The author(s) shown below used Federal funds provided by the U.S. Department of Justice and prepared the following final report:

Document Title: **Exploration of the Correlates of Specialization and Escalation: Final Report**

Author(s): **Todd A. Armstrong ; Chester L. Britt**

Document No.: **197053**

Date Received: **October 28, 2002**

Award Number: **2001-IJ-CX-0004**

This report has not been published by the U.S. Department of Justice. To provide better customer service, NCJRS has made this Federally-funded grant final report available electronically in addition to traditional paper copies.

Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

197053

PROPERTY OF
National Criminal Justice Reference Service (NCJRS)
Box 6000
Rockville, MD 20849-6000

An Exploration of the Correlates of Specialization and Escalation: Final Report

To be submitted to:

The National Institute of Justice
U.S. Department of Justice
810 Seventh Street N. W.
Washington, DC 20531

Todd A. Armstrong
Administration of Justice Department
Arizona State University West
PO Box 37100
Phoenix, AZ 85069-7100

Chester L. Britt
Administration of Justice Department
Arizona State University West
PO Box 37100
Phoenix, AZ 85069-7100

Supported under Award # 91-IJ-CX-0004 from the National Institute of Justice, Office of Justice Programs, U.S. Department of Justice. Points of view in this document are those of the authors and do not necessarily represent the official position of the U.S. Department of Justice.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

INTRODUCTION

Research on specialization (repeating the same offense) and escalation (moving to more serious offenses) has typically focused on the type of crime an offender commits from one time to the next, independent of individual characteristics. The lack of attention given to the effect of offender characteristics on patterns of offending is surprising in light of research on the correlates of crime and delinquency. Research on the correlates of crime and delinquency has identified individual characteristics that are consistently related to the commission of criminal acts. If an individual's characteristics affect the chances of committing a criminal act, then it is reasonable to hypothesize that these characteristics also affect patterns of specialization and escalation. Therefore, this study investigated the impact of behavioral, social, and psychological characteristics on patterns of offending across the criminal career.

The Importance of Studying Specialization

Tests of specialization have important implications for criminal justice policy and for criminological theories. An understanding of the patterning of offending over the criminal career is relevant to some basic policy questions associated with incarceration. Knowledge of offense patterns can inform the extent to which crime specific incarceration policies will result in a crime specific reduction in offending (Blumstein et al., 1988). Further, these patterns may be used to focus crime control efforts targeted at particular types of crime (Cohen, 1986). Equally important for the current work are the potential theoretical implications of tests of specialization. Tests of specialization can shed light on the behavior of the theoretical construct(s) underlying delinquent behavior and inform questions of central importance to theories of criminal and delinquent

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

behavior (Farrington et al., 1988). For instance, if samples of adult offenders exhibit more specialization than samples of juveniles due to an increased preference for a particular act it would suggest that individual criminal propensity changes over time.

Early Tests of Specialization and Escalation

While the bulk of studies on specialization and escalation have not directly considered the effect of the correlates of crime on offense patterns, some inference regarding the effect of individual characteristics on crime is possible. Studies of specialization have utilized samples of varying age and samples including different ethnic and racial groups. With regard to age evidence for specialization tends to be strongest in samples of adults and weaker in samples of juveniles, suggesting either an increase in the tendency to specialize with age or a selection effect (Blumstein et al., 1986). Studies contrasting specialization across racial groups find mixed results. Some work supports the proposition that race is related to the tendency to repeat the same type of offense (Britt, 1996; Bursik, 1980; Lattimore et al., 1994). Other work finds that race is unrelated to specialization (Blumstein et al., 1988; Tracy et al. 1990; Wolfgang et al., 1972). The lack of a definitive conclusion regarding the effect of age and race on patterns of specialization demonstrates the need for tests that explicitly model the effect of the correlates of crime on offense sequences.

Offender Characteristics and Patterns of Specialization and Escalation

Recently Britt (1999), extended earlier work on offense sequencing by using a series of multinomial logit models to test the effect of behavioral, social, and psychological correlates of crime on patterns of specialization and escalation. Crime types considered included arrests for violence (homicide, rape, assault), robbery,

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

burglary, other property (e.g., larceny, forgery, motor vehicle theft), drug and alcohol, and other miscellaneous offenses. Without taking into account offender characteristics, there was evidence of specialization and escalation comparable to that found in prior research. However, once offender background characteristics were controlled for evidence of specialization and escalation was significantly reduced. These findings indicate (1) the background characteristics of offenders are important predictors of offense type and (2) the background characteristics of offenders help to explain patterns of offending across the criminal career. Age, race, family environment, peer relationships, and drug and alcohol abuse all proved to be important predictors of offense type.

The correlates of specialization and escalation incorporated in Britt's (1999) analysis have received unequal treatment in the literature. As mentioned earlier, tests of specialization and escalation have examined the tendency towards specialization and/or escalation over the criminal career without an explicit focus on the relationship between these processes and the individual and social characteristics that may influence them. Fortunately, tests of specialization and escalation have been conducted with fairly diverse samples and some inference regarding the effect of age and race upon the patterning of offenses is possible. This good fortune, however, does not extend to the other correlates of crime and delinquency and inference regarding the effect of the family environment, peer relationships and drug and alcohol abuse on specialization and escalation is not possible. Although research has shown these characteristics to be correlates of crime, evidence regarding their relationship with patterns of escalation and specialization is limited to Britt's (1999) work.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

In order to add to the body of knowledge on the effect of individual and social characteristics on patterns of specialization and escalation the current work replicated and extended the work of Britt (1999) using data from the Predicting Parole Performance in the Era of Crack Cocaine study (Haapanen and Sknovold, 1999). The following section reviews the literature on several major correlates of crime that were included in the current study. Wherever possible this review focuses on the effect of a particular correlate on offense type sequences.

Age. The strength of the evidence for specialization varies according to the age of the offender and the type of crime. Research focusing of juvenile arrest sequences has typically found a weak relationship between crime types (Bursik, 1980; Cohen, 1986; LeBlanc and Frechette, 1989; Nevares et al., 1990; Rojek and Erickson, 1982; Wolfgang et al., 1972, 1987). When studies have found strong evidence for specialization in juvenile offender samples, this evidence has been limited to a small number of property theft and status offenses (Farrington et al., 1988; Kempf, 1987; Lattimore et al., 1994; Paternoster et al., 1997; Stander et al., 1989; Tracy et al., 1990).

Studies examining patterns of specialization that occur during adulthood provide the most convincing evidence for specialization. These studies have consistently found evidence of specialization across a broad variety of offense types. Blumstein et al. (1988) found evidence of specialization in fraud and violent offenses, Brennan et al. (1989) found evidence of a small number of specialists in violence, and Britt (1996) found strong evidence of specialization in serious property, drug, and violent offenses.

Tests of the escalation of offense severity across the criminal career are limited and their results are inconsistent. Studies of the patterning of offense severity among

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

juvenile offenders offer very little evidence of escalation (LeBlanc and Frechette, 1989; Tracy et al., 1990; Wolfgang et al., 1972). Studies using samples of adult repeat offenders find weak to moderate evidence of escalation (Blumstein et al., 1988; Britt, 1996).

In an attempt to build on earlier studies of specialization and escalation that only indirectly measured age, Britt (1999) directly modeled the effect of age on offense patterns over the offending career. The effect of age on offense type was variable over time. As age at the time of arrest increased, there was an increasing probability of being arrested for a violent or a drug or alcohol offense. The chances of being arrested for one of the other offense types (robbery, burglary, other property, and other miscellaneous) decreased as age increased. These findings suggest an increasing likelihood of committing more serious violent offenses among some offenders (i.e., escalation), while other offenders were increasingly likely to commit less serious drug and alcohol offenses (i.e., deescalation).

Age at Onset. Piquero et al. (1999) found that the age of onset of criminal behavior was unrelated to the tendency to specialize once the age at which crimes were committed considered. Britt's (1999) results lend some support to those of Piquero et al., (1999). Prior to the estimation of multinomial logit models, Britt (1999) estimated a series of multivariate models that tested the relationship between offender background characteristics and offense type. These models indicated that the relative impact of age at first arrest was weaker than the effect of age at time of arrest. Therefore, age at first arrest was subsequently dropped from multinomial logit models testing the relationship between offender background characteristics and offense type.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Race. Studies of specialization offer mixed evidence regarding the effect of race. Some work supports the proposition that race is related to the tendency to repeat the same type of offense (Britt, 1996; Bursik, 1980; Lattimore et al., 1994). Other work finds that race is unrelated to specialization (Blumstein et al., 1988; Tracy et al. 1990; Wolfgang et al., 1972). Britt's (1999) analysis found that race was an important predictor of offense type. Black offenders were more likely than white offenders to be arrested for violent, robbery, burglary, and other property offenses, but were less likely to be arrested for drug and alcohol offenses relative to being arrested for a miscellaneous other offense.

Family. Reviews of research have firmly established family environment and family relationships as correlates of crime (Blumstein et al., 1986; Gottfredson and Hirschi, 1990; Wilson and Herrnstein, 1985). However, only Britt (1999) has considered the effect of family on patterns of specialization and escalation. In Britt's (1999) study, family environment and relationship were measured with indicators of the criminal record of the juvenile offender's father, the closeness of the family, acceptance within the family and the level of supervision. Of these measures, only the closeness of the family proved to be a significant predictor of offense type in preliminary analyses. Offenders who came from families with stronger ties were more likely to commit all other offenses, relative to miscellaneous offenses.

Peers. Delinquent peers have been clearly established as an important correlate of crime. Research shows that youth who have at least one friend involved in illegal acts will be at greater risk of committing delinquent acts (see , e.g., Akers et al., 1979; Elliott et al., 1985; Hirschi, 1969; Sampson and Laub, 1993; Thornberry et al., 1994), Britt (1996) measured peer environment and relationships with items that asked the offender

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

about how much time they spent with friends, the quality of emotional attachment they had with peers, and whether they tended to commit illegal acts alone or in a group. Multinomial logit models indicated that offenders who engaged in crime alone were significantly less likely to commit violent or robbery offenses than to commit other miscellaneous offenses. Engaging in crime alone also increased the likelihood of burglaries, other property offenses and drug or alcohol offenses.

Alcohol and Drug Abuse. The link between alcohol drug abuse and crime commission is well established (see, e.g., Akers, 1992, Reiss and Roth, 1993). To further explore the relationship between drugs, alcohol, and crime, Britt (1996) considered the effect of alcohol and drug abuse on specialization and escalation. Drug and alcohol abuse indicators were significantly related to the patterning of offending.

Child Abuse. In addition to the background characteristics considered by previous research, it is possible that other correlates of crime also have an important impact on patterns of specialization and escalation. Physical abuse and neglect in childhood has been linked to violence committed as an adult (Widom, 1989a). In a study that accounted for many of the methodological deficits of previous work, Widom (1989b) used a large matched cohort design to study the effects of different forms of childhood abuse on subsequent crime and deviance. As compared to controls, children who were abused and neglected had significantly more arrests for violent offenses. Based on these results it seems plausible that abuse and neglect during childhood may be related to a tendency to specialize in violent acts as an adult.

Gang Membership. Studies of the effect of gang membership have consistently found that gang members are more likely than nongang members to engage in criminal

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

and delinquent acts (Spergel, 1990; Thornberry et al., 1993). Although the link between gang membership and patterns of specialization and explanation is largely speculative at this point, there is some reason to anticipate that gang membership will be associated with participation in particular offense types. For example, Battin et al. (1998) found that gang members, when compared to nongang youth with delinquent peers, had significantly higher rates of self reported violence, drug selling and alcohol consumption. However, gang members and nongang youth with delinquent peers were not significantly different on measures of nonviolent crime and marijuana use. This limited evidence suggests that gang membership may lead to a tendency to specialize in specific offense types.

Aggression. Reviews of the predictors of delinquency find that early aggression is predictive of a variety of adult criminal behaviors (Loeber and Stouthamer-Loeber, 1987). There is some reason to anticipate, however, that aggression may indicate a specific tendency toward violent criminal acts. In their review of the predictors of delinquency Loeber and Stouthamer-Loeber (1987) concluded that "early aggressiveness was more related to later person crimes than to property crimes (p. 359)." Thus, it seems plausible that prior aggression may predict a specialization in violence. Alternatively, it is possible that aggression is merely an indicator of a tendency to commit a wide variety of criminal acts (Farrington, 1991). If individuals who are aggressive have a greater propensity towards all types of crime, then their higher rates of offending may make it more likely that they will learn from prior criminal acts in the manner specified by Blumstein et al. (1986, 1988) and LeBlanc and Frechette (1989). Consequently, these individuals would show an increased tendency to specialize in any given crime type.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

School performance. While school performance is a well established correlated of crime and delinquency (see Maguin and Loeber, 1996 for a review) the potential effect of school performance on patterns of specialization and escalation has not been investigated. At this time the relationship between school performance and specialization is speculative. There does not seem to be reason to anticipate an individual who is not performing well in school would tend to specialize in any particular offense type. However, if specialization occurs as the product of experience with specific offense types, the increase in offending associated with a decrease in school performance could result in an increased tendency to specialize in all forms of crime and deviance.

METHODOLOGY

Data

The current work utilized data from the Predicting Parole Performance in the Era of Crack Cocaine study (Haapanen and Skonvold, 1999), recently made available in the ICPSR's National Archive of Criminal Justice Data. The youth participating in this study were housed under the supervision of the California Youth Authority (CYA) in the 1980's. The data include extensive background, behavioral, and social information on two samples. The first sample is a random sample (N = 2,200) of wards released from the CYA in Fiscal Year 1981-82 (i.e., July 1981 - June 1982). The second sample is a random sample (N = 2,200) of wards released in Fiscal Year 1986-87 (i.e. July 1986 - June 1987). These data were gathered from four sources: (1) Youth Authority electronically stored ward data files; (2) Youth Authority hard-copy ward Master Files; (3) California Department of Justice Criminal History files; and (4) California Vital Statistics. Data for the 1981-82 release sample contain information for each ward on all

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

arrests occurring prior to December 31, 1991. For the 1986-87 release sample, the data contain information on all arrests occurring prior to December 31, 1990.

Measures

Family Environment and Relationships. Indicators of family environment and relationships cover three general constructs. Level of supervision is assessed with an item measuring inconsistent or ineffective caregiver control and an item measuring lack of supervision or neglect. Abuse is measured with items quantifying evidence of intra-family violence, caregiver abuse, and sexual abuse. Family criminal and delinquent behavior is measured with three items that assess parental criminality, sibling criminality and parental alcohol/drug problems.

Age at First Delinquent Contact/ Age at Time of Arrest. Age at first delinquent contact with the criminal justice system indicates when an individual was first arrested. Age at time of arrest indicates an individual's age at time of arrest for each of the arrests considered.

School Performance. School performance is measured by two items. One assessing school discipline problems and one assessing school dropout status.

Aggression. Aggression is quantified by prior overt aggression and prior threats of aggression.

Gang Affiliation. Affiliation with a gang is measured by a single indicator of gang association.

Drug and Alcohol Abuse. Drug abuse and alcohol abuse is measured with separate items indicating the amount of abuse.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Crime Type. The outcome variable, crime type, is operationalized as type of arrest offense. Offense type has seven categories: violence (e.g., homicide, rape, assault), robbery, burglary, other property (e.g., larceny, forgery, motor vehicle theft), drug, alcohol, and other miscellaneous offenses. These offense categories parallel those used in Britt (1999) and are similar to those used in Lattimore et al. (1994).

Analytical Strategy

There are two general research questions that motivate the statistical analyses. The first research question is "Do offender background characteristics affect patterns of offending across the criminal career?" The second research question asks, "Do offender background characteristics have time-varying effects on patterns of offending across the criminal career?" This research question focuses analyses on whether such characteristics as age, aggression, or family environment have time-stable or time-varying effects on offense sequencing.

