

RECIDIVISM AMONG DELINQUENCY CASES IN VERMONT



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I. INTRODUCTION

Criminologists have long noted a persistent relationship between age and the distribution of crime in which official measures of crime rates (e.g. arrest, police contact) begin shortly after age ten and increase sharply through the mid-teen years, peaking between age 16-18 before dropping precipitously throughout the life course, but most noticeably by the early twenties. The sharply skewed distribution of offending has been found repeatedly by researchers both in the U.S. and other western nations and across time, as evidenced in famous cohort studies (Wolfgang, Figlio, and Sellin, 1972; Glueck and Glueck, 1968), extensive debate on criminal career dynamics in recent years (Blumstein et. al., 1986; Gottfredson and Hirschi, 1986, 1988), and empirical descriptions of juvenile offending patterns (Puzzanchera et.al., 2000; Snyder, 2000). However, while much is known about the nature of delinquent and criminal activity throughout the life course, research is on-going regarding the factors associated with persistent criminal and antisocial behavior as well as early identification of a small proportion of persons who seemingly resist the fairly predictable desistence from such transitory behavior upon entry into adulthood (see Piquero and Mazerolle, 2001).

The implications of previous research for the administration of juvenile justice in Vermont evolve around the ability to document juvenile offending patterns, including repeated criminal behavior among a smaller group of youth processed as juvenile delinquents and later in the adult courts. One underlying purpose of such research is to identify youth at risk of continued delinquent and criminal behavior in hopes of controlling or mitigating problem behaviors and other potential related behavioral problems (see Huzinga, Loeber, Thornberry and Cothorn, 2000). Delinquency reduction among those who enter the justice system and more broad prevention efforts are long-term goals dependent in part upon an empirical understanding of delinquency in Vermont.

On a practical level, prevention and intervention efforts typically are dependent upon limited and often scarce resources. Fiscal and resource constraints require that resources be targeted efficiently at populations identified as most at risk for repeated failure through contemporary longitudinal research. The objective of this study is to take a first step toward empirically understanding and documenting the criminal justice involvement of youth processed as juvenile delinquents and on the front-end of the crime involvement distribution noted above.

The primary objective of the study is to determine the level of recidivism among juveniles for whom a delinquency petition has been filed in Family Court. Relatively little research tracking the appearance of youthful offenders in Vermont's courts has been conducted to empirically measure the proportion of youth who continue delinquent and criminal behavior, which is a prerequisite for admission to the adult correctional system.

Analyses of offenders in correctional custody typically find that extremely large proportions have prior supervisory contact with the juvenile justice system and social service agencies, perhaps as many as eight in ten offenders or more. However, it is erroneous to conclude from these observations that the natural course of events for those entering the juvenile justice system is a progression to the

adult criminal justice system. In fact, studies of both official and unreported criminal behavior suggest that most juveniles do not persist with criminal behavior into adulthood, although periodic delinquent and criminal behavior is highly likely in the context of adolescence (Moffit, 1993).

The purpose of this study is to determine the degree to which youthful offenders in Vermont contact the juvenile justice system as they enter mid-adolescence. A series of related dimensions are explored in the report that follows, including the nature and characteristics of recidivism, degree to which selected case variables predict failure, and timing of new offenses relative to the original juvenile court filing.

The findings in the pages that follow provide some pause for concern, although in many respects the level of failure is what might be expected given previous research, some of which is discussed in the conclusions. Specifically, almost six in ten of the subjects for whom a juvenile delinquency petition was filed recorded a new offense during the four and one-half years in which they were followed after disposition of the delinquency case. Moreover, failure came rather quickly with more than three in four failures recorded within two years. Failure also occurred in substantial magnitude with several thousand new charges attributed to slightly less than six hundred subjects; as would be expected from prior research a small proportion of this group accounted for a large proportion of the new charges¹. The methodology and findings are described in the pages that follow, as are conclusions and implications.

¹Estimates of this group of high volume recidivists typically range from 5-10 percent depending upon the study and methodology. The classic Wolfgang, Figlio and Sellin (1970) study found that 7 percent of the group accounted for the majority of persistent recidivation.

II. METHODOLOGY

The study of recidivism or other failures in the criminal and juvenile justice system requires that sufficient time be allowed to adequately track subjects. The ability to monitor failure is generally driven by resource and logistical constraints which more or less shape methodological design and the length of follow-up period. Recidivism studies typically employ either retrospective or prospective methodologies, both of which have relative advantages and weaknesses.

Carefully designed prospective recidivism studies attempt to control for factors that affect failure through subject selection procedures, extensive data collection and monitoring of subjects during the exposure period. These studies are prospective in that subjects are identified and various measures are constructed *before* the tracking period begins. Although methodologically more robust, prospective designs require greater resources and an extended period of time before results are known because they are essentially longitudinal in nature. For example, a study designed to measure the performance of delinquents over a five year follow-up period would require at least five years or monitoring before the findings would be known. The major disadvantage of this approach is that most policy decisions must be made under a much shorter time frame.

A more practical and typically employed approach is to use retrospective designs to study recidivism. Retrospective designs involve the selection of a study group from existing records and tracking the group from a starting point in the past. Retrospective designs afford less methodological control of factors related to recidivism but offer the ability to conduct relatively timely studies with an acceptable level of precision. For example, a cohort of subjects from 1990 for whom a reasonable amount of data exists could be tracked for almost ten years if it were conducted in 2000. The major advantage of retrospective approaches is that they studies may be completed more quickly, although with less control over group selection and other factors that might affect recidivism.

The present study employed a retrospective design primarily given the level of resources available and the need for timely results. Specifically, the study group is comprised of a random sample of 1,000 juveniles for whom a delinquency charge was filed in Vermont Family Court during fiscal year 1995 (July 1, 1994-June 30, 1995) and disposed by December 31, 1995. The study group represents 83% of the 1,200 juveniles charged in Family Court during FY 1995.

The number of cases selected was driven by two major considerations. First, a large enough number of subjects was needed to include type of offense in the analysis. For example, offenses involving drugs or public order are important enough to examine in the analysis but typically each account for only about 10% of the total delinquency charges filed. Therefore, a sample of 1,000 subjects provides approximately 90-100 cases involving each of these offense types. A second consideration was that this study is envisioned to be the first phase of a multi-year project during which subjects will be tracked into other systems, including the Department of Social and Rehabilitative Services and Department of Corrections, both of which have responsibility for offender supervision and treatment. A relatively smaller number of subjects was selected for this study than might otherwise be

used given the possibility of manual data collection during later stages of the larger project.

Data for the study were obtained from the Vermont Family Court and is maintained in a juvenile delinquency database used for research and a statistical delinquency series at the Vermont Center for Justice Research. The current database includes all juvenile delinquency cases filed in the state of Vermont during fiscal years 1995-2000. Family Court data electronically collected by the Office of the Court Administrator contains variables basic to the analysis used here including charge and disposition information. Delinquency data were used for both study group selection and to identify new charges during the follow-up period.

Additional data used for follow-up purposes only were drawn from a database of statewide misdemeanor and felony dispositions in Vermont District Court; the database was fully constructed in 1988 and for this study was current through calendar year 1999. The criminal court data are critical to the study because one of the major research questions is to determine how many juveniles with cases in Family Court are charged with a new offense in adult criminal court. Family Court has jurisdiction over most offenses for persons younger than 16 (see 33 VSA 5503) except for a small number of serious offenses. Beginning at age 16 prosecutors have discretion and typically file charges as adults in District Court rather than Family Court (33 VSA 5505). Therefore, in order to identify failures, as measured by new charges filed against subjects, both databases are required to adequately capture events recorded in Vermont.

Specification of the research design and key measurements is required to place findings in proper context. Discussed below are the follow-up period, recidivism measurement, time-to-failure, and independent variables used in the analysis.

Follow-up Period. Recidivism rates are directly related to the length of follow-up since typically longer exposure produces greater levels of failure. Determination of a follow-up period is often driven by resources and data availability but typically should be at least two years to be of any use; longer periods are ultimately better, particularly for studies of juveniles who may be in the early stages of a criminal career or experiencing a sustained period of delinquent behavior from which they will most likely desist by early adulthood.

Subjects in this study were followed from the filing date for the delinquency petition that landed them in the cohort through June 30, 1999 in the delinquency filings database, and December 31, 1999 in the criminal disposition database. This method resulted in a minimum follow-up period of four years for each subject in the delinquency database and four and one-half years in the criminal disposition database. The recidivism rates reported later in this report reflect any failures that were identified in the delinquency and criminal databases for each subject during the follow-up period.

Recidivism Measurement. Recidivism is conceptually a measure of failure, which may be broadly or restrictively defined, and is the primary dependent variable in the study. The measures used in this study were by necessity derived from official data sources (delinquency and criminal disposition

databases) and do not capture incidents unknown to the police or those reported to the police but which did not result in a charge or petition filing. Recidivism estimates derived from this study are, therefore, conservative in respect to the actual behavior of subjects. However, given the objective of this study to determine the extent to which subjects reoffend and are subsequently processed by the adult court system the measure is appropriate. A more behaviorally oriented study would attempt to determine failures that do not enter the judicial system, typically through self-reports of behavior by subjects.

The primary operational definition of recidivism was any new charge filed on the juvenile docket of Family Court or the docket of Vermont District Court during the follow-up period. In instances where multiple failures exist (e.g. new charges on different dates), the first failure was used for analysis. Much of the analysis reported below is based on the primary measure of new charges.

Recidivism was determined through a process that matched cohort members to court data from the follow-up period. Subjects were matched against the delinquency and criminal databases on the basis of name, gender and date of birth to identify new charges that occurred during the follow-up period.

Time-to-Failure. The temporal nature of new offending is important for understanding re-entry into the criminal justice system following a baseline adjudication; presumably the first for many subjects in the study². Little is presently known about the typical amount of time that passes before a juvenile reappears before the courts in cases of recidivism. The timing of failure may also serve as an indicator of an increased volume of failure if those who fail more quickly are also likely to have a greater number of total failures during the observation period.

For purposes of this study the time-to-failure (TTF) was measured as the number of days between the first observed failure date, measured by the filing date for a new offense, and the disposition date of the reference offense. Similar measures were constructed for additional failures, although given the relative brevity of the follow-up period and desire to focus on first failure, the analysis described below was conducted on TTF for the first failure.

Independent Variables. Critical to the understanding and explanation of recidivism are variables

²It was not possible to determine prior contacts with the criminal justice system from the data available for the study, primarily because electronic case records from Family Court are not available before FY 1995. Furthermore, law enforcement contact data for subjects of this study were not used because of resource constraints, but also because the electronic files maintained on the Vermont Incident-Based Reporting System prior to 1995 contain data for only about 50% of agencies statewide and notably lack data from major municipal police departments, particularly in Chittenden County. Although prior criminal justice history is likely to be an important variable in predicting recidivism, for most subjects of the study the Family Court delinquency case is typically the first formal processing by the criminal and juvenile justice system.

thought to exert either direct or indirect effects on outcomes. Independent variables are also important in that they allow a degree of statistical control necessary for drawing inferences about recidivism patterns and causal effects. The number of independent and control variables available for use in the study was limited given the retrospective nature of the study and operational nature of the delinquency and criminal databases. However, several central independent variables were used, including:

- Age Offender age was calculated as the number of years between date of birth and the reference offense filing date.
- Gender Gender was determined from the reference juvenile court record and was coded as either male, female or unknown.
- Offense Type Offense type was determined from the statutory basis of the juvenile court filing. Specific offenses are reported below and offenses were also grouped into seven categories for use as both independent and dependent variables. The categories included: *violent, property, drugs, motor vehicle, public order, crimes against justice, and other miscellaneous offenses*. (Appendix A below enumerates the specific offenses encountered in the study and their categorization.)
- Disposition Type Disposition of the reference delinquency case was coded based on outcomes provided in law. A delinquency case may be disposed of by a finding of *delinquency, a dismissal or withdrawal of a petition, dismissal after satisfactory completion of diversion, and transfer of the case to criminal court*. It should be noted that delinquency dispositions included both straight delinquency findings and those found delinquent after having failed diversion.
- Diversion Status A variable was constructed to indicate whether or not the subject successfully completed diversion as part of the delinquency adjudication process. Dispositions from the court allow for identification of those that had their case dismissed because of a successful diversion outcome and those found delinquent for failure to complete diversion³.

The findings presented below consist primarily of descriptive and cross-tabular analyses of recidivism

³It is possible that some subjects may have participated in diversion prior to the reference delinquency or may have done so for the reference delinquency but were not so noted in the disposition variable. Given a prior study of recidivism among diversion clients it is likely that this number is small, in large part because of the relatively small proportion of diversion clients who recidivate (Ryan and Clements, 1998), and the prosecutorial practice of filing charges concurrent with referral to diversion programs.

patterns and characteristics. Time-to-Failure (TTF) distributions are also presented as are related tabular depictions of failure patterns. Additionally, a survival analysis and related non-linear logistical regression was performed to depict the relative effects of independent variables on failure distributions and degree to which the independent variables available from court records are able to predict recidivation. The survival analysis and non-linear regression will be discussed in greater detail below in Section V below.

III. COHORT PROFILE

A descriptive picture of the study cohort was constructed to provide a basis for the analysis that follows as well as comparison with existing statewide delinquency patterns to determine the representativeness of the sample. The descriptive portrait of the study group indicates that in fact it is representative of juvenile delinquency cases typically filed in Vermont on a number of dimensions (see Clements et.al. 2000).

