DOCUMENT RESUME

ED 348 594 CG 024 412

AUTHOR Archibald, Matthew E.; And Others
TITLE Juvenile Delinquency: A Study of Massachusetts Juvenile Probationers.
INSTITUTION Massachusetts Trial Court, Boston. Office of Commissioner of Probation.
PUB DATE 17 Jan 92
NOTE 47p.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Adolescents; *Delinquency; *Delinquent Rehabilitation; *Juvenile Courts; Predictor Variables; *Probationary Period; *Recidivism; Youth Problems

ABSTRACT

Comparative research in juvenile delinquency provides criminal justice professionals with a mechanism for better decision-making. This study analyzed juvenile probationer arraignments and the offender risk/need classification assessment to better understand juvenile court careers and probation recidivism. Analyses were based on data generated by Massachusetts courts for juveniles (N=779) placed on probation during 1989. Court data comprised the youth's first arraignment through the 18-month follow-up period after placement on probation. Continued offender court involvement places a great burden on the criminal justice system and on the community. Results of analyses indicated: (1) persistent court involvement progressed with each arraignment; (2) paralleling other juvenile probationer studies, roughly 42% of juvenile probationers were re-arraigned within 18 months after placement on probation; (3) juveniles arraigned for index offenses, and especially those arraigned for index violent offenses, prior to current probation supervision, were more likely to recidivate than offenders who had been arraigned for less serious offenses; and (4) indicators of risk to recidivate, such as prior record delineate offender behavior requiring long-range intervention solutions, with indicators such as school disciplinary problems and negative peer relations providing targets for short-term interventions. (ABL)

MASSACHUSETTS TRIAL COURT
OFFFICE OF THE COMMISSIONER OF PROBATION
DONALD COCHRAN, COMMISSIONER

Juvenile Delinquency : A Study of Massachusetts Juvenile Probationers

Matthew E. Archibald
Research Analyst
Research and Planning Department

Marjorie E. Brown
Deputy Commissioner
Administrative Services Division

Carmen A. Cicchetti
Director
Research and Planning Department

January 17, 1992

Acknowledgements

The Research and Planning Department of the Office of the Commissioner of Probation wishes to acknowledge contributions made to this study by probation offices throughout the Commonwealth, and by members of the Field Services and Information Services Divisions. All were instrumental in enabling us to collect information analyzed herein.

Special thanks also to those individuals within the agency and the Boston- area criminal justice community who provided useful and critical advice throughout the different stages of the project.

Table of Contents

Executive Summary

Comparative research in juvenile delinquency provides criminal justice professionals with a mechanism for better decision-making. The current study analyzes juvenile probationer arraignments and the offender Risk/Need classification assessment to better understand juvenile court careers and probation recidivism. Analyses were based on data generated by Massachusetts courts for juveniles placed on probation during 1989. Court data comprised the youth's first arraignment through the eighteen month follow-up period after placement on probation.

Continued offender court involvement places a great burden on the criminal justice system and on the community. Results of analyses of juvenile probationer arraignment data serve to pinpoint trends in juvenile probationer court careers and underscore the importance of supplementing probation supervision with intervention programs aimed at repeat offenders:

-- Approximately 40% of juvenile probationers had one career arraignment, 47% had been arraigned two to four times and 13% had five or more career arraignments. These chronic offenders (five or more career arraignments) were responsible for a disproportionate share of all offenses committed by juvenile probationers

-- Thirteen percent (12.7%) of juvenile probationers were responsible for 32.1% of all offenses

-- The average offense rate for chronic offenders (10.5 offenses) was six times greater than that for one-time offenders (1.7 offenses)

Chronic Offenders

Persistent court involvement also entailed increases in serious offense behavior. Expanding offender management strategies should be based on collaborative researcher-practitioner efforts to pursue innovative program development and program evaluation aimed at high risk offenders:

-- As court involvement progressed with each arraignment, the proportion of juvenile probationers arraigned for serious offenses, particularly index violent offenses, increased. Chronic juvenile offenders were five times as likely as one- time offenders to have been arraigned for an index violent offense

-- Increases in the proportion of offenders arraigned for index violent offenses were due to consistent increases in the proportion of offenders arraigned for robbery and aggravated assault. Chronic juvenile offenders were five times as likely as one-time offenders to have been arraigned for aggravated assault and nine times as likely to have been arraigned for robbery

-- Chronic offenders had a higher average severity score than other repeat offenders and repeat offenders (two to four arraignments) had higher averages than one-time offenders

-- While systematic progression from less to more serious offenses did not take place within an individual court career, chronic offenders tended to accumulate serious offenses

-- Chronic offenders were not arraigned for more serious offenses than other subgroups, but with higher offense rates (especially felonies), they were arraigned more often for serious offenses

Intervention Strategies

Identification of variables which differentiate juvenile recidivism permits modification of programs aimed at offender rehabilitation in specific areas and provide for development of long- and short- range intervention strategies to reduce or curtail court involvement. One opportunity for doing so occurs during probation:

-- Paralleling other juvenile probationer studies, roughly forty-two percent (41.5%) of juvenile probationers were re-arraigned within 18 months after placement on probation.

-- This group of probation recidivists was responsible for nearly 2/3 of all juvenile career offenses

-- The majority of juvenile probationers experienced problems at school (74%), involvement in negative peer relationships (71%) and home disciplinary problems (74%)

-- Nearly forty-seven percent (46.8%) of juvenile probationers with school disciplinary problems re-offended after placement on probation while 26.9% of those with no disciplinary problems did so

Recidivism

Findings from the study of juvenile probationers were consistent with other juvenile delinquency research establishing the relationship between repeated offending and prior court involvement:

-- Juveniles arraigned for index offenses, and especially those arraigned for index violent offenses, prior to current probation supervision, were more likely to recidivate than offenders who had been arraigned for less serious offenses

-- Juvenile probationers with at least one index violent offense were more likely to recidivate (55.4%) than index property offenders (44.4%) , non-index violent offenders (36.5%) , non-index property offenders (35.5%) or others (26.5%)

-- Approximately one- third (32.2%) of one-time offenders recidivated, while more than half of those with two arraignments did so (52.0%). Of juvenile probationers with three or more arraignments, 57.3% recidivated

-- The most reliable "at risk" indicators of juvenile recidivism were: juvenile prior record, school disciplinary problems and negative peer relations. While prior record was by far the most powerful indicator of juvenile recidivism, school disciplinary problems and negative peer relations were, in addition to prior record, significant as well

-- Indicators of risk to recidivate such as prior record delineate offender behavior requiring long-range intervention solutions. Indicators such as school disciplinary problems and negative peer relations provide targets for short- term interventions

Introduction

The administrative mandate for probation in Massachusetts, which takes place under the auspices of the Trial Court, was designed to ensure public safety and offender accountability while providing an appropriate context for rehabilitation (Brown and Cochran, 1984). Although the historical antecedents of these principles differ for juvenile delinquents, this mandate is necessarily applicable to juvenile probationers as well. The classification and supervision of juveniles adjudicated delinquent and placed on probation is governed, no less than for adults, by "professional procedures for both the control of and assistance to the offender under community supervision " (Brown and Cochran, 1984, p. 1).

From a policy standpoint, reconciliation of the dual concepts of assurance of public safety and offender rehabilitation, however theoretically benign, is tenuous at best (Snyder, 1988; Cochran, 1989). During the past decade, rises in juvenile violence and the numbers of "serious" juvenile offenders have brought this conflict into sharp relief (Snyder, 1988; Tracy et al., 1985; Greilich et al., 1980). As a result, "many probation agencies are involved, for the first time, in social policy development" of an increasingly complex nature (Cochran, 1989, p.58), particularly when implementation affects the youngest members of the social strata.

To underscore this point, in 1984 the National Council of Juvenile and Family Court Judges endorsed a series of recommendations designed to serve as guidlines for encouraging further development of criminal justice policies and programs, of which the following is particularly germane:

> "Research and evaluation on the treatment [by the justice system] of serious, chronic and violent juvenile offenders should be continued with emphasis on, rehabilitation, accountability and public safety " (Snyder, 1988, p. 2)

This recommendation highlights a basic premise underlying the efficacy of probation: that better decision-making and policy implementation, particularly with regard to juveniles, depends on empirical findings generated by research and evaluation studies. For example, delineating juvenile offending behavior permits identification of "youth in need of special attention" which affects the coordination of programs for more efficient allocation of diminishing resources and execution of agency tenets (Snyder, 1988, p.3).

As an integral component of this process, one of the primary goals of criminal justice and probation research is to develop a reliable and valid informational base with which to elaborate the parameters of offender behavior in order to contribute to the "formulation of new policy, the reform of existing policy, the revision of field practice ... [and] the effective functioning of the justice system" (RPD Mission Statement, 1988).

The study of juvenile probationer court careers was a result of these concerns. The study agenda consisted of establishing a data structure, research methodology and analysis that would provide probation administration with reliable and valid information with which to promote regular and consistent offender management and supervision policy. In addition, comparative analyses focusing on juvenile court careers and associated background characteristics present an opportunity to supplement previous juvenile delinquency research. Analyses of specific juvenile offender popula-

tions enhances our knowledge of juvenile offender behavior generally and provides the empirical basis for a collaborative effort between researchers and practitioners in the development of juvenile justice policy; since court sanctions, such as probation, directly entail the adherence to guidelines based on information derivative thereof.

For instance, results of this type of project serve as the basis for policy development which would benefit probation practitioners and court officials for whom probation guidlines translate into strategies calculated to: 1) ensure public safety through consistent offender classification and supervision, and, 2) provide offenders with access to community resources essential for rehabilitation.

The study is divided into two sections. The first section (Part 1) examines juvenile probationer arraignment careers focusing on prevalence, arraignment patterns, incidence and offense characteristics. Analysis of the preceding topic areas offers an heuristic perspective on the extent and nature of juvenile court involvement through identification and comparison of trends which differentiate: 1) juvenile probationers and other delinquent populations, and, 2) juvenile career and juvenile pre-probation offense patterns.[1]

Part 1 concludes with an analysis of juvenile offender arraignment patterns prior to probation (Part 1b). In addition, contingency analyses exploring offense characteristics were undertaken in order to identify juveniles likely to continue offending after placement on probation. Part 1b focuses analyses presented in Part 1a by narrowing the observation period in order to depict juvenile offender behavior as it appears to practitioners and court officials at the time of criminal sanctioning. Analyses of pre-probation offense characteristics which identify juvenile recidivists provides information useful for policy development aimed at two specific types of probationers: repeat offenders and serious offenders (those with index violent offenses).

The second section of the study (Part 2) analyzes juvenile probationer "at risk" characteristics. This section utilizes a multivariate equation to identify juvenile probationer "at risk" characteristics and offense behavior derived from analyses in Part 1b which combine to explain continued offending after placement on probation. Structural variables hypothesized to affect the explanatory power of the model are analyzed as well. Analyses of offender background, as well as offense, characteristics which may exacerbate juvenile recidivism, permits decision makers to explore the development of offender assessment strategies designed to ensure offender accountability and to "maximize the courts' rehabilitative influence" (Snyder, 1988, p. 3).

