RANK ORDERING OF VARIOUS FACTORS IN PAROLE PREDICTION

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A personal expression of appreciation is extended to my husband Ashok and my son Rahul for their understanding and encouragement.

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CHAPTER I

INTRODUCTION

Both scholars and practitioners in penology have always attempted to find out the indicators that tend to predict the success or failure of offenders in various settings such as probation, incarceration, or parole. For the past 60 years, researchers have constructed several tables to predict the success or failure of offenders under various kinds of programs. Some of these efforts are described in Chapter II.

In this study, the present researcher is trying to assess the weight of different factors which are predictive of success or failure of offenders in post-prison adjustment. This study is an extension of an earlier study done by Sharp (1980) under the supervision of Dr. Sandhu. Sharp's study was based on the prisoners' and ex-prisoners' perceptions of their success or failure, after going through one or more cycles of imprisonment and parole. Success was indicated by one cycle in incarceration in a prison, followed by transfer to a community treatment center, release to the community under parole supervision and staying free of crime for a period of 18 months. They also had to be adjudged as successfully adjusted by the parole officer. Failure was
indicated by prisoners' repeated return to criminal life. Prisoners and ex-prisoners also explained their reaction to the different programs, both in the prison and in the community treatment center.

Various tools were used by Sharp in his study. The respondents were given a comprehensive questionnaire (see Appendix) and were also administered two psychological scales, the Socialization and the Responsibility scale, extracted from the California Psychological Inventory. The (So) formerly the (De) section of the California Psychological Inventory is essentially a delinquency proneness scale which has been widely used with delinquent and non-delinquent populations and found to have predictive value with reference to delinquent behavior (Reckless, 1979). The (Re) scale of the inventory is designed to estimate the amount of social responsibility a person has acquired. The items in both scales tend to group themselves into several distinctive clusters. Role-taking deficiencies, insensitivity to interactional cues and the effects of one's own behavior on others seem to be a few of the indicators. Resentment of others, feelings of despondency and alienation and poor scholastic achievement are also indicated within the scales (Gough, 1951). The questionnaire essentially aimed to analyze the perceptions of the CTC inmates prior to their release and the parolees who had already gone out in the community. The most of the questions sifted information on the effectiveness of different correctional programs as
viewed by the respondents and the reasons for their success or failure in post-prison adjustment. These questions were open ended and were later categorized depending on kind of answers given to these questions.

Fifty inmates of a Community Treatment Center and 28 parolees had participated in this study. The 50 inmates of the Community Treatment Center comprised the failure group and the 28 parolees formed the success group. All the members were similar in background, in the sense that all of them came from the same county in Oklahoma.

**Sharp's Findings**

Sharp (1980) compared the two groups first by age, marital status, type of residence, race, and level of education, to determine if the two groups were similar on these antecedent variables. He found that the two groups were statistically not different from one another, except by educational level and marital status. The two groups were further compared on crime history and perceptions and attitudes towards programs that they were involved in. The Chi-square statistic, indicated a significant difference found between the two groups by offense. The failure groups were found to have a higher incidence of property offenses than the success group. Several variables were then incorporated into a discriminant analysis function to determine the degree of precision in the classification into the success or failure categories. The discriminant analysis function
proved very useful in predicting parole success, using the variables of age, age at first arrest, age at first conviction, length of sentence, length of time served, perceived self reform and the scores on the Socialization and Responsibility scale.

The successful group had substantially higher scores on both the Responsibility and Socialization scales than did the failure group. A great deal of difference was found between the success and failure category in terms of their proneness towards deviance, feelings of anomie and the general lack of social responsibility towards others.

The Objective of the Study

So the statistical analysis of data collected on 77 offenders revealed factors which helped in predicting the outcome of post-prison adjustment. This study intends to assess the varying importance of these factors in predicting the success or failure of these offenders. The present study will, however, limit itself to the analysis of seven factors. These are: age, level of education, age at first arrest, age at first conviction, length of time served, and the responsibility and socialization scores.

The purpose of this study is to use the statistical technique of discrimination analysis and reassess the results. It also proposes to make a parole prediction table, assigning weight to the different variables affecting the outcome.
Sharp (1980) made an error in using a non-continuous variable (Perceived Self Reform) in his discriminant analysis. As is well known, the discriminating variables in discriminant analysis must be continuous for the technique to be valid. This led to the choice of the above variables for the present study.

At the risk of stating the obvious, it must be said that multivariate techniques alone are appropriate in analyzing a situation such as the present one. A number of factors influence the behavior of the offenders. What needs to be understood is not only how individual variables affect the behavior of the offenders, but also how the aggregation of these individual variables affects behavior. Whereas univariate analysis shows how one independent variable affects the behavior of the dependent variable, everything else remaining constant, it is only multivariate techniques which can show how all the independent variables combine to influence the dependent variable. What may appear to be a very important relationship when analyzed in the univariate sense may turn out to be less important when viewed in the multivariate or total context, and vice versa. Essentially the questions are:

1. Can linear discriminant functions of the variables under study be found that will maximize the separation between the two groups?
2. How good are these functions in performing this task?
3. What is the relative importance of the variables of interest in the discriminant function that is found?
Predictive methods have been used in parole for a long time. For a comprehensive understanding, one needs to refer to research regarding the evaluation of the correctional process, parole prediction scores and parole prediction scales.