To test for patterns of specialization and escalation among repeat offenders, each sample of offenders was restricted to those who have a minimum of ten arrests. This restriction allowed a test for specialization and escalation among a group of offenders who are clearly more active offenders. Those offenders with a small number of crimes would, under most circumstances, not be defined as offenders who specialized in a crime type or escalated the seriousness of their crimes. For example, rarely would an offender with 2 or 3 crimes be defined as a career criminal. Without this limitation to the sample, it would be possible for the offense sequences of the offenders with short criminal careers to alter the substance of the results. Another benefit to restricting the sample is that it increases the chance that criminal activities were pursued over an extended time period,

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

which is important for testing hypothesis regarding long-term change in patterns of criminal offending.

The outcome measure -- type of offense -- is modeled with a series of multinomial logit models (Long, 1997). Multinomial logit models are appropriate for outcome measures with three or more unranked categories. Recall that offense type has seven categories (violent, robbery, burglary, other property, drug, alcohol, and other miscellaneous). For all logit models, the reference category is the other miscellaneous offense category. To test for changes in offense type over time, arrest information for each of the ten arrests is pooled. Pooling the data in this manner results in a total of 27,590 person observations (2,759 offenders with 10 arrests each)[1]. Sample statistics for the 2,759 offenders that the data file is based on are presented in Table 1.

Using individual, pooled time series data allows the estimation of four conceptually distinct models. Model 0 provides a naïve baseline model that assumes the probability of each type of crime is fixed across each of the ten arrests. This model is equivalent to estimating mean probabilities for the seven offense types over ten arrests. Model 1 adds measures indicating the arrest number (i.e., first, second, etc.). Model 1 is analytically equivalent to prior research on specialization and escalation that has relied on transition matrices and Markov chains. In other words, Model 1 estimates the probability of committing each of the seven offense types for each of the ten arrests. Model 2 adds offender background characteristics to Model 1, addressing the first research question: Do offender background characteristics affect patterns of escalation and specialization?

[1]The 1981-82 sample contains information on 15,190 person observations (1,590 offenders with 10 arrests each). The 1986-87 sample contains information on 12,400 person observations (1,240 offenders with 10 arrests each).

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Model 3 addresses the second research question: Do background characteristics have time-varying effects on patterns of escalation and specialization? To test this question interaction effects for age and arrest number as well as race and arrest number are added to the background characteristics included in Model 2. In light of prior research showing the importance of age and race, much attention is focused on these issues. The predicted probabilities from the final models are used to indicate patterns of specialization and escalation.

FINDINGS

Separate analysis were conducted for three groups: (1) all cases, (2) the 1981 sample, and (3) the 1986 sample. Results for these different groups were nearly identical. Therefore, only results based on the group including all cases are discussed in the text. Tables and figures for the results based on the 1981 sample and the 1986 sample that parallel those presented in the text are included in Appendix A and Appendix B respectively. Tables and figures for the different groups are distinguished by the letter that follows the table or figure number. An 'a' indicates results based on the group including all cases, a 'b' indicates results based on the group including the 1981 sample, and a 'c' indicates results based on the group including the 1986 sample.

Table 2a presents overall model fit statistics and difference of chi-squares test for the group including all cases. Model 0 is an intercept only model. This model is used as a baseline to compare other, more substantively meaningful models. The predicted probabilities, for the different offense types, under Model 0 are presented in Table 3a. Other property offenses were the most common, followed by burglary, other miscellaneous, violent, alcohol, drug and robbery.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Specialization and Escalation Baseline Results

Table 2a shows that including a variable quantifying arrest number (Model 1) provides a significant improvement in our ability to predict offense type over the intercept only model (difference of $\chi^2 = 1735.96$, df = 54, $p<.001$). Model 1 estimates probabilities for offense type at each arrest. These probabilities are presented in Figure 1a. Figure 1a shows the probabilities for each offense type by arrest number for all seven offense type categories. Trends in probability of offense type across arrest transition were consistent across samples. In each case the probability of other miscellaneous, drug and violent offenses increased, the probability of other property, burglary and alcohol offenses decreased and the probability of robbery offenses fluctuated with a slight upward trend. Increases in other miscellaneous offenses tended to level out after the eighth arrest, while increases in drug offense were fairly stable. Increases in violent offenses were less pronounced than increases in other miscellaneous and drug offenses. Decreases in other property and burglary offenses were consistent across arrest number. Alcohol offenses also manifested a fairly consistent decrease. The probability of committing a robbery offense remained fairly consistent showing only a very slight upward trend.

The predicted probabilities that are presented in Figure 1a were used to calculate the probability of repeating the same offense. The probability of repeating a given offense type was obtained by multiplying the probability of committing a particular offense at the first arrest by the probability of committing an offense of the same type at the second arrest. These probabilities are presented in Table 4a. The probability under the first arrest transition represent the probability that an offense type committed at arrest

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

one will be repeated at arrest two. For instance, the value for violent offenses at the first arrest transition is the probability of committing a violent offense on the first and second arrest. Trends in the probability of repeating an offense type were consistent across samples. The probability of repeating an offense type tended to increase across arrest transitions for other miscellaneous, drug and violent offenses. Other miscellaneous offenses showed the greatest increase. The probability of repeating an offense type decreased for other property, burglary, and alcohol offenses. Other property offenses tended to show the greatest decrease. The probability of repeating a robbery offense was relatively stable.

Evidence of escalation appears in Table 5a. These tables display the probability of switching to a more serious crime type. Patterns of escalation are consistent across samples. At the first arrest transition the four offense pairs with the highest probability were switching from: an other property offense to a burglary offense, an alcohol offense to an other property offense, an alcohol offense to a burglary offense, and an other property offense to a violent offense. Increases in the probability of escalation across arrest transitions one through nine were greatest for switching from other miscellaneous offenses to violent offenses and switching from other miscellaneous offenses to other property offenses. Decreases across arrest transition were greatest for switching from alcohol to burglary offenses, alcohol offenses to other property offenses and other property to burglary offenses. At the ninth arrest transition the four offense pairs with the highest probability were switching from: an other miscellaneous offense to an other property offense, an other miscellaneous offense to a violent offense, an other

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

miscellaneous offense to a burglary offense and an other property offense to a violent offense.

Evidence of deescalation appears in Table 6a. This table displays the probability of switching to a less serious crime type. Patterns of deescalation were consistent across samples. At the first arrest transition the four offense pairs with the highest probability were switching from: burglary to other property, other property to alcohol, burglary to alcohol and violent to other property. Increases across arrest transitions one through nine in the probability of deescalation tended to be greatest for switching from violent to drug offenses and from violent to other miscellaneous offenses. Decreases across arrest transitions one through nine in the probability of deescalation tended to be greatest for switching from burglary to other property offenses and from other property to alcohol offenses. At the ninth arrest transition the four offense pairs with the highest probability tended to be: other property to other miscellaneous, burglary to other miscellaneous, violent to other miscellaneous and other property to drug.

To assess the relative impact of patterns of specialization, escalation and deescalation the probability of repeating an offense type was compared to that of switching to another offense. The probability of repeating a violent offense tended to be greater than the probability of switching to robbery or to a drug offense, and less than the probability of switching to a burglary or other property offense. The probability of repeating a violent offense was also less than the probability of switching to an other miscellaneous offense across offense transitions two through nine and less than the probability of switching to an alcohol offense at the first and second offense transitions.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

With one exception the probability of repeating a robbery offense was less than the probability of switching to a new offense across all offense transitions across all offense types. The exception to this pattern occurred at the second offense transition where the probability of switching to a violent offense was equal to the probability of repeating a robbery offense. In the case of burglary offenses, the probability of repeating a burglary offense was greater than the probability of switching to robbery, drug or alcohol offenses. The probability of repeating a burglary offense was also greater than the probability of switching to a violent offense across the first seven offense transitions, greater than the probability of switching to an other miscellaneous offense across the first four offense transitions, and less than the probability of switching to an other property offense. With regard to other property offenses the probability of repeating an other property offenses was greater than the probability of switching to any other offense category across all offense transitions with the exception of other miscellaneous offenses. The probability of repeating an other property offense was less than the probability of switching to an other miscellaneous offense at offense transitions five through nine. For drug offenses the probability of repeating a drug offense was greater than the probability of switching to a robbery offense at all offense transitions. The probability of repeating a drug offense was less than the probability of switching to an other property offense at all offense transitions and less than the probability of switching to a violent or burglary offense across the first eight offense transitions. At the ninth offense transition the probability of repeating a drug offense is greater than the probability of switching to a violent or burglary offense. This change is due to an increase in the probability of repeating a drug offense across offense transitions. The probability of repeating an alcohol offense was greater than the

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

probability of switching to a robbery offense and greater than the probability of switching to a violent offense across the first three offense transitions. The probability of repeating an alcohol offense was less than the probability of switching to a burglary or other property offense. The probability of repeating an other miscellaneous offense increased with offense transition number. The probability of repeating an other miscellaneous offense was greater than the probability of switching to a violent offense after the first offense transition, greater than the probability of switching to a burglary offense after the fifth offense transition and greater than the probability of switching to a other property offense after the sixth offense transition.

Correlates of Specialization and Escalation

For each sample a series of models were estimated to determine which individual characteristics would be included in the test of the influence of individual characteristics on offense type. Characteristics whose inclusion did not result in a significant improvement in fit were dropped. Characteristics whose inclusion did result in a significant improvement in model fit were included in the estimation of Model 2.

Results were slightly different across the groups. Recall that models were estimated with all cases grouped together and with the 81 sample and the 86 sample separately. Offender characteristics included in all three cases were school discipline, drug abuse, alcohol abuse, previous violence, age at first arrest, age at arrest, and gang membership. Variables also included in Model 2 for the all cases sample were family violence, family control and prior threats of aggression. The only additional variable included in Model 2 for the 81 sample was family violence. The only additional variable included in Model 2 for the 1986 sample was prior threats of violence. Variables

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

dropped from the analysis included neglect, abuse, sexual abuse, parental criminality, sibling criminality, parental alcohol abuse and school dropout.

Despite variation across samples in the variables included in Model 2 the subsequent effect of controlling for individual characteristics related to offense type was remarkably uniform across the samples. Therefore, consistent with the presentation of results discussed thus far only the results for models estimated with data for all cases are covered in the text. Tables and figures containing the results for models estimated with data from the 81 sample and from the 86 sample are included in the Appendices.

Table 2a shows that including the characteristics of offenders (Model 2) has a significant impact on the prediction of offense type across the first ten arrests (difference of $\chi^2 = 4517.42$, df = 66, $p<.001$). Results for Model 2 are presented in Figure 2a and Tables 7a through 9a. These results are analogous to those reported in Figure 1a and Tables 4a through 6a for Model 1, which did not include information on the background characteristics of offenders. Figure 2a, presents the probability of each offense type across ten arrests while controlling for the offender's background characteristics. The impact of background characteristics on the prediction of offense type is demonstrated by the difference between Figures 1a and 2a. When offender background characteristics are taken into consideration trends in probability across arrest virtually disappear. Additionally, the probability of an arrest for a burglary offense is greatly increased, while the probability of the occurrence of an arrest falling in any other offense category is substantially decreased. These results show that offender characteristics have an important impact on offense type probability.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 7a presents the probability of repeating a given offense type when offender characteristics are included in models estimating offense probability (Model 2). As can be expected based on the results presented in Figure 2a the probability of repeating a given offense type is close to zero for all offense categories at all offense transitions with the exception of burglary and other property offenses. When offender characteristics are considered the probability of repeating a burglary offense is above .57 at all arrest transitions. The inclusion of offender background characteristics in models estimating offense probability has caused the probability of repeating a given offense type to be concentrated in burglary and property offenses.

Tables 8a and 9a present the probabilities of escalation and deescalation based on Model 2. These probabilities are closely linked to the overall probability of a particular offense type (presented in Figure 2a). Figure 2a shows that when individual characteristics are considered the probability of a violent, robbery, drug, alcohol, or other miscellaneous offense are all very close to zero. This causes probabilities based on switching out of or into these crime types to also be extremely low. Therefore, nearly all of the probabilities presented in Tables 8a and 9a are close to zero. The only substantive evidence of crime-type switching occurs between offense pairs involving either property or burglary offenses. Evidence for switching is particularly pronounced in offense pairs involving both of these offense types: from burglary to other property and from other property to burglary. Similar to the effect of the inclusion of offender background characteristics on the probability of repeating a crime-type, the inclusion of offender background characteristics appears to have caused the probability of switching to and from offense types to be concentrated in other property and burglary offenses.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

The inclusion of offender background characteristics in models estimating the probability of an offense-type allows the estimation of the direct effect of offender characteristics on the probability of different offense types. The effect of age at arrest on crime type is displayed in Figure 3a. Figure 3a shows that as age at time of arrest increases, the property offense category is the only offense category with an increasing probability. This pattern is suggestive of both escalation and deescalation. Offenders are increasingly likely to commit an offense (other property) that is less serious than violent and robbery offenses and more serious than many drug, alcohol and other miscellaneous offenses.

Figure 4a displays the effect of race on the odds of being arrested for each type of offense relative to being arrested for a miscellaneous other offense. This figures shows that non-white offenders are more likely than white offenders to be arrest for violent, robbery, burglary, other property, drug and alcohol offenses. For violent, burglary, other property and alcohol offenses the effect of race on the odds of an offense type is modest. In the cases of robbery and drug offenses the effect is substantial. This supports evidence finding that race has a significant effect on the patterning of offending (e.g. Blumstein et al., 1988; Britt, 1996; Lattimore et al., 1994) and demonstrates such an effect may be concentrated in particular crime types.

Figure 5a presents the effect of substance abuse on the odds of type of offense. Results indicate that substance abuse has little effect on the odds of a violent, robbery, burglary or other property offense. On the other hand a history of drug abuse increases the odds of a drug offense by approximately 1.6 times. Figure 5a supports evidence for specialization. It shows that those who use drugs have an elevated probability of an

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

arrest for a drug related crime and, therefore, will tend to be arrested for drug related offenses more often than those who do not abuse drugs.

Figure 6a displays the effect of prior deviant behavior on odds of type of offense. School discipline does not have a substantial effect on the odds of the occurrence of any of the offense-types considered. On the other hand prior violence increases the odds of a robbery offense by approximately 1.5 and the odds of a violent offense by approximately 1.7. This is suggests that those who have committed violent acts in the past have an elevated probability of being arrested for a violent act and, therefore, an increased tendency to specialize in violence.

Finally, the effects of family control and gang association on the odds of type of offense are presented in Figure 7a. Family control appears to have a slight suppressive effect on the odds of any given offense type occurring. Variation in the magnitude of this effect across offense type is slight. Interestingly, gang association appears to have a slight depressive effect on violent and other property offenses and a negligible effect on burglary offenses. Gang association increases the odds of robbery, drug, and alcohol offenses. The most pronounced effect of gang association is on the likelihood of a drug offense, increasing the odds of this offense type by approximately 1.3.

Age, Race and Patterns of Specialization and Escalation

To explore in more detail the effects of age and race on offense type across each of the ten arrests included in this study, Model 3 included the interaction effect of age and arrest number and the interaction effect of race with each arrest number. Substantively, this model is identical to Model 2, except that it allows the effects of age and of race to vary by the arrest number, rather than constraining these effects to be fixed across arrests.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

The addition of interaction terms results in a statistically significant improvement in the overall fit of the model (difference of χ^2 =235.98, df = 108, p<.001).

Figures 8a through 14a display the race-specific probabilities of a violent offense, a robbery offense, an other property offense, a drug offense, an alcohol offense, and an other miscellaneous offense, respectively. Since the age of the offender at the time of arrest was also estimated as an interaction effect with arrest number, it is necessary to account for age at each of the ten arrests. To simplify the information presented in Figures 8a through 14a, the mean age at each arrest for the sample was used to calculate the probabilities of each offense type.