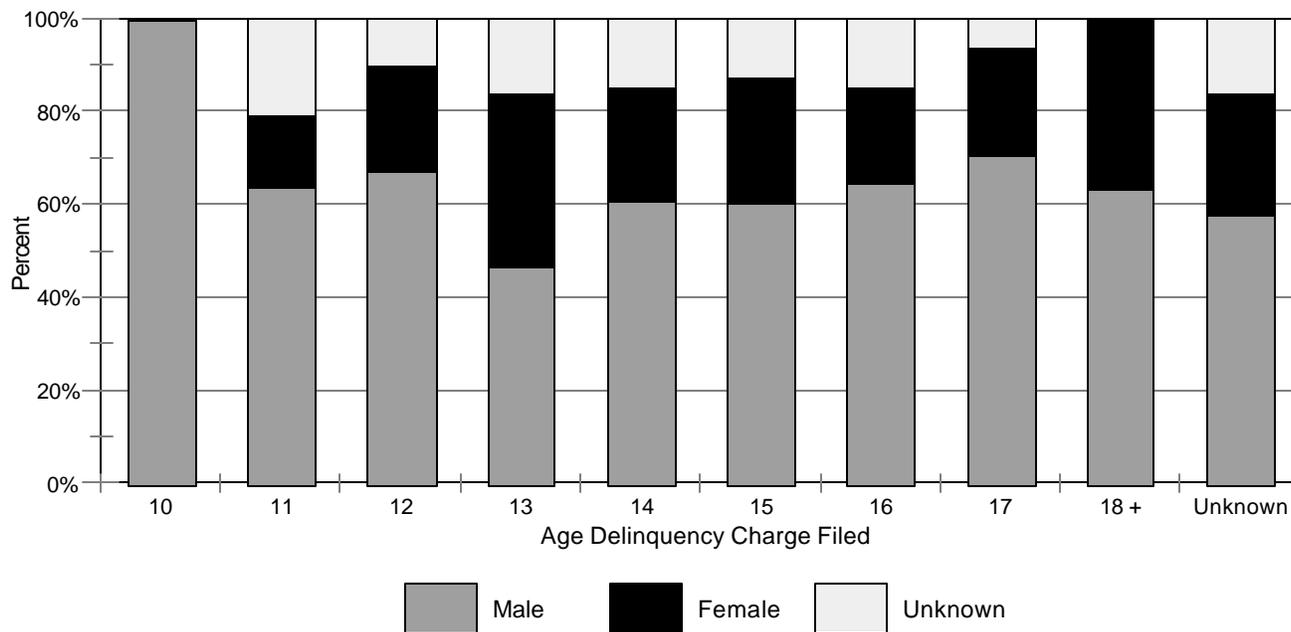
Not surprisingly, the majority of subjects were male (61.1%) and typically between the ages of 13-16 (78.5%), the primary ages for which delinquency cases are filed. Table 1 and Figure 1 below present data on the age and gender distribution of cohort members. The average age for male subjects was 15.1 years while for females it was 15.0 years, consistent with statutory provisions. The median age for males was 15.2 years while females had a median age of 15.0 years. The age and sex distribution for the cohort is representative of that for all juveniles with delinquency filings with data from FY 1995 showing an average age of 15.0 years and median age of 15.2 years. No statistically significant differences exist in the age-sex distribution of the sample when compared to all filings for FY 1995.

TABLE 1
SUBJECTS BY AGE * AND GENDER

Age *	Gender						Total
	Male		Female		Unknown		
	N	%	N	%	N	%	
10 Years	8	100.0%	0	0.0%	0	0.0%	8
11 Years	25	64.1%	6	15.4%	8	20.5%	39
12 Years	39	67.2%	13	22.4%	6	10.3%	58
13 Years	64	46.7%	51	37.2%	22	16.1%	137
14 Years	126	61.2%	50	24.3%	30	14.6%	206
15 Years	150	60.5%	67	27.0%	31	12.5%	248
16 Years	126	64.9%	39	20.1%	29	14.9%	194
17 Years	48	70.6%	16	23.5%	4	5.9%	68
18 Years & Older	7	63.6%	4	36.4%	0	0.0%	11
Missing/Unknown	18	58.1%	8	25.8%	5	16.1%	31
Total	611	61.1%	254	25.4%	135	13.5%	1,000

* Age when delinquency charge was filed.

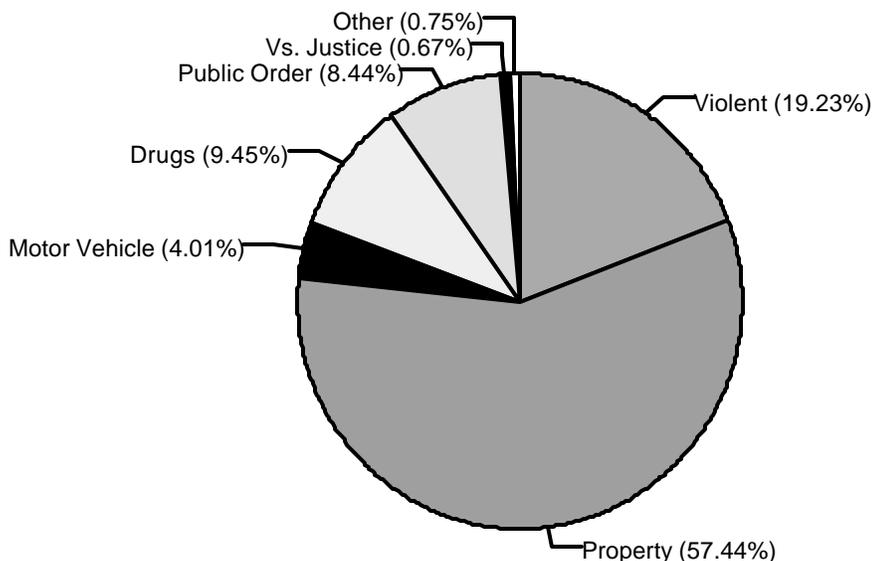
**FIGURE 1
SUBJECTS BY AGE & GENDER**



The distribution of offenses charged in the delinquency petition for each subject is presented in [Figure 2](#) and [Table 2](#) below. It should be noted that the number of charges accrued by subjects is greater than the number of subjects in the study since multiple charges were cited in some cases. Specifically, the study cohort of 1,000 subjects accounted for 1,196 charges, which are depicted in [Figure 2](#) and [Table 2](#). These data indicate a pattern typical of delinquency charges filed in Vermont and permit several observations. Most notable is that the majority of delinquency charges (57.4%) were filed for property crimes, with specific underlying crimes in this category consisting primarily of shoplifting, unlawful mischief and petit larceny, which together accounted for 482 charges, or 40.3% of all charges. A variety of other property offense charges were filed with comparatively few classified as felonies. For example, burglary, arson and grand larceny accounted for 91 of the 687 property charges filed.

The second most prominent category of offenses was violent offenses or crimes against persons, which accounted for 19.2% of all cohort offenses. Data presented in [Table 2](#) indicate, however, that the vast majority (76.5) of these offenses were for simple assault with only two final charges for aggravated assault of any type. Perhaps more important is that 52 final charges, or 22.6% of the violent charges, were for lewd and lascivious conduct or sexual assault. These charges represent a small but important proportion ($52/1196 = 4.3\%$) of the total underlying charges accrued by the cohort.

**FIGURE 2
FINAL CHARGE OFFENSE CATEGORY**



Drug and alcohol charges comprised the third most prevalent category of underlying offenses with 113 (9.5%) of subjects falling into this category. Again, most of the charges involved misdemeanor alcohol violations such as illegal possession by a minor (59.3%) or simple possession of marijuana (33.6%). Only three charges in this category involved the sale or distribution of drugs of any type.

Motor vehicle offenses were comparatively less frequent, as would be expected for juveniles who in most instances had not attained independent driving age at the time charges were filed in juvenile court. An examination of the motor vehicle offenses noted in [Table 2](#) indicates that the majority of these (68.8%) were for operating a vehicle without the owner’s consent, sometimes charged as motor vehicle theft in other states, but most often a form of unauthorized use or “joy riding” when committed by young persons.

Finally, public order offenses accounted for 8.4% of all underlying offenses and most often included disorderly conduct (47/101 = 47%). A variety of other offenses were scattered throughout this category and included possession of weapons at school (16%), false alarms (5%), and disturbing the peace (5%).

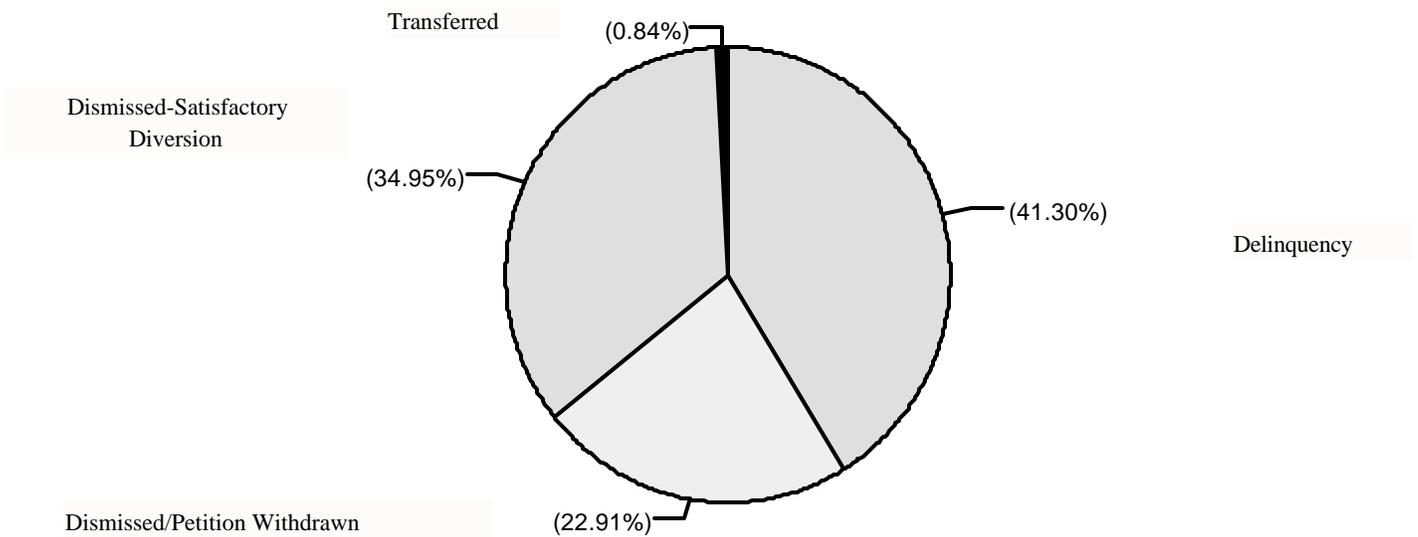
**TABLE 2
NUMBER OF ORIGINAL AND FINAL CHARGES BY OFFENSE CATEGORY**

<u>Offense Category and Offense</u>	<u># Original Charges</u>	<u># Final Charges</u>
Violent		
Aggravated Assault	2	1
Aggravated Domestic Assault	1	1
Simple Assault	164	167
Lascivious Conduct	5	5
L&L with a Child	27	26
Sexual Assault	2	1
Simple Domestic Assault	9	9
Sexual Assault on a Minor	23	20
Total	233	230
Property		
Arson	13	12
Burglary	76	73
Embezzlement/Forgery/Counterfeiting	7	7
Fraud	7	7
Grand Larceny	7	6
Unlawful Mischief	168	169
Petit Larceny	83	84
Shoplifting	229	229
Stolen Property	25	25
Theft	4	4
Theft of Services	1	1
Unlawful Trespass	67	70
Total	687	687
Motor Vehicle		
Careless & Negligent Operation	4	4
Driving License Suspended	2	2
Eluding	3	3
Leaving the Scene	3	3
Operating Without Owner's Consent	34	33
Speeding	1	1
Misc. Title 23	2	2
Total	49	48
Drugs		
Alcohol Violation	67	67
Sale/Delivery of Narcotics	2	2
Possession of LSD	4	4
Possession of Marijuana	38	38
Sale/Delivery of Marijuana	1	1
Possession of Hallucinogens	1	1
Total	113	113
Public Order		
Cruelty to Animals	2	2
Disorderly Conduct	43	47
Disturbing the Peace	5	5
Explosives	4	4
False Alarms	6	6
False Information	5	5
Fish & Wildlife	2	2
Lewdness	4	4
Municipal Ordinance	3	3
Acts Prohibited	1	1
Reckless Endangerment	5	6
Weapons at School	16	16
Total	96	101
Vs. Justice		
Violation Conditions of Release	5	5
Vs. Justice	4	3
Total	9	8
Other		
Accessory	2	2
Misc. Title 13	1	1
Misc Title 33	4	4
Charge Unknown	2	2
Total	9	9
Total	1,196	1,196

Disposition outcomes for the reference offense are consistent with those typically experienced in juvenile delinquency cases during FY 1995. **Figure 3** presents the disposition outcomes for the total sample while **Table 3** below provides more detail regarding disposition patterns by both category and specific offense. These data indicate that slightly less than half (41.3%) of the disposed charges result in a delinquency finding while almost six in ten charges resulted in a dismissal, either through satisfactory completion of diversion (35.9%) or by an unspecified dismissal/withdrawal (22.9%). Less than 1% of charges were transferred to District Court.

Not surprisingly, some offense types considered more serious were more likely to result in a delinquency finding than others that would be rated less serious offenses. Specifically, violent offenses generally had high findings of delinquency (53.0%) than did the more prevalent property offenses (36.5%). Among specific reference offenses comprised of more than ten charges, the highest rates of delinquency findings were for sexual assault on a minor (85.0%), burglary (60.3%), lewd and lascivious conduct with a child (57.7%), and operating a vehicle without the owner’s consent (54.6%), all felonies under Vermont law. Conversely, several offenses experienced relatively low levels of delinquency findings, including shoplifting (21.8%), unlawful trespass (24.3%), and alcohol possession by a minor (29.9%). Failure patterns by both type of offense and disposition are presented later in the report.