Parole has been defined as a treatment program in which an offender, after serving part of a term in a correctional institution, is conditionally released under supervision and treatment by a parole worker (Dressler, 1959). The origin of the concept of parole in the U.S. emanated from the reformatory movement, which first took root in the eastern United States. The simple assertion that offenders are reformable was the core of parole philosophy. The philosophy also projected the idea of reformation being the right of every offender and the duty of the state. In addition, each prisoner was to be individualized. The emphasis was on the offender, not the offense.

As this concept came to be used in the correctional process, the problem of recidivism remained acute. In addition, since almost all offenders automatically come up for parole consideration after serving a portion of their
sentence, the dilemma of who should be granted parole and who should not, also came up. The acceptance or rejection of an offender's request for parole came to be dependent on a number of factors which were used for decision making by the paroling authorities.

Criminal justice research workers explored various methods of combining individual items of information found associated with recidivism in an effort to increase predictive power. The variables analyzed have been antecedent (the criminal history, age at the onset, type of offense), intervening (the kind of prison programs the prisoners were exposed to); or consequential (those which focused on what happened to the ex-prisoners as a result of the antecedent and intervening variables).

While most parole studies were based on factual data, it was the perception of the prisoner or parolee which could really reveal information pertinent to his success or failure in parole. The prisoner's records generally did not have enough information on post-prison problems and the strategies employed by him to cope with his problems. This information could best be gleaned by interviewing the subject and looking at the problems as perceived by him.

**Predictive Factors Regarding Prison Impact and Outcome of Correctional Programs**

The effectiveness and impact of correctional programs
has been extensively studied in relation to parole outcome. In their first follow-up study, the Gluecks (1973) tried to disentangle the

'influence of the reformatory', by comparing a group of 128 subjects 'who committed serious offences prior to their sentence to the Reformatory and continued to commit such offences during the parole and post-parole periods,' thereby constituting the uninfluenced group, with a group of 129 subjects 'who committed serious offences prior to their sentence to the Reformatory, whose conduct showed some improvement during parole (namely, the commission of minor offences only or a change in classification from total failure to partial failure or success), and also showed improvement during the post-parole period,' thereby constituting the influenced group (pp. 225-226).

On the basis of this comparison, a determination was made of the pre-reformatory (background) factors that hampered the impact of the reformatory. The Gluecks found that being a partial success at meeting the economic obligations of the family rather than a failure, and having no prior penal experience rather than having prior penal experience, were the principal factors which facilitated favorable impact of the reformatory.

Reckless (1967) pursued a series of impact studies through his students. The following are some of the pertinent findings for present research:

The pioneering study in the series was made by Galway as cited by Reckless (1967) at the U.S. Reformatory, Chillicothe, Ohio. A standardized terminal interview was held with 275 consequently released inmates. Seventy-two percent indicated that the institutional stay had been beneficial to them. The inter-
view indicated that favorable and unfavorable responses of the inmates towards institutional programs were not related to age, but the inmates under 18 were much less favorably disposed than inmates 24 and older. The inmates released on expiration, the ones who evidently were the poorest risks for parole or the most involved in previous crime, displayed only 50 percent favorable response, but the numbers were too small to make a significant finding. Galway also found that subjects with the lowest education level gave much more favorable responses towards institutional stay than inmates of higher education levels, which might have reflected the opinion of Blacks and the response of the least fortunate groups to visibly good opportunities for improvement.

Bright as cited by Reckless (1967) did a study at the Ohio State Penitentiary, Columbus, Ohio. He administered a carefully constructed questionnaire to five small samples, representing five different groups of inmates. He found good evidence to support the following propositions:

1. The longer the time served in prison, the more adverse were the attitudes of the inmates, indicated by the response of the inmates to questions concerning the prisons, the program, and the physical facilities of the prison.

2. By decreasing the time of incarceration, prison administrators could increase the constructive impact of the institution on a large inmate population.
In another study conducted by Sabnis as cited by Reckless (1967) carefully prepared questionnaire was administered to three samples of boys at the National Training School For Boys, Washington, D.C. Based on what the boys said they got out of their institutional stay, Sabnis' hypothesis, that impact reached its optimum positivity at a certain point of time (period of institutionalization) and that thereafter it tended to vary inversely with the length of time put in by the inmate, was validated.

Reckless (1967) himself had certain impact items covered in terminal interviews with 250 inmates consecutively released from the U.S. Reformatory at Chillicothe, Ohio, exactly six years after the original Galway study. Sixty-eight percent professed to have gotten a great deal out of their stay; 23 percent, something; 9 percent, not much. The above distribution of answers was significantly related to professed favorable or unfavorable feelings towards staff members. This suggested that inmates felt that they had obtained some benefit from the program of an institution if at the same time they felt favorably disposed towards the staff.

Another study regarding the factors affecting post-release adjustment was undertaken by Brown (1969) who measured the effects of the prison experience on the behavior and attitudes of 170 inmates in a medium security prison. The two tests he gave them were the M.M.P.I. (LIE Scale) and an attitude questionnaire. He found that those
who had been institutionalized for about a year showed higher guilt scores than those who had been institutionalized only about a week. Also, recidivists differed significantly from first termers by showing less favorable attitudes towards law enforcement and less inclination to cooperate with other people generally.