Taken as a group Figures 8a through 14a show that in some cases there are important differences in the race-specific probabilities for each offense type. Offense categories showing similar race-specific probabilities include violent offenses, other property offenses and other miscellaneous offenses. In the cases of burglary and drug offenses race specific probabilities are similar initially, but diverge as arrest number increases. This divergence is more distinct in the case of drug offenses than it is in the case of burglary offenses. In the case of burglary whites are increasingly more likely than non-whites to commit a burglary offense. With regard to drug offenses non-whites are increasingly more likely than whites to commit a drug offense. Differences in race-specific offense probabilities are greatest for robbery. Non-whites are increasingly more likely than whites to commit a robbery offense across the offense sequence considered. Race-specific offense probabilities for alcohol offenses converge across offense transitions. Whites are initially more likely than non-whites to be arrested for an alcohol offense. This difference is gone at the seventh arrest.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figures 15a and 16a display the probability of committing each of the seven offenses for white and non-white offenders, respectively. These figures are comparable to Figures 1a and 2a. Patterns are remarkably similar across racial group. For both whites and non-whites the probability of committing a burglary offense is extremely high (consistently above .6 for both groups). The probability of committing an other property offense is also elevated for both groups. The probability of committing all other offenses is extremely low. The results displayed in Figures 15a and 16a are similar to those presented in Figure 2a, demonstrating that when the effect of race and age are allowed to vary across arrest number the predicted offense probabilities still remain consistent across the arrest sequence considered.

Similar to analyses reported for Models 1 and 2, it is possible to use the predicted probability offense type estimated by Model 3 to calculate the probability of repeating a given offense and the probability of offense type switching. For Model 3 these probabilities are estimated while taking into account background characteristics and allowing age and race to vary with arrest number. The probability of repeating the same offense type across the nine arrest transitions based on Model 3 is presented in Table 10a. Probabilities are presented for whites and non-whites, results are nearly identical for both groups. The only probability greater than .01 is for repeating a burglary offense and for repeating an other property offense. The probability of repeating a burglary offense is above .4 for both groups across the majority of arrest transitions.

Table 11a shows that evidence of escalation across the nine arrest transitions varies by race. However, patterns are somewhat obscured by the overwhelming low probability of offense switching that occurs in the majority of cases. For both non-whites

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

and whites the most common switch is from an other property offense to a burglary offense. Beyond this the clearest trend for non-whites an increased tendency to switch from burglary to violent offenses and from burglary to robbery offenses. This pattern is similar to that observed for whites.

Evidence addressing deescalation appears in Table 12a. Again patterns are similar for both non-whites and whites. The most common switch is from the burglary offense category to the other property offense category. The next most common switch among non-whites is from the robbery offense category to the burglary offense category. This switch is also relatively common among white offenders. For both groups the probability of switching from the burglary offense category to the other miscellaneous offense category increases across the offense sequence. The probability of switching from the violent offense category to the burglary offense category also increases for both groups across the offense sequence.

In summary, these results demonstrate that offender background characteristic have an important influence on the prediction of offense type. When offender background characteristics are taken into consideration variation in the probability of offense type across offense transition is all but eliminated. Additionally, controlling for offender background characteristics had the effect of concentrating the probability of an offense occurring in two offenses: burglary offenses and other property offenses. As a product of this the likelihood of repeating an offense became very high for these two offense categories, while the probability of repeating any of the other offense categories was next to zero. The concentration of offense probability also had an effect on offense switching patterns. Because of this concentration the probability of patterns including a

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

burglary offense or other property offense were elevated relative to those that did not. Most importantly these results indicate that the background characteristics of the offender are useful predictors of offense type.

SUMMARY AND CONCLUSION

Traditional explorations of the patterning of offending over the criminal career have not considered the effect of individual characteristics on offense sequences. Typically these studies have explored offense patterns using offense transition matrices. While these models are advantageous in that they allow the explicit identification of offense sequences representing specialization they do not allow the estimation of the effect of individual characteristics on offense sequences. Recently, Britt (1999) offered a test of the patterning of offending that incorporated the estimation of the effect of individual correlates of crime on offense type. Britt (1999) used multinomial logit models to predict offense type and found that the inclusion of the individual correlates of offending had an important impact on both the probability of a given offense type occurring and on patterns of specialization and offense switching. In a replication and extension of Britt's work the current study found results supporting Britt's (1999) conclusions.

The current study and Britt (1999) both found that individual characteristics have an important impact on offense sequences. However, there are some important differences in the results of the respective studies. Each study compared a model estimating the probability of offense using only information about the offense number to a model that also included information on a number of individual correlates of crime. Britt (1999) found that the inclusion of the background characteristics of offenders lead

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

to a reduction in the overall pattern of specialization and escalation. In contrast, the current work found that the inclusion of background characteristics resulted in the concentration of evidence for specialization and offense switching. When the individual correlates of offending were included in models, the probability of a burglary offense and the probability of an other property offense were greatly elevated relative to the probability of any of the other offense types. As a consequence, the probability of repeating these offense types as well as escalating to them or deescalating from them was also elevated, while the probability of specializing in or switching from or to the other offense types was nearly zero.

Differences between the current study and that of Britt (1999) also emerged with regard to the impact of allowing the effect of age and race to vary across offense number. When Britt (1999) allowed the effects of age and race to vary across offense number predicted arrest probabilities for each of the offense types varied across the offense sequence. When this model was estimated with data used in the current study predicted arrest probabilities for each of the offense types were relatively consistent across the offense sequence. The differential effect of race in these two works parallels differences in the effect of race found in earlier tests of the patterning of offending. Some tests of specialization have found different offense patterns for different racial groups (Britt, 1996; Bursik, 1980; Lattimore et al., 1994), while others have found that offense patterns for racial groups do not differ (Blumstein et al., 1988; Tracy et al. 1990; Wolfgang et al., 1972).

This study has important implications both for criminological theory and for criminal justice policy. With regard to criminological theory the results presented here

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

find that the presence of particular offender characteristics can lead to dramatic increases in the odds of specific crime types. This suggests that specialization in particular offense types is the product of offender characteristics. If these offender characteristics represent act specific propensity then it may be necessary to relax the parsimony of theoretical approaches that emphasize generality in order to offer a theory that adequately explains variation in criminal and delinquent acts. It is cautioned that the results presented here are preliminary, alternative explanations that are consistent with general theories do exist. For instance, the offender characteristics incorporated in the study may vary systematically with opportunity, if this is the case then their relationship with particular offense patterns may be a product of systematic differences in opportunity rather than reflecting an act specific propensity. In any case it is important to realize that the main finding of studies is a predominance of generality with a small but significant degree of specialization. It remains to be seen if this small but significant degree of specialization is the product of act specific propensity or systematic difference in opportunity.

This study also has criminal justice system implications, however, much like the theoretical implications of the current work, criminal justice system implications must be interpreted with caution. Results presented here suggest that prior violence is associated with an increase in the odd of future violence (relative to an other miscellaneous offense). This indicates that sanctions focused on violent offenders may result in a reduction in offending that is most pronounced for violent crimes. The importance of this finding is balanced by results indicating that there tends to be a reduction in violence and an increase in violence as the criminal career progresses. A reduction in violent offending as the criminal career progresses indicates that sanctions targeted at violent offender will

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

have less and less of an act specific effect as the criminal career progresses. This complicated picture is typical of the results presented here. Countervailing trends and tentative results suggest that criminal justice system implications and in particular implications with regard to selective incapacitation are at best preliminary.

The strength of the current work is limited by a number of methodological considerations. One of these limitations is the reliance of tests of specialization on official data. While variation in arrest for particular offense types may be in large part driven by variation in participation in particular offense types, in all likelihood the offense patterns present in official data do not represent the actual patterns of offenders and results should be interpreted with caution. The empirical veracity of current work is also limited the limited number of variables that were included as predictors of offense type. The relationship between offense type patterns and offender characteristics may be influenced by variables not included in the analysis. Therefore, the relationships between these offender characteristics and offense type patterns must be regarded as tentative. These limitations demonstrate the need for replication and for the collection of data that span the life course of the offender and include variables representing constellations of characteristics that are demonstrably related to offending and offense type patterns.

It is important to not let differences between this work and the work of Britt (1999) obscure the significance of the fact that both find that the inclusion of the individual correlates of offending have a dramatic effect on patterns of specialization, escalation and deescalation. Prior tests of specialization rely on offense transition matrices. These tests consider the effect of a given offense type at arrest *t* on offense type at arrest *t+1*, but they do not include information on the characteristics of the individual.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

The current work and that of Britt (1999) both show that the characteristics of the individual have an important effect on offense patterns. This demonstrates that tests of specialization relying on offense transition matrices do not include information that is important in the prediction of offense type. The inability to include the correlates of crime in tests of specialization relying on offense transition matrices clearly demonstrates the need for the continued exploration of statistical techniques that will allow the estimation of the effect of the individual correlates of crime on the patterning of offending.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

REFERENCES

Agresti, A. (1984). Analysis of Ordinal Categorical Data. New York: John Wiley & Sons.

Agresti, A. (1990). Categorical Data Analysis. New York: John Wiley & Sons.

Akers, R. L., Krohn, M. D., Lanza-Kaduce, L. & Radosevich, M. (1979). Social Learning and Deviant Behavior: A Specific Test of a General Theory. American Sociological Review, 44, 636-655

Akers, R. L. (1992). Drugs, Alcohol, and Society: Social Structure, Process, and Policy. Belmont, CA: Wadsworth.

Battin, S. R., Hill, K. G., Abbott, R. D., Catalano, R. F. & Hawkins, J.D. (1998). The contribution of gang membership to delinquency beyond delinquent friends. Criminology, 36, 93-115.

Blumstein, A., Cohen J., Das, S., & Moitra, S. (1988). Specialization and seriousness during adult criminal careers. Journal of Quantitative Criminology, 27, 303-345.

Blumstein, A., Cohen, J., Roth, J., & Visher, C. (1986). Criminal Careers and "Career Criminals," Volume I. Report of the Panel on Research on Criminal Careers, National Research Council. Washington, DC: National Academy Press.

Brennan, P., Mednick, S., & Richard, J. (1989). Specialization in violence: Evidence of a criminal subgroup. Criminology, 27, 437-453.

Britt, C. L. (1996). The measurement of specialization and escalation in the criminal career: An alternative modeling strategy. Journal of Quantitative Criminology, 12, 193-222.

Britt, C. L. (1999). Correlates of Specialization and Escalation in the Criminal Career: Final Report. U.S. Department of Justice, Office of Justice Programs, National Institute of Justice.

Bursik, R. J. (1980). The dynamics of specialization in juvenile offenses. Social Forces, 58, 851-864.

Cohen, J. (1986). Research on criminal careers. In A. Blumstein, J. Cohen, J. Roth, & C. Visher (Eds.), Criminal Careers and "Career Criminals," Volume 1. (pp. 292-418). Washington, DC: National Academy Press.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Farrington, D. P., Snyder, H. N., & Finnegan, T. A. (1988). Specialization in juvenile court careers. Criminology, 26, 461-485.

Elliott, D. S., Huizinga, D. S., & Ageton, S. (1985). Explaining Delinquency and Drug Use. Beverly Hills: Sage.

Farrington, D. P. (1991). Childhood Aggression and Adult Violence: Early Precursors and Later-Life Outcomes. In D. J. Pepler, & K. H. Rubin (Eds.), The Development and Treatment of Childhood Aggression. (pp. 5-29). Hillsdale, NJ: Lawrence Erlbaum Associates.

Gottfredson, M. R., & Hirschi, T. (1990). A General Theory of Crime. Stanford, CA: Stanford University Press.

Kempf, K. L. (1987). Specialization and the criminal career. Criminology, 25, 399-419.

Haapanen, R., & Skonovd, R. (1999). Predicting Parole Performance in the Era of Crack Cocaine: California. ICPSR Codebook.

Hirschi, T. (1969). Causes of Delinquency. Berkeley, CA: University of California Press.

Lattimore, P. K., Visher, C., & Linster, R. (1994). Specialization in juvenile careers: Markov results for a California cohort. Journal of Quantitative Criminology, 10, 291 - 316.

Laub, J. H., Nagin, D. S., and Sampson, R. J. (1998). Trajectories of change in Criminal offending: Good marriages and the desistance process. American Sociological Review, 63, 225-238.

LeBlanc, M. & Frechette, M. (1989). Male Criminal Activity from Childhood Through Youth: Multilevel and Developmental Perspectives. New York: Springer-Verlag.

Loeber, R., & Stouthamer-Loeber, M. (1987). Prediction. In H. Quay (Ed.), Handbook of Juvenile Delinquency. New York: John Wiley and Sons.

Long, J. S. (1997). Regression Models for Categorical and Limited Dependent Variables. Thousand Oaks, CA: Sage.

Maguin, E., & Loeber, R. (1996). Academic performance and delinquency. In M. Tonry (Ed.), Crime and Justice: A Review of Research. Chicago: University of Chicago Press.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Nevares, D., Wolfgang, M. E., & Tracy, P. E. (1990). Delinquency in Puerto Rico: The 1970 Birth Cohort Study. New York: Greenwood Press.

Paternoster, R., Brame, R., Piquero, A., Mazzerole, P., & Dean, C. W. (1997). The forward specialization coefficient: Distributional properties and subgroup differences. Journal of Quantitative Criminology, 14, 133-154.

Piquero, A., Paternoster, R., Mazerolle, P., Brame, R., & Dean, C.W. (1999). Onset age and offense specialization. Journal of Research in Crime and Delinquency, 36, 275-299.

Reiss, A. J., and Roth, J. A. (1994). Understanding and Preventing Violence. Washington, D.C.: National Academy Press.

Rojeck, D. G., & Erickson, M. L. (1982). Delinquency careers: A test of the career escalation model. Criminology, 20, 5-28.

Sampson, R. J., & Laub, J. H. (1993). Crime in the Making: Pathways and Turning Points Through Life. Cambridge, MA: Harvard University Press.

Spergel, I. A. (1990). Youth gangs: Continuity and change. In M. Tonry & N. Morris (Eds.), Crime and Justice: A Review of Research. Chicago: University of Chicago Press.

Stander, J., Farrington, D. P., Hill, G., & Altham, P. M. E. (1989). Markov chain analysis and specialization in criminal careers. British Journal of Criminology, 29, 317-335.

Thornberry, T. P., Krohn, M. D., Lizotte, A. J., & Chard-Wierschem, D. (1993). The role of juvenile gangs in facilitating delinquent behavior. Journal of Research in Crime and Delinquency, 30, 55-87.

Thornberry, T. P., Lizotte, A. J., Krohn, M. D., Farnworth, M. & Jang, S. J. (1994). Delinquent peers, beliefs, and delinquent behavior: A longitudinal test of interactional theory. Criminology, 32, 47-83.

Tracy, P. E., Wolfgang, M. E., & Figlio, R.M. (1990). Delinquency in Two Birth Cohorts. New York: Plenum Press.

Widom, C. S. (1989a). Does violence beget violence? A critical examination of the literature. Psychological Bulletin, 106, 3-28.

Widom, C. S. (1989b). The cycle of violence. Science, 244, 160-166.

Wilson, J. Q. & Herrenstein, R. J. (1985). Crime and Human Nature. New York: Simon and Schuster.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Wolfgang, M. E., Figlio, R. M., & Sellin T. (1972). Delinquency in a Birth Cohort. Chicago, IL: University of Chicago Press.

Wolfgang, M. E., Thornberry, T. F., & Figlio, R. M. (1987). From Boy to Man: From Delinquency to Crime. Chicago, IL: University of Chicago Press.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 1. Characteristics of the Sample (N=2,759)

Sample Characteristic	Percentage
Gender	
Male	96.9
Female	3.1
Race	
White	30.2
Hispanic	29.6
African American	38.2
Other	2.0
Chemical or Drug Abuse	78.6
Gang Association	40.0
	Mean (S.D.)
Age at First Delinquent Contact	12.83 (2.5)
Age at First Commitment	15.88 (2.0)
Number of offenses	17.8 (6.8)

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 2a: Model Fit Statistics All Cases.

