DEVELOPMENT OF BASE EXPECTANCY PREDICTION TABLES FOR TREATMENT AND CONTROL GROUPS IN CORRECTIONAL RESEARCH

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FOREWARD

The present paper is a response to the numerous requests received by the Research Unit regarding the specific technique that we utilize in constructing Base Expectancy Tables. In order to present a full discussion of the methodological techniques used for developing such tables, an evaluative need of measuring the rehabilitative effects of two pre-release centers - Boston State Pre-Release and Shirley Pre-Release - was chosen as an example. Therefore, after a presentation of the theoretical and methodological aspects of Base Expectancy Table construction is made, the paper proceeds to the actual application of the table by developing expected recidivism rates for the evaluation of two pre-release centers. Although the application of the table is for discussion purposes in explaining the technique, the example has been taken from an actual previously published research study.

DEVELOPMENT OF BASE EXPECTANCY PREDICTION TABLES FOR TREATMENT AND CONTROL GROUPS

When possible, the most ideal method of evaluating the effects of a particular correctional treatment program is to impose an experimental design at the initial stage of program development. The random allocation of subjects into treatment and non-treatment (control) groups would occur administratively as part of program operation. This allows the researcher to have confidence that the selection process at the time of intake does not bias the treatment sample. An uncontrolled selection process always is subject to the criticism that less serious offender risks, in terms or recidivism outcome, have been chosen for treatment. Thus, if and when treatment effects are demonstrated because the evaluation has not incorporated random selection, the researcher is faced with the criticism that the treatment group consisted of good risks who would have done well with or without treatment.

Nevertheless, more frequently than not the random assignment of subjects to treatment and control groups is not possible in the correctional setting. One reason for this situation is that program administrators frequently insist upon having a say in who is and is not admitted to their programs. A second reason, also an administratively related one, is that random assignment of subjects can be cumbersome and difficult to operate. It often ties the administrator's hands when faced with practical day to day decisions. If unanticipated vacancies suddenly occur in programs and the administrator, conscious of the costs of resources unused, cannot find enough individuals immediately available in the treatment pool the temptation is often great to select eligibles from the control pool.

A third inhibition to the use of random allocation is the inmate himself. Often, inmates prefer to choose or reject involvement in treatment programs for a variety of personal reasons, such as: the program may be located too far away from their families thus preventing normal family visitation patterns; the inmate may know of an individual already in the program with whom he has a serious "beef" and would therefore be placed in danger; or the inmate may be reticent about leaving a known and secure social status at his present site and thus prefer to remain.

A final inhibition to random allocation is a moral or civil rights reason. Should inmates be denied treatment simply for the purposes of research? In many correctional systems, especially in our time of growing consciousness of inmate rights, administrators as well as inmates would answer that to do so would be to deny basic inmate rights--the right for treatment and the right of choice of treatment.

Researchers attempting to utilize the random allocation technique even when administratively supported, frequently ran into difficulty. For example, Keller and Alper (1970, 146) reviewed an evaluation of a treatment program which had attempted to use a random allocation design but found in practice that the random allocation design did not allow for the multiplicity of factors that would emerge to complicate the selection process. They found that:

> *Staff at the training school objected to random assignment of boys for whom they believed other placement was preferable; parole agents for the third group (control group) wanted access for their boys to the same training and employment opportunities that were available to the other groups. (Keller and Alper, 1970, 146)*

Because of the many difficulties of utilizing random selection at the point of intake into the treatment programs, alternative strategies are often used. Some researchers use matching techniques whereby the control group is constructed by matching background and criminal history characteristics with the treatment sample. A second technique has been to go back to a prison population prior to the existence of the treatment program and select inmates who would have been eligible for the program had it existed utilizing the population thus selected as a control group. A third technique, to be discussed in detail in this paper, is to utilize Base Expectancy Prediction Tables.

The research unit of the Massachusetts Department of Correction previously had been assigned the task of measuring the rehabilitative effectiveness of two recently established pre-release centers. At the initial planning stage of a research evaluation of the two pre-release programs in Massachusetts, administrative support, particularly on the part of the Commissioner of Corrections, existed for the utilization of a random allocation design. Therefore, the early methodological stages anticipated the utilization of random assignment of subjects into pre-release programs and to a non-treatment control group. Even before either of the pre-release programs began operations, however, a "temporary" contrary administrative decision was made. Because the Commissioner of Corrections in Massachusetts at that time wanted to close down a major portion of Concord Prison, a section of which he had ruled unfit for habitation, he temporarily suspended the use of random allocation into the pre-release program. This decision was made in order to quickly move the inmates out of the portion of Concord Prison that he wanted to close. Since the two pre-release programs collectively had space for approximately 100 individuals, and the number of inmates to be transferred from Concord was of the same number, the solution was obvious. Thus, those inmates eligible for pre-release programs were transferred to these facilities becoming the initial population of the programs under study.

