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THE PREDICTION OF
RECIDIVISM FOR MISDEMEANANT OFFENDERS
RELEASED FROM THE
LOS ANGELES COUNTY JAIL

by

J. Robert Newman

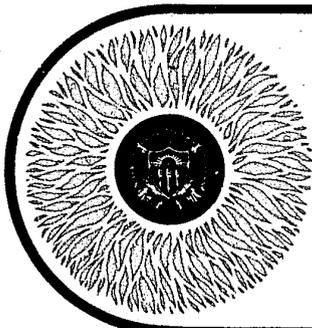
Prepared for

County of Los Angeles
Office of the Sheriff

August 1972

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Evaluation



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¹ This is the final report for the research project "Probability Information Processing for Misdemeanant Classification" sponsored by the Los Angeles Sheriff's Office under Grant #0124 from the California Council on Criminal Justice. Solomon Kobrin was the Principal Investigator and J. Robert Newman was the Project Director.

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1.0 Preface and Acknowledgments

This is the final report for the research project "Probability Information Processing for Misdemeanant Classification," sponsored by the Los Angeles Sheriff's Office under Grant #0124 from the California Council on Criminal Justice. Several members of the Sheriff's Office were extremely helpful during the course of this study.

Chief William Anthony and Chief Harold Cramer were instrumental in initiating the study and provided the means for getting access to the necessary data. Captain James White, Mrs. Jane Price, and Miss Dianne Cordova of the Sheriff's Records Office provided generous support during the arduous task of actually obtaining the data.

2.0 Introduction

On any one day there may be as many as 11,000 inmates, give or take a few hundred, in the Los Angeles County Jail system. A little more than half of these are actually serving time for one or more misdemeanor offenses. The amount of time served can be anywhere from a few days to over a year, but the great majority of the inmates are sentenced for less than one year.

There is no single jail facility for all sentenced inmates. The Sheriff's correction department has several operating facilities and various "jail assignments." For example, some inmates are assigned to the Mira Loma facility where most of the County laundry is done, hobby shops are maintained, and there is an extensive bicycle repair shop. Some are assigned to the Wayside Farm, which produces dairy products for certain County institutions. Others are sent to various camps in the nearby mountains to help in forest preservation work, fire prevention, etc. Many inmates are made jail trustees or are placed on work furlough programs. (All women inmates are assigned to the Sybil Brand Institute for Women.)

The purpose of this study was to obtain certain types of information on "typical" Los Angeles County Jail sentenced inmates and to relate this information to the probability that such inmates will repeat some offense after being released from jail (recidivism rate). There have been

very few such studies on misdemeanor offenders who for the most part serve their sentence in County jails although there have been many studies on those serving time for felonies in State or Federal prisons (Glaser, 1964). It is intended that the results of this study will form the basis for establishing outcome probabilities for misdemeanor offenders, at least for Los Angeles County.

3.0 Procedure for Obtaining Data

The data collection procedures used in this study are described in two sections: Section 3.1 gives a summary and a brief description of the actual sample used for data analysis. It is recommended that Section 3.1 be read first. The reader can then skip to Sections 4 through 6 for the results of the study without loss of continuity. For those who wish to know more about the procedure, Section 3.2 gives a detailed description, supported by Appendices A and B, which contain the actual data gathering forms and coding procedures. Section 3.2 also describes the various difficulties encountered and the decisions that had to be made in order to facilitate the data gathering process.

3.1 Summary of the Procedure

A final sample of approximately 2,100 offenders who had been sentenced to the County jail and released in 1968 and 1969 was selected by identical procedures for both years. Of this number, 1,639 were released in 1968 and 462 in 1969. Certain restrictions were placed on the sample, namely:

- 1) Only offenders who had been actually sentenced for at least 30 days were included.
- 2) Inmates with offense code 647fpc (common drunk) were excluded. These are no longer considered strictly criminal cases.

- 3) All inmates who had been serving time for drunk driving only were excluded. (USC has completed a three-year study, sponsored by the U.S. Department of Transportation, of drunk drivers in Los Angeles County, and a great deal of information is already available on this offender.) Inmates who had other offenses in addition to drunk driving were, however, included.

Cases were sampled proportionally to the various types of offenses and the length of time spent in jail. The sample is thus representative of all inmates who were in the County jail primarily for non-alcohol related crimes and who were sentenced for at least 30 days.

A statistical description of the sample for 1968, the year for which we have the most cases, in terms of sex, ethnic group, and age group, is provided in Tables 3.1, 3.2, and 3.3.

The information obtained for each inmate came from two main sources: the booking jacket and the Bureau of Criminal Investigation and Identification (CII) sheets. The major items of information obtained from these two sources and used for statistical analysis were as follows:

Table 3.1

BREAKDOWN OF THE 1968 SAMPLE BY SEX

	Male	Female	Total*
No	1,498	139	1,637
%	91.5	8.5	

Table 3.2

BREAKDOWN OF THE 1968 SAMPLE BY ETHNIC GROUP

	White	Black	Spanish Surname	Other	Total*
No.	854	558	213	11	1,636
%	52.2	34.1	13	.7	

Table 3.3

BREAKDOWN OF THE 1968 SAMPLE BY AGE

	18-20	21-23	24-26	27-29	30-39	40-49	50+	Total*
No.	397	305	199	164	263	202	105	1,635
%	24.3	18.7	12.2	10.0	16.1	12.3	6.4	

* The total n's differ slightly due to minor coding errors.

Booking Jacket Information (see Appendix A)

Personal Information

Age
 Sex
 Ethnic group
 Marital status
 Employment status

Arrest Offense Information

City or precinct of arrest
 Arrest offense code

Conviction Offense Information

Conviction offense code
 Number of days of longest sentence
 Date of sentence
 Date of release
 Number of places confined and places
 of confinement

CII Sheet Information (see Appendix B)

Number and type of prior offenses (prior to the arrest that led the offender to be placed in the County jail and be selected for use in this study)

Presence or absence of a juvenile record

Whether or not the offender was on parole at time of arrest

Whether or not the offender was on probation at time of arrest

Number of prior convictions and disposition

Number and type of subsequent convictions and disposition (i.e., number of repeat offenses (recidivism) after release from jail for offense being used in this study)

3.2 Detailed Description of the Procedure

In conducting this study it was necessary to establish a procedure that would enable the selection of a sample of jail inmates who had between them served various lengths of sentences for various types of offenses and had been given various assignments during their term in the County jail system. Unfortunately, at the beginning of this study, there was no convenient way of determining who had actually been in jail or for what reason. For the time period for which the sample was being selected (1968-69), approximately 45 percent of the jail inmates were not serving time for an actual sentence but were awaiting trial. These had to be excluded from the sample.

Further, the only way to obtain booking jacket files was by the booking jacket number by which they were filed. In order to obtain the booking jackets, the following procedure was followed:

- a) The monthly release rosters showing when an offender was released from the custody of the Sheriff were scanned for those booking numbers that had an EXP (for expiration of jail sentence) beside them. These numbers were underlined. The EXP means, in almost all cases, that the disposition of the case was a jail sentence and the offender spent at least one day in jail.
- b) For these cases, the booking number and offense code (where available) was punched on IBM cards.

- c) The cards were then taken to the Sheriff's Archives or the Records Bureau, the booking jacket was pulled and the length of jail sentence was recorded on the keypunched card.
- d) This information was then keypunched and processed via a computer to generate cross tabulation tables showing the number of offenders who spent at least one day in jail for the years 1968 and 1969. These frequencies were grouped by offense code and length of time spent in jail. Since there were so many offenses, 67 logical categories were assigned. These offense categories were further refined and grouped in the data analysis for the chosen sample described in the next section.

From the tabulation of inmates for 1968, a sample of approximately 2,000 cases was selected to be subjected to further analysis. In selecting this sample, the following criteria were utilized:

- 1) Only inmates who had been actually sentenced for at least 30 days were included.
- 2) Inmates with offense code 647fpc (common drunk) were excluded. These are no longer considered strictly criminal cases.
- 3) All inmates who had been serving time for drunk driving only were excluded. (USC has completed a

three-year study, sponsored by the U. S. Department of Transportation, of drunk drivers in Los Angeles County, and a great deal of information is already available on this type of offender.) Inmates who had other offenses in addition to drunk driving were, however, included.

Cases were sampled proportionally to the various types of offenses and length of time spent in jail. The sample is thus representative of all inmates who were in the County jail primarily for non-alcohol related crimes and who were in for at least 30 days.

The booking jackets were then pulled for the cases for 1968, and the information was transcribed onto a coding sheet (Appendix A). All coded information was keypunched on cards and made ready for computer and statistical analysis.

In the latter part of September 1972, the Records Office of the Los Angeles Sheriff's Office requested the CII sheets for the 2,000 cases from the Bureau of Criminal Identification and Investigation. Unfortunately, due to budget cutbacks and insufficient personnel, the Bureau of Criminal Identification and Investigation was not able to furnish these sheets unless reimbursed at the rate of \$.50 per sheet. This was a cost item not in the original budget. However, the Los Angeles Sheriff's Grants Management Office arranged for a supplemental appropriation which was approved by the California Council on Criminal Justice (CCCJ), and the CII sheets

were delivered on December 6. This caused about a two-month delay in the coding and keypunching of information from the CII sheets.

Another difficulty was encountered with the CII sheets. For 1,400 of the cases in the 1968 sample, we were unable to obtain a CII number from the booking jacket. We therefore had to request the Bureau of Criminal Identification and Investigation to identify the CII sheets on the basis of name, date of birth, and ethnic group. This is a difficult task, and, for approximately 350 cases, it was not possible to obtain the correct (matching) information from the CII sheets, and therefore these cases were excluded. It should be mentioned that we were very conservative at this point. Since we wanted to be sure we were dealing with the correct person, cases were included only where booking jacket information matched CII sheet information. For this reason, the final sample for 1968 consisted of 1,639 cases.

This entire procedure was repeated for 1969. A sample of 2,000 was selected from the 1969 tabulation according to the same criteria as for the 1968 tabulation. The booking jackets were pulled, and the information was recorded on coding sheets. On April 10, the CII sheets for these cases were requested. These sheets arrived the second week in May. Since the end of the grant period was drawing to a close, it was realized that it would not be possible to complete the data collection for all the 1969 cases, and it was accordingly

decided to finish as many as possible up until the end of the first week in June. The final 1969 sample consisted of 462 cases. These, plus the 1,639 for 1968, provided a grand total of 2,101.

4.0 RESULTS I: Descriptive Contingency Tables for the 1968 Sample

In this section, we present a number of cross tabulation (contingency) tables (Table 4.1 through 4.18) depicting the number of repeat offenses as a function of several descriptive variables characteristic of the sample.

We present the tables for the approximately 1,600 cases in the 1968 sample only, since this sample is the most representative of the Los Angeles County jail population of interest to this study. In Section 6 we present the results for the entire 2,101 cases from both years.

4.1 Interpretation of the Tables

Each table depicts on the rows whether the number of repeat offenses was 0, 1, 2, 3, or 4 or more (4+). A repeat offense was counted only if it was followed by a conviction; thus, this criterion actually is the number of repeat convicted offenses. The columns of the tables give the values of the particular descriptive variable.

In each cell of the tables are listed three numbers indicating, respectively, frequency, column total percent, and total percent for that cell. For example, in Table 4.1, Number of Repeat Offenses by Sex, the number 533 in the cell defined by the first row and first column is the frequency of people who had no repeat offenses (0) and were male. The column total percent is the percentage of people who had a particular number of repeat convictions, given or contingent upon the value defined by a particular column

of that table. It is calculated by forming the ratio: cell frequency/column frequency and multiplying this ratio by 100. For example, the number 35.6 in the first row and first column of Table 4.1 is the percentage of males, relative to the male population of the sample, who had no (0) repeat offenses, and this was calculated as $533/1498 \times 100 = 35.6$.