Glaser (1969), in his epoch making study, found that the younger a prisoner when first arrested, convicted or incarcerated for any crime, the more likely he was to continue in crime. For those under 14 when first arrested, nearly half seemed to cling to a criminal path after imprisonment, compared with only one in ten of those arrested for the first time over the age of 35. Each involvement in crime and each experience of arrest and correctional confinement seemed to increase the youth's estrangement from home and school at the same time that it enhanced his prestige and self esteem in delinquent social circles. This, according to Glaser, explained the inverse relationship between ages of first arrest or conviction and recidivism. Glaser, however, realized that after a certain point, an increase in prior sentences meant an increase in age. This would explain, he said, why recidivism rates were about the same following a fourth or subsequent felony conviction as following a third conviction.

In a study done by Sandhu (1968), it was found that married prisoners became more hopeful about their post-release prospects and improved themselves in their overall
adjustment, particularly in emotional adjustments, during incarceration. In this panel study, he also discovered that three months of incarceration in a district prison in India led to an increase in the prisoners' delinquency score and an increase in their hostility scale.

In addition, Sandhu (1977) separated and identified the characteristics of those who succeed and those who fail as measured by the recidivism rate. Some of the personal and social characteristics that showed success were as follows:

1. Social Maturity: Relatively older age; also relatively older age at the onset of delinquency.
2. Shorter criminal history: Relative freedom from previous delinquent or criminal commitment.
3. Stability: Either continuing with education or working steadily after release; married; family support.

The reverse of these characteristics contributed to failure and recidivism. Thus, those who failed were shown to be socially immature, had a longer criminal history and were generally unstable (Sandhu, 1977).

Parole Prediction Methods and Scales

The actual instruments used in predicting the outcome of parole have been known by different names, such as parole prediction scales, base expectancy scores, experience tables and salient factor scores. Criminal justice research workers have explored various methods of combining indivi-
dual items of information found associated with recidivism in an effort to increase predictive powers. These methods range from the simple additive scoring of predictive items (often referred to in American Criminological literature as the Burgess Method), to sophisticated mathematical weighting methods made feasible by modern computer technology (e.g. multiple regression analysis, predictive attribute analysis and association analysis).

One of the earliest parole prediction scales was constructed by Burgess et al. (1928) using a method of scoring. In the analysis of factors determining success or failure on parole, he found some striking contrasts between the two groups. The significant factors that he thought important for purposes of establishing a scale were:

1. Type of offense: property or personal
2. Type of offender: first offender, occasional offender, habitual offender, professional criminal, etc.
3. Place of residence: criminal underworlds, rooming house district, furnished apartments, immigrant areas, residential district, etc.
4. Relation of previous criminal record to parole violation,
5. Previous work record
6. Age when paroled, and
7. Intelligence and personality factors: those of
inferior intelligence were found to be as likely, if not more likely, to observe their parole agreement than were those of average and superior intelligence.

Because of the practical value of such an expectancy rate, the Parole Board got interested in finding out how these various factors might be combined so as to give more certainty of predictability than any factors taken separately. Burgess submitted Table I to indicate the expectancy rate for nine groups of men paroled from Joliet based on the actual violation rate in the factors selected.

### TABLE I

**EXPECTANCY RATE OF PAROLE VIOLATION AND NONVIOLATION**

<table>
<thead>
<tr>
<th>Points for number of factors above the average</th>
<th>Expectancy Rate for Success or Failure</th>
<th>% Violators of Parole</th>
<th>% Nonviolators of Parole</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Minor</td>
<td>Major</td>
<td>Total</td>
</tr>
<tr>
<td>16-21</td>
<td>68</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14-15</td>
<td>140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>91</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>106</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>110</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>88</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-9</td>
<td>287</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5-6</td>
<td>85</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-4</td>
<td>25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The group with 16-21 favorable points was composed of those whose summary sheets had the highest proportion of factors favorable to success, just as the group with only two to four favorable points was made up of those with the largest number of factors unfavorable to success in their summary sheet. The highest group of 68 men contained only 1.5 percent who, on the basis of past experience, would be expected to violate their parole, while in the lowest group, the expectancy rate of violation was 76 percent.

Burgess (1928) thought the practical value of an expectancy rate very great for the Parole Board in terms of being able to forecast the future. However, Burgess perceived the need for the refining of his method.

An actual device (experience table) termed a "Salient Factor" score was used by the members and hearing examiners of the United States Board of Parole in actual decision making as an aid in the assessment of an applicant's parole prognosis (Hoffman and Beck, 1974). This instrument was developed with data collected as part of a larger project entitled "The Utilization of Experience in Parole Decision Making", a collaborative effort of the Research Center of the National Council on Crime and Delinquency, The United States Board of Parole, and a number of advisory groups.

The information they used included over sixty items of background data for each individual in the sample from the prison parole file. These items included information about present offense, prior criminal record, age, education,
employment record, past and projected living arrangements, and prison conduct. In addition, information about performance after release was coded. A two year follow-up period from date of release was utilized for each individual. They chose to use the "Burgess" method because of its simplicity and ease of calculation in "field" usage. The nine items or "salient factors" included in this instrument were selected from 66 variables taken from items or combinations of items included on the coding sheet.