Though administrative commitment to the random allocation process theoretically still remained,it was obvious that other emergency situations similar to that mentioned above would continually emerge. At the same time, it became obvious that a sizable number of inmates either did not want to participate in pre-release programs or that participation in pre-release programs was not their first choice among a rapidly expanding number of alternative community based correctional programs. Many individuals who were eligible for and had applied to acceptance into pre-release programs, had also applied to these other programs. Often they chose to enter the particular program that accepted them first and were unavailable for selection when an opening occurred in the pre-release program. The many new programs caused an additional problem for random allocation. Most programs had very similar eligibility requirement and therefore induced a keen competition for available clients. When vacancies existed in these various programs it would be hard to argue a hands-off policy which would be necessary in order to maintain individuals in prisons as a non-treatment control group.

Because of these developments, it was decided to abandon the idea of random allocation and instead to substitute an alternative strategy, one that would not be so fragile in the face of the practical day to day operations of the corrections system. As pointed out earlier in this paper, without the use of random allocation the research design runs the risk of being subjected to what is called "the good guy", criticism in correctional research. That is, without random allocation, if treatment effects were discovered by the researcher, critics could respond: "sure the program participants did well, you selected the good guys, people who would have made it with or without treatment." In other words, the cream of the crop was chosen and, not surprisingly, they did well.

In order to avoid the problems this criticism points out, an alternative strategy to random allocation that also allows for dealing with a possibly non-random selection process was chosen. Specifically, the strategy of utilizing <u>Base Expectancy Prediction Tables</u> was selected.

In correctional research, the Base Expectancy Table has been developed as a device through which an estimation is made of the varying degrees to which individuals in a given prison population, or sub-group such as a particular treatment group, are at risk of continuing their criminal careers subsequent to release. It is a classification technique in which individuals are placed in risk groups. The basis for the assignment of individuals into the appropriate risk group is determined on the experience of a separate population of prisoners not receiving that specified treatment and for whom criminal behavior subsequent to release is already known. Background information known prior to release is collected on this separate population and these items are correlated with the known outcome criteria--subsequent criminality or recidivism. Those items found to have the most predictive value are combined into a table whose resultant interaction effects are believed to constitute a more powerful predictive instrument than the individual items alone. At this point, the treatment sample (whose outcome criteria is not yet known) is divided into the same risk categories and an expected outcome rate is determined. The degree to which the expected rate of the treatment group approximates the actual rate of the control group determines the degree to which non-random selection has occurred.

Additionally, if persons to be given various treatments are classified according to the risks that would have been expected before treatment began, a base line is formed against which the outcomes of treatment can be assessed. The risk estimate for each of the individuals in the treatment sample is combined to form an Expected Outcome Rate for the entire sample. When treatment is completed and after the subsequent follow-up period in the community occurs, data on the Actual Outcome Rate is collected and determined. At this point, the Expected Outcome is compared to the Actual Outcome. After appropriate statistical tests for differences are computed, a judgement can be made as to whether or not the treatment program appears to reduce the Actual Outcome Rate below the Expected Outcome Rate, and thus measure the effectiveness of the program under study. In this way the tables are utilized as an additional measure, along side the comparison of treatment and control groups, of program effectiveness.

A wide variety of methodological techniques for constructing Base Expectancy Tables have emerged in the field of correctional research. Mannheim and Wilkins (1955) have devoted an entire chapter in their book, Prediction Methods in Relation to Borstal Training, as a survey of the various techniques used up to 1953. Their actual study, to which the survey serves as background, itself remains one of the classic uses of the technique. Simon (1971) has updated the Mannheim and Wilkins survey, as well as conducted an excellent comparative study in which she applied a variety of several leading techniques of Base Expectancy Table construction to the same sample thereby assessing the comparative predictive power of each of the techniques. Because such excellent surveys of the various techniques already exist, only the specific methodological technique(to be utilized in the present paper)will be reviewed here.

The Base Expectancy Table construction technique to be developed in the present paper will test the possible existence of non-random selection factors in the treatment groups in order to augment the measurement of treatment effect. In the literature it is referred to as Predictive Attribute Analysis. The predictive attribute analysis technique was developed and first used by Macnaughton-Smith (1965). It involves a divisive hierarchical method of clustering individuals in a sample, directed throughout toward the prediction of a specified criterion (usually recidivism). All of the background variables on the population utilized in the analysis, including the criterion variable, are placed in attribute form. That is, the variables are dichotomized so that sample members are grouped according to whether they possess or fail to possess the specified attribute. Analysis proceeds through the repeated division of groups into subgroups. The sub-divisions are made at each stage through the selection of the variable with the highest single relationship with the criterion and splitting the group according to that attribute. The association of the individual variable with the criterion is measured by chi square.[1] Once the sample is divided according to those who possess and those who do not possess the selected attribute, the analysis is repeated for each of the two subsamples. Four subsamples appear and again the analysis is repeated for each of the four subsamples. Analysis continues on each successive group independently until a stage is reached in which either a specified minimal sample size is reached (usually between 10 and 15% of the beginning sample size) or until sub-groups cannot be made with a max chi square that is statistically significant ($X^2 < 3.84$).

