that the violators admit to significantly more manifestations of the Psychopathic Deviate than do either the "best" or the "doubtful" of the successful parolees.

Some writers have suggested that there are two distinct types of individuals in the penal institution. Various names have been given to each group such as the "situational offender," the "accidental offender," and the "occasional offender." The other group is identified as the psychopathic personality. Suggestions have been made that there should be different institutions and methods of treating the two types

of inmates. Much more study of the psychopathic deviate in our penal institutions is indicated.

There were no other significant differences for the various scales of the Minnesota Multiphasic Personality Inventory. Such subtests as the Lie Score, the Validity Score, the Correction Score, the Hypochondriasis scale, the Depression scale, the Hysteria scale, the Interest scales, the Paranoia scale, the Psychasthenia scale, the Schizophrenia scale, and the Hypomania scale, as represented in this inventory, did not differentiate between successful and unsuccessful parolees.

However, the findings on one scale, the Interest scale, should be discussed more fully because of their relationship to an Interest scale on one of the other inventories. On the Male component of the MMPI Interest scale, the "best" group had lower mean scores than the violators, which on this scale indicates a more masculine interest pattern. This indicates a tendency toward agreement with the significant finding on the GAMIN, that the "best" and the "doubtful" were more masculine in attitudes and interests than the violators.

It is interesting to note that when the correction (K) score is applied to the Pd scale, there is a trend toward a significant difference in the same direction as reported for the uncorrected scale although it is not as significant as on the uncorrected scale. On the other hand, when the correction is applied to the Hypochondriasis (Hs) scale, there is a much stronger trend toward significance. In this experiment the use of K sometimes intensifies the significance of the differences, but on three of the five scales where it is applied it tended to reduce what significance there was before correction.

Summary

This chapter has dealt with an analysis of the forty-nine author-identified factors of adjustment included in the five inventories used in this study. The critical-ratio test of significance was obtained for all factors on the basis of three comparisons: the "best" of all the successful parolees versus the violators; the "best" versus the "doubtful" group of the successful parolees; and the "doubtful" group versus the violators. There were few significant differences obtained, but those that were obtained indicate definite differences in certain characteristics for the three groups.

The differentiating characteristics of the "best" group are that they are more masculine in attitudes and interests than the violators; that they are more confident than the violators; that they are less nervous than the violators; that they are more sympathetic than the violators; that they are more satisfied with work and recreation than either the violators or the "doubtful" group; and that they indicate less psychopathic deviation than the violators.

The distinguishing characteristics of the "doubtful" group are that they are more like the "best" in that they are more masculine in attitudes and interests than the violators; and also in that they are more sympathetic than the violators. Like the "best" they also indicate less psychopathic deviation than the violators. However, on one significant trait they are more like the violators in that they are also significantly less satisfied in work and recreation than the "best."

The violator is distinguished by less masculine attitudes than either the "best" or "doubtful" groups; by more feelings of inferiority than the "best" group; by more nervousness than the "best"; by not appearing as sympathetic as either the "best" or the "doubtful" groups; by not being as satisfied with work and recreation as the

"best"; and by indicating more psychopathic deviation than all of the successful parolees, both the "best" and the "doubtful" groups.

CHAPTER V

THE ITEMS AND THEIR VALIDITY

A total of 1,309 items were included in the five adjustment inventories used in this study. That there are differences in the thinking of successful and unsuccessful parolees was indicated by the findings of the previous chapter. The writer felt that an item analysis would result in a more reliable and exacting measurement of these differences than could be obtained by using the subtest results. The item analysis did reveal a wide range of significance among items, and the complete sets of answer sheets for the total sample were scored for the most significant items to determine whether or not these items differentiated between the parole outcome for successful and nonsuccessful parolees. The item analysis, the most significant items, and their validation are discussed in this chapter.

The Item Analysis

One hundred papers from each of the extreme groups were used in the item analysis. The reader will remember that in Table I¹ the number of answer sheets for each of the three classifications for the five adjustment inventories were reported. The 100 answer sheets were selected from each of the five inventories for the "best" the successful parolees and for the violators by a method of

¹ Supra, p. 91.

random sampling. The method used was to take every other paper, and then divide the number needed to complete the 100 papers into the number of remaining papers to learn if every third, fourth, or fifth paper would be taken. For example, for the "best" group on the GAMIN there were 159 answer sheets. The writer first shuffled the answer sheets so that they were not in any specific order. He then took every other answer sheet for the item analysis, starting with the second paper. Going through the 159 answer sheets in this manner yielded 79 answer sheets for the item analysis and left 80. There were still 21 answer sheets needed to make the total of 100 to be used in the item analysis. Dividing 80 by 21 indicated that every fourth paper would come closest to the number desired. Taking every fourth paper and adding it to the 79 previously selected made a total of 99. The one hundredth paper was taken from the center of the 60 unselected papers remaining in this group. This process was repeated for the "best" and the violators for each of the five inventories.

The total number of answer sheets that had been obtained during the original administration of the inventories included 2,210. One thousand of these were used in the item analysis. For a number of reasons every inmate taking part in the study did not complete all of the inventories. It will also be remembered that a few uncooperative inmates spoiled some of the answer sheets, either by leaving out whole blocks of items, by answering all items one way or another alike in one block, or by alternating responses to the extent that these answer sheets could not be retained as part of the study. Consequently, there were not complete sets of five answer sheets for every inmate included in the study. Altogether, there were 384 complete sets of answer sheets, which included 1,920 of the 2,210 papers. One hundred and thirty of the 1,000 papers used in the item analysis

were in the incomplete group. It was the writer's intention to re-score the complete sets of answer sheets using those items that significantly differentiated between successful and unsuccessful parolees and to relate the total scores to parole outcome. By this method of random sampling only 870 of the 1,920 answer sheets which comprised the complete set that were later rescored were also used in the item analysis, leaving 1,050, or 54.7 percent, that were not included in the item analysis.

An ideal validation study would be to score a completely independent set of papers by using the items found in this study to significantly differentiate between successful and unsuccessful parolees and relate that score to the independent group's parole outcome. This would be true cross-validation. Because such cross-validation could not be carried out in the present study, an attempt was made to make the validation as nearly ideal as possible. This would mean selecting papers for the item analysis in such a manner as to leave as many papers as possible that were independent of the item analysis. The use of all the answer sheets available, rather than just the complete sets, added 290 answer sheets to the sample from which the papers for the item analysis were drawn. One hundred and thirty of these were included in the item analysis, composing 10.3 percent of the total papers included, thus making a more ideal cross-validation than would have resulted if just the complete sets were used.

The critical ratio of the difference between the percentage of successful parolees answering "Yes" or "No" to the item and the percentage of violators answering "Yes" or "No" to the item, depending on which difference was the greater, was the method used in the item analysis. The difference was not always the same for the alternate responses because some of the parolees did not always answer the item. On three of the inventories a "?" or "Undecided" choice

was permitted and on the other two inventories with just the two choice alternates, some of the parolees just did not respond. Consequently, the differences between the responses of the two groups for both the alternate answers were recorded and the alternate answer with the larger difference was the one used for computing the critical ratio. This means that the critical ratio obtained from the differences in the percentage of responses to an item will sometimes be for the "Yes" or "True" alternate of the item and sometimes for the "No" or "False" alternate. The response for which the critical ratio was computed will be indicated for those items with significant differences in a discussion of those items below.

The formula used for the critical ratio of the difference of percentages follows:

$$CR = \frac{D\%}{\sigma_{D\%}} \qquad \sigma_{D\%}^2 = \sigma_{P_1}^2 + \sigma_{P_2}^2$$

where $D\%$ is the difference between the percents; σ_{P_1} is the standard error of the first percentage; and σ_{P_2} is the standard error of the second percentage.

Fortunately, Edgerton and Patterson had developed a table of standard errors for percentages, which proved to be extremely time-saving.²

The CR's for all 1,309 items are presented in Appendix C. There were 102 items significant beyond the .95 level of significance. Moreover, there were several other items with CR's that resulted in levels of significance just a little below the .95 level. The item

² Harold A. Edgerton and Donald G. Patterson, "Table of Standard Errors and Probable Errors of Percentages for Numbers of Cases," reprinted from The Journal of Applied Psychology, Vol. X, No. 3, September, 1926, pp. 378-391.

analysis had resulted in such few items for which there was a significant difference that the writer felt those items that were near the minimum CR acceptable might add some weight to a composite score for differentiating between successful and unsuccessful parolees.

The writer realizes that the .95 (.05) and .99 (.01) levels of significance are those usually held to as tests of significance. He further realizes that these levels are arbitrary and that accepting a lower level means lowering one's standards of exactness. However, when the writer began to think of using weighted scores,³ he decided to lower his standards a little to the .93 (.07) level of significance, which also permitted the inclusion of those items that had been just below the previously acceptable minimum level of significance. This was done with the realization that judgments of significance are not all-or-none, but range over a wide scale of probability. This would mean that a difference which resulted in a CR of 1.82, with the resulting level of significance of .93, would be due to "chance" not more than once in fifteen trials.

By the acceptance of the .93 level of significance as the minimum, the total number of items was increased to 132. Table XXX reports the number of items from each inventory and the percentage of each inventory's items that met the criterion of significance adopted for this study. Although this study was not designed as a validation for the various inventories on a population of this nature, Table XXX is included because it will be of interest to some readers.

The writer cannot explain the reason why there should be such a variation in the percentage of items for the various inventories reflecting significant differences, except in relationship to the number

³ Infra, p. 157.

TABLE XXX

THE NUMBER AND PERCENT OF ITEMS WITH SIGNIFICANT
DIFFERENCES FROM EACH INVENTORY

| Inventory | Significant Items | |
|-----------------|-------------------|---------|
| | Number | Percent |
| GAMIN | 21 | 11.3 |
| STDCR | 10 | 5.6 |
| JTA | 38 | 20.9 |
| CMHA | 21 | 10.5 |
| MMPI | 42 | 7.4 |

of factors in each inventory on which there were significant differences, and then the relationship is not consistent. There were no significant differences on the Guilford Inventory of Factors STDCR and the percentage of items on which there were significant differences is the lowest of the five inventories, as one would expect. There was only one factor with significant differences on both the California Mental Health Analysis and on the Minnesota Multiphasic Personality Inventory, and the percentage of items with significant differences reflects this fact. The fact that there were two factors with significant differences on the Johnson Temperament Analysis is also reflected in the proportion of items with significant differences.

On this basis, then, the Guilford-Martin Inventory of Factors GAMIN should have a very high percentage of items with significant

differences because there were significant differences for three of its five factors. However, such was not the case, indicating that a large proportion of the discriminatory ability of those factors, for this population, rested in a comparably small number of items.

The items for which there were significant differences in responses are listed below. All of the items for a specific inventory are listed as a group. The item number, as it appeared in the inventory, is given before each item. The letter or group of letters following the item number indicates the scale or scales by which the authors of the inventories use that item in their inventories. The coding of the scales is that used in Chapter III.⁴ In some instances there are no code letters, indicating that the item was not used in the scoring of a scale in the inventory. Hathaway and McKinley point out that the last two hundred items (items 367 through 566) of the Minnesota Multiphasic Personality Inventory are experimental items and are not included in the published scales.⁵ There was no indication in the manual of the Johnson Temperament Analysis why item 2 was not scored on any of Johnson's scales.

The notation after the item is the response for which the critical ratio was computed. The reader will note that the answer is preceded by a + or a -. This is to indicate whether the difference is in the direction of the successful parolees (+) or in the direction of the violators (-). It also indicates the way the item is to be scored. It was necessary to use positive and negative scoring because some of the items had different CR's for the alternate

⁴ Supra, pp. 73-78.

⁵ Hathaway and McKinley, op. cit., p. 5.

responses, as previously discussed. Take, for example, item 137 of the Johnson Temperament Analysis, which was answered as follows:

| | <u>Yes</u> | <u>No</u> |
|--------------------------|------------|-----------|
| Successful | 10 | 83 |
| Violators | <u>24</u> | <u>73</u> |
| Difference | 14- | 10+ |
| Critical ratio | 2.66 | 1.70 |

The "No" answer is not significant and cannot be used in scoring the item for parolability. The "Yes" answer is significant, but only if it is scored negatively. Because there were several items of this nature, it became necessary to include some negative-scored items and some positive-scored items. In those cases where the CR was the same for both responses the positive scoring was indicated. In other words, this notation has two meanings: It means that the CR was computed for the answer indicated, because the difference in percentage of responses by the successful and the violators was greater for that answer, and the difference was in the direction of the successful, if +, or the violator, if -; it also means that in future scoring the response indicated is to be scored either + or -. The last notation listed with each item is the CR for that item. All critical ratios shown are 1.82 or greater corresponding to a level of significance of .93 or better.

There were twenty-one items included in the Guilford-Martin Inventory of Factors GAMIN for which significant differences between the percentages of responses by the successful parolees and by the violators were found. They follow:⁶

⁶ The code letters below refer to the scale for which the item is scored by the inventory. Factor M is Masculinity versus

| | | | | |
|------|---|--|------|------|
| 6. | M | Do you have one or more abilities in which you believe you are superior to most other people? | -No | 1.98 |
| 19. | N | Are there ever times when you feel so jumpy you could throw things at people if you did not control yourself? | -Yes | 1.98 |
| 32. | I | Do you feel bored much of the time? . . . | -Yes | 1.92 |
| 44. | I | In a group activity do you often find yourself compelled to play an unimportant part? | +No | 2.45 |
| 47. | N | Do you feel that you are lacking in self-control? | +No | 1.91 |
| 49. | I | Are you ever afraid that you cannot live up to the standards your parents set for you? | +No | 1.87 |
| 76. | I | Do you frequently feel self-conscious in the presence of important people? . . . | +No | 2.86 |
| 80. | N | Do your interests tend to change quickly? | -Yes | 2.08 |
| 92. | N | Do you often find it difficult to sleep at night? | -Yes | 2.34 |
| 108. | I | Do you ever wish you could have been born at a different time or place or in a different family than you were? | -Yes | 2.98 |
| 116. | N | Are you frequently in a state of inner excitement or turmoil? | +No | 3.39 |
| 117. | M | Can you (or could you) walk past a graveyard alone at night without feeling uneasy? | +Yes | 2.02 |
| 124. | G | Would you rate yourself as an impulsive individual? | +No | 1.85 |

Femininity; N is Lack of Nervous Tenseness; I is Lack of Inferiority Feelings; G is General Pressure for Overt Activity; and A is Ascendancy versus Submissiveness.

| | | | | |
|------|---|--|------|------|
| 128. | A | Do you ever take the initiative to enliven a dull party? | +No | 2.14 |
| 141. | N | Can you stick to a tiresome task for a long time without being prodded or encouraged? | +Yes | 2.38 |
| 146. | A | When in a restaurant you are served stale or inferior food, do you usually make a vigorous protest about it? | -Yes | 2.14 |
| 155. | I | Do you sometimes wish that you were more attractive than you are? | +No | 1.85 |
| 169. | N | Are there times when you feel as if your nerves were raw or "on edge"? | +No | 1.85 |
| 179. | I | Do you often find that you cannot make up your mind until the time for action is past? | -Yes | 2.18 |
| 182. | I | Do you often show yourself up to your own disadvantage? | +No | 2.30 |
| 183. | N | Do you become upset rather easily? | -Yes | 2.04 |

Significant differences were found for ten of the items of the Guilford Inventory of Factors STD⁷CR. They are the following:

| | | | | |
|-----|------|--|------|------|
| 12. | DC | Do you daydream frequently? | -No | 2.58 |
| 14. | DC | Are you inclined to worry over possible misfortunes? | +No | 2.94 |
| 57. | RC | Would you like a position in which you changed from one kind of task to another frequently during the day? | +Yes | 2.52 |
| 80. | DS | Are you troubled with feelings of inferiority? | +No | 2.46 |
| 82. | STDR | Are you inclined to take life too seriously? | +No | 2.99 |

⁷ S is Social Introversion-Extraversion; T is Thinking Introversion-Extraversion; D is Depression; C is Cycloid disposition; and R is Rhathymia.

| | | | |
|----------|---|------|------|
| 100. R | Are you inclined to keep your opinion to yourself during group discussions (not class discussions)? | +Yes | 2.35 |
| 104. T | Are you much concerned over the morals of others? | +No | 1.98 |
| 146. D | Do you feel tired most of the time? . . . | -No | 2.36 |
| 148. TRS | Is it easy for you to act naturally at a party? | +Yes | 1.97 |
| 169. TC | Do you like to indulge in a reverie (daydreaming)? | -No | 2.64 |

The item analysis of the Johnson Temperament Analysis resulted in thirty-eight items for which there were significant differences. They are:⁸

| | | | |
|-------|---|------|------|
| 2. | Is one motive for S to go places so that he can talk about having been there? | +No | 1.98 |
| 4. E | Does S think the government is spending too much on relief and pensions? | +No | 2.19 |
| 19. C | Does S talk slowly (making due allowance for age)? | +Yes | 1.84 |
| 21. E | Would S buy an article at the cheaper price if he noticed that the clerk has asked less than the price tag indicates, apparently having misread it? | +No | 2.05 |
| 36. E | Does S maintain uniformly, courteous behavior to other members of his family? | +Yes | 2.19 |
| 45. C | Does S eat slowly (making due allowance for age)? | +Yes | 2.13 |

⁸ These factors were identified as follows: A-Nervous; B-Depressive; C-Active; D-Cordial; E-Sympathetic; F-Subjective; G-Aggressive; H-Critical; and I-Self-mastery.

| | | | | |
|------|---|---|------|------|
| 51. | E | Is S so sympathetic with those he sees in pain as to want to do something about it? | +Yes | 2.38 |
| 52. | G | Is S likely to give way to the wishes of others rather than to seek to have his own way? | +Yes | 2.86 |
| 57. | E | Does S make a practice of offering help to motorists who need help, but do not ask for it? | +Yes | 2.21 |
| 59. | G | Does S accept defeat easily without any evidence of his disappointed feeling? | +Yes | 1.85 |
| 61. | I | Does S get into scrapes occasionally? . . | -Yes | 1.84 |
| 70. | A | Can S relax easily when sitting or lying down? | +Yes | 1.98 |
| 84. | E | Does S stand by and avoid protecting an animal from needless suffering? | +No | 2.06 |
| 90. | E | In an automobile accident in which S is involved does he really try to see that any damage he did is made good? . . | -No | 1.97 |
| 95. | I | Is S usually able to steady a difficult situation where "others lose their heads"? | -No | 1.91 |
| 99. | E | Is S independent in making a judgment uninfluenced by whether he likes or dislikes the leading supporter of the proposal in question? | +Yes | 2.00 |
| 105. | D | Is S considered cherry by some people? | +Yes | 2.04 |
| 110. | D | Is S relatively unaffected in listening to emotional music? | +No | 2.13 |
| 122. | H | Is S almost free from being suspicious of the actions of others? | +Yes | 2.80 |
| 127. | B | Do death, sickness, pain, and sorrow enter largely into S's dreams? | +No | 2.24 |
| 129. | H | Does S think as well of those with whom he has a disagreement, as before? | -No | 2.33 |

| | | | | |
|------|---|---|------|------|
| 132. | H | Is S hard to please? | +No | 1.90 |
| 133. | I | Does S carry out assignments promptly and systematically? | +Yes | 2.17 |
| 135. | B | Is S rather optimistic about opportunities for young people? | +No | 2.73 |
| 136. | E | Is S "touchy" on several things about himself? | +No | 2.14 |
| 137. | B | Is S bothered at times with the idea that nobody cares for him? | -Yes | 2.66 |
| 138. | D | Does S look ahead and fail to smile and show interest when passing a beautiful child? | -Yes | 2.05 |
| 142. | B | Does S find that a minor failure or poor showing of his can be quickly forgotten? | +Yes | 1.88 |
| 151. | D | Do companions like to be with S? | -No | 1.89 |
| 155. | B | Does S when on a picnic find himself sometimes unable to share the good spirits of the others? | +No | 2.04 |
| 156. | H | Does S think well of most people, as to only rarely speak slightly of them? . . | +Yes | 1.82 |
| 157. | D | Does S show a cordial attitude only to close friends if at all? | +No | 2.26 |
| 158. | H | Does S think someone does not like him and speaks critically about S to others? | -Yes | 2.33 |
| 159. | B | Does S smile or laugh a good deal? | +Yes | 1.94 |
| 160. | F | Can S see things as others see them, when he wishes to? | +Yes | 2.25 |
| 161. | H | Does S, when he has a grievance straightened out, continue disgruntled for a while? | +No | 2.54 |
| 167. | F | Does S find it annoying to have any criticism made of himself even though justified and from which he could profit? | +No | 2.83 |

174. D Is S appealed to strongly by young
lovers who are hampered by
opposition? -Yes 2.26

The California Mental Health Analysis included twenty-one items for which the difference in the percentage of responses by successful parolees and the percentage of responses by the violators was significant. These twenty-one items follow:⁹

9. B Can you keep people from feeling too
embarrassed when they make a mis-
take? +Yes 2.17
16. D Do you find that the type of work you
are doing is sufficiently interesting? . . . +Yes 1.92
22. E Do you believe that you should always
be honest in your dealings with people? . +Yes 2.46
28. A Do you have one or more close friends
of your own sex? +Yes 2.32
29. A Do you feel that some of your neighbors
deserve your friendship? +Yes 2.19
31. M Do you often feel as though you are
held back from doing things that you
would like to do? +No 2.00
51. L Have you frequently been able to get
even with people you dislike by ignoring
them? -No 3.18
56. B Do you make a practice of showing
people that you recognize their abilities?. -No 1.87
64. C Do you sometimes travel or go camping
with people of your own age? +Yes 2.56

⁹ The scales of this inventory are identified as follows:

A - Close Personal Relationship; B - Interpersonal Skills; C - Social Participation; D - Satisfying Work and Recreation; E - Outlook and Goals; L - Behavioral Immaturity; M - Emotional Instability; N - Feelings of Inadequacy; O - Physical Defects; P - Nervous Manifestations.

| | | | | |
|------|---|---|------|------|
| 65. | N | Does it seem that you are left out of things you would like very much to be in? | +No | 3.43 |
| 73. | E | Do you believe that people who do what is right will eventually be rewarded? . . . | +Yes | 2.35 |
| 82. | M | Are you frequently dissatisfied because your plans do not work out satisfactorily? | -Yes | 2.14 |
| 100. | P | Are you frequently bothered by eye-strain? | +Yes | 2.36 |
| 127. | A | Do the members of your family seem to believe in your honesty and truthfulness? | -No | 2.80 |
| 135. | M | Have you often felt that you have more than your share of bad luck? | -Yes | 2.00 |
| 147. | P | Do you seem to catch cold easily? | +Yes | 2.12 |
| 152. | L | Are many people so unpleasant that you are justified in treating them with indifference? | -Yes | 2.30 |
| 153. | A | Do you have any brothers, sisters, or other close relatives who are as friendly to you as they should be? | +Yes | 2.64 |
| 176. | A | Do members of your family seem to like your friends? | +Yes | 2.09 |
| 177. | A | Is there someone to whom you can go if you are in trouble? | -No | 2.60 |
| 190. | C | Do you usually like to be where there is much activity? | -Yes | 2.38 |

There were forty-two items for which significant differences were found as a result of the item analysis of the Minnesota Multiphasic Personality Inventory. They are the following:¹⁰

¹⁰ The following are the meanings for the code letters of this inventory: F - Validity; K - Correction; L - Lie; Hs - Hypochondriasis; D - Depression; Hy - Hysteria; Pd - Psychopath; Mm - Interest (Male); Mf - Interest (Female); Pa - Paranoia; Pt - Psychasthenia; Sc - Schizophrenia; and Ma - Hypomania.

| | | | |
|-------------|--|--------|------|
| 14. F | I have diarrhea once a month or more. | +True | 2.90 |
| 45. L | I do not always tell the truth. | -True | 2.08 |
| 51. DHyHs | I am in just as good physical health as most of my friends. | +True | 1.91 |
| 54. F | I am liked by most people who know me. | +True | 2.38 |
| 55. HyHs | I am almost never bothered by pains over the heart or in my chest. | +True | 2.18 |
| 56. F | As a youngster I was suspended from school one or more times for cutting up. | +False | 1.84 |
| 94. PdPt | I do many things which I regret afterwards (I regret things more or more often than others seem to). | -False | 1.84 |
| 97. MaSc | At times I have a strong urge to do something harmful or shocking. | +False | 2.22 |
| 115. FMmMf | I believe in a life hereafter. | -False | 1.82 |
| 117. MmMfPa | Most people are honest chiefly through fear of being caught. | +False | 2.02 |
| 118. Pd | In school I was sometimes sent to the principal for cutting up. | +False | 2.56 |
| 126. MmMf | I like dramatics. | +False | 2.74 |
| 136. Hy | I commonly wonder what hidden reason another person may have for doing something nice for me. | -False | 2.45 |
| 143. Ma | When I was a child, I belonged to a crowd or gang that tried to stick together through thick and thin. | +False | 1.86 |
| 150. L | I would rather win than lose in a game. | +False | 1.93 |
| 160. KDHy | I have never felt better in my life than I do now. | +False | 3.05 |
| 212. MaSc | My people treat me more like a child than a grown-up. | +False | 2.04 |

| | | | |
|-----------|---|--------|------|
| 224. Pd | My parents have often objected to the kind of people I went around with. | -True | 2.84 |
| 237. Pd | My relatives are nearly all in sympathy with me. | -False | 1.98 |
| 247. F | I have reason for feeling jealous of one or more members of my family. | -True | 1.95 |
| 252. F | No one cares much what happens to you. | +True | 2.04 |
| 268. PdMa | Something exciting will almost always pull me out of it when I am feeling low. | +True | 1.98 |
| 272. FDK | At times I am all full of energy. . . | -False | 3.06 |
| 303. Sc | I am so touchy on some subjects that I can't talk about them. | -True | 2.30 |
| 311. Sc | During one period when I was a youngster I engaged in petty thievery. | +False | 3.03 |
| 317. Pa | I am more sensitive than most other people. | -False | 1.99 |
| 329. Pt | I almost never dream. | +True | 2.04 |
| 362. Pt | I am more sensitive than most other people | -False | 2.21 |
| 372. | I tend to be interested in several different hobbies rather than to stick to one of them for a long time. | +True | 1.84 |
| 392. | A windstorm terrifies me. | -True | 2.32 |
| 396. | Often, even though everything is going fine for me, I feel that I don't care about anything. | +False | 1.86 |
| 16. | It bothers me to have someone watch me at work even though I know I can do it well. | -True | 2.05 |
| 20. | I have had some very unusual religious experiences. | -False | 2.82 |

| | | | |
|------|--|--------|------|
| 437. | It is all right to get around the law if you don't actual break it. . . | +False | 1.87 |
| 454. | I could be happy living all alone in a cabin in the woods or mountains. | -False | 2.36 |
| 457. | I believe that a person should never taste an alcoholic drink. | +True | 2.28 |
| 481. | I can remember 'playing sick' to get out of something. | +False | 2.14 |
| 485. | When a man is with a woman he is usually thinking about things related to her sex. | -True | 1.90 |
| 492. | I dread the thought of an earthquake. | -False | 1.85 |
| 516. | Some of my family have quick tempers. | -True | 2.08 |
| 547. | I like parties and socials. | -True | 2.40 |
| 565. | I feel like jumping off when I am on a high place. | -True | 1.86 |

Validity

In Chapter IV it was shown that there were some adjustment *characteristics* that significantly differentiated between successful and unsuccessful parolees. The reader will remember that there *were significant* differences in masculinity of attitude and interests, *in feelings of inferiority*, in nervous tenseness and manifestations, *in a sympathetic feeling*, in satisfaction with work and recreation, *and in degree of psychopathic deviation*. The item analysis described *above* resulted in 132 items that also significantly differentiated between these two groups. However, none of the differences were so clear cut that they could be pointed out as including all of the successful or unsuccessful parolees. Because no one characteristic or

group of items could be used in such manner, the only logical means of utilizing the information was to combine the items into a scale, the composite score of which would indicate the degree of the difference in the thinking of the successful and nonsuccessful parolee and the value of this difference in terms of parolability.