The variables they used were prior convictions, prior incarceration, age at first conviction, auto theft, parole revoked, drug history, grade claimed, employment, and living arrangements. In a slight departure from the Burgess method, the first two items were classified as trichotomous rather than dichotomous.

This instrument was used to calculate a score for each case in the construction sample.

An alternative measure of predictive efficiency, the Mean Cost Rating, was calculated on the collapsed scores. Developed by Berkson, the Mean Cost Rating was defined as a measure of "cost" versus "utility".

This Salient Factor Score came into use as an aid in Federal Parole Selection decisions throughout the U.S. since 1973, when it replaced an earlier version. Operationally, the Salient Factor Score required no special skills to compute and could be completed in a short time; thus it did not impose an undue administrative burden. The validity of
the Salient Factor Score compared well with that of actual devices developed previously.

"Base Expectancy Score" was another one of scores developed for help in accurately predicting parole success or failure. Using seven items from precommitment information Savides (1961) formulated a "Base Expectancy Score" for each release by giving him 21 points plus 16 points, if he had in his arrest history 5 or more years without arrest, or if he was a first offender; 13 points if he had no known history of opiate drug use; 8 points if his family members had no criminal record; 13 points if his offense was not forgery, bad checks or burglary; and the number of points equal to six tenths of his age. Then if appropriate, some points were subtracted; 3 points for each alias shown on his arrest record; 5 points for each previous incarceration.

Hoffmen and Gottfredson (1973) developed a tentative checklist of twelve statements to be used at all initial hearings. These two prediction instruments were not widely used by parole boards but, nevertheless, were helpful guides to decision making.

The use of multivariate techniques to explain differential parolee performance was advocated more than 50 years ago according to Brown (1975) since it was seen that univariate techniques were unlikely to provide decision makers with as much information as multivariate techniques. The former method, unlike the latter, did not account for the interrelationships among the various factors which influence parolee performance.
Often variables which appear important in an univariate context, become insignificant in multivariate frameworks; similarly variables appearing unimportant in univariate frameworks often were shown to be important in multivariate contexts. Hence information derived from univariate analyses was thought to be misleading, causing decision makers to err more than they would have with properly applied multivariate techniques.

Brown (1975) developed a parolee classification system using Discriminant Analysis. Brown felt that the development of an efficient model for classifying parolees into "good" versus "poor" parole risks could help provide answers to several pertinent questions regarding the functioning of the correctional system, including:

1. Which inmate should be paroled?
2. Which parolees were most in need of guidance?
3. What differential effects, if any, did alternative incarceration experiences have on the post-release behavior of offenders?

Multiple Discriminant Analysis was first applied to taxonomic problems by R. A. Fisher as cited by Brown (1975). Fisher showed its potential use for classifying observations into two or more prior groups. The discriminating variables that Brown (1975) chose for his study were:

1. incarceration length,
2. age upon release,
3. sex,
4. admission type (probation or parole type, new court commitment),
5. offense type,
6. sentence type (multiple, simple),
7. number of prior prison commitments,
8. number of prior non-prison sentences,
9. drug use, and
10. alcohol use.

Brown saw that previous research of Gottsfredson suggested that young offenders, probation and parole violators (as opposed to new court commitments), property (rather than personal offenders, parolees with many prior prison commitments and long prison sentences and those with histories of drug and alcohol use were poor parole risks. Also, older offenders were seen to be more likely to succeed on parole because they generally had better legal opportunities because of their age, better education and more extensive work experience. Previous research of Neithercutt and Babst et al., as cited by Brown (1975) also showed that incarceration length did not exert much influence on parole performance. Incarceration length increased the chance of parolee success by increasing offender's perceived costs of returning to prison, and it also increased the lawful skills of offenders who receive training in marketable vocations during their incarcerations. Also offenders incarcerated for multiple offenses were expected to be less likely to succeed than those incarcerated for one offense only.
In this study Brown found that younger offenders, males, probation and parole violators, property offenders, parolees with many prior incarcerations and those with numerous non-prison sentences, and offenders with histories of drug and alcohol abuse were relatively poor parole risks.

It is with this background in the literature that the present researcher proceeds with the analysis of the data.
CHAPTER III

METHODOLOGY

The variables used for the present analysis are the following:

1. Age
2. Years of education
3. Age of first arrest
4. Age at first conviction
5. Time served in the correctional institutions
6. Socialization score
7. Responsibility score

The SPSS Discriminant analyses package was used on the Oklahoma State University IBM 370 Computers to analyze the data. The input medium was punch cards. The actual method used was the stepwise method. This method chooses independent variables for entry into the Discriminant function on the basis of their discriminating power. The actual method used was the one that seeks to maximize the Mahalanobis distance between the two groups. In addition to obtaining the standardized discriminant function, the unstandardized discriminant function coefficients were also obtained. It must be remembered that the standardized coefficients reflect the relative importance of the variable, but are cumbersome.
in making actual calculations.

