EARLY IDENTIFICATION OF THE CHRONIC OFFENDER

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State of California

DEPARTMENT OF THE YOUTH AUTHORITY

EARLY IDENTIFICATION OF THE CHRONIC OFFENDER

by

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FOREWORD

One of my first tasks as incoming Director of the California Department of the Youth Authority was to review this latest report from our Research Division. The study, funded by a grant from the National Institute of Justice, began in the fall of 1979 and was only recently completed. It is unusual in that it followed the careers of Youth Authority wards over a period of ten years, covering the young adult period, which has typically been shown to be the peak years of criminal activity.

The research was possible because of the availability of data collected over a period of many years by the Division of Research. Compilation of the information represented a department-wide effort, with important contributions made by institutional administrators and other staff who participated. The research staff who took part in this project were able to collect and organize a large quantity of data to furnish what I feel are tremendously enlightening, yet sobering, insights into the crime patterns of the chronic offender.

It should come as no surprise that the majority of the young offenders whose cases are analyzed in this study were eventually arrested for crimes as adults. Past studies done by the Youth Authority and other researchers in various parts of the country have shown that a high proportion of serious juvenile offenders can be expected to recidivate. Cases committed to the Youth Authority are the most serious delinquents, who already have failed to respond to the efforts of other agencies.

The findings come at a time of considerable controversy and sharp differences of opinion, both within and outside the criminal justice community, about how best to deal with juvenile and youthful offenders. Some readers will undoubtedly interpret the data to support their own points of view, whether they be for maintaining the traditional approaches or for completely revamping the criminal justice system. Those who would solve the crime problem through incapacitation may regard the results as supportive of their position. Others may view the report as confirming the need for intensive treatment programs earlier in the delinquent's career.

It is clear that both positions receive support in the study. With some extremely delinquent and sophisticated youths we are too late with too little to change their criminal behavior. With others, more intensive efforts both in the institutions and the communities during parole must be pursued to make sure they are given every opportunity both to modify their attitudes and behavior and to learn skills that will help them become self-sustaining and law-abiding members of society. As Director, I intend to make every effort to provide help and support to those young offenders who show signs of wanting to improve themselves. For those who prove intractable, our goal will be to protect the public by terminating parole at the first indication that they cannot conform to the standards of the community. We

also will incarcerate those committed or returned to Youth Authority institutions or camps for as long as necessary to provide a reasonable chance of later success on parole.

Although this study on "Early Identification of the Chronic Offender" sheds important light on career patterns of criminal behavior, much is yet to be learned on this subject. The Department intends to do much more work in order for society to learn more about how to identify chronic offenders at an early stage and take appropriate action for its own protection on a case-by-case basis.

Antonio C. Amador
Director

HIGHLIGHTS

Summary

This study was undertaken to explore the extent to which chronic adult criminal offenders could be identified early in their careers. Followup arrest data covering the adult years of peak criminal activity (from approximately 18 to 26 years of age) were obtained on three samples of delinquent youths who had been incarcerated in California Youth Authority institutions during the decade of the 1960s (Preston, Northern California Youth Center, and Fricot). The youths had all been involved in research projects in the course of which extensive demographic, psychological, and behavioral data had been collected. The followup data were obtained primarily from official arrest records of the California Bureau of Criminal Investigation and Identification (CII). Supplementary data were obtained from the Federal Bureau of Investigation (FBI) and the California Bureau of Vital Statistics to ensure that individuals with no records--or only minor records--of arrests in CII files did not have records in other states and/or were not deceased.

The most serious charge for each arrest was recorded, and subsequently classified as being a violent-aggressive, violent-economic, property, or minor offense. Using each offender's most serious arrest, an offender typology was then developed as a way of classifying individual arrest careers as chronic violent-aggressive, chronic violent-economic, chronic property, chronic unclassified, or nonchronic. For some analyses, these categories were further collapsed into violent vs. nonviolent offenders and chronic vs. nonchronic offenders.

The report presented both descriptive and predictive data. Descriptive analyses focused on the patterns of arrest careers, probabilities of repeat arrests, maturational trends, offense specialization, and differences in background, attitudinal, and behavioral characteristics between the types of chronic offenders. Predictive analyses focused on the prediction of individual careers as well as more theoretical, exploratory predictions involving numbers of arrests. Multiple regression was the primary mode of analysis.

Descriptive Analyses

- During the approximately 10 years following their incarceration as juveniles, the 2,783 offenders in the sample were arrested a total of 26,212 times.

- The followup data showed that most of the juvenile offenders engaged in serious criminal activity as adults, with 86% classified as chronic offenders. Over half (52%) were eventually arrested for one or more violent-aggressive offenses (murder, rape, assault), and over 80% had at least one felony arrest.

- Well over half of the youths in the Preston and YCRP samples were arrested at least once within the first year of parole from the Youth Authority, usually for a minor offense.

- Arrest rates were found to decline steadily after age 18, with some (unknown number of) individuals desisting completely and the remainder ("active" offenders) being arrested at an increasingly lower rate. By age 25, average arrest rates were less than half of what they were at age 19.

- There was a slight trend for some specialization among property offenders, but very little among the more serious offenders.

- Subjects classified as chronic offenders differed from nonchronics on a wide variety of background, psychological, and behavioral characteristics.

- When characteristics of the five offender types were compared, consistent linear trends were found, with those who engaged in more serious violent criminal acts at one extreme and the nonchronics at the other.

Predicting Chronic Offenders

- In both large samples chronicity was found to be predictable with a high degree of accuracy, primarily because of the high base rate of chronicity (approximately 85%).

- The amount of variance explained within these populations of serious offenders and, thus, the increase in accuracy achieved by including a variety of background, psychological, and behavioral measures in the predictions was relatively small.

- Thus, it is apparent that within a relatively homogeneous population of already serious delinquents, distinguishing those whose careers do not persist into adulthood cannot be easily accomplished.

Predicting Violent Offenders

- The percentage who were ultimately arrested for one or more violent crimes was high in all three samples (approximately 66%).

- Predictions of violent careers were made with greater accuracy than were the predictions of general chronicity. For example, 83% of the worst risks in the Preston sample (the one-third with the highest predicted scores) actually were arrested for a violent crime, compared with 48% of those in the lowest risk category.

- The moderate improvement in accuracy over the base-rate prediction of 66% was due not only to the more even distribution of violent vs. nonviolent offenders in the population, but also to the more extreme scores of the chronic violent offenders on several demographic, behavioral, and psychological variables.

Predicting Number of Arrests

- Predictions of number of arrests verified the predictive relevance of prior delinquent history as well as demographic, psychological, attitudinal, and behavioral variables.

- Number of violent arrests was associated with prior juvenile record (especially the presence of offenses involving violence); low school achievement or intellectual ability, low socioeconomic status, psychological deviance (as manifested by expressed asocial, antisocial, and/or atypical attitudes, beliefs, and perceptions) low social anxiety, obtrusive behavior, and ethnicity.

Predictions Using the Five-Level Typology

- Discriminant analyses using the five-level typology showed that it was possible to distinguish between types of offenders and to determine characteristics associated with different aspects of criminal careers (e.g., violence, economic orientation, etc.).

Fricot Analyses

- Although the findings based on the small Fricot sample must be regarded as only suggestive, number of adult offenses and adult violent offenses were predictable to a statistically significant extent from information collected while these youths were only eleven years of age.

- Many of the same variables found to be predictive for Preston and YCRP were also predictive for this sample, reinforcing the notion that adult criminal behavior is to a degree predictable at an early age.

Implications

- The data from the present study suggest that chronic offenders, especially those who are arrested for the more serious violent crimes, can be identified prior to their peak years of criminal activity with sufficient accuracy to be of practical as well as theoretical importance.

- Our data suggest that some of the important indicators of later chronic criminal and violent behavior are manifest and observable at an early age. Our findings suggest that those who are at the extremes of these several characteristics and who are already extensively involved in delinquency can be predicted with a high probability to continue to be offenders as adults unless changes occur in their environment and behavior.

- It is obvious from the large number of crimes committed by these youths that an intervention strategy with even a modicum of success at preventing future crimes might provide substantial crime-reduction benefits. An intervention program that had the effect of reducing the number of crimes committed by these youths by only 10%, for example, would have prevented over 2,600 crimes resulting in arrests; of these, over 400 would probably have been violent.

- By providing a basis for identifying and excluding those with the least potential for chronic or violent careers, actuarial studies such as this one may allow for more efficient utilization of the treatment resources.

Directions for Future Analysis

The three data sets used in the present study contained more predictors than were systematically included in the analyses. Moreover, differences among the data sets precluded the straightforward cross-validation of results between samples. Time and resource constraints, in other words, forced us to limit the present study to exploratory analyses within samples using a rather circumscribed set of predictors. As the analysis of these data sets continues, we will build upon the present findings by incorporating more of the information available for these youths, and by drawing upon other analytic techniques.

CHAPTER 1

INTRODUCTION

The purpose of this study was to determine the extent to which criminal behavior can be predicted prior to its becoming sufficiently serious and repetitive to be called chronic. In the course of the study a secondary objective emerged: the prediction of chronic violent criminal behavior.

Interest in chronic offenders (also referred to as habitual, career, persistent, or repeat offenders) was given renewed vigor by the well-known findings emanating from the study of a Philadelphia Birth Cohort (Wolfgang, Figlio, and Sellin, 1972). These authors' data provided strong support for the commonly-held (but often ignored) belief that a relatively small number of offenders were responsible for a disproportionately large number of offenses. The cohort was comprised of all males born in 1945 who resided in Philadelphia from their 10th to 18th birthdays (9,945). A search of official records revealed that by age 18, 35% had a police contact; of these, 54% had been arrested a second time; and of those with a second offense, 65% had been arrested a third time. Beyond the third arrest the percentage who were rearrested stabilized at from 70 to 80%. The most frequent offenders (5 or more contacts) comprised only 6.3% of the sample but committed 52% of the offenses and an even higher proportion of the violent crimes. The data suggested that approximately 75% of these heavy offenders continued their criminal activity into adulthood.

The potential for increasing our understanding of chronic criminality by learning more about the characteristics of this small group of chronic offenders is obvious. Further, it is clear that if one were able to identify and do something with or about this relatively small group of offenders, a large number of crimes could potentially be prevented, especially if such identification occurred prior to the years when their criminal activity was at its peak and the behavior pattern entrenched. The authors of a recent, widely publicized study concluded that "...

> incapacitation, by imprisonment, may be the most direct alternative for reducing the societal toll at the hands of habitual offenders, provided that the most serious of them can be identified before their criminality has declined."
>
> Petersilia, Greenwold and Lavin, 1977, p. 121

The authors based their conclusion on extensive interviews with 49 recidivists in a California prison who were serving terms for armed robbery. These offenders reported committing a staggering number of crimes (10,500) over their, as yet, unfinished 20-year careers. Even within this highly

selected group of offenders, there was considerable variation in criminal activity, with the more active 33% (labeled the "intensives") admitting to ten times as many crimes as did the average "intermittent." The authors noted a decline in the number of reported offenses with maturation, from an average of 3.2 crimes per month during juvenile years to 0.6 in the adult period. This finding prompted the caveat that incapacitation might be a viable method of reducing crime provided the most serious could be identified prior to their most active criminal period. If such early identification were possible, other approaches, such as close supervision or intensive intervention programs, would also become more practicable as alternatives. Thus, early identification of the chronic offender assumes considerable practical as well as theoretical importance.

Past efforts to predict continuing serious and/or violent criminal behavior have not been highly successful. The results of some of the most ambitious studies have been so unimpressive (e.g., Wenk and Emrich, 1972) that Wilkins, in the preface of that study, concluded that further attempts at predicting violent (or assaultive) behavior should be discontinued. That study, along with other unsuccessful prediction efforts, took on the very difficult task of identifying the small proportion of offenders who committed violent acts within a relatively short followup period.

Greater success has been achieved by criminal justice agencies and individual researchers in predicting recidivism of any kind. Most of these base-expectancy or risk-assessment formulas have been derived from very large samples for which only limited data were available. Reappearing as the most consistent and powerful predictors have been a few basic demographic and offense characteristics. The California Department of the Youth Authority, for example, after exploring the usefulness of a variety of formulas, currently uses a simple format based on court of commitment, age at admission, and prior record. In his review of 71 studies that presented data on the relationship between biographical predictors and recidivism, Pritchard (1979) concluded that the most consistent predictors over the years have been type of instant offense,[1] prior convictions, stability of employment, age at first arrest, living arrangements, income, history of alcohol abuse, and history of opiate use. Generally, these recidivism prediction studies have shown some validity, especially at the extremes of the distributions, and some have shown sufficient accuracy to be of practical utility.

The main hypothesis of the present study is that the accuracy of such predictions can be further improved. What appeared needed were more varied and valid independent (predictor) measures and more valid outcome criteria based on longer followup periods. The availability of data from three previous evaluation studies presented us with an opportunity to test this hypothesis. Not only had many years elapsed since the subjects were evaluated, but they had been tested and rated on personality and behavioral dimensions

[1]That offense upon which incarceration or inclusion in the study was based.

heretofore not usually available for use in prediction studies. Furthermore, the subjects had been evaluated, theoretically, before their criminal activity was expected to have reached its highest intensity.

In the two chapters that follow we describe the samples, the independent variables, the followup procedure, and the methods used to analyze these data. Due to the large number of variables available for use as predictors and the fact that three separate samples were included in the study, these methodological materials are presented in some detail. Descriptive findings related to the offense careers of the subjects and how career differences (chronic vs. nonchronic, types of chronic careers) relate to the background measures are presented in Chapters 4 and 5. The results of the predictive analyses follow, in Chapters 6 and 7.

CHAPTER 2

SETTINGS, SUBJECTS, AND INDEPENDENT VARIABLES

This chapter describes the samples, and independent variables. The followup procedure, outcome variables and the statistical approaches used are described in Chapter 4.

The Settings and the Subjects

The analyses in this report were based on data collected in the process of evaluating the effectiveness of three experimental treatment programs for youths assigned to the California Department of the Youth Authority.

The first study sample consisted of 1,622 male youths who were committed to the Preston School of Industry during a 13-month period from February 1966 to March 1967.[2] Preston is a large California Youth Authority institution which at that time housed approximately 900 wards in 16 living units. The youths sent to Preston ranged in age from 16 to 20 (median 17.6) and remained in the institution for an average of 8.4 months. Most youths sent to Preston had more lengthy and serious records than those referred to other facilities--57% had previously been committed to a Youth Authority institution.

Five of the 16 units at Preston housed wards meeting special criteria in that they had been cleared for work outside the confines of the institution or had been assigned to one of two psychiatric treatment units. All subjects who were not preselected for special placement in one of these units were placed in a pool of eligibles who were then assigned by random methods to either an experimental or control group. Experimental subjects were subsequently placed in one of six living units according to their I-level subtype classification. The present study included all youths who were admitted to Preston during the period of the Typology Study and upon whom data were available, regardless of their assignment.

The second study sample consisted of male youths who were placed in one of two institutions (O. H. Close or Karl Holton) at the CYA's Northern California Youth Center during an 18-month period from August 1969 through March 1971. The youths sent to these institutions were one year younger than those placed in Preston (median age was 16.6) and had less serious prior records, 33% having previously been committed to a Youth Authority institution. The fact that these youths had slightly less extensive prior

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[2] A detailed description of this project (The Preston Typology Study) can be found in the project report (Jesness, 1969) and a summary description in a subsequent article (Jesness, 1971a).

records than subjects in the Preston sample should not obscure the fact that the members of both groups were serious delinquents, almost all of whom had extensive prior records and almost all of whom had come through the California criminal justice system's lengthy screening process that ordinarily included periods on probation and/or in a probation-run institution.

The purpose of the Youth Center Research Project (YCRP) was to compare the differential effects and effectiveness of two treatment programs--one based on behavior modification principles (at Holton), the other based on a psychodynamic model (Transactional Analysis) that emphasized group counseling. (For a description of this project, see Jesness, DeRisi, McCormick and Wedge, 1972 or Jesness, 1975.) The present study included 15 to 17 year-old youth assigned to either institution during the research project (n=960).

Data on the third study sample were gathered as part of the Fricot Ranch Study (Jesness, 1965, 1971b). The Fricot Ranch School housed the youngest youths committed to the California Youth Authority (mostly aged 12-14) and the study involved the youngest of these (mostly aged 10-12). The study was designed to test the effectiveness of more intensive treatment made possible by housing the wards in a smaller living unit with the resulting higher staff-to-ward ratio. The youngest boys committed to Fricot were randomly assigned to one of two units--one a traditional 50-bed living unit, the other a 20-bed living unit. The sample consisted of all youths who were assigned to either of these units from 1960 to 1963. As was true of youths in the Preston and YCRP samples, these preadolescent boys (median age 10.9) had extensive prior records (average of 3+ police contacts) with only 4% having status offenses (curfew, fighting, false fire alarm, incorrigible) as their most serious prior offense.[3] In order to make the Fricot data more comparable with Preston and YCRP, the outcome data for Fricot subjects included only those offenses occurring after age 18.

The original study dates, median followup periods, and median ages are shown in Table 1.1.

Most of the analyses in this report were based on the two large samples. Analyses based on the Fricot sample were designed to provide a partial answer to the question of whether it is theoretically possible to predict, early in a young delinquent's career, persistent criminality as an adult. Although the size of the Fricot Sample (201) precluded confident generalizations, some important clues resulted from the analyses.

[3]Since 1971 the California Youth Authority has accepted very few referrals of youths under 14 years of age, and the Fricot Ranch School is being used by another agency.

TABLE 1.1

Study Dates, Median Followup and Median Age at Followup by Sample

	Preston	YCRP	Fricot
Original Study	1966-67	1969-71	1960-63
Start of Followup Period	1967-69	1970-72	1961-64
Followup Data Collection	1978-80	1979-80	1979-80
Median Followup - Months	140	112	186 (117 as adults)
Years	11.7	9.3	15.5 (9.3 as adults)
Median Age at Followup	29	26	26
Sample Size	1,622	960	210

Independent (Predictor) Variables

The data used in the analyses were not originally gathered with the intention of predicting later behavior. The several tests, questionnaires, and rating scales included were administered for the purpose of measuring differential changes in the behavior and attitudes of youths involved in these special programs in order to gauge program effectiveness. Consequently, viewed from our present perspective, several fairly obvious omissions appeared in the various data sets. The YCRP battery, for example, did not include estimates of the youths' socioeconomic status, or school performance. To further complicate matters no measure of prior offense history other than official "rap sheet" data was available for the Preston or YCRP samples. These data therefore certainly underestimate the actual amount of prior delinquency among the subjects and reduced our ability to assess the relationship between delinquency patterns and subsequent careers. Fortunately, all three sets shared in common a subset of variables. Furthermore, a number of additional variables were sufficiently similar to enable us to consider them as comparable.

The paragraphs that follow present a brief description of the measures available for each study.

Preston

Initial Home Visit schedule (IHV). The IHV consists of ten items on school and family background as rated by the youth's parole agent prior to referral to Preston. These ratings were missing for almost 20% of the subjects. The probability of systematic bias (a large proportion of those upon whom data were missing were parole violators) in these data made it imperative to control for any systematic effects of missing data. The IHV data were unique to the Preston sample.

Clinic Summary (CS). Twelve items covering prior delinquent background came from ratings made at the Youth Authority's reception centers. Here again, some systematic bias in the available data could be anticipated because some parole violators were not processed through the reception center/clinics. Although the clinic summary data were unique to the Preston sample, it was possible to create similar prior record variables from the rap sheets used in the YCRP analysis.

Intelligence/aptitude. For the Preston sample the estimates of the youths' intelligence/aptitude were based on scores on the General Aptitude Test Battery (U.S. Employment Service, 1947). The GATB was developed for use with older adolescents and adults seeking employment who might be in need of some kind of vocational counseling or assistance. The construction of the battery was based primarily on factor-analytic studies and research in job performance. Several of the tests composing the battery have long histories, having been previously developed for use as individual tests. The nine factors measured by the test are as follows: G--general reasoning ability, V--verbal aptitude (primarily vocabulary), N--numerical aptitude, S--spatial aptitude, P--form perception, Q--clerical perception, K--motor coordination, F--finger dexterity, and M--manual dexterity. For the present study, only the verbal and numerical aptitude scores were included in the analyses.

Arrangements were made to obtain the GATB results part way through the study and scores were obtained for only about one-half of the study subjects. There is no reason to believe this was not a random sample.

The Jesness Inventory. The Jesness Inventory (Jesness, 1972) is a personality test designed to: a) distinguish delinquents from nondelinquents, b) provide the basis for classification into personality types, and c) serve as a measure of attitude change. Originally developed for use with young adolescents, the test was later modified to enable its use with adults as well as children. The 155 true-false items yield age-normed T-scores on the following scales:

1. Social Maladjustment. Based on item analyses of the responses of delinquents and nondelinquents, the scale provides a measure of the extent to which the individual shares the attitudes expressed by adjudicated delinquents.

2. Value Orientation. Based on item analyses of responses of persons according to their socioeconomic status, the scale provides a measure of the extent to which the individual shares attitudes characteristic of persons of lower socioeconomic status.

3. Immaturity. Based on item analyses of younger versus older adolescents, the scale provides a measure of the extent to which the person shares attitudes characteristic of persons of a younger age.

4. Factor Scales. The composition of items on the Autism, Alienation, Manifest Aggression, Withdrawal, Social Anxiety, Repression, and Denial scales was based on cluster analysis.

5. Asocial Index. The Asocial Index was developed from a discriminant function solution using all Inventory scales to maximally classify youths as delinquent or nondelinquent.

The Jesness Behavior Checklist. Designed to provide a systematic way of recording data on social behavior, the Jesness Behavior Checklist (Jesness, 1971c) now comprises 80 items covering a broad spectrum of observable behaviors on 14 factors. The checklist has been refined over a period of several years, the first version having been developed during the Fricot Study, the second version during the Preston Study, and the third (and current version) during the YCRP Study. The Behavior Checklist scores used were the combined (averaged) ratings made by the youths' counselor and living units' senior supervisor about one month after the youths' assignment to the unit. The scales used at Preston are listed below together with the current (YCRP) scales most similar in content:

Preston (11 factors)	YCRP (14 factors)
Conformity	Friendliness, Considerateness, Conformity
Social Immaturity	Sociability (-), Social Control (-)
Alienation	Rapport (-)
Speech Problems	Ability to Communicate (-)
Obtrusiveness	Unobtrusiveness (-)
Responsibility	Responsibility
Perturbability	Independence (-), Calmness (-)
Hostility	Anger Control (-)
Depression	Enthusiasm (-)
Halo (no equivalent)	
Sex Problems (no equivalent)	Insight (no equivalent)

I-Level Classification. The procedure for determining I-level classification has gone through several changes since I-level theory was first introduced (Sullivan, Grant, and Grant, 1957). The most extensive developmental work was done during the Preston Study and classification data from three different sources (interview, sentence completion test, and Jesness Inventory) were available on those subjects. However, in order to provide consistency, all references to I-level and I-level subtype classification in this report refer to the classification as derived from the discriminant function solutions based on Jesness Inventory responses (Jesness, 1974).[4]

The distribution of subtypes in the Preston and YCRP samples was as follows:

[4]The classification can now be made using a hand-scoring procedure making feasible more widespread use of the system.

Level		Percentage YCRP	Percentage Preston
I-2	Unsocialized, aggressive	1	3
I-2	Unsocialized, passive	5	10
I-3	Immature conformist	17	24
I-3	Cultural conformist	14	14
I-3	Manipulator	21	19
I-4	Acting-out neurotic	23	14
I-4	Anxious neurotic	17	15
I-4	Situational emotional reaction	2	2
I-4	Cultural identifier	1	1

Youth Opinion Poll. As part of the pretest battery, a 136-item questionnaire was administered that tapped the subjects' perceptions of parents and family, and their opinions about school, prior offenses, and home and community environment. An additional 20 items covered a priori dimensions of Self-Concept, Fate Control, Neutralization, and Alienation. In contrast to the instructions used in introducing the Inventory, which explicitly stated that the information could be used in classification and assignment, the confidential nature of the Youth Opinion Poll (YOP) data was stressed in order to ensure maximum cooperation. Although responses to many of the individual items will be shown in this report, factors derived from the items were used in the regressions and discriminant functions. The factors are:

Family Factors

Treated well at home
Admiration of father
Parental supervision
Parental acceptance
Family cohesion-general factor
Low family conflict
Low parental pressure
Monetary support
Parental trustworthiness
Tough environment

Self-Perceptions and Attitudes

Low self-image
Self-blame for trouble
Lack of companions in crime
Felt changed at Youth Authority
Felt would not be arrested again
Neutralization of moral attitudes
Unhappiness
Alienated attitude

School Factors

Positive school attitudes
School misbehavior

Self-Report Delinquency Factors

Violent delinquency
Violent-economic delinquency
Runaway and joyride
Drug use
Malicious mischief

Post Opinion Poll. As part of the posttest battery, an 81-item questionnaire (the Post Youth Opinion Poll) was administered to Preston subjects. The purpose of this questionnaire was to evaluate the subjects' perceptions of living-unit operation, the behavior of staff, their relationships with staff, the behavior of peers, and their own behavior in the institution. These data were not used in the present study.