Some of the significant differences resulting from the item analysis indicated a need for negative answers while others permitted a positive reply. It soon became apparent that there was also a difference in the degree of significance. The difference on some items was extremely significant while on others it barely exceeded the minimum level of significance. There were so few items with extremely significant differences that the writer felt they must have more meaning, for differentiating between successful and nonsuccessful parolees, than those with barely significant differences. It seemed to follow that weighted scores would serve as a means of compensating for the wide variances in the item validities. The decision to use differential weighting in the scoring was based on the idea that such system might result in making the final scores more meaningful, while it would not change the actual outcome of the scoring. Thus, it might add value to the score while it would not invalidate the score. Inasmuch as the only disadvantage would arise from the more complicated scoring, the writer decided the possibility of a more meaningful score would justify the additional work in scoring. The most logical means of differentiating between the weights to be assigned was by the level of significance. Table XXXI indicates the various levels of significance and the corresponding CR's which describe the limits of the assigned weights. As a result, the items were scored ± 1 , ± 2 , or a ± 3 .

The reader will remember that there were 384 complete sets of test answer sheets obtained from the 471 parolees who were

TABLE XXXI

THE WEIGHTS ASSIGNED TO ITEMS ACCORDING TO THE
CRITICAL RATIO OF DIFFERENCES IN
PERCENTAGE OF RESPONSES

| Weights | Limits | |
|-------------|----------------|-----------------------|
| | Critical Ratio | Level of Significance |
| 1 | 1.82 to 2.33 | 0.930 to 0.980 |
| 2 | 2.34 to 2.81 | 0.981 to 0.995 |
| 3 | 2.82+ | over 0.995 |

originally tested in this study. The validity of the composite score of the items with significant differences for predicting parole outcome could be tested by obtaining scores for the 384 parolees who had complete sets of answer sheets and for whom the parole outcome could be determined.

By this time, eighteen months of parole period had gone by and the writer again checked the parole office files so that a composite score for the items with significant differences could be obtained for the successful and unsuccessful parolees as of the end of eighteen months instead of one year, thereby gaining advantage of the longer waiting period which permitted a more reliable differentiation between success and failure. It was discovered that 41.4 percent of the 384 parolees included in this part of the study had violated their paroles within the first year and a half. This was an increase of 4.9 percent for the additional six months.

It should be pointed out, incidentally, in connection with the parole violation rate, that there are approximately 2,500 to 3,000 inmates paroled in Michigan every year. During 1953 the Michigan Parole Board paroled 2,670 inmates of a total of 5,871 who had parole interviews. There are many considerations, in addition to the question of whether or not the prospective parolee is a good risk, that enter into a parole decision. One of the major considerations is in keeping with one theory of parole, that inasmuch as 95 percent of the inmates will eventually be released, it is better to release the inmate under supervision and guidance than to turn him loose with no controls. As a result, many cases, even where there is reasonable question of successful adjustment, result in parole, if the parole does not endanger the public safety, especially in those cases where the placement might serve as an aid to the parolee's adjustment. An elaboration of this point is not necessary to the study at hand. However, the interested reader might consult the works of Ohlin,¹¹ Dressler,¹² and Laune.¹³

Table XXXII reports the scores of the items with significant differences for the violators and for the nonviolators, the latter including those individuals who had been in the "doubtful" category during the first part of the study. The mean score for the entire group was 43.50 with a standard deviation of 16.20. The mean score for the nonviolators was 49.31 with a standard deviation of 15.05. The violators' mean score was 34.52 with a standard deviation

¹¹ Ohlin, op. cit., pp. 19-40.

¹² David Dressler, Probation and Parole (New York: Columbia University Press, 1951), pp. 16-66.

¹³ Laune, op. cit., pp. 1-9.

TABLE XXXII

THE WEIGHTED SCORES MADE BY 384 PAROLEES, COMPARING
SUCCESSFUL AND NONSUCCESSFUL, ON 132 ITEMS
WITH SIGNIFICANT DIFFERENCES

| Scores | Parolees | |
|---------------------|-----------|--------------|
| | Violators | Nonviolators |
| -10 to -6 | 2 | 0 |
| -5 to -1 | 1 | 0 |
| 0 to 4 | 2 | 0 |
| 5 to 9 | 5 | 1 |
| 10 to 14 | 6 | 4 |
| 15 to 19 | 12 | 3 |
| 20 to 24 | 9 | 7 |
| 25 to 29 | 16 | 7 |
| 30 to 34 | 20 | 21 |
| 35 to 39 | 23 | 17 |
| 40 to 44 | 18 | 14 |
| 45 to 49 | 16 | 28 |
| 50 to 54 | 12 | 32 |
| 55 to 59 | 7 | 29 |
| 60 to 64 | 5 | 27 |
| 65 to 69 | 3 | 21 |
| 70 to 74 | 1 | 9 |
| 75 to 79 | 1 | 3 |
| 80 to 84 | 0 | 2 |

of 16.20. The CR of the difference in the means of the violators and the nonviolators was 9.01, indicating an extremely significant difference.

The mean score for the nonviolators exceeded the scores of 82 percent of the violators. The writer applied various "cut-off" scores and then compared the scores for the two groups to the parole outcomes to determine what the results might have been if the scale and the cut-off score had been applied to this group before parole. For the cut-off score of 35, the scale would have predicted the outcome of approximately 81 percent of those who were successful but would have missed the outcome of 54 percent of the violators. A cut-off score of 40 would have predicted 73 percent of those who were going to stay out and 60 percent of the violators. On the other hand, a cut-off score of 45 would have correctly identified 67 percent of those who became successful and 72 percent of those who violated their paroles.

If only those inmates were paroled who obtained a score higher than the various cut-off scores, the resulting parole violation rates would have proved very interesting. A cut-off score of 35 would have reduced the parole violation rate from 41.4 percent to 32 percent. Placing the cut-off score at 40 would have resulted in a parole violation rate of 27.6 percent, while a cut-off score of 45 would have reduced the violation rate to 22.9 percent. It is at once obvious that the higher the cut-off rate, the better, that is, the lower, would be the parole violation rate. If the score were set high enough, the success rate could be phenomenal, but there would be a correspondingly high number of individuals not paroled who might also have been successful. In this study, for example, sixty of the individuals who are now making a success of their

paroles would not have been paroled if a cut-off score of 40 had been used.

As a measure of the degree of relationship between the scores on the scale of items with significant differences and parole success the biserial coefficient of correlation was computed by the following formula:

$$r_{bis} = \frac{M_p - M_q}{\sigma} \cdot \frac{pq}{z}$$

where M_p is the mean of the group in the first category and M_q is the mean of the group in the second category; σ is the standard deviation of the entire group; p is the proportion of the whole group in category one; q is the proportion of the whole group in category two; and z is the height of the ordinate in the normal curve dividing p from q . The biserial coefficient of correlation for this scale computed for this population was .638, with a standard error of .044.

A biserial coefficient of correlation of this magnitude and the demonstrations with the use of various cut-off scores indicate that the composite score of the significant items does differentiate satisfactorily between successful and unsuccessful parolees, to the extent that the results have predictive value.

Reliability

A test-retest method of determining reliability was not possible, and a split-half, or odd-even, technique did not seem advisable. The split-half method has been criticized because the resulting estimate of reliability varies depending upon the way the scale is split into halves or upon the accidental position of particular items in the original scale. Each of the various ways that a scale is split gives its own estimate of reliability and there are fairly large

fluctuations in the values obtained. Because there are so many ways of splitting a scale, the split-half coefficient is not a unique value.⁹ In view of the importance that the halves be as much equivalent as possible and what seemed like a strong possibility that they would not be, the writer decided some other method of estimating reliability would be more exacting.

Garrett¹⁰ discusses a method of estimating reliability developed by Froelich,¹¹ which he states would result in a minimum estimate of reliability as compared to the other methods. The formula is:

$$r_{11} = \frac{n\sigma_t^2 - M(n-M)}{\sigma_t^2(n-1)}$$

where n is the number of items; M is the mean test score for the total group; and σ_t is the standard deviation of the test scores for the total group. The application of this formula to the present data resulted in a reliability coefficient of .895.

The Kuder and Richardson formulas⁶ for the estimation of reliability were consulted.¹² The data were best suited to the

⁹ Dorothy Adkins et al., Construction and Analysis of Achievement Tests (Washington: U. S. Government Printing Office, 1947), pp. 148-160.

¹⁰ Henry E. Garrett, Statistics in Psychology and Education (New York: Longmans, Green and Co., 1953), p. 336.

¹¹ G. J. Froelich, "A Simple Index of Test Reliability," Journal of Educational Psychology, 1941, 32:381-385.

¹² G. F. Kuder and M. W. Richardson, "The Theory of the Estimation of Test Reliability," Psychometrika, 2:251-260, September, 1937.

Case IV formula, which resulted in a reliability coefficient of .872.

This formula is

$$r_{tt} = \frac{N}{N-1} \cdot \frac{\sigma_t^2 - N\bar{p}\bar{q}}{\sigma_t^2} \quad \bar{p} = \frac{M_t}{N} \quad \bar{q} = 1.00 - \bar{p}.$$

where N is the number of items; M_t is the mean test score for the total group; and σ_t is the standard deviation of the test scores for the total group. Kuder and Richardson pointed out that this formula would never overestimate reliability. Although not in the .90 range, the fact that these estimations are minimal values indicates good reliability.

Summary

An individual item analysis of the items included in the five inventories used in this study, using the method of obtaining a critical ratio derived from the difference in the percentage of responses of one hundred of the "best" of the successful parolees, selected at random, and one hundred of the violators, resulted in finding 132 items with significant differences. Rescoring the complete sets of answer sheets of the sample, using weighted scores, resulted in an extremely significant difference between the mean scores of the successful parolees and the violators. Demonstrations with various cut-off scores indicated the possible use of these items for predicting parole success or failure. The biserial coefficient of correlation for total score on these items as related to parole outcome indicated, further, that such use of the items would have some validity. Two estimates of reliability indicated that the results would be fairly consistent.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

The procedure. A review of the literature pertaining to parole prediction techniques and studies revealed that almost all of the factors that have been investigated were preincarceration factors. It seemed to the writer that a prediction method should also take into account any differences which might exist in the thinking of the prospective parolees at the time of consideration for parole. Consequently, it was the purpose of this study to test one means of discovering whether or not there are differences in the thinking of successful and unsuccessful parolees, and if such differences were discovered, whether or not the nature and extent of such differences would have value as predictors of parole success or failure. The hypotheses tested, therefore, were:

1. There are differences in the thinking of successful and unsuccessful parolees which can be measured objectively by available standardized inventories.

2. The nature and extent of such differences will have some reliability and validity as predictors of parole success or failure.

To discover whether or not there are differences in the thinking of successful and unsuccessful parolees, five inventories were administered to a group of inmates going on parole. These inventories were the Guilford-Martin Inventory of Factors GAMIN, the Guilford Inventory of Factors STDCR, the Johnson Temperament

Analysis, the California Mental Health Analysis, and the Minnesota Multiphasic Personality Inventory. A total of 471 inmates from three Michigan penal institutions were tested in this manner.

The parolees were identified as successful or as violators after all had been on parole at least one year. A parolee was declared successful if he had been discharged from supervision or if he was still under active supervision. The violators were identified as those who had been returned to prison for technical violations, those who had been sentenced as the result of conviction for new offenses, and those who had been declared fugitives by reason of abscondence. The in-state successful parolees were rated by their parole officers on a four-place rating scale: excellent parole adjustment; high average parole adjustment, low average parole adjustment, and borderline parole adjustment. The parole reports of out-of-state parolees were studied by the investigator so a similar rating could be made on the basis of those reports. The out-of-state parolees were adjudged as "acceptable," meaning they were to be classified with the high average and excellent, or in questionable cases as "unacceptable," based on the nature of their monthly reports and the investigator's knowledge of the parole system of the state in which they were serving their paroles. Three parole categories resulted: the "best" of the successful parolees; a "doubtful" group from the successful parolees; and the violators. Those parolees who had been discharged with improvement, those that had been rated as excellent in their adjustment, those that had been rated as high average in their adjustment, and those out-of-state parolees who had been rated as acceptable were included in the "best" group. All of the other successful parolees who were not included in the "best" category were placed in the "doubtful" category.

The following information was obtained from the parole files for each individual included in the sample:

1. Institution from which paroled.
2. Race.
3. Time served prior to parole.
4. Offense for which sentenced.
5. Age at time of parole.
6. Intelligence quotient.
7. Previous criminal history.
8. Date of parole.
9. Parole officer or place of parole.

A five-place table was prepared for the various offenses for which individuals were serving, showing the total number who had been convicted for each offense, the number of violators, the number of nonviolators, the number of "best," and the number of "doubtful" (see Table VII, Chapter III). Four comparisons, using the critical ratio of the difference in proportions, were made as follows: the success rate of those convicted of crimes against property with the total success rate; the success rate of those convicted of crimes against persons with total success rate; the success rate of those convicted of sex crimes with total success rate; and the success rate of those convicted of crimes against property with the success rate of those convicted of crimes against persons.

The violation rate for each of the participating institutions was determined (Table IX, Chapter III).

The sample population was compared according to race (Table X, Chapter III). The critical ratio of the difference in proportions between the percent of white parolees who violated parole and the percent of Negro parolees who violated parole was computed.

A five-place comparison of the sample population by age was made (see Table XI, Chapter III), and the mean and standard deviation obtained for each of the parole categories. The significance of the differences between the means, determined by obtaining the critical ratio of the difference between two means, was used for four comparisons: the "best" with the "doubtful," the "best" with the violators; the violators with the "doubtful"; and the violators with the nonviolators.

A five-place comparison of the sample population according to intelligence (see Table XII, Chapter III) was also made. The means and standard deviations of each of the parole categories was determined. The critical ratio of the two groups with the greatest difference in means was computed. These groups were the "best" as opposed to the "doubtful."

The sample population according to time served was also compared in a five-place table (Table XIII, Chapter III). The means, standard deviations, and medians for each of the parole categories were computed.

The sample population was compared on the basis of their previous records. Each individual was placed in a classification that indicated the extent of his previous criminal history. A five-category comparison was made for each type of offender (Table XIV, Chapter III). In addition, three comparisons of the success rate of various groups were made by use of the critical ratio of the difference in proportions: the comparison of the success rate of those with no previous arrests to the average success rate; the success rate of first offenders, excluding those with no previous criminal history, with the average success rate; and the success rate of first offenders with the success rate of those who had three previous sentences or more.

The mean score for the total sample population was determined for each of the factors included in the five inventories. The mean score of the sample population was compared with the mean score of the normative population, on each factor, in terms of which of the groups had the most desirable score. However, statistical tests of the differences were not possible.

The significance of the difference between the means of the three parole categories, the "best," the "doubtful," and the violators, was determined by computing the critical ratios of the differences between the means on each of the factors of the five inventories. The following comparisons were made: the "best" with the violators; the "best" with the "doubtful"; and the "doubtful" with the violators. There were a total of forty-nine factors for which the three sets of comparisons were made.

There were included in the five inventories used in this study a total of 1,309 items. The validity of the individual items was determined by computing the critical ratio of the difference of the percentage of responses of one hundred of the successful parolees, selected at random, compared with the percentage of the responses of one hundred of the violators, also selected at random.

All of the complete sets of answer sheets for the sample population were scored using those items which had been found to differentiate significantly between the successful and unsuccessful parolees. The items used in this process were weighted according to their discriminating ratios. The sample population was divided into two groups so that a comparison could be made of the total weighted scores from the items with significant differences. These groups were the violators, and the nonviolators, including those who had previously been in the "doubtful" category. However, it was not possible to classify the subjects as violator or nonviolator on the

basis of parole status at the end of 18 months of parole service instead of the one-year period previously used. Means and standard deviations of the two groups were computed and the critical ratio of the difference of the means determined. The biserial coefficient of correlation was also determined, as were two estimates of reliability.

The findings. There were a total of 471 inmates in the sample population. Of this number 377 were from the State Prison of Southern Michigan, 55 were from the Michigan Reformatory, and 39 were from the Cassidy Lake Technical School.

1. Of the inmates who had been on parole for at least one year, it was found that 172 had violated parole. Of this number, 62 had been convicted of committing new offenses, 78 were returned to prison as technical violators, and 32 were declared fugitives from justice because of abscondence. This is a violation rate of 36.5 percent. A total of 163, or 34.6 percent, were rated as the "best" of the successful parolees, while 136, or 28.9 percent, were rated as "doubtful."

2. The sample population had been sentenced for a total of forty-nine offenses. These offenses were divided into two basic categories: offenses against property and offenses against persons. A total of 335, or 71.1 percent, of the sample population had been convicted of offenses against property. The number convicted of offenses against persons was 136, or 28.9 percent of the total sample. Of this number, 50, or 10.6 percent of the total sample, had been convicted of sex offenses.

The success rate for the total sample was 63.5 percent. The success rate for those convicted of crimes against property was 60.4 percent, the success rate of those convicted for crimes against

persons was 72.8 percent and the success rate of those convicted of sex offenses was 74.0 percent. The CR of the difference between the success rate of the total sample and the success rate of those convicted for crimes against property was .83 with a level of significance of .590. The CR of the difference between the average success rate and the success rate of those convicted of crimes against persons was 2.06 with a level of significance of .960. The CR of the difference between the success rate of those convicted of crimes against property and of the success rate of those convicted of crimes against persons was 2.56 with a level of significance of .989. The CR of the difference between the total success rate and the success rate for those who had been convicted of sex crimes was 1.56 with a level of significance of .880. These figures indicated that persons convicted of crimes against property violated at approximately a normal rate of violation. Individuals convicted of offenses against persons were significantly more successful than individuals convicted of offenses against property. It would then follow, and does follow, that individuals convicted of offenses against persons were likewise significantly more successful than the average parolees. The success rate of sex offenders was not significantly greater than the average, but the difference is approaching significance.

3. The rate of violation for the State Prison of Southern Michigan was 38.0 percent, while the rate of violation for the Michigan Reformatory was 32.8 percent, and that for the Cassidy Lake Technical School was 28.2 percent. It is noted that the violation rates are in proportion to the total populations of the institutions, a fact which may suggest that the amount of individual attention received by the inmates at the respective institutions is reflected in the parole violation rate of these institutions.

4. There were a total of 288, or 61.2 percent, white parolees in the sample population, while 176, or 37.4 percent, were Negro. Six-tenths of one percent were Indian and 0.8 percent were Mexican. The difference between the percentage of white parolees who were violators, 33.3 percent, and the percentage of Negro parolees who were violators, 40.9 percent, was 7.6 percent. The CR of this difference was 1.60 with a level of significance of .89. This difference is not significant although it is approaching significance.

5. The range in age at the time of parole was from 16 years to 71 years old. Table XXXIII shows the means and standard deviations of five parole categories. There were four comparisons made. In each of these the CR was in favor of the first-mentioned group. The CR of the difference in the means was computed for the difference between the "best" and the "doubtful" categories, and it was 3.63 with a level of significance of .9996. The CR for the difference between the means of the "best" and the violators was 3.23 with a level of significance of .9986. For the difference between the means of the nonviolators and the violators the CR was 1.95 with a significance level of .949, while that for the violators and the "doubtful" category was .56 with a level of significance of .424. These findings indicate that the older parolee tends to be the more successful.

6. The range in intelligence quotients for the sample population was from a low 42 to a high 134. The mean IQ's and standard deviations for the five parole categories are shown in Table XXXIV. The greatest difference between any two means was between the means of the "best" as compared with the "doubtful." The CR of this difference was 1.22, with a level of significance of .78. This is not a significant difference and would indicate that the IQ, as

TABLE XXXIII

THE MEANS AND STANDARD DEVIATIONS OF FIVE PAROLE
CATEGORIES ACCORDING TO AGE AT TIME OF PAROLE

| Parole Category | Mean | Standard
Deviation |
|------------------------|-------|-----------------------|
| Total sample | 30.47 | 9.60 |
| Violators | 29.38 | 8.55 |
| Nonviolators | 31.10 | 10.10 |
| Best | 32.98 | 11.45 |
| Doubtful | 28.84 | 8.40 |

TABLE XXXIV

THE MEAN INTELLIGENCE QUOTIENTS AND STANDARD
DEVIATIONS OF FIVE PAROLE CATEGORIES

| Parole Category | Mean | Standard
Deviation |
|------------------------|--------|-----------------------|
| Total sample | 91.82 | 15.60 |
| Violators | 92.115 | 16.50 |
| Nonviolators | 91.65 | 15.10 |
| Best | 92.61 | 14.60 |
| Doubtful | 90.495 | 15.05 |

measured and reported in this study, does not differentiate between the successful and nonsuccessful parolee.

7. The amount of time served was measured by the total consecutive months that the individual had served since last entering the institution. The range in time served was from $4\frac{1}{2}$ months to 20 years. The parolee who had served 20 years was the only inmate who had served beyond ten years and this extreme case resulted in a considerable variation in the means computed. For that reason the medians were also computed. The mean, standard deviation, and median, in that order, for each of the parole categories are shown in Table XXXV. CR's were not computed for the mean differences because the writer felt that the extreme case would tend to invalidate the CR's. A comparison of the medians, which do not give such great weight to the extreme case, indicates that the differences were very slight.

8. The previous criminal record was divided into twenty-seven classifications, ranging from those with no previous history of any kind to those with five previous prison sentences. The individual was placed in a classification that indicated the extent of his previous criminal history. The most significant finding was that 80.2 percent of those who had no previous criminal history of any kind were making a success of their paroles. The difference between this success rate and the average success rate, which was 63.5 percent, was 16.7 percent. The CR of this difference was 3.64 with a level of significance of .9996, an extremely significant difference.

The success rate for those that are normally regarded as first offenders, which includes those with no previous record, was 68.3 percent. Without the "no previous record" group the success rate for the so-called "first offenders" drops to 61.6 percent.