Model	-2 log likelihood	Number of Parameters	df
0. Intercept Only	100269.74	6	26871
1. Arrest Number	98533.78	60	26817
2. Offender Background Characteristics	94016.36	126	26751
3. Age and Race Interaction Effects	93780.38	234	26643

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 3a: Predicted Probabilities for Each Offense Type (All Cases Model 0).

Type of Offense	Mean Predicted Probability
Violent	.128
Robbery	.055
Burglary	.199
Other Property	.227
Drug	.099
Alcohol	.117
Other Miscellaneous	.176

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 4a: Predicted Probabilities of Repeating the Same Offense: Arrest Transitions 1 Through 9 (All Cases).

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	0.011	0.006	0.008	0.016	0.017	0.017	0.017	0.020	0.024	0.015
Robbery	0.002	0.003	0.003	0.003	0.003	0.003	0.004	0.004	0.003	0.003
Burglary	0.070	0.059	0.047	0.041	0.041	0.034	0.030	0.026	0.021	0.041
Other Property	0.086	0.080	0.067	0.052	0.045	0.043	0.039	0.034	0.032	0.053
Drug	0.003	0.005	0.006	0.007	0.008	0.011	0.014	0.018	0.022	0.010
Alcohol	0.025	0.024	0.021	0.016	0.013	0.010	0.009	0.006	0.006	0.015
Other Miscellaneous	0.005	0.012	0.021	0.031	0.039	0.044	0.050	0.056	0.059	0.035

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 5a: Predicted Probabilities of Escalation for Each Offense Type: Arrest Transitions 1 Through 9 (All Cases).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	0.004	0.003	0.008	0.007	0.007	0.007	0.008	0.009	0.009
Burglary to Violent	0.029	0.015	0.030	0.026	0.027	0.026	0.022	0.027	0.023
Burglary to Robbery	0.014	0.016	0.013	0.010	0.011	0.013	0.011	0.010	0.008
Other Property to Violent	0.032	0.017	0.036	0.031	0.029	0.027	0.027	0.028	0.029
Other Property to Robbery	0.016	0.018	0.015	0.012	0.012	0.013	0.013	0.011	0.010
Other Property to Burglary	0.077	0.066	0.057	0.048	0.044	0.035	0.036	0.028	0.025
Drug to Violent	0.005	0.004	0.010	0.010	0.012	0.012	0.015	0.019	0.022
Drug to Robbery	0.003	0.004	0.004	0.004	0.005	0.006	0.007	0.007	0.007
Drug to Burglary	0.013	0.015	0.016	0.016	0.017	0.016	0.020	0.019	0.019
Drug to Other Property	0.014	0.018	0.019	0.017	0.018	0.019	0.022	0.023	0.025
Alcohol to Violent	0.018	0.009	0.020	0.017	0.017	0.014	0.013	0.013	0.011
Alcohol to Robbery	0.009	0.009	0.009	0.007	0.007	0.007	0.006	0.005	0.004
Alcohol to Burglary	0.043	0.035	0.032	0.027	0.025	0.018	0.017	0.013	0.010
Alcohol to Other Property	0.048	0.042	0.038	0.029	0.026	0.022	0.019	0.016	0.013
Other Miscellaneous to Violent	0.006	0.006	0.016	0.021	0.025	0.027	0.028	0.035	0.038
Other Miscellaneous to Robbery	0.003	0.006	0.007	0.008	0.010	0.013	0.014	0.014	0.013
Other Miscellaneous to Burglary	0.014	0.022	0.026	0.033	0.038	0.035	0.038	0.034	0.033
Other Miscellaneous to Other Property	0.016	0.026	0.031	0.036	0.039	0.042	0.041	0.042	0.043

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 6a: Predicted Probabilities of Deescalation for Each Offense Type: Arrest Transitions 1 Through 9 (All Cases).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	0.005	0.007	0.003	0.007	0.007	0.008	0.008	0.008	0.008
Violent to Burglary	0.026	0.024	0.012	0.026	0.026	0.023	0.023	0.020	0.021
Violent to Other Property	0.029	0.030	0.014	0.028	0.027	0.027	0.024	0.024	0.027
Violent to Drug	0.007	0.008	0.005	0.011	0.012	0.015	0.016	0.018	0.024
Violent to Alcohol	0.015	0.017	0.008	0.016	0.013	0.013	0.011	0.010	0.011
Violent to Other Miscellaneous	0.009	0.013	0.010	0.024	0.026	0.029	0.030	0.032	0.036
Robbery to Burglary	0.011	0.012	0.013	0.011	0.010	0.009	0.011	0.009	0.008
Robbery to Other Property	0.012	0.015	0.015	0.012	0.011	0.011	0.012	0.011	0.010
Robbery to Drug	0.003	0.004	0.005	0.005	0.005	0.006	0.008	0.009	0.009
Robbery to Alcohol	0.006	0.008	0.008	0.007	0.005	0.005	0.006	0.005	0.004
Robbery to Other Miscellaneous	0.004	0.007	0.010	0.010	0.011	0.012	0.014	0.015	0.014
Burglary to Other Property	0.078	0.071	0.056	0.044	0.042	0.041	0.032	0.032	0.027
Burglary to Drug	0.018	0.020	0.018	0.018	0.019	0.023	0.021	0.025	0.024
Burglary to Alcohol	0.041	0.040	0.031	0.025	0.021	0.020	0.015	0.013	0.011
Burglary to Other Miscellaneous	0.026	0.033	0.038	0.038	0.042	0.043	0.039	0.043	0.036
Other Property to Drug	0.019	0.022	0.022	0.021	0.020	0.024	0.026	0.026	0.029
Other Property to Alcohol	0.045	0.045	0.037	0.030	0.023	0.021	0.018	0.014	0.014
Other Property to Other Miscellaneous	0.028	0.036	0.046	0.045	0.045	0.045	0.047	0.046	0.044

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 7a: Predicted Probabilities of Repeating the Same Offense for Model 2: Arrest Transitions 1 Through 9 (All Cases).

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	1.2E-06	1.3E-06	1.7E-06	1.8E-06	1.7E-06	1.7E-06	1.6E-06	1.8E-06	2.1E-06	1.7E-06
Robbery	1.4E-06	2.0E-06	2.2E-06	1.9E-06	1.7E-06	2.2E-06	2.5E-06	2.3E-06	2.0E-06	2.0E-06
Burglary	0.592	0.583	0.577	0.595	0.618	0.609	0.609	0.616	0.598	0.600
Other Property	0.037	0.038	0.037	0.033	0.028	0.030	0.029	0.028	0.031	0.032
Drug	6.6E-09	8.6E-09	9.8E-09	9.6E-09	8.9E-09	1.0E-08	1.1E-08	1.1E-08	1.2E-08	9.7E-09
Alcohol	0.001	0.001	0.002	0.002	0.001	0.001	0.002	0.001	0.002	0.001
Other Miscellaneous	2.4E-06	5.8E-06	1.2E-05	1.9E-05	2.3E-05	2.9E-05	3.4E-05	4.0E-05	4.7E-05	2.4E-05

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 8a: Predicted Probabilities of Escalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (All Cases).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	1.1E-06	1.5E-06	2.2E-06	1.9E-06	1.7E-06	1.8E-06	2.0E-06	2.2E-06	2.2E-06
Burglary to Violent	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Burglary to Robbery	9.8E-04	1.2E-03	1.1E-03	1.0E-03	1.0E-03	1.3E-03	1.2E-03	1.2E-03	1.0E-03
Other Property to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Property to Robbery	2.5E-04	2.9E-04	2.9E-04	2.5E-04	2.3E-04	2.7E-04	2.7E-04	2.4E-04	2.3E-04
Other Property to Burglary	0.151	0.144	0.151	0.148	0.136	0.126	0.144	0.126	0.134
Drug to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Drug to Robbery	9.6E-08	1.3E-07	1.4E-07	1.3E-07	1.3E-07	1.5E-07	1.7E-07	1.5E-07	1.5E-07
Drug to Burglary	5.8E-05	6.6E-05	7.5E-05	7.7E-05	7.7E-05	7.0E-05	8.8E-05	7.9E-05	8.3E-05
Drug to Other Property	1.4E-05	1.7E-05	1.9E-05	1.7E-05	1.6E-05	1.7E-05	1.8E-05	1.8E-05	1.9E-05
Alcohol to Violent	3.6E-05	4.1E-05	5.7E-05	5.3E-05	5.2E-05	4.8E-05	4.9E-05	5.5E-05	5.4E-05
Alcohol to Robbery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alcohol to Burglary	0.026	0.026	0.031	0.031	0.032	0.028	0.032	0.029	0.029
Alcohol to Other Property	0.006	0.007	0.008	0.007	0.007	0.007	0.007	0.007	0.007
Other Miscellaneous to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Miscellaneous to Robbery	1.5E-06	3.1E-06	4.2E-06	5.4E-06	6.2E-06	8.2E-06	8.7E-06	8.9E-06	9.2E-06
Other Miscellaneous to Burglary	0.001	0.002	0.002	0.003	0.004	0.004	0.005	0.005	0.005
Other Miscellaneous to Other Property	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 9a: Predicted Probabilities of Deescalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (All Cases).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	1.4E-06	1.6E-06	1.8E-06	1.8E-06	1.7E-06	2.1E-06	2.0E-06	1.8E-06	2.0E-06
Violent to Burglary	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Violent to Other Property	2.0E-04	2.1E-04	2.3E-04	2.4E-04	2.2E-04	2.3E-04	2.1E-04	2.1E-04	2.6E-04
Violent to Drug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Violent to Alcohol	3.6E-05	4.3E-05	4.9E-05	5.7E-05	4.7E-05	5.3E-05	4.9E-05	4.5E-05	6.4E-05
Violent to Other Miscellaneous	2.2E-06	3.1E-06	5.0E-06	6.5E-06	6.6E-06	7.5E-06	7.8E-06	8.3E-06	1.0E-05
Robbery to Burglary	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Robbery to Other Property	2.0E-04	2.5E-04	2.9E-04	2.5E-04	2.1E-04	2.4E-04	2.6E-04	2.6E-04	2.7E-04
Robbery to Drug	9.3E-08	1.3E-07	1.5E-07	1.4E-07	1.2E-07	1.5E-07	1.7E-07	1.6E-07	1.7E-07
Robbery to Alcohol	3.6E-05	5.2E-05	6.2E-05	5.9E-05	4.7E-05	5.4E-05	6.1E-05	5.6E-05	6.6E-05
Robbery to Other Miscellaneous	2.2E-06	3.7E-06	6.4E-06	6.8E-06	6.6E-06	7.7E-06	9.7E-06	1.0E-05	1.0E-05
Burglary to Other Property	0.146	0.152	0.143	0.131	0.128	0.144	0.124	0.139	0.138
Burglary to Drug	6.7E-05	7.6E-05	7.5E-05	7.4E-05	7.1E-05	8.8E-05	7.8E-05	8.6E-05	8.5E-05
Burglary to Alcohol	0.026	0.031	0.031	0.031	0.028	0.032	0.029	0.029	0.034
Burglary to Other Miscellaneous	0.002	0.002	0.003	0.004	0.004	0.005	0.005	0.005	0.005
Other Property to Drug	1.7E-05	1.9E-05	2.0E-05	1.8E-05	1.6E-05	1.8E-05	1.8E-05	1.8E-05	1.9E-05
Other Property to Alcohol	0.007	0.008	0.008	0.008	0.006	0.007	0.007	0.006	0.008
Other Property to Other Miscellaneous	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 10a: Predicted Probabilities of Repeating the Same Offense for Whites and Non Whites: Arrest Transitions 1 Through 9 (All Cases).

Panel A: Whites

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	6.3E-05	7.3E-05	1.1E-04	1.6E-04	1.4E-04	1.5E-04	2.0E-04	3.0E-04	6.0E-04	2.0E-04
Robbery	7.1E-05	5.2E-05	5.7E-05	8.9E-05	8.7E-05	1.6E-04	2.2E-04	2.4E-04	2.5E-04	1.4E-04
Burglary	0.468	0.461	0.450	0.450	0.474	0.457	0.452	0.436	0.388	0.448
Other Property	0.078	0.079	0.080	0.077	0.068	0.071	0.072	0.074	0.089	0.076
Drug	1.1E-05	1.7E-05	2.3E-05	2.0E-05	1.3E-05	2.1E-05	3.1E-05	4.6E-05	1.0E-04	3.2E-05
Alcohol	1.4E-04	1.5E-04	1.3E-04	1.1E-04	9.3E-05	8.1E-05	6.1E-05	4.8E-05	4.8E-05	9.6E-05
Other Miscellaneous	1.9E-05	4.8E-05	1.2E-04	2.1E-04	2.7E-04	3.0E-04	3.0E-04	3.8E-04	4.7E-04	2.3E-04

Panel B: Non-whites

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	6.9E-05	1.0E-04	1.6E-04	2.1E-04	2.5E-04	2.9E-04	3.2E-04	4.1E-04	5.1E-04	2.6E-04
Robbery	2.7E-04	5.0E-04	6.5E-04	6.4E-04	7.2E-04	1.0E-03	1.4E-03	1.4E-03	1.4E-03	8.9E-04
Burglary	0.467	0.439	0.420	0.431	0.438	0.408	0.388	0.385	0.362	0.415
Other Property	0.076	0.081	0.084	0.076	0.071	0.077	0.080	0.077	0.084	0.079
Drug	1.4E-05	2.9E-05	4.8E-05	6.6E-05	8.5E-05	1.3E-04	2.3E-04	3.2E-04	4.3E-04	1.5E-04
Alcohol	7.5E-05	8.0E-05	9.5E-05	9.3E-05	7.1E-05	6.3E-05	7.1E-05	5.2E-05	5.0E-05	7.2E-05
Other Miscellaneous	9.0E-06	2.4E-05	5.1E-05	8.9E-05	1.2E-04	1.7E-04	2.6E-04	3.3E-04	4.2E-04	1.6E-04

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 11a: Predicted Probabilities of Escalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (All Cases).