**FIGURE 3
DISPOSITION TYPE OF FINAL CHARGES**



**TABLE 3
DISPOSITION TYPE OF FINAL OFFENSE BY OFFENSE CATEGORY**

Category and Final Offense	Delinquency		Dismissed/Petition Withdrawn		Dismissed - Satisfactory Diver		Transferred		Total	
	N	%	N	%	N	%	N	%	N	%
Violent										
Aggravated Assault	1	100.00%	0	0.00%	0	0.00%	0	0.00%	1	100%
Aggravated Domestic Assault	0	0.00%	1	100.00%	0	0.00%	0	0.00%	1	100%
Simple Assault	83	49.70%	46	27.54%	35	20.96%	3	1.80%	167	100%
Lascivious Conduct	2	40.00%	3	60.00%	0	0.00%	0	0.00%	5	100%
L&L with a Child	15	57.69%	10	38.46%	1	3.85%	0	0.00%	26	100%
Sexual Assault	1	100.00%	0	0.00%	0	0.00%	0	0.00%	1	100%
Simple Domestic Assault	3	33.33%	5	55.56%	1	11.11%	0	0.00%	9	100%
Sexual Assault on a Minor	17	85.00%	3	15.00%	0	0.00%	0	0.00%	20	100%
Total	122	53.04%	68	29.57%	37	16.09%	3	1.30%	230	100%
Property										
Arson	6	50.00%	3	25.00%	3	25.00%	0	0.00%	12	100%
Burglary	44	60.27%	11	15.07%	18	24.66%	0	0.00%	73	100%
Embezzlement/Forgery/Counterfeiting	4	57.14%	2	28.57%	1	14.29%	0	0.00%	7	100%
Fraud	4	57.14%	3	42.86%	0	0.00%	0	0.00%	7	100%
Grand Larceny	5	83.33%	0	0.00%	1	16.67%	0	0.00%	6	100%
Unlawful Mischief	63	37.28%	45	26.63%	61	36.09%	0	0.00%	169	100%
Petit Larceny	42	50.00%	20	23.81%	21	25.00%	1	1.19%	84	100%
Shoplifting	50	21.83%	28	12.23%	151	65.94%	0	0.00%	229	100%
Stolen Property	14	56.00%	8	32.00%	2	8.00%	1	4.00%	25	100%
Theft	1	25.00%	2	50.00%	1	25.00%	0	0.00%	4	100%
Theft of Services	1	100.00%	0	0.00%	0	0.00%	0	0.00%	1	100%
Unlawful Trespass	17	24.29%	17	24.29%	36	51.43%	0	0.00%	70	100%
Total	251	36.54%	139	20.23%	295	42.94%	2	0.29%	687	100%
Motor Vehicle										
Careless & Negligent Operation	3	75.00%	1	25.00%	0	0.00%	0	0.00%	4	100%
Driving License Suspended	2	100.00%	0	0.00%	0	0.00%	0	0.00%	2	100%
Eluding	2	66.67%	1	33.33%	0	0.00%	0	0.00%	3	100%
Leaving the Scene	2	66.67%	0	0.00%	1	33.33%	0	0.00%	3	100%
Operating Without Owner's Consent	18	54.55%	7	21.21%	5	15.15%	3	9.09%	33	100%
Speeding	0	0.00%	1	100.00%	0	0.00%	0	0.00%	1	100%
Misc. Title 23	0	0.00%	0	0.00%	2	100.00%	0	0.00%	2	100%
Total	27	56.25%	10	20.83%	8	16.67%	3	6.25%	48	100%
Drugs										
Alcohol Violation	20	29.85%	15	22.39%	32	47.76%	0	0.00%	67	100%
Sale/Delivery of Narcotics	2	100.00%	0	0.00%	0	0.00%	0	0.00%	2	100%
Possession of LSD	1	25.00%	2	50.00%	1	25.00%	0	0.00%	4	100%
Possession of Marijuana	17	44.74%	3	7.89%	18	47.37%	0	0.00%	38	100%
Sale/Delivery of Marijuana	0	0.00%	0	0.00%	1	100.00%	0	0.00%	1	100%
Possession of Hallucinogens	0	0.00%	0	0.00%	1	100.00%	0	0.00%	1	100%
Total	40	35.40%	20	17.70%	53	46.90%	0	0.00%	113	100%
Public Order										
Cruelty to Animals	0	0.00%	1	50.00%	1	50.00%	0	0.00%	2	100%
Disorderly Conduct	23	48.94%	17	36.17%	6	12.77%	1	2.13%	47	100%
Disturbing the Peace	2	40.00%	1	20.00%	2	40.00%	0	0.00%	5	100%
Explosives	0	0.00%	2	50.00%	2	50.00%	0	0.00%	4	100%
False Alarms	2	33.33%	2	33.33%	1	16.67%	1	16.67%	6	100%
False Information	2	40.00%	0	0.00%	3	60.00%	0	0.00%	5	100%
Fish & Wildlife	2	100.00%	0	0.00%	0	0.00%	0	0.00%	2	100%
Lewdness	4	100.00%	0	0.00%	0	0.00%	0	0.00%	4	100%
Municipal Ordinance	3	100.00%	0	0.00%	0	0.00%	0	0.00%	3	100%
Acts Prohibited	1	100.00%	0	0.00%	0	0.00%	0	0.00%	1	100%
Reckless Endangerment	1	16.67%	2	33.33%	3	50.00%	0	0.00%	6	100%
Weapons at School	6	37.50%	5	31.25%	5	31.25%	0	0.00%	16	100%
Total	46	45.54%	30	29.70%	23	22.77%	2	1.98%	101	100%
Vs. Justice										
Violation Conditions of Release	3	60.00%	2	40.00%	0	0.00%	0	0.00%	5	100%
Vs. Justice	1	33.33%	2	66.67%	0	0.00%	0	0.00%	3	100%
Total	4	50.00%	4	50.00%	0	0.00%	0	0.00%	8	100%
Other										
Accessory	0	0.00%	0	0.00%	2	100.00%	0	0.00%	2	100%
Misc. Title 13	1	100.00%	0	0.00%	0	0.00%	0	0.00%	1	100%
Misc Title 33	1	25.00%	3	75.00%	0	0.00%	0	0.00%	4	100%
Charge Unknown	2	100.00%	0	0.00%	0	0.00%	0	0.00%	2	100%
Total	4	44.44%	3	33.33%	2	22.22%	0	0.00%	9	100%
Total	494	41.30%	274	22.91%	418	34.95%	10	0.84%	1,196	100%

IV. DESCRIPTIVE FINDINGS

Recidivism findings are discussed in two sections of this report, beginning with a detailed examination and description of recidivation patterns in this section. Section V below presents inferential findings from a survival analysis and non-linear regression conducted in order to assess the relative impact of variables associated with recidivism and described in this section. The descriptive analysis is comprised of an examination of general failure rates, including the type and volume of failure, failure rates by reference offense type, the timing of failure, failure rates by reference offense disposition type, and failure rates by gender.

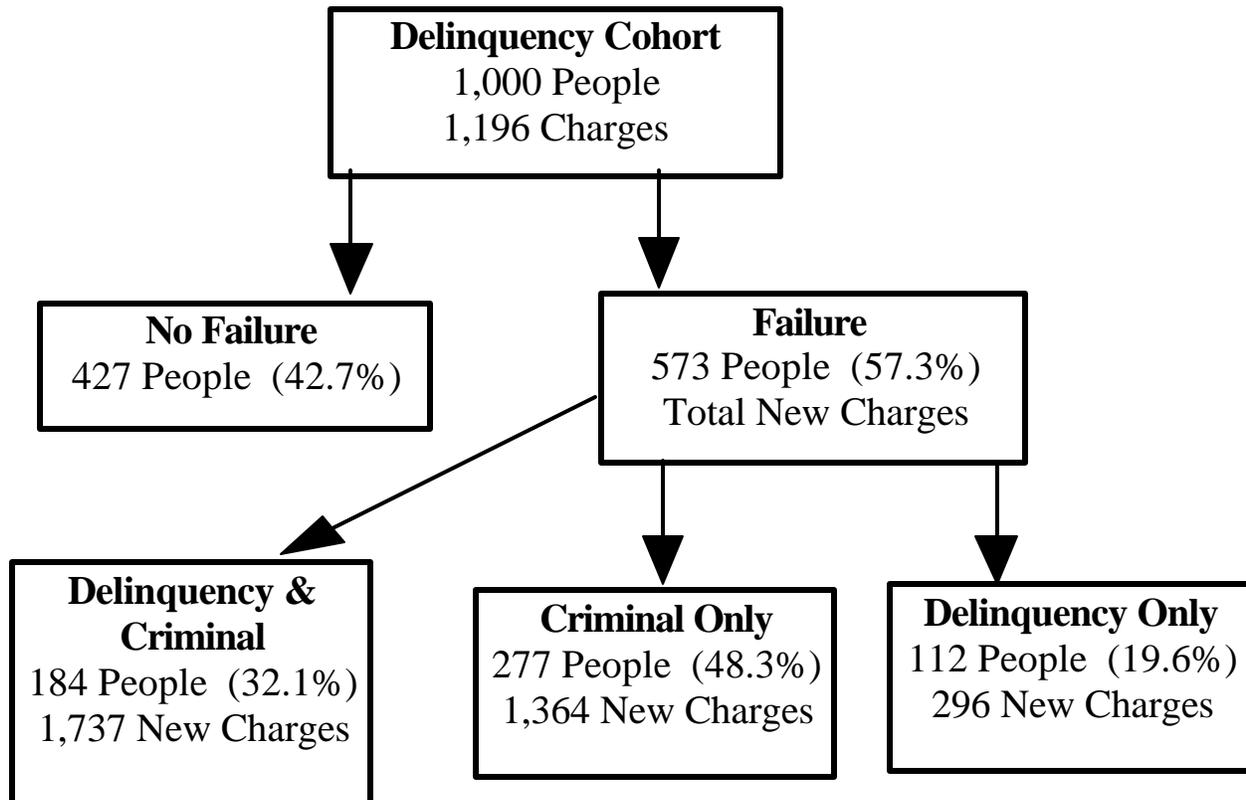
Failure Experience. The incidence of new delinquency or criminal charges filed against the study group during the follow-up period was substantial. [Figure 4](#) and [Table 4](#) below document the proportion of subjects and number of new charges accrued by the group and indicate a failure rate of 57.3%. Two hundred ninety six subjects, or approximately half (51.7%) of the 573 subjects that failed, added a new delinquency charge to their record. However, only 112 subjects, or 19.6% of the failures, recidivated with only a new delinquency charge. The more likely outcome was a new criminal charge (48.3% of the failures) or both criminal and delinquency charges (32.1% of the failures). Perhaps the most important finding of this study is that a significant proportion of youth who have had delinquency charges filed in Family Court failed during their teen years following the initial filing.

**TABLE 4
NUMBER OF PEOPLE AND CHARGES BY FINAL OFFENSE CATEGORY AND FAILURE**

Final Offense Category	Delinquency Cohort		Delinquency Failure		Criminal Failure	
	# People	# Charges	# People	# Charges	# People	# Charges
Violent	215	230	102	160	143	273
Property	582	687	207	437	263	879
Drugs	111	113	49	60	267	521
Motor Vehicle	37	48	25	39	143	376
Public Order	96	101	61	70	125	185
Vs Justice	7	8	25	54	112	319
Other	9	9	13	15	7	9
Total *	1,000	1,196	296	835	461	2,562

*Total number of people does not equal the sum of people for each offense category due to some people having one or more charge in one or more offense category.

**FIGURE 4
RECIDIVISM OUTCOMES**



The volume of new charges filed was significant and clearly worthy of note. [Table 5](#) presents the distribution of new charges by the number of new charges per person and type of failure. A total of 3,397 new charges were filed against the 573 persons who failed, resulting in an average of 5.9 new offenses and a median of three new offenses per person. The average number of new charges filed was lowest for those having only new delinquency charges (2.6), followed by those with only new criminal charges (4.9) with those experiencing a new criminal and delinquency charge the highest (9.4). Generally, more than half of those that failed were charged with between one and three new offenses,

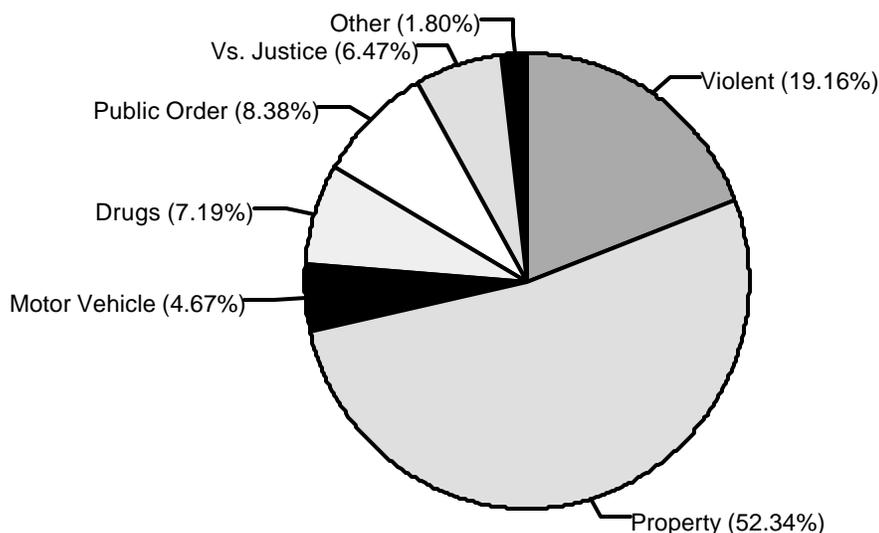
**TABLE 5
NUMBER OF NEW CHARGES FILED AND DISPOSED
BY TYPE OF FAILURE**

# Subsequent Charges Per Person	Type of Failure							
	Delinquency Only		Criminal Only		Delinquency and Criminal		Total	
	#People	%	#People	%	#People	%	#People	%
1	48	42.86%	91	32.85%	0	0.00%	139	24.26%
2	28	25.00%	43	15.52%	14	7.61%	85	14.83%
3	11	9.82%	30	10.83%	28	15.22%	69	12.04%
4	10	8.93%	16	5.78%	14	7.61%	40	6.98%
5	5	4.46%	14	5.05%	14	7.61%	33	5.76%
6	3	2.68%	14	5.05%	8	4.35%	25	4.36%
7	2	1.79%	11	3.97%	14	7.61%	27	4.71%
8	1	0.89%	8	2.89%	11	5.98%	20	3.49%
9	1	0.89%	6	2.17%	9	4.89%	16	2.79%
10	1	0.89%	6	2.17%	11	5.98%	18	3.14%
11	0	0.00%	4	1.44%	7	3.80%	11	1.92%
12	0	0.00%	5	1.81%	4	2.17%	9	1.57%
13	0	0.00%	7	2.53%	5	2.72%	12	2.09%
14	0	0.00%	3	1.08%	3	1.63%	6	1.05%
15	1	0.89%	2	0.72%	5	2.72%	8	1.40%
16	0	0.00%	2	0.72%	7	3.80%	9	1.57%
17	0	0.00%	2	0.72%	4	2.17%	6	1.05%
18	0	0.00%	2	0.72%	5	2.72%	7	1.22%
19	0	0.00%	2	0.72%	4	2.17%	6	1.05%
20	1	0.89%	4	1.44%	3	1.63%	8	1.40%
21	0	0.00%	0	0.00%	3	1.63%	3	0.52%
22	0	0.00%	0	0.00%	2	1.09%	2	0.35%
23	0	0.00%	0	0.00%	3	1.63%	3	0.52%
25	0	0.00%	1	0.36%	0	0.00%	1	0.17%
26	0	0.00%	1	0.36%	1	0.54%	2	0.35%
27	0	0.00%	0	0.00%	1	0.54%	1	0.17%
28	0	0.00%	1	0.36%	0	0.00%	1	0.17%
29	0	0.00%	2	0.72%	1	0.54%	3	0.52%
31	0	0.00%	0	0.00%	1	0.54%	1	0.17%
35	0	0.00%	0	0.00%	1	0.54%	1	0.17%
37	0	0.00%	0	0.00%	1	0.54%	1	0.17%
Total People	112		277		184		573	
Total # New Charges	296		1,364		1,737		3,397	
Minimum	1		1		2		1	
Maximum	20		29		37		37	
Mean	2.6		4.9		9.4		5.9	
Median	2		3		8		3	

suggesting that most persons who failed did so with more than one new offense. Multiple new charges are consistent with typical prosecution patterns and the fact that many prosecuted crime incidents typically result in multiple charges⁴.