The total percentage in each cell of the tables is calculated by forming the ratio: cell frequency/grand total and multiplying this ratio by 100. For example, the number 32.6 in the cell defined by the first row and the first column of Table 4.1 is the percentage of males, relative to the entire population of the sample, who did not have any repeat offenses, and it was obtained by $533/1637 \times 100 = 32.6$.

What these tables show is essentially whether or not there is any relationship or dependency between the descriptive variable and the number of repeat offenses. If there is some relationship, then the question arises as to whether it is significant or not, and if it is significant, how strong is the relationship.

To help make these decisions, we present (for most of the tables) the chi square statistic and its associated statistic, the contingency coefficient. If the value of chi square is given, this means there is a relationship or dependency present in the table, and there is a very low probability that it could have occurred by chance alone (probability less than .01). If the chi square is not

printed, then, for all practical purposes, there is no relationship.

The contingency coefficient is a measure of how strong the relationship or dependency is for those tables that have a significant chi square. The closer this value is to one (1) the stronger the relationship. Note that in many of these tables the relationship, when it does exist, is not very strong. In other words, when these variables are taken one at a time they are not very good predictors of whether a person will have a repeat offense. In the next section (Section 5) of this report we show how some of these variables can be combined in various ways to improve their predictive power.

If a particular table does show a significant relationship, however, you can get an idea of what the relationship might mean by using the column percentages and comparing them. For example, referring to Table 4.1, which depicts the number of repeat offenses by sex, since the contingency coefficient is .10, there must be a significant dependency in the table. The column percentages in the various cells of this table can then be given an interpretation in terms of conditional probability.

A conditional probability is a measure of a degree of belief that a particular event will occur given, or conditional upon, certain characteristics or conditions. It is always a number between 0 and 1, and the closer the number is to one (1), the stronger the degree of belief. Thus the

probability that a particular person will have one or more repeat offenses, given or conditional upon that person being male, is estimated to be about .64 (1-.36), and the conditional probability that a person will have one or more repeat offenses, given that that person is female, is estimated to be about .55 (1-.45). Thus, there is a higher probability of repeating if the person is male than there is in the case of a female.

Similar interpretations are, for the most part, appropriate when interpreting these tables. If the chi square is significant, then at least some of the column percentages will differ across the rows of the table. These, in turn, can be used as estimates of conditional probabilities relating the number of repeat offenses to various values of the variable represented on the columns of the tables. We caution the reader against making too literal an interpretation of these tables, however, until we discuss prediction in more detail in Section 5 of this report.

For these tables, the marginal frequencies and the marginal percentages also have a direct descriptive and predictive interpretation. For example, referring to Table 4.1, the row total percentage 36.4 means that about 36 percent of the people in this sample did not have a repeat offense during the time period used in this study (1968-1972). Conversely, about 64 percent had at least one. Or, if one wishes to interpret this in probability terms, the probability is about .64, or the odds are about two to one, that

any one person who has spent 30 days or longer in the Los Angeles County Jail will get in trouble again and be convicted. This probability estimate is based on a large enough number of cases to be considered reliable. Also to be noted is that the column total percentages of any of the tables provide a convenient way of describing this sample. For example, in Table 4.1 the column total percentages 91.5 and 8.5 indicate that 91.5 percent of the sample was male and 8.5 percent female.

One final point: the total number of cases in each table will not always be the same. This is due to the dropping of cases for minor coding errors or in cases where there was no information. For example, Table 4.2, showing the number of repeat offenses by marital status, has a total of only 574 cases; this is because there was no information regarding marital status for the remaining cases.

4.2 Summary of the Contingency Table Information

The following is a capsule summary of Tables 4.1 through 4.18, which appear at the end of this section:

- Overall

Each of the tables shows that the overall repeat (recidivism) percentage is about 64 percent.

- Sex

The repeat percentage is higher for males (64%) than for females (55%) (Table 4.1).

- Marital Status

The repeat percentage is higher (67%) for unmarried than for married offenders (52%) (Table 4.2).

- Ethnic Group

The repeat percentage is higher for Black (69%) and for those with Spanish surnames (72%) than for White Caucasian (59%) (Table 4.3).

- Age

There is a complex relationship between the age group and the number of repeat convictions. Offenders under 30 years of age repeat at just a slightly higher rate (65%) than do those over 30 (61%). However, if we look at the "chronic" repeaters, i.e., those with four or more (4+) repeat convictions, then the under-30 age group has a repeat percentage half that (8%) of those in the over-30 age group (16%) (Table 4.4). We will look at the age variable again in Section 6 of this report.

- Employment Status

There is a relationship between the number of repeat offenses and type of employment, with so-called "blue collar" workers and laborers having a higher repeat percentage than "white collar" workers. As might be expected, the highest repeat percentage is for the unemployed (Table 4.5).

- Parole and Probation Status

If a person was on parole at the time of the arrest that led to the jail sentence used in this study, then there is a higher repeat percentage (82%) than if the person was not on parole (62%) (Table 4.6). This apparently does not hold if the offenders were on probation (Table 4.7).

- Type of Offense

Tables 4.8 and 4.9 depict the number of repeat offenses by the type of offense arrest code and type of conviction offense code. Although there is a significant relation in these tables, as indicated by the significant chi squares, it is difficult to make meaningful interpretations of these particular tables. For one thing, there are so many misdemeanor offenses that we were forced to combine them into the categories indicated on the column labels of the tables. These are the conventional categories, but it should be emphasized that they tell very little about what the actual offense was. Be that as it may, it can nevertheless be seen that certain misdemeanor offenses are differentially related to the number of repeat offenses. People arrested and convicted on offenses connected with hard drugs, for example, have a much higher repeat percentage (about 75%) than do offenders arrested

and convicted for marijuana and alcohol-related offenses (about 55%). One of the lowest repeat percentages is for those people arrested and convicted for crimes against persons (about 56%) and one of the highest is prostitution (about 70%).

- Use of an Alias

There is a strong relationship between the number of obvious aliases an offender uses and the number of repeat offenses. If a person does not use an alias, the repeat percentage is 52 percent; if the person has used 3 or more aliases, the repeat percentage increases to 81 percent (Table 4.10).

- Juvenile Record

If a person has a juvenile record, there is also a higher repeat percentage (72%) than if a juvenile record is not present (60%) (Table 4.11).

- Prior Adult Record

As might be expected, there is a strong relationship between the number of repeat offenses and the prior adult record. The number and percentage of repeat offenses increases as a function of number of prior convictions (Table 4.12); the number of prior alcohol arrests (Table 4.13); the number of prior drug (other than alcohol) arrests (Table 4.14); and the number of non-drug arrests (Table 4.15).

These particular relationships will be explored in more detail in Sections 5 and 6.

● Number of Days Served

There is little or no relationship between the number of days served in jail and the number of repeat offenses. The repeat percentage for those who spend 30 days in jail (63%) is about the same as for those who spent 6 months or more in jail (64%) (Table 4.16).

● Jail Assignment

An offender's particular assignment or his place of confinement in the jail system is related to the number of repeat offenses. For those on work furlough or assigned as station trustee, the repeat percentage is only about 38 percent. For those who were confined at Mira Loma or Wayside Honor Farm, the repeat percentages are 54 percent and 65 percent, respectively. Those inmates assigned to the Hall of Justice or Bouchet have the highest repeat percentage (68%) (Table 4.17).

● Time between Date of Release and First Subsequent Offense. Of those who do repeat, about 35 percent do so within 90 days of being released from jail, over 50 percent repeat within 180 days and about 75 percent repeat within one year (Table 4.18).

This is the familiar "revolving door" effect.

Table 4.1

NUMBER OF REPEAT OFFENSES BY SEX

		Sex		Row Total	
		Male	Female		
# of Repeat Offenses	Frequency Column % Total %	0	533 35.6 32.6	63 45.3 3.8	596 36.4
	1	335 22.4 20.5	34 24.5 2.1	369 22.5	
	2	239 16.0 14.6	10 7.2 0.6	249 15.2	
	3	235 15.7 14.4	11 7.9 0.7	246 15.0	
	4+	156 10.4 9.5	21 15.1 1.3	177 10.8	
	Column Total	1498 91.5	139 8.5	1637	

Chi Square = 17.7

Contin. Coeff. = .10

Table 4.2

NUMBER OF REPEAT OFFENSES BY MARITAL STATUS

		Married	Not Married	Row Total
# of Repeat Offenses	0	143 48.1 24.9	91 32.9 15.9	234 40.8
	1	58 19.5 10.1	57 20.6 9.9	115 20.0
	2	42 14.1 7.3	55 19.9 9.6	97 16.9
	3	32 10.8 5.6	52 18.8 9.1	84 14.6
	4+	22 7.4 3.8	22 7.9 3.8	44 7.7
	Column Total	297 51.7	277 48.3	574

Chi Square = 17.4

Contin. Coeff. = .17

Table 4.3.

NUMBER OF REPEAT OFFENSES BY ETHNIC GROUP

		White	Black	Spanish Surname	Other	Row Total
# of Repeat Offenses	0	353 41.3 21.6	177 31.7 10.8	59 27.7 3.6	6 54.5 .4	595 36.4
	1	180 21.1 11.0	131 23.5 8.0	56 26.3 3.4	2 18.2 .1	369 22.6
	2	126 14.8 7.7	94 16.8 5.7	28 13.1 1.7	1 9.1 0	249 15.2
	3	111 13.0 6.8	98 17.6 6.0	37 17.4 2.3	0 0.0 0	246 15.0
	4+	84 9.8 5.1	58 10.4 3.5	33 15.5 2.0	2 18.2 .1	177 10.8
	Column Total	854 52.2	558 34.1	213 13.0	11 0.7	1636

Chi Square = 31.8

Contin. Coeff. = .14

Table 4.4

NUMBER OF REPEAT OFFENSES BY AGE GROUP

	Age Group									Row Total	
	(18-20)	(21-23)	(24-26)	(27-29)	(30-32)	(33-39)	(40-49)	(50-59)	60+		
Frequency	128	104	73	68	32	66	93	24	8	596	
Column %	32.2	34.1	36.7	41.5	37.6	37.1	46.0	29.3	34.8	36.4	
Total %	7.8	6.4	4.5	4.2	2.0	4.0	5.7	1.5	0.5		
# Repeat Offenses	0	89	80	47	38	21	42	35	16	1	369
	1	22.4	26.2	23.6	23.2	24.7	23.6	17.3	19.5	4.3	22.6
	2	5.4	4.9	2.9	2.3	1.3	2.6	2.1	1.0	0.1	
	2	74	53	27	25	9	28	19	9	4	248
	3	18.6	17.4	13.6	15.2	10.6	15.7	9.4	11.0	17.4	15.2
	4	4.5	3.2	1.7	1.5	0.6	1.7	1.2	0.6	0.2	
3	75	47	34	18	12	18	24	13	6	247	
4	18.9	15.4	17.1	11.0	14.1	10.1	11.9	15.9	26.1	15.1	
5	4.6	2.9	2.1	1.1	0.7	1.1	1.5	0.8	0.4		
4+	31	21	18	15	11	24	31	20	4	175	
6	7.8	6.9	9.0	9.1	12.9	13.5	15.3	24.4	17.4	10.7	
7	1.9	1.3	1.1	0.9	0.7	1.5	1.9	1.2	0.2		
Column Total	397	305	199	164	85	178	202	82	23	1635	
8	24.3	18.7	12.2	10.0	5.2	10.9	12.4	5.0	1.4		

Chi Square = 65.9¹

Contin. Coeff. = .20

¹ In calculating this chi square the last column of the table was omitted since it contained cell frequencies smaller than 5.