TABLE XXXV

THE MEANS, STANDARD DEVIATIONS, AND MEDIANS OF FIVE
PAROLE CATEGORIES ACCORDING TO TIME SERVED

| Parole Categories | Means | Standard
Deviations | Medians |
|------------------------|-------|------------------------|---------|
| Total sample | 24.2 | 20.70 | 17.79 |
| Violators | 22.4 | 16.62 | 17.83 |
| Nonviolators | 26.8 | 22.74 | 17.78 |
| Best | 28.3 | 27.06 | 17.96 |
| Doubtful | 21.5 | 14.76 | 17.56 |

Comparing the average success rate to the success rate for "first offenders," excluding those with no previous history, results in a difference of 1.9 percent with a CR of .39 and a level of significance of .303. This difference is not significant and implies that the so-called "first offender" group, when the individuals with no previous history are not included, succeed on parole at a rate comparable to that of the average parolee.

There were sixteen individuals who had served three previous sentences or more at the time of their present incarceration. Sixty-two and five-tenths percent of these individuals were making a success of their paroles. The CR of the difference between the success rate of the first offenders, which was 68.3 percent, and the success rate of those individuals with three previous sentences or more is .49 with a level of significance of .376. The difference in the

success rate of the "first offenders," excluding those with no previous record, and the offenders with three previous sentences or more, is 0.9 percent. The CR of this difference is .07, with a level of significance of .056. However, there were only sixteen cases in the group with three previous sentences or more, which means that conclusions based on these figures are questionable.

9. There were a total of forty-nine factors included in the five inventories administered. The sample means and the normative means were compared in terms of which score was the most desirable. However, no test of significance was used in this comparison. It was discovered that the score of the normative populations was the most desirable in thirty-six of the forty-nine factors. In other words, the sample population score was less desirable than the normative population score on a little less than 75 percent of the factors.

10. Both the "best" and the "doubtful" groups of the successful parolees were significantly more masculine in their attitudes and interests than the violators, according to the way this factor is scored by the Guilford-Martin Inventory of Factors GAMIN.

11. In the factor described by Guilford-Martin as indicating a lack of inferiority feelings or, conversely, the feeling of self-confidence, the "best" group was significantly more free from inferiority feelings than the violators.

12. The Guilford-Martin factor N is reported as indicating a lack of nervous tenseness or irritability. In this regard, the "best" group was significantly less irritable or bothered by nervous tenseness than were the violators.

13. There were no significant differences for the Guilford-Martin factor of General Pressure for Overt Activity or for the Guilford-Martin factor of Ascendancy in Social Situations.

14. There were no significant differences for any of the Guilford Inventory of Factors STDCR. Apparently, such factors as Social Introversion-Extraversion, Thinking Introversion-Extraversion, Depression, Cycloid disposition, and Rhythymia, as measured by this inventory, do not differentiate between the thinking of successful and unsuccessful parolees.

15. Both the "best" and the "doubtful" groups were significantly more Sympathetic than the violators, according to the Johnson Temperament Analysis.

16. The violator was significantly more nervous than the "best," according to the way this factor is measured by the Johnson Temperament Analysis. This is in agreement with the finding on the Guilford-Martin inventory for this factor.

17. The differences between the successful and the unsuccessful parolees on the remaining traits measured by the Johnson Temperament Analysis did not prove to be significant. Therefore, such traits as Depressive, Active, Cordial, Subjective, Aggressive, Critical, and Self-Mastery, as measured by this inventory, did not differentiate between those who succeeded on parole and those who failed.

18. Significant differences were found for one of the factors of the California Mental Health Analysis. The "best" of the parolees was significantly more satisfied in work and recreation than either the "doubtful" or the violator groups.

19. None of the differences for the other traits of the California Mental Health Analysis was significant. This means that such traits as Behavioral Immaturity, Emotional Immaturity, Instability, Feelings of Inadequacy, Physical Defects, Outlook and Goals, Close Personal Relationships, Inter-personal Skills, and Social

Participation, as measured by this inventory, did not differentiate between successful and unsuccessful parolees.

20. The average score for the violators on the Psychopathic Deviate scale, as measured by the Minnesota Multiphasic Personality Inventory, was significantly higher than the score for either the "best" or the "doubtful."

21. There were no other significant differences on the traits measured by the Minnesota Multiphasic Personality Inventory. Such subtests as the Lie score, the Validity score, and the Correction score, the Hypochondriasis scale, the Depression scale, the Hysteria scale, the Interest scales, the Paranoia scale, the Psychasthenia scale, the Schizophrenia scale, and the Hypomania scale, as represented in this inventory, did not differentiate between successful and unsuccessful parolees.

22. The differentiating characteristics of the three parole groups, according to the traits measured by these inventories, indicate that the "best" group are more masculine in attitudes and interests than the violators; that they are more confident than the violators; that they are less nervous than the violators; that they are more sympathetic than the violators; that they are more satisfied with work and recreation than either the violators or the "doubtful" group; and that they indicate less psychopathic deviation than the violators.

The distinguishing characteristics of the "doubtful" group are that they are more like the "best" in that they are more masculine in attitudes and interests; and also in that they are more sympathetic than the violators. Like the "best" they also indicate less psychopathic deviation than the violators. However, on one trait they are more like the violators in that they are also significantly less satisfied with work and recreation than are the "best."

The violator is distinguished by less masculine attitudes than either the "best" or the "doubtful" groups; by more feelings of inferiority than the "best" group; by more nervousness than the "best"; by not appearing as sympathetic as either the "best" or the "doubtful" groups; by not being as satisfied with work and recreation as the "best"; and by indicating more psychopathic deviation than all of the successful parolees, both the "best" and the "doubtful" groups.

23. As a result of the item analysis, it was found that 102 items significantly differentiated between the successful and non-successful parolees at the .95 (5 percent) level of significance, or better. There were 132 items that significantly differentiated between successful and nonsuccessful parolees at the .93 (7 percent) level of significance, or better. The examiner adopted the latter level of significance as the criterion for this study.

24. The successful and nonsuccessful parolees had been identified from the parole office records after each individual in the sample population had served at least one year of parole. The violation rate at the end of one year was found to be 36.5 percent. The parole office files were again examined at the end of eighteen months so that a new identification of successful and nonsuccessful parolees could be made. At this time it was found that the parole violation rate had increased 4.9 percent in the additional six months, making the new violation rate 41.4 percent.

25. It was found that the number of responses for each of the alternate responses of an item were not always consistent for each item. Consequently, the significant difference, in some cases, was for one or the other of the responses, but not both. This meant that for scoring purposes, the specific response had to be the one scored and the method of scoring depended on whether the difference

was more related to parole failure or parole success. As a result, those responses where the significant difference was related to success were designated in the scoring key as positive (+) items and those that were more related to parole failure as negative (-) items.

The items on which there were found significant differences between the responses of successful and nonsuccessful parolees were assigned weights according to the size of the CR of the differences. Each item, as a result of these two scoring methods, was scored a ± 1 , ± 2 , or ± 3 .

26. There were 384 complete sets of answer sheets. These complete sets of answer sheets were scored for the items with significant differences. The mean score for the entire group was 43.50 with a standard deviation of 16.20. The mean score of the violators, as identified at the end of eighteen months of parole period, was 34.52 with a standard deviation of 16.20. The mean score for the nonviolators was 49.31 with a standard deviation of 15.05. The CR of the difference in the means of the violators and the nonviolators was 9.01, indicating an extremely significant difference.

27. The mean score for the nonviolators exceeded the scores of 82 percent of the violators. The investigator applied various "cut-off" scores and then compared the scores for the two groups to the parole outcomes to determine what the results might have been if the scale and the cut-off score had been applied to this group before parole. For a cut-off score of 35, the scale would have predicted the outcome of approximately 81 percent of those who were successful but would have missed the outcome of 54 percent of the violators. A cut-off score of 40 would have predicted 73 percent of those who were going to stay out and 60 percent of the violators. On the other hand, a cut-off score of 45 would have correctly identified 67 percent

of those who became successful and 72 percent of those who violated their paroles.

If only those inmates were paroled who obtained a score higher than the various cut-off scores, the resulting parole violation rates would have proved very interesting. A cut-off score of 35 would have reduced the parole violation rate from 41.4 percent to 32 percent. Placing the cut-off score at 40 would have resulted in a parole violation rate of 27.6 percent, while a cut-off score of 45 would have reduced the violation rate to 22.9 percent.

28. The biserial coefficient of correlation between the total scores for those items that had significantly differentiated between the successful and nonsuccessful parolees and parole outcome was .638, with a standard error of .044, which indicates such use of the items would have some validity.

29. The reliability coefficient, according to the Kuder and Richardson Case IV formula, was .872, and the reliability coefficient, according to a formula developed by Froelich, was .895. These estimates of reliability indicate that the results of this scale or set of items would have a satisfactory reliability for this type of instrument.

Conclusions

The first hypothesis of the study, that there are differences in the thinking of successful and nonsuccessful parolees which can be measured objectively by available standardized inventories has been confirmed. Individuals respond to the items of a questionnaire-type inventory by indicating how they think about themselves, how they think other people regard them, how they feel about their role in society, how they feel about their relationship with other people,

and the things they believe about the way other people think. The fact that there were significant differences between the responses to individual items by the successful parolees and the unsuccessful parolees establishes, within the limitations discussed below, that there are objectively measurable differences between the thinking of successful parolees and the unsuccessful parolees.

The second hypothesis, that the nature and extent of such differences will have some reliability and validity as predictors of parole success or failure is also confirmed. The biserial coefficient of correlation measuring the relationship of the total weighted scores on the item for which there were significant differences between the responses of successful and unsuccessful parolees to parole outcome was of sufficient magnitude so that predictions based on these scores could be accepted with confidence. The two estimations of reliability are minimal estimations and are high enough to indicate that the results would be fairly consistent.

It should be pointed out, at this time, that these conclusions are drawn from group findings and, as a result, are applicable to group predictions only. The significant differences on which these findings are based are differences between means and percentages, and as such, cannot be applied, with certainty, to individual predictions. It should be recognized that there is considerable overlapping in the distribution of figures on which means and percentages are based and as long as there is such overlapping any predictions based on such figures can be utilized only as group predictions.

This study did not investigate the possibility of individual prediction as it was the purpose to determine whether there are differences in the thinking of parolees at the time of parole consideration, and if there are, what the nature of those differences are and if they would have predictive value. There are differences and

the differences are such as to suggest that a scale like the one used here would have some value in the prediction of parole outcome. The fact that the findings are based on group predictions does not invalidate them as an additional kind of information that could be considered by a parole board in determining the parolability of an individual. It has been demonstrated, for example, that the use of various cut-off scores would result in increasingly higher success rates. The parole board would also know that the prospective parolee's score was above or below the cut-off score and that a certain percentage above that score are successful on parole while a certain percentage of those with scores lower than the cut-off score are failures. Of course, this information would have to be related to the total information available regarding the individual, but it is an additional type of information that has not previously been available.

The value of such an instrument would depend, in part at least, on how truthfully the prospective parolee answers the items. Otherwise, his score might indicate how well he can fake his answers. The major criticism of the use of a questionnaire-type instrument in situations of this nature is that it is comparatively easy for the testee to answer the items to his own advantage, especially in situations where so much depends on the outcome. The possibility of such faking would depend on the subtlety of the questions, among other things. The "good" responses on this scale were determined from the results of the item analysis and did not result in any consistent pattern of responses. Consequently, faking would probably be difficult on this scale since the prospective parolee presumably would not know what kinds of responses are "good."

There are other factors that should be taken into consideration in a discussion of the limitations of this study which might possibly have some effect on the results. The first of these was an error in

technique. Unfortunately, the writer, in his eagerness to make use of all the available test papers in the random sampling to select the papers used in the item analysis, did not use complete sets of test papers, i.e., sets with five answer sheets for each subject. Consequently, almost all of the complete sets of test papers that were later available for a cross validation had one or more papers which had been used in the item analysis. It was pointed out that 870 of the 1,920 answer sheets used in the cross validation had also been used in the item analysis, or 45.3 percent of the total. This is not true cross validation, which actually means trying out the results of the item analysis on a completely independent set of papers. The fact that almost half of the papers used in the validation of the discriminatory value of the items were papers which had been used in the selection of the items in the first place undoubtedly tends to give a spurious effect to the results. Therefore, a true cross validation on a new set of subjects is imperative.

A further limitation lies in the fact that at the time of the analyses included in the study, some of the potential parole violators were identified as successful and regarded as such in the study. The reader will remember that the classifications of successful and non-successful parolees were made after all the subjects had been on parole at least one year. It was pointed out that previous parole statistics for Michigan indicated that approximately 75 percent of those who were going to violate parole would have done so at the end of the first year. At the end of one year 36.5 percent of the original group had violated parole. Recent statistics of Michigan's parolees show that eventually in the neighborhood of 45 percent will violate parole. Since the analysis of the subtest scores and of the individual items was based on classifications as successful or nonsuccessful at the end of one year, the critical reader might question whether or not

the differences in the thinking of the two groups would still be statistically significant after those parolees in the successful group who were to become violators had been reclassified. There is a possibility that the final classification would change the statistics involved in the conclusions of this study and such possibility should be kept in mind as a limitation of the study when the conclusions are considered.

Recommendations for Application

A scale could be devised which consisted of the items found by this investigation to differentiate significantly between the thinking of the potentially successful and nonsuccessful parolees. The writer would recommend that such a scale be devised and put into use by the Michigan Department of Corrections. For the present, the writer recommends that an individual's score should not be regarded as a negative indication of parolability except in the case of those with extremely low scores. The purpose of obtaining the scores of several thousand parolees, for example, all those paroled in a given year, would be to obtain data for the preparation of an expectancy table based on the relationship of the scores on the scale of these several thousand inmates and their ultimate parole outcome. An expectancy table based on the experience of several thousand parolees would make available to the parole board an indication of the expected probability of success and nonsuccess for those who obtained a certain score. In other words, an individual's score could then be interpreted in terms of the expected rate of success or failure for a given score-class as determined by the experiences of the sample on which the table was based.

The score would indicate the readiness of the individual for parole as indicated by the degree that his thinking is like that of the successful parolee or like that of the unsuccessful parolee, as determined by the percentages of successful or unsuccessful parolees with like scores. It is recognized that this is but a limited sampling of the individual's thinking and that it does not take into account such things as the individual's motivation for success or failure, the deterrent effect of the incarceration, the degree of determination to make good, and the reaction that an individual will have toward friends or relatives who will influence him in one direction or the other. Consequently, the parole board would have to determine what effect these and other relevant factors might have on the individual, in relation to this thinking at the time of parole. In other words, this information regarding the type of thinking of the individual as interpreted in terms of expected success or failure, based on past experience with others of like scores, would be an additional factor to be considered by the parole board with all other information at their disposal.

An indication that an individual's thinking was like that of the successful or the unsuccessful parolees, expressed in terms of the parole outcome of those with like scores, would be of value to a parole board in helping to reach a decision as to whether or not an individual would be a good parole risk. One of the major uses of the proposed scale would be as an aid to the parole board in a decision regarding parolability at the initial parole hearing on the expiration of the minimum sentence. A finding that the individual's score indicated a likelihood for failure, based on past experience, might suggest a need for continued treatment.

A scale of this nature would also aid in the discovery of those cases that might be considered for parole before the expiration of the

minimum sentence. The results of the scale might also be one of the deciding factors in the determination of how soon a parole violator is ready to return to society. In other words, a scale that would give a valid interpretation, in terms of expected parole outcome based on past experience, of a prospective parolee's thinking at any time he is being considered for release would be a valuable aid to a parole board in reaching a decision regarding the parolability of that individual.

Recommendations for Further Study

The previous discussion has already pointed out the fact that the items found by this investigation to differentiate significantly between successful and unsuccessful parolees should be validated by comparing the scores of several thousand parolees with their ultimate success or failure on parole. This should be done so that there can be continuous refinement of the scale, so those items which no longer continued to differentiate reliably between successful and unsuccessful parolees could be eliminated from it.

The fact that this study establishes that differences in the thinking of successful and unsuccessful parolees can be measured objectively should lead to the development of more scales devised specifically for this purpose. It is recognized that the present form of the items discovered through this study is not the most advantageous. However, changing the items in any way so that they would be alike in form might seriously affect the validity of the scale. Consequently, the writer suggests experimentation with other forms of the items to determine whether or not a uniform molding of the item would be equally effective.

It is quite possible that an analysis of the items found by this study to distinguish between successful and unsuccessful parolees would reveal specific areas or traits that would even more sharply forecast parole outcome. A study of these items might possibly reveal some of the differences in the basic dynamics of the behavior of the successful and unsuccessful parolees.

Experiments of the nature of the present investigation should be conducted with other scales composed of traits not included in this study. There may be other areas of thinking that could be objectively measured that would also differentiate between parole success and failure. The most discriminating of any additional items discovered might then be combined with the most discriminating of the present items in a further refinement of this method of parole prediction.

During the process of the present investigation, there was another area of which the writer became aware that needed further investigation. It was found that the parole success rate of the first offenders, excluding those with no previous criminal history, was very much like the success rate of individuals who had served at least three previous sentences. However, there were only sixteen cases in the latter group, and the results cannot be accepted with confidence. It seems to the writer that this has important implications for the determination of parolability. As a rule, the first offenders, which includes all those who have not previously served a prison sentence, regardless of other criminal history, are regarded as better parole risks than repeating offenders. However, the implication of the finding of this study, that it is only the offender with no previous history of any kind who is the better risk, while the "first offender" who has a previous record but not to the extent of a previous prison sentence, has a violation rate equal to that of repeating offenders, certainly has strong implications for parole

decisions. A comparison of the success rates of several hundred individuals in these three categories might be enlightening.

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APPENDIXES

APPENDIX A

THE CERTIFICATE OF PAROLE OF THE STATE OF MICHIGAN'S
DEPARTMENT OF CORRECTIONS INCLUDING THE
CONDITIONS OF PAROLE

**STATE OF MICHIGAN
DEPARTMENT OF CORRECTIONS
CERTIFICATE OF PAROLE**

Whereas _____ Inmate No. _____, now confined
in _____,
is eligible for parole; Therefore, in consideration of the signed promises made by said inmate, We, the
Michigan Parole Board, hereby order that the said inmate be paroled after _____
_____ to the confines of _____

County, under the supervision of Parole Officer _____
Name _____

Address _____ Phone _____
for a period of _____ ending _____

providing the conditions of this parole are faithfully carried out.

We further order that said inmate will proceed to _____
City _____ County or State _____

where he will be employed by _____
Name _____ Address _____

and will reside with _____
Name _____ Address _____

SPECIAL CONDITIONS

Given at Lansing under the seal of the Michigan Department of Corrections this _____
of _____.

MICHIGAN PAROLE BOARD

st: _____
By _____
Chairman

In consideration for my release upon parole, and having full knowledge that failure to live up to all of the conditions of this parole may result in my being returned to prison, AND HAVING READ OR HAVING HAD READ TO ME AND UNDERSTANDING THE SAID CONDITIONS OF PAROLE PRINTED HERE-
UNDER, I do hereby promise and agree that:

1. Upon arrival at my destination I will immediately contact my Parole Officer as instructed.
2. If I find it necessary to change residence or job I will first contact my Parole Officer and receive his permission. If any difficulty arises at my residence or job which may affect my succeeding on parole, I will report such difficulty to my Parole Officer. I understand that I must work steadily and to the best interest of my employer.
3. Once a month, or as instructed by my Parole Officer, I will make a written report to him on forms provided. I understand that this report must be complete and truthful.
4. I will not use intoxicating beverages to excess nor use any narcotics or habit-forming drugs.
5. I will not leave the county or state to which I am paroled without the permission of my Parole Officer.
6. I will not marry while on parole without the permission of my Parole Officer.
7. I will not buy or drive any motor vehicle or provide money for the purchase of one, or become involved in debt, without the permission of my Parole Officer.
8. I will not associate or communicate with parolees, inmates of a penal institution, or persons having a criminal or police record without the permission of my Parole Officer.
9. I will reply at once to any letter or request from my Parole Officer. I will keep my Parole Officer informed at all times of my whereabouts, movements, and activities. I will keep reasonable hours.
10. I will provide for my family to the best of my ability.
11. I will live up to such Special Conditions of Parole as are ordered by my Parole Officer.

In presence of

Signature of Parolee

Date

Released

APPENDIX B

THE INVENTORIES USED IN THE PRESENT INVESTIGATION

1. The Mental Health Analysis.
2. The Guilford-Martin Inventory of Factors GAMIN.
3. An Inventory of Factors STDCR.
4. The Johnson Temperament Analysis.
5. The Minnesota Multiphasic Personality Inventory.

MENTAL HEALTH ANALYSIS—Adult Series, Form A

Devised by Louis P. Thorpe and Willis W. Clark
Ernest W. Tiegs, Consultant

Do not write on this booklet unless told to do so by the examiner.

Directions:

If you are to use a special answer sheet, the method of answering questions is explained on the answer sheet. If you are to mark your answers on this booklet, the questions will be answered by making a circle around the YES or NO. Do the following examples:

| | | | |
|---|-----|----|---|
| Have you ever been to a moving picture theater? | YES | NO | On some of them you will make a circle around YES, and on others you will make a circle around NO. When told to begin you are to go right on from one page to another until you have finished them all. |
| Are you less than sixteen years of age? | YES | NO | |

On the following pages are more questions.

Name..... Occupation or Grade.....

Age..... Birthday..... Sex: M-F
Month Day

Examiner..... Organization.....

| | | Score | Percentile | PERCENTILE
(Chart percentile rank here) | | | | | | | | | | | | | | | |
|-------------------|-----------------|-------|------------|---|---|----|----|----|----|----|----|----|----|----|----|----|--|--|--|
| | | | | 1 | 5 | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 | 95 | 99 | | | |
| Lib. | ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A. Beh. Im. | (l) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | | | (Freedom from) | | | | | | | | | | | | | | | |
| B. Em. Ins. | (m) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | | | (Freedom from) | | | | | | | | | | | | | | | |
| C. Fl. Ina. | (n) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | | | (Freedom from) | | | | | | | | | | | | | | | |
| D. Ph. Def. | (o) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | | | (Freedom from) | | | | | | | | | | | | | | | |
| E. Ner. Man. | (p) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | | | (Freedom from) | | | | | | | | | | | | | | | |
| Ast. | ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| A. Cl. Per. Rel. | (a) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| B. Intp. Sk. | (b) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| C. Soc. Par. | (c) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| D. Sat. W. and R. | (d) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| E. Ot. and Gl. | (e) ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| Total Score | ..... | ..... | ..... | \|-----\|-----\|-----\|-----\|-----\|-----\|-----\|-----\| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| | | | | 1 5 10 20 30 40 50 60 70 80 90 95 99 | | | | | | | | | | | | | | | |
| | | | | PERCENTILE | | | | | | | | | | | | | | | |

1. Do several people seem to think that you are making a success of your work? YES NO
2. Have you found that you can talk freely with one or more of the people with whom you are associated? YES NO
3. Do you often have to start eating a meal before the others because they make you wait so long? YES NO
4. Have you found that you can succeed better by getting tough when someone tries to take advantage of you? YES NO
5. Is someone willing to help you in choosing clothes and other personal effects? YES NO
6. Are conditions affecting you often so bad that you feel as though life is hardly worth living? YES NO
7. Have you found that your feelings, or moods, about life frequently change? YES NO
8. Are you often worried about possible dangers that you cannot control? YES NO
9. Can you keep people from feeling too embarrassed when they make a mistake? YES NO
10. Do you usually keep from showing that you dislike to lose in games or contests? YES NO
11. Do people often expect so much of you that you are forced to make a good many excuses? YES NO
12. Would you rather be with a group of people than find entertainment for yourself? YES NO
13. Do you prefer activities requiring cooperation to those in which you work alone? YES NO
14. Have you found it difficult to get acquainted with the people you would like to have as friends? YES NO

15. Do you usually take part or have definite interest in one or more active sports? YES NO
16. Do you find that the type of work you are doing is sufficiently interesting? YES NO
17. Have you often felt less attractive than others because of the shape of your legs? YES NO
18. Are you concerned because you are too tall to look right with most of your friends? YES NO
19. Are you sensitive because of skin blemishes that detract from your appearance? YES NO
20. Do you like to spend more than the required amount of time on your work? YES NO
21. Do you usually refrain from doing the things you believe to be wrong? YES NO
22. Do you believe that you should always be honest in your dealings with people? YES NO
23. Do you have a difficult time sleeping? YES NO
24. Do you believe that people have a right to do what they like so long as they do not interfere with the rights of others? YES NO
25. Do you have the habit of biting your fingernails? YES NO
26. Are you usually quick enough to get a good seat at a show or other gathering? YES NO
27. Have you found it easy to get ahead of people in lines at games, theatres, or other places? YES NO
28. Do you have one or more close friends of your own sex? YES NO
29. Do you feel that some of your neighbors deserve your friendship? YES NO

30. Do you have a friend who will talk with you about your problems? YES NO
a
31. Do you often feel as though you are held back from doing things that you would like to do? YES NO
m
32. Do you usually make a point of finding out what your friends like to do? YES NO
b
33. Do your friends seem to think that you have a good sense of humor? YES NO
b
34. Do you often become so concerned with your own problems that you fail to notice the people around you? YES NO
m
35. Have you found it difficult to settle on definite beliefs concerning life? YES NO
m
36. Are you a member of a club or other group where people do interesting things together? YES NO
e
37. Have you found that you get along best when people are willing to give you a loan from time to time? YES NO
n
38. Do you usually take an active part in things rather than think or read about them? YES NO
e
39. Are you a working member of the Red Cross or some other organization which assists underprivileged people? YES NO
c
40. Does it seem to you that most people like to compete with others more than you do? YES NO
n
41. Do you feel unattractive because you have a protruding or receding chin? YES NO
o
42. Do you feel that you have the opportunity of doing many of the things that make life interesting? YES NO
d
43. Do you usually feel good after you have worked hard? YES NO
d