The more astounding finding was that a relatively small number of high-rate offenders accounted for a significant proportion of the new failures. Specifically, 119 persons, 20.7% of the persons who failed, accounted for 2,003 new charges, or 58.9% of all new charges. An average of 16.8 new charges per person was recorded by this group with three recidivists responsible for 31, 35 and 37 new charges each. While the incidence of failure among the study group was substantial, the rather extreme volume of new offenses may be attributed to a comparatively small proportion of the failure group. Moreover, high volume recidivists accounted for only 11.9% (119/1,000) of the total sample, suggesting that most juveniles petitioned in delinquency cases are not likely to become high volume offenders.

**FIGURE 5
SUBSEQUENT JUVENILE FINAL CHARGES**



An examination of new delinquency charges filed indicates that the offense type distribution is similar to the offense type distribution for the reference offense (see Figure 2 above). Figure 5 illustrates that the majority of new delinquency offenses were for property crimes (53.3%), as were a

⁴Research on charging practices in Vermont has found that an average of between 1.8-2.0 charges are filed in criminal court cases against youthful offenders (under 21 years of age) and 1.7 charges filed in delinquency cases. (See Clements, Owen and Denton, 2000).

slightly larger proportion of reference offenses (57.4%). In all other respects except crimes versus justice, a similar proportion of offenses was observed. For example, violent crimes accounted for 19.2% of both reference and recidivism delinquencies; drugs accounted for a slightly smaller proportion of new delinquencies (7.2%) than for reference offenses (9.5%). Public order offenses accounted for 8.4% of both reference and recidivism delinquencies while motor vehicle offenses accounted for a similar proportion of both reference (4.0%) and recidivism (4.7%) delinquencies. Crimes versus the justice system were more prevalent for recidivism delinquencies (6.5%) than for reference offenses (0.7%), primarily because 50 of the 54 new charges for this type involved violations of either conditions of release (32 charges) or violations of probation (16 charges).

Specific new delinquency offenses are presented in [Table 6](#) and may be compared to reference offense patterns in [Table 2](#) above. These data indicate that the distribution of specific offenses was similar between the reference and recidivism delinquency. For example, the most prevalent violent offense, simple assault, accounted for 70.4% of reference offenses and 72.5% of new delinquency charges. While some slight differences were observed in the distribution of property crimes (e.g. proportionally more burglaries and petit larceny, less shoplifting), the most frequent crimes in each reference offense category discussed earlier in the report were also the most frequent new delinquency charges. These findings suggest that at least for new delinquencies, there was not a major shift in the types of offenses charged against subjects.

The volume of new criminal offenses filed against subjects was significant, as noted above, and warrants a close examination of the types of new offenses for changes in aggregate offending patterns. [Figure 6](#) below presents the distribution of 2,562 new criminal charges among the major offense categories and, when compared to [Figure 2](#) above, indicates several significant shifts in the distribution of offenses. Most important, the proportion of new criminal violent (10.7%) and property (34.3%) charges was noticeably smaller than in the distribution of reference offenses, 19.2% and 57.4%, respectively. However, a greater proportion of drug (9.5% versus 20.3%), motor vehicle (4.0% versus 14.7%), and crimes against the justice system (0.7% versus 12.5%) account for the shift in offense distribution. The proportion of public order and miscellaneous offenses was similar in both the reference and new criminal charge distributions.

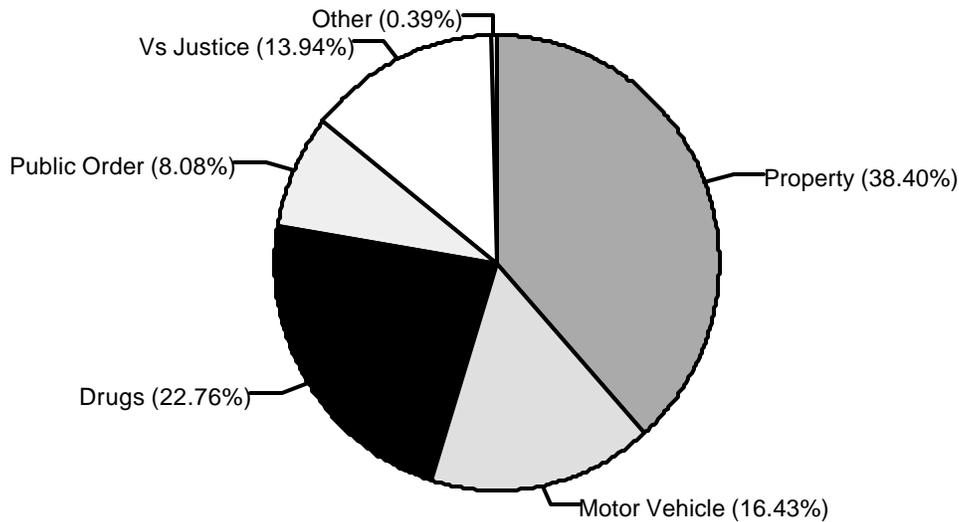
One question raised by the shift in offense distributions is whether it reflects a substantive shift in offending characteristic of the transition in a criminal “career” from juvenile delinquency into continued offending as older teens and into adulthood, for those who persist in criminal activity. Much of the shift in offending patterns can be attributed to greater risk of violating motor vehicle and drug/alcohol laws associated with adolescence and reflected in the distribution of specific new criminal offenses detailed in [Table 7](#). Almost three out of four new offenses classified under drugs were for alcohol violations with almost all of the remainder for drug possession (primarily marijuana). Similarly, almost half (43.9%) of the new motor vehicle offenses were for driving with a suspended license, which was the basis for very few reference offense charges since most subjects were not old enough to obtain a driver’s license at

TABLE 6
SUBSEQUENT DELINQUENCY CHARGES
NUMBER OF ORIGINAL AND FINAL CHARGES BY OFFENSE CATEGO

Offense Category and Offense	# Original Charges	# Final Charges
Violent		
Aggravated Assault	7	6
Aggravated Domestic Assault	3	3
Aggravated Stalking	1	1
Aggravated Sexual Assault	2	2
Assault & Robbery	4	3
Simple Assault	116	118
Assault Law Enforcement	1	1
Lascivious Conduct	5	5
L&L with a Child	6	6
Sexual Assault	2	2
Simple Domestic Assault	7	7
Sexual Assault on a Minor	6	6
Total	160	160
Property		
Arson	2	2
Burglary	82	79
Embezzlement/Forgery/Counterfeiting	8	8
Fraud	3	3
Grand Larceny	11	11
Unlawful Mischief	95	93
Petit Larceny	89	89
Shoplifting	61	60
Stolen Property	36	37
Theft	2	3
Theft of Services	1	1
Unlawful Trespass	47	51
Total	437	437
Motor Vehicle		
Driving License Suspended	1	1
DUI-1st	1	1
Eluding	2	2
License/Title Violation/Insurance/Registral	3	2
Leaving the Scene	5	5
Operating Without Owner's Consent	24	24
Speeding	1	1
Misc. Title 23	3	3
Total	40	39
Drugs		
Alcohol Violation	29	29
Possession of Marijuana	28	28
Possession of Cocaine	1	1
Sale/Delivery of Marijuana	1	1
Misc. Title 18	1	1
Total	60	60
Public Order		
Disorderly Conduct	39	44
False Alarms	8	8
False Information	2	2
Lewdness	4	4
Municipal Ordinance	3	3
Acts Prohibited	2	0
Reckless Endangerment	3	3
Weapons	2	2
Weapons at School	4	4
Total	67	70
Vs. Justice		
Escape	1	1
Failure to Appear	1	1
Violation Conditions of Release	32	32
Violation Probation	16	16
Vs. Justice	4	4
Total	54	54
Other		
Accessory	6	6
Misc. Title 13	10	9
Charge Unknown	1	0
Total	17	15

the time the reference offense charges were filed. It is worthy of note that a significant number of new criminal motor vehicle charges were filed against subjects who, in all likelihood, have a significant civil motor vehicle record given the large number of criminal charges for driving with a suspended license.⁵

FIGURE 6
SUBSEQUENT CRIMINAL FINAL CHARGES



The likelihood of violating laws against the justice system is also greatly increased given the criminal justice status of offenders resulting from the reference and subsequent criminal involvement. Specifically, about two in three new crimes against justice involved failure to appear with the remainder were for miscellaneous offenses (typically contempt of court) or misdemeanor restraining order violations. It is, therefore, not surprising that a shift to the drug, motor vehicle and crimes against justice categories is evident.

⁵Vermont statute pertaining to driving with a suspended license allows for the first two violations to be treated as civil tickets; the third and subsequent violation becomes a criminal offense. Therefore, the charges for driving with a suspended license observed in this study reflect repeated behavior as well as the accrual of enough violations on subject driving records to warrant suspension. Civil violations and driving records were not included in the analysis performed for this study. See 23 VSA 676 and 23 VSA 674.

TABLE 7
SUBSEQUENT CRIMINAL CHARGES
NUMBER OF ORIGINAL AND FINAL CHARGES BY OFFENSE CATEGORY

<u>Offense Category and Offense</u>	<u># Original Charges</u>	<u># Final Charges</u>
Violent		
Aggravated Assault	12	6
Aggravated Domestic Assault	7	3
Aggravated Stalking	1	1
Aggravated Sexual Assault	4	0
Assault & Robbery	13	6
Simple Assault	154	156
Simple Domestic Assault	46	46
Assault Law Enforcement	15	13
Extortion	1	1
Hate Motivated Crime	0	1
Kidnap	7	5
Lascivious Conduct	6	4
L&L with a Child	9	6
Sexual Assault	2	5
Stalking	1	1
Sexual Assault on a Minor	24	19
Total	302	273
Property		
Arson-Felony	2	2
Arson-Misdemeanor	1	1
Burglary	140	107
Commerce	2	2
Embezzlement/Forgery/Counterfeiting	36	24
Environmental Offense	0	1
Fraud-Felony	30	25
Fraud-Misdemeanor	2	9
Grand Larceny	71	48
Unlawful Mischief-Felony	21	14
Unlawful Mischief-Misdemeanor	108	122
Shoplifting-Felony	33	22
Shoplifting-Misdemeanor	120	130
Stolen Property-Felony	29	27
Stolen Property-Misdemeanor	36	49
Theft-Felony	4	19
Theft-Misdemeanor	134	148
Theft of Services	5	5
Unlawful Trespass-Felony	31	25
Unlawful Trespass-Misdemeanor	70	99
Total	875	879
Motor Vehicle		
Careless & Negligent Operation	43	51
Driving License Suspended	165	165
DUI-1st	59	48
DUI-2nd	9	9
DUI Refusal	2	2
DUI Drugs	0	1
Eluding	27	27
Leaving the Scene	17	17
Operating Without Owner's Consent	44	46
Speeding	10	10
Total	376	376

TABLE 7, continued

Offense Category and Offense	# Original Charges	# Final Charges
Drugs		
Alcohol Violation	381	381
Possession of Heroin-Felony	2	0
Possess of Heroin-Misdemeanor	2	4
Possession of LSD	1	1
Possession of Marijuana-Felony	5	1
Possession of Marijuana-Misdemeanor	112	119
Possession of Cocaine	2	1
Possession of Hallucinogens	1	2
Possession Uppers/Downers-Felony	3	1
Possession Uppers/Downers-Misdemeanor	2	3
Sale/Delivery Heroin	2	2
Sale/Delivery Marijuana-Felony	2	0
Sale/Delivery of Marijuana-Misdemeanor	1	1
Sale/Delivery Cocaine	1	1
Sale to Minor	3	1
Misc. Title 18	1	3
Total	521	521
Public Order		
Contributing to Delinquency of a Minor	2	4
Cruelty to Animals-Felony	2	1
Cruelty to Animals-Misdemeanor	1	2
Disorderly Conduct/Disturbing the Peace	119	135
Explosives-Felony	1	1
Explosives-Misdemeanor	3	3
Fish & Wildlife	2	2
Municipal Ordinance	18	17
Acts Prohibited	3	12
Reckless Endangerment	3	6
Weapons	2	2
Total	156	185
Vs. Justice		
Escape-Felony	11	11
Escape-Misdemeanor	8	8
Failure to Appear	223	223
Perjury	1	1
Violation Temporary Restraining Order-Misd.	25	25
Vs. Justice-Felony	7	5
Vs. Justice-Misdemeanor	46	46
Total	321	319
Other		
Accessory	7	5
Conspiracy	4	4
Total	11	9
Total	2,562	2,562

An examination of specific offenses in [Table 7](#) indicates that the majority are misdemeanors with the distribution similar to that of the reference offenses, except as noted above. For example, misdemeanor assault (simple and domestic) was the most prevalent violent offense (53.0%), although it represented a smaller proportion of new violent offenses than in reference violent offenses (70.4%). A wider range of new violent offenses were evident, including more felonies, although serious violent offenses were rather infrequent relative to all new offenses ($70/2,562 = 2.7\%$). Similarly, about half (53.5%) of new criminal property offenses were comprised of misdemeanor unlawful mischief, shoplifting, theft, trespass and possession of stolen property. However, a notable proportion of new property offenses were for serious felonies such as burglary (16.0%) and grand larceny (8.1%). Almost all of the public order offenses were misdemeanors with the single largest offense involving disorderly conduct/disturbing the peace (76.3%).