While it was beyond the scope of the project to evaluate program effectiveness, the data structure, design, and analyses which evolved through the study provide the basis for conducting program and treatment evaluation studies in the future.

Methodology

Sample

The sampling frame consisted of all Massachusetts juveniles adjudicated delinquent and placed on Risk / Need probation during the months of January, February and March 1989 (N=922).

Sample inclusion criteria were stringent and therefore 143 cases were removed from the sample prior to analysis (Appendix D).

The resultant sample of 779 juveniles selected for study were examined for divergent Risk/ Need and court level characteristics in order to eliminate sampling bias (Sudman, 1976).

Observation and Follow-up Period

The observation period for the study comprised the youth's first arraignment through arraignments 18 months after the start of the current probationary period.

The follow-up period begins at the start of probation and extends through the eigthteenth month after that date (e.g., June 1990 represents the eighteenth month for January probation starting dates , etc.).

While the choice of an eighteen month follow-up period was a practical rather than theoretical decision, standardizing the follow-up period controls for bias arising from unequal "exposure" time (Maltz, 1984). [2]

Data Sources

Data sources for the study consisted of: the Juvenile Risk/Need Offender Assessment and Criminal Offender Record Information. Each data source yielded the following measures:

Juvenile Risk/Need Offender Assessment

- Structural characteristics
- Offender probation offense characteristics
- Offender "at risk" indicators
- Offender classification

Criminal Offender Record Information

- Offender arraignment history[3]

Recidivism

Recidivism -- Juvenile probationer recidivism denotes an arraignment subsequent to placement on probation. Discussion of subsequent arraignment, unless otherwise noted, pertains to any arraignment which occurred after placement on probation through the eighteen month follow-up period.

Definitional Elements

Juvenile justice systems vary from state to state. The following explanations are provided for the sake of clarifying the conventions, statutes and definitions particular to this study of delinquency.

Juvenile Offender -- "...a child between seven and seventeen (7 and 17) who violates any city ordinance or town by-law or who commits any offense against the Commonwealth" (MGL. 119:52).

Juvenile Parens Patriae -- Juveniles in Massachusetts are not considered criminals but delinquents; they are not convicted of crimes but adjudicated delinquent; they are not sentenced to prison but committed to the Department of Youth Services or placed on Risk/Need probation. Juveniles in Massachusetts are not placed on Risk/Need probation for status offenses.

Juvenile Arraignments -- All juvenile arraignments discussed in the study consist of proceedings undertaken for offenses for which an adult could be sentenced to prison.

Uniform Crime Reporting Index -- Offense statutes differ nationally. The F.B.I. index of offenses, the UCR index, created for interstate comparability, functions in the study as a means of categorizing offenses consistent with methods utilized in other juvenile delinquency research. Components of the UCR index are: index property offenses -- burglary, larceny/theft, motor vehicle theft and arson; index violent offenses -- murder, rape, robbery and aggravated assault; other non-index (i.e., all offenses not categorized under the preceding offense headings)

Juvenile Offenses/ Felony Equivalents -- Massachusetts General Law defines a felony as a crime for which an adult offender could be sentenced to state prison. All other crimes are misdemeanors (Criminal Law Reference Handbook). Since juveniles in Massachusetts are not "convicted" of crimes, offenses designated "felonies" for which juvenile probationers were arraigned, are in effect felony equivalents.

Part I

Patterns in Juvenile Probationer Careers

In a recent study of juvenile court careers, undertaken by the National Center for Juvenile Justice, Howard Snyder argues that analyses of juvenile delinquency derived from law enforcement data need to be augmented with information based on court histories, the combination of which would provide criminal justice policy makers and practitioners with a comprehensive basis for decision-making (Snyder, 1988). Consistent with this argument, the first section of the study was designed to pursue a method appropriate for understanding the characteristics of probationer offense behavior from the perspective of juvenile court adjudication. The practical consequences of this approach creates the context in which, in an era of diminishing resources, studies of juvenile offender court careers may serve as an impetus for refinement of offender assessment and innovative program development.

Of equal consideration was the importance of attempting to replicate findings of other studies in order to explore current methods in juvenile delinquency research (Tracy et al., 1985), especially methods utilizing juvenile court histories (Snyder, 1988). The value of doing so provides an opportunity for comparability with previous studies that extends our ability to draw relevant conclusions from analyses of juvenile probationer careers

Juvenile Court Careers - Part 1a

The first section of the study (Part 1a) examines the arraignment careers of juvenile probationers, focusing on prevalence, arraignment patterns, incidence and offense characteristics.

Career Arraignments [4] and Incidence

Table 1 presents an overview of probationer arraignment and offense distributions. The 779 juvenile probationers in this study were responsible for a total of 3,223 career offenses, distributed across a number of arraignments ranging from 1 to 12. The majority of offenses (68.4%) were non-index . UCR index property and violent offenses accounted for 24.0% and 8.0% of all offenses, respectively. Of the total number of offenses, 41.1% were felonies.*

With respect to career arraignments, approximately 40% of juvenile probationers in the study were one-time offenders. Forty- seven percent (47%) had been arraigned two to four times and 13% had been arraigned on five or more occasions. In the Philadelphia cohort study, offenders in these subgroups were referred to as one-time, repeat and chronic delinquents, based on police "contacts" (Tracy et al., 1985). For the sake of comparison, we adopted five or more career arraignments as a demarcation between chronic juvenile offenders, and other repeat offenders and one-time offenders (those with a single career arraignment).[5]

However, it should be noted that by adopting these subgroup categories it was expected that the use of divergent measurement criteria (i.e., arraignments vs. law enforcement data) would yield potential discrepencies between studies (Tracy et al., 1985, p. 5). Not surprisingly, differences emerged when probationer arraignment data were analyzed. For instance, a greater proportion of

*See "Juvenile Offenses/Felony Equivalents" in Methodology

Table 1 Career: Prevalence and Volume of Offenses

	Number of Career Arraignments					
	1	2	3	4	5+	Totals
# Offenders	309	182	119	70	99	779
% Offenders	39.7 %	23.4	15.3	9.0	12.7	100.0
# Career Offenses	535	614	588	450	1036	3223
% Career Offenses	16.6 %	19.1	18.2	14.0	32.1	100.0
Avg. # Offenses *	1.7	3.4	4.9	6.4	10.5	4.1
Severity Score (Md.)	3.5	11.0	22.0	25.2	54.2	11.0
# Career Felonies **	206	230	249	184	456	1325
% Career Felonies	15.5 %	17.4	18.8	13.9	34.4	41.1
Avg. # Felonies	0.7	1.3	2.1	2.6	.6	1.7
# Career Non Index Offenses	371	417	399	312	709	2204
% Career Non Index Offenses	16.8 %	18.7	18.1	14.2	32.2	68.4
Avg. # Career Non Index Offenses	1.2	2.3	3.4	4.5	7.2	2.8
# Career Index Offenses	164	201	189	138	327	1019
% Career Index Offenses	16.1 %	19.7	18.5	13.5	32.1	31.6
Avg. # Career Index Offenses	0.5	1.1	1.6	2.0	3.3	1.3
# Career Index Violent Offenses	33	46	56	35	89	259
% Career Index Violent Offenses	12.7 %	17.8	21.6	13.5	34.4	8.0
Avg. # Career Index Violent Offenses	0.1	0.3	0.5	0.5	0.9	0.3

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

* Standard deviations for each arraignment rank were:
1.0, 1.7, 2.0, 2.2 and 3.8, respectively

** Felonies consist of index and non-index offenses

juveniles in the Philadelphia cohort were defined as chronic offenders (23%) than were juvenile probationers (13%). As had been expected, prevalence rates measured by police contacts (the Philadelphia study) in contrast to rates measured by arraignments account for the higher proportion of chronics in the cohort study. This finding confirms previous claims that studies employing court data are likely to show less frequent juvenile activity. (Snyder, 1988). Due to the nature of arraignment data as an indicator of juvenile delinquency, estimates of prevalence and volume should be lower. Nonetheless, despite these differences, the extent of juvenile probationer criminal activity, especially of those most active, has probation policy implications.

One of the most touted findings of the Philadelphia study (Tracy et al., 1985, pp. 9-10) was that a small percentage of juvenile delinquents (23%) were responsible for a disproportionate share of offenses committed by the cohort (61%), including the most serious delinquencies. As the authors of the cohort study note the importance of this finding arose from the fact that, "it was not known exactly how small the group actually was or how great a share of offenses could be attributed to them " (Tracy et al., 1985, p.10).

Similarly, chronic offenders in the juvenile probationer population were responsible for a disproportionate share of all career offenses. Roughly 13% of juvenile probationers were responsible for 32% of all offenses. The average offense rate for probationer chronic offenders (10.5 offenses) was six times greater than that for one-time offenders (1.7 offenses). These results indicate that, within the probationer caseload, court officials are responsible for a relatively small group of offenders with repeated adjudications and aggregate increases in offense rates.

Of greater interest was the proximity of offender/offense ratios between the two studies. In the cohort study, the offender/offense ratio for chronic offenders was 9.4:1 and in the juvenile probationer sample the offender/offense ratio for chronics was 10.5:1. While it may be argued that characterizing "chronic" offenders by subgroup membership is a definitional matter, the existence of this striking similarity indicates that proportionately, the amount of crime for which chronic offenders in the probationer population were responsible did not differ from that committed by the Philadelphia cohort.

Severity Index

Studies of juvenile offense behavior have yet to demonstrate unequivically whether or not an exponential increase in offense seriousness occurs over the course of juvenile careers. In order to explore the issue, the following tables include an index score of offense severity. The index score is based on the prison term, established for each offense under the criminal code, *to which an adult could be sentenced* (see Appendix C). Use of the severity index in Table 1 was limited to differentiating offender subgroups, because its increase parallels increases in the average number of offenses, rather than systematic increases in the severity of individual offense commission. As will be discussed further in this section, the severity index roughly parallels cumulative increases in offense seriousness among offenders.