44. Are you satisfied with the type of work you are doing because it will lead to something better? YES NO
d
45. Have you been unhappy because you are not considered as good looking as you would like? YES NO
e
46. Have you noticed that you hum a great deal of the time? YES NO
p
47. Do you believe that everyone should have equal rights under the law? YES NO
e
48. Do you believe that everyone has the opportunity of making an honest living? YES NO
e
49. Do you sometimes have dizzy spells? YES NO
p
50. Do you find it hard to sit still for long? YES NO
p
51. Have you frequently been able to get even with people you dislike by ignoring them? YES NO
i
52. Have you found that it pays to avoid people who try to prevent you from doing what you like? YES NO
i
53. Do you know someone with whom you can talk over your business or other problems? YES NO
a
54. Have you found that someone else will usually get the things you want if you don't beat them to it? YES NO
i
55. Have you found that it is usually better to stay away from home for awhile when someone has been unfair to you? YES NO
i
56. Do you make a practice of showing people that you recognize their abilities? YES NO
b
57. Have you found that it is well to tell people when they show good judgment? YES NO
b
58. Do you often find it necessary to defend your beliefs in the face of strong opposition? YES NO
m

59. Do you usually find that it is much more pleasant to think about necessary activities than to engage in them? YES NO
60. Do you enjoy helping people out of their difficulties? YES NO
61. Do you often feel that members of your family do not think as well of you as they should? YES NO
62. Do many of your associates seem to think that their ideas are better than yours? YES NO
63. Do people often claim that they are more competent in their work than you are? YES NO
64. Do you sometimes travel or go camping with people of your own age? YES NO
65. Does it seem that you are left out of things you would like very much to be in? YES NO
66. Is the kind of work you are doing easy enough so that you can do it well? YES NO
67. Do you prefer to keep your job or present kind of work to seeking employment that pays more money? YES NO
68. Are you worried about things that are said about you because you are too thin? YES NO
69. Are you concerned about comments made because you are overweight? YES NO
70. Are you troubled because people seem to notice that your teeth are uneven or otherwise unattractive? YES NO
71. Do you believe that everyone should be loyal to his friends and associates? YES NO

72. Do you get a great deal of relief for your eyes by squinting? YES NO
73. Do you believe that people who do what is right will eventually be rewarded? YES NO
74. Do you believe that people have a right to decide things for themselves so long as they do not harm anyone else? YES NO
75. Do you constantly make plans for carrying on a successful career? YES NO
76. Are you usually consulted concerning things members of your family are planning to do? YES NO
77. Have you often found that by stirring up a little trouble you can get what you want without delay? YES NO
78. Do you have a number of friends among members of the opposite sex? YES NO
79. Do you frequently have good times with fellow members of some group or organization? YES NO
80. Have you found that it is surprisingly easy to hurt other people's feelings? YES NO
81. Do you make a practice of going out of your way to help people? YES NO
82. Are you frequently dissatisfied because your plans do not work out satisfactorily? YES NO
83. Do you often feel depressed without knowing the reason for your feelings? YES NO
84. Have you often become so absorbed in personal thoughts that you failed to notice what was going on around you? YES NO
85. Do you make a practice of giving people credit for the things they know? YES NO

36. Do you take part in the programs of a service club, worker's organization, or other such group? YES NO
37. Do you have a group of good friends in addition to the one or two persons you know best? YES NO
38. Are you often disturbed because people act as though they cannot depend on you? YES NO
39. Do you go to dances or other socials when you have the chance? YES NO
40. Have you found that you can do your best work when you have the help of friends? YES NO
41. Are you troubled because people notice something wrong with your mouth or lips? YES NO
42. Are you worried because there is something wrong with your feet or legs that it is difficult to conceal? YES NO
43. Do you usually look forward with pleasure to the duties of the next day? YES NO
44. Does it seem to you that you are making satisfactory progress in your work responsibilities? YES NO
45. Do you have as much time for play and recreation as you should? YES NO
46. Do you stutter some of the time? YES NO
47. Have you found that you are tired much of the time? YES NO
48. Do you believe that everyone should be kind to animals? YES NO
49. Do you often find yourself "drumming" with your fingers or talking to yourself? YES NO

100. Are you frequently bothered by eyestrain? YES NO
101. Do accidents or injuries seem to hurt you more than they do most people? YES NO
102. Have you found that you usually get what you want most quickly by demanding it? YES NO
103. Do you have some close friends among your relatives? YES NO
104. Do you feel that most members of your family think as well of you as they should? YES NO
105. Do you have so many problems that you are often justified in stretching the truth a little in solving them? YES NO
106. Do you enjoy letting people know when they have done something well? YES NO
107. Can you usually stop a quarrel between two people without hurting their feelings? YES NO
108. Does it usually take you considerable time to get over disappointments? YES NO
109. Have you often had the feeling that you do not get what is coming to you in life? YES NO
110. Do you find it very difficult to relax and take things easier? YES NO
111. Do you usually prefer working with a group rather than alone? YES NO
112. Have you usually found it difficult to get along with persons of the opposite sex? YES NO
113. Have you found that you can get out of unpleasant responsibilities by appearing to be below par physically? YES NO

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|--|--------|---|--------|
| 114. Do you call on your friends when you have the time? | YES NO | 129. Have you found that it usually pays to tell people frankly about your likes and dislikes? | YES NO |
| 115. Do your friends appear to think that you are good at getting things done in group activities? | YES NO | 130. Have you found that many people are unreasonable in expecting you to keep your feelings to yourself? | YES NO |
| 116. Are you troubled because people notice that you have scars that show? | YES NO | 131. Are you often concerned about what the future may have in store for you? | YES NO |
| 117. Do you have the opportunity of seeing your favorite kinds of motion pictures? | YES NO | 132. Do you often help people have a good time at social affairs? | YES NO |
| 118. Do you listen regularly to some of your favorite radio programs? | YES NO | 133. Are you usually careful of what you say about your friends? | YES NO |
| 119. Are you troubled because your hair is either too thin, straight, or curly to be attractive? | YES NO | 134. Do you usually show an interest in the things your acquaintances are doing? | YES NO |
| 120. Have you been troubled because of things people say about the color of your hair? | YES NO | 135. Have you often felt that you have more than your share of bad luck? | YES NO |
| 121. Do you believe that everyone should receive enough free education to fit him for democratic living? | YES NO | 136. Do you engage in one or more hobbies in which some of your friends are interested? | YES NO |
| 122. Do you believe that people of other colors, races, and beliefs are entitled to their rights? | YES NO | 137. Does it seem to you that most of your associates are more attractive physically than you are? | YES NO |
| 123. Are you often troubled by a buzzing sound in your ears? | YES NO | 138. Does it seem to you that most people think about themselves and tend to forget others? | YES NO |
| 124. Are you sometimes troubled with nightmares? | YES NO | 139. Do you find it difficult to secure as much attention as most people do? | YES NO |
| 125. Do you believe that you should obey the laws even though you do not agree with them? | YES NO | 140. Do you sometimes go to concerts, lectures, or entertainments with a group of acquaintances? | YES NO |
| 126. Do you usually prefer to do things on the spur of the moment rather than after planning them? | YES NO | 141. Do you like to spend part of your time painting, drawing, or writing? | YES NO |
| 127. Do the members of your family seem to believe in your honesty and truthfulness? | YES NO | 142. Are your duties often so interesting that you like to work hard? | YES NO |
| 128. Do you often have good times at social gatherings in your home? | YES NO | | |

43. Are you concerned because of difficulty in controlling muscles of your hands or feet? YES NO
.
44. Do you feel discouraged because poor eyesight keeps you from doing your best work? YES NO
.
45. Do you feel your work is so important that you do it well? YES NO
d
46. Do you occasionally feel that your muscles are trembling? YES NO
p
47. Do you seem to catch cold easily? YES NO
p
48. Are certain of your religious beliefs so fundamental that you would not care to change them? YES NO
.
49. Do you consider good character as important as knowledge or skill? YES NO
.
50. Do you often feel a tension in your chest? YES NO
p
51. If you were in need of financial assistance, do you know of someone who would help you? YES NO
.
52. Are many people so unpleasant that you are justified in treating them with indifference? YES NO
1
53. Do you have any brothers, sisters, or other close relatives who are as friendly to you as they should be? YES NO
.
54. Do you know any people who can be trusted to keep your secrets? YES NO
.
55. Have you found that you get along best when you don't concern yourself much about other people's feelings? YES NO
1
56. Are you careful not to talk much about the things you can do? YES NO
b

157. Have you found that you often seem both to love and hate some one? YES NO
m
158. Have you found that it is usually inadvisable to tell people about their faults? YES NO
b
159. Are you often tempted to give up trying to solve your many problems? YES NO
m
160. Have you found ways of getting out of many of your unpleasant duties? YES NO
m
161. Do you sometimes take part in planning or in leading group activities? YES NO
.
162. Do you like to take an active part in civic or political matters? YES NO
.
163. Have you often felt that you need more courage than most people if you are to be successful? YES NO
n
164. Do you enjoy carrying on conversations at group gatherings? YES NO
.
165. Have you noticed that much good usually comes from your failures? YES NO
n
166. Do you like to spend part of your time working in a garden or similar outdoor activity? YES NO
d
167. Do you worry about what people think because you must wear eyeglasses? YES NO
.
168. Are you concerned because you are too stoop-shouldered to look well? YES NO
.
169. Do you often feel embarrassed because you believe your skin to be unsightly? YES NO
.
170. Do you get a great deal of pleasure from raising animals or spending time with pets? YES NO
d

171. Do you believe in fulfilling your promises even if you dislike very much to do so? YES NO
172. Do you believe that there are some acts that are always right and some that are always wrong? YES NO
173. Do you frequently wake up with a stiff neck? YES NO
174. Do you often have trouble with sneezing spells? YES NO
175. Do you often have shooting pains in your head? YES NO
176. Do members of your family seem to like your friends? YES NO
177. Is there someone to whom you can go if you are in trouble? YES NO
178. Do you often talk over personal matters with other people? YES NO
179. Have you found that if you want to be comfortable, you must look out for yourself? YES NO
180. Have you found that if you let your work go, someone else will usually help you finish it? YES NO
181. Have you found that it is better not to talk about people behind their backs? YES NO
182. As a rule, do you prefer having people do things for you to doing them yourself? YES NO
183. Do your friends appear to think that you are fair in your dealings with them? YES NO
184. Is it easy for you to be friendly with people even when they disagree with you? YES NO
185. Do you make it a point to treat your friends when you have the opportunity of doing so? YES NO
186. Do you enjoy trading, buying, or selling things? YES NO

187. Does it seem to you that most people can work harder or longer than you can? YES NO
188. Have you found it almost impossible to be as successful as most of your acquaintances? YES NO
189. Have you found that it is usually someone else's fault when you are blamed for things? YES NO
190. Do you usually like to be where there is much activity? YES NO
191. Do you sometimes enjoy yourself by going fishing, camping, or hiking? YES NO
192. Do you have good times collecting stamps, coins, or other objects? YES NO
193. Are you troubled because so many people notice how bow-legged or knock-kneed you are? YES NO
194. Do you often have an enjoyable time playing a musical instrument? YES NO
195. Are you worried because something is wrong with your hands? YES NO
196. Do you believe in spending part of your time or money in assisting worthy causes? YES NO
197. Are your arms extremely tense much of the time? YES NO
198. Do you frequently have sick headaches? YES NO
199. Do you think that family life is essential to the welfare of society? YES NO
200. Do you feel that there is some great plan in the universe and that you have a part in it? YES NO

THE GUILFORD-MARTIN

INVENTORY OF FACTORS G A M I N

(Abridged Edition)

Mr.
Mrs.
Name Miss _____ Date _____
(Cross out two)

Nearest age (encircle): Raw Scores: G _____ A _____ M _____ I _____ N _____
15 20 25 30 35 40 45 50 55 60
C-Scores: _____

DIRECTIONS: Below you will find some questions which are to be answered by encircling either "Yes" or "No." Read each question in turn, think what your opinion or your behavior has usually been, and draw a circle around the answer that best describes your behavior or opinion. Encircle the "?" only when you are unable to decide between the "Yes" and "No." BE SURE TO ANSWER EVERY QUESTION. There is no right answer to any of these questions except the answer that tells how you think or feel about it.

- | | | | | |
|---|-----|---|----|----|
| 1. Do you believe that you know your own characteristics about as well as most people know theirs?..... | Yes | ? | No | 1 |
| 2. Does your personality stand out as being quite different from that of other people?.... | Yes | ? | No | 2 |
| 3. When climbing stairs do you often take the steps two at a time?..... | Yes | ? | No | 3 |
| 4. Do you often feel the need for a rest during the day?..... | Yes | ? | No | 4 |
| 5. When you think you recognize someone you see in a public place, do you inquire of him whether you have met him before?..... | Yes | ? | No | 5 |
| 6. Do you have one or more abilities in which you believe you are superior to most other people? | Yes | ? | No | 6 |
| 7. Do you express such emotions as delight, sorrow, anger, and the like, readily?..... | Yes | ? | No | 7 |
| 8. Do you feel that people almost always treat you right?..... | Yes | ? | No | 8 |
| 9. Do you become very annoyed when you find a window stuck when you want to open it? | Yes | ? | No | 9 |
| 10. Do you find it difficult to get rid of a salesman to whom you do not care to listen or give your time?..... | Yes | ? | No | 10 |
| 11. Have you ever kept a personal diary of your own accord?..... | Yes | ? | No | 11 |
| 12. When going somewhere in an automobile, does it bother you considerably to get caught in slow-moving traffic?..... | Yes | ? | No | 12 |
| 13. Are you afraid of deep water?..... | Yes | ? | No | 13 |
| 14. Are you inclined to be quick in your actions?..... | Yes | ? | No | 14 |
| 15. Do you frequently feel thwarted because you cannot do as you want to?..... | Yes | ? | No | 15 |
| 16. Do you usually hesitate to take a seat in the front of a lecture room or church if to do so makes you appear conspicuous?..... | Yes | ? | No | 16 |
| 17. Do you cry rather easily?..... | Yes | ? | No | 17 |
| 18. Do you believe you have been bossed too much for your own good?..... | Yes | ? | No | 18 |
| 19. Are there ever times when you feel so jumpy you could throw things at people if you did not control yourself?..... | Yes | ? | No | 19 |
| 20. Do you always know what to do next?..... | Yes | ? | No | 20 |
| 21. At work or at play, do other people find it hard to keep up with the pace you set?..... | Yes | ? | No | 21 |
| 22. Do you often wish you were stronger so you could "smash" some one who is stronger than you? | Yes | ? | No | 22 |
| 23. Do you (or would you) ever haggle over a price with a tradesman or dealer?..... | Yes | ? | No | 23 |
| 24. Do you often find that you can think of smart things to say only after it is too late?.. | Yes | ? | No | 24 |
| 25. Do you find it easy to start a conversation with a stranger?..... | Yes | ? | No | 25 |
| 26. Do you often become irritated over little annoyances?..... | Yes | ? | No | 26 |
| 27. If an acquaintance of yours has been spreading untrue and uncomplimentary stories about you, do you usually "have it out" with the person?..... | Yes | ? | No | 27 |

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|--|-----|---|----|----|
| 28. Do you feel deeply sorry for a mistreated horse?..... | Yes | ? | No | 28 |
| 29. Do you always feel that you can accomplish the things you want to do?..... | Yes | ? | No | 29 |
| 30. Are you happiest when you get involved in some project that calls for rapid action?... | Yes | ? | No | 30 |
| 31. Do you sometimes crave something intensely without knowing what it is you want?... | Yes | ? | No | 31 |
| 32. Do you feel bored much of the time?..... | Yes | ? | No | 32 |
| 33. When a parent, teacher, or boss scolds you, do you ever feel like weeping?..... | Yes | ? | No | 33 |
| 34. Are you rather good at bluffing when you find yourself in difficulty?..... | Yes | ? | No | 34 |
| 35. Are you inclined to be slow and deliberate in movement?..... | Yes | ? | No | 35 |
| 36. Would you rate yourself as a tense individual?..... | Yes | ? | No | 36 |
| 37. When you are suddenly upset emotionally, does it take much time to recover your composure? | Yes | ? | No | 37 |
| 38. When a clerk in a store waits on others who should come after you, do you usually call his attention to the fact?..... | Yes | ? | No | 38 |
| 39. Does it annoy you to hear someone make fun of your clothes?..... | Yes | ? | No | 39 |
| 40. Have you often felt that you are a rather awkward person?..... | Yes | ? | No | 40 |
| 41. Do you wake up feeling tired in the morning?..... | Yes | ? | No | 41 |
| 42. Do you usually eat more rapidly than the average person, even though there is plenty of time?..... | Yes | ? | No | 42 |
| 43. Do you dislike to have people watching you while you are working?..... | Yes | ? | No | 43 |
| 44. In a group activity do you often find yourself compelled to play an unimportant part?.. | Yes | ? | No | 44 |
| 45. When troubled or upset because things go wrong, are you inclined to suffer from indigestion, acid stomach, or other distress?..... | Yes | ? | No | 45 |
| 46. Do you like love scenes in a movie or play?..... | Yes | ? | No | 46 |
| 47. Do you feel that you are lacking in self-control?..... | Yes | ? | No | 47 |
| 48. Have you ever, on your own initiative, organized a club or group of any kind?..... | Yes | ? | No | 48 |
| 49. Are you ever afraid that you cannot live up to the standards your parents set for you?.. | Yes | ? | No | 49 |
| 50. Do you feel strongly against kissing a friend of your own sex and age?..... | Yes | ? | No | 50 |
| 51. Have you ever been afraid of contracting tuberculosis or some other serious disease?.. | Yes | ? | No | 51 |
| 52. Does it sometimes seem to you that in life's competitions you are usually left behind?.. | Yes | ? | No | 52 |
| 53. Have you ever been hesitant about making application for a job in person?..... | Yes | ? | No | 53 |
| 54. Do you prefer the study of mathematics and science to that of literature and music?.. | Yes | ? | No | 54 |
| 55. Do you get angry very easily?..... | Yes | ? | No | 55 |
| 56. Do you feel confident that you can cope with almost any situation that you will meet in the future?..... | Yes | ? | No | 56 |
| 57. Does it bother you considerably to have your teacher or your boss call upon you unexpectedly in a group?..... | Yes | ? | No | 57 |
| 58. Can you go into a dark cellar or basement alone without even the slightest trembly feeling? | Yes | ? | No | 58 |
| 59. When you are walking with others, do they often have difficulty in keeping up with you? | Yes | ? | No | 59 |
| 60. Does it make you uncomfortable to be "different"?..... | Yes | ? | No | 60 |
| 61. Is your health generally better than that of most people?..... | Yes | ? | No | 61 |
| 62. Do you often become tense or excited either at a movie or when listening to the radio?.. | Yes | ? | No | 62 |
| 63. Would you rather work for a good boss than for yourself?..... | Yes | ? | No | 63 |
| 64. Would you rather be a florist than a miner?..... | Yes | ? | No | 64 |
| 65. Do you sometimes wish you were in another office (or school or factory) where your companions were more congenial?..... | Yes | ? | No | 65 |
| 66. Do you feel tired out most of the time?..... | Yes | ? | No | 66 |
| 67. Do you (or would you) like to take on new and important responsibilities such as organizing a new business enterprise?..... | Yes | ? | No | 67 |
| 68. Are you very good at making money as compared with others of your own age and sex? | Yes | ? | No | 68 |
| 69. Are you afraid of snakes?..... | Yes | ? | No | 69 |
| 70. Are you particularly uneasy when waiting for a slow person to finish either saying or doing what he started?..... | Yes | ? | No | 70 |
| 71. Are you oversensitive to criticism of yourself?..... | Yes | ? | No | 71 |
| 72. Do you feel sorry for a fish that is caught on a hook?..... | Yes | ? | No | 72 |
| 73. Are you the kind of person who is "on the go" all the time he is awake?..... | Yes | ? | No | 73 |
| 74. Are you easily startled by unexpected stimuli?..... | Yes | ? | No | 74 |
| 75. Do you find it difficult to say "No" to a salesman who tries to sell you something you do not really want?..... | Yes | ? | No | 75 |

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| 76. Do you frequently feel self-conscious in the presence of important people?..... | Yes | ? | No | 76 |
| 77. Would you rather be an artist than a political organizer?..... | Yes | ? | No | 77 |
| 78. Do you usually work faster than the average person of your sex and age?..... | Yes | ? | No | 78 |
| 79. Were you happier when you were younger than you are now?..... | Yes | ? | No | 79 |
| 80. Do your interests tend to change quickly?..... | Yes | ? | No | 80 |
| 81. When you are attracted to a person of the opposite sex whom you have not met, do you usually make an active attempt to get acquainted even though the circumstances may make this quite difficult?..... | Yes | ? | No | 81 |
| 82. Does the sight of large bugs and spiders ever give you a "creepy" feeling?..... | Yes | ? | No | 82 |
| 83. Do you suffer keenly from feelings of inferiority?..... | Yes | ? | No | 83 |
| 84. Can you relax easily when sitting or lying down?..... | Yes | ? | No | 84 |
| 85. Do you find it difficult to solicit funds even in a cause in which you are interested?.... | Yes | ? | No | 85 |
| 86. Do you become nervous and tense when competing in a contest, such as tennis, golf, or debating? | Yes | ? | No | 86 |
| 87. Do younger people have an easier and more enjoyable life than you do?..... | Yes | ? | No | 87 |
| 88. When you become emotional do you sometimes come to the point of tears?..... | Yes | ? | No | 88 |
| 89. Do you usually start to work on a new project with a great deal of enthusiasm?..... | Yes | ? | No | 89 |
| 90. Does it seem to you that you never do things in a way that wins the attention and approval of others? | Yes | ? | No | 90 |
| 91. Do you usually speak out in meeting to oppose someone who you feel sure is wrong?.. | Yes | ? | No | 91 |
| 92. Do you often find it difficult to sleep at night?..... | Yes | ? | No | 92 |
| 93. Do you ever fear that you are getting lost?..... | Yes | ? | No | 93 |
| 94. Are you inclined to keep quiet when out in a social group?..... | Yes | ? | No | 94 |
| 95. Would you rather be a building contractor than a nurse?..... | Yes | ? | No | 95 |
| 96. Do you sometimes want to move to a new town or community because you do not find congenial people where you are?..... | Yes | ? | No | 96 |
| 97. Do loud noises tend to upset you?..... | Yes | ? | No | 97 |
| 98. Are you disgusted at the sound of foul language?..... | Yes | ? | No | 98 |
| 99. Can you turn out a large amount of work in a short time?..... | Yes | ? | No | 99 |
| 100. When promotions in rank, salary, or position are being made, does it seem that you are given less attention than others?..... | Yes | ? | No | 100 |
| 101. Do you usually shrink from meeting a crisis or emergency?..... | Yes | ? | No | 101 |
| 102. Do odors of perspiration disgust you?..... | Yes | ? | No | 102 |
| 103. Do you find it difficult to go on with your work if you do not receive enough encouragement? | Yes | ? | No | 103 |
| 104. While not otherwise occupied, are your hands almost always busy in such acts as drumming on the table, twisting a chain or rubber band, etc.?..... | Yes | ? | No | 104 |
| 105. Do you often find yourself hurrying to get places even when there is plenty of time?.. | Yes | ? | No | 105 |
| 106. Do you let others "run over you" more than you should for your own good?..... | Yes | ? | No | 106 |
| 107. Would you rather be a private secretary than an explorer of new geographic territory? | Yes | ? | No | 107 |
| 108. Do you ever wish you could have been born at a different time or place or in a different family than you were?..... | Yes | ? | No | 108 |
| 109. Can you usually sit still without fidgeting?..... | Yes | ? | No | 109 |
| 110. Would you rate yourself as a talkative individual?..... | Yes | ? | No | 110 |
| 111. Have there been many people with whom you have come in contact who did not care to associate with you?..... | Yes | ? | No | 111 |
| 112. Are you disgusted at the sight of ragged or soiled fingernails?..... | Yes | ? | No | 112 |
| 113. Do you usually feel restless when listening to a lecture?..... | Yes | ? | No | 113 |
| 114. In being thrown by chance with a stranger, do you usually take the initiative in introducing yourself? | Yes | ? | No | 114 |
| 115. Do you ever wish that you were taller or shorter than you are?..... | Yes | ? | No | 115 |
| 116. Are you frequently in a state of inner excitement or turmoil?..... | Yes | ? | No | 116 |
| 117. Can you (or could you) walk past a graveyard alone at night without feeling uneasy? | Yes | ? | No | 117 |
| 118. If you hold an opinion that is radically different from that expressed by a lecturer, do you usually tell him about it either during or after the lecture?..... | Yes | ? | No | 118 |
| 119. Are you frequently absent-minded?..... | Yes | ? | No | 119 |
| 120. Do you feel deeply sorry for a bird with a broken wing?..... | Yes | ? | No | 120 |
| 121. Do screeching sounds (like a fingernail scratching on the blackboard) send terrific "chills" up and down your back?..... | Yes | ? | No | 121 |
| 122. Can you always think of a good excuse when the situation demands it?..... | Yes | ? | No | 122 |
| 123. Are you usually confident of your abilities?..... | Yes | ? | No | 123 |
| 124. Would you rate yourself as an impulsive individual?..... | Yes | ? | No | 124 |
| 125. Do you feel compelled to change your bodily posture frequently while sitting?..... | Yes | ? | No | 125 |
| 126. Do you feel that the average person has made a better adjustment to life than you have? | Yes | ? | No | 126 |
| 127. Do you have nervous habits such as chewing your pencil or biting your fingernails?.. | Yes | ? | No | 127 |