The distribution of new criminal offenses experienced by subjects is similar to the distribution of criminal offenses noted for persons age 10-17 years during the study period (see Clements, Owen and Denton, 2000), suggesting that as a group subjects who recidivated did so with offenses typical of the youthful offender population.

Failure by Reference Offense Type. Failure rates were examined by offense type to determine the degree to which recidivism might be associated with the reference offense. Given the lack of offender history data the offense type is a reasonable proxy for the general seriousness of offender behavior, although a direct relationship between the type of delinquency offense and subsequent behavior has not been shown to be consistent. It is somewhat difficult to examine juvenile recidivism as a “criminal career” given the relative youth of offenders and likelihood of desistence. This examination is exploratory in nature and preliminary to the inferential analysis described later in this report.

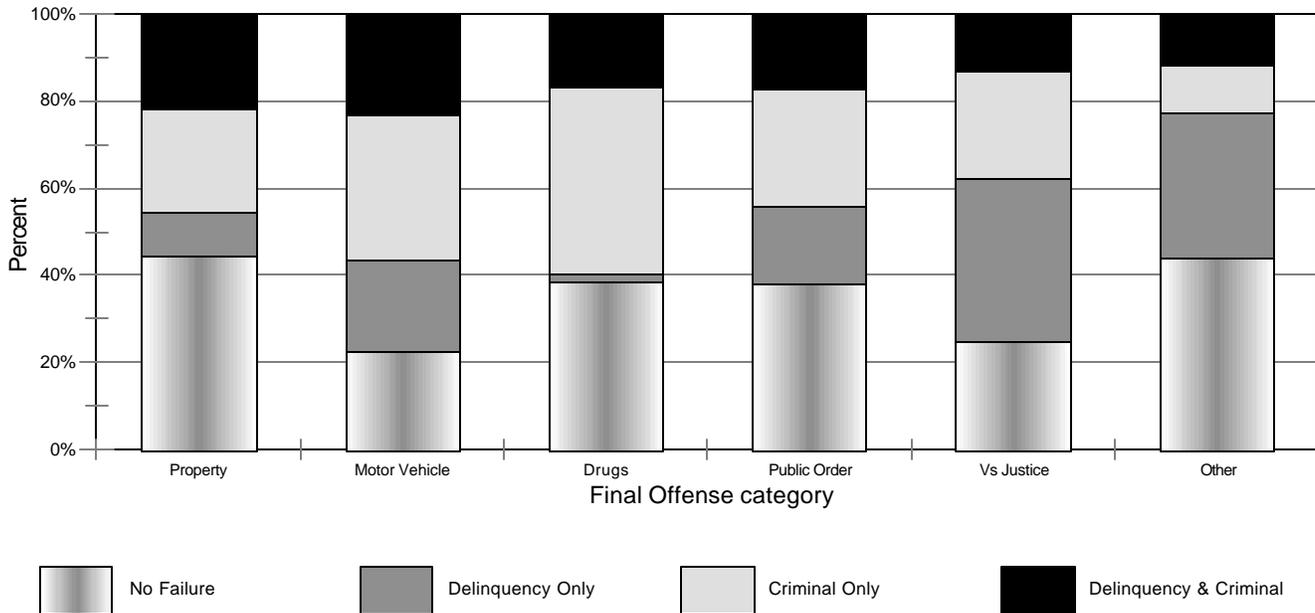
The greatest levels of failure observed in this study were for motor vehicle offenders, who failed at a rate of 77.1% as illustrated in [Table 8](#)⁶ and [Figure 7](#). This rate reflects the rather poor performance of those charged with operating a vehicle without the owners consent (78.8% failure), the largest offense in a rather small category of offenders. These findings suggest that while few in number, juveniles petitioned into Family Court for motor vehicle offenses are likely to recidivate.

⁶The analysis in [Table 8](#) is based on the 1,196 reference charges filed with some individual offenders placed in more than one offense type or category. This method allows for an examination of failure by the type of charge filed across all offender categories and does not significantly alter the analysis given a nearly one to one correspondence between subjects and charges filed in the study group.

**TABLE 8
NUMBER OF FINAL CHARGES BY OFFENSE CATEGORY AND TYPE OF FAILURE**

Offense Category and Final Offense	No Failure		Type of Failure								Total	
			Delinquency Only		Criminal Only		Delinquency and Criminal		Total Failed			
	N	%	N	%	N	%	N	%	N	%	N	%
Violent												
Aggravated Assault	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1	100%
Aggravated Domestic Assault	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1	100%
Simple Assault	58	34.7%	20	12.0%	49	29.3%	40	24.0%	109	65.3%	167	100%
Lascivious Conduct	1	20.0%	2	40.0%	1	20.0%	1	20.0%	4	80.0%	5	100%
L&L with a Child	19	73.1%	1	3.8%	4	15.4%	2	7.7%	7	26.9%	26	100%
Sexual Assault	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1	100%
Simple Domestic Assault	5	100.0%	0	0.0%	4	80.0%	0	0.0%	4	80.0%	9	180%
Sexual Assault on a Minor	9	45.0%	1	5.0%	8	40.0%	2	10.0%	11	55.0%	20	100%
Total	92	40.0%	24	10.4%	69	30.0%	45	19.6%	138	60.0%	230	100%
Property												
Arson	2	16.7%	3	25.0%	3	25.0%	4	33.3%	10	83.3%	12	100%
Burglary	26	35.6%	6	8.2%	17	23.3%	24	32.9%	47	64.4%	73	100%
Embezzlement/Forgery/Counterfeiting	1	14.3%	3	42.9%	3	42.9%	0	0.0%	6	85.7%	7	100%
Fraud	2	28.6%	1	14.3%	4	57.1%	0	0.0%	5	71.4%	7	100%
Grand Larceny	1	16.7%	0	0.0%	3	50.0%	2	33.3%	5	83.3%	6	100%
Unlawful Mischief	66	39.1%	22	13.0%	41	24.3%	40	23.7%	103	60.9%	169	100%
Petit Larceny	20	23.8%	11	13.1%	25	29.8%	28	33.3%	64	76.2%	84	100%
Shoplifting	146	63.8%	20	8.7%	39	17.0%	24	10.5%	83	36.2%	229	100%
Stolen Property	6	24.0%	2	8.0%	7	28.0%	10	40.0%	19	76.0%	25	100%
Theft	3	75.0%	0	0.0%	0	0.0%	1	25.0%	1	25.0%	4	100%
Theft of Services	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1	100%
Unlawful Trespass	33	47.1%	4	5.7%	17	24.3%	16	22.9%	37	52.9%	70	100%
Total	306	44.5%	72	10.5%	160	23.3%	149	21.7%	381	55.5%	687	100%
Motor Vehicle												
Careless & Negligent Operation	1	25.0%	1	25.0%	1	25.0%	1	25.0%	3	75.0%	4	100%
Driving License Suspended	0	0.0%	0	0.0%	0	0.0%	2	100.0%	2	100.0%	2	100%
Eluding	0	0.0%	1	33.3%	1	33.3%	1	33.3%	3	100.0%	3	100%
Leaving the Scene	1	33.3%	0	0.0%	2	66.7%	0	0.0%	2	66.7%	3	100%
Operating Without Owner's Consent	7	21.2%	7	21.2%	12	36.4%	7	21.2%	26	78.8%	33	100%
Speeding	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1	100.0%	1	100%
Misc. Title 23	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100%
Total	11	22.9%	10	20.8%	16	33.3%	11	22.9%	37	77.1%	48	100%
Drugs												
Alcohol Violation	28	41.8%	2	3.0%	26	38.8%	11	16.4%	39	58.2%	67	100%
Sale/Delivery of Narcotics	1	50.0%	0	0.0%	1	50.0%	0	0.0%	1	50.0%	2	100%
Possession of LSD	0	0.0%	0	0.0%	3	75.0%	1	25.0%	4	100.0%	4	100%
Possession of Marijuana	14	36.8%	0	0.0%	17	44.7%	7	18.4%	24	63.2%	38	100%
Sale/Delivery of Marijuana	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1	100%
Possession of Hallucinogens	1	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	100%
Total	44	38.9%	2	1.8%	48	42.5%	19	16.8%	69	61.1%	113	100%
Public Order												
Cruelty to Animals	0	0.0%	1	50.0%	0	0.0%	1	50.0%	2	100.0%	2	100%
Disorderly Conduct	16	34.0%	10	21.3%	12	25.5%	9	19.1%	31	66.0%	47	100%
Disturbing the Peace	3	60.0%	0	0.0%	0	0.0%	2	40.0%	2	40.0%	5	100%
Explosives	1	25.0%	1	25.0%	2	50.0%	0	0.0%	3	75.0%	4	100%
False Alarms	2	33.3%	2	33.3%	0	0.0%	2	33.3%	4	66.7%	6	100%
False Information	2	40.0%	2	40.0%	1	20.0%	0	0.0%	3	60.0%	5	100%
Fish & Wildlife	2	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	100%
Lewdness	4	100.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	4	100%
Municipal Ordinance	0	0.0%	0	0.0%	2	66.7%	1	33.3%	3	100.0%	3	100%
Acts Prohibited	0	0.0%	0	0.0%	1	100.0%	0	0.0%	1	100.0%	1	100%
Reckless Endangerment	4	66.7%	0	0.0%	2	33.3%	0	0.0%	2	33.3%	6	100%
Weapons at School	5	31.3%	2	12.5%	7	43.8%	2	12.5%	11	68.8%	16	100%
Total	39	38.6%	18	17.8%	27	26.7%	17	16.8%	62	61.4%	101	100%
Vs. Justice												
Violation Conditions of Release	1	20.0%	3	60.0%	1	20.0%	0	0.0%	4	80.0%	5	100%
Vs. Justice	1	33.3%	0	0.0%	1	33.3%	1	33.3%	2	66.7%	3	100%
Total	2	25.0%	3	37.5%	2	25.0%	1	12.5%	6	75.0%	8	100%
Other												
Accessory	1	50.0%	1	50.0%	0	0.0%	0	0.0%	1	50.0%	2	100%
Misc. Title 13	0	0.0%	1	100.0%	0	0.0%	0	0.0%	1	100.0%	1	100%
Misc Title 33	2	50.0%	1	25.0%	1	25.0%	0	0.0%	2	50.0%	4	100%
Charge Unknown	1	50.0%	0	0.0%	0	0.0%	1	50.0%	1	50.0%	2	100%
Total	4	44.4%	3	33.3%	1	11.1%	1	11.1%	5	55.6%	9	100%
Total	498	41.6%	132	11.0%	323	27.0%	243	20.3%	698	58.4%	1,196	100%

**FIGURE 7
FINAL OFFENSE BY FAILURE TYPE**



Property offenders experienced the lowest levels of failure as a group, 55.5%, although this figure is certainly not low in absolute terms. More than half of all subjects were linked to a property offense, although the recidivation experience varied by type of offense within the property offense category. The findings in [Table 8](#) indicate that the lowest failure rates in the study were found among the single most prevalent offense type. Specifically, the failure rate for the 229 shoplifting reference offenses was only 36.2%, compared to 60.9% for the next most prevalent property charge (unlawful mischief, n=169) and 65.3% for the third most prevalent charge overall (simple assault, n=167). Although smaller in number of reference offenses, recidivism rates for those charged with petit larceny were 76.2%, or twice the rate of shoplifting. It is difficult to determine why the petit larceny rate would be significantly higher than shoplifting since they are conceptually similar offenses.

Failure rates for other offense types were generally similar and around the average of 58.4% with some exceptions for specific offenses, although the small number of cases for many offenses is the likely result of notable differences. One notable pattern evident in [Figure 6](#) was that drug/alcohol offenders tended to recidivate with new criminal offenses at a greater rate than other offender types. This is explained in part by possession of alcohol and possession of marijuana charges, which comprised a significant proportion of new offenses, although new drug charges only made up about a quarter of the new charges accrued by these offenders. A second observation is that across all offense types a small proportion, typically about 20%, of subjects recidivated with both delinquency and criminal charges.

One question raised by these findings is whether the reference offense is a good predictor of recidivism offense type. [Table 9](#) summarizes the number of persons and charges filed in each reference offense category as well as separately for new delinquency and criminal charges. The purpose of this analysis was to look for consistency in offending patterns, which does not appear evident. For example, for violent offenders in the study only 32.2% of the new delinquency charges and 18.2% of the new criminal charges were for a violent offense. Likewise, for drug/alcohol offenders only 17.5% of the new delinquencies and 27.8% of the new criminal charges were for drug/alcohol offenses. The pattern persists for motor vehicle, public order and other/crimes against justice offenders. The major exception is for property offenders, among whom 53.5% of new delinquency charges and 37.2% of new criminal charges were also for property offenses. As the data in [Table 9](#) suggest, recidivists tend to be involved in a wide range of new offenses and are not subject to an easy characterization derived from type of offense. These findings also suggest that type of offense, in the absence of other offender history variables, will be of little utility as a predictor of recidivism and recidivism offense type in more sophisticated inferential analyses.

The Timing of Failure. The timing of failure is as important a dimension as the level of failure for describing recidivism patterns. An examination of the time to first failure (TTF) reveals several expected patterns that generally reflect high levels of failure within the first two years of the reference offense. [Table 10](#) presents data on the number of persons failing by the general failure type for various time periods through 4.5 years; [Figure 8](#) graphically depicts failure levels at each of the time intervals. (The survival analysis in Section V below contains additional discussion of failure time.) Several observations worthy of note flow from these data.