Other measures. Scores on several measures administered during the Preston Study were not available for our present analyses, having either been obliterated several years ago during the process of placing data on tape for storage (Gates Reading Survey, High School Personality Questionnaire) or not entered into the tape at all (Semantic Differential).

Base Expectancy Score. In addition to age, other characteristics have been shown to be related to probability of parole failure. The Youth Authority Research Division has devised a formula that combines these variables into a base expectancy score that allows the researcher to place each subject into a risk category. Variables included in the base expectancy formula used here were age at release, number of admissions to the Youth Authority, number of commitments prior to coming to the California Youth Authority, and race.

Youth Center Research Project

The data collected during the Youth Center Research Project (YCRP) included the previously-described I-level classification, Jesness Inventory and Behavior Checklist. Data unique to the YCRP sample included the following:

Achievement Level. The tests used to measure educational level were the vocabulary and comprehension parts of the Gates-MacGinitie Reading Survey, and the arithmetic computation section of the Comprehensive Test of Basic Skills (CTBS). The vocabulary subtest of the Gates-MacGinitie consists of 50 vocabulary items. For each item the subject is to find its closest equivalent among four alternative choices. The comprehension subtest (52 items) measures the student's ability to read prose with

understanding. The arithmetic computation part of the Comprehensive Test of Basic Skills (48 items) measures the subject's basic ability to add, subtract, multiply, and divide.

Obtaining valid test results was difficult, primarily because of the distaste the wards had for educational tests, but also because of the problems in coordinating and standardizing the testing procedures of various staff administering the tests at the California Youth Authority reception centers and at the two YCRP institutions. Explicit rules were drawn up for identifying subjects whose tests were probably invalid or who had been tested on the wrong form.

Ego Level. Loevinger postulated that ego development follows a continuum, and identified and described several levels within the continuum (Loevinger, 1966). Ego development is an abstract term which refers to a developmental sequence in which each successive stage becomes more complex in that it incorporates and transcends the previous one. The scoring system for measuring the level of ego development is based on written responses to 36 open-ended sentences (Loevinger & Wessler, 1970). In order to reduce the time needed to score the large number of protocols anticipated in the YCRP study, a shorter 15-item form was developed. Short and long forms administered one week apart to 36 subjects correlated .77. Test protocols were scored blind, without identification of school, subject, or knowledge of its being a pretest or a posttest.

Youth Opinion Poll. The Youth Opinion Poll used at YCRP consisted of 42 items that elicited information about the subjects' prior delinquencies, attitudes toward school and home environment, and self-concept, including perceived need to change. Many of the items were selected from the similar but longer questionnaire used in the Preston Study. Retained were those items that seemed to convey the most relevant descriptions of a subject and his perceptions of his environment. Also retained were items representative of dimensions derived from a factor analysis of the older form used at Preston. Although not comprised of precisely the same items, factors used in the analysis were very similar in content to the previously described Preston factors.

Jesness Behavior Checklist: Self-Appraisal Form. The Jesness Behavior Checklist now consists of two forms--an Observer Rating Form and a Self-Appraisal Form. During the YCRP Study data from the Self-Appraisal Form were available along with the Observer Scores, and these data were included in some of the analyses done on the YCRP Study sample.

Post Opinion Poll. The opinion questionnaire given prior to the youths' release in the YCRP Study was focused on measuring differential attitude changes that might be expected to follow from the youths' involvement in one or the other of the treatment programs. Consequently, many of the items were of limited relevance as predictors, and responses to only a few selected items were included in the analyses.

Early Behavior on Parole. During the 12 months following their release to parole, ratings were requested from the youths' parole agents. Ratings were made on three scales covering: a) Social Environment, the scale extremes

of which were "supportive" vs. "stressful"; b) Social Behavior, the scale extremes of which were "excellent--no problems at home, school, or job" vs. "very unsatisfactory"; and c) Delinquent Involvement, the scale extremes of which were "no known or suspected involvement" vs. "more than one serious offense." These data were included in the prediction of the number of subsequent arrests in order to assess the degree to which early parole behavior is indicative of long-range criminal behavior.

Correctional Institutions Environment Scale (CIES). The Correctional Institutions Environment Scale (CIES) was designed to compare the psychological environments of institutions and of living units within institutions (Moos, 1970). The scale measures social climates by asking both residents and staff about the usual patterns of behavior within their units.

Fricot

Because one of the ultimate goals of the Fricot Ranch Study was to develop a delinquency classification system, a very extensive test battery was administered. Although analyses based on the rather small Fricot sample must be viewed as exploratory rather than confirmatory, learning about the long-range predictive potential of measures not ordinarily used in such studies can provide important leads for future research and a greater understanding of the nature of persistent serious criminality.

In common with Preston and YCRP, the Fricot battery included the early version of the Behavior Checklist (the very first version, in fact) and the Jesness Inventory (mostly posttests on a partial sample, N = 170). In addition, the following data were collected:

Wechsler Intelligence Scale for Children. The complete test was administered individually.

Rorschach. Scoring was based on semi-objective procedures, developed by Arnaud (1957), that were designed to capture the consensual beliefs of authoritative sources regarding the clinical significance of various responses. Protocols were also scored for maturity level (Becker, 1956) and deviant responses (Schafer, 1954).[5]

Thematic Apperception Test (TAT). Ten TAT cards were presented and the protocols scored for aggression, the presence of aggression inhibiting tendencies (aggression modifiers), purposeful accomplishment, task orientation, and rebellion.

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[5]The variable "deviant responses" used in the analyses came from a cluster analysis. It combines scores on the following: victims of aggression, mutilated figures, confabulation, queer content, frightening figures, hostile or destructive M or FM, fabulized combinations, fabulizations and deformed figures.

The Story Completion Test. The test was designed as a measure of internal awareness of unpleasant feelings and/or negative consequences subsequent to wrong doing (Allinsmith, 1954). The scores were based on a semi-objective procedure with highly intra-punitive responses at one extreme and the absence of any guilt on the other.

The Fricot Apperception Test. This TAT-type test was developed to provide a measure of the youths' attitudes towards others (peers, teachers, counselors, etc.). An objective scoring procedure was used including one that reflected the youths' overall responsiveness (conformity) to the directions.

Semantic Differential. A Semantic Differential tapped the subject's response to seven concepts (mother, self, teacher, etc.) on the seven descriptive terms (four evaluative, three potency).

The Spiral After-effect Test. Included as an indicator of brain damage (Blau and Schaffer, 1960), the test scores showed 41 of the 210 Fricot Study wards as having abnormal scores, approximately twice that expected in a "normal" population.

Bender Gestalt. The Bender Gestalt was scored using the objective scoring system described by Pascal and Suttell (1951). Scores were age-normed using data supplied by Suttell on a group of nondelinquents similar to the Fricot youths in age and I.Q.

Porteus Maze. The Porteus was scored using standard procedures (Porteus, 1959).

Draw-A-Person Test. Several different scoring procedures were used with the DAP test, the most important being an overall index of quality (Goodenough I.Q.).

Sociometric. Sociometrics were administered at several points during the project. The basic variable used in the analyses was the number of rejections received during the first few weeks of the boys' stay.

Interview. Ratings of the youths' behavior and attitudes were made during the initial interview with project staff. Basically two dimensions resulted from a factor analysis of these ratings--social awkwardness and anxiety vs. social poise; verbal fluency vs. inarticulateness.

In addition to these tests and ratings, the case histories were carefully studied and ratings made on a series of biographical scales tapping family background, school history, prior record, etc.

CHAPTER 3

FOLLOWUP PROCEDURE, OUTCOME MEASURES, AND METHODS OF ANALYSIS

This chapter describes the followup procedures, the dependent (outcome) measures and the methods of data analysis.

Followup Procedure

Followup data on arrests were obtained primarily from the California Bureau of Criminal Identification and Investigation (CII). Where these "rap sheets" appeared to be incomplete they were supplemented by data from Youth Authority files, the Federal Bureau of Investigation (FBI) and the California Bureau of Vital Statistics.

The amount of followup time varied both between and within samples. Some Preston rap sheets were requested from CII in the fall of 1978; the bulk were requested in 1980. FBI records were obtained in the fall of 1980. The followup time was calculated from the date of parole to the date of the latest rap sheet received or to the date of death. The average (median) number of years of followup for the Preston, YCRP, and Fricot samples were 11.7, 9.3, and 15.5 (9.3 as adults) years, respectively.

FBI records were requested for those cases where the probability seemed greatest that the CII data did not accurately reflect the seriousness of the individual's criminal career. Included were a) all cases having fewer than five documented offenses subsequent to their parole, and b) cases where the record suggested that the subjects may have moved out of California for some period of time (paroled out-of-state, having documented out-of-state arrest, etc.). Rap sheets on approximately 800 cases, or 28% of the 2,783 cases in the study, were requested from the FBI. Of these 800 cases, 308 (38%) were found to have out-of-state arrests.

As was mentioned earlier, as further insurance against mistakenly identifying sample members as nonchronic or minor offenders, we also checked the records of the California Bureau of Vital Statistics to determine if any of these individuals were known to be dead. This search revealed that 164 members of the original sample (5.6%) were deceased. Of these, 122 were eliminated from the study because their deaths occurred within only a few years of parole or because CII had purged their files due to death.[6] Deceased individuals were retained in the sample if they had already acquired

[6]The sample sizes shown in Chapter 2 are for the final samples, with the deceased cases removed. A large percentage of these 164 deaths, (37.8%) appeared to be related to violence, suicide or other unnatural causes.

arrest records of more than a minor nature on the assumption that these individuals had established their criminal tendencies and could be so classified and used in the analyses.

The 164 individuals known to be dead may not, of course, constitute the total number who died during the followup period since out-of-state deaths were generally not known to the California Bureau of Vital Statistics. In a few instances, such deaths were shown in the FBI rap sheets, but it is likely that there were other deaths of which we were not aware.

Coding

The rap sheets were coded following a specific set of rules. Copies of the codes, coding rules and code sheets, along with a discussion of these procedures, are included as Appendix A. The coding focused on arrest incidents, rather than charges or convictions. Analyses focused on arrests because it was felt that due to plea bargaining and other bases for altering or dismissing charges, the initial arrest charges were probably better indicators of actual behavior involved than convictions (Blumstein and Cohen, 1979). Some data on convictions, however, are presented.

Each rap sheet was reviewed to determine the number of times an individual was arrested. Only the most serious charge at each incident was coded regardless of whether the charges were altered at a later date or whether the individual was actually convicted for another offense. Also coded were the dates of the arrests, the seriousness code associated with the offense (on a one to nine scale), and the disposition of the arrest incident. The disposition used was the most serious disposition associated with any charge included in the arrest incident, even if that charge was added later as part of a bargaining process. For example, if an individual arrested for aggravated assault and auto theft (felony) had the assault charges dropped and pled guilty to unauthorized use of a motor vehicle (misdemeanor), and eventually was sentenced to jail for auto theft he would have been coded as having been arrested, convicted, and given a jail sentence for aggravated assault.

Other rules were established primarily with the aim of simplifying and clarifying the complex coding task so as to maximize the consistency between coders. The rules usually involved instructions on interpreting certain notations found on the rap sheets and methods for calculating the summary measures. In general, the coding rules functioned very well; after a short while, editing revealed only minor errors.

The fundamental rules for coding, discussed above, resulted in certain systematic biases in the data. By recording only the most serious charge and the most serious disposition for each arrest incident, we understated the number of criminal acts for which these individuals were arrested and overestimated the number of convictions for serious offenses. The extent of the bias, of course, is impossible to determine, since we had no direct measures of the criminal behavior of sample members. However, since the task at hand was not so much to obtain an accurate count of offenses

associated with arrests as to compile data that would allow us to discriminate among offenders, the bias in the direction of seriousness seemed appropriate. The number of arrests and the apparent seriousness of each incident were considered adequate as indicators of the overall seriousness of each individual's criminal career. Nevertheless, the reader should bear in mind that the data in many of the tables and the offense counts used as the dependent variables in the predictions reflect number of arrests and not number of criminal acts.

Summary Outcome Measures and Typology Development

The criminal histories of our subjects were summarized in a number of ways--a) numbers and kinds of arrests, b) first arrest, c) arrests by age, and d) indicators of the subject's specialization in crime. For predictive purposes, outcome measures were used that reflected both quantitative and qualitative differences in criminal careers. For quantitative predictions of violence and criminality we assumed that the general propensity toward violence or crime could best be measured by total number of arrests. To reflect qualitative differences in criminal careers we used categorical measures indicating whether an individual was or was not arrested for certain kinds of criminal behavior. The way in which these categorical measures were operationally defined, however, ensured that they reflected quantitative differences in criminal careers as well. In this section, we briefly describe these measures. A more detailed account, along with a presentation of the summary data, will follow in Chapter 4.

The arrests were grouped into four major categories: violent-aggressive, violent-economic, property, and minor. The first three categories included those offenses referred to as "index offenses" by the FBI. Violent-aggressive offenses included murder, rape, manslaughter, and assault (both felonious assault and misdemeanor assault). These offenses all share a basic aggressive quality and, except for those homicides occurring during the commission of, say, a robbery, lack an underlying economic motive. Other violent crimes, such as robbery and extortion, generally involve an economic motive and were grouped together under the rubric of violent-economic offenses. The category of property crimes includes such felony offenses as burglary, grand theft, receiving stolen property, forgery, and grand theft (auto). All other offenses were considered minor offenses, although some of these offenses, such as drug sales, brandishing a weapon, incest or child molesting[7] may not be uniformly regarded as minor. Summary counts of all arrests for violent offenses (violent-aggressive and violent-economic) and for major felony offenses (all violent and property offenses except

[7]There was one case of incest and 45 instances of child molesting in the combined samples. In most cases these offenders had committed other violent offenses as well. These offenses were not included in the violent offense category because we limited ourselves to "index offenses," as per FBI Uniform Crime Reports, when classifying offenses.

misdemeanor assaults) were also calculated. Excluded from the counts of felony offenses were drug-related felonies (sales, possession, etc.) and other offenses which could be charged either as felonies or misdemeanors (marijuana possession, etc.).

Beyond the number of arrests recorded for these subjects, other indices of criminality were calculated. The length of time from parole to being arrested for different kinds of offenses, for example, is another indicator of criminal activity, analysis of which can also provide needed information about the adequacy of short followup periods. Finally, we explored the issue of criminal specialization, both through an analysis of the distribution of arrests as well as through a count of subjects arrested for only one type of serious crime.

To predict propensity for committing certain kinds of offenses we used the simple counts of arrests described above: violent-aggressive, violent-economic, total violent, and total number of offenses. These predictions were intended primarily for advancing theoretical understanding of the precursors of chronic violence and general criminality. No attempt was made in these analyses to differentially weight the various offenses included in these summary measures. (Future analyses, however, may attempt to make finer distinctions than are made here.) Amount of followup was included in the prediction equations for YCRP to compensate for differential time at risk. For Preston, where the length of followup was directly related to the number of offenses found on the CII rap sheets (those with no records or very short records in 1978 were re-requested in 1980), we restricted the analysis to arrests occurring within the ten years of parole. Individuals with less than ten years of followup data were excluded from these analyses.

Our primary interest, however, was to determine whether it was theoretically possible to identify offenders of certain kinds, which is a different task than predicting numbers of criminal arrests. Although it appeared probable that the same variables that would predict, for example, the number of violent arrests would also be the best predictors and discriminators between individuals who did or did not commit these types of crimes, the contributions of the variables could be quite different. The details of how the typology was developed and the bases for classifying individuals as to type are presented in Chapter 4. In brief, the typology rests on distinguishing offenders in terms of the level of seriousness to which their careers rose. Thus, offenders were classified simultaneously in terms of the seriousness of their history of arrests and the potential breadth of their offense careers (offenders at each level of seriousness may have any number of arrests of a less serious nature, but none of a more serious kind). Based upon this typology, offenders were also dichotomized in terms of violent/nonviolent (chronic/violent-aggressive and chronic/violent-economic vs. all others) and in terms of chronic/nonchronic.

Analytic Methods

This section describes the analytic techniques used to explore the relationship between the data collected while the subjects were still in

Youth Authority institutions and the outcome measures described above. Two approaches to exploring these relationships were used: descriptive and predictive.

Descriptive analyses. Characteristics of the chronic vs. nonchronic and the five-level chronic offender types are presented in Chapter 4. For continuous variables, we calculated the means for each group and performed statistical tests of significance to determine whether these means differed more than would be expected if these groups were drawn at random from the larger samples. For the chronic/nonchronic comparisons, we used t-tests and for the five-level comparisons, analysis of variance. For these latter comparisons, tests of linearity were also made on the assumption that the offender groups defined a continuum of career seriousness. For categorical variables, we presented the percentage of each group showing particular characteristics or responses. Most of the categorical background variables were dichotomized to simplify their presentation. Chi-square tests were performed to assess statistical significance. For the five-level comparisons, we included a test appropriate for ordinal variables: Kendall's Tau C.[8]

Predictive analyses. For predictions involving numbers of arrests, multiple regression was used, with the logarithm of the arrest measures used to compensate for skewness. For predictions involving dichotomies, such as chronic/nonchronic and violent/nonviolent, both multiple regression and discriminant analysis were used. Because of the mathematical equivalence of these techniques, we took advantage of the discriminant program in SPSS to determine which combination of variables provided the most stable predictive power, and then used the multiple regression program to arrive at a prediction equation for assigning each sample member a prediction score. Finally, in order to assess the more qualitative differences among the types, we used discriminant analysis to differentiate between them.

Although the use of these ordinary least squares (OLS) regression techniques is likely to result in a certain amount of bias in the estimation of particular effects, the bias was probably not very large and was not considered serious enough to warrant the use of less commonly-understood and less easily-interpretable alternatives. Briefly, when variables such as numbers of offenses or dichotomies are being predicted, the underlying distributions of these variables make it likely that errors of prediction will be neither normally distributed nor homoscedastic (having equal variances at each point), both of which are assumed with ordinary least squares methods (Palmer and Carlson, 1976). Opinions as to the seriousness of these violations of the OLS assumptions differ (Goodman, 1976); nevertheless, alternative methods have been developed both for dichotomous variables--logit models (Hanushek and Jackson, 1977)--and for variables, like counts of arrests, that are constrained (to be above zero) and highly

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[8] This statistic is analogous to a correlation for continuous variables, but is employed with two ordinal variables.

skewed--tobit models (Greene, 1981, 1982). However, our own research (Haapanen, 1982) had led us to agree with those who argue for the robustness of the OLS method. In general, the direction and statistical significance of OLS coefficients were found to be very close to those obtained with logit and tobit models in criminal justice applications when logarithms of "count" measures were used in place of the raw data themselves and when a) sample sizes are large, b) predictive power is relatively low, and c) the data are not extremely skewed. The present data meet these conditions. Thus, since OLS methods provide reasonably good estimates, and since they are the most commonly-understood and easily-interpretable of the multivariate prediction techniques, we have used them throughout this study.

The details of each of these approaches will be discussed following a description of the processes for selecting variables and compensating for missing data.

Variable selection. Variables were selected as possible predictors through a process of elimination. At our disposal were a large number of variables measuring different aspects of family background, aptitude, attitudes, psychological characteristics, general behavior, and delinquent behavior. Where possible, variables were combined into factors in order to obtain more general measures and to increase reliability. Factors were mainly developed from individual items on the Youth Opinion Poll questionnaires administered at Preston and YCRP and from family background and interview items included on the Fricot data set. Selection was aided by direct examination of the relationship between each variable and the outcome measures, with selection being based to some degree on the apparent predictive power of the variables in question. Our final lists of potential predictors, then, included variables encompassing each of the areas listed above that appeared to have the strongest bivariate relationship to the outcome measures.

Categorical variables included in the analyses were entered as dichotomies (coded "0" or "1"). This standard way of treating categorical variables, called "dummy coding," was used with the type of Youth Authority commitment offense and with ethnicity.[9]

The next step in the selection of variables was to isolate a set of variables common to both the Preston and YCRP data sets. Although both sets of data included psychological and attitudinal variables, they each included variables not available in the other set. The YCRP data set, for example, included more psychological measures, primarily because the original research was designed to study the differential effects of two therapeutic modalities. The Preston data set, which focused more on developing a typology

[9]Entered in this way, each variable refers to a specific category of individuals--for example, "Blacks" or "Hispanics"--and the coefficient associated with it refers to the average difference between the predicted scores of members of those categories and of those individuals not represented in the equation.

of offenders, contained more sociological/background variables. For the primary predictions, these unique variables were not included in the interest of making the results more comparable across samples.

The final step in the process of variable selection was to reduce the list further, eliminating many of the psychological variables, which tended to be highly intercorrelated. These high intercorrelations tended to generate unstable solutions, especially when random samples of the larger samples were used to cross-validate the prediction equations. Again, drawing on the results of earlier factor analyses, we chose from among the intercorrelated variables those that seemed most representative and theoretically interesting. By so doing, we increased the stability of our equations (we obtained virtually the same solutions for different random samples) without a great loss in overall predictive power. The variables used for each set of predictions are listed in Chapter 6 (Table 6.1).

Missing data. As is often the case with research of this kind, the data were not complete. This was true in varying degrees for most individuals in the Preston sample and for a substantial portion of the YCRP sample. The incompleteness was due, in part, to the unavailability of all sample members for each of the various tests and surveys at the time of their administration and also, in part, to storage losses. The percentages of the samples with missing data of each kind are shown in Chapter 6 (Table 6.1).

Although most data were missing solely due to random influences, the problem of missing data was not considered inconsequential, and steps were taken to investigate and minimize any potential systematic effects. Where only a small number of cases had missing data of various kinds, these cases were excluded from the analyses. The method employed to compensate for missing data for cases not excluded was a variant of "pairwise deletion" with means substituted for missing values and missing data indicators included in the analyses. (See Cohen and Cohen, 1975, Chapter 7.) Through the use of this technique, the effects of each of the variables in the equation was estimated using only those cases for whom data were present. In order to preserve any ability of these variables to account for apparent ethnic differences in outcome before the ethnicity variables were entered in the equations, the means for each ethnic group were used. The inclusion of missing data indicators in the equation (as dummy variables coded "0" or "1") serves to introduce an adjustment for the fact of having missing data of various kinds. The relationships among the missing data indicators and the other variables in the equation are taken into account in estimating the effects of the predictor variables, and the coefficients for the dummy variables themselves indicate the difference in mean levels of outcome for those with and without the various kinds of data.

The missing data dummy variables were entered into the equation at the last step. At this step, the significance level of each missing data indicator was examined to determine whether those with missing data of one kind or another were sufficiently different from those without missing data to warrant the inclusion of the dummy variable in the equation. Further, the coefficients of the other variables were examined to determine whether the addition of the dummy variable altered their predictive effects to an

appreciable degree. In very few cases did the dummy variables influence the prediction results sufficiently to warrant inclusion in the prediction equations. We concluded that missing data were randomly distributed in the population and that the predictions themselves could rest solely on the relationships observed for members of the samples who did have data of each kind. As a check, however, we reestimated the coefficients for the equations predicting numbers of offenses (logged) using only those cases without missing data on the particular variables used and found only minor differences between these coefficients and those obtained for the full sample.

Establishing the prediction equations. As mentioned earlier, all of the predictive analyses were performed using correlational techniques to establish linear combinations of variables which, together, minimized the average differences between the predicted and actual scores for each member. Since the goal was to arrive at equations that provided the best predictions with the fewest variables, we used a modified "stepwise" regression approach--the variable included at each step was that which added most to the predictive power of the equation, given the variables already in the equation. However, variables we felt were most useful as potential predictive tools were allowed to enter first. Others, less commonly-available measures, such as factors based on the YOP questionnaire, or whose "meaning" was ambiguous, as in the case of ethnicity,[10] were entered last. Moreover, because of the undesirability and/or improbability that decisions or policy would be based on racial differences, ethnicity was not included in the predictions focusing on chronic/nonchronic and violent/nonviolent distinctions.

For the predicting dichotomous dependent variables, we first used discriminant analysis to arrive at the best set of predictors. We then entered these variables into a multiple regression solution to establish the variable coefficients and to calculate a predicted score for each sample member. To increase the discrimination, we excluded the chronic/unclassified cases from the chronic vs. nonchronic analysis, comparing the nonchronics only to those in the violent and property categories. The resultant equations, however, were applied to all chronic offenders to test their predictive power.