Panel A: Whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	5.2E-05	1.0E-04	5.7E-05	1.5E-04	7.9E-05	1.6E-04	2.0E-04	3.2E-04	4.5E-04
Burglary to Violent	0.005	0.006	0.008	0.009	0.007	0.010	0.009	0.015	0.018
Burglary to Robbery	0.007	0.003	0.008	0.005	0.008	0.010	0.010	0.011	0.010
Other Property to Violent	0.002	0.003	0.003	0.004	0.003	0.004	0.004	0.006	0.008
Other Property to Robbery	0.003	0.001	0.003	0.002	0.003	0.004	0.004	0.004	0.005
Other Property to Burglary	0.185	0.195	0.182	0.199	0.183	0.169	0.191	0.163	0.176
Drug to Violent	2.1E-05	3.9E-05	4.7E-05	7.4E-05	3.7E-05	5.4E-05	7.8E-05	1.2E-04	2.3E-04
Drug to Robbery	2.8E-05	2.1E-05	4.7E-05	4.2E-05	4.0E-05	5.4E-05	8.4E-05	8.9E-05	1.3E-04
Drug to Burglary	0.002	0.003	0.003	0.004	0.003	0.002	0.004	0.003	0.005
Drug to Other Property	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.003
Alcohol to Violent	9.2E-05	1.1E-04	1.4E-04	1.4E-04	1.0E-04	1.3E-04	1.2E-04	1.5E-04	1.9E-04
Alcohol to Robbery	1.3E-04	6.0E-05	1.4E-04	8.2E-05	1.1E-04	1.4E-04	1.3E-04	1.1E-04	1.1E-04
Alcohol to Burglary	0.008	0.008	0.008	0.007	0.007	0.006	0.006	0.004	0.004
Alcohol to Other Property	0.003	0.003	0.004	0.003	0.003	0.003	0.002	0.002	0.002
Other Miscellaneous to Violent	2.6E-05	5.4E-05	9.8E-05	1.8E-04	1.6E-04	2.6E-04	2.3E-04	3.8E-04	6.1E-04
Other Miscellaneous to Robbery	3.5E-05	2.8E-05	9.8E-05	1.0E-04	1.7E-04	2.6E-04	2.5E-04	2.8E-04	3.4E-04
Other Miscellaneous to Burglary	0.002	0.004	0.006	0.009	0.011	0.012	0.012	0.011	0.013
Other Miscellaneous to Other Property	0.001	0.002	0.002	0.004	0.004	0.005	0.004	0.005	0.007

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Panel B: Non-whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	1.3E-04	2.1E-04	3.8E-04	3.6E-04	4.4E-04	4.8E-04	6.8E-04	8.2E-04	8.9E-04
Burglary to Violent	0.006	0.008	0.009	0.010	0.011	0.012	0.011	0.014	0.014
Burglary to Robbery	0.013	0.018	0.016	0.017	0.018	0.024	0.023	0.024	0.023
Other Property to Violent	0.003	0.003	0.004	0.004	0.005	0.005	0.005	0.006	0.007
Other Property to Robbery	0.005	0.007	0.007	0.007	0.008	0.010	0.011	0.010	0.011
Other Property to Burglary	0.190	0.176	0.194	0.186	0.180	0.161	0.186	0.165	0.170
Drug to Violent	3.0E-05	4.9E-05	9.4E-05	1.1E-04	1.5E-04	1.6E-04	2.5E-04	3.7E-04	4.4E-04
Drug to Robbery	6.2E-05	1.2E-04	1.6E-04	1.9E-04	2.5E-04	3.5E-04	5.1E-04	6.4E-04	7.1E-04
Drug to Burglary	0.002	0.003	0.004	0.005	0.006	0.006	0.009	0.010	0.011
Drug to Other Property	0.001	0.001	0.002	0.002	0.002	0.003	0.004	0.005	0.006
Alcohol to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alcohol to Robbery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alcohol to Burglary	0.006	0.005	0.006	0.006	0.006	0.005	0.005	0.005	0.004
Alcohol to Other Property	0.002	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002
Other Miscellaneous to Violent	2.1E-05	4.5E-05	8.6E-05	1.2E-04	1.8E-04	2.0E-04	2.8E-04	3.7E-04	4.5E-04
Other Miscellaneous to Robbery	4.3E-05	1.1E-04	1.5E-04	2.2E-04	2.9E-04	4.2E-04	5.7E-04	6.5E-04	7.2E-04
Other Miscellaneous to Burglary	0.002	0.003	0.004	0.006	0.007	0.007	0.010	0.010	0.011
Other Miscellaneous to Other Property	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.005	0.006

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 12a: Predicted Probabilities of Deescalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (All Cases).

Panel A: Whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	8.5E-05	3.8E-05	1.1E-04	8.9E-05	1.5E-04	1.5E-04	2.1E-04	2.2E-04	3.4E-04
Violent to Burglary	0.006	0.005	0.006	0.008	0.009	0.007	0.010	0.009	0.013
Violent to Other Property	0.002	0.002	0.003	0.003	0.003	0.003	0.004	0.004	0.007
Violent to Drug	3.4E-05	3.2E-05	5.2E-05	4.1E-05	5.0E-05	5.8E-05	8.0E-05	1.1E-04	2.7E-04
Violent to Alcohol	9.8E-05	9.5E-05	1.0E-04	1.2E-04	1.2E-04	9.0E-05	1.0E-04	9.6E-05	1.5E-04
Violent to Other Miscellaneous	4.6E-05	6.6E-05	1.3E-04	1.8E-04	2.4E-04	1.7E-04	2.5E-04	3.0E-04	4.6E-04
Robbery to Burglary	0.005	0.007	0.003	0.008	0.005	0.007	0.010	0.009	0.010
Robbery to Other Property	0.002	0.003	0.001	0.003	0.002	0.003	0.004	0.004	0.005
Robbery to Drug	2.8E-05	4.3E-05	2.7E-05	4.1E-05	2.8E-05	6.4E-05	8.1E-05	1.2E-04	2.0E-04
Robbery to Alcohol	8.2E-05	1.3E-04	5.3E-05	1.2E-04	7.1E-05	9.9E-05	1.0E-04	1.0E-04	1.1E-04
Robbery to Other Miscellaneous	3.8E-05	9.0E-05	6.7E-05	1.8E-04	1.4E-04	1.9E-04	2.6E-04	3.2E-04	3.5E-04
Burglary to Other Property	0.198	0.187	0.198	0.174	0.175	0.193	0.170	0.198	0.195
Burglary to Drug	0.003	0.003	0.004	0.002	0.003	0.004	0.004	0.006	0.008
Burglary to Alcohol	0.008	0.008	0.007	0.007	0.006	0.006	0.005	0.005	0.004
Burglary to Other Miscellaneous	0.004	0.006	0.009	0.010	0.012	0.012	0.011	0.015	0.014
Other Property to Drug	0.001	0.001	0.002	0.001	0.001	0.001	0.002	0.002	0.004
Other Property to Alcohol	0.003	0.004	0.003	0.003	0.002	0.002	0.002	0.002	0.002
Other Property to Other Miscellaneous	0.002	0.002	0.004	0.004	0.005	0.004	0.005	0.006	0.006

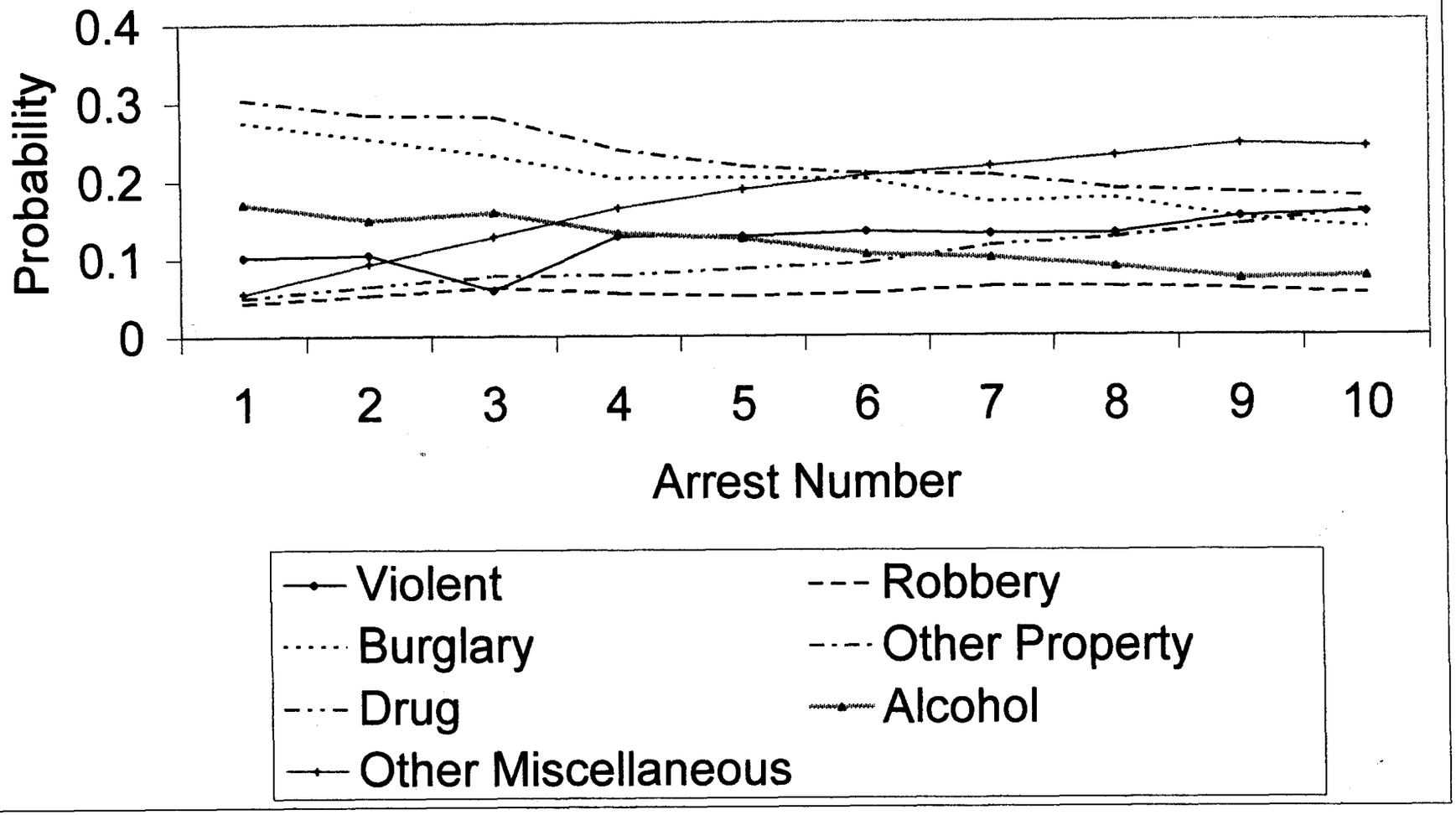
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Panel B: Non-whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	1.4E-04	2.5E-04	2.8E-04	3.7E-04	4.0E-04	6.2E-04	6.5E-04	7.2E-04	8.2E-04
Violent to Burglary	0.005	0.006	0.007	0.010	0.010	0.010	0.011	0.011	0.013
Violent to Other Property	0.002	0.003	0.003	0.004	0.004	0.005	0.005	0.005	0.006
Violent to Drug	3.3E-05	6.0E-05	8.2E-05	1.3E-04	1.4E-04	2.3E-04	2.9E-04	3.6E-04	4.9E-04
Violent to Alcohol	6.1E-05	9.1E-05	1.1E-04	1.4E-04	1.1E-04	1.4E-04	1.5E-04	1.1E-04	1.8E-04
Violent to Other Miscellaneous	3.0E-05	5.5E-05	9.5E-05	1.5E-04	1.6E-04	2.6E-04	2.9E-04	3.6E-04	4.7E-04
Robbery to Burglary	0.010	0.012	0.017	0.016	0.017	0.017	0.023	0.023	0.023
Robbery to Other Property	0.004	0.006	0.007	0.007	0.007	0.008	0.010	0.011	0.011
Robbery to Drug	6.3E-05	1.2E-04	1.9E-04	2.2E-04	2.5E-04	3.8E-04	6.1E-04	7.1E-04	8.7E-04
Robbery to Alcohol	1.2E-04	1.9E-04	2.6E-04	2.4E-04	1.9E-04	2.3E-04	3.1E-04	2.3E-04	3.1E-04
Robbery to Other Miscellaneous	5.7E-05	1.1E-04	2.2E-04	2.6E-04	2.9E-04	4.2E-04	6.2E-04	7.2E-04	8.3E-04
Burglary to Other Property	0.187	0.203	0.181	0.177	0.173	0.196	0.166	0.181	0.178
Burglary to Drug	0.003	0.004	0.005	0.006	0.006	0.009	0.010	0.012	0.014
Burglary to Alcohol	0.006	0.007	0.006	0.006	0.005	0.006	0.005	0.004	0.005
Burglary to Other Miscellaneous	0.003	0.004	0.005	0.007	0.007	0.010	0.010	0.012	0.013
Other Property to Drug	0.001	0.002	0.002	0.003	0.003	0.004	0.005	0.005	0.006
Other Property to Alcohol	0.002	0.003	0.003	0.003	0.002	0.002	0.002	0.002	0.002
Other Property to Other Miscellaneous	0.001	0.002	0.003	0.003	0.003	0.004	0.005	0.005	0.006

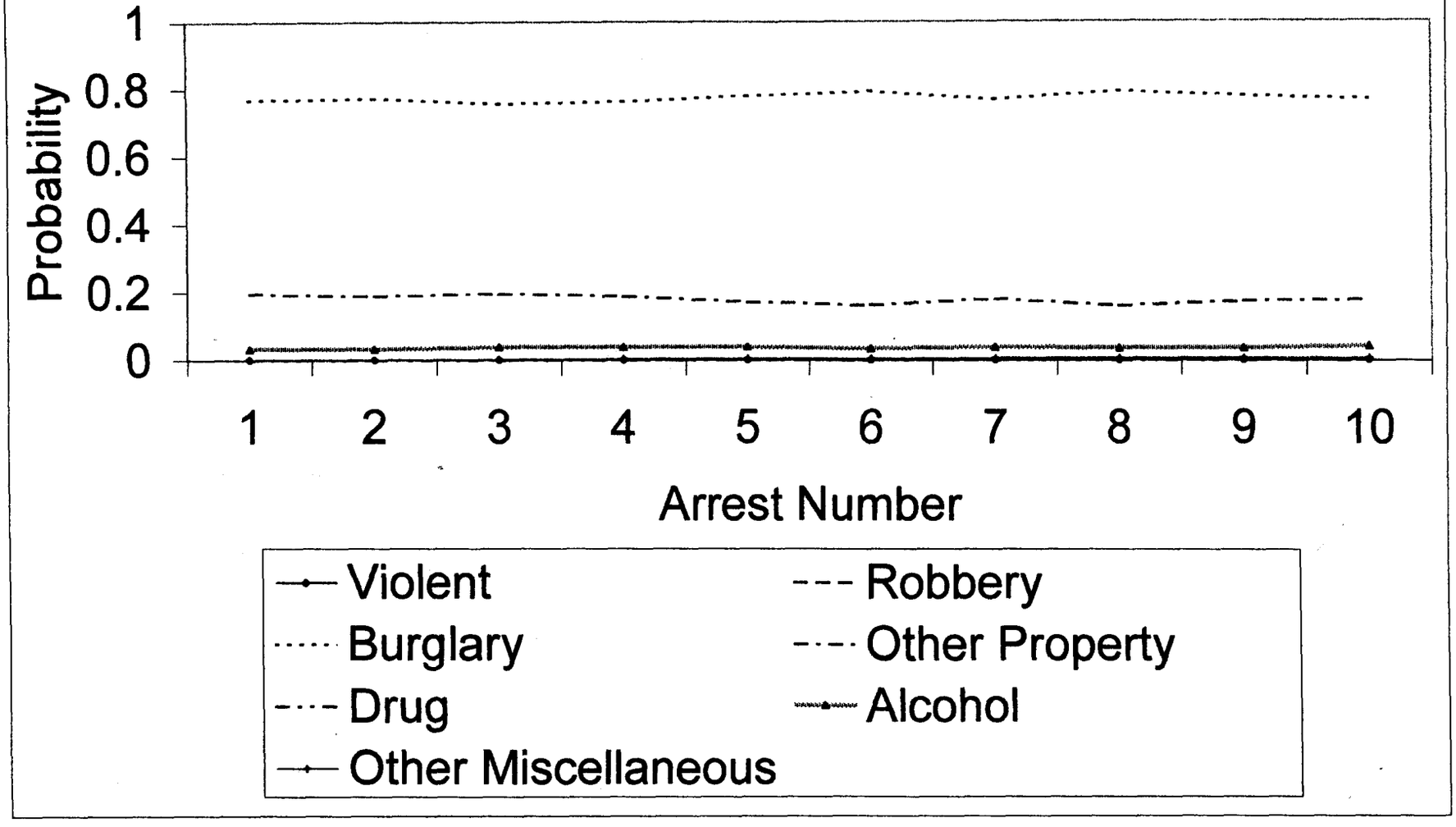
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 1a: Predicted Probability for Type of Offense Model 1 (All Cases)