As can be seen from the discussion, the predictive attribute analysis technique allows for different interactions with the criterion within sub-groups that would not be possible in the singular correlation between variable and criterion. Theoretically, this feature enhances the predictive power of the instrument.

However, Macnaughton-Smith (1965, 17-18) himself points out that this process of selecting at every stage the best predictor for sample splitting introduces repeated risks for selections based on chance variations. This is especially likely to happen because the selection of variables for splitting is a statistical process based only on the variable showing the highest correlation with the criterion. It is not based on any prior hypothesis. For this reason Macnaughton-Smith stresses the fact that a validation of the table must be done as part of the methodology. Strictly speaking, a table not validated is not a Base Expectancy Table, it is an Experience Table. It is only after validation that it becomes a Base Expectancy Table.

The validation technique utilized by Macnaughton-Smith (1965) is the standard split-half validation. The population chosen for Base Expectancy Table development is divided into two equal sized halves by randomly assigning sample members into two subgroups. One group is taken and used for the construction of the table; this group is referred to as the construction sample. The other group is referred to as the validation sample. Analysis is first run on the construction sample; the various splitting processes are carried out until the table is completed. After final completion, the table is applied to the validation sample. That is, the validation sample is sub-divided along the same splits that resulted from the analysis of the construction sample. If these splits still produce statistically significant differences in the validation sample, the table is considered validated.[2]

On the other hand, if some of the splits no longer produce statistically significant differences in the relationships--a result referred to as shrinkage--they are dropped from the table. What remains are taken as final sets for the validated table which is now considered unbiased.

The Base Expectancy Table to be utilized for gauging the effects of treatment in the present paper was developed by the staff in the Research Unit of the Massachusetts Department of Correction, of which the author is presently a member. Thus the table used here is also the official table that the Massachusetts Department of Correction will be utilizing in measuring the effectiveness of a wide variety of other community based correctional programs recently established by the Department.

A predictive attribute analysis was run on a population consisting of all releases from Massachusetts Correctional Institutions in 1971 (the control group in the present study). The total population of 1015 males was divided into two equal sized samples by randomly allotting cases into a construction sample (N = 508) and a validation sample (N = 507). From the computerized data base of information system of the Department, 46 items of information were extracted (see Appendix I for a list of items extracted and the official definition of those items), all descriptive of the releasee, and his criminal history up to the date he was released from prison on the then present incarceration. A 47th item, the criterion variable-recidivism - was collected and added to the other items. A computer program referred to as "Max-chi Square" was utilized to carry out the successive splits of the predictive attribute analysis.[3] The completed analysis resulted in the development of the Experience Table, presented as Table I, below.

TABLE I

THE EXPERIENCE TABLE DEVELOPED ON CONSTRUCTION SAMPLE

<table>
<tr><td rowspan="7">Construction
Sample
1971 Male
Releasees

Number = 508

Recidivism
Rate = 25%</td><td rowspan="4">12 or more
Prior Court
Appearances

N = 215
RR = 35%
(X^2 = 21.29)</td><td rowspan="2">Age 27 or Younger
at time of release
N = 104
RR = 48%

(X^2 = 14.28)</td><td>Two or more Prior Charges
for Drunkenness
N = 56 RR = 59%
(X^2 = 5.72)</td></tr>
<tr><td>One or Fewer Prior Charges
for Drunkeness
N = 48 RR = 35%</td></tr>
<tr><td rowspan="2">Age 28 or Older
at Time of
Release
N = 111
RR = 23%</td><td>Total Number of Charges
34 or More
N = 21 RR = 48%
(X^2 = 8.45)</td></tr>
<tr><td>Total Number of Charges
33 or Less
N = 90 RR = 18%</td></tr>
<tr><td rowspan="3">11 or Fewer
Prior Court
Appearances

N = 293
RR = 17%</td><td rowspan="2">Age 25 or Younger
at Time of
Release

N = 189
RR = 24%</td><td>Total Number of Charges
7 or More
N = 104 RR = 32%
(X^2 = 8.00)</td></tr>
<tr><td>Total Number of Charges
6 or Less
N = 85 RR = 14%</td></tr>
<tr><td colspan="2">(X^2 = 15.19)
Age 26 or Older at Time of Release
N = 104
RR = 6%</td></tr>
</table>

The Experience Table presented above was next fitted on to the validation sample. That is, the validation sample was subdivided according to the same categories of splits developed in the construction sample X^2's were run on each successive split. Table II, below, illustrates how the validation sample was fitted to the Experience Table of the construction sample. The sample size and recidivism rate is given for each of the sub-samples created by the splits. The X^2's between splits are also given.

As can be seen from Table II, two of the final splits did not validate. Whereas in the construction sample <u>2 or more vs. 1 or less prior charges for drunkenness</u> produced a X^2 of 4.72 ($p < .02$, 1df), in the validation sample the same dichotomy produced a X^2 of only 0.83 ($p > .50$, 1df). Similarly, whereas in the construction sample <u>34 or more versus 33 or less Total Number of Prior Charges</u> produced a X^2 of 8.45 ($p < .01$, 1df), in the validation sample the same dichotomy produced a X^2 of 0.00 ($p > .95$, 1df). These two categories were therefore dropped from the table. Since all the remaining splits did validate, they were retained as the final validated Base Expectancy Table. This final Base Expectancy Table is presented below as Table III.