The discriminant analysis program was used because when these analyses were performed, only version 8 of SPSS was available. The discriminant program allowed us to specify a minimum significance level for allowing the variables to enter into the equation and remove those variables that no longer made a minimal contribution after other variables were included. This minimum criteria for entry and removal was set at $p<.10$. To further minimize the possibility that the resultant equations were based upon the influence of random fluctuations on the correlations between variables, we

[10]The variables used to indicate ethnicity, as an example, actually serve as indicators of all the differences in background and subsequent experience between the members of different races in our samples. Since these racial groups differed along a number of dimensions, many of which were also found to be related to outcome, these ethnicity indicators tended to be relatively powerful predictors, overpowering other more meaningful variables, if entered early.

divided each sample into two randomly-selected subsamples, the equations being constructed using one of these and the resultant equation applied to the other to test its ability to correctly classify individuals.

Although our original intention was to perform these analyses on the Preston sample and then to apply the resultant equations to the YCRP sample as a means of cross-validation, we did not systematically follow this procedure for two main reasons. First, although many of the variables in the two data sets were comparable in content the measures themselves were not identical and were based on different metrics of measurement. The prediction formula from one data set could therefore not be applied, in a straightforward manner, to the other. Second, it became apparent, upon examination of the subsequent offense data that the Preston sample was somewhat more "criminal" than the YCRP sample. At the same time, the samples differed in relation to certain important predictors of criminality such as age at entry to the Youth Authority and number of prior offenses. Since we could not assume that the effects of these variables were linear, so that their effects within a younger, less-established criminal sample would be the same as for an older, more criminally sophisticated sample, we decided to apply cross-validation methods within samples as part of the discriminant analysis step.[11]

The variables that were stable in their predictive power under these criteria were then included in a multiple regression program to arrive at a final prediction equation. Multiple regression was used for this purpose because, although in the binary dependent variable case, regression and discriminant analysis are mathematically equivalent, multiple regression provides more easily interpretable coefficients for the predictors and calculates predicted scores in the metric of the variable being predicted. The multiple regression coefficients, in this instance, can be regarded as roughly indicating the increase in probability of being a chronic or violent offender for each unit increase in the predictor variable.

In order to provide a better basis for understanding the predictive power of these equations as applied to our samples, we had the regression program calculate predicted scores on these outcome variables and presented the distributions of members of each "actual" category by their predicted scores (Chapter 6). Care should be taken, of course, in attempting to generalize from these findings to other populations, since our samples may not be representative samples of an offender population.

For predictions involving the numbers of arrests of various kinds (logged), multiple regression was used (SPSS, version 9) with a similar

[11]In future studies, we will attempt to overcome these two main problems by combining the Preston and YCRP samples, using standardized scores on the comparable variables and dividing this combined sample into random subsamples which include members from both Preston and YCRP. With such a cross-section of the two samples, the issues of the effects of variables known to differ between the samples can be addressed more directly.

stepwise approach and an entry criterion of $p<.05$ for the coefficient. The variables were entered stepwise within blocks, roughly corresponding to the temporal primacy of the variables (e.g., prior offense and commitment offense variables were entered before the psychological and questionnaire variables). The resultant equation was then examined, using "backwards elimination" to remove variables that no longer had predictive power after the other variables entered (the p-value for elimination was set at .10). Because these analyses were primarily theoretical and exploratory, ethnicity was allowed to enter, but only after all other predictors had entered. Also included in these analyses were an indicator of socioeconomic status, available only for the Preston sample, and twelve-month parole officer ratings on three dimensions, these latter variables being available only for the YCRP sample.

The variables in the final equations were derived through a standard cross-validation procedure, with the final coefficients obtained from the total samples. The samples were divided into two randomly-selected halves, and the stepwise procedure outlined above was employed with each half. The equation developed in each half of the sample was applied to the remaining half to determine its ability to predict outcome in that subsample. The variables in the equation with the highest predictive power on cross-validation were used to predict outcome in two additional random subsamples in order to confirm the independent contributions of the variables and were then applied to the total samples to obtain the final prediction equations. Thus, to the extent that the present offender populations are representative of other populations of offenders, the variables and their coefficients presented in this report can serve as a reasonable basis for generalization.

Discriminant analysis was also used with the chronic offender typology in order to more fully understand the qualitative differences among individuals whose subsequent offense careers differed in the ways defined by the typology. For these analyses, a stepwise approach was again used, with variables entered and maintained in the analysis if their contributions to minimizing Wilk's Lambda were significant at the .10 level. Because the functions themselves, their associated statistics, their mean values by chronic offender group, and their combined ability to discriminate between pairs of groups may be of interest to some readers, we have included copies of the relevant pages of the quite-readable SPSS output for these analyses as Appendix D. Our discussion of these analyses focuses on the highlights of the findings and on the possible usefulness of such discriminations for predicting type of chronic careers.

In the analyses using the full chronic offender typology, the entire list of comparable variables for the Preston and YCRP data sets was used. We also included the indicator of SES that was unique to the Preston data set and the twelve-month parole officer ratings that were unique to the YCRP data set. Because these analyses were basically exploratory, and because they generally did not affect the other predictions, the missing data indicators were not included in the discriminant analyses. Missing data was handled through simple mean substitution.

CHAPTER 4

OFFENSE CAREERS AND THE CHRONIC OFFENDER TYPOLOGY

This chapter presents descriptive information on the young offenders' subsequent offense careers. The career data cover the entire followup periods for Preston and YCRP, but for Fricot, only adult arrests (after age 18) were included in order to make the data more comparable with those from the larger samples. Presented are a) the numbers of offenders arrested for committing various kinds of crimes and the number of these arrests; b) the number and rate of convictions associated with types of arrest offenses; c) the numbers of offenders subsequently recommitted to state or federal prisons; d) the length of time to the first arrest of each major type; e) the probabilities of incurring additional arrests within each general crime category; f) arrest rates by age; g) subsequent arrests according to CYA commitment offense; and h) the number of specialists within each major category of subsequent offenses.

Following these descriptive data, we present the basis for and definitions of the chronic offender types.

Numbers of Offenders and Offenses

Table 4.1 shows the total number of subsequent arrests and the distribution of these arrests for the combined sample. Also shown are the cumulative numbers and percentages of offenders and arrests (both at or below and at or above a given point). As shown, 180 (6.5%) had no arrest during followup, whereas 258 (9.3%) had 20 or more. More than half (53.4%) had eight or more arrests over the followup period. A minority of the offenders (42.2%) were responsible for a majority of arrests (72.2%) although, as will be shown in the next few paragraphs (see Table 4.4), the majority of the arrests incurred by the offenders in our samples were for minor crimes.

Tables 4.2 and 4.3 display similar data for the major categories of serious crimes. It can be seen from Table 4.2 that of the 2,783 total sample members over half (51.5%) were arrested for one or more violent-aggressive offenses; 674 (24.2%) were arrested only once for such an offense. As shown, 69.1% of the young offenders were arrested for at least one property offense after release from the institutions; 87.7% were arrested for at least one minor offense.

Table 4.3 shows these same kinds of arrest statistics for two major types of offenses--violent offenses and major felonies. Also shown are the number and proportion of arrests accounted for by those with at least a given number of arrests. It can be seen that almost two-thirds (65.3%) of the sample were arrested for a violent offense (violent-aggressive or violent-economic). The 25% of the sample who had three or more arrests for violent offenses accounted for 65% of the arrests for violent offenses. Over half

TABLE 4.1

Number and Percentage of Subjects Arrested During Followup: All Samples Combined

Number of Arrests During Followup	Simple Frequencies				Cumulative Totals With That Many Arrests or Less				Cumulative Totals With That Many Arrests or More			
	Number of Subjects	Percent of Sample	Number of Arrests	Percent of All Arrests	Number of Subjects	Percent of Sample	Number of Arrests	Percent of All Arrests	Number of Subjects	Percent of Sample	Number of Arrests	Percent of All Arrests
0.....	180	6.5	0	0.0	180	6.5	0	0.0	2,783	100.0		
1.....	150	5.4	150	0.6	330	11.9	150	0.6	2,603	93.6	26,212	100.0
2.....	135	4.9	270	1.0	465	16.7	420	1.6	2,453	88.2	26,062	99.4
3.....	155	5.6	465	1.8	620	22.2	885	3.4	2,318	83.3	25,792	98.4
4.....	152	5.4	608	2.3	772	27.7	1,493	5.7	2,163	77.8	25,327	96.6
5.....	177	6.4	885	3.4	949	34.0	2,378	9.1	2,011	72.3	24,719	94.3
6.....	187	6.7	1,122	4.3	1,136	40.7	3,500	13.4	1,834	66.0	23,834	90.9
7.....	162	5.8	1,134	4.3	1,298	46.6	4,634	17.7	1,647	59.3	22,712	86.6
8.....	159	5.7	1,272	4.9	1,457	52.3	5,906	22.5	1,485	53.4	21,578	82.3
9.....	152	5.5	1,368	5.2	1,609	57.8	7,274	27.8	1,326	47.7	20,306	77.5
10-14.....	601	21.6	7,132	27.2	2,210	79.4	14,406	55.0	1,174	42.2	18,938	72.2
15-19.....	315	11.3	5,253	20.0	2,525	90.7	19,659	75.0	573	20.6	11,806	45.0
20+....	258	9.3	6,553	25.0	2,783	100.0	26,212	100.0	258	9.3	6,553	25.0
Total.....	2,783	100.0	26,212	100.0								

TABLE 4.2

Percentage of Subjects Arrested for One or More Offenses of Various Types: All Samples Combined

Number of Arrests	Violent/Aggressive Offense			Violent/Economic Offense			Property Offense			Minor Offense		
	No. of Subjects	%	% With That No. or More	No. of Subjects	%	% With That No. or More	No. of Subjects	%	% With That No. or More	No. of Subjects	%	% With That No. or More
0.....	1,348	48.5	100.0	1,783	64.0	100.0	861	30.9	100.0	341	12.3	100.0
1.....	674	24.2	51.5	583	21.0	36.0	556	20.0	69.1	300	10.8	87.7
2.....	404	14.5	27.3	244	8.8	15.0	403	14.5	49.1	271	9.7	77.0
3.....	174	6.3	12.9	110	4.0	6.2	288	10.3	34.6	294	10.6	67.2
4.....	95	3.4	6.6	35	1.3	2.3	221	7.9	24.3	260	9.3	56.7
5.....	53	1.9	3.2	14	0.5	1.0	155	5.6	16.3	231	8.3	47.3
6.....	17	0.6	1.3	9	0.4	0.5	105	3.8	10.7	183	6.6	39.0
7.....	13	0.5	0.6	3	0.1	0.2	62	2.2	7.0	160	5.7	32.4
8.....	4	0.1	0.2	-	-	0.1	45	1.6	4.7	111	4.0	26.7
9.....	-	-	-	2	0.1	0.1	31	1.1	3.1	120	4.3	22.7
10.....	1	-	-	-	-	-	56	2.0	2.0	512	18.4	18.4
Total....	2,783	100.0		2,783	100.0		2,783	100.0		2,783	100.0	

Note. Each category of offense is treated independently.

of the combined sample had three or more felony offense arrests; two-thirds had two or more. Merely 17.6% of the youths had no arrests for major felony offenses. Less than one-third (33%) of the sample accounted for over two-thirds (68%) of all felony arrests.

TABLE 4.3

Percentage of Subjects Arrested for One or More Violent or Major Felony Offense: All Samples Combined

Number of Arrests	Violent					Major Felony[a]				
	Number of Subjects	%	Subjects With That No. of Arrests or More: %	No. of Arrests	% of Arrests of That Kind	Number of Subjects	%	Subjects With That No. of Arrests or More: %	No. of Arrests	% of Arrests of That Kind
0....	966	34.7	100.0			491	17.6	100.0		
1....	635	22.8	65.3	4,591	100.0	382	13.7	82.4	10,106	100.0
2....	480	17.2	42.5	3,956	86.2	384	13.8	68.6	9,724	96.2
3....	284	10.2	25.2	2,996	65.3	327	11.7	54.8	8,956	88.6
4....	188	6.8	15.0	2,144	46.7	285	10.2	43.1	7,975	78.9
5....	116	4.2	8.3	1,392	30.3	268	9.6	32.8	6,835	67.6
6....	50	1.8	4.1	812	17.7	155	5.6	23.2	5,495	54.4
7....	35	1.3	2.3	512	11.2	140	5.0	17.6	4,565	45.2
8....	13	0.5	1.0	267	5.8	108	3.9	12.6	3,585	35.5
9....	9	0.3	0.6	163	3.6	74	2.7	8.7	2,721	26.9
10+...	7	0.3	0.3	82	1.8	169	6.1	6.1	2,055	20.3
Total....	2,783	100.0				2,783	100.0			

[a]Includes all violent and property offenses, with the exception of misdemeanor assaults.

Table 4.4 shows in summary form the number of arrests made during the followup of members of the three samples. These 2,783 youths were arrested a total of 26,212 times for an overall average of 9.52 arrests. Minor crimes accounted for over half (59%) of all arrests; major property offenses made up about one-fourth (24%) of all arrests. On average, these young offenders were arrested for 1.65 violent offenses over the followup period (1.04 + .61).

Tables 4.5, 4.6 and 4.7 show, for the three samples separately, the number of offenders arrested for offenses of various types, the number of arrests, and the average number of arrests for each type. Of the 1,622 youths in the Preston sample, for example (Table 4.5), 903 (55.7%) were arrested for at least one violent-aggressive offense; these offenders were arrested a total of 1,889 times for these offenses, for an average of 2.09, compared with an average of 1.16 over the entire sample.

TABLE 4.4

Number and Percentage of Arrests for Each Type of Offense:
All Samples Combined
(n=2,783)

Type of Offense	Number of Arrests	% of Total Arrests	Average per Subject
Violent/Aggressive.....	2,887	11.0	1.04
Violent/Economic.....	1,704	6.5	.61
Property.....	6,254	23.9	2.25
Minor.....	15,367	58.6	5.52
Total Arrests.....	26,212	100.0	9.42

TABLE 4.5

Number of Subjects Arrested for Offenses of Different Types
Preston Sample

Type of Offense	Number of Subjects	Percent of Total	Number of Arrests of That Kind	Average Per Subject of That Kind	Average for Total Sample[a]
Violent/Aggressive.....	903	55.7	1,889	2.09	1.16
Violent/Economic.....	641	39.5	1,102	1.72	0.68
Total Violent.....	1,126	69.5	2,991	2.66	1.84
Property.....	1,161	71.6	3,952	3.40	2.44
Minor.....	1,445	89.1	10,089	6.98	6.23
Major Felony.....	1,375	84.9	6,477	4.71	3.99
Any Offense.....	1,526	94.1	17,032	11.16	10.52

Note. The columns do not sum to total subjects or arrests, since the categories are not mutually exclusive.

[a]Number of subjects in total sample = 1,622.

As shown, the samples differed only slightly in relation to subsequent arrests. Ninety-four percent of the Preston and YCRP youths and 86% of the Fricot sample had at least one arrest subsequent to their parole from the Youth Authority (or after their 18th birthday, for Fricot). More than 80% of the Preston and YCRP subjects were arrested for at least one major felony offense (for Fricot the figure was 73.6%). Focusing on specific types of crimes, data in the tables show that nearly two-thirds of the Preston and YCRP subjects were eventually arrested for a violent crime (69.5% for Preston

and 60.5% for YCRP). About half of each sample were arrested for aggressive violent crimes. A slightly higher percentage of the subjects were arrested at least once for a major property crime (66.4% for YCRP and 71.6% for Preston). The figures for Fricot (which included only adult arrests) were slightly lower--54.2% arrested for a violent crime and 61.7% for a property crime.

The last three columns on these tables (4.5, 4.6, and 4.7) show the number of crimes of each type for which members of each sample were arrested, the average number of arrests for those individuals who had one or more arrests of that type (column 4), and the average number of arrests of that type for all members of the sample (column 5). These figures reinforce the conclusion that all three samples were from a select population of serious young offenders, with the most serious having been at Preston. For example, more than two-thirds (69.5%) of the Preston subjects were subsequently arrested for a violent crime, and each of these violence-prone offenders was arrested more than twice, on average, for violent crimes.[12]

TABLE 4.6

Number of Subjects Arrested for Offenses of Different Types
YCRP Sample

Type of Offense	Number of Subjects	Percent of Total	Number of Arrests of That Kind	Average Per Subject of That Kind	Average for Total Sample[a]
Violent/Aggressive.....	446	46.4	850	1.91	0.89
Violent/Economic.....	301	31.4	506	1.68	0.53
Total Violent.....	582	60.5	1,356	2.33	1.41
Property.....	637	66.4	1,904	2.99	1.98
Minor.....	833	86.8	4,409	5.29	4.59
Major Felony.....	769	80.1	3,026	3.93	3.15
Any Offense.....	904	94.2	7,669	8.48	7.99

Note. The columns do not sum to total subjects or arrests, since the categories are not mutually exclusive.

[a]Number of subjects in total sample = 960.

[12]In comparing the figures for the samples, bear in mind that the followup period for the Preston sample was longer than that for the YCRP sample (11.7 years versus 9.3). If the average numbers of offenses are adjusted for these differences in followup time, the two samples show greater similarity in their respective rates of offending. Preston averages, however, remain higher.

TABLE 4.7

Number of Subjects Arrested for Offenses of Different Types
Fricot Sample

Type of Offense	Number of Subjects	Percent of Total	Number of Arrests of That Kind	Average Per Subject of That Kind	Average for Total Sample[a]
Violent/Aggressive.....	86	42.7	148	1.72	0.74
Violent/Economic.....	58	28.9	96	1.66	0.48
Total Violent.....	109	54.2	244	2.22	1.21
Property.....	124	61.7	398	3.21	1.98
Minor.....	164	81.6	869	5.30	4.32
Major Felony.....	148	73.6	603	4.07	3.00
Any Offense.....	173	86.1	1,511	8.73	7.52

Note. The columns do not sum to total subjects or arrests, since the categories are not mutually exclusive.

[a]Number of subjects in total sample = 201.

A more detailed breakdown of the numbers of individuals arrested for various kinds of offenses and the numbers of offenses for which members of the three samples were arrested are presented in Tables 4.8 and 4.9. These figures show the aforementioned differences among the samples even more clearly. On the average, seven of each 100 members of the Preston sample were arrested for homicide during the followup period (Table 4.8), while the average number of homicide arrests for this sample (Table 4.9) was .08, indicating that some individuals were arrested more than once for homicide. The Preston sample averaged twice the number of arrests for homicides as found for the YCRP sample and four times as many as found for the Fricot sample. Altogether, these 2,783 young offenders were subsequently arrested 180 times for homicide, 188 times for rape, and 1,780 times for aggravated assault. Among the other serious offenses, burglary was the most common, with members of each sample averaging over one burglary arrest.

Convictions and Conviction Rates

Table 4.10 shows the number and percentage of subjects in the three samples combined who had convictions associated with various kinds of offenses. Convictions were operationally defined as any known disposition, other than simple release, associated with each arrest incident (see Appendix A for a list of disposition codes). This loose definition was used because the "rap sheets" provide somewhat unreliable data on convictions. In the case of multiple charges, for example, it was often unclear what the disposition

TABLE 4.8

Number and Percent of Subjects Arrested for Offenses of Selected Kinds
by Institution

Type of Offense	Preston (n=1,622)		YCRP (n=960)		Fricot (n=201)		All Three Samples Combined (n=2,783)	
	Number Arrested	Percent of Sample	Number Arrested	Percent of Sample	Number Arrested	Percent of Sample	Number Arrested	Percent of Sample
Violent/Aggressive								
Homicide.....	112	6.9	41	4.2	5	2.5	158	5.7
Rape.....	104	6.4	45	4.7	12	6.0	161	5.8
Aggravated Assault.....	681	42.0	317	33.0	60	29.9	1,058	38.0
Misdemeanor Assault.....	341	21.0	180	18.8	33	16.4	554	19.9
Total Violent/Aggressive[a]	903	55.7	446	46.5	86	42.8	1,435	51.6
Violent/Economic								
Armed Robbery.....	268	16.5	144	15.0	26	12.9	438	15.7
Strongarm Robbery.....	459	28.3	193	20.1	33	16.4	685	24.6
Other Person Crimes (kidnapping, extortion, etc.)	59	3.6	30	3.1	8	4.0	97	3.5
Total Violent/Economic[a]..	641	39.5	301	31.4	58	28.9	1,000	35.9
Property								
Burglary.....	898	55.4	462	48.1	92	45.8	1,452	52.2
Grand Theft.....	246	15.2	143	14.9	33	16.4	422	15.2
Receiving Stolen Property..	366	22.6	268	27.9	43	21.4	677	24.3
Forgery.....	253	15.6	92	9.6	30	14.9	375	13.5
Grand Theft Auto.....	324	20.0	92	9.6	25	12.4	441	15.8
Total Property[a].....	1,161	71.6	637	66.4	124	61.7	1,922	69.1
Minor								
Joyriding (nonfelony auto theft).....	303	18.7	190	19.8	47	23.4	540	19.4
Misdemeanor Theft.....	518	31.9	291	30.3	59	29.4	868	31.2
Sex Offenses.....	144	8.9	59	6.1	16	8.0	219	7.9
Weapons (carrying, concealing, etc.).....	343	21.1	177	18.4	28	13.9	548	19.7
Drug Use.....	838	51.7	409	42.6	69	34.3	1,316	47.3
Drug Sales.....	153	9.4	82	8.5	11	5.5	246	8.8
Liquor.....	644	39.7	278	30.0	43	21.4	965	34.7
All Other Offenses.....	1,156	71.3	655	68.2	122	60.7	1,933	69.5
Total Minor[a].....	1,445	89.1	833	86.8	164	81.6	2,442	87.7
Total[a].....	1,526	94.1	904	94.2	173	86.1	2,603	93.5

[a]Each category of offense is treated independently, so numbers and percents will not add to totals.

TABLE 4.9

Numbers of Arrests for Offenses of Selected Kinds and Averages per Subject by Institution

Type of Offense	Preston (n=1,622)		YCRP (n=960)		Fricot (n=201)		All Three Samples Combined (n=2,783)	
	No. of Arrests	Avg. Per Subject	No. of Arrests	Avg. Per Subject	No. of Arrests	Avg. Per Subject	No. of Arrests	Avg. Per Subject
Violent/Aggressive								
Homicide	132	.08	43	.04	5	.02	180	.06
Rape	120	.07	56	.06	12	.06	188	.07
Aggravated Assault	1,171	.72	517	.54	92	.46	1,780	.64
Misdemeanor Assault	466	.29	234	.24	39	.19	739	.27
Total Violent/Aggressive	1,889	1.16	850	.89	148	.74	2,887	1.04
Violent/Economic								
Armed Robbery	317	.20	179	.19	31	.15	527	.19
Strongarm Robbery	719	.44	294	.31	57	.28	1,070	.38
Other Person Crimes (kidnapping, extortion, etc.)	66	.04	33	.03	8	.04	107	.04
Total Violent/Economic	1,102	.68	506	.53	96	.48	1,704	.61
Property								
Burglary	2,242	1.38	1,047	1.09	211	1.05	3,500	1.26
Grand Theft	307	.19	178	.19	43	.21	528	.19
Receiving Stolen Property	522	.32	392	.41	61	.30	975	.35
Forgery	359	.22	162	.17	44	.22	565	.20
Grand Theft Auto	522	.32	125	.13	39	.19	686	.25
Total Property	3,952	2.44	1,904	1.98	398	1.98	6,254	2.25
Minor								
Joyriding (nonfelony auto theft)	448	.28	324	.34	79	.39	851	.31
Misdemeanor Theft	855	.53	502	.52	92	.46	1,449	.52
Sex Offenses	220	.14	91	.09	20	.10	331	.12
Weapons (carrying, concealing, etc.)	458	.28	229	.24	40	.20	727	.26
Drug Use	2,492	1.54	842	.88	151	.75	3,485	1.25
Drug Sales	189	.12	94	.10	15	.07	298	.11
Liquor	1,631	1.01	533	.56	111	.55	2,275	.82
All Other Offenses	3,796	2.34	1,794	1.87	361	1.80	5,951	2.14
Total Minor	10,089	6.23	4,409	4.59	869	4.32	15,367	5.52
Total	17,032	10.52	7,669	7.99	1,511	7.52	26,212	9.42

was for particular charges. As shown, 89.3% of the combined sample were convicted at least once; among those with any arrests, 95.5% had at least one conviction. Almost half the sample had convictions associated with arrests for violent crimes, and over 70% had convictions associated with felony arrests. A large proportion of individuals who had arrests of each type also had convictions associated with arrests of those kinds.