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|------|---|-----|---|----|-----|
| 128. | Do you ever take the initiative to enliven a dull party?..... | Yes | ? | No | 128 |
| 129. | When you were a child were you usually made the "goat" by your playmates (such as being forced to be on the unpopular side while playing games)?..... | Yes | ? | No | 129 |
| 130. | Do you like to speak in public?..... | Yes | ? | No | 130 |
| 131. | Do you feel physically inferior to your associates?..... | Yes | ? | No | 131 |
| 132. | Would you rather be a dress designer than a forest ranger?..... | Yes | ? | No | 132 |
| 133. | Are you able to come back to a state of calm readily after an exciting situation is past? | Yes | ? | No | 133 |
| 134. | Do you like to bear responsibilities alone?..... | Yes | ? | No | 134 |
| 135. | Do you (or would you) like to go hunting with a rifle for wild game?..... | Yes | ? | No | 135 |
| 136. | When present, with others, at the scene of an accident, do you usually take an active part in helping out if needed?..... | Yes | ? | No | 136 |
| 137. | When you become angry, do you get over it rather quickly when the cause for anger is past? | Yes | ? | No | 137 |
| 138. | Do you tend to prefer quiet rather than exciting amusements?..... | Yes | ? | No | 138 |
| 139. | Do you often wish your appearance were different than it is?..... | Yes | ? | No | 139 |
| 140. | When you find that a piece of merchandise you have bought is defective, do you find it easy to demand an exchange or refund?..... | Yes | ? | No | 140 |
| 141. | Can you stick to a tiresome task for a long time without being prodded or encouraged?..... | Yes | ? | No | 141 |
| 142. | Does it make you jittery to handle a loaded gun?..... | Yes | ? | No | 142 |
| 143. | Are you frequently afraid that other people will not like you?..... | Yes | ? | No | 143 |
| 144. | Have you ever been regarded as a daredevil?..... | Yes | ? | No | 144 |
| 145. | Do you consider yourself a nervous person?..... | Yes | ? | No | 145 |
| 146. | When in a restaurant you are served stale or inferior food, do you usually make a vigorous protest about it?..... | Yes | ? | No | 146 |
| 147. | Does your mind often wander so badly that you lose track of what you are doing?.... | Yes | ? | No | 147 |
| 148. | Does it annoy you to see a person biting his fingernails?..... | Yes | ? | No | 148 |
| 149. | Are you easily discouraged when things become difficult?..... | Yes | ? | No | 149 |
| 150. | Does a difficult decision or emotional crisis ever leave you so exhausted that you cannot go on with your regular activities?..... | Yes | ? | No | 150 |
| 151. | Are you inclined to rush from one activity to another without pausing for rest?..... | Yes | ? | No | 151 |
| 152. | Do you always stand up for your rights when they are endangered?..... | Yes | ? | No | 152 |
| 153. | Do your friends seem to have a better time than you do?..... | Yes | ? | No | 153 |
| 154. | Does the sight of pus disgust you?..... | Yes | ? | No | 154 |
| 155. | Do you sometimes wish that you were more attractive than you are?..... | Yes | ? | No | 155 |
| 156. | Do you ever experience a feeling of vague uneasiness without knowing the reasons?.. | Yes | ? | No | 156 |
| 157. | Do you have any nervous habits like twitching your face, neck, or shoulders?..... | Yes | ? | No | 157 |
| 158. | Are you disgusted at the sight of an unshaven man?..... | Yes | ? | No | 158 |
| 159. | Are you able to play your best in a game or contest against an opponent who is much superior to you?..... | Yes | ? | No | 159 |
| 160. | Do long-continued noises "get on your nerves"?..... | Yes | ? | No | 160 |
| 161. | Do you generally prefer to take the lead in group activities?..... | Yes | ? | No | 161 |
| 162. | Do you often wish that you were physically stronger than you are?..... | Yes | ? | No | 162 |
| 163. | Are you fearful of burglars?..... | Yes | ? | No | 163 |
| 164. | Do you think you use up more energy than the average person in getting things done?..... | Yes | ? | No | 164 |
| 165. | Do you like to sell things (that is, to act as a salesman)?..... | Yes | ? | No | 165 |
| 166. | Do you have one or more hobbies or skills at which you are outstanding?..... | Yes | ? | No | 166 |
| 167. | Are you often so much "on the go" that sooner or later you wear yourself out?..... | Yes | ? | No | 167 |
| 168. | Does it annoy you to see a person clean his fingernails in public?..... | Yes | ? | No | 168 |
| 169. | Are there times when you feel as if your nerves were raw or "on edge"?..... | Yes | ? | No | 169 |
| 170. | Do people usually give you credit for having good judgment?..... | Yes | ? | No | 170 |
| 171. | Do you often feel bubbling over with excess energy?..... | Yes | ? | No | 171 |
| 172. | Are you easily disturbed by distracting stimuli when doing mental work?..... | Yes | ? | No | 172 |
| 173. | Do you often feel reluctant to meet the most important person at a party or reception?..... | Yes | ? | No | 173 |
| 174. | Do other people regard you as a lively individual?..... | Yes | ? | No | 174 |
| 175. | Do you have a strong dread of fire?..... | Yes | ? | No | 175 |
| 176. | Do you often feel that few obstacles can stand in the way of your reaching your final goals? | Yes | ? | No | 176 |
| 177. | As a child, did you often naturally fall into positions of leadership?..... | Yes | ? | No | 177 |
| 178. | Do you ever have the feeling that there is nothing to live for?..... | Yes | ? | No | 178 |
| 179. | Do you often find that you cannot make up your mind until the time for action is past? | Yes | ? | No | 179 |
| 180. | Do you prefer going to a dance rather than to a prize-fight?..... | Yes | ? | No | 180 |
| 181. | Do you seek to avoid all troublesome situations?..... | Yes | ? | No | 181 |
| 182. | Do you often show yourself up to your own disadvantage?..... | Yes | ? | No | 182 |
| 183. | Do you become upset rather easily?..... | Yes | ? | No | 183 |
| 184. | Are you willing to take a chance alone in a situation where the outcome is doubtful?.. | Yes | ? | No | 184 |
| 185. | Do you have any hesitation about calling down a person who does not play fair?..... | Yes | ? | No | 185 |
| 186. | Do you resent being "kidded" about your peculiarities?..... | Yes | ? | No | 186 |

BE SURE YOU HAVE ANSWERED EVERY QUESTION

AN INVENTORY OF FACTORS S T D C R

Name..... Sex..... Date.....

Scores: S..... T..... D..... C..... R.....

INSTRUCTIONS: Below you will find some questions which are to be answered by encircling either "Yes," "?," or "No." Read each question in turn, think what your behavior has usually been, and **draw a circle around the answer** that describes your behavior best. Encircle the "?" only when you are unable to decide between the "Yes" and the "No." **BE SURE TO ANSWER EVERY QUESTION.** There is no implication of right or wrong in any of these questions.

- | | | | | |
|--|-----|---|----|----|
| 1. Do you express yourself more easily in speech than in writing?..... | Yes | ? | No | 1 |
| 2. Are you inclined to limit your acquaintances to a select few?..... | Yes | ? | No | 2 |
| 3. Do you generally prefer to take the lead in group activities?..... | Yes | ? | No | 3 |
| 4. Are you ordinarily a carefree individual?..... | Yes | ? | No | 4 |
| 5. Do you like work that requires considerable attention to details?..... | Yes | ? | No | 5 |
| 6. Are you inclined to be moody?..... | Yes | ? | No | 6 |
| 7. Do you usually have difficulty in starting conversations with strangers?..... | Yes | ? | No | 7 |
| 8. Are you inclined to act on the spur of the moment without thinking things over?..... | Yes | ? | No | 8 |
| 9. Do you work much better when you are praised?..... | Yes | ? | No | 9 |
| 10. Do you like to change from one type of work to another frequently?..... | Yes | ? | No | 10 |
| 11. Are you self-conscious in the presence of your superiors? | Yes | ? | No | 11 |
| 12. Do you daydream frequently?..... | Yes | ? | No | 12 |
| 13. Do you subscribe to the philosophy of "Eat, drink, and be merry, for tomorrow we die?" | Yes | ? | No | 13 |
| 14. Are you inclined to worry over possible misfortunes? | Yes | ? | No | 14 |
| 15. Are you frequently somewhat absent-minded?..... | Yes | ? | No | 15 |
| 16. Are you relatively unconcerned about what others think of your actions?..... | Yes | ? | No | 16 |
| 17. Are you inclined to keep in the background on social occasions?..... | Yes | ? | No | 17 |
| 18. Are you more interested in athletics than in intellectual things?..... | Yes | ? | No | 18 |
| 19. Are you impatient when waiting for a member of your family or for friends?..... | Yes | ? | No | 19 |
| 20. Do you like to speak in public?..... | Yes | ? | No | 20 |
| 21. Are you inclined to live in the present, leaving the past and the future out of your thoughts? | Yes | ? | No | 21 |
| 22. Do you have frequent ups and downs in mood, either with or without apparent cause?.. | Yes | ? | No | 22 |
| 23. Are you inclined to be slow and deliberate in movement? | Yes | ? | No | 23 |
| 24. Are your feelings rather easily hurt?..... | Yes | ? | No | 24 |
| 25. Do you enjoy getting acquainted with most people? | Yes | ? | No | 25 |
| 26. Are you inclined to keep quiet when out in a social group?..... | Yes | ? | No | 26 |
| 27. Do you adapt yourself easily to new conditions, that is, new places, situations, surroundings, etc?..... | Yes | ? | No | 27 |
| 28. Do you express such emotions as delight, sorrow, anger, and the like, readily?..... | Yes | ? | No | 28 |
| 29. Are you inclined to think about yourself much of the time?..... | Yes | ? | No | 29 |
| 30. Are you inclined to analyze the motives of others?..... | Yes | ? | No | 30 |
| 31. Do you usually keep in close touch with things going on around you?..... | Yes | ? | No | 31 |
| 32. Do you often have the "blues"?..... | Yes | ? | No | 32 |
| 33. Do you "get rattled" easily at critical moments?..... | Yes | ? | No | 33 |

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| | | | | |
|---|-----|---|----|----|
| 34. Is it usually difficult for you to make decisions?..... | Yes | ? | No | 3 |
| 35. Do you ever feel that the world is distant and unreal to you?..... | Yes | ? | No | 3 |
| 36. Is it difficult to "lose yourself" even at a lively party? | Yes | ? | No | 3 |
| 37. Do you shrink from speaking in public?..... | Yes | ? | No | 3 |
| 38. Do you have difficulty in making new friends?..... | Yes | ? | No | 3 |
| 39. Would you rate yourself as an impulsive person?..... | Yes | ? | No | 3 |
| 40. Were you ever the "life of the party?"..... | Yes | ? | No | 4 |
| 41. Are you frequently in low spirit?..... | Yes | ? | No | 4 |
| 42. Does it bother you to have people watch you at your work?..... | Yes | ? | No | 4 |
| 43. Do you frequently find yourself in a meditative state? | Yes | ? | No | 4 |
| 44. Are your daydreams frequently about things that can never come true?..... | Yes | ? | No | 4 |
| 45. Are you inclined to be shy in the presence of the opposite sex?..... | Yes | ? | No | 4 |
| 46. Are you inclined to be overconscientious?..... | Yes | ? | No | 4 |
| 47. Do you often crave excitement?..... | Yes | ? | No | 4 |
| 48. Do your interests change very quickly?..... | Yes | ? | No | 4 |
| 49. Are you inclined to ponder over your past?..... | Yes | ? | No | 4 |
| 50. Do you ever feel "just miserable" for no good reason at all?..... | Yes | ? | No | 50 |
| 51. Are you often troubled about feelings of guilt?..... | Yes | ? | No | 51 |
| 52. Do you often experience periods of loneliness?..... | Yes | ? | No | 52 |
| 53. Are you much depressed when others criticize you? | Yes | ? | No | 53 |
| 54. Are you worried about being shy?..... | Yes | ? | No | 54 |
| 55. Would you rather spend an evening reading at home than to attend a large party?..... | Yes | ? | No | 55 |
| 56. Do you worry over humiliating experiences longer than the average person?..... | Yes | ? | No | 56 |
| 57. Would you like a position in which you changed from one kind of task to another frequently during the day?..... | Yes | ? | No | 57 |
| 58. Do you often find that you have made up your mind too late?..... | Yes | ? | No | 58 |
| 59. Would you rate yourself as a tense or "high-strung" individual?..... | Yes | ? | No | 59 |
| 60. Does your mind often wander while you are trying to concentrate?..... | Yes | ? | No | 60 |
| 61. Do you nearly always have a "ready answer" for remarks directed to you?..... | Yes | ? | No | 61 |
| 62. Are you inclined to "jump at conclusions"?..... | Yes | ? | No | 62 |
| 63. Do you usually prefer to let some one else take the lead on social occasions?..... | Yes | ? | No | 63 |
| 64. Do you ever daydream?..... | Yes | ? | No | 64 |
| 65. Do you ever change from happiness to sadness, or vice versa, without good reason?..... | Yes | ? | No | 65 |
| 66. Do you usually derive pleasure from being "in the limelight" on social occasions?..... | Yes | ? | No | 66 |
| 67. Is it difficult to hurt your feelings, even when the joke is on you?..... | Yes | ? | No | 67 |
| 68. Do you often try to find the underlying motives for the actions of other people?..... | Yes | ? | No | 68 |
| 69. Are you inclined to stop and think things over before acting?..... | Yes | ? | No | 69 |
| 70. Do you generally feel uncomfortable when you are the center of attention on a social occasion?..... | Yes | ? | No | 70 |
| 71. Do you consider yourself less emotional than the average person, that is, less easily upset? | Yes | ? | No | 71 |
| 72. After a critical moment is over, do you usually think of something you should have done but failed to do?..... | Yes | ? | No | 72 |
| 73. Would you rate yourself as a lively individual?..... | Yes | ? | No | 73 |
| 74. Are you philosophically inclined?..... | Yes | ? | No | 74 |
| 75. Do you often have a feeling of unworthiness?..... | Yes | ? | No | 75 |
| 76. Can you usually keep cheerful in spite of troubles?..... | Yes | ? | No | 76 |
| 77. Do you like to play pranks upon others?..... | Yes | ? | No | 77 |
| 78. Do you often feel that people are observing you on the street?..... | Yes | ? | No | 78 |
| 79. Do you feel lonesome even when with other people? | Yes | ? | No | 79 |
| 80. Are you troubled with feelings of inferiority?..... | Yes | ? | No | 80 |
| 81. Would you rather be a scientist than a politician?..... | Yes | ? | No | 91 |
| 82. Are you inclined to take life too seriously?..... | Yes | ? | No | 82 |

| | | | | |
|---|-----|---|----|-----|
| 83. In social conversations, are you usually a listener rather than a talker?..... | Yes | ? | No | 83 |
| 84. Do you frequently feel that people around you are talking about you?..... | Yes | ? | No | 84 |
| 85. Do you like to have time to be alone with your thoughts? | Yes | ? | No | 85 |
| 86. Do you find it difficult to go to sleep at night because experiences of the day keep
"running through your head"?..... | Yes | ? | No | 86 |
| 87. Are you inclined to take your work casually, that is, as a matter of course?..... | Yes | ? | No | 87 |
| 88. Are you inclined to avoid meeting certain people on the street (bill collectors and
the like not included)?..... | Yes | ? | No | 88 |
| 89. Do you find it easy, as a rule, to make new acquaintances? | Yes | ? | No | 89 |
| 90. Are you inclined to be quick and sure in your actions? | Yes | ? | No | 90 |
| 91. Are you troubled about being self-conscious?..... | Yes | ? | No | 91 |
| 92. Do you often feel restless while listening to a lecture? | Yes | ? | No | 92 |
| 93. Do you believe that people often misunderstand what you say?..... | Yes | ? | No | 93 |
| 94. Do you limit your friendships mostly to members of your own sex?..... | Yes | ? | No | 94 |
| 95. Does your mind wander badly so you lose track of what you are doing?..... | Yes | ? | No | 95 |
| 96. Are you often in a state of excitement?..... | Yes | ? | No | 96 |
| 97. Do you dislike to talk about yourself, even to close friends? | Yes | ? | No | 97 |
| 98. Do you prefer to be conservative in the matter of dress and personal appearance?..... | Yes | ? | No | 98 |
| 99. Do you like to discuss the more serious questions of life with your friends?..... | Yes | ? | No | 99 |
| 100. Are you inclined to keep your opinions to yourself during group discussions (not
class discussions)?..... | Yes | ? | No | 100 |
| 101. Do you enjoy thinking out complicated problems?..... | Yes | ? | No | 101 |
| 102. Are you inclined to be introspective, that is, to analyze yourself?..... | Yes | ? | No | 102 |
| 103. Are there times when you seek to be alone and you cannot bear the company of
anyone? | Yes | ? | No | 103 |
| 104. Are you much concerned over the morals of others? | Yes | ? | No | 104 |
| 105. Do you frequently take time out just to meditate about things in general?..... | Yes | ? | No | 105 |
| 106. Are you usually unconcerned about the future?..... | Yes | ? | No | 106 |
| 107. Do you usually become so absorbed in watching an athletic contest that you com-
pletely forget yourself?..... | Yes | ? | No | 107 |
| 108. Can you relax yourself easily when sitting down?..... | Yes | ? | No | 108 |
| 109. Are you usually a "good mixer"?..... | Yes | ? | No | 109 |
| 110. Do you usually prefer a "slapstick" comedy to a serious drama at the movies?..... | Yes | ? | No | 110 |
| 111. Do you frequently find it difficult to go to sleep at night, even though you are tired?..... | Yes | ? | No | 111 |
| 112. Would you rate yourself as a happy-go-lucky individual? | Yes | ? | No | 112 |
| 113. Do you ever take your work as if it were a matter of life or death?..... | Yes | ? | No | 113 |
| 114. Do you often "have the time of your life" at social affairs?..... | Yes | ? | No | 114 |
| 115. Do you think there is a great deal more happiness in the world than misery?..... | Yes | ? | No | 115 |
| 116. Are you frequently "lost in thought"?..... | Yes | ? | No | 116 |
| 117. Have you often lost sleep over your worries?..... | Yes | ? | No | 117 |
| 118. Do you like to mix socially with people?..... | Yes | ? | No | 118 |
| 119. Do you believe that the morals of modern youth are generally superior to those of
former generations?..... | Yes | ? | No | 119 |
| 120. Are you inclined to think over your failures long after they are past?..... | Yes | ? | No | 120 |
| 121. Are there times when your mind seems to work very slowly and other times when
it works very rapidly?..... | Yes | ? | No | 121 |
| 122. Are you inclined to avoid all people whenever possible? | Yes | ? | No | 122 |
| 123. Do you enjoy participating in a showing of "Rah Rah" enthusiasm?..... | Yes | ? | No | 123 |
| 124. Do you usually feel disappointments so keenly that you cannot get them out of your
mind? | Yes | ? | No | 124 |
| 125. Do you derive more real satisfaction from social activities than from anything else?..... | Yes | ? | No | 125 |
| 126. When you stop to consider your future, does it usually seem very optimistic?..... | Yes | ? | No | 126 |
| 127. Are you sometimes so "blue" that life seems hardly worth living?..... | Yes | ? | No | 127 |

128. Do you usually take the initiative in making new friends?.....Yes ? No 128
129. Do you spend a great deal of time in thinking over past mistakes?.....Yes ? No 129
130. Would you be very unhappy if you were prevented from making numerous social contacts?Yes ? No 130
131. Do you often feel that there are very few things in life worth living for?.....Yes ? No 131
132. Do you often run over in your mind the events of the day before going to sleep at night?Yes ? No 132
133. Do you often feel that social affairs are a waste of time?.....Yes ? No 133
134. Do you frequently feel grouchy?.....Yes ? No 134
135. Are you annoyed when a boisterous person attracts attention to himself in public?.....Yes ? No 135
136. Are you frequently bored with people?.....Yes ? No 136
137. When failing to have your own way, do you often resort to resentful thinking?.....Yes ? No 137
138. Do you usually keep in fairly uniform spirits?.....Yes ? No 138
139. Do you usually prefer to take your recreations with companions rather than alone?.....Yes ? No 139
140. Are you usually in good spirits?.....Yes ? No 140
141. Have you ever been bothered by having a useless thought come into your mind repeatedly?Yes ? No 141
142. Are you usually well-poised in your social contacts?Yes ? No 142
143. Does it upset you much to lose in a competitive game?Yes ? No 143
144. Do you spend much time in thinking over good times you have had in the past?.....Yes ? No 144
145. Are you often hesitant about meeting important people?Yes ? No 145
146. Do you feel tired most of the time?.....Yes ? No 146
147. Do you ever have a queer feeling that you are not your old self?.....Yes ? No 147
148. Is it easy for you to act naturally at a party?.....Yes ? No 148
149. Do you get tired of people rather quickly?.....Yes ? No 149
150. Do you like to have many social engagements?.....Yes ? No 150
151. Do you ever have to fight against bashfulness?.....Yes ? No 151
152. Are you frequently "lost in thought" even when supposed to be taking part in a conversation?Yes ? No 152
153. Do people find fault with you more than you deserve?Yes ? No 153
154. Do you often feel conspicuous in a group of people?Yes ? No 154
155. Are you sometimes bubbling over with energy and sometimes very sluggish?.....Yes ? No 155
156. Do you often speculate about why people behave as they do?.....Yes ? No 156
157. Do you find it almost impossible to take another person fully into your confidence?.....Yes ? No 157
158. Have you found books more interesting than people?Yes ? No 158
159. Have you often felt listless and tired for no good reason?.....Yes ? No 159
160. Do you prefer action to planning for action?.....Yes ? No 160
161. Do you often philosophize about the purpose of human existence?.....Yes ? No 161
162. Do you become angry very quickly and also recover very quickly?.....Yes ? No 162
163. Do you often think or dream of what you will be doing five years from now?.....Yes ? No 163
164. When you are bored do you feel like stirring up some excitement?.....Yes ? No 164
165. Do you usually feel well and strong?.....Yes ? No 165
166. Do you enjoy entertaining people?.....Yes ? No 166
167. Is your own mood very easily influenced by people around you, that is, by happy people or sad people?.....Yes ? No 167
168. Does it embarrass you a great deal to say or do the wrong thing in a social group?.....Yes ? No 168
169. Do you like to indulge in a reverie (daydreaming)?Yes ? No 169
170. Do you believe that "every cloud has a silver lining"?Yes ? No 170
171. Do you often feel ill at ease with other people?.....Yes ? No 171
172. Can you usually let yourself go and have a hilariously good time at a gay party?.....Yes ? No 172
173. Do you dislike to stop and analyze your own thoughts and feelings?.....Yes ? No 173
174. Are you inclined to avoid all complicated problems of any sort?.....Yes ? No 174
175. Do you think such questionnaires as this one are "silly"?Yes ? No 175

JOHNSON TEMPERAMENT ANALYSIS

Devised by Roswell H. Johnson

Directions

DO NOT OPEN THIS BOOKLET UNTIL YOU HAVE READ ALL OF THESE DIRECTIONS

1. *You are not to write or mark on this booklet in any way, but you will indicate your answers on the machine-scoring answer sheet as explained below.*
2. All of the questions of this analysis refer to the person about whom they are being answered. **This person** is called **S**, or the subject. These questions do not apply to any other person who may be describing this person, **S**, the subject.
3. The words, "he" "him" or "his", mean the **subject**, whether a man or woman.
4. Be sure **you** understand each question; read it twice if necessary. Please answer every question; you can **give** your opinion if you are uncertain about the answer.
5. Do not **think** too long about any one question; answer as soon as you have thought it through and then go **on** with the next question. Consider **this person** from the viewpoint of "knowing him as I do, I think that in the given situation, the answer would be" and then mark it.
6. When an **answer** would be different if one considered the past rather than the present, answer as of the **present**, unless the question expressly refers to the past.
7. On the **answer** sheet you are given three columns in which to mark your answer as follows:
 PLUS (+) means "decidedly yes" or "mostly so".
 MID. means "undecided"; neither definitely yes nor no.
 MINUS (—) means "decidedly no" or "mostly not so".

Please **do** not mark the MID. column, unless the answer really belongs there to describe **this person, S**, the subject.