Table 1 depicts the incremental rise in the average severity score, which was consistent at each arraignment rank. As a result, chronic offenders had a higher average severity score than other repeat offenders and repeat offenders had higher averages than one-time offenders. Increases in the average severity score paralleled increases in the offense rate for each arraignment subgroup. This suggests that chronic offenders were not necessarily arraigned for more serious offenses than other subgroups,

Table 2 Career: Offense Characteristics , Volume of Offenses and Severity Index

UCR/OCP Index of Offense Type *			Aggregate Career Offenses**		
UCR /OCP Type	# Offenders	%	# Total Offenses	%	Severity Score (Md.)
Non Index Offense Only					
Mv, Drug, Misc.	83	10.7	132	4.1	1.0
Property Only	62	8.0	86	2.7	
Property & Other	51	6.5	197	6.1	
Subtotal		14.5		8.8	10.0
Violent Only	28	3.6	31	1.0	
Violent & Other	48	6.2	212	6.6	
Subtotal		9.8		7.6	5.0
Subtotal Non Index Only		35.0		20.4	
Any Index Offense					
Index Property Only	129	16.6	324	10.1	
Index Property & Other	209	26.8	1250	38.8	
Subtotal		43.4		48.9	13.3
Index Violent Only	24	3.1	41	1.3	
Index Violent, Property, & Other	145	18.6	950	29.5	
Subtotal		21.7		30.8	40.5
Subtotal Any Index		65.1		79.6	
Total	**779**		**3223**		

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

* The index is organized hierarchically, based on the occurrence of at least one type of offense, starting with index violent. Offense categories are mutually exclusive

** Volume of offenses in this table includes counts of any offense type. For instance, offenders who had been arraigned at least once for an index violent offense were responsible for 991 (950 + 41) career offenses. Similarly, offenders whose arraignment history consisted solely of motor vehicle, drug or miscellaneous offenses, were responsible for 132 career offenses, and so on. See Table 1 for aggregate offense totals by type

but that with repeated adjudications (especially felonies, i.e., felony equivalents) they were arraigned more often for serious offenses.

Offense Characteristics - UCR/OCP Index of Offense Type

Table 2 presents juvenile probationer offense characteristics as well as offense rates. In addition, the table depicts the relationship between the UCR/OCP index categories and the severity index in order to ascertain the reliability of the former. Offense characteristics in the index were differentiated, respectively, according to whether or not an offender had at least one career arraignment for an index violent offense, an arraignment for an index property offense or an arraignment for non-index offenses only (subdivided into non-index violent, property and mv, drug, miscellaneous offenses).

Despite the often multiple types of offenses committed by juvenile probationers, an issue which will be discussed further, classification of offenders by the UCR/OCP index was based upon commission of particular types of offenses. For example, while an offender may have been arraigned on a series of charges, representing offenses as disparate as mv theft, fraud and aggravated assault, the UCR/OCP index would categorize the offender as "index violent." The different subgroup categories depicted in column 2 of Table 2 therefore represent the proportion of offenders with an offense of the designated type.

Studies examining offender careers based on police contact, arrest and referral histories, have found that a small percentage of juvenile careers contained an index violent offense. Snyder's claim that offense patterns derived from juvenile court data are more likely to delineate serious offending behavior was confirmed by these analyses (Snyder, 1988). Indicative of the serious offender behavior among the juvenile probationer population, the proportion of offenders having committed an index violent offense was four times greater than in other juvenile cohorts. Twenty-two (21.7%) percent of juvenile probationers had been arraigned for an index violent offense, while index violent offense commission among the Philadelphia and Racine-Maricopa cohorts was usually around 5% (Tracy et al., 1985; Snyder, 1988; Snyder et al., 1990, p.10).

Moreover, based on the UCR/OCP index of offense type, index violent offenders, comprising about one-fifth of probationers accounted for almost one-third (30.8%) of all offenses which, as will be discussed below, were more serious in the aggregate, than offenses for which other types of offenders were arraigned.

In order to evaluate the construction of the UCR/OCP index of offense type, Table 2 presents the average severity score for constituent subgroups (median). The severity score functions as a rough estimate of offense seriousness based on an aggregate of offenses committed by each offender subgroup. As indicated in Table 2, rank ordering of offense characteristics in the UCR/OCP index, from more serious offense type (index violent) to less serious (non-index mv, drug, miscellaneous) approximately paralleled changes in the magnitude of "severity" taking into account all offenses for which each subgroup was responsible. Index violent offenders accrued a score of 41 based on their accumulated offenses, index property offenders accrued a score of 13 and non-index offenders (non-index violent, property and "other") had scores no greater than 10.

This suggests that the UCR/OCP index delineates, fairly closely, serious delinquent behavior. Index violent offenders, having committed one-third of all offenses, were responsible, on average, for

more serious offenses than other juvenile probationers. Similarly, index property offenders were responsible for more serious offense behavior than non-index offenders.

Age at First Offense and Age at Instant Offense

Studies of criminal careers regularly examine age at onset in order to test the assumption that the earlier a career begins the more likely it is to contain serious offense behavior later on . While some studies claim that a delinquent career that begins early is more likely to result in later serious offender behavior, most have been unable to demonstrate that the age at which offenders become involved in delinquent behavior is directly related to increases in offense severity later on in their careers (Farrington, 1987; Tracy et al., 1985; Snyder, 1988).

Results of the Philadelphia cohort study have shown that, while careers which began earlier were more likely to contain an index offense: "Delinquents who began their careers early were not more likely than others to commit more serious offenses throughout their careers" (Tracy et al., 1985, p.14). Age analyses of juvenile probationers paralleled these results. However, Snyder's exploration of offense patterns, depicting increases in index violent offenses consistent with early age at onset, were not borne out in the probationer population (Snyder, 1988). It was apparent from these and other analyses conducted with juvenile probationers, that offense patterns require more detailed analyses than that permitted by explanations based solely on age at onset.

With respect to age at instant offense, Tracy, Wolfgang and Figlio (1985, pp. 15-16) observed that serious offenses " were more likely to appear among the later offenses in a delinquent career" (e.g., index violent offenses increased steadily between ages 11 and 17). For juvenile probationers , no such proportional increase by age was discovered. This finding not only underscores the need for a more comprehensive analysis of age at instant offense , but invites the question of whether age and offense transitions were related to the probationer sample itself.

Career Arraignments and Offense Typology

A developmental hypothesis of juvenile delinquency posits that juvenile offending, if left unattended, will progress from less serious to more serious types of offenses (Snyder, 1988). In the current study the relationship between age and increases in serious offenses was not evident. Whether this was due to selection effects or, whether a function of special interventions or not, was beyond the scope of the analysis. However, patterns in probationer court involvement did distinguish persistent, high-rate offenders from low-rate offenders. Prior arraignment was found to entail increases in offending rates as well as seriousness.

In the Philadelphia study, the probability of committing a "serious" offense (comprising both violent and property index offenses) did not increase at each offense rank as had been exepected given the results of their age analysis (Tracy et al., 1985). It was therefore of considerable interest when it was discovered that the proportion of juvenile probationers having committed a serious offense, specifically index violent offenses, increased at each arraignment rank. From the perspective of the juvenile court, the likelihood of offenders having been arraigned for index violent offenses increased with repeated court involvement.

Table 3 and Table 3a (Appendix A) depict these results. The proportion of juvenile probationers

Table 3 Career: Prevalence and Offense Characteristics

UCR/OCP Index of Offense Type	Number of Career Arraignments									
	1		2		3		4		5+	
UCR /OCP Type	N	%	N	%	N	%	N	%	N	%
Non Index Offense Only										
Mv, Drug, Misc.	66	21.4	13	7.1	3	2.5	1	1.4	0	0.0
Property Only	55	17.8	5	2.7	1	0.8	0	0.0	1	1.0
Property & Other	9	2.9	21	11.5	12	10.1	7	10.0	2	2.0
Subtotal		20.7		14.2		10.9		10.0		3.0
Violent Only	26	8.4	2	1.1	0	0.0	0	0.0	0	0.0
Violent & Other	13	4.2	17	9.3	10	8.4	4	5.7	4	4.0
Subtotal		12.6		10.4		8.4		5.7		4.0
Subtotal Non Index Only		54.6		31.7		21.8		17.1		7.0
Any Index Offense										
Index Property Only	82	26.5	35	19.2	9	7.6	2	2.9	1	1.0
Index Property & Other	31	10.0	53	29.1	47	39.5	33	47.1	45	45.5
Subtotal		36.5		48.3		47.1		50.0		46.5
Index Violent Only	21	6.8	3	1.6	0	0.0	0	0.0	0	0.0
Index Violent & Other	3	1.0	17	9.3	17	14.3	12	17.1	11	11.1
Index Violent, Property & Other	3	1.0	16	8.8	20	16.8	11	15.7	35	35.4
Subtotal		8.8		19.7		31.1		32.8		46.5
Subtotal Any Index		45.4		68.1		78.0		82.8		92.9
Total	309	39.7	182	23.4	119	15.3	70	9.0	99	12.7

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

who had committed an index violent offense rose at each arraignment. For example,while only 8.8% of one-time offenders had committed an index violent offense, 19.7% of offenders with two arraignments had done so. Of chronic offenders, on the other hand, 46.5% had been arraigned at least once, at some point in their careers, for an index violent offense. At the same time, this increase was paralleled by a decrease in the proportion of offenders with non-index offenses.

Increases in the proportion of offenders arraigned for index violent offenses occurred as a result of increases in the proportion of offenders arraigned for robbery and aggravated assault (Table 3a Appendix A). For example, chronic offenders were five times as likely to have been arraigned for an aggravated assault as one-time offenders, and twice as likely as offenders with two arraignments. Similarly, chronic offenders were nine times as likely as one-time offenders and three times as likely as two-time offenders to have been arraigned for a robbery.

However, this is not to suggest that within juvenile probationer careers systematic progression from less to more serious offenses occurred. In fact, subsidiary analyses proved this was not the case. Rather, the greater likelihood of serious offense commission among offenders with repeated adjudications may be linked to "earlier termination of careers by offenders who do not engage in violent offenses" so that "the more persistent groups and their characteristics increasingly dominate...[the sample]" (Blumstein et al., 1986, pp.79-105).

Table 3 also permits a partial examination of offense specialization. The proportion of offenders having committed a single offense type (i.e., index and non-index violent, property and "other") declined between arraignments one and five. Decreases in single offense types were paralleled by increases in the proportion of offenders having committed multiple types of offenses, as defined by each index category.

For example, one-time offenders were more likely to have committed index violent offenses only (6.8%) than multiple offense types such as index violent/non-index (1.0%), or, index violent/index property (1.0%). Chronic offenders, on the other hand, were less likely to have committed single offense types, such as index violent only (0 cases) and more likely to have committed multiple offense types: 11.1% had committed index violent/non-index offenses and 35.4% had committed index violent/index property offenses. This pattern emerged for each offense category: index property, non-index violent and non-index property. Thus, as court involvement increased, offense behavior was more likely to include multiple types of offenses.

Finally, it should be noted that, consistent with other studies (Tracy et al., 1985; Farrington, 1987), juvenile probationer rates of offending (not shown in table) increased, on average, with each arraignment (i.e., the time interval between each arraignment decreased). This finding suggests that repeat offenders are not only processed by the court again and again, but over progressively shorter periods of time.

Results of findings from Part 1a argue in favor of the conclusion that as juveniles become increasingly involved in the justice system (based on frequency of arraignments) there is a greater likelihood of serious offense commission, and that repeated juvenile court involvement entails cumulative increases in offense severity (see Farrington, 1987, p.60) as well as accelerated rates of offending. In addition to the latter's impact on the public, repeated adjudications, especially of the so-called chronic offenders, places a greater burden on the court. As a result, already scarce court resources are further diminished and burgeoning public safety issues may tempt criminal justice

professionals to enact a reactive probationary policy due to shifts in the "swinging pendulum of political pressure" arising from community concerns (Snyder, 1988, p.1).