The completed and validated Base Expectancy Table yielded 5 basic risk categories. These will be used to determine the expected rates of recidivism for the treatment samples. A rank ordering of these 5 categories in terms of their risk level (i.e. recidivism rate) is summarized in Table IV below.

TABLE II

EXPERIENCE TABLE APPLIED TO VALIDATION SAMPLE

Validation Sample 1971 Male Releasees N = 507 RR = 23%	12 or More Prior Court Appearances N = 194 RR = 29% (X^2 = 5.50)	Age 27 or Younger at Time of Release N = 94 RR = 39% (X^2 = 8.01)	Two or More Prior Charges for Drunkenness N = 44 RR = 41% (X^2 = 0.83)
			One or Fewer Prior Charges for Drunkenness N = 50 RR = 38%
		Age 28 or Older at Time of Release N = 100 RR = 19%	Total Number of Charges 34 or more N = 21 RR = 19% (X^2 = 0.00)
			Total Number of Charges 33 or less N = 79 RR = 19%
	11 or Fewer Prior Court Appearances N = 313 RR = 20%	Age 25 or Younger at Time of Release N = 189 RR = 24% (X^2 = 4.81)	Total Number of Charges 7 or More N = 108 RR = 31% (X^2 = 6.32)
			Total Number of Charges 6 or Less N = 81 RR = 15%
		Age 26 or Older at Time of Release N = 124 RR = 14%	

TABLE III

VALIDATED BASE EXPECTANCY TABLE

<table>
<tr><td rowspan="5">Total Sample
RR = 25%</td><td rowspan="2">Twelve or More Prior Court Appearances
RR = 29%</td><td colspan="2">Age 27 or Younger at Time of Release
RR = 48%</td></tr>
<tr><td colspan="2">Age 28 or Older at Time of Release
RR = 23%</td></tr>
<tr><td rowspan="3">Eleven or Fewer Prior Court Appearances
RR = 20%</td><td rowspan="2">Age 25 or Younger at Time of Release
RR = 24%</td><td>Total Number of Charges 7 or More
RR = 32%</td></tr>
<tr><td>Total Number of Charges 6 or Less RR = 14%</td></tr>
<tr><td colspan="2">Age 26 or Older at Time of Release
RR = 6%</td></tr>
</table>

TABLE IV

BASE EXPECTANCY RISK CATEGORIES

Category Number	Description	Recidivism Rate
I	Age 27 or younger at time of release, 12 or more prior court appearances	48%
II	Age 25 or younger at time of release, 11 or fewer prior court appearances, and total number of charges 7 or more	32%
III	Age 28 or older at time of release, 12 or more prior court appearances	23%
IV	Age 25 or younger at time of release, 11 or fewer prior court appearances, and total number of charges 6 or less	14%
V	Age 26 or older at time of release 11 or fewer prior court appearances	6%

The two treatment samples, Boston State and Shirley Pre-Release participants, were now taken and divided into three subsamples each: I. Program Completions, II. Program Non-Completions released from prison in time for follow-up, and III. Program Non-Completions not released in time for follow-up. Category I provides the main samples used to test the effectiveness of the pre-release program. Since individuals in Categories II and III did not complete the program and were not released to the community directly from the community integration stage of the pre-release program, they cannot be considered to have actually experienced treatment. In addition, Category III cannot be used in any case because these individuals were still in prison after the cut-off date of January 1, 1974 for follow-up. However, expected rates for all three categories for each program as well as combinations will be constructed for background and information purposes.

The formula for constructing an expected recidivism rate for a particular sample is:

$$\frac{\text{(Expected rate of category)} \times \text{(Number of individuals in Category)}}{\text{Total number of Individuals in Sample}}$$

For example, if we take Shirley Pre-Release Sample I(i.e., program completions), the expected rate for this sample would be calculated as presented on Table V below:

TABLE V

COMPUTATION OF EXPECTED RATE

RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
I	.48	19	9.12
II	.32	24	7.68
III	.23	0	0
IV	.14	15	2.10
V	.06	4	0.24
		62	19.14

Expected Rate = 19.14 = 30.9%

In these computations, the <u>risk category</u> is the particular Base Expectancy Risk Category derived from the construction of the Base Expectancy Table for the control group (see Table IV above for specific listing and description of the five risk categories). The <u>expected rate</u>

is the appropriate expected recidivism rate for the individual risk category (see also Table V above for specific rate). Number refers to the number of individuals in the sample for which an expected rate is being determined.

The expected rates for each of the separate and combined subsamples of treatment groups are presented below as Tables VI, VII, and VIII. (The specific computations made for each of these derived Expected Rates are found in Appendix II.)