Some basic univariate statistics were also computed, and it should be interesting to see whether the variables that appear to be important in the univariate sense are also important in the multivariate context.
CHAPTER IV

FINDINGS AND CONCLUSIONS

The means and standard deviations of the variables under study for the two groups are tabulated in Table II.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Means</th>
<th>Standard Deviations</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group I&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Group II&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>Present Age (years)</td>
<td>30.0</td>
<td>30.6</td>
</tr>
<tr>
<td>Years of education</td>
<td>12.7</td>
<td>11.4</td>
</tr>
<tr>
<td>Age at first arrest</td>
<td>22.6</td>
<td>15.9</td>
</tr>
<tr>
<td>Age at first conviction</td>
<td>23.2</td>
<td>20.4</td>
</tr>
<tr>
<td>Time served (months)</td>
<td>43.7</td>
<td>60.7</td>
</tr>
<tr>
<td>Socialization score</td>
<td>35.0</td>
<td>25.4</td>
</tr>
<tr>
<td>Responsibility score</td>
<td>31.7</td>
<td>22.3</td>
</tr>
</tbody>
</table>

<sup>a</sup> Group I = successful parolees
<sup>b</sup> Group II = unsuccessful parolees
It is fairly obvious that in a univariate sense these are some differences between the two groups. These differences are highlighted in Table III in terms of the Wilkes' Lambda statistic, the univariate F-ratio, the significance level, and the ranking in order of importance.

TABLE III
RANKING OF FACTORS THAT DISTINGUISH SUCCESSFUL AND UNSUCCESSFUL PAROLEES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Wilkes' Lambda</th>
<th>F</th>
<th>Significance</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Present Age (years)</td>
<td>0.999</td>
<td>0.056</td>
<td>0.81</td>
<td>7</td>
</tr>
<tr>
<td>Years of education</td>
<td>0.918</td>
<td>6.68</td>
<td>0.01</td>
<td>4</td>
</tr>
<tr>
<td>Age at first arrest</td>
<td>0.765</td>
<td>22.98</td>
<td>0.00</td>
<td>3</td>
</tr>
<tr>
<td>Age at first conviction</td>
<td>0.956</td>
<td>3.49</td>
<td>0.07</td>
<td>5</td>
</tr>
<tr>
<td>Time served (months)</td>
<td>0.964</td>
<td>2.79</td>
<td>0.10</td>
<td>6</td>
</tr>
<tr>
<td>Socialization score</td>
<td>0.568</td>
<td>57.00</td>
<td>0.00</td>
<td>2</td>
</tr>
<tr>
<td>Responsibility score</td>
<td>0.558</td>
<td>59.46</td>
<td>0.00</td>
<td>1</td>
</tr>
</tbody>
</table>

It is important to note that at the 5% significance level, age, time served and age of first conviction are not significant. (The Wilks Lambda statistic is an inverse measure of the discriminating power in the original variables

25
which has not yet been removed by the discriminant functions—the larger lambda, the less the information remaining.)

The standardized canonical discriminant function coefficients are given in Table IV.

**TABLE IV**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of education</td>
<td>-0.26494</td>
<td>= 5</td>
</tr>
<tr>
<td>Age at first arrest</td>
<td>1.08340</td>
<td>= 1</td>
</tr>
<tr>
<td>Age at first conviction</td>
<td>-0.7279</td>
<td>= 2</td>
</tr>
<tr>
<td>Socialization score</td>
<td>0.33651</td>
<td>= 4</td>
</tr>
<tr>
<td>Responsibility score</td>
<td>0.65576</td>
<td>= 3</td>
</tr>
</tbody>
</table>

It is clear that the age at first arrest is the most important variable distinguishing between success and failure in the parole context. The second most important variable is the age of conviction; though the direction in which it takes effect is opposite to that in which the age of first arrest takes effect. The third most important variable is the responsibility score and the fourth and fifth are the socialization score and years of education. It is important to note that age and time served do not appear
in the discriminant function. It is interesting to note that the rankings in the multivariate context are not the same as the rankings in the univariate context.

The unstandardized canonical discriminant function Coefficients are:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Years of education</td>
<td>-0.133</td>
</tr>
<tr>
<td>Age at first arrest</td>
<td>0.185</td>
</tr>
<tr>
<td>Age at first conviction</td>
<td>-0.117</td>
</tr>
<tr>
<td>Sociability score</td>
<td>0.063</td>
</tr>
<tr>
<td>Responsibility score</td>
<td>0.128</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-4.383</td>
</tr>
</tbody>
</table>

These coefficients cannot be used to evaluate the relative importance of the variable. However, since they can be used to compute without having to go through the process of having to standardize the variables, they can be useful.

The percentage of cases correctly classified is 88.31% overall. It would therefore appear that discriminant analysis can be a successful tool in predicting whether a prisoner is likely to be successful when paroled, or not. The classification results are tabulated in Table V.

Conclusions

The study by itself has far too small a sample size for the findings to be considered universally applicable. However, it is interesting to note that a large number of variables can be analyzed simultaneously to yield a
TABLE V
ACCURACY OF PREDICTED GROUP MEMBERSHIP

<table>
<thead>
<tr>
<th>Actual Group</th>
<th>No. of Cases</th>
<th>Predicted Group Membership</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Group 1</td>
<td>Group 1</td>
</tr>
<tr>
<td>1</td>
<td>27</td>
<td>23 (85.2%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4 (14.8%)</td>
</tr>
<tr>
<td>2</td>
<td>50</td>
<td>5 (10.0%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45 (90.0%)</td>
</tr>
</tbody>
</table>

conclusion that could not have been achieved with the same degree of certainty had the variables been analyzed one at a time. If clear discriminant functions that distinguish those likely to succeed from those likely to fail do exist, it should be easier for the decision makers to release those that are most likely to succeed and use some alternative strategy with those who are likely to fail.