Table 4.5

NUMBER OF REPEAT OFFENSES BY TYPE OF EMPLOYMENT

		Type of Employment					Row Total	
		White Collar	Blue Collar	Labor	Student Armed Forces	Unemployed		No Info.
# of Repeat Offenses	0	108 50.0 6.6	150 38.8 9.2	152 38.8 9.3	15 44.1 0.9	109 34.1 6.7	61 28.5 3.7	595 36.4
	1	46 21.3 2.8	88 22.7 5.4	103 22.2 6.3	4 11.8 0.2	86 26.9 5.3	41 19.2 2.5	368 22.5
	2	28 13.0 1.7	54 14.0 3.3	79 17.1 4.8	9 26.5 0.6	38 11.9 2.3	41 19.2 2.5	249 15.2
	3	23 10.6 1.4	61 15.8 3.7	66 14.3 4.0	5 14.7 0.3	49 15.3 3.0	42 19.6 2.6	246 15.1
	4+	11 5.1 0.7	34 8.8 2.1	63 13.6 3.9	1 2.9 0.1	38 11.9 2.3	29 13.6 1.8	176 10.8
	Column Total	216 13.2	387 23.7	463 28.3	34 2.1	320 19.6	214 13.1	1634

Chi Square = 54.4

Contin. Coeff. = .18

Table 4.6

NUMBER OF REPEAT OFFENSES BY PAROLE VERSUS
NOT PAROLE AT TIME OF ARREST

		On Parole		Row Total
		Yes	No	
# of Repeat Offenses	0	23 17.7 1.4	573 38.0 35.0	596 36.4
	1	38 29.2 2.3	331 22.0 20.2	369 22.6
	2	36 27.7 2.2	213 14.1 13.0	249 15.2
	3	25 19.2 1.5	221 14.7 13.5	246 15.0
	4+	8 6.2 0.5	168 11.2 10.3	176 10.8
	Column Total	130 7.9	1506 92.1	1636

Chi Square = 35.3

Contin. Coeff. = .15

Table 4.7

NUMBER OF REPEAT OFFENSES BY PROBATION VERSUS NOT
PROBATION AT TIME OF ARREST

		On Probation		Row Total	
		Yes	No		
# of Repeat Offenses	Frequency Column % Total %	0	92 31.8 5.6	502 37.3 30.7	594 36.3
	1	68 23.5 4.2	301 22.4 18.4	369 22.6	
	2	60 20.8 3.7	189 14.0 11.6	249 15.2	
	3	41 14.2 2.5	205 15.2 12.5	246 15.0	
	4+	28 9.7 1.7	149 11.1 9.1	177 10.8	
	Column Total	289 17.7	1346 82.3	1635	

Table 4.8

NUMBER OF REPEAT OFFENSES BY 1ST ARREST OFFENSE CODE

		Crimes Against				Prosti- tution	Drugs	Traffic	Mari- juana & Alcoh	Minor Laws	Misc	Row Total
		Person	Prop- erty	Public Morals	Law & Order							
Frequency Column % Total %	0	80 43.7 4.9	238 34.7 14.6	14 48.3 0.9	49 34.0 3.0	10 29.4 0.6	43 24.9 2.6	33 40.7 2.0	66 44.6 4.0	5 13.2 0.3	57 47.5 3.5	595 36.4
	1	37 20.2 2.3	164 23.9 10.0	5 17.2 0.3	34 23.6 2.1	5 14.7 0.3	48 27.7 2.9	14 17.3 0.9	34 23.0 2.1	7 18.4 0.4	21 17.5 1.3	369 22.6
# Repeat Offenses	2	27 14.8 1.7	108 15.8 6.6	6 20.7 0.4	20 13.9 1.2	5 14.7 0.3	34 19.7 2.1	9 11.1 0.6	15 10.1 0.9	5 13.2 0.3	20 16.7 1.2	249 15.2
	3	29 15.8 1.8	103 15.0 6.3	1 3.4 0.1	18 12.5 1.1	5 14.7 0.3	34 19.7 2.1	16 19.8 1.0	18 12.2 1.1	7 18.4 0.4	18 11.7 0.9	245 15.0
	4+	10 5.5 0.6	72 10.5 4.4	3 10.3 0.2	23 16.0 1.4	9 26.5 0.6	14 8.1 0.9	9 11.1 0.6	15 10.1 0.9	14 36.8 0.9	23 6.7 0.5	177 10.8
Column Total		183 11.2	685 41.9	29 1.8	144 8.8	34 2.1	173 10.6	81 5.0	148 9.1	38 2.3	120 7.3	1635

Chi Square = 90.2

Contin. Coeff. = .23

Table 4.9

NUMBER OF REPEAT OFFENSES BY 1ST CONVICTION OFFENSE CODE

		Crimes Against				Prosti- tution	Drugs	Traffic	Mari- juana & Alcoh	Minor Laws	Misc	Row Total
		Person	Prop- erty	Public Morals	Law & Order							
Frequency	0	76	244	13	44	11	50	36	57	6	58	595
Column %		43.7	35.4	48.1	32.4	29.7	26.3	42.9	41.6	15.4	47.2	36.4
Total %		4.6	14.9	0.8	2.7	0.7	3.1	2.2	3.5	0.4	3.5	
# Repeat Offenses	1	37	161	4	32	5	55	16	30	7	22	369
		21.3	23.4	14.8	23.5	13.5	28.9	19.0	21.9	17.9	17.9	22.6
		2.3	9.8	0.2	2.0	0.3	3.4	1.0	1.8	0.4	1.3	
	2	24	109	6	15	5	36	11	18	5	20	249
		13.8	15.8	22.2	11.0	13.5	18.9	13.1	13.1	12.8	16.3	15.2
	1.5	6.7	0.4	0.9	0.3	2.2	0.7	1.1	0.3	1.2		
3	26	102	1	25	6	34	12	18	6	16	246	
	14.9	14.8	2.7	18.4	16.2	17.9	14.3	13.1	15.4	13.0	15.0	
	1.6	6.2	0.1	1.5	0.4	2.1	0.7	1.1	0.4	1.0		
4+	11	73	3	20	10	15	9	14	15	7	177	
	6.3	10.6	11.1	14.7	27.0	7.9	10.7	10.2	38.5	5.7	10.8	
	0.7	4.5	0.2	1.2	0.6	0.9	0.6	0.9	0.9	0.4		
Column Total		174	689	27	136	37	190	84	137	39	123	1636
		10.6	42.1	1.7	8.3	2.3	11.6	5.1	8.4	2.4	7.5	

Chi Square = 85.5

Contin. Coeff. = .22

Table 4.10

NUMBER OF REPEAT OFFENSES BY NUMBER
OBVIOUS ALIASES

		# Obvious Aliases				Row
		(0)	(1)	(2)	(3+)	
# of Repeat Offenses	0	324 47.6 19.8	123 39.8 7.5	65 31.7 4.0	84 19.0 5.1	596 36.4
	1	159 23.4 9.7	62 20.1 3.8	46 22.4 2.8	102 23.0 6.2	369 22.5
	2	91 13.4 5.6	58 18.8 3.5	41 20.0 2.5	59 13.3 3.6	249 15.2
	3	79 11.6 4.8	44 14.2 2.7	34 16.6 2.1	89 20.1 5.4	246 15.0
	4+	27 4.0 1.6	22 7.1 1.3	19 9.3 1.2	109 24.6 6.7	177 10.8
	Column Total	680 41.5	309 18.9	205 12.5	443 27.1	1637

Chi Square 197.2

Contin. Coeff. = .33

Table 4.11

NUMBER OF REPEAT OFFENSES BY JUVENILE RECORD

		Juvenile Record		Row Total	
		Yes	No		
# Repeat Offenses	Frequency Column % Total %	0	135 28.4 8.3	460 39.7 28.1	595 36.4
	1	112 23.6 6.9	257 22.2 15.7	369 22.6	
	2	76 16.0 4.6	172 14.8 10.5	248 15.2	
	3	91 19.2 5.6	156 13.5 9.5	247 15.1	
	4+	61 12.8 3.7	114 9.8 7.0	175 10.7	
	Column Total	475 29.1	1159 70.9	1634	

Chi Square = 24.1
 Contin. Coeff. = .12

Table 4.12

NUMBER OF REPEAT OFFENSES BY NUMBER PRIOR CONVICTIONS

		# Prior Convictions						Row Total	
		(0)	(1-2)	(3-4)	(5-7)	(8-12)	(13-20)		(21+)
# of Repeat Offenses	0	121 57.9 7.4	192 45.2 11.7	122 38.4 7.5	87 30.5 5.3	45 21.0 2.7	23 22.1 1.4	6 7.3 0.4	596 36.4
	1	43 20.6 2.6	105 24.7 6.4	80 25.2 4.9	72 25.3 4.4	50 23.4 3.1	16 15.4 1.0	3 3.7 0.2	369 22.5
	2	25 12.0 1.5	66 15.5 4.0	43 13.5 2.6	48 16.8 2.9	46 21.5 2.8	12 11.5 0.7	9 11.0 0.5	249 15.2
	3	18 8.6 1.1	52 12.2 3.2	48 15.1 2.9	51 17.9 3.1	36 16.8 2.2	23 22.1 1.4	18 22.0 1.1	246 15.0
	4+	2 1.0 0.1	10 2.4 0.6	25 7.9 1.5	27 9.5 1.6	37 17.3 2.3	30 28.8 1.8	46 56.1 2.8	177 10.8
	Column Total	209 12.8	425 26.0	318 19.4	285 17.4	214 13.1	104 6.4	82 5.0	1637

Chi Square = 366.9

Contin. Coeff. = .43

Table 4.13

NUMBER OF REPEAT OFFENSES BY NUMBER PRIOR ALCOHOL ARRESTS

		# Prior Alcohol Arrests						Row Total	
		(0)	(1)	(2)	(3-5)	(6-8)	(9-13)		(14+)
Frequency	0	360	105	50	51	12	9	9	596
	Column %	44.0	39.5	38.2	28.7	15.2	16.1	8.3	36.4
Total %		22.0	6.4	3.1	3.1	0.7	0.5	0.5	
# Repeat Offenses	1	203	62	26	42	16	12	8	369
		24.8	23.3	19.8	23.6	20.3	21.4	7.4	22.5
		12.4	3.8	1.6	2.6	1.0	0.7	0.5	
	2	129	42	19	28	12	9	10	249
		15.8	15.8	14.5	15.7	15.2	16.1	9.3	15.2
		7.9	2.6	1.2	1.7	0.7	0.5	0.6	
	3	94	34	25	39	23	7	24	246
		11.5	12.8	19.1	21.9	29.1	12.5	22.2	15.0
		5.7	2.1	1.5	2.4	1.4	0.4	1.5	
	4+	33	23	11	18	16	19	57	177
		4.0	8.6	8.4	10.1	20.3	33.9	52.8	10.8
		2.0	1.4	0.7	1.1	1.0	1.2	3.5	
Column Total		819	266	131	178	79	56	108	1637
Total		50.0	16.2	8.0	10.9	4.8	3.4	6.6	

Chi Square = 348.6
 Contin. Coeff. = .42

Table 4.14

NUMBER OF REPEAT OFFENSES BY NUMBER PRIOR DRUG (NON-ALCOHOL) ARRESTS

		# Prior Drug Offenses						Row Total	
		(0)	(1)	(2)	(3-5)	(6-8)	(9-13)		(14+)
# Repeat Offenses	0	436 42.6 26.9	75 30.4 4.6	36 27.1 2.2	21 23.9 1.3	19 25.0 1.2	7 13.5 0.4	4 0.0 0.0	594 36.7
	1	227 22.2 14.0	49 19.8 3.0	33 24.8 2.0	22 25.0 1.4	18 23.7 1.1	16 30.8 1.0	4 0.0 0.0	365 22.5
	2	138 13.5 8.5	44 17.8 2.7	21 15.8 1.3	17 19.3 1.1	13 17.1 0.2	11 21.2 0.7	5 0.0 0.0	244 15.1
	3	117 11.4 7.2	56 22.7 3.5	26 19.5 1.6	18 20.5 1.1	16 21.1 1.0	10 19.2 0.6	3 0.0 0.0	243 15.0
	4+	105 10.3 6.5	23 9.3 1.4	17 12.8 1.1	10 11.4 0.2	10 13.2 0.6	8 15.4 0.5	4 0.0 0.0	173 10.7
Column Total		1023 63.2	247 15.3	133 8.2	88 5.4	76 4.7	52 3.2	20 1.2	1619

Chi Square = 65.9¹
 Contin. Coeff. = .20

¹ In calculating this chi square the last column was left out since it contained cell frequencies less than 5.