8. Your **answer** to each question is indicated by making a pencil mark within the pair of dotted lines in **the** column which will show your answer. Be sure that the number on the answer row is **the** same as the number of the question in the booklet.
9. Keep **your** answer sheet on a smooth, hard surface while marking your answers. Each pencil mark **should** be a heavy, black line filling the space within the pair of dotted lines. *When the answers are to be machine scored, you will be supplied with a special electrographic pencil which is required for this purpose.*
10. If you **change** an answer, erase your first mark completely.
11. **Explanations** or other comments are desirable and may be recorded on the reverse of the answer sheet, **but not** elsewhere.
12. Now, **you are** to write clearly or print your name and other requested data in the spaces provided on the **answer** sheet;—then, you will open the booklet to the first question; find answer row number **1** on your answer sheet; and proceed until you have finished the booklet.

Questions

Mark your answers on the answer sheet. Do not mark on this booklet. Write any comment you care to make on the back of the answer sheet.

1. Does S want no more than two children in his family even though his health and income are satisfactory.
2. Is one motive for S to go places so that he can talk about having been there?
3. Is S relatively calm when others are getting rattled?
4. Does S think the government is spending too much on relief and pensions?
5. Does S resent efforts of others to tell him what to do?
6. Does S make a considerable use of the telephone, dictionary, or atlas when not necessary?
7. Does S sometimes have sudden unexpected jerks of some of his muscles even though nothing has happened?
8. Is S very eager to have his own business, or be an independent professional man, or if in an organization to be in a position to give orders rather than to take them?
9. Does S write in for samples, catalogs, solve puzzles, or submit questions to radio programs at times?
10. Is S easy-going in the matter of discipline?
11. Does S tend to say what comes to mind without enough thought as to whether it would be better left unsaid?
12. When hunting or fishing is S free from concern about the pain he inflicts on game, live bait, or fish?
13. Does S usually try to avoid being made a chairman of a committee or an officer of an organization?
14. Does S give in or stop during a controversy to "keep the peace"?
15. Does S have a voice that flows evenly and smoothly?
16. Is S inclined to say little except in response?
17. Does S have jerking motions of some muscles when unexpected things happen?
18. Is S considerate in his demands on employees, relatives, or pupils?
19. Does S talk slowly (making due allowance for age)?
20. Does S sometimes surprise his acquaintances by unexpected actions?
21. Would S buy an article at the cheaper price if he noticed that the clerk has asked less than the price tag indicates, apparently having misread it?
22. Does S act deliberately rather than impulsively?
23. Does S often keep his views to himself because they do not seem important enough to tell others?
24. Does S move about a good deal at a social gathering?
25. Can S make a speech or public performance without stage fright?
26. Is S likely to stay on the veranda by preference when some of the others go for tennis or a swim?
27. Does S have phobias, i.e., an unwarranted and disturbing hatred or fear of any object or group of objects or situations?
28. Is S good at "breaking the ice" in a social gathering?
29. Does S have the same religion, politics, or philosophy as his parents?
30. Is S constantly careful to protect his health?

31. Is S so sure of himself that it sometimes annoys others?
32. Does S quickly recover his composure after an accident or similar disturbing incident?
33. Is S less attentive than most individuals to things going on around him?
34. Is S rather indifferent to maintaining the dignity and privileges of his job or place in life?
35. Can S work in a room with many others talking and work efficiently without strain?
36. Does S maintain uniformly, courteous behavior to other members of his family?
37. Is S the kind of a person one might call a "self starter"?
38. Can S enjoy a rest when there are distracting noises and movements about?
39. Does S love to travel and when on a trip does he seek new experiences characteristic of the country?
40. Does S chew pencils or bite fingernails?
41. Does S sometimes say things that are dominating so that peoples' feelings are sometimes hurt?
42. Does S have few interests or activities of his own choosing?
43. Does S "stick-to-it" at the cost of much inconvenience rather than give up?
44. Does S have some thought pressing itself on his attention too much of the time to his annoyance?
45. Does S eat slowly (making due allowance for age)?
46. Is S as much influenced in his behavior by consideration of general welfare as by considerations of his own advantage?
47. Does S sleep well?
48. Does S take responsibility with reluctance, because he is doubtful of his fitness for it?
49. Does S think that modern prisons coddle the prisoner too much so as to interfere with needed punishment?
50. Would you consider S a "go-getter"?
51. Is S so sympathetic with those he sees in pain as to want to do something about it?
52. Is S likely to give way to the wishes of others rather than to seek to have his own way?
53. Would S feel sympathetic with conscientious objectors in time of war, where it is a war of invading other countries by one's own country?
54. Does S try to convert people to his views in several fields in which he is not an expert?
55. Does S prefer to take a passive role in the clubs to which he belongs?
56. Does S become disturbed by harmless rattles, crickets or the wind?
57. Does S make a practice of offering help to motorists who need help, but do not ask for it?
58. Does S use all reasonable precautions to prevent accidents?
59. Does S accept defeat easily without any evidence of his disappointed feeling?
60. Would S probably resort to corporal punishment in the case of deliberate disobedience by his own child at age ten?

61. Does S get into scrapes occasionally?
62. Does S have a habit of blinking eyes or pulling at ears?
63. Does S fail to finish what he sets out to do, often enough to be a bother to him?
64. Does S incline to ride rather than walk when the distance is intermediate?
65. Do S's "teeth get on edge" when hearing some noises?
66. Does S buy on credit to excess?
67. Is S emphatic in voice and manner?
68. Can S get along with children of various ages without becoming irritated by them?
69. Has S made more than one loan out of kindheartedness in which he was "worked" and never repaid?
70. Can S relax easily when sitting or lying down?
71. Does S favor zoning the city to control residence areas for negroes or orientals?
72. Does S become so scared or apprehensive at times so as to feel hot, or shivering or have skin get goose-pimples, (goose-skin, goose-flesh)?
73. Is S impatient with a child's strong desire for a worthless object?
74. Does S feel strongly convinced of the correctness of his views when in a controversy, excluding those in which he is expert?
75. Does S worry more than the circumstances warrant?
76. Does S sometimes get quite "keyed-up" (exclusive of drinking)?
77. Does S make plans well in advance of the event and carry them out?
78. Does S often get so wakeful as to be disinclined to go to bed at the usual time?
79. Does S tend to put off doing things past the time that would be best?
80. Does S take necessary risks of misfortune without undue worry?
81. In traveling does S watch out to help the aged, infirm, or those with children rather than leave such acts to the officials?
82. Does S talk less than his share when with others?
83. Does S break out in more explosive action or words than would be expected from the cause?
84. Does S stand by and avoid protecting an animal from needless suffering?
85. Does S think less well of his ability than the facts warrant?
86. Is S opposed to the parole system for criminals?
87. Does S try to "get things going" in the community to which he belongs?
88. Is S almost always truthful to others?
89. Is S lively enough so someone might refer to him as "always-on-the-go"?
90. In an automobile accident in which S is involved does he really try to see that any damage he did is made good?

91. Is S inclined to have a few select friends rather than a large circle of friends and **speaking** acquaintances?
92. Is it very hard for S to take blame, so that he seeks to avoid it?
93. In social contacts is S thought of as warm-hearted?
94. Do his failures come hard to S?
95. Is S usually able to steady a difficult situation where "others lose their heads"?
96. Does S put into his conversation quite a few "knocks" about others?
97. Is singing or whistling often started by S out of the joys of life?
98. Does S express his emotions readily?
99. Is S independent in making a judgment uninfluenced by whether he likes or dislikes the leading supporter of the proposal in question?
100. Is S really fond of only a few people?
101. Does S make efforts to get others to laugh and smile?
102. Is S much interested in the affairs of other people?
103. Does S refrain from complaining, when the other is late to an appointment?
104. Is S sometimes thought of as a "wet blanket"?
105. Is S considered cheery by some people?
106. Does S think that someone is definitely unfriendly to him and works against him?
107. Does S nearly always find it easy to take an interest in other peoples' interests in conversation?
108. When S does criticize, is it always tactful and really meant to be helpful?
109. Does S give judgments only after a weighing of the pros and cons?
110. Is S relatively unaffected in listening to emotional music?
111. Does S think less well of rivals than they deserve?
112. Does S express his satisfaction when he sees beautiful things?
113. Does S give very little time in his conversation to the criticism of people and things?
114. Does S sometimes think people are looking at him or talking about him when they are really not doing so?
115. Does S pay his debts and keep his promises when it is possible?
116. Does S get over bad news quickly?
117. Does S take criticism easily without resentment?
118. Do various satisfactions keep S's life so full that life seems very much worth living?
119. Does S find it easy to be impartial when called on to judge?
120. Does S "put his foot in it" often (make a tactless blunder)?

121. Is S hearty in greeting people?
122. Is S almost free from being suspicious of the actions of others?
123. Does S sometimes get the experience in hearing speakers of thinking that the speaker is referring to S?
124. Does S have a tendency to do some things beyond what good judgment would indicate?
125. Does S tend to exaggerate his grievances?
126. Does S adapt readily to new difficult conditions and situations?
127. Do death, sickness, pain, and sorrow enter largely into S's dreams?
128. Does S live an easy-going life with only few enthusiasms to express?
129. Does S think as well of those with whom he has a disagreement, as before?
130. Does S often ponder on the misfortunes of his past?
131. Does S show a uniform rather than a varied expression in talking?
132. Is S hard to please?
133. Does S carry out assignments promptly and systematically?
134. Is S likely to be jealous?
135. Is S rather optimistic about opportunities for young people?
136. Is S "touchy" on several things about himself?
137. Is S bothered at times with the idea that nobody cares for him?
138. Does S look ahead and fail to smile and show interest when passing a beautiful child?
139. Is S well pleased with life and so never considered committing suicide?
140. Is S prejudiced in favor of his own club, college, state, etc.?
141. Does S smile much?
142. Does S find that a minor failure or poor showing of his can be quickly forgotten?
143. Is S unsuccessful in acting, impersonating or relating incidents effectively?
144. Is S logical and scientific in his thinking?
145. Does S comment on many shortcomings in the shows he sees and the books he reads?
146. Does S find that the memories of illness or pain pass out of mind fairly soon?
147. Does S feel abused not being able to do something, instead of adapting to it by some substitute activity?
148. Does S prefer to be with adults nearly all the time rather than with children part of the time?
149. Does S only seldom express any grievances?
150. Does S have his opinions influenced by looking at things from the standpoint of his experience, occupation, or training?
151. Do companions like to be with S?
152. Does S often have the blues?
153. After seeing a tragic motion picture or drama, does S quickly return to normal, rather than continue being disturbed for a while?

154. Are personal interests unable to sway S from sound decisions?
155. Does S when on a picnic find himself sometimes unable to share the good spirits of the others?
156. Does S think well of most people, as to only rarely speak slightly of them?
157. Does S show a cordial attitude only to close friends if at all?
158. Does S think someone does not like him and speaks critically about S to others?
159. Does S smile or laugh a good deal?
160. Can S see things as others see them, when he wishes to?
161. Does S, when he has a grievance straightened out, continue disgruntled for a while?
162. In voting does S study the personalities and issues, sometimes voting for a candidate of the other party, rather than regularly voting the same party ticket straight?
163. Does S refrain from giving a kiss, hug, pat on the back or otherwise manifesting pleasure in meeting friends, except as needed for politeness, after an absence of a fortnight or so?
164. When S loses something, is he almost free from the tendency to think that some one else stole or mislaid it?
165. Does S give too high an importance to his own interests and fields of knowledge in comparison with others?
166. Does S find it hard to get started on a task that needs to be done?
167. Does S find it annoying to have any criticism made of himself even though justified and from which he could profit?
168. Can S "stand-up" under adversity well?
169. Does S often feel sad because of his inferiority in some respects?
170. Does S show a friendly attitude in his voice or expression?
171. Does S prefer not to pass a cemetery, so as not to be reminded of death?
172. Does S spend only very little time or no time grumbling about the condition of his work?
173. Does S succeed in preventing his emotions swaying his judgment much?
174. Is S appealed to strongly by young lovers who are hampered by opposition?
175. In disagreements with associates does S find it hard to understand how the other can possibly differ from him, so very one sided does the matter seem?
176. Does S find that grief over war victims and refugees comes to mind often?
177. Does S spend too freely in view of his income?
178. Does S think he has many warm friends?
179. Does S estimate his friends too favorably, in comparison with others whom he judges more severely?
180. Is S almost free from being disturbed by either his immaturity or aging?
181. Does S have spells of liveliness (lasting at least several days) rather than staying at about the same level?
182. Does S have spells of being sad and depressed (lasting at least several days) rather than staying at about the same level?

Now look back over your answer sheet to make sure you have an answer for every question. If you do not know, make the best guess you can.

Be sure to look to make sure you filled in the blanks at top of answer sheet showing your name, etc.

Booklet for the Minnesota

MULTIPHASIC PERSONALITY INVENTORY

STARKE R. HATHAWAY, Ph.D., and J. CHARNLEY McKINLEY, M.D.

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you.

You are to mark your answers on the answer sheet you have. Look at the example of the answer sheet shown at the right. If a statement is TRUE or MOSTLY TRUE, as applied to you, blacken between the lines in the column headed T. (See A at the right.) If a statement is FALSE or NOT USUALLY TRUE, as applied to you, blacken between the lines in the column headed F. (See B at the right.) If a statement does not apply to you or if it is something that you don't know about, make no mark on the answer sheet.

Remember to give YOUR OWN opinion of yourself. Do not leave any blank spaces if you can avoid it.

In marking your answers on the answer sheet, be sure that the number of the statement agrees with the number on the answer sheet. Make your marks heavy and black. Erase completely any answer you wish to change. Do not make any marks on this booklet.

Remember, try to make some answer to every statement.
NOW OPEN THE BOOKLET AND GO AHEAD.

Section of answer sheet correctly marked

| | T | F |
|---|-------------------------------------|-------------------------------------|
| A | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| B | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

DO NOT MAKE ANY MARKS ON THIS BOOKLET

1. I like mechanics magazines.
2. I have a good appetite.
3. I wake up fresh and rested most mornings.
4. I think I would like the work of a librarian.
5. I am easily awakened by noise.
6. I like to read newspaper articles on crime.
7. My hands and feet are usually warm enough.
8. My daily life is full of things that keep me interested.
9. I am about as able to work as I ever was.
10. There seems to be a lump in my throat much of the time.
11. A person should try to understand his dreams and be guided by or take warning from them.
12. I enjoy detective or mystery stories.
13. I work under a great deal of tension.
14. I have diarrhea once a month or more.
15. Once in a while I think of things too bad to talk about.
16. I am sure I get a raw deal from life.
17. My father was a good man.
18. I am very seldom troubled by constipation.
19. When I take a new job, I like to be tipped off on who should be gotten next to.
20. My sex life is satisfactory.
21. At times I have very much wanted to leave home.
22. At times I have fits of laughing and crying that I cannot control.
23. I am troubled by attacks of nausea and vomiting.
24. No one seems to understand me.
25. I would like to be a singer.
26. I feel that it is certainly best to keep my mouth shut when I'm in trouble.
27. Evil spirits possess me at times.
28. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.
29. I am bothered by acid stomach several times a week.
30. At times I feel like swearing.
31. I have nightmares every few nights.
32. I find it hard to keep my mind on a task or job.
33. I have had very peculiar and strange experiences.
34. I have a cough most of the time.
35. If people had not had it in for me I would have been much more successful.
36. I seldom worry about my health.
37. I have never been in trouble because of my sex behavior.
38. During one period when I was a youngster I engaged in petty thievery.
39. At times I feel like smashing things.
40. Most any time I would rather sit and daydream than to do anything else.
41. I have had periods of days, weeks, or months when I couldn't take care of things because I couldn't "get going."
42. My family does not like the work I have chosen (or the work I intend to choose for my life work).
43. My sleep is fitful and disturbed.
44. Much of the time my head seems to hurt all over.
45. I do not always tell the truth.

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46. My judgment is better than it ever was.
47. Once a week or oftener I feel suddenly hot all over, without apparent cause.
48. When I am with people I am bothered by hearing very queer things.
49. It would be better if almost all laws were thrown away.
50. My soul sometimes leaves my body.
51. I am in just as good physical health as most of my friends.
52. I prefer to pass by school friends, or people I know but have not seen for a long time, unless they speak to me first.
53. A minister can cure disease by praying and putting his hand on your head.
54. I am liked by most people who know me.
55. I am almost never bothered by pains over the heart or in my chest.
56. As a youngster I was suspended from school one or more times for cutting up.
57. I am a good mixer.
58. Everything is turning out just like the prophets of the Bible said it would.
59. I have often had to take orders from someone who did not know as much as I did.
60. I do not read every editorial in the newspaper every day.
61. I have not lived the right kind of life.
62. Parts of my body often have feelings like burning, tingling, crawling, or like "going to sleep."
63. I have had no difficulty in starting or holding my bowel movement.
64. I sometimes keep on at a thing until others lose their patience with me.
65. I loved my father.
66. I see things or animals or people around me that others do not see.
67. I wish I could be as happy as others seem to be.
68. I hardly ever feel pain in the back of the neck.
69. I am very strongly attracted by members of my own sex.
70. I used to like drop-the-handkerchief.
71. I think a great many people exaggerate their misfortunes in order to gain the sympathy and help of others.
72. I am troubled by discomfort in the pit of my stomach every few days or oftener.
73. I am an important person.
74. I have often wished I were a girl. (Or if you are a girl) I have never been sorry that I am a girl.
75. I get angry sometimes.
76. Most of the time I feel blue.
77. I enjoy reading love stories.
78. I like poetry.
79. My feelings are not easily hurt.
80. I sometimes tease animals.
81. I think I would like the kind of work a forest ranger does.
82. I am easily downed in an argument.
83. Any man who is able and willing to work hard has a good chance of succeeding.
84. These days I find it hard not to give up hope of amounting to something.
85. Sometimes I am strongly attracted by the personal articles of others such as shoes, gloves, etc., so that I want to handle or steal them though I have no use for them.
86. I am certainly lacking in self-confidence.
87. I would like to be a florist.
88. I usually feel that life is worth while.
89. It takes a lot of argument to convince most people of the truth.

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90. Once in a while I put off until tomorrow what I ought to do today.
91. I do not mind being made fun of.
92. I would like to be a nurse.
93. I think most people would lie to get ahead.
94. I do many things which I regret afterwards (I regret things more or more often than others seem to).
95. I go to church almost every week.
96. I have very few quarrels with members of my family.
97. At times I have a strong urge to do something harmful or shocking.
98. I believe in the second coming of Christ.
99. I like to go to parties and other affairs where there is lots of loud fun.
100. I have met problems so full of possibilities that I have been unable to make up my mind about them.
101. I believe women ought to have as much sexual freedom as men.
102. My hardest battles are with myself.
103. I have little or no trouble with my muscles twitching or jumping.
104. I don't seem to care what happens to me.
105. Sometimes when I am not feeling well I am cross.
106. Much of the time I feel as if I have done something wrong or evil.
107. I am happy most of the time.
108. There seems to be a fullness in my head or nose most of the time.
109. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
110. Someone has it in for me.
111. I have never done anything dangerous for the thrill of it.
112. I frequently find it necessary to stand up for what I think is right.
113. I believe in law enforcement.
114. Often I feel as if there were a tight band about my head.
115. I believe in a life hereafter.
116. I enjoy a race or game better when I bet on it.
117. Most people are honest chiefly through fear of being caught.
118. In school I was sometimes sent to the principal for cutting up.
119. My speech is the same as always (not faster or slower, or slurring; no hoarseness).
120. My table manners are not quite as good at home as when I am out in company.
121. I believe I am being plotted against.
122. I seem to be about as capable and smart as most others around me.
123. I believe I am being followed.
124. Most people will use somewhat unfair means to gain profit or an advantage rather than to lose it.
125. I have a great deal of stomach trouble.
126. I like dramatics.
127. I know who is responsible for most of my troubles.
128. The sight of blood neither frightens me nor makes me sick.
129. Often I can't understand why I have been so cross and grouchy.
130. I have never vomited blood or coughed up blood.
131. I do not worry about catching diseases.

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132. I like collecting flowers or growing house plants.
133. I have never indulged in any unusual sex practices.
134. At times my thoughts have raced ahead faster than I could speak them.
135. If I could get into a movie without paying and be sure I was not seen I would probably do it.
136. I commonly wonder what hidden reason another person may have for doing something nice for me.
137. I believe that my home life is as pleasant as that of most people I know.
138. Criticism or scolding hurts me terribly.
139. Sometimes I feel as if I must injure either myself or someone else.
140. I like to cook.
141. My conduct is largely controlled by the customs of those about me.
142. I certainly feel useless at times.
143. When I was a child, I belonged to a crowd or gang that tried to stick together through thick and thin.
144. I would like to be a soldier.
145. At times I feel like picking a fist fight with someone.
146. I have the wanderlust and am never happy unless I am roaming or traveling about.
147. I have often lost out on things because I couldn't make up my mind soon enough.
148. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.
149. I used to keep a diary.
150. I would rather win than lose in a game.
151. Someone has been trying to poison me.
152. Most nights I go to sleep without thoughts or ideas bothering me.
153. During the past few years I have been well most of the time.
154. I have never had a fit or convulsion.
155. I am neither gaining nor losing weight.
156. I have had periods in which I carried on activities without knowing later what I had been doing.
157. I feel that I have often been punished without cause.
158. I cry easily.
159. I cannot understand what I read as well as I used to.
160. I have never felt better in my life than I do now.
161. The top of my head sometimes feels tender.
162. I resent having anyone take me in so cleverly that I have had to admit that it was one on me.
163. I do not tire quickly.
164. I like to study and read about things that I am working at.
165. I like to know some important people because it makes me feel important.
166. I am afraid when I look down from a high place.
167. It wouldn't make me nervous if any members of my family got into trouble with the law.
168. There is something wrong with my mind.
169. I am not afraid to handle money.
170. What others think of me does not bother me.
171. It makes me uncomfortable to put on a stunt at a party even when others are doing the same sort of things.
172. I frequently have to fight against showing that I am bashful.
173. I liked school.

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174. I have never had a fainting spell.
175. I seldom or never have dizzy spells.
176. I do not have a great fear of snakes.
177. My mother was a good woman.
178. My memory seems to be all right.
179. I am worried about sex matters.
180. I find it hard to make talk when I meet new people.
181. When I get bored I like to stir up some excitement.
182. I am afraid of losing my mind.
183. I am against giving money to beggars.
184. I commonly hear voices without knowing where they come from.
185. My hearing is apparently as good as that of most people.
186. I frequently notice my hand shakes when I try to do something.
187. My hands have not become clumsy or awkward.
188. I can read a long while without tiring my eyes.
189. I feel weak all over much of the time.
190. I have very few headaches.
191. Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.
192. I have had no difficulty in keeping my balance in walking.
193. I do not have spells of hay fever or asthma.
194. I have had attacks in which I could not control my movements or speech but in which I knew what was going on around me.
195. I do not like everyone I know.
196. I like to visit places where I have never been before.
197. Someone has been trying to rob me.
198. I daydream very little.
199. Children should be taught all the main facts of sex.
200. There are persons who are trying to steal my thoughts and ideas.
201. I wish I were not so shy.
202. I believe I am a condemned person.
203. If I were a reporter I would very much like to report news of the theater.
204. I would like to be a journalist.
205. At times it has been impossible for me to keep from stealing or shoplifting something.
206. I am very religious (more than most people).
207. I enjoy many different kinds of play and recreation.
208. I like to flirt.
209. I believe my sins are unpardonable.
210. Everything tastes the same.
211. I can sleep during the day but not at night.
212. My people treat me more like a child than a grown-up.
213. In walking I am very careful to step over sidewalk cracks.
214. I have never had any breaking out on my skin that has worried me.
215. I have used alcohol excessively.
216. There is very little love and companionship in my family as compared to other homes.
217. I frequently find myself worrying about something.
218. It does not bother me particularly to see animals suffer.
219. I think I would like the work of a building contractor.

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220. I loved my mother.
221. I like science.
222. It is not hard for me to ask help from my friends even though I cannot return the favor.
223. I very much like hunting.
224. My parents have often objected to the kind of people I went around with.
225. I gossip a little at times.
226. Some of my family have habits that bother and annoy me very much.
227. I have been told that I walk during sleep.
228. At times I feel that I can make up my mind with unusually great ease.
229. I should like to belong to several clubs or lodges.
230. I hardly ever notice my heart pounding and I am seldom short of breath.
231. I like to talk about sex.
232. I have been inspired to a program of life based on duty which I have since carefully followed.
233. I have at times stood in the way of people who were trying to do something, not because it amounted to much but because of the principle of the thing.
234. I get mad easily and then get over it soon.
235. I have been quite independent and free from family rule.
236. I brood a great deal.
237. My relatives are nearly all in sympathy with me.
238. I have periods of such great restlessness that I cannot sit long in a chair.
239. I have been disappointed in love.
240. I never worry about my looks.
241. I dream frequently about things that are best kept to myself.
242. I believe I am no more nervous than most others.
243. I have few or no pains.
244. My way of doing things is apt to be misunderstood by others.
245. My parents and family find more fault with me than they should.
246. My neck spots with red often.
247. I have reason for feeling jealous of one or more members of my family.
248. Sometimes without any reason or even when things are going wrong I feel excitedly happy, "on top of the world."
249. I believe there is a Devil and a Hell in afterlife.
250. I don't blame anyone for trying to grab everything he can get in this world.
251. I have had blank spells in which my activities were interrupted and I did not know what was going on around me.
252. No one cares much what happens to you.
253. I can be friendly with people who do things which I consider wrong.
254. I like to be with a crowd who play jokes on one another.
255. Sometimes at elections I vote for men about whom I know very little.
256. The only interesting part of newspapers is the "funnies."
257. I usually expect to succeed in things I do.
258. I believe there is a God.
259. I have difficulty in starting to do things.
260. I was a slow learner in school.
261. If I were an artist I would like to draw flowers.
262. It does not bother me that I am not better looking.
263. I sweat very easily even on cool days.