Juvenile Court Careers Prior to Probation- Part 1b *

The second part of section 1 (Part 1b) explores juvenile probationer court careers from the perspective of arraignment history prior to the current probationary period, in order to ascertain differences which may exist between juvenile probationer offense behavior as it appears to probation officials at the time of criminal sanctioning and overall career behavior.

Examination of juvenile pre-probation careers, focusing on topic areas discussed in Part 1a (i.e., prevalence, arraignment patterns, incidence and offense characteristics) revealed that trends prior to probation approximated career patterns. For example, just as a small number of juvenile probationers (five or more career arraignments) were responsible for a disproportionate share of all career offenses, a small group of juveniles, those with three or more pre-probation arraignments (19%) was responsible for the bulk of offenses committed prior to probation (39%) , including index (38%), index violent offenses (42%) and felonies (41%). **

In addition, contingency analyses showed that patterns of offending consistent with "chronic" behavior were developing by the probationary period. Not surprisingly, roughly three quarters of juvenile chronic offenders (five or more career arraignments) had at least three or more arraignments prior to probation.

Conclusions based on examination of probationer arraignment history prior to probation were found to be nearly analogous to those derived from analyses of probationer careers .While slight differences did emerge these were due to the attenuation of the observation period (e.g., prevalence rates for juveniles were smaller prior to probation than careerwise). Nontheless, repeated court involvement necessitates increased court intervention, either rehabilitative or deterrent, in order to better serve the public and provide for successful offender management.

Offense Characteristics Prior to Probation - UCR/OCP Index of Offense Type

Table 4 presents juvenile probationer offense characteristics as well as offense rates prior to probation. In addition, the table depicts the relationship between the UCR/OCP index categories and the severity index in order to ascertain the reliability of the former. Offense characteristics in the index were differentiated, respectively, according to whether or not an offender had at least one career arraignment for an index violent offense, an arraignment for an index property offense or an arraignment for non-index offenses only (sub-divided into non-index violent, property and mv, drug, miscellaneous offenses).

Despite the range of types of offenses committed by juvenile probationers, an issue discussed with regard to Table 3, Part 1a , classification of offenders by the UCR/OCP index was based upon commission of particular types of offenses. The different subgroup categories depicted in column 2 of Table 4, represent the proportion of offenders with an offense of the designated type.

* Arraignment characteristics include those for which probationers received probation

** Table not shown

Table 4 Pre- Probation: Offense Characteristics, Volume of Offenses and Severity Index

	UCR/OCP Index of Offense Type		Aggregate Offenses Prior to Probation		
UCR /OCP Type	# Offenders	%	# Total Offenses	%	Severity Score (Md.)
Non Index Offense Only					
Mv, Drug, Misc.	102	13.1	148	5.6	2.0
Property Only	90	11.6	125	8.1	
Property & Other	48	6.2	179	6.1	
Subtotal		17.8		14.2	10.0
Violent Only	41	5.3	47	2.1	
Violent & Other	44	5.6	152	6.8	
Subtotal		10.9		9.0	5.2
Subtotal Non Index Only		41.7		29.3	
Any Index Offense					
Index Property Only	167	21.4	390	17.6	
Index Property & Other	157	20.2	674	30.4	
Subtotal		41.6		47.9	13.5
Index Violent Only	41	5.3	65	2.9	
Index Violent, Property & Other	89	11.5	493	19.8	
Subtotal		16.7		22.7	32.5
Subtotal Any Index		58.3		70.7	
Total	**779**		**2219**		

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

As observed previously (Part 1a, Table 2), rank ordering of offense characteristics in the study, from more serious offense type (index violent) to less serious (non-index mv, drug, miscellaneous) paralleled changes in the magnitude of "severity" taking into account all offenses for which each subgroup was responsible. Table 4 elaborates the relationship between offense characteristics and incidence prior to probation using the severity index. Index violent offenders accrued a score of 33 based on their accumulated offenses, index property offenders accrued a score of 14 while non-index offenders (non-index violent, property and "other") had scores no greater than 10.

This suggests that probationers who had committed at least one index violent offense prior to probation were responsible for more serious offenses, on the whole, than other types of offenders. Furthermore, identification of more serious offenders, especially index violent offenders, given the accessibility of their arraignment history, provides practitioners the opportunity to develop intervention strategies aimed at modifying violent offense behavior. For instance, refinement of the UCR/OCP index might permit weighting and classification of offenders based on previous arraignment and offense history.

Arraignments and Offense Typology Prior to Probation

Table 5 explores the relationship between probationer offense characteristics and offender chronicity prior to probation.

As previously observed, in Part 1a, the proportion of juvenile probationers who had committed an index violent offense rose at each arraignment accompanied by decreases in the proportion of offenders with non-index offenses.

Table 5 and Table 5a (Appendix B) depict similar results for probationer arraignments prior to probation. While only 10.5% of one-time offenders had committed an index violent offense, 19.6% of offenders with two arraignments had done so. Of offenders with three or more arraignments prior to probation, 32.0% had been arraigned at least once for an index violent offense. These increases were due to increases, at each arraignment prior to probation, in the proportion of offenders having committed robbery and aggravated assault. From the perspective of the juvenile court, the likelihood of offenders having been arraigned for index violent offenses increased with repeated court involvement, paralleled by a decrease in the proportion of offenders arraigned for non-index offenses.

Table 5 also permits a partial examination of offense specialization. The proportion of offenders having committed a single offense type (i.e., index and non-index violent, property and "other") declined between arraignments one and three. Decreases in single offense types were paralleled by increases in the proportion of offenders having committed multiple types of offenses.

For example, one-time offenders were more likely to have committed index violent offenses only (8.1%) than multiple offense types such as index violent/non-index (1.3%), or, index violent/property (1.1%). Conversely, offenders with three or more arraignments were less likely to have committed single offense types (there were no "index violent only" offenses), and more likely to have committed multiple types of offenses such as index violent/non-index (12.7%), or, index violent/property (19.3%). Similarly, these patterns emerged for the other offense subgroups as well. This suggests that with increased court involvement, offense behavior was more likely to include a range

Table 5 Pre- Probation: Prevalence and Offense Characteristics

	UCR/OCP Index of Offense Type		Number of Arraignments Prior to Probation*			
	1		2		3+	
UCR /OCP Type	N	%	N	%	N	%
Non Index Offense Only						
Mv, Drug, Misc.	88	19.3	12	6.9	2	1.3
Property Only	79	17.3	7	4.0	4	2.7
Property & Other	14	3.1	18	10.4	16	10.7
Subtotal		20.4		14.4		13.4
Violent Only	38	8.3	2	1.2	1	0.7
Violent & Other	19	4.2	16	9.2	9	6.0
Subtotal		12.5		10.4		6.7
Subtotal Non Index Only		52.2		31.8		21.3
Any Index Offense						
Index Property Only	122	26.8	33	19.1	12	8.0
Index Property & Other	48	10.5	51	29.5	58	38.7
Subtotal		37.3		48.6		46.7
Index Violent Only	37	8.1	4	2.3	0	0.0
Index Violent & Other	6	1.3	16	9.2	19	12.7
Index Violent , Property & Other	5	1.1	14	8.1	29	19.3
Subtotal		10.5		19.6		32.0
Subtotal Any Index		47.8		68.2		78.7
Total	456	58.5	173	22.2	150	19.3

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

* Includes probation arraignment

of types of offenses.

With respect to juvenile probationer careers (discussed in Part 1a) it was evident that there was a greater likelihood of serious offense behavior at each arraignment. This finding was underscored by similar results pertaining to juvenile offense behavior prior to probation (Table 5; Table 5a in Appendix B). Through analysis of pre-probation careers, it was notable that nearly one- third (32.0%) of juvenile probationers with three or more arraignments had been involved in index violent offense behavior by probation.

In a practical sense, these findings indicate that juvenile justice professionals are responsible for management and rehabilitation of offenders whose offense behavior is more likely to contain serious offense behavior with repeated court involvement. Through establishing means for identification of youth most in need of special treatment programs early in their careers (possibly after a youth's first arraignment) before they absorb a disproportionate share of criminal justice resources, intervention strategies might be developed to modify offender chronicity (or violent behavior) in order to reduce future dependence on the court. One starting point for doing so begins at probation and a partial measure of its success will be juvenile re-arraignment.

Recidivism - Juvenile Probationer Re-Arraignment

Juvenile offender studies which focus on a recidivism outcome usually contain a program evaluation component intended to measure the deterrent or rehabilitative nature of the sanction. Studies such as the current one, utilize the concept of recidivism as an estimation procedure, largely to provide descriptive information necessary for successful policy development (Maltz, 1984). For instance, issues raised by questions pertaining to the extent and conditions under which juvenile probationers recidivate while on probation are precursors of larger concerns in areas such as program and treatment development.

Analysis of juvenile probationer careers observed prior to probation uncovered differing recidivism probabilities , specifically between probationers with a single arraignment prior to probation (one-time offenders) and repeat offenders.[6] Offense characteristics were also found to differentiate recidivism. Furthermore, it was noted that although less than half of juvenile probationers recidivated after placement on probation (41.5%), this group was responsible for 63% of all offenses committed by the sample (table not shown). Probationer recidivists therefore come to absorb already scarce court resources and to place a great burden on the community. As noted in some studies, while not all adult recidivists were juvenile recidivists, juvenile recidivists had a greater probability of becoming adult recidivists (Farrington, 1987, p.67).

Table 6 examines the relationship between arraignments prior to probation, offense characteristics and the likelihood of offender re-arraignment after placement on probation. On the basis of this table, two important findings emerged: 1) the probability of recidivating increased between the first and subsequent arraignments, remaining relatively stable between the second, and, third or subsequent arraignments 2) the probability of re-arraignment increased consistently with offense seriousness, although less regularly within the cells of arraignment/offense categories.

Roughly one- third (32.2%) of one-time offenders had a re-arraignment after placement on probation while more than half of those with a second arraignment (52.0%) or, third or subsequent arraignment (57.3%) recidivated. It was evident that simply having appeared before the court more than

Table 6 Pre- Probation: Recidivism Probabilities for Arraignment Subgroups and Collapsed Offense Characteristics*

	UCR/OCP Index of Offense Type		Number of Arraignments Prior to Probation		
	1	2	3+		Total
UCR/OCP Type	% Re-arraigned	% Re-arraigned	% Re-arraigned		
Non Index Offense Only					
Mv. Drug. Misc.	25.0	33.3	50.0		**26.5**
Property	31.2	48.0	40.0		**35.5**
Violent	31.6	38.9	60.0		**36.5**
Subtotal Non Index Only	29.0	41.8	46.9		**23.5**
Any Index Offense					
Property	33.8	54.8	58.6		**44.4**
Violent	43.8	61.8	62.5		**55.4**
Subtotal Any Index	35.5	56.8	60.2		**66.9**
Total	**32.2**	**52.0**	**57.3**		**41.5**

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

* Percent re-arraigned after the start of probation

once, increased the chances of a juvenile being re-arraigned after placement on probation. Unfortunately, it had been expected that there would exist a more striking difference between arraignment rank and recidivism and this was not the case. However, as previously noted, prior court involvement parallels higher rates of offending and indicates the need for increased intervention. Whether the stability of recidivism rates after the first arraignment was a function of program interventions or offender desistence patterns would depend on more extensive analysis.