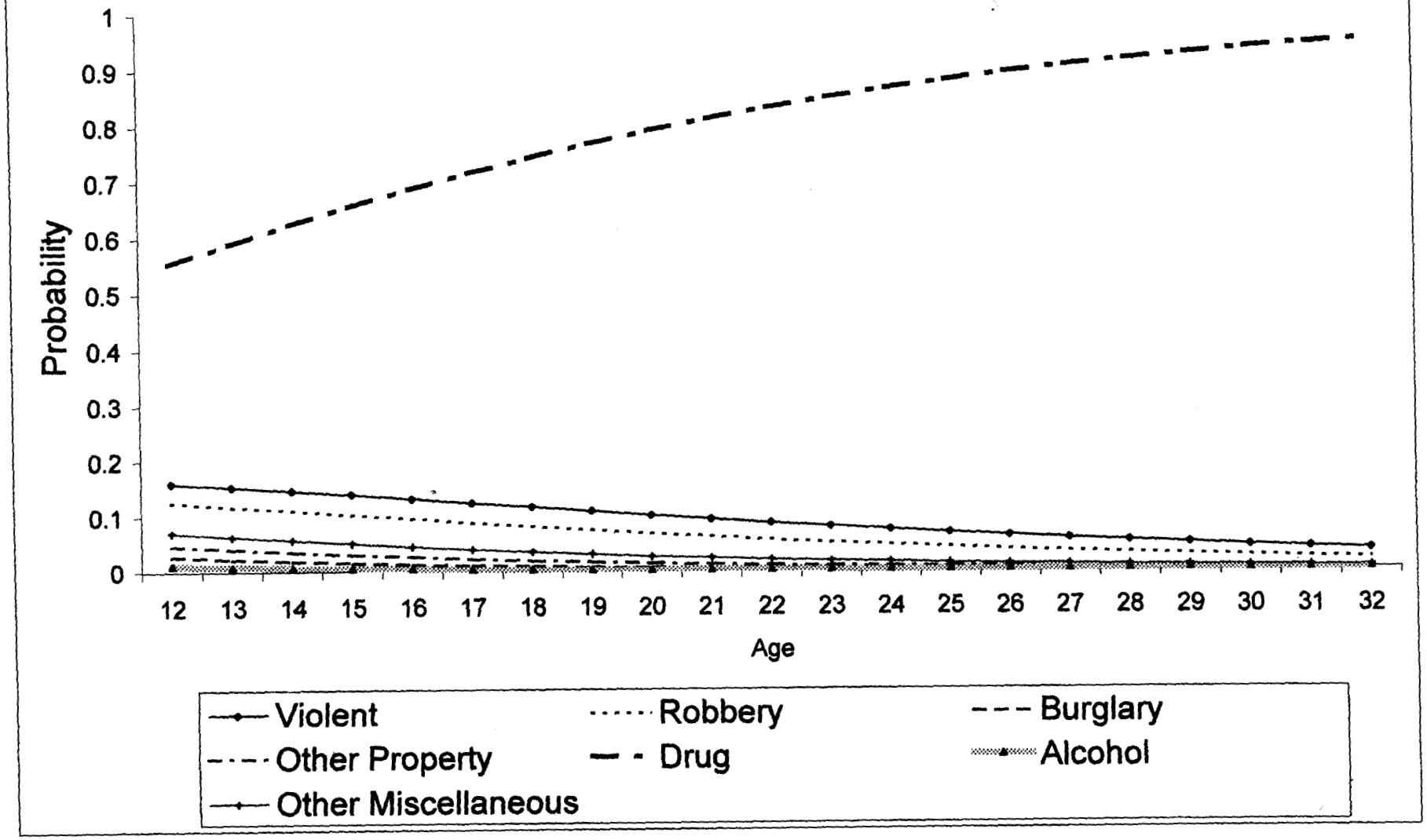
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 2a: Predicted Probability for Type of Offense Model 2 (All Cases)

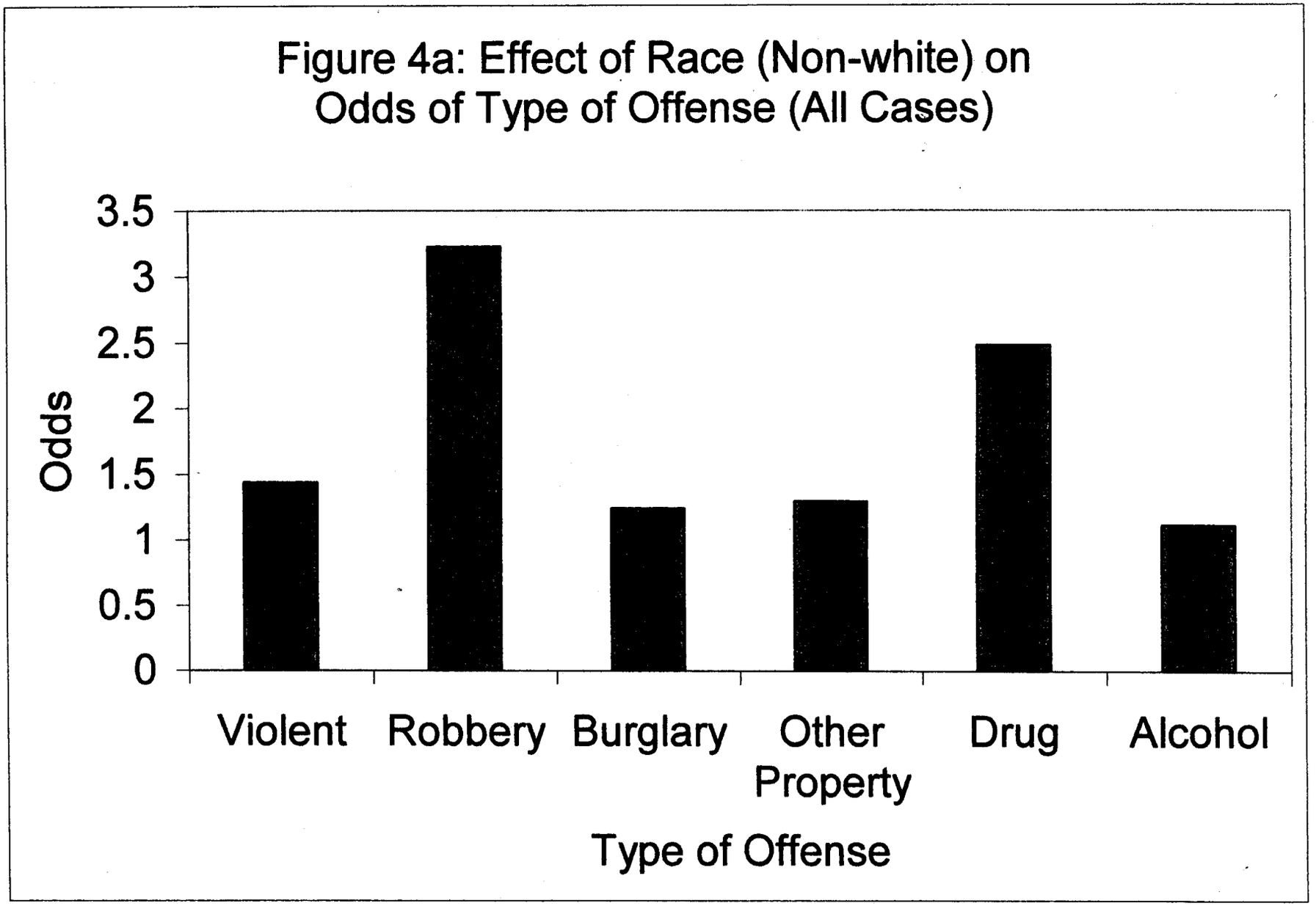


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 3a: Probability of Offense by Age (All Cases)

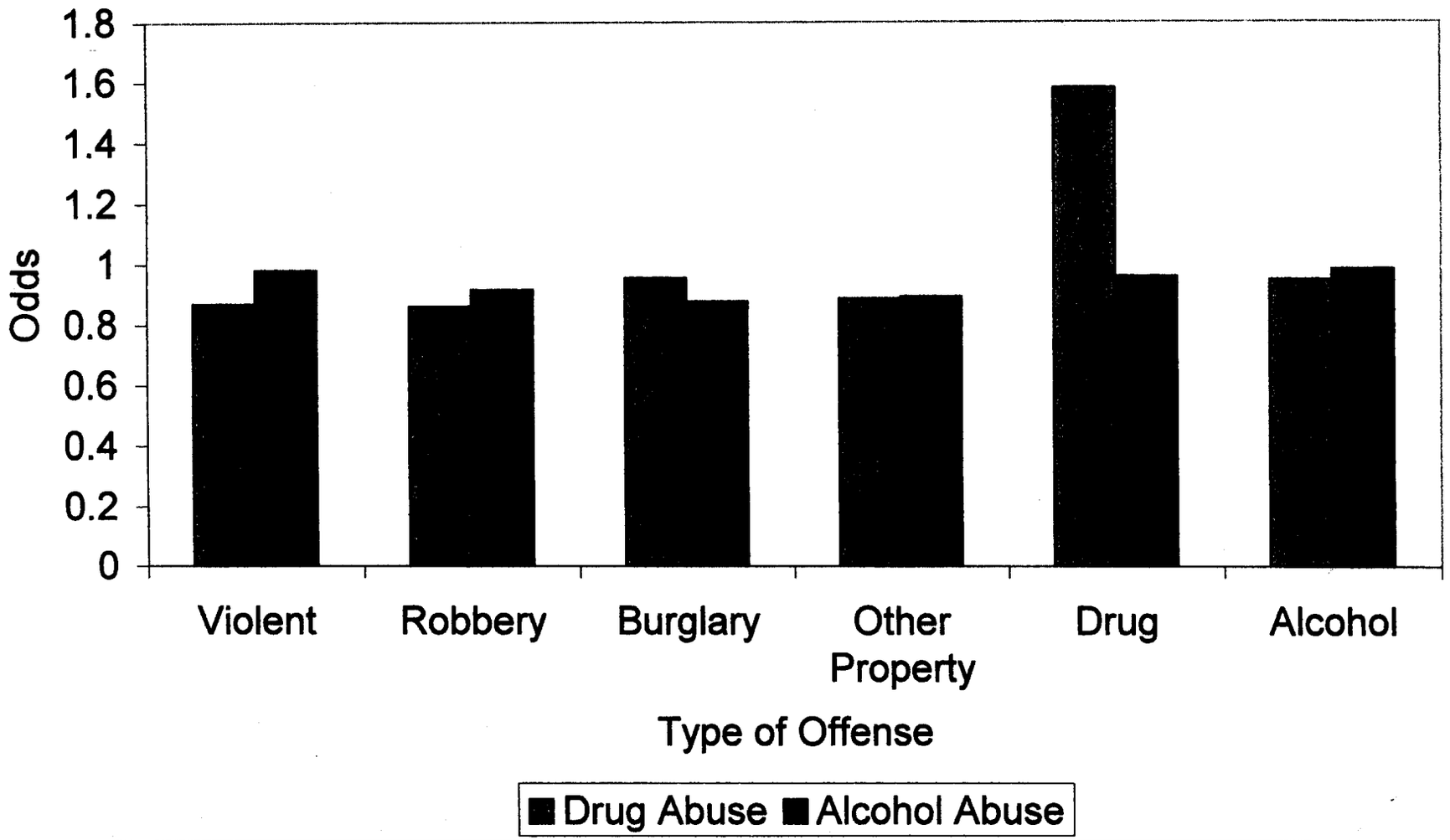


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



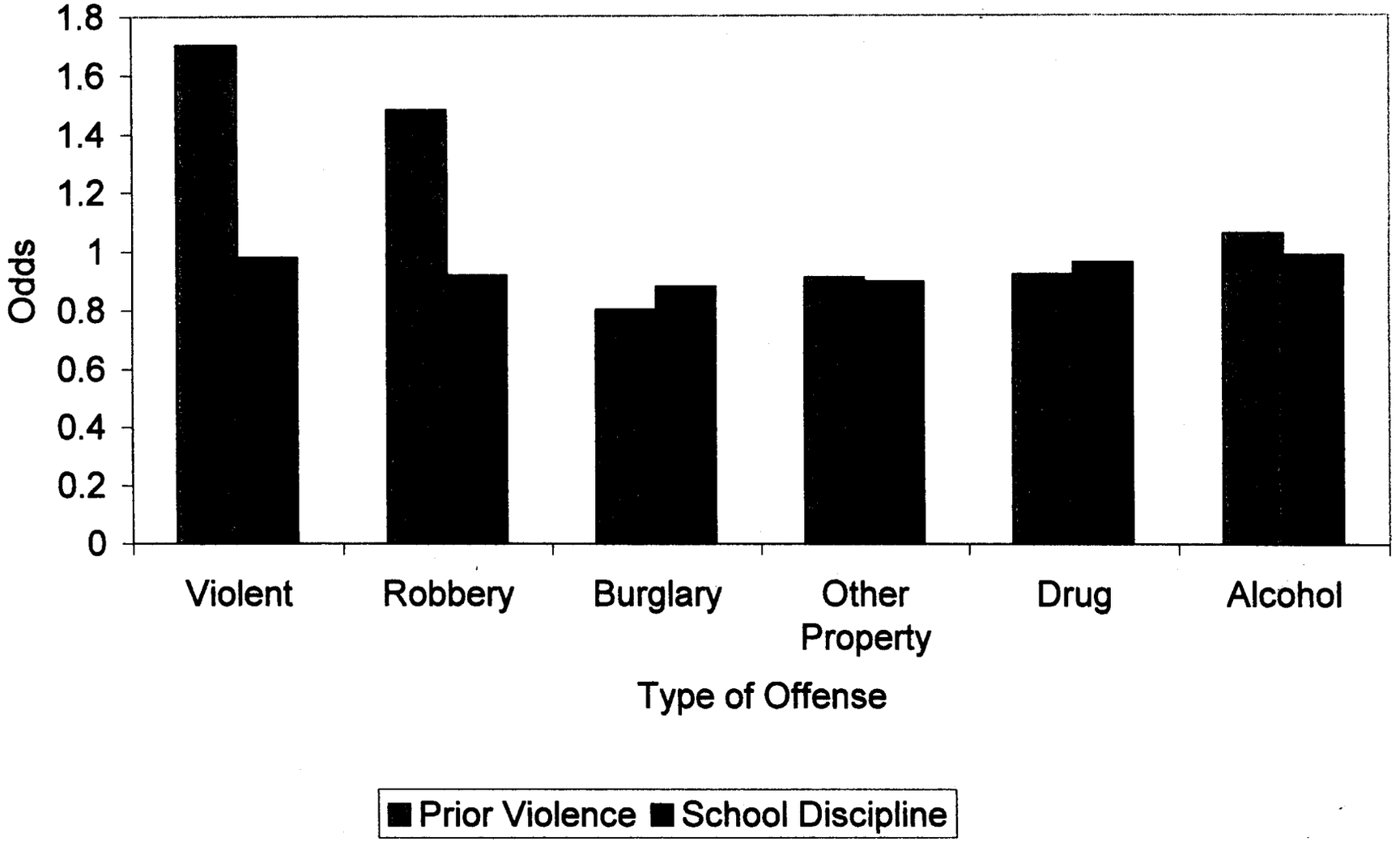
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 5a: Effects of Substance Abuse on Odds of Type of Offense (All Cases)