First, about half (46.4%) of all failures occurred during the first year following the reference offense, although failure rates at the one year mark vary considerably by type of measure. Subjects who recidivated with both new delinquency and criminal charges failed in the greatest proportion (76.6%) during the first year; this group also accounted for the greatest number of persons failing (n=144) during this period. These findings suggest that an important proportion of those who fail will do so early, in both delinquency and criminal cases, and typically in volume since many of the high rate offenders fall into this category. It is, however, important to note that a proportionally high level of failure would be expected earlier for this group since it is not likely that delinquency charges would be filed within two years of the reference offense, especially given statutory limits and prosecutorial policy to file charges in District Court. The relatively small number of combined delinquency/criminal recidivists after two years illustrates this point.

Not surprising was that failure levels among those recidivating with only a new delinquency charge were also very high (66.1%), as might be expected by statutory age effects and prosecutorial practices that limit filing of delinquency cases after 16 years of age. It follows, therefore, that the greatest proportion of delinquency failures would occur within a year or two of the reference offense, as was noted above for those who experienced both new delinquency and criminal charges. Again, the number of delinquency-only failure drops off considerable after year two with only a handful (11 subjects) failing this way after two years.

**TABLE 9
NUMBER OF PEOPLE AND FINAL CHARGES BY SUBSEQUENT FAILURE**

Delinquency Cohort	Subsequent Charges	
	Delinquency	Criminal
Final Offense Category Violent: 215 People 230 Charges	67 People 80 Property Charges 57 Violent Charges 18 Public Order Charges 9 Vs Justice Charges 7 Drug Charges 4 Motor Vehicle Charges 2 Other Charges <hr/> 177 Total Charges	110 People 197 Property Charges 111 Violent Charges 93 Vs Justice Charges 79 Motor Vehicle Charges 72 Drug Charges 56 Public Charges 1 Other Charge <hr/> 609 Total Charges
Property: 582 People 687 Charges	175 People 270 Property Charges 84 Violent Charges 42 Drug Charges 37 Public Order Charges 36 Vs Justice Charges 26 Motor Vehicle Charges 10 Other Charges <hr/> 505 Total Charges	248 People 509 Property Charges 295 Drug Charges 189 Motor Vehicle Charges 149 Vs Justice Charges 129 Violent Charges 91 Public Order Charges 5 Other Charges <hr/> 1,367 Total Charges
Drugs: 111 People 113 Charges	21 People 23 Property Charges 7 Drug Charges 4 Vs Justice Charges 3 Public Order Charges 2 Violent Charges 1 Other Charge <hr/> 40 Total Charges	66 People 115 Property Charges 100 Drug Charges 52 Motor Vehicle Charges 37 Vs Justice Charges 24 Violent Charges 1 Other Charge <hr/> 360 Total Charges
Motor Vehicle: 37 People 48 Charges	15 People 29 Property Charges 8 Motor Vehicle Charges 4 Public Order Charges 1 Drug Charge 1 Other Charge <hr/> 43 Total Charges	19 People 60 Property Charges 50 Motor Vehicle Charges 42 Drug Charges 38 Vs Justice Charges 10 Public Order Charges 9 Violent Charges 1 Other Charge <hr/> 210 Total Charges
Public Order: 96 People 101 Charges	35 People 55 Property Charges 28 Violent Charges 15 Public Order Charges 8 Motor Vehicle Charges 5 Drug Charges 5 Vs Justice Charges 3 Other Charges <hr/> 119 Total Charges	43 People 55 Drug Charges 49 Property Charges 30 Motor Vehicle Charges 21 Public Order Charges 16 Violent Charges 11 Vs Justice Charges 1 Other Charge <hr/> 183 Total Charges
Other/Vs Justice: 16 People 17 Charges	7 People 9 Property Charges 4 Vs Justice Charges 2 Public Order Charges 1 Motor Vehicle Charge <hr/> 16 Total Charges	5 People 15 Motor Vehicle Charges 7 Property Charges 3 Vs Justice Charges 1 Violent Charge 1 Other Charge <hr/> 27 Total Charges

TABLE 10
TIME TO SUBSEQUENT FAILURE * AND TYPE OF FAILURE **

Time to Subsequent Failure **	Type of Failure **							
	Delinquency Only		Criminal Only		Delinquency and Criminal		Total	
	N	%	N	%	N	%	N	%
1 - 3 Months	42	37.5%	16	5.8%	62	33.7%	120	20.9%
3 - 6 Months	20	17.9%	13	4.7%	42	22.8%	75	13.1%
6 Months - 1 Year	12	10.7%	22	7.9%	37	20.1%	71	12.4%
1 - 2 Years	27	24.1%	68	24.5%	28	15.2%	123	21.5%
2 - 3 Years	7	6.3%	56	20.2%	13	7.1%	76	13.3%
3 - 4 Years	4	3.6%	58	20.9%	2	1.1%	64	11.2%
4+ Years	0	0.0%	44	15.9%	0	0.0%	44	7.7%
Total	112	100%	277	100%	184	100%	573	100%

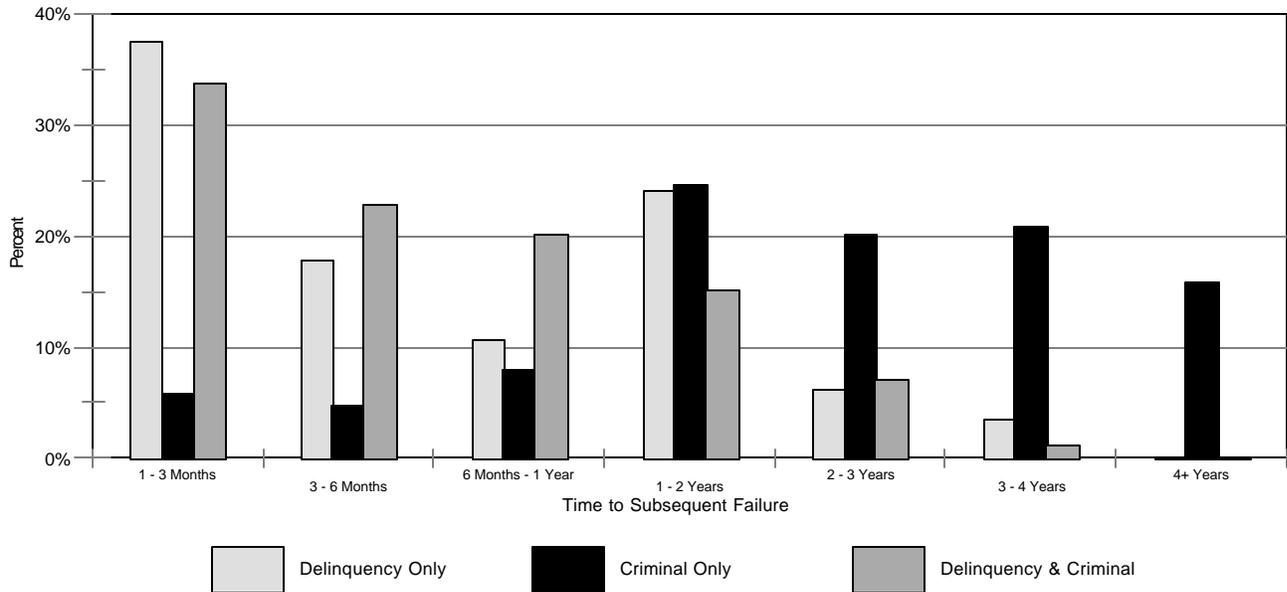
* Based on number of persons, not charges.

** Failure: Subsequent Delinquency charges filed and disposed 7/95-6/99;
Subsequent Criminal charges disposed 1/94-12/99.

The proportional distribution of failure among those recidivating with only a new criminal charge is relatively small during the first year (18.4%) although it increases to 42.9% by year two. By way of contrast, 90.2% of delinquency only failures and 91.8% of combined delinquency/criminal failures occurred by year two. The number and proportion of criminal only failures remains relatively stable in years three and four at around 20% of failures and about 57 persons per year. At year 4.5 an additional 44 persons had failed, suggesting that an even greater number of failures would be found if a full five years of follow-up were conducted. Given the consistency of failure through the end of the monitoring period, it is likely that even higher levels of failure would be found with a six or seven year follow-up. The number of new first failures should decline after year five or six given general patterns of juvenile offending that peak at about age 18-20, the likely age of subjects in the study after at the end of five years of monitoring. Indeed, total failure (all charge types combined) in the study declines in the number and proportion of subjects failing by year from 46.4% (266 subjects) in year one, to 21.5% (123 subjects) in year two, to 13.3% (76 subjects) in year three, and 11.2% (64 subjects) in year four.

Failure by Reference Offense Disposition. Disposition of the reference delinquency offense was a key case variable related to recidivism in the analysis. Failure rates for each of the four delinquency disposition types used in the study are presented in [Table 11](#) and summarized in [Figure 9](#). The findings indicate that disposition in the reference delinquency case may in fact be a predictor of subsequent failure, although a number of variables (e.g. offender legal and social history) not measured here may in fact directly influence both disposition decisions and recidivistic behavior.

**FIGURE 8
SUBJECTS BY FAILURE TIME & TYPE**



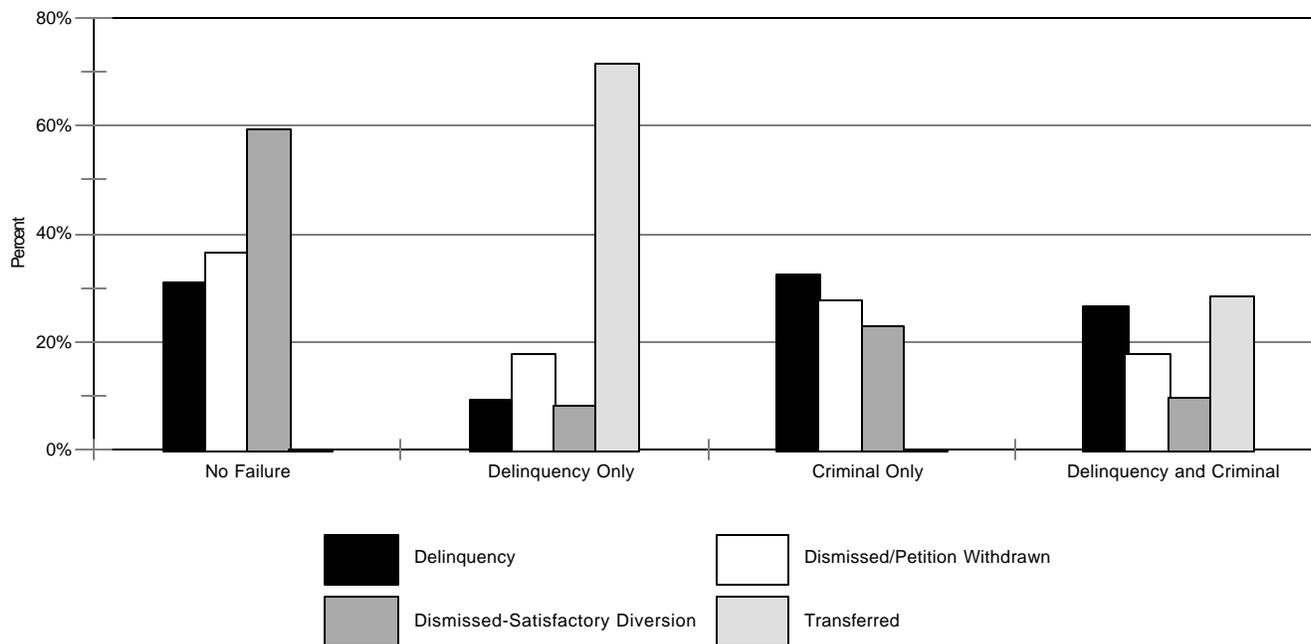
**TABLE 11
NUMBER OF PEOPLE BY DELINQUENCY COHORT DISPOSITION * AND TYPE OF FAILURE ****

Type of Failure **	Delinquency Cohort Disposition *									
	Delinquency		Dismissed/ Petition Withdrawn		Dismissed - Satisfactory Diversion		Transferred		Total	
	N	%	N	%	N	%	N	%	N	%
No Failure	126	31.2%	78	36.6%	223	59.3%	0	0.0%	427	42.7%
Failure:										
Delinquency Only	38	9.4%	38	17.8%	31	8.2%	5	71.4%	112	11.2%
Criminal Only	132	32.7%	59	27.7%	86	22.9%	0	0.0%	277	27.7%
Delinquency and Criminal	108	26.7%	38	17.8%	36	9.6%	2	28.6%	184	18.4%
Total	278	68.8%	135	63.4%	153	40.7%	7	100.0%	573	57.3%
Total	404	100%	213	100%	376	100%	7	100%	1,000	100%

* Delinquency Cohort Disposition for people with more than one delinquency charge is the most serious disposition, with "Delinquency" being the most serious, followed by "Dismissed/Petition Withdrawn", "Dismissed-Satisfactory Diversion", and "Transferred".

** Failure: Subsequent Delinquency charges filed and disposed 7/95-6/99; Subsequent Criminal charges disposed 1/94-12/99.

**FIGURE 9
SUBJECTS BY FAILURE TYPE & DISPOSITION**



Many juveniles are offered the opportunity to participate in the Court Diversion program which, if successfully completed, may result in a dismissal of the delinquency case. It would be reasonable to expect that subjects completing the diversion program would experience lower levels of failure than those who did not, particularly subjects adjudicated delinquent. Prior research on recidivism among Vermont court diversion clients (see Ryan, Clements, and Denton, 1998) indicates that about 25% of diversion clients will experience a new charge within three years of the case for which they were referred. A larger proportion would naturally be expected with a longer follow-up period, although estimates of the level were not determined in the study cited above.

Consistent with the earlier findings, the data in Table 11 indicate that subjects whose cases were dismissed as a result of successful diversion experienced the lowest failure rates in the study⁷. Almost six in ten (59.3%) subjects in this category *did not* recidivate during the follow-up period. In contrast, the highest rates of failure (68.8%) were experienced by subjects whose cases resulted in a finding of delinquency. Equally high failure rates (64.4%) were found among those whose cases were either dismissed (without diversion) or had the delinquency petition withdrawn. These findings suggest that diversion may be a mechanism useful for reducing recidivism. Additionally, a finding of

⁷The number of cases disposed by transfer to criminal court was comparatively small (n=7) and not included in the discussion. It may be instructive to note, however, that all of the subjects recidivated.

delinquency, in some cases as the result of diversion failure, appears to correlate with likely failure as measured in this study. Failure among those whose petitions were withdrawn or dismissed without diversion is also more likely to result in a greater proportion of new delinquency only charges (17.8%) than for those adjudicated delinquent (9.4%) or dismissed as a result of satisfactory diversion (8.2%).