A similar pattern was established for offense type. Juvenile probationers with at least one index violent offense were more likely to recidivate (55.4%) than index property offenders (44.4%), non-index violent offenders (36.5%), non-index property offenders (35.5%) or others (26.5%). In fact, of one-time and two-time offenders, juveniles having been arraigned for an index violent offense prior to probation were more likely to recidivate than other types of offenders. Current probation supervision practices that automatically treat violent offenders as requiring more intensive supervision were bolstered by this finding.

For offenders with three or more arraignments prior to probation, regardless of offense, the recidivism probabilities converged. For example, roughly the same proportion of index property offenders with three or more arraignments were re-arraigned (58.6%), as index violent offenders with the same number of arraignments (62.5%). This occurrence was due, in part, to the exponential increase in the proportion of index violent offenders at each arraignment (see Table 5).

It was therefore essential to determine whether or not, because of the observed relationship between arraignment rank and offense seriousness, either measure was independently capable of explaining the probability of re-arraignment. Analyses in the final section (Part II) were undertaken, in part to explore the issue, as well as to identify other offender background characteristics associated with re-arraignment after placement on probation.

Part II

Juvenile Recidivism

Risk/Need Offender Assessment

Prior to the mid 1970's few probation organizations utilized a formal offender classification system. Since that time the majority of agencies have come to rely on some type of offender supervision scheme to promote uniform standards of case management (Clear and Gallagher, 1985; Glaser, 1985). During the early 1980's Massachusetts promulgated a system of probationer classification, known as the Risk/Need Offender Assessment, based on an offender assessment tool developed by the Federal Probation Service (Brown and Cochran, 1984; Spangenberg, 1987). The Risk/Need instrument functions to promote public safety, assure offender accountability and provide an appropriate context for offender rehabilitation by the application of these standards consistently throughout the Commonwealth (Brown and Cochran, 1984).

Like other risk instruments, implementation of guidelines for case management takes place through identification of an individual offender's "risk" to commit another offense during community supervision and classification of offenders with similar risk scores into uniform supervision categories. Research focusing on the issue of individual offender behavior indicates that classification based on an assessment standard is more reliable than individual clinical judgements (Glaser, 1987). However, the degree of certainty in prediction of individual behavior is limited. (Gottfredson, 1987; Petersilia, 1987). Despite the limitation, reduction of systematic bias in offender management is a principal achievement of offender assessments.

Moreover, it should be emphasized that the Risk/Need assessment functions primarily to differentiate offenders and to promote the efficient organization and utilization of probation resources (Clear and Gallagher, 1985). It is a guideline for decision - making that provides practitioners with an objective and empirical measure of offender behavior. The "risk" component of the classification scheme is a supervisory feature essential for regulating throughout the probation system consistent, fair and objective offender management.

Consequently, the Risk/Need instrument serves not only as a flexible tool to assist probation officials in reliable management of offenders, it also buttresses policy development through identification of areas requiring more direct resource allocation.

At Risk, Offense and Structural Characteristics

Juvenile background characteristics frequently associated with delinquent behavior comprise, roughly, three areas: prior delinquency/early offender behavior; school failure/peer relationships; family systems (see Petersilia, 1987; Farrington, 1987; Laub and Sampson, 1990; Blumstein et al., 1986). The use of background characteristics to delineate outcomes in juvenile delinquent behavior depends on the nature and theoretical construct of the study. For instance, family income, parental criminality or some variation of familial anti-social behavior may be used to explain differential rates of juvenile offending without however accounting for the onset of delinquency (Farrington, 1987). Similarly, parental discipline/supervision or some variation of parental management characteristics may serve as an explanation for the onset of juvenile offending yet fail to account for differing rates of offending (see

Laub and Sampson, 1988).

In this study, juvenile probationer background characteristics derived from the offender assessment were examined in order to identify individual components in the classification scheme, which differentiated juvenile "risk" to re-offend after placement on probation. Analysis of the elements of juvenile offender risk assessment was undertaken to describe probationer problem areas , since it is likely that, "modifying the contingencies within the home, school and work ... may reduce motivation for crime [.]" (Andrews, 1990, p. 375). In fact, locating specific areas in juvenile backgrounds where traditional social controls have failed, pinpoints the need for expanding intervention and treatment strategies (Tracy et al., 1985).

Table 7 provides an overview of the "at risk" indicators which comprise the Massachusetts Juvenile Risk/Need Offender Assessment. In addition, measures of juvenile offense as well as structural characteristics, derived from other data sources, are included. The three variable sets encompassing background, offense, and structural characteristics correspond to areas commonly presumed to explain juvenile risk to re-offend after placement on probation (Petersilia, 1987; Farrington, 1987; Blumstein, 1986).

The first set of variables presented in Table 7 are juvenile probationer "at risk" indicators. This set consists of nine offender background variables: prior record (rec)[7], prior probationary period (prob), age at onset (age), school (schl) and home (home) disciplinary problems, residence changes (res) , peer relationships (peer) , substance use (alcdrug), attitude toward probation supervision (att), and, two summary measures: the "at risk" summary index (cls1) and the level of supervision (level). Offender background characteristics are detailed in the table. The "at risk" summary index is the additive combination of scores on the nine "at risk" indicators, collapsed into three categories. The level of supervision is the three -fold classification scheme for offender management, based on categories of the "at risk" summary index.

The second set of variables, described in Table 7, consists of juvenile offense characteristics: number of pre-probation felonies (cntft1), severity index (stime1) and UCR/OCP index of offense type (dpss4).* The variable, pre-probation felonies (cntft1) represents the number of felonies (i.e., felony equivalents) accumulated prior to probation. The severity index score is a simple aggregate measure based on the prison term, established for each offense under the criminal code, to which an adult could be sentenced. The severity index score in this section measures the cumulative severity of offenses committed prior to probation (see Table 5). Lastly, the UCR/OCP index is a truncated version of the index of offense characteristics previously examined in Part 1b (See Table 6 detailing the 5 categories of the scale), which indicates the occurrence of an index violent/property, or, a non-index violent/property/other, offense prior to probation.

The variable, length of supervision (length), the court imposed length of probation supervision, comprised the third set of variables depicted in Table 7. Length of supervision, conceptualized as the length of time of availability and allocation of court resources towards offender supervision was analyzed in order to test the hypothesis that features of the juvenile court were as likely to differentiate the rate of juvenile recidivism as probationer and offense attributes.

* See Part 1 for discussion of these variables

Table 7: At Risk,Offense and Structural Characteristics: Labels, Definitions and Descriptive Statistics

Variable Labels	Definitions	Codes	Mean
	At Risk Indicators		
Rec	Prior Juvenile Arraignment Past 5 Years (0 = None, 1 = 1 or More: mean = .35)		
Prob	Prior Juvenile Probation Past 5 Years (0 = None, 1 = 1 or More: mean = .28)		
Age	Age at First Offense (0 = 15 or younger, 1 = 16: mean = .24)		
Schl	School Disciplinary Problems Past Year (0 = None, 1 = Problems/truancy/expulsion: mean = .74)		
Res	Residence Changes Past Year (0 = None or 1 only, 1 = 2 or More: mean = .10)		
Home	Response to Caretaker Discipline (0 = Obedient, 1 = Some infractions/ Rarely obeys/No rules instituted: mean = .74)		
Peer	Peer Relationships (0 = No negative influence, 1 = Isolated/ Few companions/Negative influence: mean = .71)		
Alcdrug	Substance Use (0 = No known use, 1 = Any known use/ Use leading to disruption: mean = .41)		
Att	Attitude Toward Supervision (0 = Responsive, 1 = Unresponsive: mean = .18)		
Cls1	At Risk Index Score Trichotomy (0 = Maximum, 1 = Moderate, 2 = Minimum: mean = .89)		
Level	Level of Supervision (0 = Maximum, 1 = Moderate, 2 = Minimum: mean = .77)		
	Offense Characteristics		
Cntft1	Number of Felonies Prior to Probation (range = 0 to 12: mean = 1.2)		
Stime1	Offense Severity Index Prior to Probation (range = 0 to 224: mean = 18.0)		
Dpss4	UCR/OCP Index of Offense Type Prior to Probation (1 = MV, Drug, Miscellaneous, 2 = Ocp Property, 3 = Ocp Violent, 4 = Index Property, 5 = Index Violent: mean = 3.3)		
	Structural Characteristics		
Length	Length of Probation Supervision (months) (range = 1 to 40: mean = 10.5)		

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

Recidivism

Table 8 depicts probabilities of juvenile probationer re-offending after placement on probation for the three sets of variables in order to identify juvenile assessment and arraignment characteristics associated with probationer recidivism. In addition, use of the Pearson statistic in this section provides the descriptive background for variable sets examined in regression equations in the final table.

In Table 8, the rate of juvenile recidivism is presented, for all categorical variables, as the percentage of juveniles in each class who were re-arraigned on a subsequent offense. For example, 57% of juvenile probationers with a record prior to probation (repeat offenders) were re-arraigned subsequent to placement on probation, while 33% of juvenile offenders with no arraignments prior to probation (one-time offenders) were subsequently re-arraigned. Similarly, 46.8% of juvenile probationers with school disciplinary problems re-offended subsequent to probation, while 26.9% of those with no school disciplinary problems did so.

These rates provide a rough estimate of the extent to which each variable differentiates juvenile "risk" to recidivate. In order to assess the magnitude of the inter-class relationship, the zero-order correlation coefficients (Pearson r) are presented in the following column in the table.

The Pearson coefficients identify variables with the greatest proportional differentiation on the outcome and permit comparative examination of variables from the three sets. To continue the above example; juvenile prior record was a slightly stronger indicator of probationer "risk" to recidivate (.23) than school disciplinary problems (.18) and both measures were statistically significant at the .01 level as well.

Results presented in Table 8 show that of the nine "at risk" characteristics in the first set, seven were significant indicators of juvenile re-offending (prior record/probation, age at onset, school and home disciplinary problems, negative peer relations and attitude toward supervision). Substance use and residence changes, hypothesized to account for some variation in rates of juvenile recidivism, did not differentiate juvenile offenders who were subsequently re-arraigned. The fact that identification of substance use in the juvenile probationer population corresponded to self-reported use among adolescents (Hofmann et al., 1989) may partially explain this finding. With respect to residence changes, family mobility may differentiate juvenile delinquents from non-delinquents (Tracy et al., 1985, p.6) without however accounting for differences in juvenile re-offending.

Variables, "prior probationary period" and "level of supervision" were included in analyses in this section, for the sake of completeness, although it was known that both were proxies for other statistically significant measures (prior record and the "at risk" summary index, respectively). The remaining five statistically relevant "at risk" indicators found to be associated with juvenile recidivism, ranged in order of magnitude from low (home discipline problems, .09) to moderate (school discipline problems, .18).