TABLE 4.10

Number and Percentage of Subjects With One or More Convictions: Combined Sample

Type of Offense	Number Convicted	Percent of Sample	Percent of Those Arrested[a]
Violent/Aggressive	967	34.7	67.4
Violent/Economic	674	24.2	67.4
Total Violent	1,367	49.1	75.2
Property	1,523	54.7	79.2
Minor	2,129	76.5	87.2
Major Felony	2,025	72.8	88.4
Any Offense	2,486	89.3	95.5

[a]The figure reflects the percentage of those with at least one arrest who were convicted one or more times.

Conviction rates for the sample were calculated both as the percentage of arrests of each kind that resulted in a conviction and as the average of the conviction rates for the individual subjects in the sample. These figures are presented in Table 4.11. Also calculated were selected correlations between numbers of arrests, numbers of convictions and the conviction rates for Preston and YCRP. These coefficients are shown in Appendix B. These figures may not accurately reflect the true conviction rates for particular offenses and should be interpreted in light of the data source and the operational definition used here.

In general, these data show that for all types of arrests, the conviction rate, with a few exceptions, varied between 50% and 55%. For example, there were 2,887 arrests for violent-aggressive offenses and 1,433 convictions associated with these arrests (i.e., .496 convictions to arrests). The average individual conviction rates tend to be somewhat higher than the total conviction rates, suggesting the possibility that those subjects with more arrests tended to have lower individual conviction rates. This hypothesis was substantiated by the correlation coefficients between numbers

of offenses and conviction rates. These coefficients were negative, indicating that as numbers of arrests increased, conviction rates tended to decrease somewhat. Not found was any systematic difference in the conviction rates for arrests of different kinds. Moreover, although the conviction rates were all approximately 50%, they appeared to be relatively similar across individuals, as indicated by the high correlations between numbers of arrests and numbers of convictions. Thus, using numbers of convictions, rather than numbers of arrests, probably would not have substantially altered the results of our analyses.[13] Fewer subjects would have been defined as chronic, but although such a reduction in the number of chronic offenders would have been methodologically convenient, we felt the relative unreliability of the conviction data made such a criterion less desirable.

TABLE 4.11

Average Conviction Rates for Subjects and for All Arrests: Combined Sample

Type of Offense	Average Rate for Those With Arrests	Number and Rate for Sample		
		Arrests	Convictions	Conviction Rate
Violent/Aggressive.....	.511	2,887	1,433	.496
Violent/Economic.....	.552	1,704	877	.515
Total Violent.....	.532	4,591	2,310	.503
Property.....	.530	6,254	3,208	.513
Minor.....	.496	15,367	7,591	.494
Major Felony.....	.548	10,106	5,215	.516
Any Offense.....	.527	26,212	13,109	.500

Recommitments and Adult Prison Terms

Beyond the numbers of arrests and convictions, further indications of the seriousness of offense careers are provided by recommitments to state or federal prisons during the first 24 months of parole (Table 4.12) and by

[13] Exploratory analyses predicting numbers of convictions (violent, felony, and total) showed essentially the same variables to be predictive as for numbers of arrests. Multiple R values for these solutions, however, were slightly lower, indicating a lower prediction accuracy.

the commitments to adult prisons (state or federal) during the entire followup period (Table 4.13). Recommitments in 24 months were calculated for the two larger samples only, since the Fricot wards were so young at the time of their commitment to Fricot. Included in Table 4.12 are the total numbers of recommitments to Youth Authority, adult corrections, or federal prisons and the number of such recommitments that were not the result of mere technical violations of parole or probation. As shown, 1,361 (52.7%) of the combined Preston and YCRP samples had no recommitments during this two-year period (47.3% were recommitted at least once). When only nontechnical violations were considered, the percentage with recommitments dropped to 35.6%. The overall recommitment rate of 47.3% is similar to that observed for all male wards released to parole from Youth Authority institutions. Between 1968 and 1977, the revocation rate ranged from 41.4% in 1975 to 53.5% in 1968, with an overall average rate of 46.6%. Thus, the present sample is probably reasonably representative of all Youth Authority male wards in institutional programs, at least in relation to subsequent offense career patterns.

TABLE 4.12

Recommitments to YA, State or Federal Prison Within 24 Months Preston & YCRP Samples Combined

Number of Commitments	Any Reason		Nontechnical[a]	
	Number of Subjects	Percentage of Sample	Number of Subjects	Percentage of Sample
0.....	1,361	52.7	1,662	64.4
1.....	970	37.6	775	30.0
2.....	209	8.1	120	4.6
3.....	36	1.4	24	0.9
4.....	6	0.2	1	-
Total....	2,582	100.0	2,582	100.0

[a] Parole revocations without precipitating offenses (technical violations) were excluded.

Another indication of the seriousness of offense careers is in relation to the number of wards who subsequently served terms in adult prisons (state or federal) during the followup period. As shown in Table 4.13, 56.1% served no terms in adult prisons; conversely, 43.9% of these wards did go on to serve such terms. This percentage dropped slightly (to 42.6%) when commitments for technical parole violations were excluded, indicating that a small number of wards were revoked from parole for technical violations and placed

in adult prison, rather than Youth Authority institutions (probably due to age). Of the 43.9% who served adult prison terms, over half served more than one term in adult prison.

Further analysis (not shown) indicated that when recommitments to YA were included for the entire followup period, 66% of the Preston and YCRP samples combined were incarcerated at least once in state or federal-level institutions. For nontechnical violations, the figure was 59%. Comparing these figures to those obtained for 24 months of followup, it was found that of these subjects who served at least one prison term during the followup period, 71% were committed during the first 24 months of followup. For commitments other than technical violations of probation or parole, 60.5% of those who subsequently served YA or adult prison terms were committed to prison during the first two years of followup.

TABLE 4.13

Commitments to Adult Prison (State or Federal) During Followup: All Samples Combined

Number of Commitments	Any Reason		Nontechnical[a]	
	Number of Subjects	Percentage of Sample	Number of Subjects	Percentage of Sample
0.....	1,561	56.1	1,599	57.4
1.....	568	20.4	598	21.5
2.....	374	13.4	339	12.2
3.....	163	5.9	157	5.6
4.....	77	2.8	62	2.2
5+.....	40	1.4	28	1.0
Total.....	2,783	100.0	2,783	100.0

[a]Parole revocations without precipitating offenses (technical violations) were excluded.

Length of Time to First Arrest

The medians for length of time to different first arrests (the point at which one-half of those subjects who had been arrested had their first arrest), for the Preston and YCRP samples, are shown in Tables 4.14 and 4.15.[14]

[14]Since we focused on only adult arrests for the Fricot sample, these medians were not calculated.

More detailed tables, showing the number and proportions of individuals with first arrest at various parole exposure periods are presented in Appendix C.

From the medians presented in Tables 4.14 and 4.15, it is clear that first arrests for any offense tended to occur within the first year after parole. The median length of time to a first offense for the Preston and YCRP samples was .69 and .80 years, respectively. The median length of time for the more serious offenses were considerably higher, however. The median length of time to first arrest for violent offenses was 2.3 years for Preston and 2.7 years for YCRP, and for first property offense 1.9 and 2.1 years, respectively. These data indicate that parole followup periods limited to two or three years provide substantially complete information on recidivism as gauged by any arrest but misleading information on serious crimes. As shown in the second column of these tables, only about one-half of the violent and property offenders in the Preston and YCRP samples had been arrested for their first offense of that kind within two years.

TABLE 4.14

Median Length of Time to First Arrest for Preston Sample by Type of Offense

Type of Offense	Median Years to First Arrest	Percent of Offenders Arrested at Least Once Within 2 Years
Violent/Aggressive....	3.04	36.4
Violent/Economic.....	2.91	37.4
Any Violent.....	2.34	45.2
Property.....	1.85	53.0
Any Offense.....	.69	88.8

TABLE 4.15

Median Length of Time to First Arrest for YCRP Sample by Type of Offense

Type of Offense	Median Years to First Arrest	Percent of Offenders Arrested at Least Once Within 2 Years
Violent/Aggressive....	3.29	33.0
Violent/Economic.....	3.08	32.6
Any Violent.....	2.70	38.9
Property.....	2.08	48.7
Any Offense.....	.80	84.2

Probability of Offense Repetition

Another way to view subsequent offense careers is in terms of the probability of ever being arrested for another offense of a particular kind for those who had already been arrested for a given number of offenses of that kind during followup. Table 4.16 shows the proportion of individuals who were arrested for another crime of each type for the three samples combined. It is noteworthy that the proportion of individuals who were arrested for another crime of each type is roughly the same, regardless of the number of those crimes for which the subject was previously arrested. Further, these proportions are similar to the proportions of the sample who were arrested for any offenses of that kind (shown in the first row) at any time during the followup period. For example, of those who were arrested for a property offense (69% were), 71% were arrested a second time for a property offense; of these second-timers, 70% were arrested a third time, and 67% of those with three arrests, in turn, were arrested for a fourth property offense. Almost the same invariant ratios characterize the probabilities of repetition for each type of offenses. The data suggest a high degree of uniformity in the probability of committing additional offenses, indicating a lack of escalation in the probability of future arrests as the number of prior arrests increases. Third offenders of any given type, for example, were about equally as likely to be arrested for a fourth offense of that same type as were second-time offenders to be arrested for a third offense. Regardless of how many times they had been

TABLE 4.16

Probability of Being Arrested for the Same Type of Offense During Followup

Number of Each Type of Offense for Which Already Arrested	Probability of Being Arrested for Another Offense						
	Violent/ Aggressive	Violent/ Economic	Property	Minor	Any Violent	Major Felony	Any Offense
0.....	.52	.36	.69	.88	.65	.82	.94
1.....	.53	.42	.71	.88	.65	.83	.94
2.....	.47	.41	.70	.87	.59	.80	.94
3.....	.51	.36	.67	.84	.60	.79	.93
4.....	.48	.44	.66	.84	.55	.76	.93
5.....	.40	.54	.65	.82	.50	.71	.91
6.....	.51	.33	.68	.83	.56	.76	.90
7.....	.28	.40	.66	.82	.45	.71	.90
8.....	.20	-	.64	.85	.55	.69	.89
9.....	-	-	-	.81	.44	.70	.89

arrested, violent-aggressive offenders had about a 50/50 chance of being arrested again for a violent-aggressive crime (at least up to the 7th arrest, where the effects of incarceration may be influential). In other words, the probability of arrest for each type of offense appeared largely unaffected by the number of priors of that type.

It should be kept in mind that these were not first offenders. On average, the rap sheets showed 2.8 prior arrests for the Preston sample, and 2.0 for YCRP (including the commitment offense). As was mentioned previously, even the Fricot youths had an average of three prior police contacts described in their case histories. Rough estimates from case file data available for Preston and YCRP indicated that these subjects typically had over four police contacts prior to the present term, indicating that we were dealing with what most would consider chronic juvenile offenders. As such, these youths would already have reached the point, described by Wolfgang, et al. (1972), where the probability of committing another offense stabilizes. Of major interest here is that in our samples the probabilities of rearrest for specific types of offenses also stabilized, and at fairly high levels.

Arrest Rates by Age

Although the probabilities of rearrest for various offenses remained relatively stable, the arrest rates declined for each sample as its members got older. This decrease in criminal behavior did not appear to be due simply to sample attrition from death, limited followup, or incarceration. Rather, the data suggest that as each cohort matured, its members committed fewer and fewer crimes per year. Some of the decline may be due to a portion of each sample having completely desisted from further criminal behavior after a certain age, but even for known active offenders, the rate of arrest went down as they got older.

These conclusions are based upon longitudinal analyses using three increasingly exclusionary adjustments to the samples (Preston and YCRP) to control for factors other than age which may have affected the rate of arrests. In general, each sample was adjusted to take into account: (a) that some individuals were simply not able to commit crimes due to death or state-level incarceration, and (b) that the followup period ended before some individuals reached certain ages. Accordingly, the basic ("street-time") sample for each age excluded those members who died prior to reaching that age, were not followed up to that age, or who were in prison for the entire year (time spent in county and local jails was not known and therefore not included in these analyses). Tables 4.17 and 4.18 show how this street-time figure was derived. The second column on these tables (column 'a') shows the number at each age for whom followup data were available and who were not deceased.. From this figure we subtracted the number who spent the entire year in prison (column 'b') to obtain the number with any street-time (column 'c'). It was these members of each

sample who, theoretically, were in a position to commit crimes.[15] Some of these individuals, however, did spend a portion of each particular year in state prison. To control for the fact that they were not, with a few exceptions, able to commit crimes leading to arrest while in prison, we calculated the number of aggregate man-years of prison time served by each cohort during the year and subtracted that figure (column 'd') from the figure in column 'a' to obtain the number of man-years during which these individuals were not in prison (column 'e'). For example, a man serving three months in prison while 19 years old would contribute three-fourths of a year to the aggregate man-years of street-time for 19-year olds.

TABLE 4.17

Sample Derivation for Arrest Rates by Age:

Preston Sample

	Sample With Followup (deaths excluded)					Sample Known to Have Arrests at This Age or Later (known "active" offenders)		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Age	n	Number Serving Entire Year in Prison	Number With Any Street-time (a-b)	Man-years of Prison-time	Man-years of Street-time (a-d)	n	Man-years of Prison-time	Man-years of Street-time (f-g)
18....	1,611	98	1,513	539	1,072	1,556	522	1,034
19....	1,611	88	1,523	405	1,206	1,516	393	1,123
20....	1,611	136	1,475	360	1,251	1,479	344	1,135
21....	1,611	146	1,465	304	1,307	1,450	289	1,161
22....	1,611	186	1,425	292	1,319	1,406	272	1,134
23....	1,610	184	1,426	310	1,300	1,349	280	1,069
24....	1,609	225	1,384	329	1,281	1,268	279	989
25....	1,609	218	1,391	335	1,274	1,183	276	907
26....	1,606	175	1,431	292	1,314	1,095	215	840
27....	1,601	129	1,472	242	1,359	*		
28....	1,525	85	1,440	186	1,339	*		
29....	1,140	43	1,097	108	1,032	*		

*Note. At this age, limited subsequent followup makes it less likely that the last known offense is the last actual offense.

[15] Parallel analyses excluding all individuals with nine or more months of the year in prison did not alter the general results found with this less exclusive sample.

TABLE 4.18

Sample Derivation for Arrest Rates by Age:

YCRP Sample

	Sample With Followup (deaths excluded)					Sample Known to Have Arrests at This Age or Later (known "active" offenders)		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Age	n	Number Serving Entire Year in Prison	Number With Any Street-time (a-b)	Man-years of Prison-time	Man-years of Street-time (a-d)	n	Man-years of Prison-time	Man-years of Street-time (f-g)
18....	960	60	900	239	721	897	229	668
19....	960	63	897	190	770	871	179	692
20....	946	83	863	186	760	832	174	658
21....	943	89	854	153	790	788	136	652
22....	941	72	869	143	798	732	126	606
23....	937	63	874	126	811	650	100	550
24....	934	65	869	132	802	*		
25....	900	41	859	99	801	*		
26....	704	19	685	57	647	*		

*Note. At this age, it is less likely that the last known offense is the individual's last offense due to limited followup time.

Finally, we adjusted the sample size in order to address the issue of whether the decline in the rates of arrest for these cohorts of offenders could be the result of some offenders having desisted from any further criminal activity, with the remaining "active" offenders continuing to be arrested at the same rate.[16] Although we could not tell from our data whether offenders completely desisted from any further crimes beyond a given age, we could determine the age at which each person was last arrested within the time-frame of our followup. Under the unlikely assumption that the individual had (and would continue to have) no further arrests after the

[16] This hypothesis was suggested by Blumstein and Cohen (1979) based on their analysis of a small sample of known adult offenders who also had an arrest prior to age 21. These offenders showed no apparent decline in offense rates from age 21 to the followup date (between four and seven years later). Their results, however, may not generalize to a sample of serious juvenile offenders such as those studied here.

one last recorded for him, these data provide us with the highest possible estimate of the number who may have desisted and, conversely, the lowest estimate of the number of active offenders at each age.[17] Active offenders at each age, then, were defined as those who had a recorded arrest at that age or later. Because of the limitations on followup, we did decide, however, that last arrests occurring after age 26 for Preston and 23 for YCRP were so potentially unreliable as estimators of last actual offense that the last three age groups for each sample were not included in these analyses. Prison time for these offenders was again subtracted for years prior to the last arrest to obtain aggregate man-years of street-time for known active offenders (column 'h').

Tables 4.19 and 4.20 show the number and percentage in each sample who were arrested during each year (offenders), the number of arrests, and the average number of arrests for the total street-time sample, and for that sample adjusted for incarceration time and for those who may have desisted from further crime. Following Blumstein and Cohen (1979), individual arrest rates were estimated as the average number of arrests per year for the samples by dividing the total number of arrests by the number of individuals or man-years associated with each age.[18]

As shown in the third column of each table, the proportion of the street-time sample with any arrests during that year declined steadily with age. Similar declines are shown in all three rates of arrests. Separate analyses for violent and property offenses (results not shown) indicated that the first two rates for these specific types of offenses showed similar declines as did those for all offenses (rates for known "active" violent or property offenders were not calculated). In both samples, the decreases in arrest rates followed consistent linear trends, with the average decline in overall arrest rates being .15 arrests per man-year of street-time for the Preston sample and .13 arrests per man-year for the YCRP sample. These results are displayed in Figure 4.A. As shown, although the rate was lower at each age for YCRP, the two plots describe virtually straight lines with definite downward trends.

In the last column (and Figure 4.B) we see similar declines in average arrest rates for known active offenders in the Preston sample as for the total sample (average decline = .15 arrests per year). For YCRP, a leveling

[17] Note that because this method minimizes the estimate of active offenders, a decrease in offense rates would strongly suggest a decrease in criminal activity for these offenders. A constant rate or an increase, on the other hand, may be due to the bias in estimating the number of active offenders.

[18] This procedure will provide unbiased estimates of the average individual arrest rates under the condition that the length of time upon which the rate is based is equal across individuals. This condition is not met with regard to the total street-time sample since some of these individuals were incarcerated for some portion of that year. Since, however, we are interested primarily in comparisons from one year to the next and since we have no reason to believe that the bias would not affect each year's estimate similarly, these data were considered adequate for the purposes at hand.

TABLE 4.19

Distribution of Offenders and Arrests by Age:

Preston Sample

Age	(a) Number With Any Street-time	(b) Number of Offenders	(c) Percent of Street-time Sample (b-a)	(d) Number of Arrests	Arrest Rates: Street-time Sample (d-a)	Arrest Rates: Per Man-year of Street-time[a]	Arrest Rates: Per Man-year of Street-time (active offenders only)[b]
18.....	1,513	1,053	69.6	2,231	1.47	2.08	2.15
19.....	1,523	1,010	66.3	2,220	1.45	1.84	1.98
20.....	1,475	932	63.2	2,031	1.38	1.62	1.79
21.....	1,465	878	59.9	2,033	1.39	1.55	1.75
22.....	1,425	810	56.8	1,737	1.22	1.32	1.53
23.....	1,426	715	50.1	1,466	1.03	1.12	1.37
24.....	1,384	651	47.0	1,251	.90	.98	1.26
25.....	1,391	613	44.1	1,104	.79	.87	1.22
26.....	1,431	572	40.0	1,017	.71	.77	1.21
27.....	1,472	538	36.5	917	.62	.67	-
28.....	1,440	433	30.0	727	.50	.54	-
29.....	1,097	267	24.3	407	.28	.39	-
Average Decline Per Year.....			4.0		.11	.15	.15

[a] Number of arrests (column d) divided by the man-years of street-time (column e of Table 4.17).

[b] Number of arrests (column d) divided by the man-years of street-time for active offenders (column h of Table 4.17).

off is apparent after age 20, but since the method used for estimating the number of active offenders was likely to result in an underestimate of the number of active offenders, these data are somewhat suspect. In this regard, the data for the Preston cohort (which comprised a larger sample with longer followup) probably provide a more valid indication of the actual trends in arrest rate changes for active offenders. Even these figures, however, are based on artificially inflated estimates of the number of drop-outs and should not be considered to be unbiased estimates of the true arrest rates for active offenders; the true rates are likely to be lower than the figures on these tables would suggest, because the number of active offenders is likely to be higher.

TABLE 4.20

Distribution of Offenders and Arrests by Age:

YCRP Sample

Age	(a) Number With Any Street-time	(b) Number of Offenders	(c) Percent of Street-time Sample (b-a)	(d) Number of Arrests	Arrest Rates: Street-time Sample (d-a)	Arrest Rates: Per Man-year of Street-time[a]	Arrest Rates: Per Man-year of Street-time (active offenders only)[b]
18.....	900	596	66.2	1,207	1.34	1.67	1.81
19.....	897	550	61.3	1,135	1.26	1.47	1.64
20.....	863	455	52.7	913	1.06	1.20	1.39
21.....	854	434	50.8	927	1.09	1.17	1.42
22.....	869	426	49.0	809	.93	1.01	1.33
23.....	874	398	45.5	768	.88	.95	1.40
24.....	869	353	40.6	673	.77	.84	-
25.....	859	317	36.9	568	.66	.71	-
26.....	685	189	27.6	328	.48	.51	-
Average Decline Per Year.....			4.3		.10	.13	.08

[a]Number of arrests (column d) divided by the man-years of street-time (column e of Table 4.18).

[b]Number of arrests (column d) divided by the man-years of street-time (column h of Table 4.18).

Taken together, these longitudinal data strongly support a general maturational pattern: the average rate of criminal behavior (as indicated by arrests) declines with age for cohorts of serious juvenile offenders. Moreover, this decline in average rates appears to reflect a decrease in criminal activity across all members of the cohorts, with some (unknown number of) individuals desisting completely and the remainder ("active" offenders) committing offenses at an increasingly lower rate. The conclusion that these declines in rates of arrest are indicative of declines in criminal activity is supported by Petersilia, et al. (1977) and Peterson and Braiker (1980). They found similar declines in self-reported crimes among samples of incarcerated adults. Petersilia, et al., also found that the proportion of self-reported crimes that resulted in arrests increased with age, suggesting that the decline in arrest rates observed for the present sample was not due simply to an increased adeptness at avoiding arrest.

Figure 4.A: Offenses per Man-year of Street-time by Age

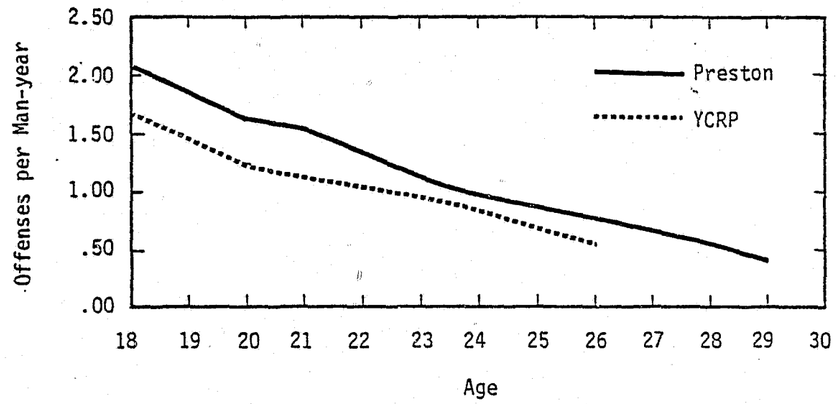
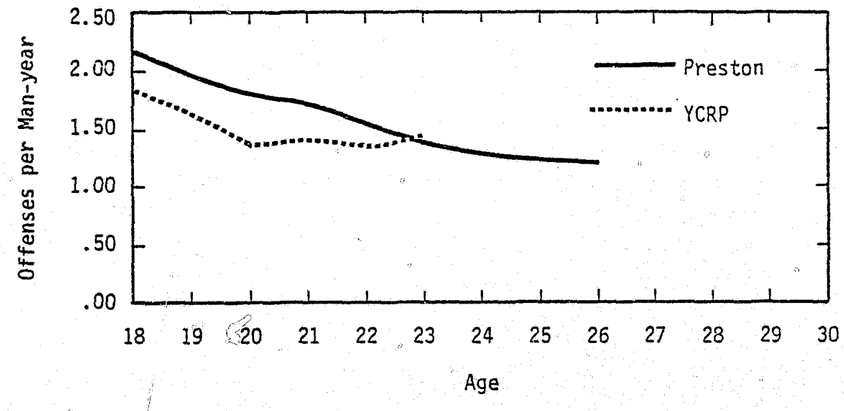


Figure 4.B: Offenses per Man-year of Street-time for Known Active Offenders by Age



Commitment Offense and Subsequent Arrests

Specialization in the subsequent offense careers of these offenders can be examined by looking at the relationship between commitment offense and subsequent offense career patterns. As shown in Tables 4.21 and 4.22, individuals committed for different types of offenses differed, although not substantially, in the kinds of offenses for which they were arrested during followup.[19] For both Preston and YCRP, individuals committed to the Youth Authority for a property offense were somewhat more likely than others to be arrested for another such offense after parole. Both violent-economic and violent-aggressive offenders in the Preston sample were more likely than others to have another arrest of that kind. In general, a slight tendency toward specialization is indicated by these data.