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264. I am entirely self-confident.
265. It is safer to trust nobody.
266. Once a week or oftener I become very excited.
267. When in a group of people I have trouble thinking of the right things to talk about.
268. Something exciting will almost always pull me out of it when I am feeling low.
269. I can easily make other people afraid of me, and sometimes do for the fun of it.
270. When I leave home I do not worry about whether the door is locked and the windows closed.
271. I do not blame a person for taking advantage of someone who lays himself open to it.
272. At times I am all full of energy.
273. I have numbness in one or more regions of my skin.
274. My eyesight is as good as it has been for years.
275. Someone has control over my mind.
276. I enjoy children.
277. At times I have been so entertained by the cleverness of a crook that I have hoped he would get by with it.
278. I have often felt that strangers were looking at me critically.
279. I drink an unusually large amount of water every day.
280. Most people make friends because friends are likely to be useful to them.
281. I do not often notice my ears ringing or buzzing.
282. Once in a while I feel hate toward members of my family whom I usually love.
283. If I were a reporter I would very much like to report sporting news.
284. I am sure I am being talked about.
285. Once in a while I laugh at a dirty joke.
286. I am never happier than when alone.
287. I have very few fears compared to my friends.
288. I am troubled by attacks of nausea and vomiting.
289. I am always disgusted with the law when a criminal is freed through the arguments of a smart lawyer.
290. I work under a great deal of tension.
291. At one or more times in my life I felt that someone was making me do things by hypnotizing me.
292. I am likely not to speak to people until they speak to me.
293. Someone has been trying to influence my mind.
294. I have never been in trouble with the law.
295. I liked "Alice in Wonderland" by Lewis Carroll.
296. I have periods in which I feel unusually cheerful without any special reason.
297. I wish I were not bothered by thoughts about sex.
298. If several people find themselves in trouble, the best thing for them to do is to agree upon a story and stick to it.
299. I think that I feel more intensely than most people do.
300. There never was a time in my life when I liked to play with dolls.
301. Life is a strain for me much of the time.
302. I have never been in trouble because of my sex behavior.
303. I am so touchy on some subjects that I can't talk about them.
304. In school I found it very hard to talk before the class.
305. Even when I am with people I feel lonely much of the time.
306. I get all the sympathy I should.

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307. I refuse to play some games because I am not good at them.
308. At times I have very much wanted to leave home.
309. I seem to make friends about as quickly as others do.
310. My sex life is satisfactory.
311. During one period when I was a youngster I engaged in petty thievery.
312. I dislike having people about me.
313. The man who provides temptation by leaving valuable property unprotected is about as much to blame for its theft as the one who steals it.
314. Once in a while I think of things too bad to talk about.
315. I am sure I get a raw deal from life.
316. I think nearly anyone would tell a lie to keep out of trouble.
317. I am more sensitive than most other people.
318. My daily life is full of things that keep me interested.
319. Most people inwardly dislike putting themselves out to help other people.
320. Many of my dreams are about sex matters.
321. I am easily embarrassed.
322. I worry over money and business.
323. I have had very peculiar and strange experiences.
324. I have never been in love with anyone.
325. The things that some of my family have done have frightened me.
326. At times I have fits of laughing and crying that I cannot control.
327. My mother or father often made me obey even when I thought that it was unreasonable.
328. I find it hard to keep my mind on a task or job.
329. I almost never dream.
330. I have never been paralyzed or had any unusual weakness of any of my muscles.
331. If people had not had it in for me I would have been much more successful.
332. Sometimes my voice leaves me or changes even though I have no cold.
333. No one seems to understand me.
334. Peculiar odors come to me at times.
335. I cannot keep my mind on one thing.
336. I easily become impatient with people.
337. I feel anxiety about something or someone almost all the time.
338. I have certainly had more than my share of things to worry about.
339. Most of the time I wish I were dead.
340. Sometimes I become so excited that I find it hard to get to sleep.
341. At times I hear so well it bothers me.
342. I forget right away what people say to me.
343. I usually have to stop and think before I act even in trifling matters.
344. Often I cross the street in order not to meet someone I see.
345. I often feel as if things were not real.
346. I have a habit of counting things that are not important such as bulbs on electric signs, and so forth.
347. I have no enemies who really wish to harm me.
348. I tend to be on my guard with people who are somewhat more friendly than I had expected.
349. I have strange and peculiar thoughts.
350. I hear strange things when I am alone.
351. I get anxious and upset when I have to make a short trip away from home.

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352. I have been afraid of things or people that I knew could not hurt me.

353. I have no dread of going into a room by myself where other people have already gathered and are talking.

354. I am afraid of using a knife or anything very sharp or pointed.

355. Sometimes I enjoy hurting persons I love.

356. I have more trouble concentrating than others seem to have.

357. I have several times given up doing a thing because I thought too little of my ability.

358. Bad words, often terrible words, come into my mind and I cannot get rid of them.

359. Sometimes some unimportant thought will run through my mind and bother me for days.

360. Almost every day something happens to frighten me.

361. I am inclined to take things hard.

362. I am more sensitive than most other people.

363. At times I have enjoyed being hurt by someone I loved.

364. People say insulting and vulgar things about me.

365. I feel uneasy indoors.

366. Even when I am with people I feel lonely much of the time.

367. I am not afraid of fire.

368. I have sometimes stayed away from another person because I feared doing or saying something that I might regret afterwards.

369. Religion gives me no worry.

370. I hate to have to rush when working.

371. I am not unusually self-conscious.

372. I tend to be interested in several different hobbies rather than to stick to one of them for a long time.

373. I feel sure that there is only one true religion.

374. At periods my mind seems to work more slowly than usual.

375. When I am feeling very happy and active, someone who is blue or low will spoil it all.

376. Policemen are usually honest.

377. At parties I am more likely to sit by myself or with just one other person than to join in with the crowd.

378. I do not like to see women smoke.

379. I very seldom have spells of the blues.

380. When someone says silly or ignorant things about something I know about, I try to set him right.

381. I am often said to be hotheaded.

382. I wish I could get over worrying about things I have said that may have injured other people's feelings.

383. People often disappoint me.

384. I feel unable to tell anyone all about myself.

385. Lightning is one of my fears.

386. I like to keep people guessing what I'm going to do next.

387. The only miracles I know of are simply tricks that people play on one another.

388. I am afraid to be alone in the dark.

389. My plans have frequently seemed so full of difficulties that I have had to give them up.

390. I have often felt badly over being misunderstood when trying to keep someone from making a mistake.

391. I love to go to dances.

392. A windstorm terrifies me.

393. Horses that don't pull should be beaten or kicked.

394. I frequently ask people for advice.

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395. The future is too uncertain for a person to make serious plans.
396. Often, even though everything is going fine for me, I feel that I don't care about anything.
397. I have sometimes felt that difficulties were piling up so high that I could not overcome them.
398. I often think, "I wish I were a child again."
399. I am not easily angered.
400. If given the chance I could do some things that would be of great benefit to the world.
401. I have no fear of water.
402. I often must sleep over a matter before I decide what to do.
403. It is great to be living in these times when so much is going on.
404. People have often misunderstood my intentions when I was trying to put them right and be helpful.
405. I have no trouble swallowing.
406. I have often met people who were supposed to be experts who were no better than I.
407. I am usually calm and not easily upset.
408. I am apt to hide my feelings in some things, to the point that people may hurt me without their knowing about it.
409. At times I have worn myself out by undertaking too much.
410. I would certainly enjoy beating a crook at his own game.
411. It makes me feel like a failure when I hear of the success of someone I know well.
412. I do not dread seeing a doctor about a sickness or injury.
413. I deserve severe punishment for my sins.
414. I am apt to take disappointments so keenly that I can't put them out of my mind.
415. If given the chance I would make a good leader of people.
416. It bothers me to have someone watch me at work even though I know I can do it well.
417. I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it.
418. At times I think I am no good at all.
419. I played hooky from school quite often as a youngster.
420. I have had some very unusual religious experiences.
421. One or more members of my family is very nervous.
422. I have felt embarrassed over the type of work that one or more members of my family have done.
423. I like or have liked fishing very much.
424. I feel hungry almost all the time.
425. I dream frequently.
426. I have at times had to be rough with people who were rude or annoying.
427. I am embarrassed by dirty stories.
428. I like to read newspaper editorials.
429. I like to attend lectures on serious subjects.
430. I am attracted by members of the opposite sex.
431. I worry quite a bit over possible misfortunes.
432. I have strong political opinions.
433. I used to have imaginary companions.
434. I would like to be an auto racer.
435. Usually I would prefer to work with women.
436. People generally demand more respect for their own rights than they are willing to allow for others.

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437. It is all right to get around the law if you don't actually break it.
438. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.
439. It makes me nervous to have to wait.
440. I try to remember good stories to pass them on to other people.
441. I like tall women.
442. I have had periods in which I lost sleep over worry.
443. I am apt to pass up something I want to do because others feel that I am not going about it in the right way.
444. I do not try to correct people who express an ignorant belief.
445. I was fond of excitement when I was young (or in childhood).
446. I enjoy gambling for small stakes.
447. I am often inclined to go out of my way to win a point with someone who has opposed me.
448. I am bothered by people outside, on streetcars, in stores, etc., watching me.
449. I enjoy social gatherings just to be with people.
450. I enjoy the excitement of a crowd.
451. My worries seem to disappear when I get into a crowd of lively friends.
452. I like to poke fun at people.
453. When I was a child I didn't care to be a member of a crowd or gang.
454. I could be happy living all alone in a cabin in the woods or mountains.
455. I am quite often not in on the gossip and talk of the group I belong to.
456. A person shouldn't be punished for breaking a law that he thinks is unreasonable.
457. I believe that a person should never taste an alcoholic drink.
458. The man who had most to do with me when I was a child (such as my father, stepfather, etc.) was very strict with me.
459. I have one or more bad habits which are so strong that it is no use in fighting against them.
460. I have used alcohol moderately (or not at all).
461. I find it hard to set aside a task that I have undertaken, even for a short time.
462. I have had no difficulty starting or holding my urine.
463. I used to like hopscotch.
464. I have never seen a vision.
465. I have several times had a change of heart about my life work.
466. Except by a doctor's orders I never take drugs or sleeping powders.
467. I often memorize numbers that are not important (such as automobile licenses, etc.).
468. I am often sorry because I am so cross and grouchy.
469. I have often found people jealous of my good ideas, just because they had not thought of them first.
470. Sexual things disgust me.
471. In school my marks in deportment were quite regularly bad.
472. I am fascinated by fire.
473. Whenever possible I avoid being in a crowd.
474. I have to urinate no more often than others.
475. When I am cornered I tell that portion of the truth which is not likely to hurt me.
476. I am a special agent of God.
477. If I were in trouble with several friends who were equally to blame, I would rather take the whole blame than to give them away.

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478. I have never been made especially nervous over trouble that any members of my family have gotten into.
479. I do not mind meeting strangers.
480. I am often afraid of the dark.
481. I can remember "playing sick" to get out of something.
482. While in trains, busses, etc., I often talk to strangers.
483. Christ performed miracles such as changing water into wine.
484. I have one or more faults which are so big that it seems better to accept them and try to control them rather than to try to get rid of them.
485. When a man is with a woman he is usually thinking about things related to her sex.
486. I have never noticed any blood in my urine.
487. I feel like giving up quickly when things go wrong.
488. I pray several times every week.
489. I feel sympathetic towards people who tend to hang on to their griefs and troubles.
490. I read in the Bible several times a week.
491. I have no patience with people who believe there is only one true religion.
492. I dread the thought of an earthquake.
493. I prefer work which requires close attention, to work which allows me to be careless.
494. I am afraid of finding myself in a closet or small closed place.
495. I usually "lay my cards on the table" with people that I am trying to correct or improve.
496. I have never seen things doubled (that is, an object never looks like two objects to me without my being able to make it look like one object).
497. I enjoy stories of adventure.
498. It is always a good thing to be frank.
499. I must admit that I have at times been worried beyond reason over something that really did not matter.
500. I readily become one hundred per cent sold on a good idea.
501. I usually work things out for myself rather than get someone to show me how.
502. I like to let people know where I stand on things.
503. It is unusual for me to express strong approval or disapproval of the actions of others.
504. I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.
505. I have had periods when I felt so full of pep that sleep did not seem necessary for days at a time.
506. I am a high-strung person.
507. I have frequently worked under people who seem to have things arranged so that they get credit for good work but are able to pass off mistakes onto those under them.
508. I believe my sense of smell is as good as other people's.
509. I sometimes find it hard to stick up for my rights because I am so reserved.
510. Dirt frightens or disgusts me.
511. I have a daydream life about which I do not tell other people.
512. I dislike to take a bath.
513. I think Lincoln was greater than Washington.
514. I like mannish women.
515. In my home we have always had the ordinary necessities (such as enough food, clothing, etc.).
516. Some of my family have quick tempers.

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517. I cannot do anything well.

518. I have often felt guilty because I have pretended to feel more sorry about something than I really was.

519. There is something wrong with my sex organs.

520. I strongly defend my own opinions as a rule.

521. In a group of people I would not be embarrassed to be called upon to start a discussion or give an opinion about something I know well.

522. I have no fear of spiders.

523. I practically never blush.

524. I am not afraid of picking up a disease or germs from door knobs.

525. I am made nervous by certain animals.

526. The future seems hopeless to me.

527. The members of my family and my close relatives get along quite well.

528. I blush no more often than others.

529. I would like to wear expensive clothes.

530. I am often afraid that I am going to blush.

531. People can pretty easily change me even though I thought that my mind was already made up on a subject.

532. I can stand as much pain as others can.

533. I am not bothered by a great deal of belching of gas from my stomach.

534. Several times I have been the last to give up trying to do a thing.

535. My mouth feels dry almost all the time.

536. It makes me angry to have people hurry me.

537. I would like to hunt lions in Africa.

538. I think I would like the work of a dressmaker.

539. I am not afraid of mice.

540. My face has never been paralyzed.

541. My skin seems to be unusually sensitive to touch.

542. I have never had any black, tarry-looking bowel movements.

543. Several times a week I feel as if something dreadful is about to happen.

544. I feel tired a good deal of the time.

545. Sometimes I have the same dream over and over.

546. I like to read about history.

547. I like parties and socials.

548. I never attend a sexy show if I can avoid it.

549. I shrink from facing a crisis or difficulty.

550. I like repairing a door latch.

551. Sometimes I am sure that other people can tell what I am thinking.

552. I like to read about science.

553. I am afraid of being alone in a wide-open place.

554. If I were an artist I would like to draw children.

555. I sometimes feel that I am about to go to pieces.

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556. I am very careful about my manner of dress.

557. I would like to be a private secretary.

558. A large number of people are guilty of bad sexual conduct.

559. I have often been frightened in the middle of the night.

560. I am greatly bothered by forgetting where I put things.

561. I very much like horseback riding.

562. The one to whom I was most attached and whom I most admired as a child was a woman. (Mother, sister, aunt, or other woman.)

563. I like adventure stories better than romantic stories.

564. I am apt to pass up something I want to do when others feel that it isn't worth doing.

565. I feel like jumping off when I am on a high place.

566. I like movie love scenes.

APPENDIX C

CRITICAL RATIOS OF THE DIFFERENCE BETWEEN THE PER-
CENTAGE OF RESPONSES BY SUCCESSFUL PAROLEES AND
THE PERCENTAGE OF RESPONSES BY VIOLATORS ON
THE ITEMS INCLUDED IN THE GUILFORD-MARTIN
INVENTORY OF FACTORS GAMIN, AN INVENTORY
OF FACTORS STDOR, THE JOHNSON TEMPERA-
MENT ANALYSIS, AND THE MINNESOTA
MULTIPHASIC PERSONALITY
INVENTORY

(* denotes items at the .93 [.07] level of significance or better)

Guilford-Martin Inventory of Factors GAMIN

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 1 | 0.54 | 37 | 1.10 | 73 | 0.57 | 109 | 0.77 |
| 2 | 0.30 | 38 | 0.91 | 74 | 0.85 | 110 | 1.42 |
| 3 | 1.12 | 39 | 1.28 | 75 | 1.24 | 111 | 1.56 |
| 4 | 0.42 | 40 | 0.92 | 76 | 2.86* | 112 | 0.99 |
| 5 | 0.71 | 41 | 0.31 | 77 | 1.36 | 113 | 0.28 |
| 6 | 1.98* | 42 | 0.64 | 78 | 1.28 | 114 | 0.71 |
| 7 | 0.74 | 43 | 0.44 | 79 | 0.72 | 115 | 0.19 |
| 8 | 1.74 | 44 | 2.45* | 80 | 2.08* | 116 | 3.39* |
| 9 | 1.79 | 45 | 1.13 | 81 | 0.72 | 117 | 2.20* |
| 10 | 0.96 | 46 | 1.46 | 82 | 1.02 | 118 | 1.27 |
| 11 | 0.36 | 47 | 1.91* | 83 | 0.31 | 119 | 1.57 |
| 12 | 0.99 | 48 | 1.43 | 84 | 1.11 | 120 | 1.41 |
| 13 | 0.15 | 49 | 1.87* | 85 | 0.73 | 121 | 0.99 |
| 14 | 0.68 | 50 | 1.23 | 86 | 0.29 | 122 | 0.59 |
| 15 | 1.71 | 51 | 1.13 | 87 | 0.41 | 123 | 1.38 |
| 16 | 1.29 | 52 | 1.03 | 88 | 0.16 | 124 | 1.85* |
| 17 | 1.65 | 53 | 1.18 | 89 | 0.47 | 125 | 0.43 |
| 18 | 0.75 | 54 | 0.42 | 90 | 1.55 | 126 | 1.15 |
| 19 | 1.98* | 55 | 1.21 | 91 | 0.15 | 127 | 1.26 |
| 20 | 1.56 | 56 | 1.74 | 92 | 2.34* | 128 | 2.14* |
| 21 | 0.60 | 57 | 1.09 | 93 | 1.64 | 129 | 0.34 |
| 22 | 0.73 | 58 | 0.95 | 94 | 1.01 | 130 | 1.42 |
| 23 | 1.18 | 59 | 0.46 | 95 | 0.66 | 131 | 1.27 |
| 24 | 1.28 | 60 | 1.08 | 96 | 0.91 | 132 | 0.74 |
| 25 | 0.44 | 61 | 1.28 | 97 | 0.82 | 133 | 0.67 |
| 26 | 0.95 | 62 | 0.28 | 98 | 0.57 | 134 | 0.69 |
| 27 | 0.57 | 63 | 1.38 | 99 | 1.31 | 135 | 0.22 |
| 28 | 0.37 | 64 | 0.33 | 100 | 0.21 | 136 | 0.80 |
| 29 | 1.66 | 65 | 0.72 | 101 | 0.86 | 137 | 1.05 |
| 30 | 1.22 | 66 | 0.64 | 102 | 0.79 | 138 | 0.59 |
| 31 | 0.99 | 67 | 0.63 | 103 | 0.98 | 139 | 1.49 |
| 32 | 1.92* | 68 | 1.34 | 104 | 1.15 | 140 | 0.90 |
| 33 | 1.18 | 69 | 0.28 | 105 | 0.43 | 141 | 2.38* |
| 34 | 1.01 | 70 | 1.28 | 106 | 1.40 | 142 | 0.72 |
| 35 | 1.64 | 71 | 0.93 | 107 | 0.87 | 143 | 0.38 |
| 36 | 1.45 | 72 | 0.32 | 108 | 2.98* | 144 | 0.75 |

Guilford-Martin Inventory of Factors GAMIN (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|------|------|-------|------|-------|
| 145 | 0.36 | 156 | 0.56 | 167 | 0.88 | 178 | 0.39 |
| 146 | 2.14* | 157 | 1.21 | 168 | 0.61 | 179 | 2.18* |
| 147 | 1.13 | 158 | 0.36 | 169 | 1.85* | 180 | 0.25 |
| 148 | 0.28 | 159 | 1.13 | 170 | 0.79 | 181 | 0.73 |
| 149 | 0.64 | 160 | 1.56 | 171 | 0.70 | 182 | 2.30* |
| 150 | 0.68 | 161 | 0.78 | 172 | 0.86 | 183 | 2.04* |
| 151 | 0.30 | 162 | 1.48 | 173 | 1.44 | 184 | 1.15 |
| 152 | 1.13 | 163 | 0.34 | 174 | 1.75 | 185 | 0.43 |
| 153 | 0.33 | 164 | 0.61 | 175 | 1.04 | 186 | 0.63 |
| 154 | 1.25 | 165 | 0.14 | 176 | 0.56 | | |
| 155 | 1.85* | 166 | 0.59 | 177 | 0.42 | | |

Guilford Inventory of Factors STDCR

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|------|
| 1 | 0.77 | 37 | 0.31 | 73 | 1.14 | 109 | 0.33 |
| 2 | 1.43 | 38 | 0.26 | 74 | 1.27 | 110 | 1.25 |
| 3 | 1.10 | 39 | 1.70 | 75 | 0.83 | 111 | 0.48 |
| 4 | 0.30 | 40 | 0.45 | 76 | 0.38 | 112 | 1.15 |
| 5 | 1.67 | 41 | 0.69 | 77 | 0.71 | 113 | 1.18 |
| 6 | 0.15 | 42 | 0.75 | 78 | 0.89 | 114 | 0.72 |
| 7 | 0.30 | 43 | 0.44 | 79 | 0.97 | 115 | 1.10 |
| 8 | 0.32 | 44 | 0.38 | 80 | 2.46* | 116 | 0.46 |
| 9 | 0.90 | 45 | 1.42 | 81 | 0.14 | 117 | 0.95 |
| 10 | 0.87 | 46 | 0.73 | 82 | 2.99* | 118 | 0.38 |
| 11 | 0.43 | 47 | 0.28 | 83 | 0.59 | 119 | 1.41 |
| 12 | 2.58* | 48 | 0.73 | 84 | 0.17 | 120 | 0.99 |
| 13 | 1.16 | 49 | 1.31 | 85 | 0.36 | 121 | 1.02 |
| 14 | 2.94* | 50 | 0.43 | 86 | 1.10 | 122 | 1.14 |
| 15 | 1.14 | 51 | 0.30 | 87 | 0.70 | 123 | 1.13 |
| 16 | 1.27 | 52 | 0.85 | 88 | 1.52 | 124 | 0.45 |
| 17 | 1.13 | 53 | 0.87 | 89 | 1.47 | 125 | 0.99 |
| 18 | 1.14 | 54 | 0.40 | 90 | 0.86 | 126 | 1.29 |
| 19 | 0.85 | 55 | 0.75 | 91 | 1.16 | 127 | 0.19 |
| 20 | 1.25 | 56 | 1.35 | 92 | 0.29 | 128 | 1.79 |
| 21 | 1.13 | 57 | 2.52* | 93 | 1.13 | 129 | 0.72 |
| 22 | 1.69 | 58 | 0.42 | 94 | 0.67 | 130 | 0.56 |
| 23 | 0.99 | 59 | 1.40 | 95 | 1.18 | 131 | 1.09 |
| 24 | 1.22 | 60 | 0.65 | 96 | 0.69 | 132 | 0.99 |
| 25 | 0.76 | 61 | 0.28 | 97 | 0.85 | 133 | 0.81 |
| 26 | 0.14 | 62 | 1.06 | 98 | 0.83 | 134 | 1.40 |
| 27 | 1.65 | 63 | 1.02 | 99 | 0.68 | 135 | 1.03 |
| 28 | 1.70 | 64 | 0.85 | 100 | 2.35* | 136 | 0.47 |
| 29 | 1.70 | 65 | 0.50 | 101 | 0.45 | 137 | 1.39 |
| 30 | 0.45 | 66 | 1.28 | 102 | 1.70 | 138 | 0.63 |
| 31 | 0.97 | 67 | 1.71 | 103 | 0.72 | 139 | 1.32 |
| 32 | 0.78 | 68 | 0.99 | 104 | 1.98* | 140 | 1.27 |
| 33 | 1.22 | 69 | 0.16 | 105 | 1.30 | 141 | 0.99 |
| 34 | 0.81 | 70 | 1.13 | 106 | 0.85 | 142 | 0.43 |
| 35 | 1.02 | 71 | 0 | 107 | 1.31 | 143 | 0.71 |
| 36 | 1.46 | 72 | 0.31 | 108 | 0.75 | 144 | 0.28 |