TABLE VI

EXPECTED RECIDIVISM RATES FOR SHIRLEY PRE-RELEASE SAMPLES

SAMPLE	NUMBER	EXPECTED RATE
Shirley I	62	30.9%
Shirley II	20	31.1%
Shirley III	35	35.8%
TOTAL SHIRLEY	117	32.0%

TABLE VII

EXPECTED RECIDIVISM RATES FOR BOSTON STATE PRE-RELEASE SAMPLES

SAMPLE	NUMBER	EXPECTED RATE
Boston State I	75	21.5%
Boston State II	15	30.3%
Boston State III	21	28.2%
TOTAL BOSTON STATE	111	24.0%

TABLE VIII

EXPECTED RECIDIVISM RATES FOR TOTAL PRE-RELEASE SAMPLES

SAMPLE	NUMBER	EXPECTED RATE
Total Pre-Release I	137	25.7%
Total Pre-Release II	35	31.0%
Total Pre-Release III	56	33.0%
TOTAL PRE-RELEASE	228	28.0%

From Table VI it can be seen that the Shirley Pre-Release sample, when taken as a whole, has an expected recidivism rate of 32% which is above the actual recidivism rate of the control group (24%).[4] This suggests that the

Total Shirley Pre-Release Sample was a higher recidivism risk group than was the control group.

On the other hand, from Table VII it can be seen that the Boston State Pre-Release Sample, when taken as a whole has an expected recidivism rate of 24% which is identical to the actual recidivism rate of the control group (24%). Here we can conclude that the two samples have the same recidivism risk potential.

When the Shirley and Boston Pre-Release Samples, both taken in their entirety, are combined (see Table VIII) they have an expected recidivism rate of 28% which is above the actual recidivism rate of the control group (24%). However, this difference is not significant.[5] We conclude that the recidivism risk potential of the combined treatment samples is similar to the recidivism risk potential of the control group. In terms of recidivism risk potential random selection has occurred for the combined program population.

What is perhaps most important to determine here are the differences between the pre-release program completion portions of the treatment samples (category I) and the control group. It is this portion of the samples that will be used to test program effect. From Table VI it can be seen that the expected recidivism rate for the Shirley completion sample (category I) is 30.9% which is above the actual recidivism rate of the control group (24%). This difference, however, is not statistically significant.[6]

For the Boston State completion sample (Category I in Table VII) it can be seen that the expected recidivism rate is 21.5% which is lower than the actual recidivism rate of the control group (24%). However, again this difference is not statistically significant.[7]

And finally, when we take the total Pre-Release Population (Boston State and Shirley samples combined) of program completers (Category I) as a whole, it can be seen in Table VIII that the expected recidivism rate is 25.7% which is very similar to the actual recidivism rate of the control group (24%).[8]

Therefore, we conclude that the program completion samples do not differ from the control group in terms of the recidivism risk characteristics of their populations; and, for all practical purposes, we can assume a process of random selection for the program completion samples. This lends confidence to the employment of the control group when measuring program effects for individuals who successfully completed pre-release programs.

FOOTNOTES

1. The relationship is measured by X^2 or a similar statistic; for each attribute all the X^2's from the 2 x 2 tables relating it to outcome are summed and the attribute having the greatest X^2 is chosen for dividing the group. (Macnaughton-Smith, 1965, 22-23).

2. At this stage, since we have predicted the direction of the relationship, the P for a one-tail test is used as the basis for ascertaining statistical significance (the .05 cut-off point; $P < 2.71$).

3. The Max-Chi Square computer program was first developed by Andy Griffiths and later revised by Tom Cannon; both are on the Research Staff at the Massachusetts Department of Correction. Tom Cannon actually ran the Base Expectancy Analysis.

4. In terms of statistical significance, this difference is not significant at the .05 level, though very close. It is statistically significant at the .10 level. ($X^2 = 3.43$, $p > .05$, $p < .10$, 1df).

5. In terms of statistical significance, this difference is not statistically significant. $X^2 = 1.47$, $p > .20$, 1 df.

6. In terms of statistical significance, this difference is not statistically significant. $X^2 = 1.47$, $p > 20$, 1 df.

7. In terms of statistical significance, this difference is not statistically significant. $X^2 = 0.27$, $p > .70$, 1 df.

8. These samples do not differ in terms of statistical significance. $X^2 = 0.16$, $p > .70$, 1df.

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APPENDIX I.

PART A

VARIABLES USED IN ANALYSES

A. Commitment Variables

1. Institution of Original Commitment*
2. Number of Jail Credits
3. Age at Commitment
4. Present Offense (most serious charge)*
5. Number of Charges Involved in Present Offense*
6. Type of Sentence*

B. Personnel Background Characteristics Variables

1. Race*
2. Marital Status*
3. Military Service*
4. Last Civilian Address*
5. Emergency Addressee*
6. Occupational Field*
7. Length of Employment at Most Skilled Position
8. Longest Time Employed at Any One Job
9. Last Grade Completed*
10. History of Drug Use*

C. Criminal History Variables

1. Age at First Arrest
2. Age at First Drunk Arrest
3. Age at First Drug Arrest

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*An asterisk indicates variables that will be formally defined in Part B of this Appendix.