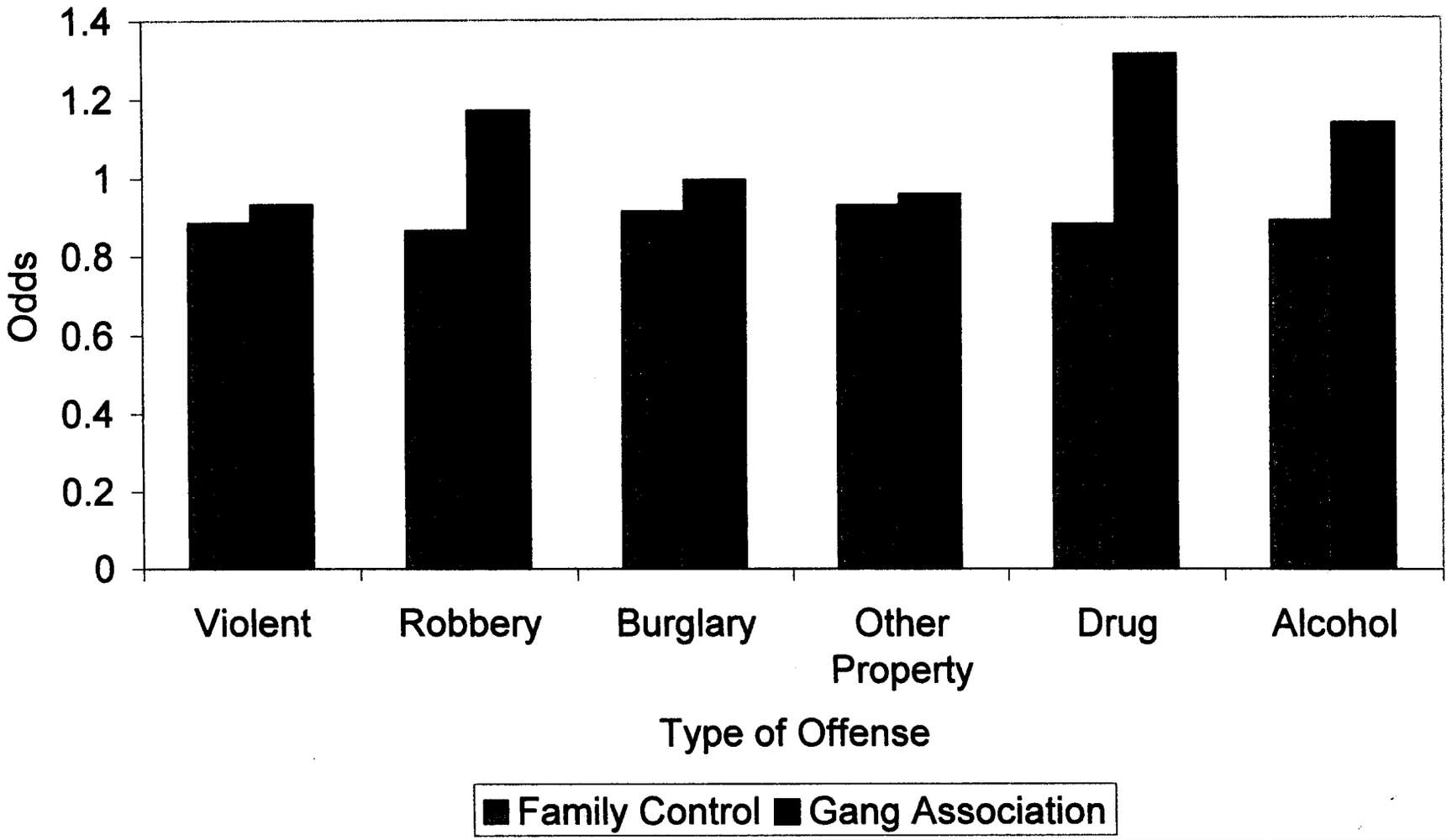
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 6a: Effects of Prior Deviant Behavior on Odds of Type of Offense
(All Cases)

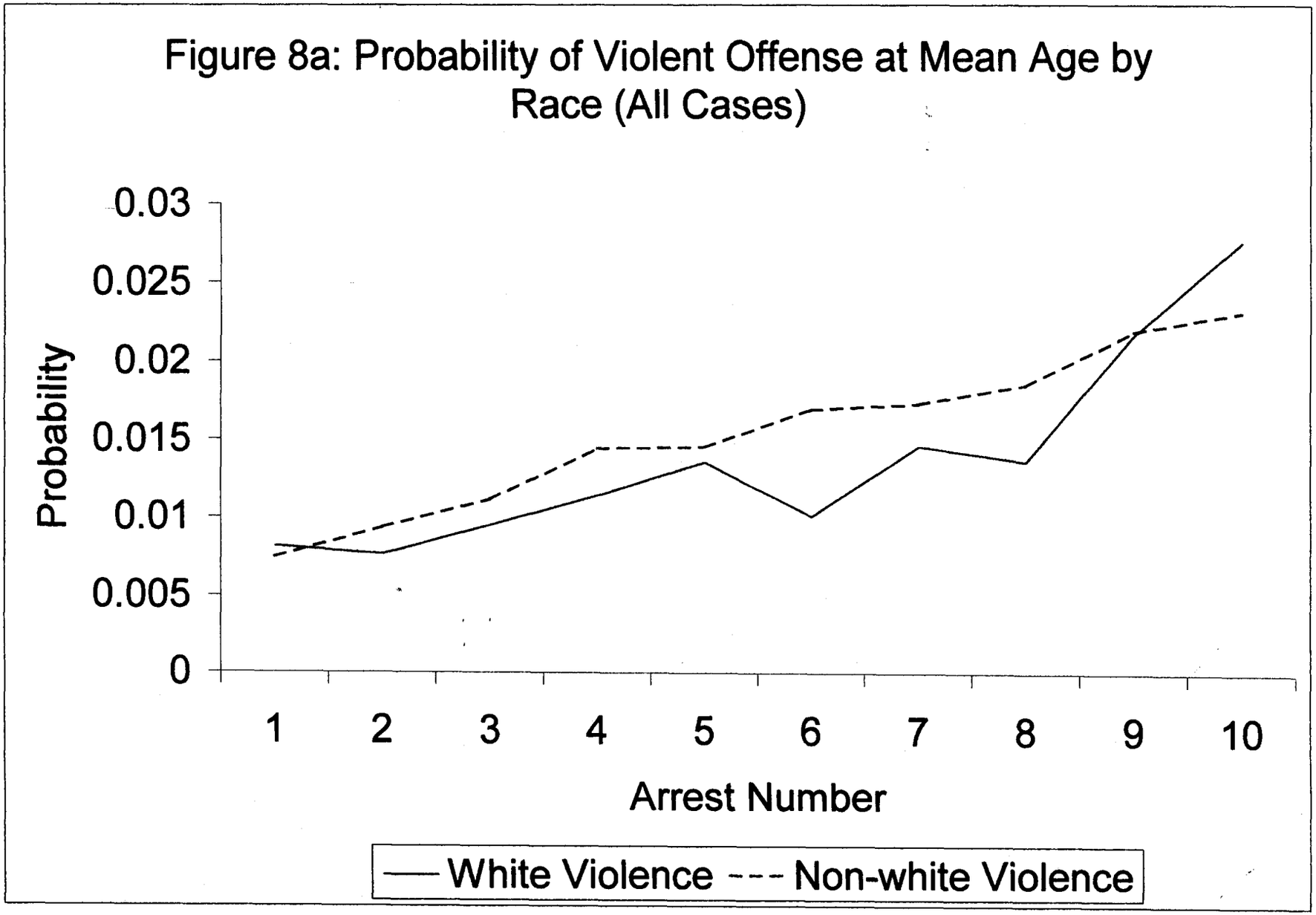


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 7a: Effects of Family Control and Gang Association on Odds of Type of Offense (All Cases)

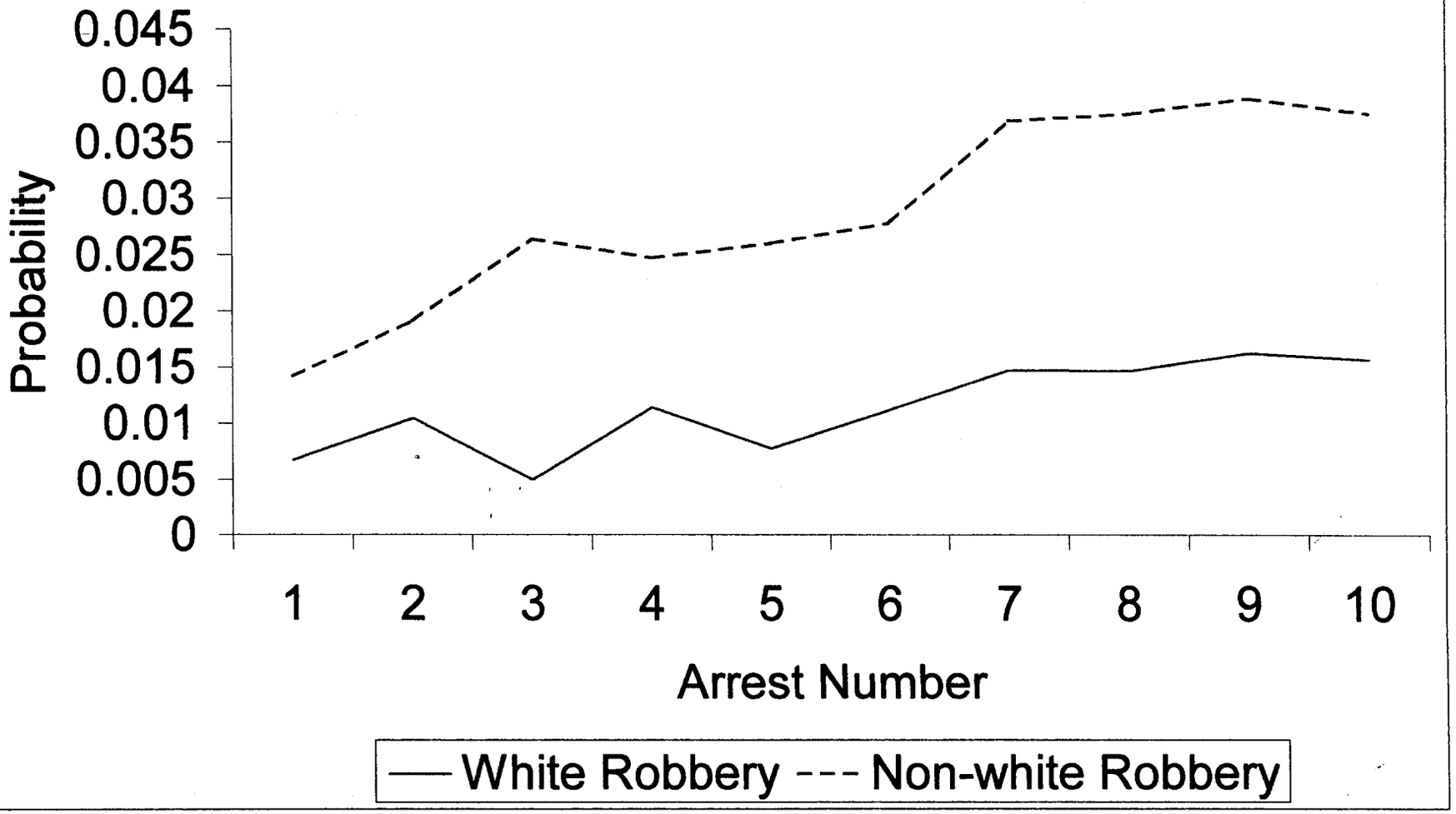


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



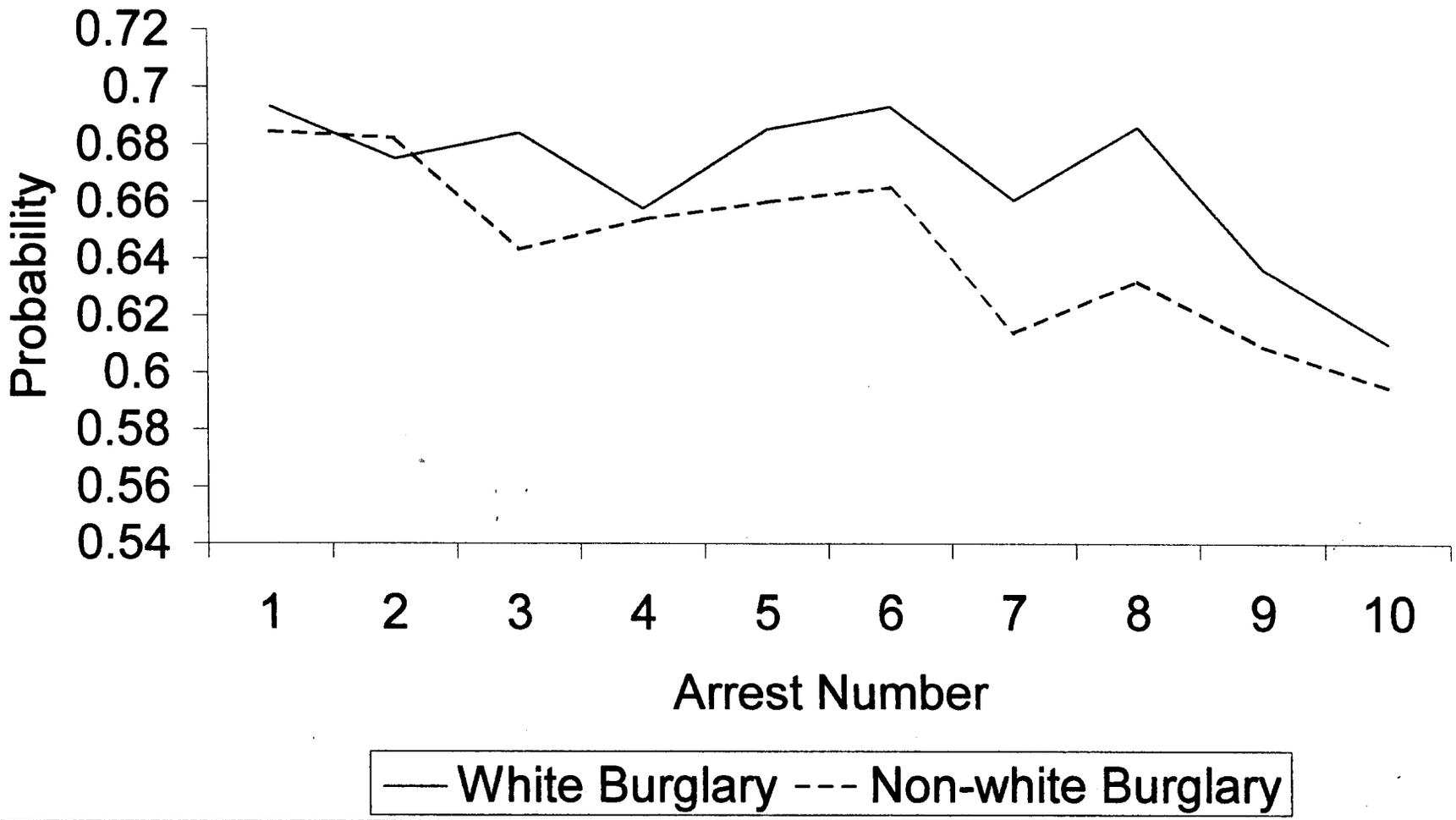
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 9a: Probability of Robbery Offense at Mean Age by Race (All Cases)