Guilford Inventory of Factors STDCR (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|------|------|------|------|-------|
| 145 | 1.07 | 153 | 1.59 | 161 | 1.73 | 169 | 2.64* |
| 146 | 2.36* | 154 | 0.61 | 162 | 0.58 | 170 | 1.63 |
| 147 | 0.32 | 155 | 0.56 | 163 | 1.28 | 171 | 1.19 |
| 148 | 1.97* | 156 | 1.28 | 164 | 0.66 | 172 | 1.64 |
| 149 | 0.68 | 157 | 0.57 | 165 | 1.67 | 173 | 0.71 |
| 150 | 1.41 | 158 | 0.90 | 166 | 0.48 | 174 | 0.62 |
| 151 | 1.74 | 159 | 0.89 | 167 | 0.85 | 175 | 0.57 |
| 152 | 0.63 | 160 | 0.90 | 168 | 0.71 | | |

Johnson Temperament Analysis

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 1 | 1.18 | 37 | 1.28 | 73 | 1.39 | 109 | 0.71 |
| 2 | 1.98* | 38 | 1.28 | 74 | 1.21 | 110 | 2.13* |
| 3 | 0.29 | 39 | 0.78 | 75 | 1.12 | 111 | 1.27 |
| 4 | 2.19* | 40 | 0.63 | 76 | 0.88 | 112 | 0.25 |
| 5 | 1.19 | 41 | 0.56 | 77 | 0.96 | 113 | 1.06 |
| 6 | 0.79 | 42 | 0.99 | 78 | 0.45 | 114 | 1.65 |
| 7 | 0.29 | 43 | 0.91 | 79 | 1.14 | 115 | 1.17 |
| 8 | 0.47 | 44 | 1.18 | 80 | 1.20 | 116 | 0.76 |
| 9 | 0.99 | 45 | 2.13* | 81 | 0.83 | 117 | 1.45 |
| 10 | 1.04 | 46 | 0.86 | 82 | 0.84 | 118 | 0.75 |
| 11 | 0.64 | 47 | 1.07 | 83 | 1.63 | 119 | 0.99 |
| 12 | 1.58 | 48 | 0.14 | 84 | 2.06* | 120 | 1.19 |
| 13 | 0.29 | 49 | 1.55 | 85 | 0.35 | 121 | 0.49 |
| 14 | 0.29 | 50 | 0.64 | 86 | 1.35 | 122 | 2.80* |
| 15 | 1.34 | 51 | 2.38* | 87 | 1.55 | 123 | 0.28 |
| 16 | 0.44 | 52 | 2.86* | 88 | 0.62 | 124 | 0.43 |
| 17 | 0.68 | 53 | 1.15 | 89 | 0.42 | 125 | 1.38 |
| 18 | 1.74 | 54 | 1.19 | 90 | 1.97* | 126 | 1.09 |
| 19 | 1.84* | 55 | 1.50 | 91 | 0.99 | 127 | 2.24* |
| 20 | 1.42 | 56 | 1.29 | 92 | 1.18 | 128 | 1.30 |
| 21 | 2.05* | 57 | 2.21* | 93 | 0.44 | 129 | 2.33* |
| 22 | 1.79 | 58 | 1.25 | 94 | 0.70 | 130 | 1.13 |
| 23 | 1.27 | 59 | 1.85* | 95 | 1.91* | 131 | 0.76 |
| 24 | 0.70 | 60 | 0.57 | 96 | 0.83 | 132 | 1.90* |
| 25 | 0.58 | 61 | 1.84* | 97 | 0.97 | 133 | 2.17* |
| 26 | 0.70 | 62 | 0.69 | 98 | 1.27 | 134 | 1.01 |
| 27 | 1.67 | 63 | 0.47 | 99 | 2.00* | 135 | 2.73* |
| 28 | 0.70 | 64 | 0.57 | 100 | 0.72 | 136 | 2.14* |
| 29 | 0.86 | 65 | 0.51 | 101 | 0.59 | 137 | 2.66* |
| 30 | 1.18 | 66 | 1.41 | 102 | 0.44 | 138 | 2.05* |
| 31 | 0.16 | 67 | 0.71 | 103 | 0.30 | 139 | 0.98 |
| 32 | 1.09 | 68 | 1.06 | 104 | 0.57 | 140 | 0.46 |
| 33 | 1.36 | 69 | 0.79 | 105 | 2.04* | 141 | 0.18 |
| 34 | 1.14 | 70 | 1.98* | 106 | 0.16 | 142 | 1.88* |
| 35 | 0.45 | 71 | 0.30 | 107 | 0.58 | 143 | 1.58 |
| 36 | 2.19* | 72 | 0.75 | 108 | 1.28 | 144 | 1.54 |

Johnson Temperament Analysis (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|------|
| 145 | 1.03 | 155 | 2.04* | 165 | 1.69 | 175 | 1.45 |
| 146 | 1.08 | 156 | 1.82* | 166 | 1.01 | 176 | 0.85 |
| 147 | 0.43 | 157 | 2.26* | 167 | 2.83* | 177 | 0.42 |
| 148 | 0.99 | 158 | 2.33* | 168 | 0.75 | 178 | 1.03 |
| 149 | 1.14 | 159 | 1.94* | 169 | 0.74 | 179 | 1.02 |
| 150 | 0.55 | 160 | 2.25* | 170 | 1.54 | 180 | 1.27 |
| 151 | 1.89* | 161 | 2.54* | 171 | 0.87 | 181 | 1.13 |
| 152 | 0.62 | 162 | 1.02 | 172 | 0.77 | 182 | 0.76 |
| 153 | 1.26 | 163 | 1.69 | 173 | 0.82 | | |
| 154 | 0.29 | 164 | 0.42 | 174 | 2.01* | | |

California Mental Health Analysis

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 1 | 0.69 | 37 | 0 | 73 | 2.35* | 109 | 0.30 |
| 2 | 0 | 38 | 0.99 | 74 | 0.55 | 110 | 0.31 |
| 3 | 0.92 | 39 | 0.52 | 75 | 1.41 | 111 | 0.42 |
| 4 | 1.30 | 40 | 0.70 | 76 | 0.75 | 112 | 0.37 |
| 5 | 1.45 | 41 | 1.77 | 77 | 1.25 | 113 | 0.95 |
| 6 | 0.40 | 42 | 0.76 | 78 | 1.81 | 114 | 0.80 |
| 7 | 0.44 | 43 | 0.95 | 79 | 0.81 | 115 | 1.50 |
| 8 | 0.16 | 44 | 1.81 | 80 | 0.34 | 116 | 0.80 |
| 9 | 2.18* | 45 | 1.25 | 81 | 1.33 | 117 | 0.31 |
| 10 | 0.33 | 46 | 0.44 | 82 | 2.14* | 118 | 1.67 |
| 11 | 1.52 | 47 | 0.92 | 83 | 0.29 | 119 | 0.93 |
| 12 | 0.71 | 48 | 0.71 | 84 | 0.56 | 120 | 0.64 |
| 13 | 1.57 | 49 | 0.49 | 85 | 0.58 | 121 | 1.25 |
| 14 | 1.63 | 50 | 0.28 | 86 | 0.58 | 122 | 1.53 |
| 15 | 0.75 | 51 | 3.18* | 87 | 1.76 | 123 | 0.30 |
| 16 | 1.92* | 52 | 1.63 | 88 | 1.69 | 124 | 0.17 |
| 17 | 0.51 | 53 | 1.40 | 89 | 1.03 | 125 | 0.49 |
| 18 | 0 | 54 | 0 | 90 | 0.72 | 126 | 0 |
| 19 | 1.09 | 55 | 1.38 | 91 | 0.30 | 127 | 2.80* |
| 20 | 0.56 | 56 | 1.87* | 92 | 0.26 | 128 | 0.94 |
| 21 | 1.00 | 57 | 1.32 | 93 | 1.76 | 129 | 0.30 |
| 22 | 2.46* | 58 | 0.32 | 94 | 0.44 | 130 | 0.14 |
| 23 | 1.68 | 59 | 0.15 | 95 | 1.28 | 131 | 0.89 |
| 24 | 0.66 | 60 | 0 | 96 | 1.33 | 132 | 1.03 |
| 25 | 0 | 61 | 0.97 | 97 | 0.35 | 133 | 0.51 |
| 26 | 1.48 | 62 | 1.27 | 98 | 1.35 | 134 | 0.41 |
| 27 | 0.78 | 63 | 0.14 | 99 | 0.75 | 135 | 2.00* |
| 28 | 2.32* | 64 | 2.56* | 100 | 2.36* | 136 | 0.15 |
| 29 | 2.19* | 65 | 3.43* | 101 | 1.12 | 137 | 0.76 |
| 30 | 0.25 | 66 | 0.55 | 102 | 0.68 | 138 | 0.14 |
| 31 | 2.00* | 67 | 0.70 | 103 | 1.71 | 139 | 0.91 |
| 32 | 1.29 | 68 | 0.91 | 104 | 0.18 | 140 | 0.57 |
| 33 | 1.54 | 69 | 1.27 | 105 | 0.78 | 141 | 1.31 |
| 34 | 0.85 | 70 | 0.46 | 106 | 0.21 | 142 | 0.34 |
| 35 | 0.28 | 71 | 0.75 | 107 | 0.57 | 143 | 0.66 |
| 36 | 1.57 | 72 | 0.79 | 108 | 1.76 | 144 | 0.61 |

California Mental Health Analysis (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|------|------|-------|------|-------|
| 145 | 0.86 | 159 | 0.44 | 173 | 1.62 | 187 | 0.64 |
| 146 | 1.17 | 160 | 1.71 | 174 | 0 | 188 | 0.30 |
| 147 | 2.12* | 161 | 0.70 | 175 | 0.61 | 189 | 1.32 |
| 148 | 1.71 | 162 | 0.56 | 176 | 2.09* | 190 | 2.38* |
| 149 | 0.40 | 163 | 0.71 | 177 | 2.62* | 191 | 1.43 |
| 150 | 0.73 | 164 | 0.58 | 178 | 0.14 | 192 | 0.57 |
| 151 | 1.40 | 165 | 0.99 | 179 | 0.86 | 193 | 0.28 |
| 152 | 2.30* | 166 | 0.34 | 180 | 0.99 | 194 | 0.85 |
| 153 | 2.64* | 167 | 1.77 | 181 | 1.40 | 195 | 0.79 |
| 154 | 0.16 | 168 | 1.77 | 182 | 0.24 | 196 | 1.12 |
| 155 | 1.27 | 169 | 1.03 | 183 | 1.25 | 197 | 1.14 |
| 156 | 0.82 | 170 | 0 | 184 | 1.43 | 198 | 1.27 |
| 157 | 0.99 | 171 | 0.47 | 185 | 1.42 | 199 | 0.45 |
| 158 | 1.58 | 172 | 0.75 | 186 | 1.07 | 200 | 0.76 |

Minnesota Multiphasic Personality Inventory

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 1 | 0.97 | 37 | 1.15 | 73 | 0.45 | 109 | 1.76 |
| 2 | 1.41 | 38 | 1.73 | 74 | 1.31 | 110 | 0.69 |
| 3 | 0.97 | 39 | 0.98 | 75 | 1.19 | 111 | 0.14 |
| 4 | 0 | 40 | 0.58 | 76 | 0.42 | 112 | 1.26 |
| 5 | 0.57 | 41 | 0.50 | 77 | 0.14 | 113 | 1.55 |
| 6 | 1.70 | 42 | 0.97 | 78 | 0.61 | 114 | 1.02 |
| 7 | 1.40 | 43 | 0.93 | 79 | 1.71 | 115 | 1.82* |
| 8 | 0.19 | 44 | 0.23 | 80 | 0.59 | 116 | 1.28 |
| 9 | 0.64 | 45 | 2.08* | 81 | 1.72 | 117 | 2.02* |
| 10 | 1.59 | 46 | 0.81 | 82 | 1.59 | 118 | 2.56* |
| 11 | 0 | 47 | 0.49 | 83 | 0.71 | 119 | 0.94 |
| 12 | 1.24 | 48 | 1.04 | 84 | 1.14 | 120 | 1.41 |
| 13 | 0.53 | 49 | 0.55 | 85 | 0 | 121 | 0.68 |
| 14 | 2.90* | 50 | 0.51 | 86 | 1.54 | 122 | 0.57 |
| 15 | 0.14 | 51 | 1.91* | 87 | 0.36 | 123 | 1.27 |
| 16 | 0.19 | 52 | 1.39 | 88 | 1.20 | 124 | 0.78 |
| 17 | 0.71 | 53 | 0.86 | 89 | 0.45 | 125 | 0.51 |
| 18 | 0.47 | 54 | 2.38* | 90 | 0.98 | 126 | 2.74* |
| 19 | 0.63 | 55 | 2.18* | 91 | 0.25 | 127 | 0.31 |
| 20 | 1.76 | 56 | 1.84* | 92 | 1.09 | 128 | 1.16 |
| 21 | 0 | 57 | 0.58 | 93 | 0.61 | 129 | 1.28 |
| 22 | 1.27 | 58 | 1.73 | 94 | 1.84* | 130 | 0.29 |
| 23 | 0.81 | 59 | 0.30 | 95 | 0.74 | 131 | 0.56 |
| 24 | 0.20 | 60 | 0.58 | 96 | 0 | 132 | 0.14 |
| 25 | 1.15 | 61 | 1.71 | 97 | 2.22* | 133 | 1.27 |
| 26 | 0.42 | 62 | 0.46 | 98 | 1.62 | 134 | 0.14 |
| 27 | 1.09 | 63 | 0.28 | 99 | 0.42 | 135 | 1.76 |
| 28 | 1.41 | 64 | 0.57 | 100 | 0 | 136 | 2.45* |
| 29 | 1.03 | 65 | 1.02 | 101 | 1.23 | 137 | 0.86 |
| 30 | 0.47 | 66 | 0.20 | 102 | 1.49 | 138 | 0.47 |
| 31 | 0.33 | 67 | 0.14 | 103 | 0.58 | 139 | 1.29 |
| 32 | 1.54 | 68 | 0.14 | 104 | 1.61 | 140 | 1.49 |
| 33 | 1.56 | 69 | 0.38 | 105 | 0.30 | 141 | 0.98 |
| 34 | 0.71 | 70 | 1.02 | 106 | 1.22 | 142 | 1.62 |
| 35 | 0.90 | 71 | 0.52 | 107 | 1.44 | 143 | 1.86* |
| 36 | 0.56 | 72 | 1.42 | 108 | 1.54 | 144 | 0.85 |

Minnesota Multiphasic Personality Inventory (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 145 | 0.34 | 181 | 0.56 | 217 | 0.45 | 253 | 1.51 |
| 146 | 0.82 | 182 | 1.60 | 218 | 0.89 | 254 | 0.43 |
| 147 | 0.14 | 183 | 1.24 | 219 | 0.94 | 255 | 0.89 |
| 148 | 1.78 | 184 | 0.51 | 220 | 1.42 | 256 | 1.14 |
| 149 | 0.36 | 185 | 0.81 | 221 | 0.69 | 257 | 0.20 |
| 150 | 1.93* | 186 | 0.38 | 222 | 0.29 | 258 | 0.83 |
| 151 | 0.33 | 187 | 0.74 | 223 | 1.54 | 259 | 0.75 |
| 152 | 0.97 | 188 | 0.47 | 224 | 2.84* | 260 | 0.14 |
| 153 | 0.59 | 189 | 0.55 | 225 | 1.06 | 261 | 0.43 |
| 154 | 1.18 | 190 | 0.48 | 226 | 1.69 | 262 | 0.30 |
| 155 | 0.29 | 191 | 0.63 | 227 | 0.49 | 263 | 0.29 |
| 156 | 0.83 | 192 | 1.50 | 228 | 1.22 | 264 | 0.57 |
| 157 | 1.09 | 193 | 0.29 | 229 | 0.44 | 265 | 0.29 |
| 158 | 1.29 | 194 | 0.84 | 230 | 1.14 | 266 | 1.25 |
| 159 | 1.14 | 195 | 0.44 | 231 | 1.03 | 267 | 0.32 |
| 160 | 3.05* | 196 | 1.03 | 232 | 1.57 | 268 | 1.98* |
| 161 | 0.23 | 197 | 1.25 | 233 | 0.31 | 269 | 1.67 |
| 162 | 1.01 | 198 | 0.41 | 234 | 0.70 | 270 | 0.28 |
| 163 | 1.32 | 199 | 1.62 | 235 | 0.85 | 271 | 1.29 |
| 164 | 0.21 | 200 | 1.40 | 236 | 0.61 | 272 | 3.06* |
| 165 | 0.57 | 201 | 1.19 | 237 | 1.98* | 273 | 0.40 |
| 166 | 0.47 | 202 | 0.24 | 238 | 0.63 | 274 | 0.31 |
| 167 | 0.58 | 203 | 0.42 | 239 | 1.55 | 275 | 0.49 |
| 168 | 0.59 | 204 | 1.28 | 240 | 0.99 | 276 | 1.03 |
| 169 | 0.59 | 205 | 0.58 | 241 | 0.29 | 277 | 1.74 |
| 170 | 0.43 | 206 | 1.79 | 242 | 0.43 | 278 | 0.63 |
| 171 | 1.43 | 207 | 1.21 | 243 | 1.33 | 279 | 0.88 |
| 172 | 0.61 | 208 | 0.57 | 244 | 0.71 | 280 | 0.14 |
| 173 | 1.80 | 209 | 1.02 | 245 | 0.57 | 281 | 0.85 |
| 174 | 0.14 | 210 | 1.09 | 246 | 0.58 | 282 | 1.72 |
| 175 | 1.02 | 211 | 0.24 | 247 | 1.95* | 283 | 1.32 |
| 176 | 0 | 212 | 2.04* | 248 | 0.85 | 284 | 1.01 |
| 177 | 1.63 | 213 | 0.77 | 249 | 1.43 | 285 | 0.14 |
| 178 | 0.91 | 214 | 1.20 | 250 | 0.28 | 286 | 0.68 |
| 179 | 0.47 | 215 | 1.18 | 251 | 0.77 | 287 | 1.71 |
| 180 | 0.32 | 216 | 1.15 | 252 | 2.04* | 288 | 0.71 |

Minnesota Multiphasic Personality Inventory (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 289 | 0.48 | 325 | 0.52 | 361 | 0.47 | 397 | 0.31 |
| 290 | 1.21 | 326 | 0.49 | 362 | 2.21* | 398 | 0.29 |
| 291 | 0.59 | 327 | 1.19 | 363 | 0.50 | 399 | 0.85 |
| 292 | 0.44 | 328 | 1.47 | 364 | 0.93 | 400 | 1.28 |
| 293 | 0.22 | 329 | 2.04* | 365 | 0.26 | 401 | 0.14 |
| 294 | 0.15 | 330 | 0.88 | 366 | 0.60 | 402 | 1.29 |
| 295 | 1.28 | 331 | 1.18 | 367 | 0.85 | 403 | 0.61 |
| 296 | 0.43 | 332 | 0.99 | 368 | 1.42 | 404 | 0.45 |
| 297 | 0.46 | 333 | 0.76 | 369 | 1.57 | 405 | 0.15 |
| 298 | 0.28 | 334 | 0.82 | 370 | 1.38 | 406 | 0.47 |
| 299 | 1.37 | 335 | 0.30 | 371 | 1.16 | 407 | 0.84 |
| 300 | 0.99 | 336 | 0.82 | 372 | 1.84* | 408 | 0.16 |
| 301 | 0.99 | 337 | 1.73 | 373 | 0.42 | 409 | 1.13 |
| 302 | 0.72 | 338 | 1.14 | 374 | 0.43 | 410 | 0.14 |
| 303 | 2.30* | 339 | 1.76 | 375 | 0.85 | 411 | 1.55 |
| 304 | 0.44 | 340 | 0.64 | 376 | 0.47 | 412 | 0.76 |
| 305 | 0.75 | 341 | 1.06 | 377 | 0.46 | 413 | 0.57 |
| 306 | 1.19 | 342 | 1.40 | 378 | 1.15 | 414 | 0.49 |
| 307 | 0.42 | 343 | 1.40 | 379 | 0.42 | 415 | 0.72 |
| 308 | 0.42 | 344 | 0.68 | 380 | 1.66 | 416 | 2.05* |
| 309 | 0.99 | 345 | 1.02 | 381 | 1.60 | 417 | 1.13 |
| 310 | 0.83 | 346 | 0.69 | 382 | 0.14 | 418 | 1.34 |
| 311 | 3.03* | 347 | 0.42 | 383 | 0.14 | 419 | 1.13 |
| 312 | 1.49 | 348 | 0.57 | 384 | 0.59 | 420 | 2.82* |
| 313 | 0.44 | 349 | 1.46 | 385 | 1.33 | 421 | 0.75 |
| 314 | 0.43 | 350 | 1.11 | 386 | 1.73 | 422 | 0.86 |
| 315 | 0.61 | 351 | 0.44 | 387 | 0.30 | 433 | 0.48 |
| 316 | 1.04 | 352 | 0.92 | 388 | 1.60 | 424 | 0.37 |
| 317 | 1.99* | 353 | 0.42 | 389 | 0.45 | 425 | 1.34 |
| 318 | 1.67 | 354 | 0.37 | 390 | 0.71 | 426 | 1.13 |
| 319 | 0.99 | 355 | 1.80 | 391 | 0.96 | 427 | 1.39 |
| 320 | 1.09 | 356 | 0.54 | 392 | 2.32* | 428 | 0.68 |
| 321 | 0.76 | 357 | 1.18 | 393 | 0.49 | 429 | 0.30 |
| 322 | 0.30 | 358 | 1.24 | 394 | 1.58 | 430 | 0.92 |
| 323 | 0.85 | 359 | 0.33 | 395 | 1.00 | 431 | 0.15 |
| 324 | 0.50 | 360 | 0.33 | 396 | 1.86* | 432 | 0.71 |

Minnesota Multiphasic Personality Inventory (Continued)

| Item | CR | Item | CR | Item | CR | Item | CR |
|------|-------|------|-------|------|-------|------|-------|
| 433 | 1.02 | 467 | 0.57 | 501 | 0.58 | 535 | 0.69 |
| 434 | 1.22 | 468 | 1.15 | 502 | 0.84 | 536 | 1.14 |
| 435 | 1.63 | 469 | 1.33 | 503 | 0.42 | 537 | 0.44 |
| 436 | 1.22 | 470 | 1.28 | 504 | 0.85 | 538 | 0.79 |
| 437 | 1.87* | 471 | 1.02 | 505 | 0 | 539 | 1.47 |
| 438 | 0.96 | 472 | 0.26 | 506 | 0.49 | 540 | 1.48 |
| 439 | 0.45 | 473 | 1.05 | 507 | 1.27 | 541 | 0.31 |
| 440 | 0.69 | 474 | 0.28 | 508 | 0.90 | 542 | 0.70 |
| 441 | 0.42 | 475 | 0.99 | 509 | 0.76 | 543 | 1.49 |
| 442 | 0 | 476 | 0.92 | 510 | 1.19 | 544 | 0.71 |
| 443 | 0 | 477 | 1.13 | 511 | 0.17 | 545 | 1.14 |
| 444 | 1.30 | 478 | 1.70 | 512 | 0.66 | 546 | 1.15 |
| 445 | 0.36 | 479 | 0.15 | 513 | 0.85 | 547 | 2.40* |
| 446 | 1.69 | 480 | 0.42 | 514 | 0.18 | 548 | 0.89 |
| 447 | 1.71 | 481 | 2.14* | 515 | 0.71 | 549 | 0.53 |
| 448 | 1.29 | 482 | 0.14 | 516 | 2.08* | 550 | 0.98 |
| 449 | 0.56 | 483 | 0.99 | 517 | 0.36 | 551 | 0.30 |
| 450 | 0.42 | 484 | 1.34 | 518 | 1.16 | 552 | 0.76 |
| 451 | 1.03 | 485 | 1.90* | 519 | 0.45 | 553 | 1.67 |
| 452 | 0 | 486 | 1.04 | 520 | 1.69 | 554 | 1.27 |
| 453 | 1.14 | 487 | 0.63 | 521 | 0.58 | 555 | 1.46 |
| 454 | 2.36* | 488 | 0.56 | 522 | 0.29 | 556 | 0.55 |
| 455 | 0.43 | 489 | 0.99 | 523 | 1.28 | 557 | 0.70 |
| 456 | 1.64 | 490 | 1.22 | 524 | 0.71 | 558 | 1.03 |
| 457 | 2.28* | 491 | 0.30 | 525 | 1.48 | 559 | 0.94 |
| 458 | 0.99 | 492 | 1.85* | 526 | 0.49 | 560 | 0.60 |
| 459 | 0.18 | 493 | 0.70 | 527 | 1.57 | 561 | 0.50 |
| 460 | 0.49 | 494 | 0.83 | 528 | 0.90 | 562 | 1.50 |
| 461 | 0.56 | 495 | 0.56 | 529 | 1.76 | 563 | 0.32 |
| 462 | 0.59 | 496 | 1.42 | 530 | 0.87 | 564 | 1.67 |
| 463 | 0.29 | 497 | 0.93 | 531 | 1.03 | 565 | 1.86* |
| 464 | 0.85 | 498 | 1.16 | 532 | 0.97 | 566 | 1.29 |
| 465 | 0.99 | 499 | 1.74 | 533 | 1.01 | | |
| 466 | 0.43 | 500 | 0.57 | 534 | 0.92 | | |

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