Table 4.15

NUMBER OF REPEAT OFFENSES BY NUMBER NON-DRUG ARRESTS

		# Non-Drug Arrests						Row Total	
		(0)	(1-2)	(3-4)	(5-7)	(8-12)	(13-20)		(21+)
Frequency	0	77	135	102	111	93	44	34	596
	Column %	59.2	48.4	40.5	38.7	34.1	22.4	15.5	36.4
Total %		4.7	8.2	6.2	6.8	5.7	2.7	2.1	
# Repeat Offenses	1	21	68	71	61	64	53	31	369
	Column %	16.2	24.4	28.2	21.3	23.4	27.0	14.1	22.5
Total %		1.3	4.2	4.3	3.7	3.9	3.2	1.9	
# Repeat Offenses	2	19	34	31	59	47	34	25	249
	Column %	14.6	12.2	12.3	20.6	17.2	17.3	11.4	15.2
Total %		1.2	2.1	1.9	3.6	2.9	2.1	1.5	
# Repeat Offenses	3	12	38	38	34	42	35	47	246
	Column %	9.2	13.6	15.1	11.8	15.4	17.9	21.4	15.0
Total %		0.7	2.3	2.3	2.1	2.6	2.1	2.9	
# Repeat Offenses	4+	1	4	10	22	27	30	83	177
	Column %	0.8	1.4	4.0	7.7	9.9	15.3	37.7	10.8
Total %		0.1	0.2	0.6	1.3	1.6	1.8	5.1	
Column Total		130	279	252	287	273	196	220	1637
Total %		7.9	17.0	15.4	17.5	16.7	12.0	13.4	

Chi Square = 307.7

Contin. Coeff. = .40

Table 4.16

NUMBER OF REPEAT OFFENSES BY NUMBER
DAYS ACTUALLY SERVED

		# Days Actually Served					Row Total
		(1-30)	(31-45)	(46-60)	(61-180)	(181+)	
# of Repeat Offenses	0	155 37.3 9.5	64 34.8 3.9	49 41.5 3.0	248 35.7 15.1	82 36.3 5.0	598 36.5
	1	85 20.4 5.2	36 19.6 2.2	23 19.5 1.4	162 23.3 9.9	62 27.4 3.8	368 22.5
	2	58 13.9 3.5	36 19.6 2.2	10 8.5 0.6	110 15.9 6.7	35 15.5 2.1	249 15.2
	3	60 14.4 3.7	24 13.0 1.5	19 16.1 1.2	111 16.0 6.8	32 14.2 2.0	246 15.0
	4+	58 13.9 3.5	24 13.0 1.5	17 14.4 1.0	63 9.1 3.8	15 6.6 0.9	177 10.8
	Column Total	416 25.4	184 11.2	118 7.2	694 42.4	226 13.8	1638

Table 4.17

NUMBER OF REPEAT OFFENSES BY 2ND PLACE CONFINED¹

		Mira Loma	Wayside	Camp	Biscailuz		Station Trustee	Bouchet	Hall of Justice	Other	Sybil ² Brand	Row Total
					Work Furlo	Other						
# Repeat Offenses	Frequency	57	189	26	23	23	13	17	95	16	63	459
	Column %	46.3	34.9	34.7	62.2	29.1	61.9	32.1	32.1	34.0	46.0	32.6
	Total %	4.0	13.4	1.8	1.6	1.6	0.9	1.2	6.7	1.1	4.5	
	0	22	115	17	5	12	3	18	88	13	33	293
	1	17.9	21.3	22.7	13.5	15.2	14.2	34.0	29.7	27.6	24.1	20.8
2	1.6	8.2	1.2	0.4	0.8	0.2	1.3	6.2	0.9	2.3		
2	17	88	11	4	16	2	8	43	4	10	193	
3	13.8	16.3	34.7	10.8	20.3	9.5	15.1	14.5	8.5	7.3	13.7	
4	1.2	6.2	0.8	0.3	1.1	0.1	0.6	3.0	0.3	0.7		
3	15	91	14	5	12	3	10	44	9	11	203	
4+	12.2	16.8	18.7	13.5	15.2	14.3	18.9	14.9	19.1	8.0	14.4	
5	1.1	6.4	1.0	0.4	0.8	0.2	0.7	3.1	0.6	0.8		
4+	12	58	7	0	16	0	0	26	5	20	124	
6	9.7	10.7	9.3	0	20.3	0	0.0	8.8	10.6	14.6	8.8	
7	0.8	4.1	0.5	0.0	1.1	0.0	0.0	1.8	0.4	1.4		
Column Total	123	541	75	37	79	21	53	296	47	137	1409	
	8.7	38.4	5.3	2.6	5.6	1.5	3.8	21.0	3.3	9.7		

¹ In almost all cases the second place confined represented the "jail assignment" during the major duration of the inmates term in jail.

² All women offenders are confined at Sybil Brand.

Table 4.18

NUMBER OF REPEAT OFFENSES BY TIME BETWEEN DATE
OF RELEASE AND FIRST SUBSEQUENT OFFENSE

		# of days				Row Total	
		(1-90)	(91-180)	(181- 270)	(271- 360)		(360+)
Frequency	1	77	53	33	69	137	369
Column %		21.4	28.5	30.5	43.1	57.6	35.4
Total %		7.4	5.1	3.2	6.6	13.2	
	2	87	35	33	43	51	249
		24.2	18.8	30.5	26.9	22.4	23.9
		8.3	3.4	3.2	4.1	4.9	
	3	97	56	29	34	30	246
		27.0	30.1	26.9	21.2	13.2	23.6
		9.3	5.4	2.9	3.3	2.9	
	4+	98	42	13	14	10	177
		27.2	22.6	12.0	8.8	4.4	17.2
		9.4	4.0	1.2	1.3	1.0	
Column Total		359	186	108	160	228	1041
		34.5	17.9	10.4	15.4	21.9	

Chi Square = 141.3

Contin. Coeff. = .34

5.0 RESULTS II: Grouping the Variables and the Development of a Probabilistic Prediction Model

The contingency tables presented in the last section are of some interest but they leave much to be desired if one is interested in developing a prediction model which will enable predictions to be made about the recidivism rate for typical jail inmates. What is needed is some way of combining the variables, which represents the information known about the sample, and of grouping or classifying this information in such a way as to obtain a more meaningful estimate of the probability of recidivism by relating it to composite characteristics of the members of the sample. There are many ways of doing this. The technique that was considered most appropriate for the data collected in this study is called Automatic Interaction Detector (AID).

5.1 The AID Program

The statistical technique used for the analysis, AID (Automatic Interaction Detector), was developed by John Sonquist and James Morgan of the University of Michigan and is described in detail in Sonquist and Morgan (1964). It uses a variation of analysis of variance and stepwise multiple regression techniques to accomplish the following: The total variance of the variable Number of Repeat Convicted Offenses is defined as the criterion to be predicted by successive subdivisions of the total sample into sub-groups in such a

way as to maximize the total variance accounted for in the criterion variable.

All of the descriptive variables described in the previous section are potentially useful predictor variables and would be included in the prediction model if they survived the analysis, i.e., if they increased the predictability of the criterion. In the program, each possible predictor variable is compared with all the others with respect to predictive power, that variable which will account for the most variance is then selected, and the first binary (two-way split) is made on those values of that variable that will maximize the amount of variance accounted for in the criterion. After the entire sample is split into two groups, both of these groups then become candidates for a possible split on that variable which again will increase the amount of variance accounted for in the criterion. And so it goes until it is not possible to split the groups any further to obtain increases in the predicted variance. The big advantage of the AID program is that this is all done automatically, and when the program stops, the entire sample has been divided into a set of mutually-exclusive groups which are uniquely described by the values of the variables that were used to form the groups. One is then in position to make the best possible prediction on the criterion for that group.

The AID program was applied to the 1968 sample using two versions of the criterion variable, number of repeat

convictions (recidivism). In one version, the variable was defined as in the contingency tables presented in Section 4., i.e., as taking on values 0, 1, 2, 3, or 4+ repeat convictions. In the second version, the criterion variable was defined as a simple dichotomy, i.e., as taking on values 0 (no repeats) or 1+ (one or more) repeat convictions. The results were virtually the same for both versions, i.e., the same predictor variables emerged as being the most important, and for this reason, we will present the results only for the dichotomous version of the criterion variable, which has a simpler interpretation in terms of prediction probabilities.

The predictor variables used were:

- Sex
- Age
- Ethnic Group
- Employment status (yes, no)
- Juvenile record (yes, no)
- Parole at time of arrest (yes, no)
- Probation at time of arrest (yes, no)
- Alias used (yes, no)
- Number of prior convictions
- Number of prior alcohol arrests
- Number of prior drug arrests

There are many technical details to the AID procedure that have been glossed over, but this discussion hopefully is sufficient for the results of the analysis to be understood. Actually, it is not necessary to grasp the technical details of the AID program in order to understand how it increases predictive ability. The output of the AID program is a graphic "tree" which is easily interpreted.

5.2 Results of the AID Analysis on the 1968 Sample

The results can be seen in Figure 5.1, which shows a "tree" diagram of the output of the AID program. Note that the entire number of 1,639 cases of the 1968 sample constitutes Group 1, and this group has, as mentioned before, a repeat percentage of 64 percent. This group is first split into two groups (Group 2 and Group 3) on the predictor variable, Number of Prior Convictions. This is the variable that is the single best predictor of the criterion. Note that Group 2 contains 954 cases that had two or fewer prior convictions, and the repeat percentage has dropped to 54 percent. Group 3, on the other hand, contains 685 cases that had three or more prior convictions, and the repeat percentage increases to 76 percent. The remainder of the tree diagram is interpreted accordingly; at each branch of the tree is listed the variable that the group split on, and within each box are given the number of cases in that group and the frequency and percentage of repeat offenses.

It is informative to look at the end branches of the tree, for these boxes represent groups which could not be split again for these particular predictor variables. For example, group 8 contains 368 cases of the entire sample that are characterized as having two or fewer prior convictions, no record of prior drug arrests, and no record of ever having used an alias. For these cases, the repeat percentage has dropped to about 39 percent.