Additionally, offense variables from the second set; felonies (cntft1), severity (stime1) and the UCR/OCP index (dpss4), were found to be significant, if low to moderate, indicators of juvenile probationer recidivism. The length of probation supervision (length) was unrelated to juvenile re-offending, an indication that structural or background phenomena beyond the scope of the study require closer scrutiny.

Table 8: Rates of Recidivism and Zero-order Correlations for At Risk, Offense and Structural Characteristics

Variables	Rate (%)	Pearson r	Variables	Rate (%)	Pearson r
At Risk Indicators					
Rec			Prob		
None	33.1	.23 *	None	35.5	.19 *
1 or More	57.0		1 or More	56.9	
Age			Schl		
15 or younger	44.4	-.11 *	No School Problems	26.9	.18 *
16	31.1		School Problems	46.8	
Res			Home		
0 - 1 Moves	40.7	.05	No Home Problems	34.2	.09 *
2+ Moves	48.7		Home Problems	44.6	
Peer			Alcdrug		
No Negative Peer	30.5	.14 *	No Known Use	41.5	.001
Negative Peer	46.0		Substance Use	41.6	
Att			Cls1		
Responsive	39.1	.10 *	Maximum Risk	54.7	-.24 *
Unresponsive	51.8		Moderate Risk	41.8	
			Minimum Risk	22.0	
Level					
Max Supervision	50.5	-.22 *			
Mod Supervision	42.4				
Min Supervision	19.3				
Offense Characteristics					
Cntft1			Stime1		
Range 0 - 12		.15 *	Range 0 - 224		.14 *
Dpss4					
Range 1 - 5		.17 *			
Structural Characteristics					
Length					
Range 1 - 40		.04			

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

* Significant at <.01

Overall, the zero-order correlations for the three sets of variables yielded few surprises: the relationships were in the projected direction, the correlation coefficients gathered at the lower end of the continuum, and, as expected, juvenile background and offense characteristics hypothesized to differentiate probationer recidivism did so. In addition, juvenile prior record (and probationary period), the "at risk" summary measure (and level of supervision), school problems and the UCR/OCP index of offense type were relatively strong indicators of juvenile re-arraignment.

However, in isolating variables necessary to program development (Cochran, 1989) contingency analyses were limited. It was therefore essential to determine what unique configuration of variables from the preceding three sets combine to permit an adequate explanation of juvenile offender recidivism, since administrative strategies focusing on juvenile characteristics which do not impact the outcome would be inefficient at best.

Multivariate Equation - OLS Regression

The purpose of the final section of the study was to determine which juvenile "at risk" indicators, offense and court characteristics combine to differentiate probationer recidivism and the extent to which these differ from or align with established indicators of recidivism (Farrington, 1987, p.57).[8] Due to a substantive policy interest in the Risk/Need Assessment indicators (including length of supervision), all "at risk" indicators were examined in the regression. [9]

As previously noted, studies examining offender characteristics associated with re-offending behavior have argued that prediction of individual offender behavior is problematic (Petersilia 1987; Gottfredson, 1987). While this may not always be the case (see Farrington, 1987), given the preliminary nature of the study, caution is warranted when interpreting regression results.[10]

Table 9 presents the results of the OLS and ML (logit)* multiple regression analyses for the three sets of variables depicted in Tables 7 and 8. For the OLS regression procedure, variables from the first set were divided into "at risk" indicators and "at risk" summary measures. Reviewing Table 8 reinforced this decision. While it was expected that the offender "at risk" summary measure (cls1) would be moderately correlated with juvenile recidivism (.24), it was observed that the magnitude of the relationship between prior record and the outcome was of the same order (.23). In addition, the "at risk" summary index and "at risk" variables were, in some cases, correlated on the order of .50. This finding proceeds from the structure of the Risk/Need instrument itself. The summary index comprises the nine "at risk" indicators, including prior record. The effect of the "at risk" summary index on juvenile re-arraignment will be largely a function of a combination of individual indicators. Hence, the first set was divided into individual and summary "at risk" indicators, while the second and third sets were retained in their original form. The sets were then entered consecutively into the equation. [11]

From the first set of variables, "at risk" characteristics which were most likely to account for juvenile re-arraignment after placement on probation entered into the equation. As Table 9 indicates, of the first set, juvenile prior record, school disciplinary problems and negative peer relations had significant independent effects on the outcome. While prior record was by far the most powerful indicator, school disciplinary problems and negative peer relations were, in addition to prior record, significant as well.[12] The explanatory impact of the other "at risk" indicators on the outcome was statistically null, independent of prior record, school problems and peer relations.

* ML regression was used to check specifications of the OLS regression

Table 9: OLS and ML Regression of Recidivism on At Risk, Offense and Structural Characteristics

	OLS Regression			ML Regression	
Variables	B/ B in [I]	T- Ratio	Adjusted R^2	R Coeff.[III]	Coeff./S.E.
At Risk[II]					
Rec	.185	5.03 *	.06	.231	1.53
Prob	.039	.69		.020	.13
Age	-.049	-1.35		-.063	-.53
Schl	.129	3.55 *	.08	.200	1.47
Home	-.005	-.13		-.056	-.44
Res	.007	.19		.009	.06
Peer	.084	2.29 **	.09	.106	.85
Alcdrug	-.048	-1.31		-.101	-.97
Att	.048	1.33		.060	.47
At Risk Summary					
Cls1	-.072	-1.22		-.084	-.54
Level	-.041	-.86		-.010	-.08
Offense Characteristics					
Cntft1	.058	1.49		.026	.63
Stime1	.047	1.22		.001	.31
Dpss4	.113	3.08*	.10	.050	1.20
Structural Characteristics					
Length	.011	.32		-.001	-.12
$R^2 = .325$	$F = 20.1$ df. (4)	Sig. < .001			

* Significant at <.01, (coeff. 2 x S.E. > 1.44)
** Significant at <.05

I OLS stepwise regression tests each set of variables for inclusion in the equation. "B in" are the beta weights, after the final step, of variables which did not meet the tolerance criterion.

II Note that variables alcdrug and home showed collinearity

III ML regression enters all variables into the equation at once (Spssx - logit regression). Note that variables home, alcdrug and length were collinear

These findings are consistent with studies establishing the relationship between persistent offending and prior record (Tracy et al., 1985; Snyder, 1988) and school failure (Farrington, 1987; Grenier and Roundtree, 1987). The view that negative peer influences are associated with re-offending (Farrington, 1987) was confirmed in this analysis, relative to other "at risk" indicators.

While indicators of risk to recidivate such as prior record represent characteristics which require development of long- range intervention solutions, offender attributes such as school disciplinary problems and negative peer relations, provide targets upon which intervention strategies may have a more immediate impact (Andrews, 1990).

For example, relationships depicted in Table 9 suggest that supervision practices promoting change in juvenile offender behavior in the latter areas might impact on juvenile re-offending. Concerning probation policy, then, knowing which characteristics differentiate probationer recidivism, and the extent of their statistical influence on re-offending, permits modification of programs aimed at offender rehabilitation in specific problem areas as well as providing the opportunity to explore the development of long- term intervention strategies.

Perhaps more importantly, while family background measures have been shown to influence delinquent behavior, at least with respect to early delinquency and onset (Laub and Sampson, 1988; Farrington, 1987; Larzelere and Patterson, 1990), juvenile probationer home disciplinary problems were found to be unrelated to re-arraignment, independent of the effects of the three "at risk" indicators, prior record, school disciplinary problems and negative peer relations. Likewise, neither age at onset, residence changes, substance use nor attitude towards supervision had an independent effect on juvenile re-offending.[13]

It should be noted that these findings were somewhat surprising. The issue concerns the validity of these "at risk" indicators with respect to the underlying mechanisms they are meant to represent. On the other hand, it is possible that variables, home discipline, age at onset, residence changes, substance use and attitude towards supervision, while not independently associated with juvenile recidivism per se, do provide an explanation of offending behavior.

For example, the results of a separate multiple regression of prior record on the other seven "at risk" indicators (age at onset, school and home disciplinary problems, residence changes, negative peer relations, substance use and attitude problems) confirmed that age at onset, substance use, and residence changes were more likely to be associated with prior record[14] than with juvenile probationer recidivism.[15]

In other words, any explanatory effect that age at onset, substance use or residence changes would have on the probability of continued offending after placement on probation was mediated in part by prior record. Where prior record had a direct explanatory effect on the outcome, age at onset and substance use, were hypothesized to have an indirect effect vis a vis prior record.

Examination of the next set of variables entered in the equation, the "at risk" summary index and level of classification, produced results confirming our decision to allow individual "at risk" indicators to step into the equation prior to the "at risk" summary measures. When prior record, school

disciplinary problems and negative peer relations had been taken into consideration, neither the "at risk" summary index nor level of supervision were found to have any explanatory impact on probationer recidivism.

Alternate OLS specifications which included the two summary indices in the first set produced a slightly different configuration of variables in the solution set: the "at risk" summary index replaced negative peer relations as an independent indicator of juvenile recidivism, while the impact of prior record and school disciplinary problems remained unaffected. Nonetheless , it should be emphasized that results of the ML regression (in columns 5 and 6 of Table 9), used to check specifications of the initial OLS regression, supported the model for the most part: when the three "at risk" indicators (prior record, school disciplinary problems and negative peer relations) were entered in the ML regression, the "at risk" summary index and recidivism relationship did not hold.[16]

It was apparent that the effect of the "at risk" summary index was entirely dependent on the specification. An explanation for this finding is that the "at risk" summary index functions in the assessment only in so far as prior record, school problems and, to some extent, peer influences differentiate juvenile probationers. The summary measures are simply a concise means for appropriate offender classification and supervision, whatever their other properties.

Furthermore, in a practical sense, supervision strategies based solely on assessment summary measures ("at risk" summary index and level of supervision), without program development aimed at modifying behavior in the areas of school and peer influences, would be wide of the mark. In other words, we were primarily interested in identification of juvenile "at risk" measures independently associated with re-arraignment and particularly those amenable to intervention techniques. Identifying areas for program intervention underscores the importance of further cultivating and providing offender access to resources in order to effect changes in offender behavior. Through the collaborative nature of the research process, effective interventions can and should be pinpointed and implemented.

With respect to probationer offense characteristics comprising the third set of variables in Table 9: examination of the literature on juvenile chronicity (Tracy et al., 1985; Snyder, 1988; Farrington, 1989) led to the expectation that various measures of serious juvenile offense behavior would impact significantly on re-arraignment . The extent to which this occurred was not as great as was expected (see Table 8). Consequently, in the regression, neither the number of prior felonies (i.e., felony equivalents) nor the aggregate severity of previous offenses, based on maximum offense penalties, had any independent effect on juvenile recidivism. However, probationers with an index offense, and especially an index violent offense, prior to probation, were more likely to continue offending after placement on probation than those who did not, all else being equal.