TABLE 4.21

Percentage Arrested for One or More Subsequent Offenses of Various Types, by Commitment Offense for Preston Sample

Commitment Offense Type	Violent/ Aggressive	Violent/ Economic	Property	Minor	Any Offense
Violent/Aggressive (n=253).....	68.8	48.2	65.2	88.9	93.7
Violent/Economic (n=132).....	56.8	47.7	68.9	87.9	93.2
Property (n=446).....	50.7	36.6	75.8	90.8	94.6
Minor (n=790).....	54.2	37.1	71.8	88.5	94.2
Total (n=1,621).....	55.7	39.5	71.6	89.1	94.1

TABLE 4.22

Percentage Arrested for One or More Subsequent Offenses of Various Types, by Commitment Offense for YCRP Sample

Commitment Offense Type	Violent/ Aggressive	Violent/ Economic	Property	Minor	Any Offense
Violent/Aggressive (n=135).....	48.2	30.4	53.3	79.3	90.4
Violent/Economic (n=65).....	35.4	44.6	69.2	87.7	92.3
Property (n=209).....	49.8	30.6	74.2	89.5	98.1
Minor (n=548).....	46.4	30.5	66.6	87.8	94.2
Total (n=957).....	46.6	31.5	66.6	86.9	94.4

[19] These analyses were not carried out for the Fricot sample, in which the number of youth committed for violent offenses was too small for meaningful analysis.

The same general conclusion holds when we look at average subsequent arrests by commitment offense (Tables 4.23 and 4.24). Overall, however, the type of offense for which these young offenders were committed was not highly predictive of the kinds of offenses for which they were later arrested.

TABLE 4.23

Average Number and Type of Subsequent Arrests By Commitment Offense for Preston Sample

Commitment Offense Type	Violent/ Aggressive	Violent/ Economic	Property	Minor	Any Offense
Violent/Aggressive (n=253).....	1.63	0.79	2.25	6.09	10.75
Violent/Economic (n=132).....	1.27	1.08	2.13	5.44	9.92
Property (n=446).....	0.97	0.61	2.74	6.14	10.46
Minor (n=790).....	1.11	0.62	2.38	6.44	10.55
Total (n=1,621).....	1.17	0.68	2.44	6.22	10.51

TABLE 4.24

Average Number and Type of Subsequent Arrests By Commitment Offense for YCRP Sample

Commitment Offense Type	Violent/ Aggressive	Violent/ Economic	Property	Minor	Any Offense
Violent/Aggressive (n=135).....	0.96	0.54	1.31	3.41	6.23
Violent/Economic (n=65).....	0.61	0.78	2.12	4.22	7.74
Property (n=209).....	1.00	0.49	2.30	4.51	8.30
Minor (n=548).....	0.86	0.51	2.02	4.98	8.37
Total (n=957).....	0.89	0.53	1.99	4.61	8.01

Violent or Property Specialization

We also looked at the issue of specialization more directly by categorizing offenders in terms of the types of major offenses for which they were arrested after release from an institution. An individual was considered a specialist in violent-economic crimes, for example, if he was arrested one or more times for a crime of that type and not for any other type of major offense (violent-aggressive or property). He could, however, have had any number of arrests for minor offenses. The numbers and proportions of these

"specialists" (for the larger samples only) are shown in Tables 4.25 and 4.26. These tables show that the extent of specialization within any category of major offense was slight, with the highest degree of specialization being in property crimes. Thus, even when specific offenses were classified into these rather broad categories making for a rather loose definition of specialization, we found only a slight tendency toward specialization in crime.[20]

TABLE 4.25

Subsequent Violent or Property Crime Specialization in Preston Sample by Offender Type

Offense Type (Subsequent Arrests)	Number With Any Offense	Number With Only That Type of Major Offense	Percent of Total Sample With Only That Type
Violent/Aggressive....	904	119 (13.2%)	7.3
Violent/Economic.....	642	41 (6.4%)	2.5
Any Violent.....	1,127	226 (20.1%)	13.9
Property.....	1,163	274 (23.6%)	16.9

TABLE 4.26

Subsequent Violent or Property Crime Specialization in YCRP Sample by Offender Type

Offense Type (Subsequent Arrests)	Number With Any Offense	Number With Only That Type of Major Offense	Percent of Total Sample With Only That Type
Violent/Aggressive....	445	79 (17.8%)	8.2
Violent/Economic.....	301	25 (8.3%)	2.6
Any Violent.....	581	141 (24.3%)	14.7
Property.....	637	209 (32.1%)	21.8

[20]This suggestion is also consistent with the findings and conclusions of Petersilia, et al. (1977) and Peterson & Braiker (1980), who found little evidence of specialization in crime among samples of California prison inmates.

Note that the percentages of specialists among offenders of each type (parenthetical figures in the second column of these tables) were higher for YCRP than for Preston. These figures suggest a slightly higher degree of specialization in the subsequent offense careers of the YCRP sample. Because the YCRP youths tended to have somewhat lighter adult criminal careers, both in terms of the seriousness and number of arrests, there would appear to be a relationship between overall criminality and a lack of specialization in crime, with the more serious and frequent offenders tending to be less specialized.

This is only a general trend, with many exceptions. There were, for example, certain individuals in each sample who were arrested as many as six times for very serious violent-aggressive crimes, but for no other types of felonies.

Offender Typology: Definitions

Because the samples consisted almost completely of "chronic" offenders, our classification focused primarily on the relative seriousness rather than extent of offense careers. In order to best capture qualitative as well as quantitative differences among them, we decided to ignore, for the most part, the absolute numbers of arrests. We focused instead on the most serious offense for which each subject was arrested during the entire followup period. Number of arrests may not accurately capture the qualitative seriousness of a particular career. For example, it does not seem reasonable to consider a ten-time minor offender as being the same threat to society as the four-time armed robber or the one-time murderer. On the other hand, we have seen that, in general, the number and seriousness of offenses tended to be related, with the more active offenders being arrested for a wider variety of crimes. To that extent a typology based on the most serious offense would also reflect quantitative differences. Within offender types, of course, there will be variation in the number of offenses committed, but we felt that even a single arrest for a serious crime as an adult following a Youth Authority commitment was ample grounds for classifying the individual as a chronic offender. As was shown earlier, however (Table 4.16, column 6), a large majority (83%) of those with felony arrests were arrested for more than one subsequent felony. Thus, very few individuals classified as chronic using this definition would have had only a single arrest for a major felony offense during followup.

The arrest offenses were classified into four main categories. In order of decreasing seriousness, they were:

Violent-aggressive: Murder, rape, manslaughter, and assault.
Violent-economic: Robbery (armed, strong-arm, bank), extortion, kidnapping.
Property: Burglary, receiving stolen property, forgery, grand theft, fraud, other felony theft, felony auto theft.
Minor: Any offense except the above (e.g., sex offenses, drug offenses, petty theft, traffic).

In general, an individual was classified as a "chronic violent-aggressive offender" if he was arrested for any of the crimes listed as violent-aggressive during the followup period. He may also have been arrested for any number of other kinds of offenses, but he was placed in this most serious category because, unlike others who may also have been arrested for a number of less serious offenses, he had been arrested for this most serious and dangerous type of crime. Similarly, an individual was classified a "chronic violent-economic offender" if he was arrested for any violent-economic crime but not for a violent-aggressive crime. The "chronic property offender" was arrested for property and lesser crimes but not for violent crimes.

Because these general rules allowed for what appeared to be logical misclassifications, they were refined somewhat. First, we felt that misdemeanor assaults, a specific offense included in the violent-aggressive offense category, were not, for the most part sufficiently serious to warrant classifying individuals as chronic violent-aggressive offenders. Accordingly, if the individual's only violent-aggressive arrests were for misdemeanor assault, he was classified in terms of his next most serious type of offense. The only exception was for those individuals with more than two misdemeanor assaults and no other violent arrests, who were classified as violent-aggressive on the grounds that only chronic violence was indicated. Second, we felt that a single property offense did not warrant the label "chronic", whereas a single violent-aggressive or violent-economic offense did. Thus, one-time property offenders and one-time misdemeanor-assault offenders who had no other serious offenses were placed in an "unclassified chronic offender" category (those with the combination of one property offense and one or two misdemeanor assaults were placed in the chronic property category). Into the unclassified chronic category were also placed those minor offenders whose offense careers were so extensive or serious that they could not reasonably be considered nonchronic. The formal definitions of the chronic offender categories, then, were as follows:

Chronic violent-aggressive: Offenders who had one or more arrests for a violent-aggressive crime during followup. Where the only violent-aggressive arrests were for misdemeanor assault, however, the individual was not classified as violent-aggressive unless there were more than two such arrests in combination with property offenses or more than one such offense in the absence of other violent or property offenses.

Chronic violent-economic: Offenders who had one or more arrests for a violent-economic crime, but no arrests for a violent-aggressive crime during followup (other than misdemeanor assaults).

Chronic property: Offenders who had two or more arrests for property crimes and no arrests for violent-aggressive or violent-economic crimes (except, again, misdemeanor assaults). Also included were those having one property offense and one or two misdemeanor assaults, on the basis that serious chronicity but not chronic violence was established.

Chronic unclassified: a) Offenders who had an arrest for only one property offense or one misdemeanor assault, but not both; b) three or more arrests for sex offenses, joyriding offenses, weapons offenses, nonfelony thefts, or drug use offenses; c) five or more liquor violations--drunk, drunk and disorderly, drunk driving, etc.; d) two or more arrests for drug sales; e) a total of six or more arrests of any kind.

Nonchronic offenders: By exclusion, this category included all non-offenders and those subjects with a) no violent-aggressive, violent-economic, or property arrests; b) no more than two arrests for minor offenses such as sex, joyriding, weapons, nonfelony theft, or drug use offenses; c) no more than four liquor violations; d) no more than a single drug sales arrest; and e) a total of no more than five arrests for minor offenses.

Although these definitions, particularly for the "unclassified" category, were somewhat arbitrary, they appeared to capture the essential qualitative and quantitative differences among our subjects. Table 4.27 presents the number of individuals classified as chronic offenders using the above criteria and the percentage of all chronic offenders classified on the basis of each combination of offenses. As shown, 1,916 or 80% of the 2,391 offenders classified as chronic had more than one subsequent major felony offense; 96% had at least one. Only 4% of all chronic offenders were so classified on the basis of misdemeanor assaults and/or minor offenses alone.

TABLE 4.27

Offense Characteristics of Chronic and Chronic/Unclassified Offenders: Combined Sample

	Number	Percent of Chronic Offenders
Chronic/Classified:		
Multiple major felonies.....	1,916	80.1
Major felony plus misd. assault....	233	9.8
Multiple misd. assault.....	22	1.0
Chronic/Unclassified:		
Single major felony (property).....	144	6.0
Single misd. assault.....	26	1.1
Multiple minor.....	51	2.1
Total Chronic.....	2,391	100.0

By basing the categories primarily on the inclusion, at each higher level, of more serious offenses, a difference in absolute numbers of arrests was built into the definitions as well. Violent-aggressive offenders, as an

example, could have committed a number of property offenses while the property offenders, by definition, could have committed no violent-aggressive offenses (except, one or two misdemeanor assaults). In order to clarify these quantitative differences among the types, the average numbers of arrests for subsequent offenses for each kind of category by chronic offender type are shown in Tables 4.28, 4.29 and 4.30. It is apparent from these tables that the classification scheme captured quantitative differences between the groups. In all three samples, for example, those in the violent-aggressive category had the largest total number of arrests. However, the number of arrests for minor offenses by members of these three categories of offenders was quite similar.

The classification scheme appears also to capture a certain amount of felony specialization among these offenders. Note, for example, on Table 4.28 (Preston) that although the violent-aggressive offenders were arrested for both violent-economic and property offenses, they had fewer violent-economic or property arrests than did those offenders classified in those specific categories. Similarly, the property offenders had more arrests for property offenses than did the violent-economic offenders. The same pattern held for the other samples as well.

TABLE 4.28

Average Numbers of Arrests of Various Types for Preston Sample
by Chronic Offender Groups

Subsequent Arrests	Chronic Violent/ Aggressive (n=791)	Chronic Violent/ Economic (n=278)	Chronic Property (n=251)	Chronic/ Unclass. (n=112)	Non-Chronic (n=190)	Total Sample (n=1,622)
Violent/Aggressive...	2.21	0.27	0.22	0.11	-	1.16
Violent/Economic.....	0.82	1.64	-	-	-	0.68
Property.....	2.71	3.03	3.59	0.60	-	2.44
Minor.....	7.14	6.74	7.07	5.16	1.14	6.22
Total.....	12.87	11.68	10.89	5.87	1.14	10.50

TABLE 4.29

Average Numbers of Arrests of Various Types for YCRP Sample
by Chronic Offender Groups

Subsequent Arrests	Chronic Violent/ Aggressive (n=382)	Chronic Violent/ Economic (n=157)	Chronic Property (n=176)	Chronic/ Unclass. (n=88)	Non-Chronic (n=157)	Total Sample (n=960)
Violent/Aggressive...	2.03	0.17	0.21	0.14	-	0.89
Violent/Economic.....	0.65	1.65	-	-	-	0.53
Property.....	2.09	2.75	3.46	0.72	-	1.98
Minor.....	5.60	4.75	5.74	3.28	1.43	4.59
Total.....	10.37	9.32	9.41	4.14	1.43	7.99

TABLE 4.30

Average Numbers of Arrests of Various Types for Fricot Sample
by Chronic Offender Groups

Adult Arrests	Chronic Violent/ Aggressive (n=71)	Chronic Violent/ Economic (n=31)	Chronic Property (n=34)	Chronic/ Unclass. (n=20)	Non-Chronic (n=45)	Total Sample (n=201)
Violent/Aggressive...	1.83	0.32	0.18	0.10	-	0.74
Violent/Economic.....	0.65	1.61	-	-	-	0.48
Property.....	2.48	2.97	3.44	0.65	-	1.98
Minor.....	5.92	4.65	5.91	3.75	0.64	4.32
Total.....	10.87	9.55	9.53	4.50	0.64	7.52

This chronic offender typology served as the basis for several of the predictive analyses. For the predictions focusing on the chronic/nonchronic distinction, we compared all chronic offenders (including the "unclassified" cases) with the nonchronics. For the violent/nonviolent predictions, members of the two violent offender categories were compared with all others.[21] Finally, we analyzed the samples using all five offender categories. These analyses sought to capitalize both on the apparent ranking of offense careers in terms of increasing seriousness and on the apparent quantitative differences between offender types.

[21]Because individuals with single misdemeanor assaults were placed in both the Chronic Property and Chronic Unclassified categories (the placement depending upon the other offenses), this distinction is not "pure." One hundred twenty-four (or 12%) of the 1,073 "nonviolent" offenders had arrests of this kind.

CHAPTER 5

CHARACTERISTICS OF OFFENDER TYPES

The tables in this chapter display the average scores, or the percentage of subjects obtaining a given score, on each of the major independent variables. Although these data are largely self-explanatory, a few comments have been made to help bring certain information to the reader's attention. Most impressive are the consistency of the findings within all three samples and the appearance of linear trends that place chronic violent-aggressive offenders and nonchronic offenders at opposite poles of several demographic, attitudinal, and behavioral continua. Degree of chronicity and violence-proneness appears closely paralleled by degree of social deprivation and psychological deviance.

Data from each sample are presented separately. In the first section we review the Preston sample, comparing scores of all chronic offenders with those of the nonchronic offenders followed by comparisons among the five types of offenders (chronic violent-aggressive, chronic violent-economic, chronic property, chronic unclassified, and nonchronic). The second and third sections present data from the YCRP and Fricot samples.

For those readers who are not interested in the details, a summary of these data is presented in the final section of this chapter.

Preston Sample

In the nine tables that follow we display the scores of the Preston chronic and nonchronic offenders on all major variables. Tests of significance were done by use of t-tests (for continuous variables) or chi-square.

Characteristics of chronic vs. nonchronic offenders. Table 5.1 contrasts the background characteristics of the Preston chronic and nonchronic offenders. As shown, youths of Black ethnicity were underrepresented in the nonchronic category. Chronic offenders were more often rated by reception center staff as being below average in mental ability. They more frequently had been placed in a foster home, were from large families of below average socioeconomic status, had lower achievement scores, and expressed more negative attitudes toward school.

There are few surprises in these data. In Table 5.1 we see the first in a series of findings that will consistently point to the same conclusion--that the most serious and persistent adult offenders were, as youths, more deviant in terms of social deprivation and psychological/behavioral adjustment. Within this very select group of serious offenders these differences were small but, as we shall see, quite consistent across the two large samples over a variety of variables.

TABLE 5.1

Characteristics of Preston Chronic and Nonchronic Offenders:
Background Characteristics From Intake Summary

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
GENERAL (%):			
Race:			
White	46.6	64.4**	48.6
Mexican-American	18.6	18.6	18.9
Black	32.3	14.4**	30.2
Other	2.2	2.7	2.2
Age at Latest Admission (%):			
15 or below	2.0	3.2	2.2
16	27.4	22.5	26.8
17	44.1	41.2	43.8
18	26.5	33.2	27.2
Average	17.0	17.0	17.0
Born in California	62.9	56.3	62.1
Evidence of Serious Psychological Disorders	36.1	39.8	36.4
Rated Below Average in Mental Ability	26.0	8.0**	23.7
FAMILY BACKGROUND (%):			
Lived in a foster home	18.4	7.8**	17.3
Parents at least high school graduates	30.0	38.1	31.0
Parents below average socioeconomic level	64.1	41.6**	61.5
Received some or all public aid	28.3	15.5**	26.8
Father unemployed	16.8	15.9	16.7
Father had crime record	30.1	21.6	29.1
Had 4 or more siblings	62.3	43.1**	60.1
Currently lived with Mom & Dad	34.0	33.0	33.8
Unbroken home at time of entry to Preston	36.2	34.6	36.0
Socioeconomic Index - Based on Self-report (high=low SES)	11.4	11.0**	11.3
EDUCATIONAL BACKGROUND (%):			
Last grade was 8th or lower	21.9	17.2	21.4
Last grade was junior or above	16.0	34.4**	18.1
Grade level (average)	9.4	9.7**	9.4
Positive attitude about school	20.0	29.7**	20.9
School misbehavior noted	90.6	86.2	90.1

**p<.01

*p<.05

Note. Percentages and averages in tables are based upon cases with valid data only; sample size figures are for total sample.

Table 5.2 indicates that the chronic offenders had more lengthy, diversified, and more serious prior records, in relation to rap sheet data; these data certainly underestimate the actual number of juvenile offenses (or arrests). The data in this table also show that the chronic offenders were younger at the time of their first police contact (M = 12.5 vs. 13.2), and had lower (worse) base expectancy scores (a combination of prior record, age, and ethnicity). Most youth in the chronic group had a prior commitment to the Youth Authority.

TABLE 5.2

Characteristics of Preston Chronic and Nonchronic Offenders:
Offense History Measures

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
CLINIC SUMMARY			
Age at first police contact	12.5	13.2**	12.6
Age at first YA commitment	14.4	14.8*	14.5
Violence in Past Records (%):			
No violence	54.0	52.9	53.8
Minor violence	29.5	25.6	29.0
Major violence	16.5	21.5	17.2
Used a weapon in offense/s (%)	16.5	20.0	16.8
Friends were delinquents (%)	82.6	78.4	82.1
BASE EXPECTANCY SCORE	494.9	546.9**	499.7
OFFICIAL OFFENSE HISTORY			
Type of Commitment Offense (%):			
Violent/Aggressive	15.6	15.4	15.6
Violent/Economic	8.1	8.5	8.1
Property	27.6	26.6	27.5
Minor	48.7	48.9	48.7
Prior YA Admissions (%):			
0	40.5	60.7**	42.7
1	32.3	25.4	31.6
2 or more	27.2	13.9**	25.7
Average	1.0	0.6**	1.0
Prior Offenses:			
Violent/Aggressive	.26	.18	.25
Violent/Economic	.15	.10	.15
Property	.72	.50**	.69
Minor	1.34	.90**	1.29
TOTAL (includes prior revokes)	2.94	2.06**	2.84

**p<.01

*p<.05

Shown in Table 5.3 are the pretest scores on the Jesness Inventory, and Behavior Checklist. As shown, the chronic offenders scored higher (worse) on Social Maladjustment, Value Orientation, Autism, Alienation, and the Asocial Index. They also indicated experiencing less Social Anxiety, a finding that we interpret as reflective of a lack of emotional responsiveness (i.e., callousness).

TABLE 5.3

Characteristics of Preston Chronic and Nonchronic Offenders: Jesness Inventory and Behavior Checklist

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
JESNESS INVENTORY (T-SCORES):			
Social Maladjustment	65.97	62.90**	65.61
Value Orientation	56.04	52.28**	55.61
Immaturity	54.67	54.72	54.68
Autism	56.15	54.48*	55.96
Alienation	55.86	51.99**	55.42
Manifest Aggression	52.57	50.07**	52.28
Withdrawal	56.82	57.15	56.87
Social Anxiety	49.22	52.50**	49.60
Repression	54.02	54.46	54.07
Denial	48.67	49.81	48.81
Asocial Index	70.16	67.49**	69.85
JESNESS BEHAVIOR CHECKLIST (RAW SCORES):			
Conformity	25.24	27.01**	25.44
Social Immaturity	19.64	19.44	19.63
Alienation	14.31	13.95	14.27
Sex Problems	9.61	9.18**	9.56
Speech Problems	8.31	7.98*	8.27
Obtrusiveness	14.87	13.43**	14.71
Responsibility	21.33	22.48**	21.45
Perturbability	15.03	14.81	15.00
Hostility	13.92	12.63**	13.78
Depression	11.42	10.85**	11.35
Halo	13.24	13.81**	13.30

**p<.01

*p<.05

Behaviorally, the chronic offenders were rated as less conforming and responsible. They were also seen by institution staff as more obtrusive and hostile, and as having more sex problems (primarily lack of modesty or discretion) and speech problems (inarticulateness). That they were rated as less likeable by staff (which the Halo scale reflects) does not come as a surprise, but their being seen as more depressed does. That may be in part related to the questionable appropriateness of the label given to this scale--many of the items on the Depression scale are probably more indicative of passive-aggressive behavior rather than clinical depression.

Table 5.4 summarizes the Interpersonal Maturity Level classifications given to the chronic and nonchronic offenders. As shown, the nonchronic offenders tended to score at the higher (I-4) level (53% vs. 34%). More specifically, a higher proportion of nonchronics were found in the I-4 Nx (neurotic anxious) and I-4 Se (situational emotional reaction) subtypes, whereas fewer were classified as I-3 Cfm (immature conformist), I-3 Mp (manipulator) or I-2 Aa (unsocialized aggressive). Somewhat unexpected was the finding that there were about as many I-2 Ap (unsocialized passive) types among the chronic as there were among the nonchronic offenders.

TABLE 5.4

Characteristics of Preston Chronic and Nonchronic Offenders: Interpersonal Maturity Level (I-level) and Subtype

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
I-LEVEL (%):			
I_2 - Egocentric	8.8	6.4	8.6
I_3 - Manipulative	57.0	40.4**	55.0
I_4 - Judgemental	34.2	53.2**	36.4
SUBTYPE (%)			
I_2 - Aa	2.0	0.0*	1.8
Ap	6.8	6.4	6.8
I_3 - Cfm	26.0	18.1*	25.1
Cfc	13.6	12.8	13.5
Mp	17.3	9.6**	16.4
I_4 - Na	15.3	16.5	15.5
Nx	14.8	26.6**	16.1
Se	3.1	9.0**	3.8
Cl	1.0	1.1	1.0

**p<.01

*p<.05

(Persons so classified generally give the impression of not being able to adequately cope with their environment.)

Average scores on the scales of the GATB are shown in Table 5.5. Statistically significant differences favoring the nonchronic offenders were found on the three GATB scales most highly correlated with general intelligence (and scholastic ability) as well as on Spatial Aptitude. Noteworthy are the low means on the scholastic ability-type measures for the total sample (more than one standard deviation below the national average on all three subtests). Scores on Preston youths on the Gates Reading Survey presented in previous reports (data that were, unfortunately, wiped out during the transfer of data to tape) showed that on average these 17-year-old Preston youths were reading at the 7th grade level.