It should be noted that the coefficient for the age at first conviction has a minus sign and seems to have an opposite effect to that of age at first arrest. This may appear to contradict Glaser's (1969) findings at first. However, when we note that age at first arrest and age at first conviction are highly positively correlated (Sharp, 1980), and that the value of the coefficient for age at first arrest is considerably higher than the value of the coefficient for the age at first conviction, we must
conclude that Glaser's (1969) findings are not really contradicted. Thus, interventional variables (age at first arrest, age at first conviction) and personality variables (socialization and responsibility) stand as top ranking contributors to success or failure on parole.
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Reckless, Walter C.  

Savides, Ellis G.  
Sandhu, Harjit S.  

Sandhu, Harjit S.  

Sharp, Paul M.  
Instructions: Please circle the number corresponding to your answer.

Circle only the one answer that best describes your feelings toward that question. In open-ended questions, please write your own response.

I. Socio-Demographic Data:

1. Age: ____ years

2. Sex: 1. Male 2. Female


5. Number of times married: _____

6. Number of children: _____

7. Type of Residence: 1. Big City 2. Small Town 3. Rural

8. Education: How many years in school have you completed? _____ years


II. Crime Data:

10. What age were you when you were arrested? _____ years old

11. What age were you when you were convicted? _____ years old

12. Do you have a juvenile record? 1. yes 2. no
13. **What offense(s) were you convicted for?**
   1. Non-violent property offense
   2. Drugs or alcohol related offense
   3. Assaultive offense against a person
   4. A combination of property and personal offenses (1 & 3 above)
   5. A combination of drug and property offenses (1 & 2 above)
   6. A combination of drug and personal offenses (2 & 3 above)
   7. Con games, embezzlement
   8. Sex offense
   9. Any other (explain _______________________

14. **What was the length of your sentence(s) for your conviction(s)?** _____ years.

15. **How much time did you actually serve in the institution(s)?** _____ years.

16. **Before your conviction, did you drink?**
   1. Everyday
   2. Twice a week
   3. Once a week
   4. Occasionally
   5. Rarely
   6. Never drank

17. **When you were drinking, did you drink:**
   1. Mildly
   2. Heavily
   3. Chronically
   4. Both heavily and chronically
   5. Didn't drink

18. **Were you under the influence of alcohol at the time of the offense?** 1. yes 2. no

19. **Before you were convicted did you use any of the following drugs?**
   1. Opiates (heroin, morphine, etc.)
   2. Stimulates (speed, crystal, bennies)
   3. Cocaine (coke, snow)
   4. Hallucinogenics (L.S.D., acid)
   5. Barbiturates (reds, quiluds)
   6. Marijuana (pot, grass)
   7. Several of the above drugs
   8. Didn't use any drugs
20. If you used any of the above drugs, how often did you use them?  
1. Everyday  
2. Twice a week  
3. Once a week  
4. Occasionally  
5. Rarely  
6. Didn't use drugs

21. Were you under the influence of any of these drugs when you committed your offense?  
1. yes  
2. no

22. Does anyone in your family have a problem with alcohol or drugs?  
1. yes  
2. no

23. Was the offense committed by:  
1. you alone  
2. in the company of others

24. Did you plead guilty?  
1. yes  
2. no

25. Do you think your sentence was fair?  
1. yes  
2. no

III. Client's Perspective on Prison Programs:

26. In which of the following programs did you participate in while you were in prison?  
1. Educational  
2. Vo-Tech program  
3. Counseling  
4. Jaycees  
5. Prison keeping duties  
6. None, no programs  
7. Combination of 1,2,3,4,5  
8. Combination of 1 or 2 or 3 plus  
9. AA or Drug Program

27. What were your achievements in the programs you participated in?  
1. Trade learning  
2. Desirable change in attitude  
3. Education  
4. 1 and 2 or drug free state  
5. 1 or 3 plus motivation to change  
6. No achievement in programs  
7. Good marks for parole  
8. There were no programs  
9. Any other achievement (explain__________________________ )

28. How did the programs you were involved in benefit you?  
1. Improved my educational or vocational skills  
2. Gave me an awareness of my problem (an insight)  
3. Improved my over-all self-image, confidence  
4. Helped me to relate to others  
5. No real benefit  
6. Any other benefits (explain__________________________ )
29. What did you do to win parole?
1. Worked hard, kept a clean record and followed rules
2. Just did my time, nothing in particular
3. I took part in programs to try to improve myself
4. I never was paroled
5. I had political influence on the outside that helped me get out
6. No answer, don't know
7. Anything else that you did (explain)

30. Which of the following programs helped you most to get along well in prison?
1. Educational 5. Prison work
2. Vo-Tech program 6. No programs helped—my own efforts
3. Counseling 7. Recreational Programs
4. Jaycees 8. All programs helped me
9. My friends helped me get along well
10. Anything else that helped? (explain)

31. Which one of the following programs helped you to go straight on the streets?
1. Educational 4. Jaycees
2. Vo-Tech 5. No programs helped, no answer
3. Counseling 6. Other (explain)