This particular finding has great intuitive appeal: while we might assume that different "at risk" indicators would function differently depending on their configuration vis a vis re-arraignment after probation, we would expect the type of offense behavior displayed by juvenile probationers prior to probation to be indicative of a greater probability to recidivate. This was demonstrated through analysis of probationer recidivism. Both juvenile prior record as well as the type of previous offense were found to be significant indicators of juvenile recidivism. Tracy, Wolfgang and Figlio's discovery that the type of offense as well as the frequency of offense behavior presented a unique opportunity for elaboration of juvenile delinquent activity, was affirmed by analysis of juvenile probationer re-arraignment (Tracy et al., 1985).

Lastly, after probationer "at risk" indicators and offense characteristics had been entered into the regression, length of supervision was tested for its potential explanatory effects. As expected, length of probation supervision imposed by the court did not have any significant impact on probationer recidivism.

Overall, through identification of the most salient indicators of juvenile recidivism, regression findings demonstrate that juvenile re-arraignment after placement on probation was a function of juvenile prior record, school disciplinary problems, negative peer relations, and a propensity towards index and index violent offense commission.

Conclusion

Findings from the study of juvenile probationer court careers indicating the extent to which a small group of offenders were responsible for a disproportionate share of all offenses confirmed results of previous delinquency research which emphasized the burden placed on the court and public through offender activity of a relative few. As a result, court resources necessary for effective offender management need to be augmented through expansion of strategies to provide access to additional social services and through more intensive probation supervision.

Moreover, the probability of serious offending behavior (i.e., increases in index violent offenses) was a correlate to arraignment rank. That patterns of chronic offending and serious offense behavior were developing at the time of probation, presents juvenile justice officials with an opportunity to design program interventions to maximize the effect of probationer supervision.

For instance, juvenile offender programs aimed at violent offenders could have a significant impact on juvenile, and later, adult, offending behavior, particularly when identification of patterns of offense switching, desistence and offense profile characteristics are developed and incorporated into offender assessments and supervision plans. To that end, examination of juvenile offense matrices and the offender "at risk" assessment have become a research priority.

Another important finding from the study, derived from analyses of juvenile probationer background characteristics indicates that in the process of classifying and supervising probationers, practitioners must pay special attention to juvenile prior record, school involvement and peer relations. Programs promoting re-engagement with some type of structured learning environment may have an impact on the likelihood of continued offending behavior. Likewise, emphasis on program development in order to effect positive changes in peer relations should impact on probationer recidivism as well.

In the area of substance use; while re-arraignment probabilities were unrelated to juvenile substance use, it is possible that developing the means for early identification of alcohol and drug problems may impact on other areas of an offender's assessment and supervision, the result of which could lead to successful reduction of offending behavior.

Finally, expanding offender management strategies based on collaborative researcher-practitioner efforts to pursue innovative program development and program evaluation in the probation service should be continued.

Notes

[2] While "criminal careers with clearly delineated starting and ending points do not exist" in an absolute sense (Farrington, 1987, p. 58) an operationalized concept of a juvenile probationer court "career", defined by parameters establishing adjudication under the legal statute is possible. This creates a fixed exposure time (see Snyder, 1988 for discussion of this approach)

[3] With regard to juvenile probationer court careers, two potential drawbacks of the current study design were: 1) the exposure time, while constant at the "back-end" of the study (i.e., probation follow-up), varied at the "front-end" (i.e., first arraignment to probation), and, 2) the majority of "careers" were incomplete due to the cross-sectional nature of the sample. The former point may be addressed through examination of age at onset distributions:

Age at onset distributions for the sample:

	Number of Career Arraignments				
	1	2	3	4	5+
Age at Onset					
(x)	14.5	14.3	13.9	14.0	13.2
(Sd.)	1.5	1.5	1.6	1.3	1.8

However, the latter point is problematic. Analysis of probationer "career" offending behavior will underestimate some types of behavior (i.e., prevalence, incidence and offense rates) and overestimate others (e.g., offense seriousness) for certain subgroups. Also, the issue of the specificity of the probationer sample itself arises. Through analysis of *probationer* careers, the highest rate offenders in the juvenile population and particularly the most serious of those offenders, such as juveniles committed to DYS or placed under an adult jurisdiction, have been omitted

[3] Access to a juvenile probationer's arraignment history included any adult arraignments occurring after the probation start date

[4] "Court careers" in the current study refers to a period "during which a person's rate of offending is greater than zero and constant" (Farrington, 1987, p.58), that is, beginning with the first arraignment through any arraignment eighteen months after the start of probation. However, it should be kept in mind that careers, even chronic offender careers, actually consist in patterns of persistence and desistence (Snyder, 1988). With regard to juvenile probationers, it must be reiterated that, due to the study design, not all careers were "complete" careers (see Blumstein, 1986)

[5] While chronic offenders (offenders with five of more police "contacts") in the Philadelphia cohort study were defined through subgroups with a calculated recidivism probability of 72% or greater, because of the invariability of probationer re-arraignment probabilites, the nomenclature for chronic offenders was limited to subgroups differentiated by 1) the largest number of arraignments (with marginals at least 10% or more), and, 2) a markedly disproportionate share of offenses. As a result, the term chronic offender used in this study, simply distinguishes repeat offenders with five or more arraignments from those with two, three or four arraignments

[6] However, from the perspective of juvenile probationer court careers, and contrary to the findings of other studies, the probabilities associated with re-offending did not vary with each new arraignment as expected. In a study of juvenile court referrals, Snyder found that while the majority of juveniles had only a single career referral, the probability of recidivating at the first referral was 41%, increased to

59% at the second referral and rose exponentially through the fifth referral (Snyder, 1988, p. vii). In the context of juvenile probationer careers, offenders with a single arraignment were as likely as those with five or more arraignments to be arraigned again (approximately .60). The explanation for this unexpected finding should be sought in follow-up studies of the juvenile probationer population

[7] While "at risk" indicators depicted in Table 7 are self-explanatory, it should be noted that the variable prior record differs from the arraignment variable analyzed in Part 1b. Prior record indicates the existence, prior to probation, of a juvenile arraignment in which a finding other than Nolle Prosequi or Not Delinquent was returned. In Table 5, "arraignment prior to probation," indicates the number of arraignments regardless of disposition. As a result, the correspondence between the proportion of "one-time" offenders in Part 1b and the proportion of those with "no prior record" (...prior to the arraignment for which probation was received) in Part 2 was not exact

[8] Multiple regression analysis was carried out on this data set to: 1) identify a parsimonious variable set associated with probationer recidivism 2) assess the relative magnitude of effects of probationer and court level characteristics on recidivism (Blalock ,1972; Kleinbaum and Kupper, 1978; Lewis-Beck, 1980)

[9] See Achen 1982, pp. 66 - 68, for discussion of variable selection in regression solutions

[10] From a strictly probabilistic point of view, the chances of probationer recidivism were 51% based on the calculation of $(\%\ \text{recidivist})^2 + (\%\ \text{non-recidivist})^2$. Improvement over chance [(% correct of predicted recidivists) + (% correct of predicted non-recidivist)], was marginal for both individual "at risk"indicators and overall (discriminant analysis on all three sets of variables yielded an improvement of roughly 12 % over chance). Nonetheless, these results permit the hypothesis that other phenomena were operant and need to be identified (e.g., supervison practices, treatment or program effects or other offender characteristics). See Petersilia and Farrington for discussion (Petersilia, 1989; Farrington, 1987)

[11] In OLS regression variables from each set which met the minimum tolerance criterion (corresponding to a significance level of <.05) enter the equation at each step, beginning with the "at risk" indicators and ending with structural characteristics. Variables which do not significantly contribute to the solution, although tested in the equation at each consecutive "step", do not affect the final equation (except in terms of degrees of freedom) . Stepwise regression was selected as the preferred technique in this case because in estimating the model it was critical to observe how individual variables affected the overall equation at each entry point. The complete set of "at risk" ,"at risk" summary, arraignment history, and court level factors are depicted in Table 9 permitting us to follow the entire procedure, again, since not only the researcher, but the reader "needs to know what happened to the relevant coeficients when key variables were added, dropped or transformed " (Achen, 1982, p.68)

[12] Standardized betas allow for the direct comparison of variable effects *under certain conditions* (Achen, 1982). Additionally, because of the dichotomous nature of most variables, multiple regression beta weights were also roughly analogous to the unstandardized B coefficients

[13] This may be due in part to measurement discrepencies. The alpha reliability, Cronbachs *a*, of the nine Risk/ Need index variables measured at .66. This figure is comparable to a 2- item scale with an average inter-item correlation of .40 - .60 (Carmines and Zeller, 1979)

[14] Regression of prior rec on the other seven "at risk" indicators (exluding prob) produced an R^2 of .30 and standardized B s, significant at <.01, of -.24, .10 , .10 and .08 for age at onset (age), substance use

(alcdrug), negative peer relations (peer) and residence changes (res) respectively

[15] See Table 8 zero-order correlations as well as regression results in Table 9

[16] Analysis of the preceding variable sets was undertaken using logit regression. Unlike stepwise OLS regression, in the ML regression model, all variables are entered at once (Spss-x logit regression). This non- parsimonious solution caused relationships between the outcome and intercorrelated variables to invert. Additionally, variables alcdrug, home and length produced anomalous coefficients. The ML model was re-run excluding variables which did not significantly contribute to the equation. The coefficients were not noticeably altered. Despite some anomalous coefficients, the overall results of the ML regression (in Table 9) confirmed the specification of the OLS model

References

Achen, Christopher H.
1982 Interpreting and Using Regression. Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-029. Beverly Hills and London: Sage Publications.

Andrews, D.A., Ivan Zinger and Robert D. Hoge
1990 A clinically relevant and psychologically informed meta-analysis. Criminology 28:369-397.

Blalock, Hubert M. Jr.
1972 Social Statistics. New York: McGraw-Hill Book Company.

Blumstein, Alfred, Jacqueline Cohen, Jeffrey A. Roth and Christy A. Visher
1986 Criminal careers and "career criminals." Vol. 1. Washington, D.C.: National Academy Press.

Brown, Marjorie E. and Donald Cochran
1984 Executive Summary of Research Findings from the Massachusetts Risk/Need Classification System Report #5. Boston, MA: Massachusetts Trial Court, Office of the Commissioner of Probation.

Carmines, Edward G. and Richard A. Zeller
1979 Reliability and Validity Assessment. Sage University Paper series on Quantitative Applications in the Social Sciences, series no. 07-017. Beverly Hills and London: Sage Publications.

Clear, Todd R. and Kenneth W.Gallagher
1985 Probation and parole supervision: A review of current classification practices. Crime and Delinquency 31: 423-443.

Cochran, Donald
1989 A practitioners perspective. Research in Corrections 2: 57-63.

Criminal Law Reference Handbook , Massachusetts Training Council, 4th edition

Farrington, David P.
1987 Predicting individual crime rates. In Norval Morris and Michael Tonry (eds.), Crime and Justice: An Annual Review of Research. Vol. 9. Chicago: University of Chicago Press.

General Laws of Massachusetts, 1990 Edition.

Glaser, Daniel
1985 Who gets probation and parole: Case study versus actuarial decision making. Crime and Delinquency 31:367-378.