TABLE 5.5

Characteristics of Preston Chronic and Nonchronic Offenders: General Aptitude Testing Battery (GATB)

Sample Characteristics	Total Chronic (n=752)	Non-Chronic (n=91)	Total Sample (n=843)
General Reasoning Ability	82.19	88.40**	82.86
Verbal Aptitude	80.77	85.66**	81.30
Numerical Aptitude	77.84	84.33**	78.54
Spatial Aptitude	96.12	101.15*	96.67
Form Perception	93.79	97.09	94.15
Clerical Perception	87.54	90.34	87.84
Motor Coordination	88.64	88.69	88.55
Finger Dexterity	87.35	90.07	87.64
Manual Dexterity	94.72	96.91	94.96

Note. GATB scores were obtained on only a subsample of the total. The respective numbers are given in parentheses.

**p<.01

*p<.05

On Table 5.6 are scores on factors derived from the pretest Youth Opinion Poll (YOP) items. Only minor differences appear on groups of items tapping attitudes toward parents, with the nonchronic offenders expressing slightly more positive attitudes. The most important differences were on scales relating to the youths' perceptions of their neighborhood environments, where chronic offenders reported seeing more activities indicative of criminal activity. The nature of the differences on these and other factor scales on Table 5.6 may more easily be interpreted by referring to the responses to individual items. Tables 5.7 and 5.8 show responses to selected items from these scales. Presented are items selected as being the least redundant, and of most theoretical interest and predictive value.

As shown in Table 5.6 (in percentage agreeing), the chronic offenders did not often differ from the nonchronic offenders in their responses to the YOP items. Most of the Preston youth presented a positive (probably overly positive) picture of home and family. The nonchronic offenders apparently had somewhat closer supervision and were more aware of not acting according to the wishes of their families. The nonchronics also admitted to getting less advice and help from parents on school work than did the chronic offenders.

TABLE 5.6

Characteristics of Preston Chronic and Nonchronic Offenders: Youth Opinion Poll Factors

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
FAMILY FACTORS			
Treated well at home†	7.40	7.42	7.40
Admiration of father†	3.45	3.46	3.45
Parental supervision†	6.11	6.10	6.11
Parental acceptance†	7.52	7.91*	7.57
Family Cohesion-General Factor	36.25	36.54	36.28
Low family conflict	14.28	14.19	14.27
Low parental pressure	15.05	15.63*	15.11
Monetary support	8.70	8.42	8.67
Parental trustworthiness	9.12	9.08	9.12
Tough environment	10.29	9.39**	10.18
SELF-PERCEPTIONS AND ATTITUDES			
Low self-image†	7.59	7.68	7.60
Self-blame for trouble†	4.36	4.46	4.37
Lack of companions in crime†	6.87	7.03	6.89
Felt changed at Youth Authority†	7.88	7.96	7.89
Felt would not be arrested again†	4.17	4.36	4.19
Neutralization of moral attitudes	10.42	10.32**	10.47
Unhappiness	5.92	6.07	5.93
Alienated attitude	4.51	4.66*	4.52
SCHOOL FACTORS			
Positive School Attitudes†	10.17	10.88**	10.25
School Misbehavior†	6.73	6.48	6.70
SELF-REPORT DELINQUENCY FACTORS			
Violent delinquency†	4.88	4.40**	4.83
Violent-economic delinquency†	2.00	1.76**	1.97
Runaway and joyride†	4.87	4.76	4.86
Drug use†	3.12	2.91*	3.09
Malicious mischief	5.33	5.07*	5.30

**p<.01

*p<.05

†Comparable to YCRP scales in content but not metric.

TABLE 5.7

Characteristics of Preston Chronic and Nonchronic Offenders:
Youth Opinion Poll Pretest - Selected Items

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
FAMILY ITEMS			
Felt very proud of parents	70.9	69.1	70.7
There were very few rules at home	39.0	29.8**	38.0
Parents wanted ward to go to college	45.3	49.5	45.8
Ward punished a great deal when young	19.6	12.2**	18.7
Felt house was as nice or better than others in neighborhood	89.1	89.9	89.2
Always careful of what was said to parents	34.4	23.2**	33.1
Felt had a very close family life with parents and siblings	46.2	41.4	45.6
Felt parents were less strict compared to school teachers	43.2	43.3	43.2
Felt home life was mixed up and confusing	19.1	18.7	19.0
Felt parents acted like they wanted him to change a great deal	50.7	43.3	49.9
Felt parents helped a great deal with homework	26.4	13.8**	25.0
Felt parents gave a great deal of advice	38.8	28.2**	37.6
Felt usually acted as family wished	38.1	49.7**	39.4
GENERAL ATTITUDE ITEMS			
Felt if kids stole something they were caught almost all of the times	25.3	34.8**	26.4
Main reason ward obeys law/rules "right thing to do"	35.9	44.4*	36.8
Felt cops are "mostly fair" to kids	34.3	49.2**	36.0
Felt "will feel happier at 30 years of age than now"	66.3	75.3*	67.3
Felt it wasn't hard for kids to stay out of trouble	78.6	80.8	78.9
Felt had a very good chance of getting what he wanted from life	27.7	39.0**	29.0
Felt voting was a waste of time	18.5	10.1**	17.5
Felt criminals are just as good citizens as anyone else	53.8	39.8**	52.2
Felt "today-no one cares about anyone else"	38.6	35.8	42.8
Felt bothered a lot when people asked him what he wanted to be	30.0	22.9	32.2
Felt planning early makes people unhappy since it hardly ever works out	39.2	30.2*	38.2
Felt "any man who wants to work can find a decent job"	67.8	77.3**	68.9
Felt if you want to have a lot of money, it doesn't matter if you use right or wrong ways to get it	26.0	16.0**	24.9

**p<.01

*p<.05

The general attitude items from the Opinion Poll also reflect only rather small differences, with the nonchronic offenders indicating greater optimism, higher regard for police, lower regard for criminals, and a greater expectation of being apprehended for stealing. Clearly, however, only a small percentage of either group were of the opinion that they were highly likely to be caught.

Table 5.8 shows the percentage of each group responding to the self-report delinquency items in the pretest YOP. The chronic offenders reported more extensive involvement in gang activity, use of drugs, and violent-dangerous behavior. Nonchronic youth were more often victimized.

TABLE 5.8

Characteristics of Preston Chronic and Nonchronic Offenders:
Youth Opinion Poll Pretest - Selected Items

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
SELF-REPORT DELINQUENCY ITEMS (%)			
Had got drunk on alcohol	81.6	78.5	81.2
Had been involved in gang fight	52.5	40.0**	51.1
Helped jump somebody	35.5	23.8**	34.1
Had used marijuana or pills	44.2	35.2**	43.2
Had stolen more than twice	87.3	86.2	87.2
Took part in a knife fight	47.7	41.4	46.9
Drove a car without permission	65.7	59.7	65.0
Snatched a purse-victim not harmed	20.3	16.6	19.9
Had a fist fight	92.0	89.5	91.7
Guys told me "they'd get me if..."	38.3	47.0**	39.3
Ward told guys "I'll get you if..."	34.7	30.1	34.1
Took part in a crime with weapons	31.7	25.8	31.0
Threatened a person with a weapon	35.6	27.8*	34.7
Took part in a planned burglary or robbery	46.3	40.0	45.6
MISCELLANEOUS ITEMS (%)			
Liked most teachers	47.3	61.3**	48.9
Cared quite a bit what teachers thought of him	65.4	71.4	66.1
Wanted to go beyond high school or to college	45.1	55.6	46.3
Skipped school over 10 times	55.3	53.0	55.1
Suspended over twice	56.1	47.5	55.1
Went around by himself	13.6	18.3	14.2
Two or more out of 3 best friends in trouble with police	64.1	50.6**	62.6
Last time in trouble-was alone	33.3	35.6	33.6
Ward thinks kid with record is "no big deal"	77.0	68.7**	75.8
Spends almost every night with friends	36.9	26.5**	35.7
Ward thought his neighborhood was a pretty good place	81.9	84.4	82.2
Weekly or everyday saw cops chasing or checking on kids in neighborhood	51.8	42.1*	50.6
Weekly or everyday ward saw kids fight in neighborhood	42.4	28.4**	40.8

**p<.01

*p<.05

Other items shown indicate a more positive attitude toward teachers, fewer delinquent friends, and less contact with them on the part of non-chronic offenders. That the neighborhoods of the chronic offenders were more conducive to delinquency can be inferred from their more often reporting street fights and police activity as commonplace in their areas.

Selected items from the posttest Youth Opinion Poll are shown in Table 5.9. As indicated by the asterisks, the nonchronic offenders presented a somewhat more positive evaluation of their institutional experience, although a large proportion of youths in both groups reported being involved in a fight while there. The majority felt they were helped by the institutional stay, an evaluation that could in part be related to the euphoria generated by their pending parole.

TABLE 5.9

Characteristics of Preston Chronic and Nonchronic Offenders:
Youth Opinion Poll Posttest - Selected Items

Sample Characteristics	Total Chronic (n=1,432)	Non-Chronic (n=190)	Total Sample (n=1,622)
QUESTIONS ABOUT YA TERM (%)			
Ward did not feel good at all about time spent at Preston	27.5	19.0**	26.6
Had thought about running away	41.4	36.9	40.9
Had a fist fight while at Preston	59.8	48.8**	58.6
Threatened guys ("he'd get them") at Preston	23.7	18.0	23.1
Was not very friendly to supervisors	12.8	6.6*	12.1
Didn't like "company time"	28.6	20.7*	27.7
Felt supervisors were too strict	25.0	20.5	25.4
Boys in ward's company fought quite a bit	26.7	18.9*	25.8
Felt had changed "quite a bit" since coming to Preston	74.3	75.4	74.4
Felt Preston helped him quite a bit	71.4	69.7	71.2
Felt that he received a "fair deal" at Preston	46.6	59.0**	48.0

**p<.01

*p<.05

Characteristics of offender types. Tables 5.10 through 5.18 compare the characteristics of the five offender types. Statistical tests of significance included Kendall's TAU C, chi-square, the F test and/or a test for linearity of means among groups, each of which were applied where appropriate. Kendall's TAU C or chi-square were shown whenever the data were discontinuous or nominal; F tests and tests for linearity were used with continuous measures. Kendall's TAU C provides a test of linearity for nominal data by ordering every possible pair of cases on the variables and testing the randomness (or concordance) of the ordering.

Data displayed in Table 5.10 indicate that the offender types differed from one another on several background variables. Perhaps more important are the many occurrences of linearity indicating a trend for higher (or lower) scores through the five offender types. On Table 5.10 the more serious and/or violent offenders were disproportionately of non-White ethnicity, from larger families of lower socioeconomic status, and more retarded in school. They were not, however, rated by reception center

TABLE 5.10

Characteristics of Preston Chronic Offender Types:
Background Characteristics From Intake Summary

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
GENERAL (%):					
Race:					
White	38.5	43.9	64.1	70.8	64.4**a
Mexican-American	21.3	17.1	15.9	13.3	18.6 b
Black	37.9	37.1	17.5	14.2	14.4**a
Other	2.3	1.8	2.4	1.8	2.7
Age at Latest Admission (%):					
15 or below	2.4	2.5	0.8	0.9	3.2
16	27.5	29.1	27.2	22.3	22.5
17	46.1	42.8	41.2	40.2	41.2 b
18	23.9	25.5	30.8	36.6	33.2**a
Average	16.9	16.9	17.0	17.1	17.0* lin.<.01
Born in California	63.6	61.0	64.2	59.3	56.3
Evidence of Serious Psychological Disorder	33.3	34.1	45.5	37.6	39.8* a
Rated Below Average in Mental Ability	26.9	26.8	23.0	25.0	8.0**a
FAMILY BACKGROUND (%):					
Lived in a foster home	18.1	20.9	13.9	24.7	7.8**
Parents at least high school graduates	25.0	31.1	39.5	38.8	38.1**a
Parents below average socioeconomic level	67.2	64.1	56.7	60.9	41.6**a
Received some or all public aid	31.6	29.9	19.7	22.9	15.5 a
Father unemployed	18.2	10.4	17.8	20.4	15.9*
Father had crime record	30.5	32.7	31.1	19.4	21.6
Had 4 or more siblings	66.0	60.5	54.9	57.8	43.1**a
Currently lived with Mom & Dad	36.0	31.6	33.8	26.1	33.0 b
Unbroken home at time of entry to Preston	38.3	29.0	37.7	36.2	34.6
Socioeconomic Index - Based on Self-report (high=low SES)	11.5	11.4	11.2	11.2	10.9** lin.<.01
EDUCATIONAL BACKGROUND (%):					
Last grade was 8th or lower	26.1	18.6	16.8	14.1	17.2**a
Last grade was junior or above	15.6	15.8	17.3	16.5	34.4**a
Grade level (average)	9.3	9.4	9.5	9.5	9.7** lin.<.01
Positive attitude about school	20.9	21.3	17.3	16.1	29.7
School misbehavior noted	91.7	91.1	91.1	81.1	86.2* b

**p<.01

*p<.05

[a]Kendall's Tau C p<.01

[b]Kendall's Tau C p<.05

lin.Probability level for test of linearity of means between groups.

intake staff as more psychologically disturbed, or disporportionately from broken homes. Only 36% of the entire sample had lived continuously with their natural parents.

Many differences among the offender types are also evident in their offense histories. Here again, as can be seen in Table 5.11, a linear trend is evident with the violent offenders having been younger at first police contact and having more extensive prior offense histories, prior commitments, and violence in their official past records.

TABLE 5.11

Characteristics of Preston Chronic Offender Types:
Offense History Measures

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
CLINIC SUMMARY					
Age at first police contact.....	12.4	12.5	12.6	13.2	13.2** lin.<.01
Age at first YA commitment.....	14.3	14.4	14.6	15.0	14.8** lin.<01
Violence in Past Records (%):					
No violence.....	49.3	48.8	68.4	62.7	52.9**a
Minor violence.....	31.3	32.5	20.6	30.7	25.6 b
Major violence.....	19.4	18.7	11.0	6.7	21.5**
Used a weapon in offense/s (%).....	18.9	14.0	11.8	16.3	20.0
Friends were delinquents (%).....	84.8	81.1	75.9	85.5	78.4 b
BASE EXPECTANCY SCORE	484.7	482.0	521.0	539.1	546.9** lin.<.01
OFFICIAL OFFENSE HISTORY					
Type of Commitment Offense (%):					
Violent/Aggressive.....	19.3	15.5	6.8	9.7	15.4**a
Violent/Economic.....	8.6	10.1	5.2	6.2	8.5
Property.....	24.6	26.6	37.5	29.2	26.6**a
Minor.....	47.5	47.8	50.6	54.9	48.9
Prior YA Admissions (%):					
0.....	38.7	37.4	46.2	48.6	60.7**a
1.....	33.6	32.7	26.7	34.9	25.4 b
2 or more.....	27.7	29.9	27.1	16.5	13.9**a
Average.....	1.0	1.1	1.0	0.8	0.6** lin.<.01
Prior Offenses:					
Violent/Aggressive.....	.33	.23	.11	.16	.18** lin.<.01
Violent/Economic.....	.17	.17	.10	.09	.10* lin.<.01
Property.....	.68	.74	.84	.61	.50**
Minor.....	1.34	1.39	1.25	1.38	.90** lin.<.01
TOTAL (includes prior revokes).....	3.00	3.05	2.75	2.63	2.06** lin.<.01

**p<.01

*p<.05

[a]Kendall's Tau C p<.01

[b]Kendall's Tau C p<.05

lin. Probability level for test of linearity of means between groups.

Scores on the Jesness Inventory and Behavior Checklist shown in Table 5.12 reveal a continuation of the same trends. Where there are statistically significant differences among the groups, a statistically significant linear trend is almost always evident also, with the more serious/violent offender being less well adjusted behaviorally and psychologically (we regard higher scores on Social Anxiety and Denial as positive).

TABLE 5.12

Characteristics of Preston Chronic Offender Types:
Jesness Inventory and Behavior Checklist

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
JESNESS INVENTORY (T-SCORES):					
Social Maladjustment.....	66.96	65.72	63.80	64.46	62.90** lin.<.01
Value Orientation.....	56.78	56.22	54.03	54.93	52.28** lin.<.01
Immaturity.....	55.04	54.02	54.19	54.83	54.72
Autism.....	56.25	56.41	55.42	56.25	54.48
Alienation.....	56.92	55.84	53.40	54.06	51.99** lin.<.01
Manifest Aggression.....	53.16	53.04	50.66	51.54	50.07** lin.<.01
Withdrawal.....	56.55	56.98	56.67	58.75	57.15
Social Anxiety.....	48.85	48.69	50.34	50.62	52.50** lin.<.01
Repression.....	53.97	53.86	54.34	54.06	54.46
Denial.....	48.68	48.56	49.31	47.52	49.81
Asocial Index.....	70.93	70.00	68.87	68.03	67.49** lin.<.01
JESNESS BEHAVIOR CHECKLIST (RAW SCORES):					
Conformity.....	25.14	24.61	25.71	26.50	27.01** lin.<.01
Social Immaturity.....	19.40	19.91	20.17	19.61	19.44*
Alienation.....	14.47	14.41	13.83	13.99	13.95* lin.<.01
Sex Problems.....	9.60	9.80	9.51	9.43	9.18* lin.<.05
Speech Problems.....	8.33	8.48	8.23	7.90	7.98** lin.<.01
Obtrusiveness.....	14.92	15.35	14.65	13.85	13.43** lin.<.01
Responsibility.....	21.24	20.91	21.75	22.10	22.48** lin.<.01
Perturbability.....	14.88	15.13	15.40	15.09	14.81
Hostility.....	14.05	14.36	13.50	12.80	12.63** lin.<.01
Depression.....	11.44	11.51	11.34	11.19	10.85* lin.<.01
Halo.....	13.23	12.89	13.50	13.58	13.81** lin.<.01

**p<.01

*p<.05

lin. Probability level for test of linearity of means between groups.

Table 5.13 shows the distribution of the offender types by I-level and I-level subtype. Noteworthy is the higher proportion of serious/violent offenders classified in the lower (I-2 and I-3) I-levels.

TABLE 5.13

Characteristics of Preston Chronic Offender Types:
Interpersonal Maturity Level (I-level) and Subtype

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
I-LEVEL (%):					
I_2 - Egocentric	10.2	8.2	6.8	5.3	6.4 a
I_3 - Manipulative	59.5	56.1	54.2	47.8	40.4**a
I_4 - Judgemental	30.3	35.7	39.0	46.9	53.2**a
SUBTYPE (%):					
I_2 - Aa	2.0	2.9	1.6	0.9	0.0
Ap	8.2	5.4	5.2	4.4	6.4
I_3 - Cfm	24.6	25.7	31.9	23.9	18.1*
Cfc	16.0	12.9	9.6	8.0	12.8* a
Mp	18.8	17.5	12.7	15.9	9.6* a
I_4 - Na	14.8	15.0	17.1	15.9	16.5
Nx	12.2	15.7	18.3	22.1	26.6**a
Se	2.7	3.6	3.2	4.4	9.0**a
Ci	0.6	1.4	0.4	4.4	1.1**b

**p<.01
*p<.05
[a]Kendall's Tau p<.01
[b]Kendall's Tau p<.05

Data on Tables 5.14 (GATB), 5.15 (pretest YOP Factors), 5.16, 5.17 (pretest YOP-selected items), and 5.18 (posttest YOP-selected items) show considerable consistency. On almost every variable where the groups differ, they also show linearity. There are few unexpected findings in these data, but it remains to be seen if these apparent linear trends hold for different samples. In the next section we compare the findings from the Preston sample with those from the Youth Center Study.

TABLE 5.14

Characteristics of Preston Chronic Offender Types:
General Aptitude Testing Battery (GATB)

Sample Characteristics	Chronic Violent-Aggressive (n=421)	Chronic Violent-Economic (n=135)	Chronic Property (n=137)	Chronic/Unclass. (n=59)	Non-Chronic (n=91)
General Reasoning Ability	79.94	80.87	86.77	90.66	88.40** lin.<.01
Verbal Aptitude	79.44	79.15	83.99	86.41	85.66** lin.<.01
Numerical Aptitude	76.29	76.54	81.10	84.24	84.33** lin.<.01
Spatial Aptitude	93.30	97.30	99.66	105.29	101.15** lin.<.01
Form Perception	92.21	92.21	96.27	103.00	97.09** lin.<.01
Clerical Perception	86.92	86.50	89.67	89.41	90.34** lin.<.01
Motor Coordination	87.85	88.41	89.82	92.17	88.69
Finger Dexterity	86.91	86.19	88.79	89.78	90.07
Manual Dexterity	94.87	91.64	96.00	97.73	96.91

Note. GATB scores were obtained on only a subsample of the total. The respective numbers are given in parentheses.

**p<.01

lin. Probability level for test of linearity of means between groups.

TABLE 5.15

Characteristics of Preston Chronic Offender Types:
Youth Opinion Poll Factors

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic Unclass. (n=112)	Non-Chronic (n=190)
FAMILY FACTORS					
Treated well at home†	7.43	7.58	7.29	6.95	7.42*
Admiration of father†	3.47	3.39	3.48	3.39	3.46
Parental supervision†	6.13	6.22	5.95	6.09	6.10
Parental acceptance†	7.48	7.46	7.63	7.72	7.91 lin.<.01
Family Cohesion-General Factor	36.71	36.27	35.93	33.76	36.54*
Low family conflict	14.39	14.25	14.02	14.11	14.19
Low parental pressure	14.92	14.84	15.37	15.73	15.63* lin.<.01
Monetary support	8.86	8.77	8.50	7.82	8.42** lin.<.01
Parental trustworthiness	9.12	9.16	9.26	8.73	9.08
Tough environment	10.51	10.44	9.70	9.63	9.39** lin.<.01
SELF-PERCEPTIONS AND ATTITUDES					
Low self-image†	7.58	7.55	7.66	7.56	7.68
Self-blame for trouble†	4.37	4.32	4.35	4.44	4.46
Lack of companions in crime†	6.73	6.79	7.33	7.03	7.03** lin.<.01
Felt changed at Youth Authority†	7.87	7.71	8.12	7.83	7.96
Felt would not be arrested again†	4.13	4.08	4.30	4.31	4.36* lin.<.01
Neutralization of moral attitudes	10.35	10.36	10.62	10.64	10.82** lin.<.01
Unhappiness	5.87	5.88	6.11	5.89	6.07* lin.<.01
Alienated attitude	4.45	4.46	4.67	4.65	4.66** lin.<.01
SCHOOL FACTORS					
Positive School Attitudes†	10.12	10.26	10.17	10.30	10.88* lin.<.01
School Misbehavior†	6.87	6.76	6.56	6.02	6.48** lin.<.01
SELF-REPORT DELINQUENCY FACTORS					
Violent delinquency†	5.13	4.81	4.43	4.39	4.40** lin.<.01
Violent-economic delinquency†	2.06	2.07	1.84	1.73	1.76** lin.<.01
Runaway and joyride†	4.80	5.05	4.85	4.96	4.76
Drug use†	3.18	3.23	2.93	2.83	2.91** lin.<.01
Malicious mischief	5.33	5.45	5.34	5.09	5.07 lin.<.05

**p<.01

*p<.05

lin. Probability level for test of linearity of means between groups.

†Comparable to YCRP scales in content but not metric.