32. How do you feel the above programs helped you to go straight on the streets?
1. Improved my perceptions on life
2. Increased my introspection and confidence
3. Vo-tech will help me get a job
4. Jaycees helped me relate better
5. No help, because program was no help
6. No explanation, but I feel the programs helped me
7. Any other reasons you feel these programs helped you (explain)

33. While you were incarcerated think of the two persons who profoundly influenced you. Do not name them, but tell me their job category (example) guard, craft instructor, counselor, teacher, fellow inmate, etc.
1. 
2. 
34. In what way and how have they influenced you?
1. Through AA or self help programs
2. Some professional help
3. Just gave me mutual help, understanding, trust, friendliness
4. Encouraged and supported by my immediate supervisor
5. My supervisor taught me a trade and dealt with my problems
6. Don't really know how they influenced me, but they gave me a good self-concept
7. Any other way they influenced you (explain ________________)

35. During your incarceration, in what ways do you think you have changed? In a positive way:
1. Better understanding
2. Dried up from drugs or alcohol
3. I realized my mistake, reflection
4. Learned a good trade
5. I decided to stay out, was deterred
6. There was no positive change in me
7. I simply matured
8. Any other positive change: (explain ________________)

In a negative way:
1. I became hostile
2. I became overly critical of law enforcement
3. It had over all bad influence on me
4. It caused criminality by associating with criminals
5. Over all negative feelings
6. There was no negative effect
7. I noticed an unwillingness to help on the part of the staff
8. Bad staff had a bad effect
9. I lost my motivation
10. Any other negative change (explain ________________)

36. Do you feel the prison could do anything to help the inmate go straight on the street?
1. yes 2. no

If yes, which statement below best describes your views?
1. Prisons can be used to induce fear of going back
2. Prisons can offer more self-help programs
3. Prisons can teach humility and patience
4. Prisons can teach trades and offer education
5. Prison gives you time to think
6. Extensive counseling
7. Any other help (explain ________________)
If no, which statement best describes your views?
1. Prisons cannot rehabilitate, only the person can do this
2. Not worth it, locking up does not help
3. Prisons are no good because no one cares
4. Prisons cannot scare people or deter them from further crime
5. Don't know, but I feel that prisons can do nothing to help inmates to go straight
6. Any other opinion (explain

37. What in your opinion can be done in the prison that will help make it possible for the inmate to be able to stay out on the streets after release?
1. Stop sending persons to prison for minor offenses
2. Prisoners should be given more money when they leave prison
3. Prisons could teach more trades, counseling, better programs, and budgeting training
4. Prisons can do nothing to help people stay out
5. Prisons should follow up with more programs for ex-offenders
6. No answer or no opinion
7. Training in vo-tech programs or trades that are acceptable to outside employers
8. What else could be done? (explain

IV. Client's Perspective on C.T.C. Programs:

38. What C.T.C. program has helped you the most?
1. Work release 5. Passes to see family
2. AA or drug program 6. No help from C.T.C.
3. T.A. or other counseling 7. No comment
4. Freedom — Passes 8. Study programs
9. Any other programs that helped? (explain

39. What was your main problem while you were at the C.T.C. in which you needed help?
1. Drugs or alcohol. 6. I had no problems
2. Financial problems 7. Not able to get work-release
3. Personality or self awareness 8. Family problems
4. Other inmates 9. Any other problems (explain
5. Unrealistic goals

40. What did the C.T.C. do to help you with your problems?
   1. Rendered counseling
   2. Got me work or job
   3. Referred me for community help
   4. In house AA or drug program
   5. N/A
   6. Nothing was done to help me
   7. Offered me self improvement
   8. Offered vocational training
   9. Any other (explain)

41. What was the main problem that other guys had at the C.T.C.?
   1. Drinking problems
   2. Drug problems
   3. Alcohol and drug problems
   4. Lack of recreation
   5. Family problems
   6. Don't know - no answer
   7. State of limbo - no plans
   8. Staff not understanding
   9. Conflict within inmate population
   10. Unemployment

42. Did you like to help other persons at the C.T.C. with their problems?
   1. no
   2. Yes, I helped them individually by talking out their problems
   3. Helped them thru self help groups
   4. I helped them by referring them to someone who could help
   5. I rendered legal help
   6. I don't know how I helped them
   7. Any other way I helped others (explain)

43. Who was the most help to you in the C.T.C.? (Circle two answers)
   1. Staff member
   2. Community contact
   3. A fellow inmate
   4. I helped myself most
   5. No one in particular
   6. No answer

44. What was the single most difficult problem you had after returning to the streets?
   1. Lack of money
   2. Former friends
   3. Police harassment
   4. Difficulty getting restarted
   5. Family problems
   6. I had no problems
   7. Several of the above
   8. Unemployment
   9. Any other problem (explain)
45. What did you gain from the following?