4. Total Number of Court Appearances
5. Number of Court Appearances for Person Offenses
6. Number of Court Appearances for Property Offenses
7. Number of Court Appearances for Sex Offenses
8. Number of Court Appearances for Narcotic Offenses
9. Number of Court Appearances for Drunkenness Offenses
10. Number of Court Appearances for Escape Offenses
11. Number of Juvenile Commitments
12. Number of House of Correction Commitments
13. Number of Prior State or Federal Commitments
14. Number of Any Incarcerations
15. Number of Juvenile Paroles
16. Number of Adult Paroles
17. Number of Any Paroles
18. Number of Juvenile Parole Violations
19. Number of Adult Parole Violations
20. Number of Any Parole Violations

D. Releasing Variables

1. Age at Release
2. Length of Time Served on Present Incarceration
3. Type of Release*

E. Recidivism Variable

PART B

FORMAL DEFINITIONS OF VARIABLES

A-1 Institution of Original Commitment

a. Walpole

b. Concord

c. Framingham

d. Other institutions

A-4 Present Offense

a. Offenses Against the Person (Chapter 265)*

Murder, 1st degree (section 1)
Murder, 2nd degree (section 2)
Manslaughter (section 13)
Assaults with intent to commit murder,
includes assault with intent to murder, maim, etc.; assault to commit murder; assault with a deadly weapon with intent to murder; assault with intent to kill (section 15)

Attempted murder
includes all attempts to commit murder, other than assaults: attempted murder, attempts to commit murder by poisoning, drowning, or strangling (section 16)

Armed Robbery (section 17)
Unarmed Robbery
includes robbery, robbery-not being armed, robbery by force and violence. (section 19)

Assaults with intent to rob, etc., Being Armed
includes assault with a deadly weapon with intent to rob. (section 18)

Assaults with intent to rob, etc. Not Being Armed
includes assault to rob, assault with intent to rob, assault with intent to rob by force and violence (section 20)

Confining or putting in fear a person for the Purpose of stealing
includes breaking, burning or blowing up a safe. (section 21)

*chapters and sections refer to the General Laws of Massachusetts

Armed Assaults in dwelling houses
the act may be an actual assault or an attempt. (section 18A)

Assault and Assault and Battery
includes assault, assault and battery, assault on an officer (sections 13A and 13D)

Assault and Battery with Dangerous Weapon (section 15A)

Assault by means of a Dangerous Weapon
includes armed assault. (section 15B)

Mayhem (section 14)

Assaults not before mentioned
includes assault with intent to commit manslaughter (section 29)

Kidnapping
includes abduction, holding hostages. (section 26)

Extortion
includes attempts to extort money, threats. (section 25)

Conspiracy
where possible do not code case here, but under the specific crime that the subject conspired to commit. That is, conspiracy to commit larceny should be coded as (522) Larceny.

b. Sex Offenses - Against the Person (Chapter 265)

Rape (section 22)

Assault with Intent to Commit Rape
includes attempts to rape, indecent assault on an adult, indecent assault and battery on an adult, indecent assault on an adult with intent to rape (section 24)

Rape of Female under Sixteen (section 22A)
Rape of Child
includes carnal abuse of a child, carnal abuse of a child under "x" years, statutory rape (section 23)

Assault on Female under Sixteen with intent to commit Rape
includes attempts to carnally abuse, assault on child under the age of consent, indecent assault on

a minor (section 24B)

<u>Indecent Assault and Battery on Child under 14</u>
includes indecent assault and battery on a minor (section 13B)

<u>Unnatural and Lascivious Acts</u> (chapter 272)
includes unnatural acts, lascivious acts, assaults to commit unnatural sex acts (section 35)

<u>Unnatural Acts with Child under 16</u> (section 31)
<u>Sodomy and Buggery</u> (section 34)
<u>Incest</u> (section 17)

<u>Other Sex Offenses</u>
includes adultery, fornication, indecent exposure, lewd lascivious cohabitation, lewdness, open and gross lewdness. (sections 14, 16, 18, 53)

c. <u>Crimes Against Property</u> (chapter 266)

<u>Arson</u>
includes burning of houses, woods, fence, etc.; and any attempts. (sections: 1,2,5,5A,7,8,9,10,108, 109,111A)

<u>Burglary, Being Armed or Making an Assault</u>
includes armed burglary, breaking and entering with intent to assault with dangerous weapon (section 14)

<u>Burglary</u>
includes breaking and entering (both night and day), attempt to break and enter, breaking and entering and larceny, burglary, breaking and entering with intent larceny, breaking and entering with intent larceny and larceny. (section 15, 16, 16A, 17, 18,19)

<u>Possession of Burglary Implements</u> (section 49)
<u>Stealing</u>
includes stealing in building, ship, at a fire, etc. (sections 20,24)

<u>Larceny from the Person</u> (section 25)
<u>Larceny</u>
includes attempted larceny (section 30)

<u>Theft of a Motor Vehicle</u>
includes larceny of a motor vehicle, operation without authority of owner after suspension, operation without authority of owner, use without authority (section 28)