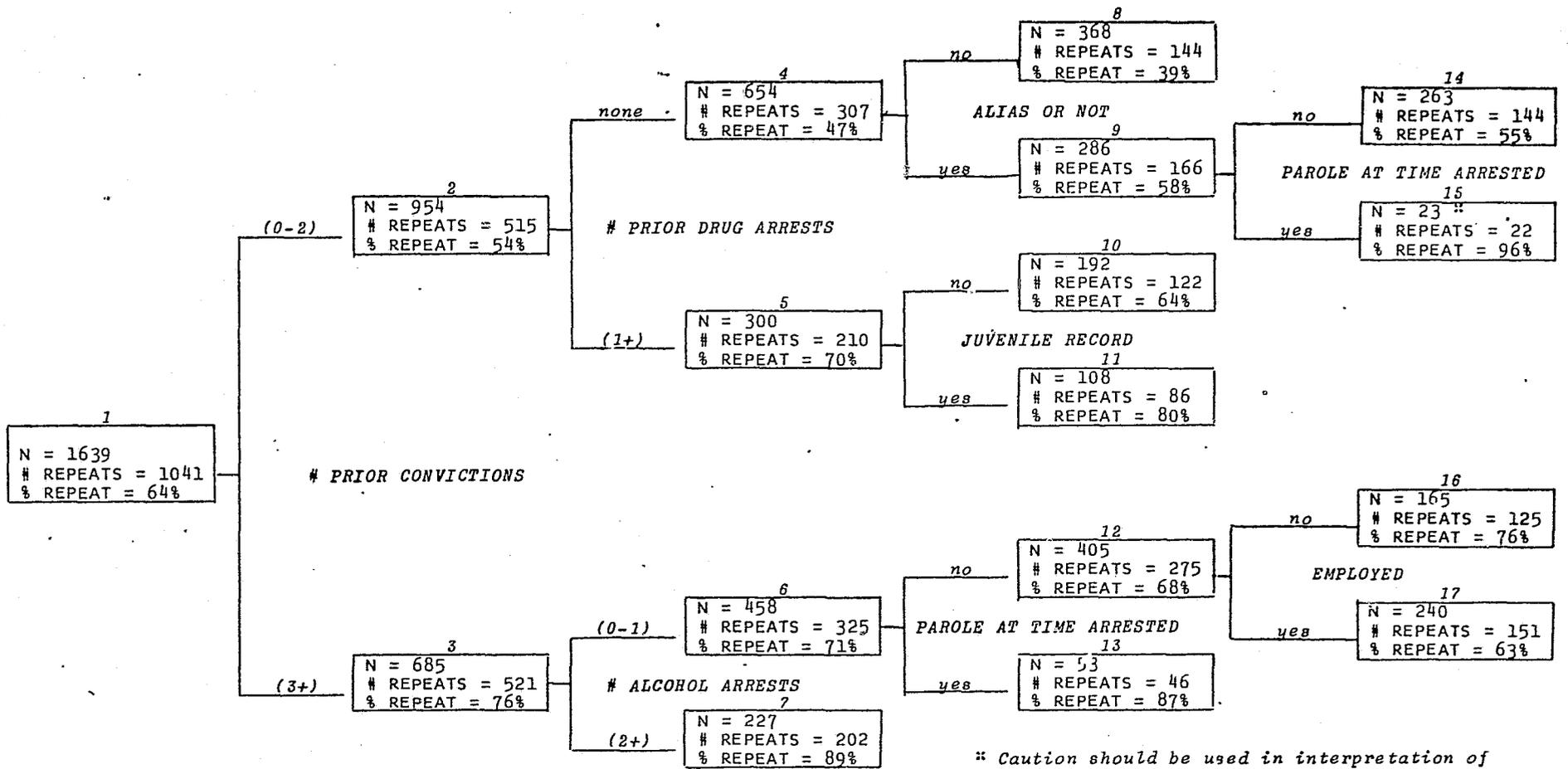


Figure 5.1 Output of the AID Program: Number and Percent of Repeat Offenders in Various Prior Record Categories

In contrast, look at Group 11, which consists of 108 cases of the entire sample that are characterized as having two or fewer prior convictions, as having a history of at least one drug arrest, and also as having a juvenile record. For these cases, the repeat percentage has risen to about 80 percent. Almost all of the end point boxes have fairly sizable numbers, and the repeat percentages can be considered fairly reliable, with the possible exception of group 15, which contains only 23 cases of the original sample.

It is quite proper, and helpful in understanding Figure 5.1, if the percentages in each of the groups represented in the various end points of the figure are used as estimates of probabilities. For example, the repeat percentage of 64 percent for Group 1 (prior to any split) can be interpreted as an estimate of the prior probability that any inmate who has served 30 days or more in the Los Angeles County Jail will be arrested and convicted again for some offense. This is the best probabilistic prediction that can be made prior to looking at any of the variables that, either alone or in combination, help in making the prediction.

In prediction studies of this type, this is sometimes referred to as the "base rate." If any variable is to be considered useful in the prediction process, then some of the values of that predictor variable will increase or decrease this prior probability or base rate. With such an interpretation, Figure 5.1 reveals certain groups whose

classification on the values of the variables indicates that they are "high risk" groups or "low risk" groups with respect to the probability of repeating. For example, Group 7 consists of 227 cases that have had three or more prior convictions and two or more alcohol arrests, and the repeat percentage for this group is 89 percent. Any individual who has these characteristics has a very high probability of repeating, i.e., the odds are 9 to 1 that such an individual will be convicted again after being released from jail.

In addition, for Group 13, characterized as having three or more prior convictions and as being on parole at time of arrest that led to a jail sentence, the repeat percentage is 87 percent. This therefore constitutes a high risk group with respect to the probability of repeating. The lowest risk group in Figure 5.1 is Group 8, which has a repeat percentage of 39 percent, or the probability of repeating is less than one-half of that for Groups 7, 11, and 13.

In summary, Figure 5.1 indicates that the number of prior convictions, the presence of a record of arrest for alcohol or drug abuse, of a juvenile offense, or of parole violation, all constitute important pieces of information that, when combined for individuals, increase dramatically the probability that such individuals will repeat some offense and be reconvicted after release from the Los Angeles County Jail.

It should also be noted that the other variables are "crowded out" of the prediction model. Variables such as sex, ethnic group, etc., are not strong enough to survive in the prediction model when in the presence of the prior offense record variables. We will look at this more carefully in the following Section.

6.0 RESULTS III: Further Analysis on the Entire Sample

In this section we present further exploratory data analyses on the entire sample of approximately 2,100 cases. About 462 of these cases represent inmates whose release date was in 1969. As mentioned in Section 3.2, we had hoped to have 2,000 cases from 1969, making an entire sample of 4,000, but limitations of time and money prevented this. The sample by itself of 462 cases for 1969 probably is not representative of inmates who spent 30 days or more in the County jail during that year. For one thing, of the 462 cases, 251 had one or more repeat offenses, or a repeat percentage of 54 percent, about 10 percent lower than the 1968 sample. It is intriguing to speculate that this may be representative for all jail inmates for 1969 who meet the requirements of our sampling procedure, i.e., it is conceivable that the recidivism rate did indeed decrease from 1968 to 1969. However, with such a small sample, we suspect that it is more likely due to sampling errors and/or the fact that the 1969 releasees had less time in which to recidivate.

We will, therefore, not dwell on this speculation, but rather combine both the 1968 and 1969 sample for the purposes of further data analyses. These results are intended to be suggestive of what future studies might look for in more detail.

6.1 Repeat Percentage for Those Offenders with "Clean" Past Records

In the previous section, we saw that the individuals with the highest repeat percentage are those who have prior juvenile and/or adult records. This is a familiar finding and is not at all surprising. But what is the repeat percentage for those individuals who have no criminal record?

In the entire sample of 2,101 cases, there were 120 individuals who had no prior record of any kind, i.e., no record, juvenile or adult, of arrests for alcohol, drugs, or any offense whatever. For these "clean" record individuals, however, the repeat percentage was still 28 percent or, using a probability interpretation again, the chances are still about one in four that an individual with no prior record, but who spend 30 days or more in the County jail for a misdemeanor offense, will get in trouble again sometime after being released.

It would be interesting in future studies to explore this type of inmate in more detail and perhaps see what particular characteristics he has. With such a small number (120), we were not able to do such investigations in this study.

6.2 Repeat Percentage as a Function of Age and Ethnic Group

We made several analyses to attempt to see what variables would be predictive of recidivism in the absence of the prior record variables that are so strong.

In Section 4, we noted that age had a complex relation to the number of repeat offenses (Table 4.4). Moreover, a relation between ethnic grouping and repeat offense was indicated, Blacks and offenders with Spanish surnames having higher repeat percentages than Whites (Table 4.3). When we applied an AID-like statistical analysis¹ to these variables in combination, but in the absence of the prior record variables, a strong interaction emerged. This is depicted in Figure 6.1, which shows the entire sample of 1,906 males broken down by four age groups and then again by White, Black, and Spanish surname categories. (The 178 females or 8.5 percent of the total were also included in this analysis, but are eliminated from Figure 6.1 because their inclusion resulted in ridiculously small numbers in the boxes of the tree diagram. The 17 "other" ethnic group members were also eliminated.)

Figure 6.1 shows that the repeat percentage for the entire male sample is 63 percent, about what we would expect. When this sample is broken down into four age groups, there is a slightly higher repeat percentage (66%) for the younger (under 23 years) age group than for the older age group (over 40) (61%), but the difference is not dramatic. This also confirms our previous finding. When each age group is further broken down into Black, White, and Spanish surname

¹ For these analyses we used the statistical procedure called BREAKDOWN, developed by Nie, Bent, and Hull (1970).