A. Individual Counseling:
1. Self awareness, self help
2. Positive self concept, confidence
3. Trust in the officers or guards
4. Growth through AA or drug abuse programs
5. I gained nothing
6. No answer/I did not participate
7. Any other gain not mentioned above (explain _______________)

B. Group Counseling:
1. Some gain because of help with personal problems
2. Self awareness - life training
3. Helped me to understand others, to communicate
4. Gained insight through AA or drug counseling
5. I gained nothing
6. No answer/I did not participate
7. Any other gain not mentioned above (explain _______________)

C. Job Counseling:
1. An understanding of the job market
2. An actual job
3. An awareness of my training needs
4. Experience with job and community interaction
5. I gained nothing
6. No answer/I did not participate
7. Any other gain not mentioned above (explain _______________)

D. Work Release Program:
1. Financial help, sense of achievement, responsibility
2. Got to know the employers, made community contacts
3. Both 1 and 2 above
4. Self support and pride
5. I gained nothing
6. No answer, I did not participate
7. Any other gain not mentioned above (explain _______________)

E. Study Release Program:
1. Great pride and sense of accomplishment
2. A new direction and purpose in life
3. I gained a chance to prove my abilities
4. I gained nothing
5. No answer, I did not participate
6. Any other gain not mentioned above (explain _______________)
F. Community Contacts:
1. New ties with family and friends
2. Gained employment
3. I gained nothing
4. I gained community support and contacts
5. Church friends
6. No answer, I had no community contacts
7. Any other gain not mentioned above (explain)

G. Any other program or activity from which you gained anything:
1. Helping others
2. AA or drug abuse program
3. Shopping trips
4. Church visits
5. Training in trade
6. No answer or N/A
7. No gain from other programs
8. Any other (explain)

46. If the C.T.C. were to offer you any one service, what would you expect the center to do for you?
1. Counseling and help with problems
2. Longer passes
3. Work release status
4. Solve transportation problems
5. Promote residence/community contacts
6. None - everything was fine
7. More improvement in physical surroundings
8. More privileges for trustees
9. Improve staff and resident relations
10. Any other improvements (explain)

47. What could the C.T.C. do to improve the existing services and programs?
1. Hire better trained staff
2. Add new self help programs
3. Add more counseling (including AA and drug abuse programs)
4. Improve visiting regulations with family and issue more passes
5. Institute self government to increase responsibility
6. The C.T.C. needs no improvements - no answer
7. Improve physical surroundings more
8. Anything else that would improve the services (explain)
V. Client's Perspectives on Post-Release Adjustment:

48. Who or what has been the most helpful to you in the community?
   1. My boss or friend
   2. Parents, wife, children, or other relatives
   3. Myself - self help and determination
   4. Pastor, counselor, or church
   5. Relating to people more sociably
   6. No one helped me, I did not ask for help
   7. AA or similar programs
   8. Parole officer
   9. Anything else which helped you (explain ____________________)

49. Could you give the one major fear or anxiety that was bothering you just prior to your release from the C.T.C.?
   1. Money or financial budgeting
   2. Family problems
   3. Fear of the police
   4. Housing, transportation, money
   5. Old friends and refraining from crime
   6. I had no fear or anxiety before release
   7. Fear of community rejection
   8. Any other fears or anxieties (explain ____________________)
52. Think of an emergency situation that came up before your incarceration, can you mark the one best answer below that describes the way you reacted?
1. I needed money so I stole it or lost job
2. I was hooked on drugs or alcohol - I needed these
3. Personal problems that I did not seek help for, I let them build up, I took no responsible steps
4. Some trouble with family or friends that I couldn’t handle
5. I was simply bored and committed the offense
6. I handled emergency very well
7. I was stabbed or shot
8. Any other situation (explain ____________________________)

53. How would you handle a similar situation now in light of your experiences gained while incarcerated?
1. Go talk to someone
2. Take care of situations as they arise
3. I won’t commit a crime because I’m mature
4. I will stay away from former friends
5. I will act responsible and control my actions
6. I cannot say how I would handle it
7. Other answer not mentioned above (explain ____________________________)

54. Has your employment been:
1. Regular 2. Sporadic 3. None

55. If you think you have been successful in resettling yourself after your incarceration, how much of it has been your own effort? Express in a percentage ___% 

56. How would you rate the help rendered by the following during and after your incarceration?

<table>
<thead>
<tr>
<th>A) Parents</th>
<th>Big help</th>
<th>Some help</th>
<th>No help</th>
</tr>
</thead>
<tbody>
<tr>
<td>B) Wife</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C) Girlfriend</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>D) Friends</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E) Neighbors</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>F) Church</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>G) Employer</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H) Correctional Staff</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I) Others (Specify ___)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>J) Volunteer</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
57. Think back before you were involved in your present sentence. How would you characterize your long range plans.
1. I had no plans, I was broke without a job
2. I had no definite plans, just enjoyed my friends
3. I wanted to stay clean and work
4. I wanted to be rich
5. I wanted to get married and raise a family
6. No answer, I don't know
7. I was planning to move to another state
8. Any other plans (explain ________________________)

58. In view of your incarceration experiences how would you characterize your present plans?
1. I want to help youth and others like myself
2. I would like to get an education
3. I would like to work
4. I have prepared myself mentally for the future
5. I would just like to raise my family
6. I have no long range plans
7. To be self employed
8. Any other plans (explain ________________________)

59. What do you perceive as the "number one" factor leading to your success during and after prison? Please explain yourself in full. ______________________________________________________

__________________________________________________________

__________________________________________________________
VITA

Minu Mathur

Candidate for the Degree of

Master of Science

Thesis: RANK ORDERING OF VARIOUS FACTORS IN PAROLE PREDICTION

Major Field: Corrections

Biographical:

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