Glaser, Daniel
1987 Classification for risk. In Norval Morris and Michael Tonry (eds.), Crime and Justice: An Annual Review of Research. Vol.9. Chicago: University of Chicago Press.

Gottfredson, Stephen D.
1987 Prediction: An overview of selected methodological issues. In Norval Morris and Michael Tonry (eds.), Crime and Justice: An Annual Review of Research. Vol. 9. Chicago: University of Chicago Press.

Greilich, William J., Bruce Trager and Jeanne Chisolm
1980 Punishing Juveniles: What Works? Boston: Massachusetts Committee on Criminal Justice.

Grenier, Charles E. and George A. Roundtree
1987 Predicting recidivism among adjudicated delinquents: A model to identify high risk offenders. Journal of Offender Counseling, Services and Rehabilitation 12:101-111.

Hoffman, Michael B., Carol N. Williams, Milly Krakow, Dina A. Traniello, Richard N. Breen and Dennis McCarty
1989 Drug Use Trends Among Massachusetts Adolescents: 1984 - 1987. Boston, MA.: Massachusetts Department of Public Health.

Kleinbaum, David G. and Lawrence L. Kupper
1978 Applied Regression Analysis and Other Multivariable Methods. North Scituate, Massachusetts: Duxbury Press.

Larzelere, Robert E. and Gerald R. Patterson
1990 Parental management: Mediator of the effect of socioeconomic status on early delinquency. Criminology 28: 301-323.

Laub, John H. and Robert J. Sampson
1988 Unraveling families and delinquency: A reanalysis of the Gluecks' data. Criminology 26: 355-380.

Lewis-Beck, Michael S.
1980 Applied Regression: An Introduction. Beverly Hills and London: Sage Publications.

Maltz, Michael D.
1984 Recidivism. Orlando, Florida: Academic Press, Inc.

Massachusetts Trial Court, Office of the Commisioner of Probation, Mission Statement for Research and Planning, July 11, 1988.

Massachusetts Trial Court, District Court Department, Committee on Uniform Complaint Language, Criminal Penalties Handbook, June, 1987.

Petersilia, Joan and Susan Turner
1987 Guideline-based justice: prediction and racial minorities. In Norval Morris and Michael Tonry (eds.), Crime and Justice: An Annual Review of Research. Vol. 9. Chicago: University of Chicago Press.

Sampson, Robert J. and John H. Laub
1990 Crime and deviance over the life course: The salience of adult social bonds. American Sociological Review 55: 609-627.

Spangenberg Associates
1987 Assessment of the Massachusetts Probation System. Prepared for the Office of the Chief Administrative Justice of the Trial Court. Newton, MA : The Spangenberg Group.

SPSSX User's Guide, 3rd Edition. Chicago, IL : SPSS, Inc.

Snyder, Howard N.
1988 Court Careers of Juvenile Offenders: Executive Summary Pittsburgh, PA : National Center for Juvenile Justice.

Snyder, Howard N., Terrence A. Finnegan, Ellen H. Nimick, Melissa H. Sickmund, Dennis P. Sullivan and Nancy J. Tierney
1990 Juvenile Court Statistics. Pittsburgh, PA.: National Center for Juvenile Justice.

Sudman, Seymour
1976 Applied Sampling. New York: Academic Press, Inc.

Tracy, Paul E., Marvin E. Wolfgang and Robert M. Figlio
1985 Delinquency in Two Birth Cohorts: Executive Summary. Washington, D.C.: U.S. Department of Justice.

Uniform Crime Reporting: National Incident- Based Reporting System. Vol 1 Data Collection Guidlines, U.S. Department of Justice 1988

Appendix A Table 3a Career: Prevalence and UCR Part I Index Offenses

	Number of Career Arraignments					
	1 Percent	2 Percent	3 Percent	4 Percent	5+ Percent	Totals
Non Index	54.7	31.9	21.8	17.1	7.1	34.9
Index Violent						
Murder	0.0	0.0	0.0	1.4	1.0	0.4
Rape	1.3	2.2	3.4	1.4	0.0	1.7
Robbery	2.3	6.0	7.6	11.4	20.2	7.1
Aggravated Assault	5.2	11.5	20.2	18.6	25.3	12.7
Index Property						
Burglary	12.0	18.0	21.0	28.6	32.3	18.9
Larceny & Theft	13.3	16.5	16.0	14.3	7.0	13.7
Mv Theft	10.0	12.1	7.6	7.1	7.1	9.5
Arson	1.3	1.6	2.5	0.0	0.0	1.3
Total (N)	309	182	119	70	99	779

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

Appendix B Table 5a Pre- Probation: Prevalence and UCR Part I Index Offenses

	Number of Arraignments Prior to Probation			
	1	2	3 +	
UCR /QCP Type	Percent	Percent	Percent	Total
Non Index	52.2	31.8	21.3	41.7
Index Violent				
Murder	0.0	0.0	0.0	0.0
Rape	1.5	1.7	0.7	1.4
Robbery	2.6	6.4	8.7	4.6
Aggravated Assault	6.4	11.6	22.7	10.7
Index Property				
Burglary	12.3	18.5	28.0	16.7
Larceny & Theft	12.7	18.5	11.3	13.7
Mv Theft	11.2	9.8	6.7	10.0
Arson	1.1	1.7	0.7	1.2
Total (N)	456	173	150	779

Source: Research and Planning Department, Office of the Commissioner of Probation, Boston, MA., 1991

Appendix C:

Juvenile Probationer Severity Index*

The following outline describes the severity index used in the study of juvenile probationers. The index is based on the maximum prison sentence to which an adult offender could be sentenced for a first offense under the statutes of the Massachusetts General Law .

The scale for the index was created by scoring and summing all penalties for offenses according to the protocol below.

Note that the severity index was created as an approximate measure of offense severity. Other more refined indices prevail in the literature. The index is used for identifying aggregate offense patterns in order to differentiate offender arraignment and offense subgroups.

1) Maximum prison sentence allowed for first offense (in years)

2) Offenses for which misdemeanor/felony was not distinguished in arraignment history coded to smallest penalty (misdemeanor)

3) Offenses for which no specific MGL statute available coded to nearest possible offense

4) Offenses ambiguously indicated in arraignment history coded to lowest possible penalty (e.g., "larceny of property" with no indication of more/ less than $250.00 coded to "larceny property less")

5) Offense "attempted" , if not included in statute, coded following procedure for #3

For example: an offender with an unarmed assault (10 yrs.) and vandalism (2.5 yrs.) would receive a score of 12.5 on the severity index.

* Based on Greilich et al., 1980

Appendix D:

Protocol

In order to standardize processing Risk/Need - Cori data, the following outline specifies procedures for : 1) sampling and processing cases 2) data cleaning.

The fifth section describes the final status of the juvenile dataset.

Section I: Processing Cases

A. Selecting Sample - Total Risk/Need Juvenile Caseload: January, February, March 1989

1) Write out identifying information to ASCII file
2) Sort and Select doubles - use first instance of probation
2) Transfer to WP [directory]
3) Merge with code sheet prototype
4) Transfer to VAX [directory]
5) Print

B. Submitting Records to PCF

1) Follow standard procedures for submitting CP2s

C. Abstracting Data

1) Xerox all CP1s; one case per page
2) Verify demographic information
3) Abstract all arraignment data sequentially
    a. Count each arraignment for which there is a unique offense (Charges)
    b. Count once, multiple "counts" of same offense & defaults (check docket#)
    c. Arraignments for jury trial on original offense are counted separately unless to do so would falsely yield a recidivism event
4) Code as "incomplete" any case which is missing, or, in which arraignment data is suspect
5) Consult project supervisor
6) Resubmit CP2

D. Enter Data

Section II: Data Cleaning

A. No Risk/Need or Cori Information Available

1) Bivariate distributions -- identify and list cases
2) Review Risk/Need and Cori hard copy
3) Resubmit case CP2
4) Drop from analysis

5) Note missing

B. Probation Offense / Arraignment Offense Mismatched - Cori Internal Consistency

1) Bivariate distributions -- identify and list cases
2) Review Risk/Need and Cori hard copy
   a. identify "reduced" offenses
   b. check chronology of other offenses / dispositions
   c. check docket numbers
3) Resubmit case CP2 - See Section III

C. Recidivism Date and Offense Discrepency

1) Bivariate distributions /identify and list cases
2) Review Risk/Need and Cori hard copy
   a. check dispositions and dates on Jury Trial Cases
   b. check date and offense correspondence
3) Isolate case - See Section IV

D. Cori-R/N Correspondence on Non Offense Variables;
R/N Internal Consistency (e.g. age first, prior record/probation)

1) Bivariate distributions /identify and list cases
2) Review Risk/Need and Cori hard copy
3) Isolate case

E. 1989 R/N Sample vs. Population

1) Bivariate distributions: chi^2 comparisons

Section III: Cori Arraignments: Probation - Arraignment Mismatches; Cori Internal Consistency I

I. Select arraignment date chronologically nearest probation date, and:

64% A) Match arraignment offense to probation offense #1

7% B) If "A" inapplicable (i.e. arraignment offense is not equivalent to probation offense) select arraignment date chronologically nearest probation date, and, match arraignment offense to probation offense #2

19% C) If "A" and "B" inapplicable, select arraignment date chronologically nearest probation date, locate offense type (category of offense: person, property, drug, motor vehicle and other); match arraignment offense type to probation offense type

II. If conditions "A" through "C" mismatch offenses/types, identify case, and:

4% D) Locate probation offense which is chronologically out of sequence (i.e., when non-probation arraignments appear between offense which has been reasonably identified as probation arraignment offense); match arraignment offense to probation offense

3% E) If "D" inapplicable; locate a reduced offense chronologically nearest probation date (e.g., Larceny MV vs. Unauthorized Use); match arraignment offense to probation offense

3% III. No possible offense match at any arraignment - drop from analyses

Section IV:Cori Arraignments: Recidivism Arraignments; Cori Internal Consistency II

I. Select post-probation arraignment date chronologically nearest probation date

A) Identify cases in which:

1) Recidivism event occurs in first month after probation start date
2) Recidivism event dated after 18 month follow-up period
3) Recidivism offense and probation offense are the same
4) Number of arraignments is greater than 5
5) Disposition of recidivism event is a "Jury Trial" or "Default"

B) Examine all dates, offenses and dispositions

II. Determine appropriate solution for each case

The following solutions, based on a case by case examination of the data, permitted the retention of most post-probation arraignments:

1) Cases falling within the first month were legitimate
2) No recidivism events were dated beyond the 18 month follow-up period
3) Cases with the same offense had different docket numbers
4) Counts on arraignments and charges were legitimate
5) Post-probation Jury Trial arraignments were dropped (Section I); Defaults were legitimate

Section V: Final Cases for Juvenile Recidivism Sample

Cases processed		922
Cases dropped from analyses		
a) Duplicates	17	
b) Incomplete Juvenile Record	28 }	143
c) Missing Part of Record	46	
d) Missing Entire Record	52	

Number of cases for analyses		779