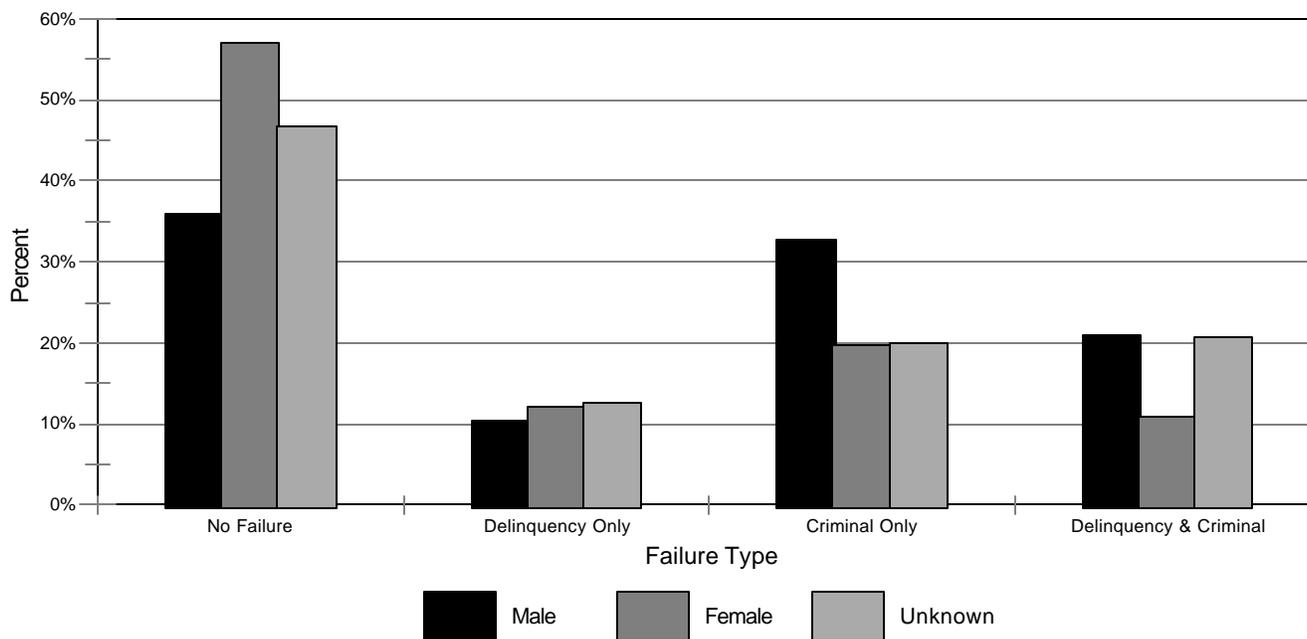
Without knowing more about the circumstances under which the delinquency petitions were withdrawn or dismissed in the study group, it is difficult to determine why failure rates for this group are high. Never-the-less, the dismissal or withdrawal of a petition without a successful diversion experience appears to be related to future failure. One implication of this finding, of course, is that diversion or a related program be used more extensively in delinquency cases.

Failure by Gender. Gender has long empirically linked to criminal justice involvement with males significantly more likely than females to enter the system and, upon discharge, to return at much higher rates. An examination of failure rates by gender is presented in [Table 12](#) and summarized in [Figure 10](#) below; both of which indicate a pattern consistent with prior research. Specifically, the male recidivism rate (64.2%) was significantly greater than that for females (42.9%).

**TABLE 12
TYPE OF FAILURE BY GENDER**

Type of Failure	Gender							
	Male		Female		Unknown		Total	
	N	%	N	%	N	%	N	%
No Failure	219	35.8%	145	57.1%	63	46.7%	427	42.7%
Failure:								
Delinquency Only	64	10.5%	31	12.2%	17	12.6%	112	11.2%
Criminal Only	200	32.7%	50	19.7%	27	20.0%	277	27.7%
Delinquency and Criminal	128	20.9%	28	11.0%	28	20.7%	184	18.4%
Total	392	64.2%	109	42.9%	72	53.3%	573	57.3%
Total	611	100%	254	100%	135	100%	1,000	100%

**FIGURE 10
SUBJECTS BY FAILURE TYPE & GENDER**



An important proportion of cases in the delinquency database (about 13%) do not contain gender data, although in recent years this proportion has declined. On a methodological note, it has been of continued interest to determine whether a systematic bias exists in the absence of gender or, all things being equal, a greater proportion of missing gender cases are comprised of females. The findings in [Table 12](#) for “unknown” gender indicate that the failure rate of 53% is midway between male and female rates. This finding suggests that some type of bias in fact exists in missing gender cases or that they are comprised of a greater proportion of females than would ordinarily be expected. Continued research and improved data quality will be needed to more fully address the issue.

A final observation regarding differences in male and female recidivism rates is warranted. Specifically, among those who recidivated, females were much more likely to have done so with only a new delinquency charge than were males. About 28.4% (31/109=.28) of the female recidivists were charged with new delinquency only, compared to only 6.1% (64/392=.06) of males. Males were generally more likely to recidivate with a new criminal charge or combination of criminal and delinquency charges. Again, these findings are not surprising given relatively higher levels of offending and failure among males documented in the juvenile delinquency literature.

Summary and Correlates of Recidivism. This report has documented that juveniles for whom a delinquency charge was filed in Family Court are likely to fail in substantial numbers (57.3%) by accruing a new delinquency and/or criminal charge during the four years following disposition of the

reference offense. Of those that failed, a relatively small proportion (20.7%) accounted for almost two-thirds (58.9%) of new charges filed against the study group. The findings also indicate that about half of all failures occurred during the first year following disposition on the reference offense. Moreover, given censoring of the study group at 4.5 years and a steady number of failures at that point it is likely that even higher failure rates would be found with a longer follow-up period. The descriptive analysis presented above suggests that some variables are closely related to recidivism and may have some utility in understanding failure among juvenile offenders.

Some variables analyzed for this study did not appear to affect the likelihood of failure. Included are type of offense, which was generally a poor predictor of recidivism with some exceptions, and age given the homogeneity of the study group. On the other hand, the type of disposition was related to failure in that subjects who had charges dismissed because of successful diversion were significantly less likely to fail than other subjects. Additionally and of no surprise, gender was directly related to failure with the level of new charges against males significantly higher than those for females. These findings were supported in the survival and logistical regression analyses reported below.

V. SURVIVAL ANALYSIS FINDINGS

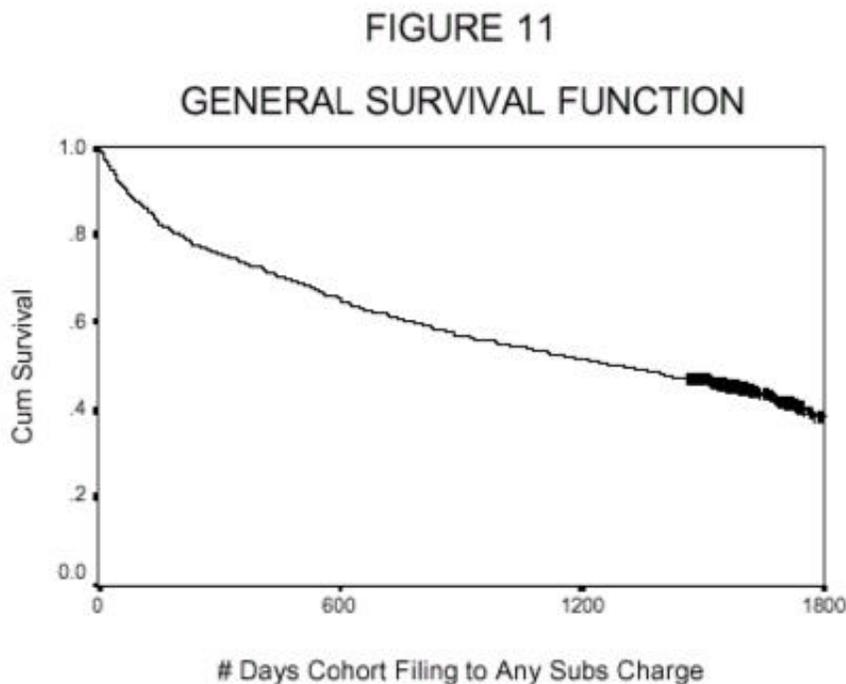
In order to examine the recidivism patterns in greater detail relative to the timing and predictors of failure, two additional analyses were conducted. First, survival curves were plotted for the entire group as well as by type of reference disposition, which was noted above to be significantly related to the likelihood of failure. The results of this process essentially depict failure patterns noted earlier and provide comparative parameters for describing failure. A second analysis was conducted using logistic regression to model the variables described in the previous section and determine which, if any, are the best predictors of recidivism. Findings from each analysis are presented below.

Survival Analysis. Survival analysis functions were developed for the total study group and by disposition type in order to better portray the performance of the group over time. The general discussion of failure over time in the previous section indicated that a significant proportion of recidivism occurred during the first year with a steady by significant proportion distributed throughout the follow-up period.

The survival function presented in [Figure 11](#) graphically reflects the findings discussed above and illustrates the proportion of the study group surviving without failure at any point (in days) from the reference offense disposition. At time equal to 0 in [Figure 11](#) (the reference conviction date for each subject) a full 100 percent (1.0 in the graphic) of the group has yet to fail. Over time the proportion of the group that has not failed diminishes to the point at which 427 subjects (42.7% of the study group) have not failed; this surviving group is considered censored (provisionally successful) by the model since additional observation time is not available. The shape of the survival curve suggests that failure is greatest in the first year given the relatively steeper slope of the function at that point; the rate of failure appears to be fairly constant for the remainder of the follow-up period, suggesting that higher levels of failure might well be expected if additional follow-up time were incorporated into the study.

There were variations within the total group on the mean time to failure by the type of failure⁸, as would be expected given that earlier failure has a greater likelihood of being charged as a delinquency. Not surprisingly, those whose new charge was only a delinquency (n=112) failed on average at 302 days (SE=31.1) with a median failure time of 147.0 days (SE=22.5). In comparison, those with both a new delinquency and criminal charge (n=277) failed at an average of 248.1 days (SE 19.2) with a median failure time of 144.0 days (SE=16.7). Finally, those with only a new criminal charge failed much significantly later with an average time to failure of 872.0 days (SE= 30.4) and a median failure time of 854.0 days (SE=47.4). These findings are consistent with the observation that more than half of the failure occurs in the first year with the remaining failures disbursed in steady fashion over the remaining period and in criminal court.

⁸Type of failure was measured as either a new delinquency charge only, new criminal charge only, or both new criminal and delinquency charges.



Survival functions were also developed and are presented in [Figure 12](#) by type of disposition in order to graphically illustrate two important points noted in the above analysis. First, subjects whose case was dismissed as the result of a successful diversion failed at a much lower overall level and rate than other subjects, as depicted in [Figure 12](#). Second, this rate of failure was significantly lower than that for subjects either found delinquent or for whom cases were dismissed or withdrawn without diversion, both groups having indistinguishable patterns of failure. Summary statistics for each of the groups are presented below in [Table 13](#) and indicate that the mean survival time for subjects who successfully completed diversion (1,443.9 days) was substantially greater than that for either delinquency findings (892.3 days) or dismissals/withdrawals (948.0 days).

Regression Analysis. Logistic regression is a non-linear regression technique used when the dependent variable has either a dichotomous (e.g. failure/no failure) or polychotomous (limited number) discrete outcome. In this analysis cases were coded as failing if any new charge was found or not failing, if no new charges were found, consistent with the definition of recidivism discussed earlier in the report. Variables discussed in the previous section were regressed against the dependent variable and included gender, disposition type, reference offense type, and age. In addition, variables were constructed to test for the effects of cases being from Chittenden County as well as from rural versus urban counties (based on census population figures).

FIGURE 12 SURVIVAL FUNCTIONS
BY DISPOSITION TYPE

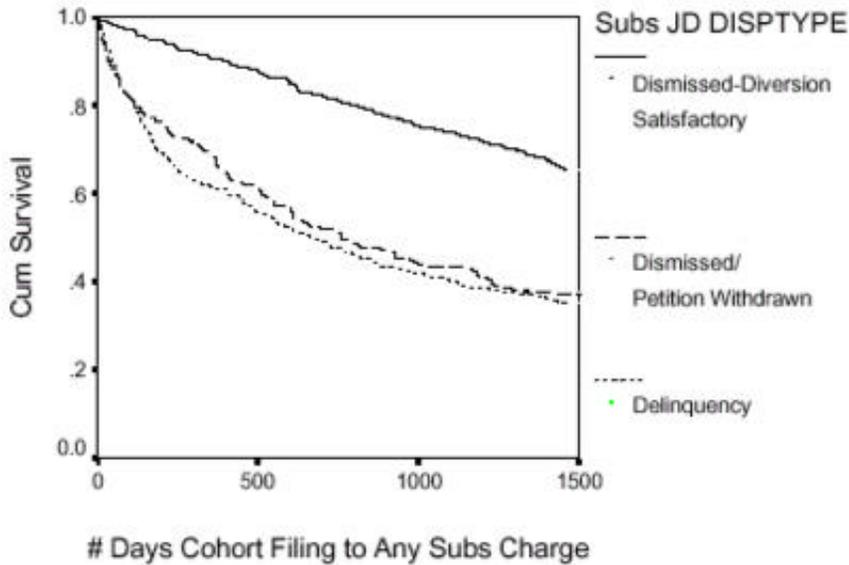


TABLE 13
FAILURE TIME BY DISPOSITION TYPE

Time to Failure (Days)	Disposition Type		
	Delinquency	Dismissed/Withdrawn	Dismissed Diversion
Mean	892.3	948.0	1443.9
S.E.	37.3	50.5	31.1
95% C.I.	819.2, 965.5	849.1, 1046.9	1382.9, 1504.8
Median	672.0	762.0	1810.0
S.E.	80.6	121.5	14.1
95% C.I.	514.0, 830.1	523.8, 1000.2	1782.4, 1837.6
Number of Cases			
Total	404	213	376
Failures	278	135	153
Censored	126	78	223

The process of model building in logistic regression involves adding variables and testing different combinations of variables in order to identify the equation that is most robust in explaining observed outcomes. Unfortunately, the number of variables available for analysis was rather limited so the degree to which models could be developed was concomitantly limited. However, based on the analysis presented above it was expected that the strongest predictors of failure were likely to be gender and disposition type, which exhibited the greatest bivariate differences in failure.