TABLE 5.16

Characteristics of Preston Chronic Offender Types:
Youth Opinion Poll Pretest - Selected Items

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
FAMILY ITEMS					
Felt very proud of parents	73.0	72.8	66.7	60.9	69.1* a
There were very few rules at home	41.8	36.3	35.0	35.5	29.8* a
Parents wanted ward to go to college	44.6	48.7	47.3	37.6	49.5
Ward punished a great deal when young	19.9	20.4	17.5	20.0	12.2 b
Felt house was as nice or better than others in neighborhood	90.0	89.6	89.0	81.8	89.9
Always careful of what was said to parents	36.6	38.2	24.5	31.2	23.2**a
Felt had a very close family life with parents and siblings	50.5	49.3	35.2	33.0	41.4**b
Felt parents were less strict compared to school teachers	43.9	41.9	43.2	40.7	43.3
Felt home life was mixed up and confusing	16.7	20.8	21.6	25.5	18.7 b
Felt parents acted like they wanted him to change a great deal	53.9	53.5	42.8	39.4	43.3**a
Felt parents helped a great deal with homework	26.8	29.2	22.6	25.5	13.8**a
Felt parents gave a great deal of advice	40.0	42.3	35.9	28.2	28.2**a
Felt usually acted as family wished	37.9	38.1	37.3	40.4	49.7 b
GENERAL ATTITUDE ITEMS					
Felt if kids stole something they were caught almost all of the times	24.1	23.8	29.5	28.3	34.8* a
Main reason ward obeys law/rules "right thing to do"	34.2	37.2	37.2	41.1	44.4 a
Felt cops are "mostly fair" to kids	30.2	33.2	44.3	43.8	49.2**a
Felt "will feel happier at 30 years of age than now"	64.1	67.2	71.1	68.8	75.3 a
Felt it wasn't hard for kids to stay out of trouble	77.2	76.6	84.1	81.4	80.8 b
Felt had a very good chance of getting what he wanted from life	27.1	28.3	28.2	29.2	39.0* b
Felt voting was a waste of time	20.1	18.9	14.1	16.1	10.1* a
Felt criminals are just as good citizens as anyone else	54.2	56.0	52.9	48.2	39.8**a
Felt "today-no one cares about anyone else"	44.8	47.3	36.5	36.0	35.8* a
Felt bothered a lot when people asked him what he wanted to be	34.5	36.7	26.9	32.1	22.9**a
Felt planning early makes people unhappy since it hardly ever works out	40.7	41.5	32.4	38.4	30.2* a
Felt "any man who wants to work can find a decent job"	65.2	70.5	70.8	72.1	77.3* a
Felt if you want to have a lot of money, it doesn't matter if you use right or wrong ways to get it	29.1	27.1	18.1	19.8	16.0**a

**p<.01

*p<.05

[a]Kendall's Tau C p<.01

[b]Kendall's Tau C p<.05

TABLE 5.17

Characteristics of Preston Chronic Offender Types:
Youth Opinion Poll Pretest - Selected Items

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
SELF-REPORT DELINQUENCY ITEMS (%)					
Had got drunk on alcohol	83.0	81.5	76.7	83.0	78.5 b
Had been involved in gang fight	58.6	50.9	39.8	41.8	40.0**a
Helped jump somebody	40.7	37.3	23.3	21.6	23.8**a
Had used marijuana or pills	46.7	49.6	34.6	35.1	35.2**a
Had stolen more than twice	85.6	91.4	88.4	86.4	86.2
Took part in a knife fight	52.9	42.2	42.7	35.7	41.4**a
Drove a car without permission	65.1	69.6	63.1	65.2	59.7
Snatched a purse-victim not harmed	23.2	21.0	14.6	11.6	16.6**a
Had a fist fight	93.6	90.0	88.1	93.8	89.5* a
Guys told me "they'd get me if..."	34.5	35.2	48.0	50.9	47.0**a
Ward told guys "I'll get you if..."	37.2	35.1	27.6	31.8	30.1* a
Took part in a crime with weapons	35.4	31.4	24.7	21.8	25.8**a
Threatened a person with a weapon	38.2	36.5	29.3	28.2	27.8**a
Took part in a planned burglary or robbery	47.1	50.0	43.6	38.4	40.0 b
MISCELLANEOUS ITEMS (%)					
Liked most teachers	45.1	46.1	52.1	55.0	61.3**a
Cared quite a bit what teachers thought of him	63.7	68.4	66.8	67.0	71.4 b
Wanted to go beyond high school or to college	45.2	44.2	47.1	42.3	55.6*
Skipped school over 10 times	54.8	54.4	57.6	56.3	53.0
Suspended over twice	59.2	55.7	51.6	45.1	47.5**a
Went around by himself	14.3	10.0	17.4	9.7	18.3* b
Two or more out of 3 best friends in trouble with police	65.8	68.0	57.2	58.9	50.6**a
Last time in trouble-was alone	30.8	32.7	37.3	43.8	35.6* a
Ward thinks kid with record is "no big deal"	79.3	74.9	72.8	71.7	68.7* a
Spends almost every night with friends	37.8	37.0	35.4	33.3	26.5 a
Ward thought his neighborhood was a pretty good place	80.1	82.7	86.9	82.3	84.4 b
Weekly or everyday saw cops chasing or checking on kids in neighborhood	53.3	57.6	45.9	40.2	42.1**a
Weekly or everyday ward saw kids fight in neighborhood	45.0	45.2	37.1	29.2	28.4**a

**p<.01

*p<.05

[a]Kendall's Tau C p<.01

[b]Kendall's Tau C p<.05

TABLE 5.18

Characteristics of Preston Chronic Offender Types:
Youth Opinion Poll Posttest - Selected Items

Sample Characteristics	Chronic Violent-Aggressive (n=791)	Chronic Violent-Economic (n=278)	Chronic Property (n=251)	Chronic/Unclass. (n=112)	Non-Chronic (n=190)
QUESTIONS ABOUT YA TERM (%)					
Ward did not feel good at all about time spent at Preston	29.1	33.2	20.2	19.2	19.0**a
Had thought about running away	37.7	39.7	49.1	54.5	36.9**b
Had a fist fight while at Preston	64.4	57.1	52.9	49.4	48.8**a
Threatened guys ("he'd get them") at Preston	25.3	29.2	16.5	15.6	18.0**a
Was not very friendly to supervisors	13.3	19.1	7.6	5.1	6.6**a
Didn't like "company time"	29.3	37.6	20.0	20.8	20.7**a
Felt supervisors were too strict	29.4	28.1	21.2	7.7	20.5**a
Boys in ward's company fought quite a bit	30.2	24.9	20.5	20.5	18.9* a
Felt had changed "quite a bit" since coming to Preston	75.2	71.3	77.1	68.4	75.4
Felt Preston helped him quite a bit	70.8	68.7	76.0	72.4	69.7
Felt that he received a "fair deal" at Preston	45.5	42.9	52.9	50.0	59.0* a

**p<.01

*p<.05

[a]Kendall's Tau C p<.01

[b]Kendall's Tau C p<.05

YCRP Sample

Characteristics of chronic vs. nonchronic offenders. Table 5.19 shows the background characteristics of the YCRP chronic and nonchronic offenders with the appropriate tests of statistical significance. Consistent with the Preston data, a greater proportion of the nonchronic offenders were of White ethnicity (69.4% vs. 53.5%). Somewhat inconsistent with prior research (including the Preston data) is the fact that although the nonchronic subjects were slightly older at their first delinquent contact (12.27 vs. 11.88 years of age) the difference did not achieve statistical significance. Similarly, the average base expectancy scores of the two groups did not differ.

The 12-month parole officer evaluations indicated the chronic offenders as having a less supportive social environment and as showing more inappropriate behavior and delinquent involvement. These ratings, as was mentioned previously, were unique to the YCRP data set. If dispositional decisions were to be made at age 18 or older, these data could, of course, be available for inclusion in the set of predictor variables. As shown, the nonchronic offenders had fewer prior commitments and officially-recorded prior offenses.

TABLE 5.19

Characteristics of YCRP Chronic and Nonchronic Offenders:
Background Information and Prior Record

Sample Characteristics	Total Chronic (n=803)	Non-Chronic (n=157)	Total Sample (n=960)
INTAKE SUMMARY			
Race (%):			
White	53.5	69.4**	56.1
Mexican-American	13.6	14.6	13.8
Black	30.8	15.3**	28.2
Other	2.1	0.6	1.9
Age (%):			
15	25.4	21.0	24.7
16	37.8	46.5*	39.2
17	36.5	31.8	35.8
18	0.4	0.6	0.4
Average Age:	16.12	16.12	16.12
First Delinquent Contact Age	11.88	12.27	11.95
Base Expectancy Score	493.2	512.6	496.3
Twelve-Month Parole Officer Evaluation:			
Delinquent involvement rating	3.80	2.31**	3.57
Social behavior rating	3.60	2.60**	3.44
Social environment rating	3.99	3.08**	3.82
OFFICIAL OFFENSE HISTORY			
Type of Commitment Offense (%):			
Violent/Aggressive	12.6	21.7**	14.1
Violent/Economic	6.6	7.6	6.8
Property	23.9	10.8**	21.8
Minor criminal	56.9	58.0	57.1
Prior Commitments (%):			
0	63.5	77.0**	65.5
1	22.5	12.6**	21.1
2 or more	13.9	10.4	13.4
Average	0.58	0.41	0.55
Prior Offenses:			
Violent/Aggressive	.15	.24*	.17
Violent/Economic	.10	.10	.10
Property	.50	.23**	.46
Minor	1.33	.97**	1.27
Total	2.09	1.54**	2.00

**p<.01
*p<.05

Note. Percentages and averages in tables are based upon cases with valid data only; sample size figures are for total sample.

The scores on the Jesness Inventory in Table 5.20 are quite consistent with those of the Preston sample. Most of the variables on which the chronic and nonchronic offenders differed in the Preston sample also showed statistically significant differences on the YCRP sample, the two exceptions being Social Anxiety and Denial.

TABLE 5.20

Characteristics of YCRP Chronic and Nonchronic Offenders:
Jesness Inventory and Behavior Checklist

Sample Characteristics	Total Chronic (n=803)	Non-Chronic (n=157)	Total Sample (n=960)
JESNESS INVENTORY (T-SCORES)			
Social Maladjustment	65.34	61.54**	64.72
Value Orientation	54.88	51.10**	54.26
Immaturity	52.86	52.46	52.80
Autism	56.16	53.54**	55.73
Alienation	55.23	51.91**	54.68
Manifest Aggression	51.84	47.90**	51.20
Withdrawal/Depression	56.07	54.84	55.87
Social Anxiety	49.46	48.72	49.34
Repression	52.73	54.49	53.02
Denial	48.13	50.97**	48.60
Asocial Index	69.94	67.28**	69.50
BEHAVIOR CHECKLIST - SELF-APPRAISAL (RAW SCORES)			
Unobtrusiveness	53.91	56.03*	54.26
Friendliness	51.80	53.85*	52.14
Responsibility	61.93	65.73**	62.56
Considerateness	61.63	64.78**	62.15
Independence	53.72	55.92*	54.09
Rapport	55.43	58.73**	55.97
Enthusiasm	50.37	51.42	50.54
Sociability	60.05	60.54	60.13
Conformity	50.56	54.31**	51.18
Calmness	52.34	55.58*	52.87
Communication	57.77	59.51	58.05
Insight	68.17	70.33*	68.53
Social Control	55.30	57.10	55.59
Anger Control	53.81	58.45**	54.57
BEHAVIOR CHECKLIST - OBSERVER			
Unobtrusiveness	46.97	50.74**	47.59
Friendliness	46.37	49.20**	46.84
Responsibility	50.36	52.44**	50.70
Considerateness	51.14	52.80*	51.42
Independence	46.91	49.03**	47.26
Rapport	46.45	47.80	46.67
Enthusiasm	46.84	47.07	46.88
Sociability	50.13	51.72	50.40
Conformity	47.05	51.69**	47.82
Calmness	47.04	48.81*	47.33
Communication	49.34	51.07*	49.63
Insight	49.01	50.33	49.23
Social Control	47.95	51.21**	48.49
Anger Control	47.35	50.93**	47.94

**p<.01
*p<.05

The Behavior Checklist Self-Appraisal scores (which were also unique to the YCRP sample) indicate that the nonchronic offenders generally tended to see themselves as having fewer behavior problems. They perceived themselves as less alienated and more responsible, considerate, conforming and insightful, and as having better control over their feelings of anger and hostility. It is of interest that the ratings on these same factors by staff in the living units were highly consistent with the self-ratings. The average scores on the Behavior Checklist observer ratings were highly consistent with those shown for the Preston sample, with the nonchronic offenders being seen as better socialized, and having fewer behavior problems.

Table 5.21 contrasts the characteristics of the chronic and nonchronic offenders according to their Interpersonal Maturity Level and subtype classifications. Consistent with the Preston data are the higher percentage of nonchronic offenders classified at the I-4 level and the concomitant lower percentage at the I-3 level. Although the overall distribution of subtypes is somewhat similar, there are differences in the proportions of chronic and nonchronic offenders falling into the various classes. We are, of course, dealing with small subsamples in this analysis, especially in the nonchronic

TABLE 5.21

Characteristics of YCRP Chronic and Nonchronic Offenders:
Interpersonal Maturity Level (I-level) and Subtype

Sample Characteristics	Total Chronic (n=803)	Non-Chronic (n=157)	Total Sample (n=960)
I-LEVEL (%):			
I_2	6.4	3.2	5.8
I_3	51.1	41.4*	49.5
I_4	42.5	55.4**	44.6
SUBTYPE (%):			
I_2 - Aa.....	1.9	0.0	1.6
Ap.....	4.5	3.2	4.3
I_3 - Cfm.....	18.9	20.4	19.2
Cfc.....	14.4	8.3*	13.4
Mp.....	17.7	12.7	16.9
I_4 - Na.....	18.9	22.9	19.6
Nx.....	19.4	22.3	19.9
Se.....	3.4	9.6**	4.4
Ci.....	0.7	0.6	0.7

**p<.01
*p<.05

group. The data are also a reminder that youths sent to Preston differed in many important ways from those assigned to YCRP (age, prior record, race, etc.).

Shown in Table 5.22 are scores on the Behavior Checklist scales as realigned to form more nearly equivalent scales enabling more direct comparisons with the Preston sample. Based on these scales the results from the same two samples were almost identical, with the nonchronic offenders consistently showing more conforming institutional behavior, less hostility and obtrusiveness, and greater responsibility.

Also included on Table 5.22 are the Loevinger Ego Level T-scores. Consistent with the I-level scores the nonchronic offenders achieved higher ego level development. According to the MOOS CIES scales, the nonchronic offenders perceived their institutional environment less positively. They generally reported seeing more aggressive behavior and did not as often view their programs as supportive and their supervisors as highly involved.

TABLE 5.22

Characteristics of YCRP Chronic and Nonchronic Offenders:
Psychological, Behavioral and Achievement Scores

Sample Characteristics	Total Chronic (n=803)	Non-Chronic (n=157)	Total Sample (n=960)
BEHAVIOR CHECKLIST - PRESTON EQUIVALENT			
Conformity.....	48.21	51.25**	48.71
Social Immaturity.....	50.74	48.34**	50.35
Alienation.....	53.50	52.19	53.28
Speech Problems.....	50.65	48.85*	50.36
Obtrusiveness.....	53.11	49.28**	52.48
Responsibility.....	50.41	52.43**	50.74
Perturbability.....	52.81	50.90**	52.49
Hostility.....	52.12	48.83**	51.58
Depression.....	53.17	52.88	53.12
LOEVINGER			
Ego Level T-Scores.....	51.66	54.97**	52.21
MOOS			
Relationship Factor.....	49.04	47.20**	48.73
Treatment Factor.....	48.75	48.01	48.63
System Maintenance Factor.....	46.72	46.20	46.64
Aggression Factor.....	48.75	49.92*	48.94
HANEY DRUG SCALE.....	50.50	47.25	50.02
GATES			
Vocab Grade-Level Score (n=515).....	7.39	8.91**	7.64
Vocab Gain Score.....	.13	.13	.13
Comprehension Grade Level Score (n=470)...	7.72	9.23**	7.97
Comprehension Gain Score.....	.20	.24	.21
CTBS G1			
Arithmetic Grade Equivalent Score.....	6.13	7.23**	6.31
Arithmetic Gain Score.....	.11	.12	.11

**p<.01
*p<.05

First Property Arrest For YCRP Sample

By Year After Parole

Years After Parole	Number Without Arrests Start Of Year	Number Arrested For First Time	Percent of Those Not Previously Arrested	Percent of Total Sample	Cumulative Percent of Offenders	Cumulative Percent of Sample
0-1	960	183	19.1	19.1	28.7	19.1
1-2	777	127	16.3	13.2	48.7	32.3
2-3	650	109	16.8	11.4	65.8	43.6
3-4	541	56	10.4	5.8	74.6	49.5
4-5	485	51	10.5	5.3	82.6	54.8
5-6	434	35	8.1	3.6	88.1	58.4
6-7	399	32	8.0	3.3	93.1	61.8
7-8	367	18	4.9	1.9	95.9	63.6
8-9	349	17	4.9	1.8	98.6	65.4
9-10	332	9	2.7	0.9	100.0	66.4
No Arrests	323			33.6		

Average Years to Arrest = 2.24

Median Years to Arrest = 2.05

APPENDIX D

Discriminant Solutions for Chronic Offender

Types: Preston and YCRP

FILE PRESTON (CREATION DATE = 09/23/82)

DISCRIMINANT ANALYSIS

ON GROUPS DEFINED BY CHRONTYP TYPE OF CHRONIC OFFENDER-FROM OFNDRTYP

ANALYSIS NUMBER 1

STEPWISE VARIABLE SELECTION

SELECTION RULE: MINIMIZE WILKS' LAMBDA
MAXIMUM NUMBER OF STEPS..... 180
MINIMUM TOLERANCE LEVEL..... 0.00100
MAXIMUM SIGNIFICANCE OF F TO ENTER..... 0.10000
MINIMUM SIGNIFICANCE OF F TO REMOVE..... 0.10000

CANONICAL DISCRIMINANT FUNCTIONS

MAXIMUM NUMBER OF FUNCTIONS..... 5
MINIMUM CUMULATIVE PERCENT OF VARIANCE... 100.00
MAXIMUM SIGNIFICANCE OF WILKS' LAMBDA.... 1.0000

PRIOR PROBABILITY FOR EACH GROUP IS 0.20000

VARIABLES IN THE ANALYSIS AFTER STEP 21

VARIABLE	TOLERANCE	SIGNIF. OF F TO REMOVE	WILKS' LAMBDA
VERBAPT	0.7362717	0.0759	0.8237654
YAGE	0.8813619	0.0585	0.8241000
SESVAR	0.8350539	0.0490	0.8243273
PREYATOT	0.8837015	0.0000	0.8328858
PREYAVIO	0.9619767	0.0004	0.8299631
CFMDUMMY	0.8149692	0.0498	0.8243061
NXSEDUMM	0.8208310	0.0489	0.8243295
YASOCIND	0.9604166	0.0092	0.8263837
YIMMRAW	0.4812784	0.0055	0.8270180
YSPCHRAW	0.6098460	0.0807	0.8236863
YHOSTRAW	0.6765023	0.0000	0.8331565
OKTOFLKS	0.8661971	0.0794	0.8237077
LONER	0.9158594	0.0671	0.8239245
DRUGGER	0.8408042	0.0313	0.8248885
BLACK	0.7201040	0.0000	0.8328287

---------- VARIABLES NOT IN THE ANALYSIS AFTER STEP 21 ----------

VARIABLE	TOLERANCE	MINIMUM TOLERANCE	SIGNIF. OF F TO ENTER	WILKS' LAMBDA
PRICOMIT	0.6609564	0.4811329	0.4263	0.8173382
NUMERAPT	0.4333241	0.4156438	0.9861	0.8191595
FIRSTCON	0.9371266	0.4810900	0.2688	0.8166457
COFFVIOL	0.3804271	0.3780560	0.5750	0.8178345
COFFVECN	0.9587370	0.4811745	0.4913	0.8175672
COFFPROP	0.9368627	0.4811786	0.2137	0.8163202
COFFMINR	0.8721105	0.4812330	0.4938	0.8175754
PRIORESC	0.9423461	0.4810846	0.5808	0.8178523
PREYAVCN	0.9168546	0.4811929	0.7919	0.8184615
PREYAPRP	0.7217506	0.4810802	0.1011	0.8153137
PREYAMNR	0.4152228	0.4016447	0.1917	0.8161700
ILEVEL	0.5895239	0.4811466	0.7634	0.8183803
I2DUMMY	0.8871575	0.4801695	0.8951	0.8187734
CFCDUMMY	0.8338575	0.4808395	0.4303	0.8173530
MPDUMMY	0.8221294	0.4809790	0.7036	0.8182108
NACIDUMM	0.7460615	0.4811588	0.8533	0.8186420
YSOCNAL	0.4280865	0.4280865	0.7698	0.8183985
YVALORNT	0.6827707	0.4765418	0.4751	0.8175122
YIMMATUR	0.8539750	0.4796088	0.4754	0.8175132
YAUTISM	0.8145472	0.4786548	0.5020	0.8176028
YALIEN	0.7044216	0.4791460	0.7901	0.8184563
YMANAGGR	0.7491411	0.4800335	0.7976	0.8184781
YHITHDRW	0.8049358	0.4794231	0.4888	0.8175587
YSOCANX	0.8017839	0.4784644	0.6853	0.8181589
YREPRESS	0.7508228	0.4812223	0.7555	0.8183579
YDENIAL	0.8716611	0.4775351	0.5991	0.8179076
YCONFRAW	0.2833610	0.2833610	0.9674	0.8190518
YALINRAW	0.8428048	0.4743522	0.4452	0.8174071
YOBTRRAW	0.2919538	0.2498623	0.1242	0.8155834
YRESPRAW	0.3610968	0.3610968	0.3850	0.8171793
YPERTRAW	0.4489312	0.3866594	0.5621	0.8177950
YDEPRRAW	0.4871146	0.3773277	0.2489	0.8165356
PREYASCH	0.8628592	0.4772652	0.2028	0.8162473
IMNOGOOD	0.9494902	0.4776265	0.4773	0.8175195
OKDAD	0.9595144	0.4810263	0.6742	0.8181272
SUPERVIS	0.8451244	0.4800871	0.4955	0.8175812
OKTREATD	0.8649983	0.4805127	0.2498	0.8165406
MYFAULT	0.9777191	0.4812732	0.7314	0.8182896
IVECHGD	0.9771686	0.4812088	0.2779	0.8166938
IQUIT	0.9611862	0.4812356	0.4902	0.8175634
SRDVIOL	0.6406586	0.4808569	0.2266	0.8164029
SRDVECON	0.7626143	0.4812355	0.6412	0.8180318
RUNAWAY	0.7887735	0.4812520	0.1969	0.8162066
DISCPROB	0.8604863	0.4811352	0.3084	0.8168454
HISPANIC	0.5217778	0.4759130	0.4840	0.8175423

F STATISTICS AND SIGNIFICANCES BETWEEN PAIRS OF GROUPS AFTER STEP 21
EACH F STATISTIC HAS 15 AND 1572.0 DEGREES OF FREEDOM.

GROUP		GROUP 1 CHRONIC-VIOLENT	2 CHRONIC-VIOLECON	3 CHRONIC-PROPERTY	4 CHRONIC-UNCLASSD
2	CHRONIC-VIOLECON	1.3217 0.1804			
3	CHRONIC-PROPERTY	8.7659 0.0000	4.8063 0.0000		
4	CHRONIC-UNCLASSD	5.8793 0.0000	4.6570 0.0000	1.0578 0.3920	
5	NON-CHRONIC	10.523 0.0000	7.4708 0.0000	2.9611 0.0001	1.1992 0.2648

F LEVEL OR TOLERANCE OR VIN INSUFFICIENT FOR FURTHER COMPUTATION.