Forgery and Uttering
includes forgery, uttering, counterfeiting (section 37 and 37A and Chapter 267, sections 1-31)

Common and Notorious Thief (section 40)
Fraud
includes embezzlement (sections: 50-59)

Receiving Stolen Goods
includes both the receiving and the buying of stolen goods (section 60)

Common Receiver of Stolen Goods (section 62)

Malicious or Wanton Injuries to Property
includes the destruction, defacement, wilful injury, explosion of both public or private property; malicious mischief (sections:94-114, 124-130)

d. Other Offenses (chapter 268-273)

Escapes
includes attempts, assisting in, accessory to (chapter 268-Sections 15, 16, 16A, 17)

Weapons Offenses
includes carrying or possession (chapter 269-Section 10)

Nonsupport
includes desertion (chapter 273-section 1 thru 10)

Polygamy
includes bigamy (chapter 272-section 15)

Stubborn child
includes runaway, common night walker (chapter 272-section 53)

Deriving Support from Prostitute (chapter 272-section 9)

Disturbing the Peace
includes idle and disorderly (chapter 272-section 53)

Prostitution (chapter 272-section 53)
Illegitimacy (chapter 273-section 11-19)
Abortion (chapter 272-section 19)

Gaming
includes the manufacture, possession or sale of gaming implements; keeping common gaming house (chapter 271-sections 1-48)

<u>Motor Vehicle Offenses</u>
includes all motor vehicle offenses <u>other than</u> larceny of a motor vehicle, operation without authority of owner after suspension, operation without authority of owners, use without authority.

<u>Contempt of Court</u>
includes perjury (chapter 268, section 1)

<u>Bribery</u>
includes both accepting and offering (chapter 268A-Sections 1-24)

<u>Drunkenness</u> (chapter 272-section 48)

<u>Possession of Narcotic Drugs</u>
includes the possession of all narcotic drugs other than heroin <u>only where the sale of the drug is not inferred</u> or <u>explicitly stated</u>. For example: possession of narcotic drugs, narcotic drugs found in possession (chapter 94-section 205)

<u>Possession of Heroin</u>
only where the sale of the drug is not inferred or explicitly stated. (chapter 94-section 212)

<u>Stealing Narcotic Drug</u>
only where the sale of the drug is not inferred or explicitly stated (chapter 94-section 217C)

<u>Being Present Where Narcotic Drug Illegally Kept</u>
includes narcotic drug law violation, conspiracy to violate narcotics drug law, and all charges involving "Being Present" where narcotic drugs are illegally kept. (chapter 94-section 213A)

<u>Possession of Hypodermic Syringe</u>
includes possession of hypodermic needle, or any instrument adapted for the administration of narcotic drugs. (chapter 94-section 211)

<u>Inducing Another to Violate Narcotic Drug Law</u>
includes inducing a minor to violate narcotic drug law (chapter 94-section 217A)

<u>Sale of Heroin</u>
includes possession of heroin with intent to <u>sell</u>, unlawful possession of heroin with intent to <u>sell</u>, <u>sale</u> of heroin (chapter 94-212A)

Sale of Narcotic Drugs
includes the sale of all narcotic drugs other than heroin. For example: unlawful sale of narcotic drugs, sale of narcotic drugs (chapter 94-section 217)

Possession of Narcotic Drugs with Intent to Sell
includes the possession of all narcotic drugs other than heroin with the intent to sell (chapter 94-section 217B)

Operating a Motor Vehicle Under Influence of Narcotics

Controlled Substance
includes the manufacturing, distribution, dispensing or possession with intent to manufacture, distribute or dispense a controlled substance.

A-5 Number of Charges Involved in Present Offense

The total number of charges involved in the present commitment. For example, if an individual is committed for Burglary, Arson and Assault, three charges are recorded. Charges should not be confused with courts. An individual may be committed on 16 counts for the single charge of burglary.

A-6 Type of Sentence:

Simple - one sentence is being served.

Concurrent - more than one sentence is being served (all served coterminous)

Aggregate - more than one sentence is being served but the sentences are added together and not served coterminous.

Forthwith - a sentence which supercedes an existing sentence.

From & After - a sentence which began after an individual had been released from an existing sentence.

B-1 Race/Ethnic Origin

White	Asiatic
Black	Spanish
American Indian	

B-2 Marital Status

Married	Widowed
Single	Common Law
Divorced	Separated

B-3 Military Service

None
Honorable Discharge
Dishonorable Discharge
Bad Conduct Discharge, other than Honorable, General, Undesirable
Medical
In Armed Services, but the type of discharge is not listed on the Booking sheet.