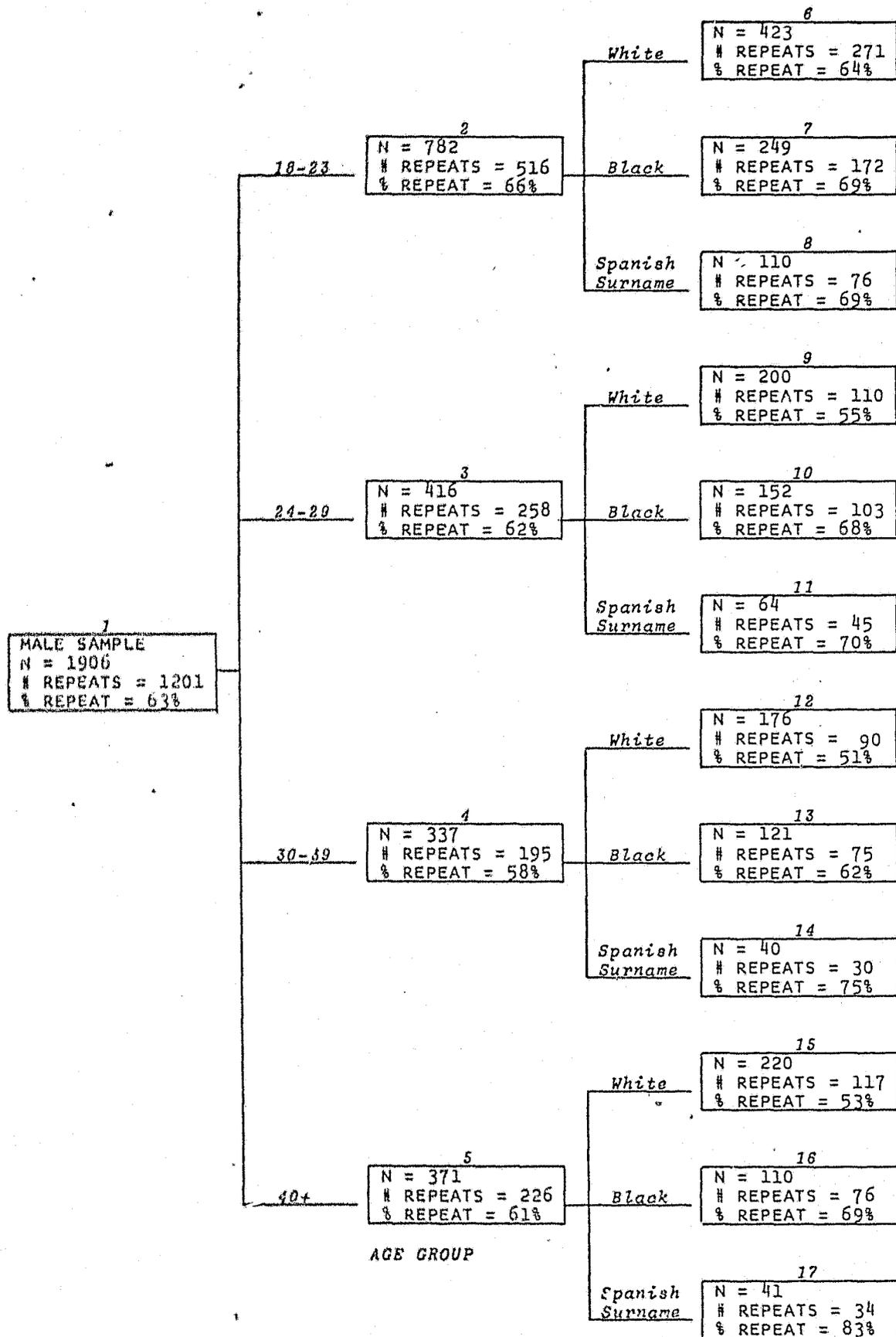


Figure 6.1 Number and percent of male repeat offenders classified by age and ethnic group.

ETHNIC GROUP

groups, however, we note that in the younger age group the repeat percentages are about the same for the three ethnic groups, with those for Black and Spanish surname groups being only about 5 percent higher than those for Whites. However, as the groups increase in age, the repeat percentage for Whites decreases consistently and is down to 53 percent for the 40+ age group; the repeat percentage for Blacks stays about the same, being 69 percent for the 40+ group; while the repeat percentage for the Spanish surname group increases consistently and is up to 83 percent for the 40+ group.

Using a probability interpretation again, we can see that, ignoring all information, the prior probability that any one individual who is released from the County jail will repeat again is .63. Given the information of age and ethnic group, however, this prior probability is revised down to .53 for those older (40+) Whites, while, given this same information, it is revised up to .83 for those 40+ Spanish surname individuals. Blacks in this same age group have a repeat probability between these two (.69).

We do not know the significance, if indeed there is any, in this finding. We will not attempt any interpretation. We do feel that this finding should be researched in more detail in future studies.

It should be emphasized, however, that in doing exploratory data analysis of the kind being represented in this Section, it is quite possible to find something unique for

these particular data that perhaps will not hold up when additional data are obtained. These findings should, therefore, be checked on a new sample. In prediction studies this is called cross-validation.

6.3 A Further Look at the Prior Record Variables

Finally, we reanalyzed the predictively strong prior record variables that had emerged in the AID statistical analysis presented in Section 5. These were the Number of Prior Convictions; the Number of Prior Drug (but not alcohol) Arrests; and the Number of Prior Alcohol (but excluding other drugs) Arrests. For these analyses these variables were defined as taking on values: none (0), 1-2, and 3 or more (3+). Also, we included the variables, Juvenile Record (yes, no) and Use of an Alias (yes, no). The results are given in Figures 6.2 to 6.4.

In Figure 6.2 is presented the number and percentage of repeat convictions as a function of number of prior convictions and of the other two variables (Juvenile Record, Use of an Alias). The familiar pattern appears: the worse the prior record, the higher the repeat rate. (Moving from left to right on the tree diagram, the "worse" records are on the bottom and the "better" records on the top.)

In Figure 6.3 we present the same analysis, but this time restricting it to the number of prior drug arrests only. This figure reveals that if drugs are involved in the offender's prior record, then the repeat percentage goes even

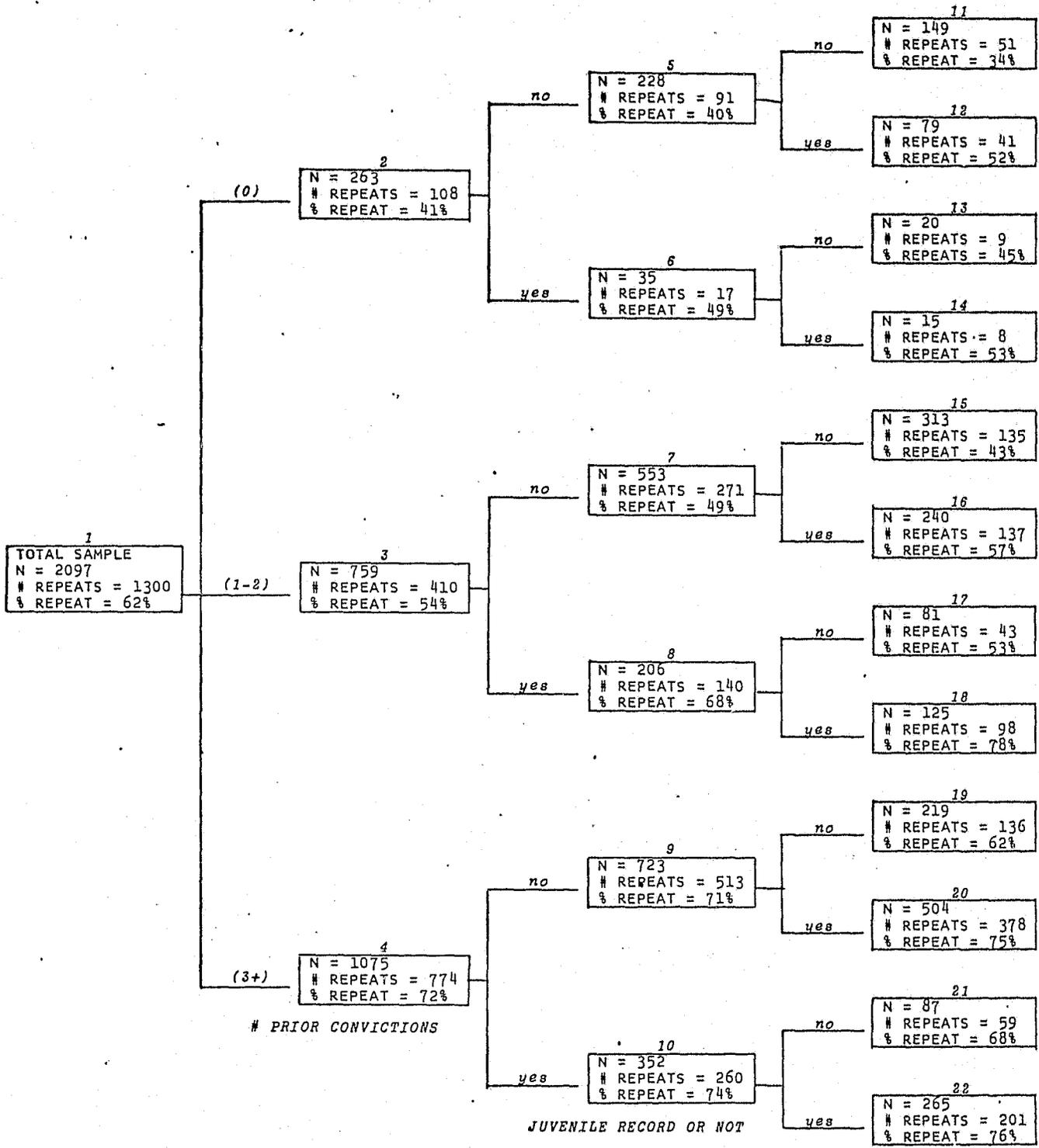


Figure 6.2 Breakdown of the sample according to number of prior convictions; presence or absence of juvenile record; and use of an alias or not.

USE OF ALIAS OR NOT

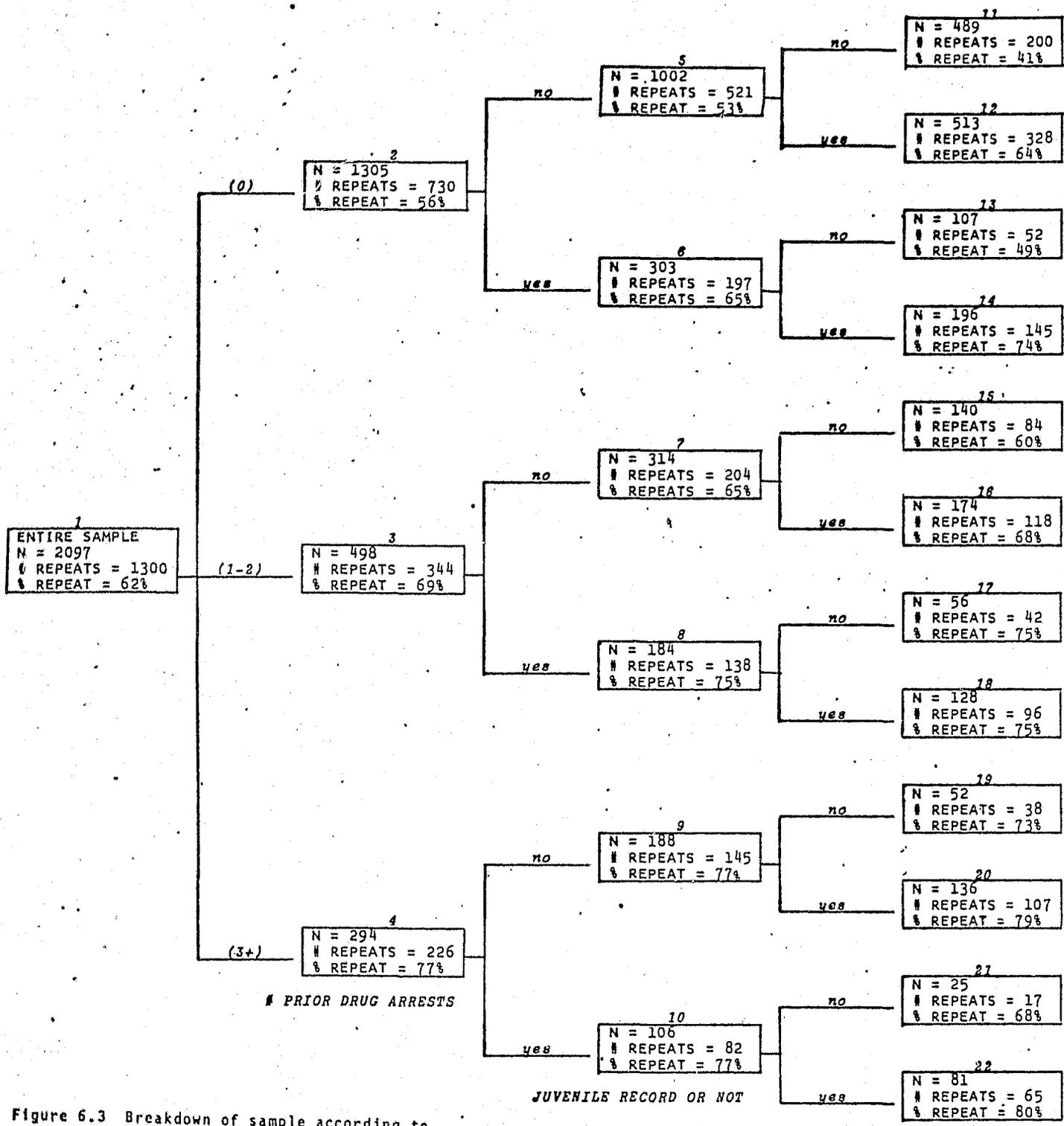


Figure 6.3 Breakdown of sample according to number of prior drug arrests; presence or absence of juvenile records; and use of an alias or not.