Various combinations of variables were tested with a single model comprised of gender and a modified version of disposition type emerging as the most robust for predicting recidivism. Other variables used in the study, including the rural/urban variables constructed for this analysis, failed to predict recidivism in any significant manner. Not surprisingly, age had no effect as might be expected by the homogeneity of the study group (e.g. most subjects were between the ages of 13-15 years). Similarly, recidivation by offense category did not contribute to the predictive power of the models, confirming that the reference offense type is not a particularly good indicator of future failure. Finally, the analysis also suggests that knowing cases were from Chittenden County or counties with the largest juvenile caseloads was no more likely to predict failure than knowing if cases were from other parts of the state. Therefore, the most robust model used gender and disposition type as predictors of failure. Specifically, dispositions were coded as either dismissal resulting from a successful diversion (the reference category) or other disposition (dismissal or finding of delinquency). This coding scheme was used because the failure rates and survival curves of those whose delinquency case was dismissed as the result of a successful diversion experience were significantly different from the other disposition categories. Gender was coded with the reference category being female. The parameters and relevant statistics from this regression are presented in Table 14 below.

TABLE 14
LOGISTIC REGRESSION FAILURE MODEL

Variable	Reference Category	B	S.E.	Wald	df	Sig.	R	Odds Ratio
Sex	Female	0.79	0.16	24.89	1	0.000	0.14	2.20
Disposition	Successful Diversion	1.11	0.15	55.24	1	0.000	0.21	3.05
Constant		-0.94	0.16	34.36	1	0.000		

Model Chi Square = 89.379, 2 df, p<.0000
 -2 Loglikelihood = 1081.36
 = .099

Odds-ratios presented in the final model confirm findings from the previous section and provide a measure or relative likelihood of failure. The odds-ratio findings in [Table 14](#) indicate males were 2.2 times more likely to fail than were females. In addition, those whose cases were disposed by either a finding of delinquency or outright dismissal were 3.0 times more likely to fail than those whose cases were dismissed as a result of successful diversion. Put another way, these findings indicate that knowing a subject's gender and diversion status, as used in the disposition, will allow the prediction of failure at a level much greater than chance. Overall, the model was able to correctly predict 65.1% of the outcomes which, the equivalent of two out of three cases, is still far from being a highly predictive tool. It is important to note that the rate of false-positives (e.g. those predicted to fail who did not) was 20.5% (176/859) while the rate of false-negatives (those predicted to succeed who did not) was 14.4% (124/859). These findings suggest that more precision and additional variables are needed to forecast failure accurately.

VI. CONCLUSIONS

The findings presented in this report suggest that continued involvement in the criminal justice system is highly likely, particularly among offenders who are found delinquent through the adjudication process. The peak in various age-specific crime rates, measured by both official and self-report data, during the mid-adolescent years has long been documented by numerous cross-sectional and longitudinal studies. The findings reported here suggest that Vermont youth who enter the juvenile justice system through a family court petition are at high risk of recidivism, especially as they enter the years of greatest conventional peak ages (16-18 years) of criminal involvement.

Many of the patterns documented in this study are not likely to be a surprise for those who work directly with youth and, more specifically, juvenile delinquents. However, this study has provided contemporary benchmarks of reoffending rates and characteristics not previously available in Vermont, although only as a first step in more fully understanding the dynamics of delinquency and its impact on the state's juvenile and criminal justice system.

Major empirical findings discussed in the report above are summarized below.

- g** Juveniles for whom a delinquency charge was filed in Family Court failed in substantial numbers (57.3%) by accruing a new delinquency and/or criminal charge during the four years following disposition of the reference offense.
- g** A relatively small proportion (20.7%) of the subjects who failed accounted for almost two-thirds (58.9%) of new charges filed against the study group.
- g** A total of 3,397 new charges were filed against the 573 persons who failed, resulting in an average of 5.9 new offenses and a median of 3.0 new offenses per person.
- g** The offense type distribution for new offenses was similar to the offense type distribution for the reference offense and was typical of all juvenile offenders (54% property, 19% violent, 8% public order, 7% drugs/alcohol and 11% other offenses).
- g** Reference offense did not serve as a strong predictor of recidivism, although failure rates ranged from a low of 55% for property offenders to a high of 77% for motor vehicle offenders.
- g** Failure rates declined in the number and proportion of subjects failing by year from 46.4% (266 subjects) in year one, to 21.5% (123 subjects) in year two, to 13.3% (76 subjects) in year three, and 11.2% (64 subjects) in year four.
- g** Survival analysis indicated differences in the median time to failure for subjects experiencing only a new delinquency charge (147 days), combination of new delinquency and criminal charges (144 days) and new criminal charge only (854 days).

- g** Failure rates for those who recidivated with a new criminal offense were relatively constant in years three and four at about 20% of total failures. Additionally, a significant proportion of subjects failed between year 4.0-4.5, suggesting that levels of failure would be higher if subjects were followed beyond 4.5 years.
- g** The male recidivism rate (64.2%) was significantly greater than the female recidivism rate (42.9%); females were much more likely to have failed with only a new delinquency charge than were males.
- g** Subjects whose cases were dismissed as a result of successful diversion experienced the lowest failure rates (31.7%) compared to subjects whose cases were either dismissed (without diversion) or had the delinquency petition withdrawn (64.4%), and subjects found to be delinquent (68.8%).
- g** Logistic regression modeling of failure indicated that gender and successful completion of diversion were the only significant predictive variables among the limited number available for this study. Males were 2.2 times more likely to fail than females and subjects who did not have their case dismissed as the result of successful diversion were 3.0 times more likely to fail.

One question that arises from these findings is the degree to which recidivism levels for juveniles in Vermont differ from those found in other studies. Several recent studies suggest that the findings reported here are consistent with those from other jurisdictions. For example, Carcach and Leverett (1999) found in an Australian recidivism study that 37% of some 36,000 juvenile offenders had a subsequent court appearance during a 60 month follow-up; more than half of the failures occurred within the first two years. Not surprisingly, they found that the peak ages for new offending were between 15 and 17 years of age.

In addition, a recent three year follow-up of 9,477 juveniles in the custody of the New York State Division for Youth found relatively high levels of recidivism, although not unexpected given that almost 90% of the subjects had at least one prior arrest, petition or out-of-home placement (Frederick, 1999). Specifically, 81% of the males and 45% of the females in the study were arrested within three years of release from Division for Youth custody. The high failure rates for males and relationship between male/female rates are consistent with findings presented here.

The findings presented here are also comparable in many ways to a recent study of recidivism among juvenile cases disposed in Texas (Bryl, 2000), which tracked 14,853 juveniles for two years following disposition of their juvenile case. Although the Texas study is more heavily weighed toward felony offenders (31% of the dispositions) than in Vermont, similar failure rates were found. Specifically, 54% of the subjects had a new contact with the criminal justice system in the two years following their initial disposition. Furthermore, more than half of the new contacts occurred during the first year, as was the case in the Vermont study.

The Vermont and Texas juvenile justice systems are different in many important respects, but several additional findings from the Texas study parallel those reported above for Vermont. For example, juveniles receiving a formal disposition, the equivalent of a delinquency finding in Vermont, experienced higher recidivism rates (66%) than did those who received a deferred prosecution (46%), in some respects more closely akin to the Vermont subjects who successfully completed diversion. Not surprisingly, males had higher rates of recidivism (60%) than did females (43%), a distribution similar to that found in Vermont.

Placed in a larger and comparative perspective the findings reported here suggest that while failure rates may be considered high, they are certainly not atypical given other findings and the fact that subjects are entering a high “at-risk” period. The likelihood of failure between age 16-18 is increased given a formal juvenile court petition at age 14 and 15; the earlier the onset of antisocial, delinquent and/or criminal behavior, the more likely it will be repeated into early adulthood and beyond for some (see Moffit, 1993). A successful diversion intervention appears to have a favorable effect in reducing future offending, although investigation of the nature of this effect was not possible in this study. One important implication of these findings is that diversion and related experiences targeted at early adolescent subjects might be more aggressively pursued in Vermont’s delinquency cases.

The present study raises as many questions as it answers, in part because of the findings but also given the constraints imposed by the data. Delinquency research suggests that a number of variables are likely to be directly and indirectly related to subsequent, and for some persistent, criminal behavior. Among the variables of interest are stability of the family unit, school performance, developmental and other learning disabilities, substance abuse, age of onset for antisocial or violent behavior, and prior treatment and placement history. None of these variables was available from the court database used in this study and, therefore, could not be used in the analysis or examined as correlates of recidivism.

Additional questions are raised about the initial and long-term impact on social service and correctional systems of youth for whom a delinquency petition has been filed. It is likely that some proportion of the subjects used in this study had prior contacts with the Department of Social and Rehabilitative Services (SRS) in a variety of contexts (e.g. custody, as a CHINS case etc.). Some proportion of the study group maintained subsequent contacts with SRS and created a demand for various services; at a minimum this group would include those adjudicated delinquent and supervised by SRS under juvenile probation. Moreover, the subsequent involvement of recidivists as inmates or probationers with the Department of Corrections (DOC) is highly likely, placing an additional demand on state services over both the short and long-term.

These findings warrant future research on this population and a longitudinal assessment of both behavior patterns and impact on social service agencies and the criminal justice system.

REFERENCES

- Blumstein, A., Cohen, J., Roth, J.A., and Visser, C. (1986) Criminal Careers and Career Criminals. Washington, D.C.: National Academy Press.
- Bryl, Jason (2000) The Recycling of Juvenile Offenders: A Pre-Reform Baseline. Austin, Texas: Texas Criminal Justice Policy Council. (August)
- Carcach, C. and Leverett, S. (1999) Recidivism Among Juvenile Offenders: An Analysis of Times to Reappearance in Court. Canberra, Australia: Australian Institute of Criminology.
- Clements, W.; Owen, J. (1999) Compendium of Sentencing and Adjudication Statistics, 1998. Montpelier, Vermont: Vermont Center for Justice Research.
- Clements, W.; Owen, J. and Denton, L. (2000) Juvenile Justice Sourcebook: Delinquency and Criminal Dispositions in Vermont, 1999. Montpelier, Vermont: Vermont Center for Justice Research.
- Frederick, B. (1999) Factors Contributing to Recidivism Among Youth Placed With the New York State Division for Youth. Albany, New York: New York State Division of Criminal Justice Services, Office of Justice Systems Analysis.
- Glueck, S. and Glueck, E. (1968) Delinquents and Nondelinquents in Perspective. Cambridge: Harvard University Press.
- Gottfredson, M. and Hirschi, T. (1986) The true value of lambda would appear to be zero; An essay on career criminals, criminal careers, selective incapacitation, cohort studies, and related topics. Criminology 24(2): 213-234.
- Gottfredson, M. and Hirschi, T. (1988) Science, public policy and the career paradigm. Criminology 26:37-55.
- Huzinga, D. Loeber, R., Thornberry, T. and Cothorn, L. (2000) Co-occurrence of Delinquency and Other Problem Behaviors. U.S. Department of Justice, Office of Juvenile Justice and Delinquency Programs. November.
- Moffit, T. (1993) Adolescence-limited and life-course persistent antisocial behavior; A developmental taxonomy. Psychological Review 100(4): 674-701.
- Piquero, A. and Mazerolle, P. (editors) (2001) Life-Course Criminology: Contemporary and Classic Readings. Belmont, California: Wadsworth/Thomson Learning.

- Puzzanchera, C., Stahl, A., Finnegan, T., Snyder, H., Poole, R. and Tierney, N. (2000) Juvenile Court Statistics 1997. U.S. Department of Justice, Office of Juvenile Justice and Delinquency Programs. (May)
- Ryan, J.; Clements, W.; and Denton, L. (1998) Recidivism Among Court Diversion Clients. Montpelier, Vermont: Vermont Center for Justice Research.
- Snyder, H. (2000) Juvenile Arrests, 1999. Washington, D.C.: U.S. Department of Justice, Office of Juvenile Justice and Delinquency Programs. (December)
- Wolfgang, M., Figlio, R. and Sellin, T. (1972) Delinquency in a Birth Cohort. Chicago: University of Chicago Press.

APPENDIX A: Offenses and Offense Categories

Offenses and Offense Categories

The following offense types are combined to create general crime categories:

- Violent:** Aggravated assault, aggravated domestic assault, aggravated stalking, aggravated sexual assault, assault, assault law enforcement, assault & robbery, cruelty to children, elderly abuse, extortion, hate motivated crime, lascivious conduct, L & L with child, kidnap, murder, manslaughter, sexual assault, simple assault domestic, stalking, sexual assault on a minor, failure to register as a sex offender
- Property:** Arson, burglary, commerce, commercial fraud, embezzlement, environmental offense, forgery/counterfeiting, fraud, grand larceny, income tax violations, license/business violations, unlawful mischief, petit larceny, shoplifting, stolen property, theft, theft of services, unlawful trespass, welfare fraud
- Drugs:** Alcohol violation, drugs
- Motor Vehicle:** Careless & negligent operation, driving license suspended, eluding, leaving the scene, operating without owner's consent, speeding, misc. title 23
- Public Order:** Cruelty to animals, contribute to delinquency of a minor, disorderly conduct, disturbing the peace, election violations, explosives, false alarms, false information, fish & game violation, gambling, handicap parking violation, lewdness, loose animal, municipal ordinance, acts prohibited/pornography, prostitution, reckless endangerment, truancy, weapons, weapons at school
- Vs. Justice:** Bribery, failure to pay child support, custodial interference, escape, failure to appear, health regulations, perjury, temporary restraining order violation, violation abuse prevention order, violation conditions of release, violation of probation, vs government, vs justice
- Other:** Accessory, attempts, blocking traffic, conspiracy, habitual offender