B-4 Last Civilian Address

Boston
Northern Boston Suburbs
Remaining Metropolitan Boston
Lowell-Lawrence Area
New Bedford-Fall River Area
Springfield Area
Worcester Area
Other Massachusetts Areas
Outside Massachusetts

B-5 Emergency Addressee: Name listed by the inmate as the person to contact should an emergency occur. Categories included were:

Father	Other Relative
Mother	Non-Relative
Spouse	No emergency addressee listed

B-6 Occupational Field

Professional - (e.g., lawyers, doctors, engineers, clergy)

Business/Managerial - ownership of management of a business valued at $10,000 or more

Clerical/Sales - (e.g., sales managers, life insurance sales, bookkeeper, clerks)

Skilled Manual - (e.g., master tradesman, machinist, factory foreman)

Semi-Skilled Manual - (e.g., apprentice craftsman, automobile mechanic, assembly line)

Unskilled Manual - labor tasks requiring little training or skill

Service - (e.g., bartender, waiter, taxi driver, janitor)

B-9 Education (last Grade Completed)

The last grade of education which the subject completed. Both a high school graduate and a G.E.D. should be coded as 12. An individual who has completed one year of college should be coded 13. Two years of college is coded as 14. Etc.

B-10 History of Drug Use

Data collected from inmate files determining whether:

No mention of Drug Use.

Drug User (no specific drug mentioned)

Drug User (mention of heroin use)

Drug User (mention of the use of any drug other than heroin or marijuana - the exclusive use of marijuana)

Drug User (marijuana only drug mentioned)

D-3 Type of Release

Parole

Discharge

APPENDIX II

MATHEMATICAL COMPUTATION OF EXPECTED RECIDIVISM RATES
FOR SUB-CATEGORIES OF SHIRLEY PRE-RELEASE TREATMENT SAMPLE

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Shirley I	I	.48	19	9.12
	II	.32	24	7.68
	III	.23	0	0
	IV	.14	15	2.10
	V	.06	4	.24
			62	19.14

$\frac{19.14}{62}$ = Expected Rate = 30.9%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Shirley II	I	.48	9	4.32
	II	.32	2	.64
	III	.23	0	0
	IV	.14	9	1.26
	V	.06	0	0
			20	6.22

$\frac{6.22}{20}$ = Expected Rate = 31.1%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Shirley III	I	.48	15	7.20
	II	.32	15	4.80
	III	.23	0	0
	IV	.14	3	.42
	V	.06	2	.12
			35	12.54

$\frac{12.54}{35}$ = Expected Rate = 35.8%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Total Shirley Sample	I	.48	43	20.64
	II	.32	41	13.12
	III	.23	0	0
	IV	.14	27	3.78
	V	.06	6	.36
			117	37.90

$\frac{37.90}{117}$ = Expected Rate = 32%

MATHEMATICAL COMPUTATIONS OF EXPECTED RECIDIVISM RATES FOR SUB-CATEGORIES OF BOSTON STATE PRE-RELEASE TREATMENT

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Boston State I	I	.48	9	4.32
	II	.32	16	5.12
	III	.23	16	3.68
	IV	.14	12	1.68
	V	.06	22	1.32
			75	16.12

$\frac{16.12}{75}$ = Expected Rate = 21.5%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Boston State II	I	.48	5	2.40
	II	.32	4	1.28
	III	.23	3	.69
	IV	.14	0	0
	V	.06	3	.18
			15	4.55

$\frac{4.55}{15}$ = Expected Rate = 13.3%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
Boston State III	I	.48	6	2.88
	II	.32	5	1.60
	III	.23	5	1.15
	IV	.14	0	0
	V	.06	5	.30
			21	5.93

$\frac{5.93}{21}$ = Expected Rate = 28.2%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATION
TOTAL BOSTON STATE SAMPLE	I	.48	20	9.60
	II	.32	25	8.00
	III	.23	24	5.52
	IV	.14	12	1.68
	V	.06	30	1.80
			111	26.60

$\frac{26.60}{111}$ = Expected Rate = 24%

MATHEMATICAL COMPUTATION OF EXPECTED RECIDIVISM RATES FOR SUB-CATEGORIES OF THE COMBINED PRE-RELEASE TREATMENT SAMPLES

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATIONS
Total Pre-Release I	I	.48	28	13.44
	II	.32	40	12.80
	III	.23	16	3.68
	IV	.14	27	3.78
	V	.06	26	1.56
			137	35.26

$\frac{35.26}{137}$ = Expected Rate = 25.7%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATIONS
Total Pre-Release II	I	.48	14	6.72
	II	.32	6	1.92
	III	.23	3	.69
	IV	.14	9	1.26
	V	.06	3	.18
			35	10.77

$\frac{10.77}{35}$ = Expected Rate = 31%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATIONS
Total Pre-Release III	I	.48	21	10.08
	II	.32	20	6.40
	III	.23	5	1.15
	IV	.14	3	.42
	V	.06	7	.42
			56	18.47

$\frac{18.47}{56}$ = Expected Rate = 33%

SAMPLE	RISK CATEGORY	EXPECTED RATE	NUMBER	COMPUTATIONS
TOTAL PRE-RELEASE ALL SAMPLES COMBINED	I	.48	63	30.24
	II	.32	66	21.12
	III	.23	24	5.52
	IV	.14	39	5.46
	V	.06	36	2.16
			228	64.50

$\frac{64.50}{228}$ = Expected Rate = 33%

END