USE OF ALIAS OR NOT

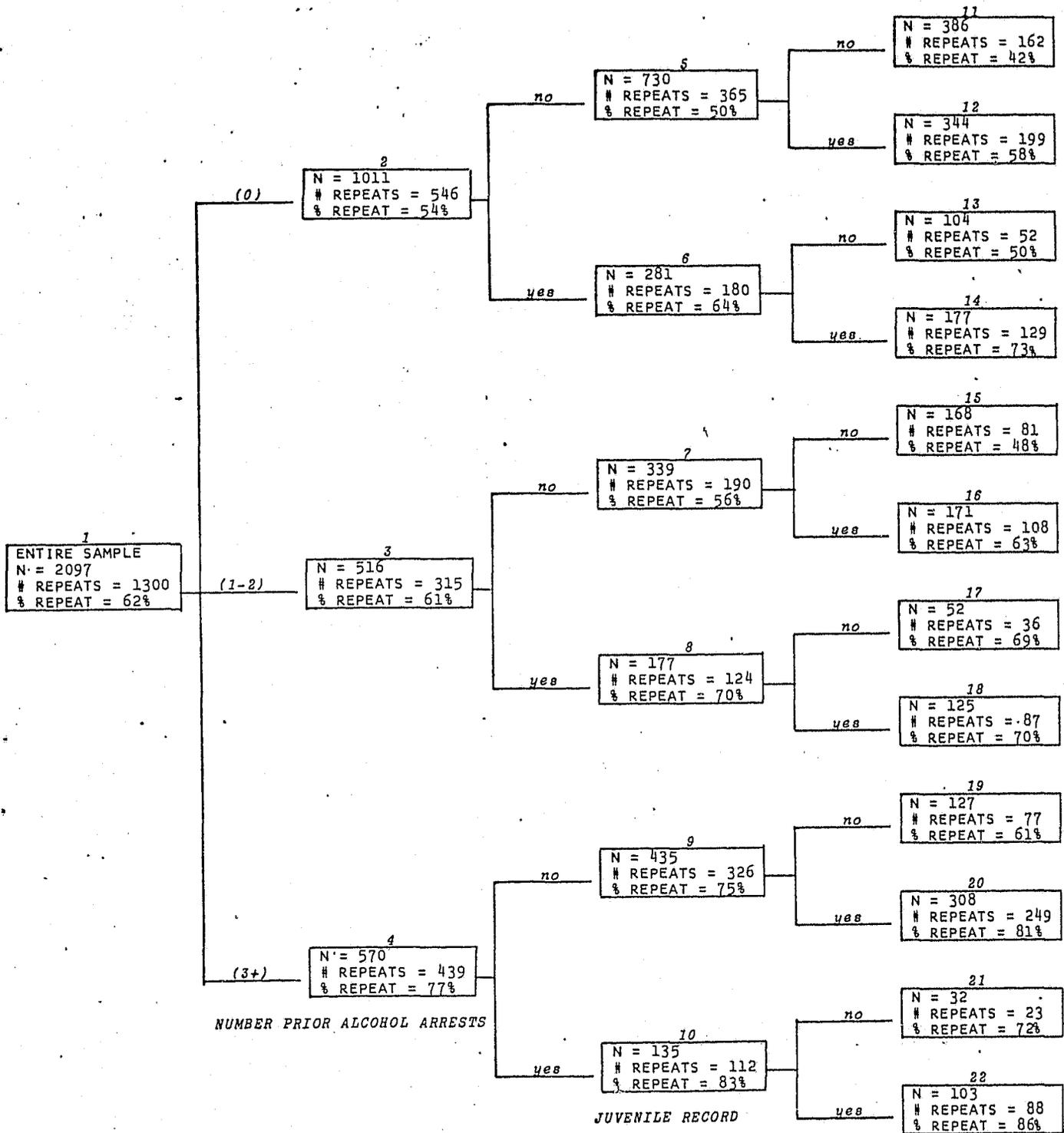


Figure 6.4 Breakdown of sample according to number of prior alcohol arrests; presence or absence of juvenile record; and use of an alias or not.

USE OF ALIAS OR NOT

higher, especially when there is also a juvenile record and evidence of using an alias. This is best seen by comparing box 22 of Figure 6.3 with the corresponding box number 22 of Figure 6.2.

Finally, Figure 6.4 presents the repeat percentage as a function of the number of prior alcohol arrests. Again, if there is evidence of alcohol in the offender's record, then the repeat percentage increases as a function of the severity of such a record, with the highest repeat percentage now reaching 86 percent (box 22 of Figure 6.4).

These figures need to be interpreted with caution since the variables are all highly interrelated, and they all tell much the same story. It would be of interest, however, to track down the influence of these variables in more detail. Suppose an individual has a record of the use of alcohol but of no other type of drug, how would such an individual compare on the repeat percentage variable with individuals with a record of drug use but not of alcohol? And how would these two groups, in turn, compare with individuals with evidence of both alcohol and drugs in their records? Finally, how would each of these groups compare with individuals with "clean" records? Although there were some members of this sample in each of these defined groups, some of the numbers were considered too small for any meaningful statistical analysis. However, to get a feel for how the analysis might proceed, consider the following:

Suppose we define a triplet (prior conviction, prior alcohol arrests, prior drug arrests) and give each element in the triplet a value of 1 if there is one or more priors and 0 otherwise. We will then have $2^3 = 8$ mutually exclusive groups. Then we can generate the following list:

<u>Group</u>	<u>Description</u>	<u># of Cases</u>	<u>% of Total</u>	<u>% Repeat</u>
(0,0,0)	No prior adult record	198	9%	36%
(0,0,1)	One or more drug arrests only	37	2%	67%
(0,1,1)	One or more drug arrests; one or more alcohol arrests	5		*
(0,1,0)	One or more alcohol arrests only	24	1%	44%
(1,0,0)	One or more prior convictions but no drug or alcohol arrests	476	23%	49%
(1,0,1)	One or more prior convictions and one or more drugs, no alcohol	303	14%	71%
(1,1,0)	One or more prior convictions; one or more alcohol; no drugs	611	29%	68%
(1,1,1)	One or more prior convictions; one or more alcohol; one or more drugs	447	21%	73%
	Total	<u>2,101</u>		

* N too small to estimate

Now, if we define the conditional probability statement:

$P(\text{Repeat}/\text{group})$ (read probability at least one repeat conviction given membership in that particular group), then we have

$$P(\text{Repeat}/(0,0,0)) = .36$$

$$P(\text{Repeat}/(1,1,1)) = .73$$

or the probability of repeat is twice as much (odds 2 to 1) with an adult record involving all offenses than if the adult record is clean.²

If there is no record of alcohol or drugs but of some other kind of prior offense, the probability of repeating drops significantly:

$$P(\text{Repeat}/(1,0,0)) = .49$$

If there is some prior record and some evidence of either alcohol or drugs, then this probability of repeat jumps up again:

$$P(\text{Repeat}/(1,1,0)) = .68$$

$$P(\text{Repeat}/(1,0,1)) = .71$$

This kind of analysis is sometimes called predictive attribute analysis, and a report by Simon (1971) gives several illustrations. It would be of interest in future studies to look at attributes other than just prior records to see if meaningful predictive probabilities would emerge for such attributes.

² Of this (0,0,0) group, 78 did have juvenile records although no adult record. As mentioned previously, if there is no record of any kind then the probability of repeating is .28.

7.0 Summary and Discussion

There seems to be little doubt that if a convicted misdemeanor offender is sentenced to 30 days or more to the Los Angeles County Jail system, then there is a fairly high probability that such an individual will be convicted again. And this will happen fairly soon, for our results show that over 50 percent of those who do repeat do so within six months and about 75 percent within one year. However, these results also show that blanket statements attempting to predict recidivism, without qualifying information, can be misleading.

Based on the characteristics of the individual offender, his past record, and even the particular jail assignment given to that offender, our results show that the repeat rate can vary anywhere from a low of 28 percent to a high of almost 90 percent. If an offender has a fairly "clean" record, the probability of repeat is toward the low end of the range, whereas if the record is "bad," then the probability of repeat moves up.

It is a common finding in criminological research (Glaser, 1964, ch. 3) that the younger an individual is when he is released from prison after serving time for a felony offense, the higher the probability that he will recidivate. Our results support this for misdemeanor offenders, but the relationship is not as strong as has been reported for felony prison inmates. We also have presented

evidence that, as age increases, the probability of becoming a "chronic offender," i.e., of repeating four or more times, is twice as high for the over 40 group as it is for the under 40 group.

Glaser also reports, with regard to inmates convicted of felonies, that there is no difference in recidivism among racial and ethnic groups, with Blacks, Whites, and Mexican Americans all having about the same repeat rate. The present study shows that in the case of misdemeanor offenders there is a difference in the repeat rate for race and ethnic grouping, Blacks having a repeat rate higher than Whites and, Spanish surname offenders (assumed to be Mexican American) having the highest repeat rate.

However, there is a strong interaction between ethnic group and age. As age increases, there is a much higher probability that an individual with a Spanish surname will repeat than there is for Whites; and the probability that a Black will repeat falls about half way between these two probabilities.

The particular statistical analysis used in this study, namely, the Automatic Interaction Detector, developed by Sonquist and Morgan (1964), is specifically designed to find such interactions; and we strongly recommend that such procedures be used in future studies.

One of the purposes of this study was to obtain information that would be helpful to the Sheriff's Office, in

particular to the Corrections Division, in designing various correctional programs for misdemeanor offenders. It is of interest to note, in this context, that the particular jail assignment given to the offender does seem to be related to the repeat percentage. As might be expected, inmates who are on work furlough programs or who are given jail trustee status have a much lower repeat percentage (38%) than those on other jail assignments. Those assigned to Mira Loma have a repeat percentage of 54 percent; those assigned to Wayside or "Camp" have a repeat percentage of 65 percent. The highest repeat percentages are for those inmates assigned to Bouchet or the Hall of Justice (68%).

Of course, the fact that inmates assigned to work furlough or as station trustees had lower repeat rates than those who were not is not necessarily attributable to these particular jail assignments. More likely, they received these assignments because the corrections division had already "tagged" them as low risks, i.e., as less likely to repeat. Similarly, inmates assigned to the Hall of Justice or Bouchet may well have been already spotted as high risks and/or "hopeless" cases.

This is an area that calls for further explanation in detail, especially when, as noted previously, the actual length of time spent in jail does not seem to be related to recidivism. (The repeat percentage for those serving 30 days in jail is about the same as for those spending six months or more in jail.)

This study was not able to obtain a more detailed jail assignment classification than has here been presented, but it would be of considerable interest to discover if such could be established. We would like to learn, for example, what the inmates were actually doing during their term at the County Jail instead of merely the identification of their locations at Wayside, Mira Loma, etc. Moreover, if new, alternative jail assignments and treatment programs should be designed and implemented, the effectiveness of such programs should be checked by a study similar to this one. It is our hope that the results presented here may lay the foundations for such studies.

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Simon, F. H. Prediction Methods in Criminology. London, Her Majesty's Stationary Office, Home Office Research Studies No. 7, 1971.

Sonquist, J. A. and Morgan J. N. The Detection of Interaction Effects: A Report on a Computer Program for the Selection of Optimal Combination of Exploratory Variables, Institute of Social Research, University of Michigan, Monograph #35, 1964.