TOTAL SAMPLE

SUMMARY TABLE

STEP	ACTION ENTERED	ACTION REMOVED	VARS IN	WILKS' LAMBDA	SIG.	LABEL
1	VERBAPT		1	0.962196	0.0000	GATB VERBAL APTITUDE
2	PRICOMIT		2	0.944850	0.0000	# OF YA COMMITTMENTS PRIOR TO THIS
3	PREYAVIO		3	0.926017	0.0000	VIOLENT OFFENSES BEFORE CURRENT YA TERM
4	YAGE		4	0.916589	0.0000	PRE TEST AGE
5	PREYATOT		5	0.908499	0.0000	TOTAL OFFENSES BEFORE CURRENT YA TERM
6	SESVAR		6	0.901092	0.0000	PAREDLEV+PARSOCEC+PUBAID: HIGH = LOW SES
7	COFFPROP		7	0.896620	0.0000	
8	NXSEDUMM		8	0.886413	0.0000	I-LEVEL SUBTYPE DUMMY: I4 NX OR I4 SE
9	CFMDUMMY		9	0.879214	0.0000	I-LEVEL SUBTYPE DUMMY: I3 CFM
10	YHOSTRAW		10	0.861176	0.0000	PRETEST HOSTILITY RAW SCORE:JBCL
11	YASOCIND		11	0.851891	0.0000	PRE JESNESS INVENTORY:ASOCIAL INDEX
12	YIMMRAW		12	0.842520	0.0000	PRETEST SOCIAL IMMATURITY RAW SCORE:JBCL
13	YDEPRRAW		13	0.837525	0.0000	PRETEST DEPRESSION RAW SCORE:JBCL
14	BLACK		14	0.829439	0.0000	RACE DUMMY: '1' IF BLACK
15		PRICOMIT	13	0.832402	0.0000	# OF YA COMMITTMENTS PRIOR TO THIS
16		COFFPROP	12	0.835685	0.0000	
17	DRUGGER		13	0.828866	0.0000	SELF-REPORTED DRUG USE
18		YDEPRRAW	12	0.832886	0.0000	PRETEST DEPRESSION RAW SCORE:JBCL
19	LONER		13	0.827993	0.0000	QUESTIONNAIRE FACTOR: LONER
20	OKTOFLKS		14	0.823686	0.0000	YOP EQUIV: HIGH PARENTAL GRATIFICATION
21	YSPCHRAW		15	0.819344	0.0000	PRETEST SPEECH PROBLEMS RAW SCORE:JBCL

CLASSIFICATION FUNCTION COEFFICIENTS
(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

CHRONTYP=	1 CHRONIC-VIOLENT	2 CHRONIC-VIOLECON	3 CHRONIC-PROPERTY	4 CHRONIC-UNCLASSD	5 NON-CHRONIC
VERBAPT	1.270507	1.268615	1.286036	1.297026	1.281676
YAGE	30.03261	29.98699	30.11528	30.38707	30.22879
SESVAR	5.545695	5.507970	5.437170	5.480686	5.422480
PREYATOT	-2.817816	-2.794288	-2.863092	-2.909439	-3.053722
PREYAVIO	1.701385	1.372057	1.088040	1.333380	1.452844
CFMDUMMY	1.812473	2.036863	2.275031	1.904766	1.580379
NXSEDUMM	2.566625	2.947040	2.638619	2.685113	3.226613
YASOCIND	0.9030246	0.8894572	0.8869586	0.8737284	0.8746993
YIMMRAW	0.9773649	1.004086	1.083330	1.077401	1.043636
YSPCHRAW	1.825812	1.850758	1.722475	1.658713	1.746275
YHOSTRAW	0.7800747	0.7826311	0.7026020	0.6644780	0.6513056
OKTOFLKS	1.799715	1.788664	1.816508	1.792028	1.931613
LONER	0.7367163	0.7519233	0.8466755	0.7590867	0.7902895
DRUGGER	3.741540	3.838018	3.666851	3.523158	3.690246
BLACK	15.02323	15.17993	14.36501	14.35464	14.21794
(CONSTANT)	-407.8310	-406.7762	-408.6972	-411.3007	-408.1070

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
					0	0.8193438	314.82	60	0.0000
1*	0.16889	79.47	79.47	0.3801170	1	0.9577243	68.249	42	0.0064
2*	0.02724	12.82	92.28	0.1628345	2	0.9838101	25.789	26	0.4747
3*	0.01216	5.72	98.00	0.1096167	3	0.9957752	6.6894	12	0.8774
4*	0.00424	2.00	100.00	0.0649987					

* MARKS THE 4 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
VERBAPT	-0.19928	0.09916	-0.30867	0.18619
YAGE	-0.17816	-0.11991	-0.28950	0.36852
SESVAR	0.20746	-0.08249	-0.24602	0.16386
PREYATOT	0.29113	0.46122	-0.14787	0.24284
PREYAVIO	0.20670	-0.48017	-0.28047	-0.12767
CFNDUMMY	-0.02636	0.52317	0.04544	-0.03182
NXSEDUMM	-0.10752	-0.18108	0.60469	0.32088
YASOCIND	0.21954	0.00752	-0.23489	-0.54214
YIMMRAW	-0.32931	0.36668	-0.02011	0.09933
YSPCHRAW	0.21909	-0.08007	0.35468	-0.08090
YHOSTRAW	0.40666	-0.14138	0.08220	-0.01395
OKTOFLKS	-0.13147	-0.28969	0.24426	-0.40020
LONER	-0.15263	0.24917	0.10329	-0.46916
DRUGGER	0.16224	0.01722	0.58835	-0.07547
BLACK	0.38127	0.03740	0.21163	0.46298

VARIMAX ROTATION TRANSFORMATION MATRIX

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
% VARIANCE	41.81	30.18	18.82	9.19
FUNC 1	0.69396	0.57478	-0.32628	0.28563
FUNC 2	0.43422	-0.14664	0.86038	0.22293
FUNC 3	-0.35191	0.79585	0.39095	-0.29991
FUNC 4	0.45390	-0.12147	-0.02112	-0.88248

ROTATED STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS
VARIABLES ARE ORDERED BY THE FUNCTION WITH LARGEST COEFFICIENT AND THE MAGNITUDE OF THAT COEFFICIENT.

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
PREVATOT	0.56457*	-0.04747	0.23890	0.01602
OKTOFLKS	-0.48464*	0.20992	-0.10240	0.17778
BLACK	0.41650*	0.32585	-0.01927	-0.35480
YHOSTRAW	0.30834*	0.28012	0.02139	0.13534
SESVAR	0.26910*	-0.08436	-0.23830	-0.02995
DRUGGER	-0.12124	0.56813*	0.19349	-0.05967
YSPCHRAW	-0.04426	0.42977*	-0.00001	0.00975
VERBAPT	0.09790	-0.39736*	0.02573	-0.10655
YAGE	0.09345	-0.35998*	-0.16600	-0.31601
PREYAVIO	-0.02430	-0.01849	-0.58752*	0.14878
CFMDUMMY	0.17844	-0.05184	0.47716*	0.12356
YIMMRAW	-0.01715	-0.27112	0.41297*	-0.09394
YASOCIND	-0.00780	0.00400	-0.14554	0.61325*
NXSEDUMM	-0.22039	0.40702	0.10891	-0.53560*
LONER	-0.24703	0.01492	0.31447	0.39500*

UNSTANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
VERBAPT	0.9231393D-02	-0.3746863D-01	0.2426071D-02	-0.1004727D-01
YAGE	0.1177359	-0.4535544	-0.2091566	-0.3981500
SESVAR	0.1425109	-0.4467371D-01	-0.1261974	-0.1586055D-01
PREVATOT	0.3017218	-0.2537081D-01	0.1276747	0.8563596D-02
PREYAVIO	-0.4575311D-01	-0.3480441D-01	-1.106178	0.2801142
CFMDUMMY	0.4104265	-0.1192295	1.097479	0.2841802
NXSEDUMM	-0.5607001	1.035497	0.2770680	-1.362618
YASOCIND	-0.8514145D-03	0.4360885D-03	-0.1588615D-01	0.6693694D-01
YIMMRAW	-0.4899522D-02	-0.7747426D-01	0.1180105	-0.2684387D-01
YSPCHRAW	-0.2585089D-01	0.2509890	-0.3965242D-05	0.5694801D-02
YHOSTRAW	0.9201471D-01	0.8359542D-01	0.6381975D-02	0.4038760D-01
OKTOFLKS	-0.2509726	0.1087067	-0.5303046D-01	0.9206256D-01
LONER	-0.1183833	0.7151128D-02	0.1506993	0.1892904
DRUGGER	-0.9898156D-01	0.4638344	0.1579702	-0.4871237D-01
BLACK	0.9303124	0.7278433	-0.4303718D-0	-0.7924902
(CONSTANT)	-3.376816	6.894905	1.959147	1.494779

CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP	FUNC 1	FUNC 2	FUNC 3	FUNC 4
1	0.19731	0.14455	-0.16790	0.10992
2	0.17802	0.24518	0.08949	-0.03210
3	-0.22393	-0.30805	0.38840	0.00000
4	-0.27362	-0.56126	0.11012	-0.26268
5	-0.68092	-0.25394	0.00482	-0.28035

TOTAL SAMPLE

FILE YCRP (CREATION DATE = 08/27/82) ANALYSIS FILE WITH MEANS PLUGGED BY RACE
SUBFILE YCRPBGRD

- D I S C R I M I N A N T A N A L Y S I S -

ON GROUPS DEFINED BY CHRONTYP TYPE OF CHRONIC OFFENDER-FROM OFNDRTYP

ANALYSIS NUMBER 1

STEPWISE VARIABLE SELECTION

SELECTION RULE: MINIMIZE WILKS' LAMBDA
MAXIMUM NUMBER OF STEPS..... 188
MINIMUM TOLERANCE LEVEL..... 0.00100
MAXIMUM SIGNIFICANCE OF F TO ENTER..... 0.10000
MINIMUM SIGNIFICANCE OF F TO REMOVE..... 0.10000

CANONICAL DISCRIMINANT FUNCTIONS

MAXIMUM NUMBER OF FUNCTIONS..... 5
MINIMUM CUMULATIVE PERCENT OF VARIANCE... 100.00
MAXIMUM SIGNIFICANCE OF WILKS' LAMBDA.... 1.0000

PRIOR PROBABILITY FOR EACH GROUP IS 0.20000

---------- VARIABLES IN THE ANALYSIS AFTER STEP 32 ----------

VARIABLE	TOLERANCE	SIGNIF. OF F TO REMOVE	WILKS' LAMBDA
CTBSGI	0.8421858	0.0296	0.7400041
PREYAVIO	0.9336916	0.0398	0.7394355
PREYAVCN	0.9620413	0.0012	0.7458127
PREYAPRP	0.9792529	0.0125	0.7416121
ILEVEL	0.7315685	0.0040	0.7437224
JMANAGGR	0.6694386	0.0763	0.7381735
JWITHDRW	0.7450640	0.0014	0.7455727
JREPRESS	0.7045608	0.0761	0.7381780
JASOCIND	0.8836738	0.0582	0.7387050
OBTRUSIV	0.9002471	0.0437	0.7392561
OKDAD	0.9589918	0.0848	0.7379629
IVECHGD	0.9856082	0.0770	0.7381545
DISCPROB	0.8930880	0.0320	0.7398567
DELINV	0.9777073	0.0000	0.7700932
BLACK	0.7179674	0.0000	0.7539895
HISPANIC	0.8270311	0.0011	0.7461027

---------- VARIABLES NOT IN THE ANALYSIS AFTER STEP 32 ----------

VARIABLE	TOLERANCE	MINIMUM TOLERANCE	SIGNIF. OF F TO ENTER	WILKS' LAMBDA
PRICOMIT	0.8770438	0.6670806	0.1423	0.7260296
VERBACH	0.5630333	0.5630333	0.2429	0.7271446
AGE	0.9880773	0.6684983	0.9270	0.7307586
FIRSTDEL	0.9587615	0.6679345	0.2094	0.7268280
COFFVIOL	0.1817064	0.1817064	0.5741	0.7291622
COFFVECN	0.2867447	0.2867447	0.9022	0.7306265
COFFPROP	0.5628643	0.5628643	0.9173	0.7307053
COFFMINR	0.5094411	0.5094411	0.8161	0.7302236
PRIORESC	0.9537096	0.6694384	0.6482	0.7294963
PREVATOT	0.7047496	0.6687793	0.1973	0.7267035
PREVAMNR	0.9093163	0.6687793	0.1973	0.7267035
I2DUMMY	0.5459544	0.4669641	0.7862	0.7300927
CFMDUMMY	0.7452335	0.6291107	0.9747	0.7310708
CFCDUMMY	0.8553939	0.6480177	0.8172	0.7302286
MPDUMMY	0.7902415	0.6662395	0.8042	0.7301711
NACIDUMM	0.6465226	0.5797102	0.9685	0.7310221
NXSEDUMM	0.6030974	0.5217262	0.9360	0.7308094
JSOCMAL	0.1879175	0.1879175	0.6652	0.7295708
JVALORNT	0.2644646	0.2644646	0.8101	0.7301973
JIMMATUR	0.5990785	0.5146055	0.2868	0.7275061
JAUTISM	0.6129841	0.5444308	0.8141	0.7302147
JALIEN	0.5450904	0.5189435	0.8146	0.7302172
JSOCANX	0.5968504	0.5431957	0.8156	0.7302214
JDENIAL	0.4030410	0.4030410	0.7593	0.7299764
CONFRMTY	0.3945292	0.3945292	0.9947	0.7312873
SOCIMMTY	0.3924343	0.3924343	0.6011	0.7292862
ALIENATN	0.8443494	0.6692757	0.7326	0.7298620
SPCHPROB	0.8540913	0.6693474	0.8634	0.7304382
RESPONBL	0.7143525	0.6692908	0.6384	0.7294529
PERTURBL	0.6086415	0.6063898	0.9794	0.7311117
HOSTILTY	0.2561453	0.2560966	0.7008	0.7297251
DEPRESSN	0.9034295	0.6689467	0.7329	0.7298630
PREVASCH	0.7594389	0.6522911	0.8041	0.7301708
IMMOGOOD	0.8602445	0.6668040	0.5739	0.7291612
SUPERVIS	0.9401010	0.6643502	0.1843	0.7265605
OKTOFLKS	0.8687270	0.6454887	0.3836	0.7281641
OKTREATD	0.7682337	0.6645639	0.8841	0.7305365
MYFAULT	0.8772775	0.6689803	0.8081	0.7301883
LONER	0.9729552	0.6692947	0.6291	0.7294117
IQUIT	0.8109230	0.6339071	0.2581	0.7272756
SRDVIOL	0.7658995	0.6206316	0.9343	0.7307995
SRDVECON	0.7922096	0.6250877	0.8926	0.7305782
RUNAWAY	0.7736503	0.6482173	0.6941	0.7296964
DRUGGER	0.7751783	0.6544667	0.5230	0.7289186
SOCBEHAV	0.7004385	0.6691554	0.1230	0.7257358
SOCENV	0.9306760	0.6694123	0.1474	0.7261012
COFFSERS	0.6081703	0.6081703	0.8335	0.7303012

F STATISTICS AND SIGNIFICANCES BETWEEN PAIRS OF GROUPS AFTER STEP 32
EACH F STATISTIC HAS 16 AND 924.0 DEGREES OF FREEDOM.

GROUP		GROUP 1 CHRONIC-VIOLENT	2 CHRONIC-VIOLECON	3 CHRONIC-PROPERTY	4 CHRONIC-UNCLASSD
2	CHRONIC-VIOLECON	3.3590 0.0000			
3	CHRONIC-PROPERTY	4.1200 0.0000	3.1185 0.0000		
4	CHRONIC-UNCLASSD	4.2047 0.0000	3.8318 0.0000	1.8680 0.0200	
5	NON-CHRONIC	10.220 0.0000	7.1970 0.0000	4.5178 0.0000	2.9387 0.0001

F LEVEL OR TOLERANCE OR VIN INSUFFICIENT FOR FURTHER COMPUTATION.

SUMMARY TABLE

STEP	ACTION ENTERED	ACTION REMOVED	VARS IN	WILKS' LAMBDA	SIG.	LABEL
1	VERBACH		1	0.964740	0.0000	VERBAL ACHIEVEMENT: GATES
2	PRICOMIT		2	0.950467	0.0000	# OF YA COMMITTMENTS PRIOR TO THIS
3	CTBSG1		3	0.941500	0.0000	CTBS PRETEST: GRADE EQUIVALENT SCORE
4	PREYAVCN		4	0.920966	0.0000	VIOL-ECON OFFENSES BEFORE THIS YA TERM
5	PREYAPRP		5	0.905837	0.0000	PROPERTY OFFENSES BEFORE THIS YA TERM
6	PREYAVIO		6	0.893262	0.0000	VIOLENT OFFENSES BEFORE CURRENT YA TERM
7	I2DUMMY		7	0.883225	0.0000	I-LEVEL SYBTYPE DUMMY: I2 AA OR I2 AP
8	NXSEDUMM		8	0.875093	0.0000	I-LEVEL SUBTYPE DUMMY: I4 NA OR I4 SE
9	CFMDUMMY		9	0.864362	0.0000	I-LEVEL SUBTYPE DUMMY: I3 CFM
10	CONFRMTY		10	0.849797	0.0000	BCL CONFORMITY: AVG"BCLOB229+231+236"
11	JWITHDRW		11	0.836852	0.0000	JESNESS INVENTORY: WITHDRAWAL-DEPRESSN
12	JASOCIND		12	0.826540	0.0000	JESNESS INVENTORY: ASOCIAL INDEX
13	RESPONBL		13	0.818763	0.0000	BCL RESPONSIBILITY: BCLOB230"RESPONSBL"
14	JREPRESS		14	0.811755	0.0000	JESNESS INVENTORY: REPRESSION
15	OKDAD		15	0.802881	0.0000	QUESTIONNAIRE FACTOR: FELT CHANGED BY YA
16	SUPERVIS		16	0.795075	0.0000	QUESTIONNAIRE FACTOR: PARENTAL SUPERVISN
17	DISCPROB		17	0.787861	0.0009	QUESTIONNAIRE FACTOR: SCH DISCPLN PROBS
18	DELINV		18	0.751499	0.0000	DELINQ INVOLV RATING
19	BLACK		19	0.738406	0.0000	RACE DUMMY: '1' IF BLACK
20	HISPANIC		20	0.726557	0.0000	RACE DUMMY '1' IF HISPANIC
21		CFMDUMMY	19	0.727830	0.0000	I-LEVEL SUBTYPE DUMMY: I3 CFM
22		I2DUMMY	18	0.731396	0.0000	I-LEVEL SYBTYPE DUMMY: I2 AA OR I2 AP
23		RESPONBL	17	0.735920	0.0000	BCL RESPONSIBILITY: BCLOB230"RESPONSBL"
24		VERBACH	16	0.740813	0.0000	VERBAL ACHIEVEMENT: GATES
25		CONFRMTY	15	0.745749	0.0000	BCL CONFORMITY: AVG"BCLOB229+231+236"
26	OBTRUSIV		16	0.738941	0.0000	BCL OBTRUSIVENESS: BCLOB228"UNOBTR""-"
27		PRICOMIT	15	0.745010	0.0000	# OF YA COMMITTMENTS PRIOR TO THIS
28		SUPERVIS	14	0.750901	0.0000	QUESTIONNAIRE FACTOR: PARENTAL SUPERVISN
29	ILEVEL		15	0.743644	0.0000	JESNESS ILEVEL
30		NXSEDUMM	14	0.744917	0.0000	I-LEVEL SUBTYPE DUMMY: I4 NA OR I4 SE
31	JMANAGGR		15	0.738154	0.0000	JESNESS INVENTORY: MANIFEST AGGRESSION
32	IVECHGD		16	0.731457	0.0000	QUESTIONNAIRE FACTOR: FELT CHANGED BY YA

TOTAL SAMPLE

CLASSIFICATION FUNCTION COEFFICIENTS
(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

CHRONTYP=	1 CHRONIC-VIOLENT	2 CHRONIC-VIOLECON	3 CHRONIC-PROPERTY	4 CHRONIC-UNCLASSD	5 NON-CHRONIC
CTBSG1	0.1945026	0.1937320	0.2046074	0.2023556	0.2061635
PREYAVID	1.083392	0.8570723	0.7204335	1.196555	1.633228
PREYAVCN	1.448288	2.779137	1.823833	1.785769	1.984330
PREYAPRP	-0.1966894	-0.3910762	-0.1380725	-0.4902096	-0.5972782
ILEVEL	17.62929	17.79926	17.76061	17.03396	18.07831
JMANAGGR	0.5498611	0.5785539	0.5468558	0.5629897	0.5536795
JWITHDRW	0.2589067	0.2577087	0.2922061	0.3010896	0.2717657
JREPRESS	0.9564025	0.9543165	0.9720479	0.9496426	0.9822152
JASOCIND	0.6044153	0.6053467	0.5898347	0.5751992	0.5761964
OBTRUSIV	0.6159101	0.5937482	0.6095268	0.6042882	0.5808090
OKDAD	1.513311	1.637037	1.579934	1.513525	1.492353
IVECHGD	2.823688	2.868510	2.928317	2.968743	2.967447
DISCPROB	1.498348	1.413059	1.387715	1.380074	1.361999
DELINV	1.039400	0.9609091	0.9428585	0.8479496	0.5786922
BLACK	3.070732	3.435926	2.544020	1.785335	2.292187
HISPANIC	6.091345	5.357845	4.992764	4.980452	5.253064
(CONSTANT)	-147.2963	-148.4032	-149.5263	-145.1721	-146.5542

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
					0	0.7314569	291.61	64	0.0000
1*	0.19813	59.45	59.45	0.4066522	1	0.8763805	123.05	45	0.0000
2*	0.05795	17.39	76.84	0.2340482	2	0.9271695	70.515	28	0.0000
3*	0.04935	14.81	91.65	0.2168517	3	0.9729208	25.600	13	0.0192
4*	0.02783	8.35	100.00	0.1645577					

* MARKS THE 4 CANONICAL DISCRIMINANT FUNCTION(S) TO BE USED IN THE REMAINING ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
CTBSG1	-0.25777	-0.04407	-0.17140	0.21388
PREYAVIO	-0.15116	-0.19420	0.30856	-0.21353
PREYAVCN	-0.06065	0.58201	0.06720	-0.15278
PREYAPRP	0.20303	-0.11497	-0.21240	0.39948
ILEVEL	-0.10371	0.20647	0.44186	0.58441
JMANAGGR	0.01635	0.39886	0.06770	-0.41294
JWITHDRW	-0.21786	-0.04917	-0.60842	0.02863
JREPRESS	-0.20488	-0.00993	0.10658	0.44830
JASOCIND	0.24535	0.07089	0.11998	0.08520
OBTRUSIV	0.19531	-0.23742	-0.20794	0.10345
OKDAD	0.05947	0.37767	-0.11718	0.07424
IVECHGD	-0.21927	0.06841	-0.14370	-0.03202
DISCPROB	0.23387	-0.22446	0.13887	-0.00626
DELINV	0.53012	-0.06128	-0.30558	0.09522
BLACK	0.39515	0.33775	0.42053	0.21385
HISPANIC	0.25883	-0.32697	0.37951	-0.03185

VARIMAX ROTATION TRANSFORMATION MATRIX

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
% VARIANCE	46.85	25.84	17.63	9.68
FUNC 1	0.84781	0.50029	0.07764	-0.15780
FUNC 2	-0.06722	-0.02578	0.99628	0.04727
FUNC 3	-0.51676	0.85252	-0.00910	-0.07806
FUNC 4	0.09828	0.14921	-0.03616	0.98324

ROTATED STANDARDIZED DISCRIMINANT FUNCTION COEFFICIENTS
VARIABLES ARE ORDERED BY THE FUNCTION WITH LARGEST COEFFICIENT AND THE MAGNITUDE OF THAT COEFFICIENT.

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
DELINV	0.62083*	0.02049	-0.02056	0.03092
OBTRUSIV	0.29917*	-0.05800	-0.22322	0.07590
PREYAVIO	-0.29553*	0.16058	-0.20031	-0.21937
JWITHDRW	0.13582	-0.62214*	-0.06141	0.10769
BLACK	0.11601	0.57940*	0.35562	0.13105
HISPANIC	0.04217	0.45671*	-0.30797	-0.11724
DISCPROB	0.14099	0.24024*	-0.20650	-0.06451
IVECHGD	-0.11939	-0.23875*	0.05359	0.01757
JASOCIND	0.14962	0.23591*	0.08550	0.03904
PREYAVCN	-0.14028	-0.01085	0.58005*	-0.11838
JMANAGGR	-0.08852	-0.00600	0.41296*	-0.39503
OKDAD	0.09288	-0.06881	0.37926*	0.09061
ILEVEL	-0.27270	0.40669	0.17250	0.56626*
JREPRESS	-0.18404	0.05551	-0.04298	0.46433*
PREYAPRP	0.32888	-0.01693	-0.11129	0.37189*
CTBSGI	-0.10599	-0.24203	-0.07010	0.26227*

UNSTANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
CTBSGI	-0.4403808D-02	-0.1005610D-01	-0.2912496D-02	0.1089693D-01
PREYAVIO	-0.7474137	0.4061021	-0.5065764	-0.5547818
PREYAVCN	-0.4431215	-0.3428552D-01	1.832250	-0.3739482
PREYAPRP	0.4373235	-0.2251102D-01	-0.1479895	0.4945256
ILEVEL	-0.4599298	0.6859044	0.2909340	0.9550306
JMANAGGR	-0.8152126D-02	-0.5528952D-03	0.3803089D-01	-0.3637974D-01
JWITHDRW	0.1305340D-01	-0.5979264D-01	-0.5901493D-02	0.1035004D-01
JREPRESS	-0.1666032D-01	0.5024847D-02	-0.3890420D-02	0.4203326D-01
JASOCIND	0.1596439D-01	0.2517123D-01	0.9122886D-02	0.4165827D-02
OBTRUSIV	0.3319283D-01	-0.6435560D-02	-0.2476633D-01	0.8421017D-02
OKDAD	0.4746513D-01	-0.3516169D-01	0.1938118	0.4630360D-01
IVECHGD	-0.6892169D-01	-0.1378269	0.3093997D-01	0.1014444D-01
DISCPROB	0.6588831D-01	0.1122720	-0.9650587D-01	-0.3014706D-01
DELINV	0.3950389	0.1303756D-01	-0.1308028D-01	0.1967532D-01
BLACK	0.2629606	1.313334	0.8060839	0.2970513
HISPANIC	0.1230089	1.332075	-0.8982466	-0.3419437
(CONSTANT)	-2.111060	0.5005495D-01	-2.460187	-5.971999

CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP	FUNC 1	FUNC 2	FUNC 3	FUNC 4
1	0.29197	0.26619	-0.15947	-0.07195
2	0.12083	0.17468	0.51477	-0.11607
3	0.05508	-0.30005	0.05223	0.29365
4	-0.15266	-0.57830	-0.14656	-0.30686
5	-0.86879	-0.17044	-0.11283	0.13858

END