APPENDICES

APPENDIX A

(Coding Form used for Information Obtained from the Inmates Booking Jacket)

JAIL STUDY		CODING FORM		
Card # 1	<u>1</u>	8) Transfer Record		
<u>INFORMATION FROM CII SHEET</u>		<u>Place Confined</u>	<u>Date</u>	<u># Changes</u>
1) CII # <u>2 3 4 5 6 7 8</u>		<u>39 40</u>	<u>41 42 43 44</u>	<u>45 46</u>
If CII # is missing, write name & date of birth below:		<u>47 48</u>	<u>49 50 51 52</u>	<u>53 54</u>
Name _____		<u>55 56</u>	<u>57 58 59 60</u>	<u>61 62</u>
Date of Birth _____		<u>63 64</u>	<u>65 66 67 68</u>	<u>69 70</u>
2) Date of arrest - current offense	<u>9 10 11 12 13 14</u>	<u>71 72</u>	<u>73 74 75 76</u>	<u>77 78</u>
<u>FROM BOOKING JACKET (Outside)</u>		SKIP 79-80	Card # <u>2</u>	CII # Dup. 2-8
3) Booking # <u>15 16 17 18 19 20 21</u>			<u>1</u>	
4) Number of days of longest sentence 998-not applicable 999-no information	<u>22 23 24</u>			
5) Date of sentencing (earliest date)	<u>25 26 27 28 29 30</u>	<u>9 10</u>	<u>11 12 13 14</u>	<u>15 16</u>
6) Date of release	<u>31 32 33 34 35 36</u>	<u>17 18</u>	<u>19 20 21 22</u>	<u>23 24</u>
7) Number of places confined	<u>37 38</u>	<u>25 26</u>	<u>27 28 29 30</u>	<u>31 32</u>
01 - Miraloma		<u>33 34</u>	<u>35 36 37 38</u>	<u>39 40</u>
02 - Wayside		<u>41 42</u>	<u>43 44 45 46</u>	<u>47 48</u>
03 - Camp				
04 - Biscaluiz - Work Furlough				
05 - Biscaluiz - Weekender				
06 - Biscaluiz - Other				
07 - Station Trustee				
08 - Sybil Brand				
09 - Bouchet				
10 - Hall of Justice				
11 - Other				
12 - Other, outside IA County				
99 - no information				

APPENDIX A (continued)

JAIL STUDY

CODING FORM

FROM BOOKING JACKET (Blue Sheet)

9) Sex: 1-male 2-female	<u>49</u>	15) City of arrest or precinct of arrest if in city of LA 999-no information:	<u>57 58 59</u>
10) Age: in years 99-no information	<u>50 51</u>	16) Code of arrest offense: _____ _____ _____ _____ _____	<u>60 61 62</u> <u>63 64 65</u> <u>66 67 68</u> <u>69 70 71</u>
11) Ethnic Group: 1-White 2-Black 3-Spanish Surname 4-Indian 5-Oriental 6-Other 9-no information	<u>52</u>		<u>72 73 74</u> SKIP 75-80
12) Marital Status: 1-married 2-not married 9-no information	<u>53</u>		Card # $\frac{3}{1}$ CII# Dup. 2-8
13) Employed: 1-yes 2-no 9-no information	<u>54</u>	INFORMATION FROM COURT SHEET	
14) Type of Employment: 1-professional, technical 2-managers, officials, proprietors 3-clerical 4-sales workers 5-craftsmen, foremen 6-operatives 7-service workers 8-farm workers 9-laborers, except farm 10-armed forces 11-student 98-not applicable 99-no information	<u>55 56</u>	17) Court Case # <u>9 10 11 12 13 14 15</u> 18) Code of conviction offense: _____ _____ _____ _____ _____	<u>16 17 18</u> <u>19 20 21</u> <u>22 23 24</u> <u>25 26 27</u> <u>28 29 30</u>

APPENDIX B

(Coding Form used for Information Obtained from the CII Sheets)

JAIL STUDY CII INFORMATION CODING FORM

CARD #4	$\frac{4}{1}$		
CII # $\frac{2}{3} \frac{4}{5} \frac{6}{7} \frac{8}{8}$		6) On Parole at Time of Arrest 1-yes 2-no 9-no information	$\frac{18}{}$
1) Number of Prior Arrests Involving Alcohol 99-no information	$\frac{9}{10}$	7) On Probation at Time of Arrest 1-yes 2-no 9-no information	$\frac{19}{}$
2) Number of Prior Arrests Involving Drugs 99-no information	$\frac{11}{12}$	8) Number of Prior Arrests 99-no information	$\frac{20}{21}$
3) Juvenile Record 1-yes 2-no 9-no information	$\frac{13}{}$	9) Number of prior convictions 99-no information	$\frac{22}{23}$
4) Number of Names Arrested Under 99-no information	$\frac{14}{15}$		
5) Number of Obvious Aliases 99-no information	$\frac{16}{17}$		

APPENDIX B (continued)

JAIL STUDY CII INFORMATION CODING FORM

Prior Offense Code	Offense Code	# Weeks of Sentence 998-not appl 999-no info	Length Probation 998-not appl 999-no info (weeks)	Arrest Date	Area Confined (State)	If California: 1-North 3-Central 2-South 4-L.A. Co.
1st Offense	<u>24 25 26</u>	<u>27 28 29</u>	<u>30 31 32</u>	<u>33 34 35 36 37 38</u>	<u>39 40</u>	<u>41</u>
Last Prior	<u>42 43 44</u>	<u>45 46 47</u>	<u>48 49 50</u>	<u>51 52 53 54 55 56</u>	<u>57 58</u>	<u>59</u>
2nd Last	<u>60 61 62</u>	<u>63 64 65</u>	<u>66 67 68</u>	<u>69 70 71 72 73 74</u>	<u>75 76</u>	<u>77</u> SKIP 78-80 CARD # 5 I CII# Dup 2-8
3rd Last	<u>9 10 11</u>	<u>12 13 14</u>	<u>15 16 17</u>	<u>18 19 20 21 22 23</u>	<u>24 25</u>	<u>26</u>
4th Last	<u>27 28 29</u>	<u>30 31 32</u>	<u>33 34 35</u>	<u>36 37 38 39 40 41</u>	<u>42 43</u>	<u>44</u>
5th Last	<u>45 46 47</u>	<u>48 49 50</u>	<u>51 52 53</u>	<u>54 55 56 57 58 59</u>	<u>60 61</u>	<u>62</u>
6th Last	<u>63 64 65</u>	<u>66 67 68</u>	<u>69 70 71</u>	<u>72 73 74 75 76 77</u>	<u>78 79</u>	<u>80</u> CARD # 6 I CII # dup 2-8
7th Last	<u>9 10 11</u>	<u>12 13 14</u>	<u>15 16 17</u>	<u>18 19 20 21 22 23</u>	<u>24 25</u>	<u>26</u>
8th Last	<u>27 28 29</u>	<u>30 31 32</u>	<u>33 34 35</u>	<u>36 37 38 39 40 41</u>	<u>42 43</u>	<u>44</u>
9th Last	<u>45 46 47</u>	<u>48 49 50</u>	<u>51 52 53</u>	<u>54 55 56 57 58 59</u>	<u>60 61</u>	<u>62</u>

APPENDIX B (continued)

JAIL STUDY CII INFORMATION CODING FORM

CARD # $\frac{7}{1}$ CII # $\frac{\quad}{2} \frac{\quad}{3} \frac{\quad}{4} \frac{\quad}{5} \frac{\quad}{6} \frac{\quad}{7} \frac{\quad}{8}$

Subsequent Offense Code	Offense Code	# Weeks of Sentence 998-not appl 999-no info	Length Probation 998-not appl 999-no info (weeks)	Arrest Date	Area Confined (State)	If California: 1-North 3-Central 2-South 4-L.A. Co
1st Subseq.	$\frac{9}{9} \frac{10}{10} \frac{11}{11}$	$\frac{12}{12} \frac{13}{13} \frac{14}{14}$	$\frac{15}{15} \frac{16}{16} \frac{17}{17}$	$\frac{18}{18} \frac{19}{19} \frac{20}{20} \frac{21}{21} \frac{22}{22} \frac{23}{23}$	$\frac{24}{24} \frac{25}{25}$	$\frac{26}{26}$
Last Subseq.	$\frac{27}{27} \frac{28}{28} \frac{29}{29}$	$\frac{30}{30} \frac{31}{31} \frac{32}{32}$	$\frac{33}{33} \frac{34}{34} \frac{35}{35}$	$\frac{36}{36} \frac{37}{37} \frac{38}{38} \frac{39}{39} \frac{40}{40} \frac{41}{41}$	$\frac{42}{42} \frac{43}{43}$	$\frac{44}{44}$
2nd Last	$\frac{45}{45} \frac{46}{46} \frac{47}{47}$	$\frac{48}{48} \frac{49}{49} \frac{50}{50}$	$\frac{51}{51} \frac{52}{52} \frac{53}{53}$	$\frac{54}{54} \frac{55}{55} \frac{56}{56} \frac{57}{57} \frac{58}{58} \frac{59}{59}$	$\frac{60}{60} \frac{61}{61}$	$\frac{62}{62}$
3rd Last	$\frac{63}{63} \frac{64}{64} \frac{65}{65}$	$\frac{66}{66} \frac{67}{67} \frac{68}{68}$	$\frac{69}{69} \frac{70}{70} \frac{71}{71}$	$\frac{72}{72} \frac{73}{73} \frac{74}{74} \frac{75}{75} \frac{76}{76} \frac{77}{77}$	$\frac{78}{78} \frac{79}{79}$	CARD # $\frac{8}{1}$ $\frac{80}{80}$ CII # Dup 2-8
4th Last	$\frac{9}{9} \frac{10}{10} \frac{11}{11}$	$\frac{12}{12} \frac{13}{13} \frac{14}{14}$	$\frac{15}{15} \frac{16}{16} \frac{17}{17}$	$\frac{18}{18} \frac{19}{19} \frac{20}{20} \frac{21}{21} \frac{22}{22} \frac{23}{23}$	$\frac{24}{24} \frac{25}{25}$	$\frac{26}{26}$
5th Last	$\frac{27}{27} \frac{28}{28} \frac{29}{29}$	$\frac{30}{30} \frac{31}{31} \frac{32}{32}$	$\frac{33}{33} \frac{34}{34} \frac{35}{35}$	$\frac{36}{36} \frac{37}{37} \frac{38}{38} \frac{39}{39} \frac{40}{40} \frac{41}{41}$	$\frac{42}{42} \frac{43}{43}$	$\frac{44}{44}$
6th Last	$\frac{45}{45} \frac{46}{46} \frac{47}{47}$	$\frac{48}{48} \frac{49}{49} \frac{50}{50}$	$\frac{51}{51} \frac{52}{52} \frac{53}{53}$	$\frac{54}{54} \frac{55}{55} \frac{56}{56} \frac{57}{57} \frac{58}{58} \frac{59}{59}$	$\frac{60}{60} \frac{61}{61}$	$\frac{62}{62}$
7th Last	$\frac{63}{63} \frac{64}{64} \frac{65}{65}$	$\frac{66}{66} \frac{67}{67} \frac{68}{68}$	$\frac{69}{69} \frac{70}{70} \frac{71}{71}$	$\frac{72}{72} \frac{73}{73} \frac{74}{74} \frac{75}{75} \frac{76}{76} \frac{77}{77}$	$\frac{78}{78} \frac{79}{79}$	$\frac{80}{80}$

END

7 11/15/1911