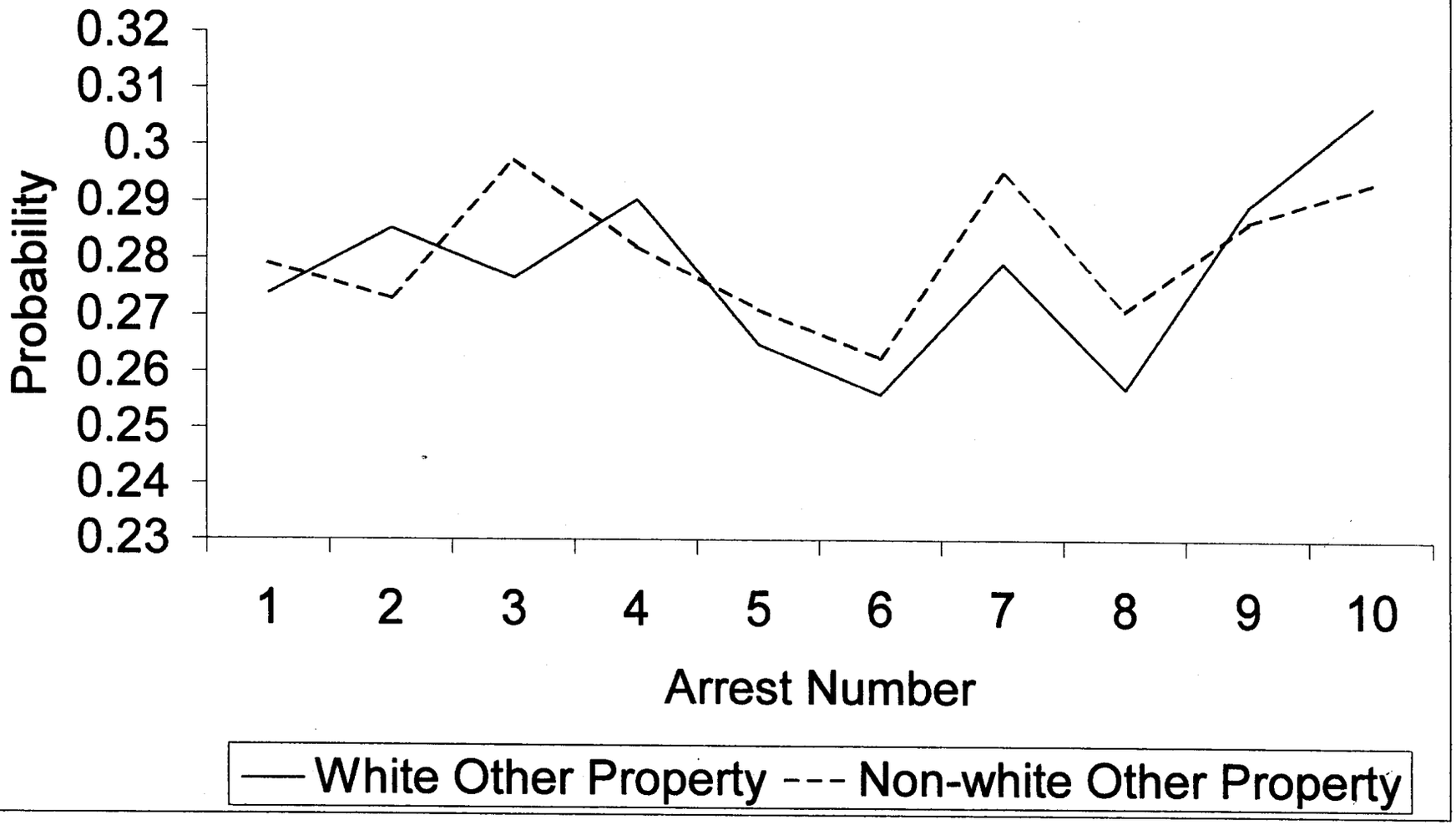
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 10a: Probability of Burglary Offense at Mean Age by Race (All Cases)



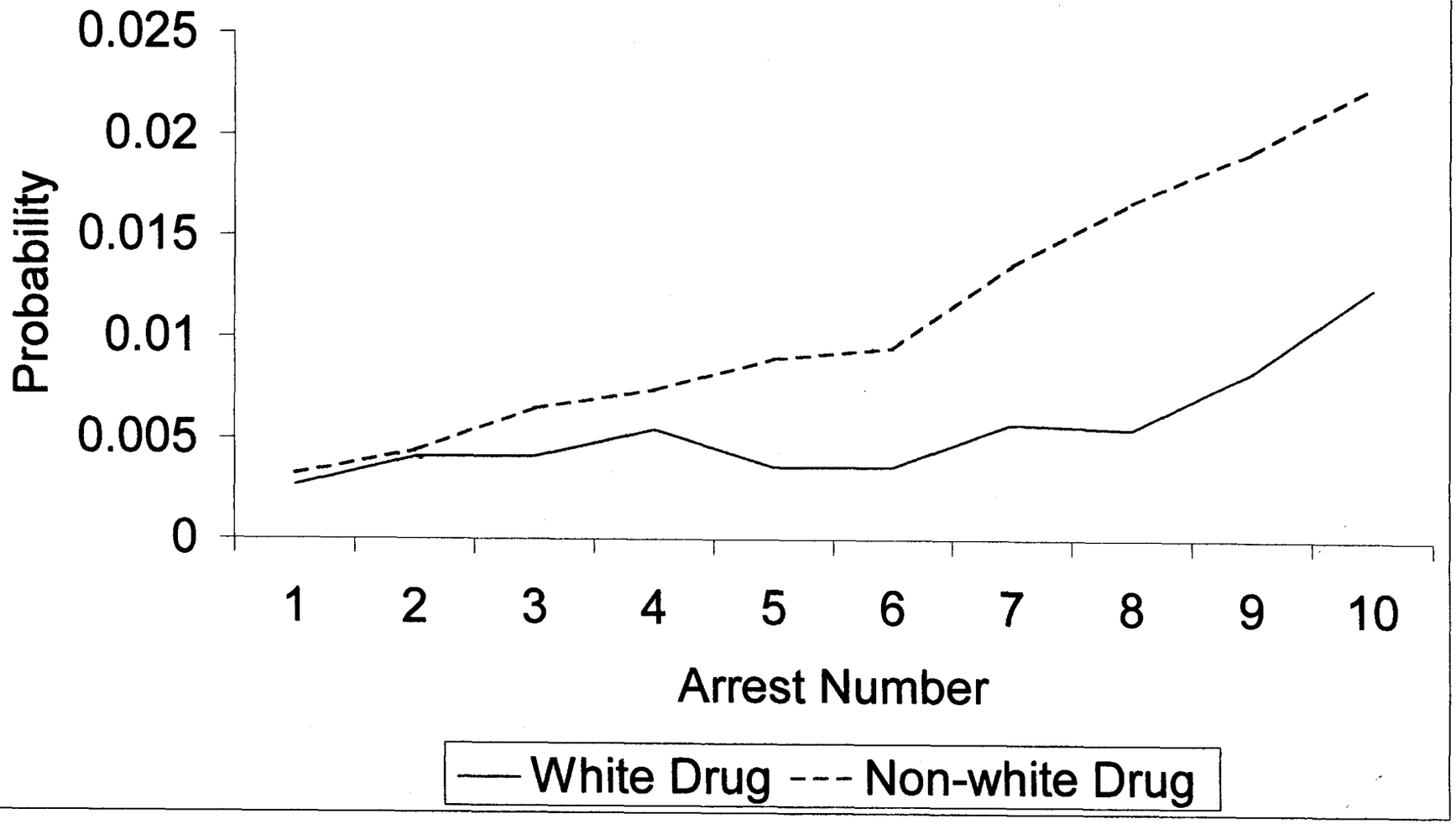
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 11a: Probability of Other Property Offense at Mean Age by Race (All Cases)



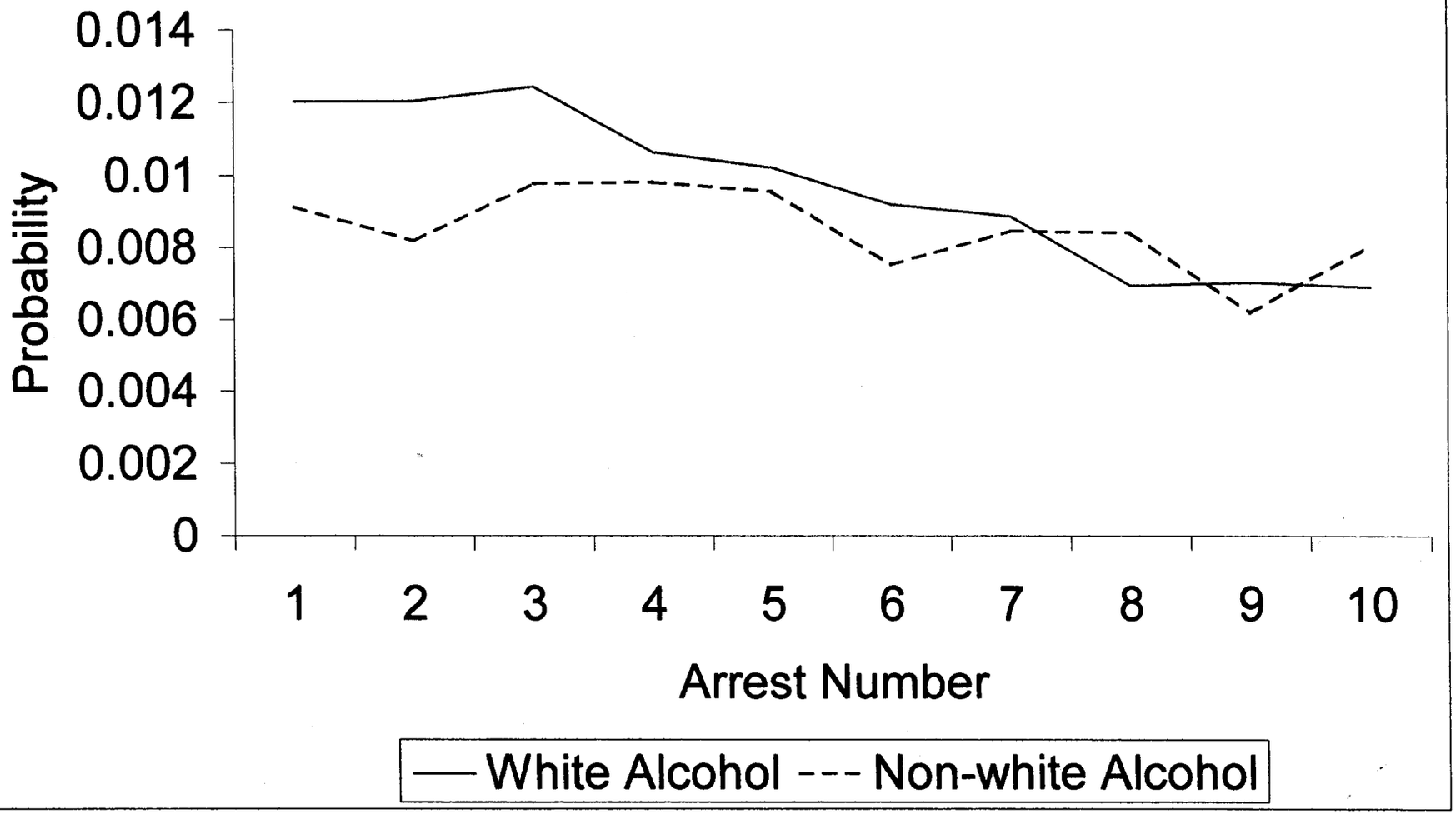
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 12a: Probability of Drug Offense at Mean Age by Race (All Cases)



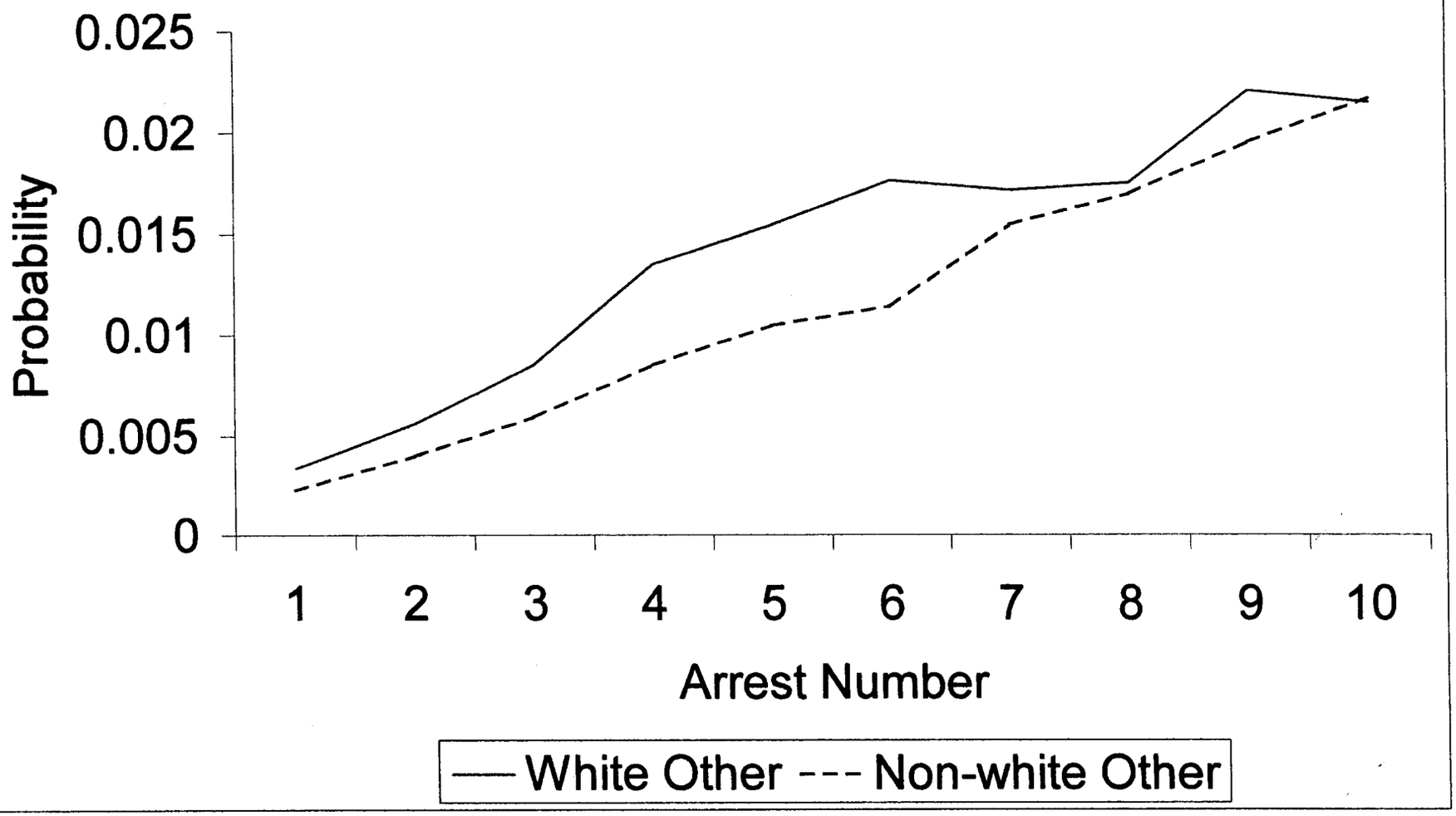
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 13a: Probability of Alcohol Offense at Mean Age by Race (All Cases)



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 14a: Probability of Other Miscellaneous Offense at Mean Age by Race (All Cases)



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

APPENDIX A

Table 2b: Model Fit Statistics 1981 Sample.

Table 3b: Predicted Probabilities for Each Offense Type (1981 Sample Model 0).

Table 4b: Predicted Probabilities of Repeating the Same Offense: Arrest Transitions 1 Through 9 (1981 Sample).

Table 5b: Predicted Probabilities of Escalation for Each Offense Type: Arrest Transitions 1 Through 9 (1981 Sample).

Table 6b: Predicted Probabilities of Deescalation for Each Offense Type: Arrest Transitions 1 Through 9 (1981 Sample).

Table 7b: Predicted Probabilities of Repeating the Same Offense for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Table 8b: Predicted Probabilities of Escalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Table 9b: Predicted Probabilities of Deescalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Table 10b: Predicted Probabilities of Repeating the Same Offense for Whites and Non Whites: Arrest Transitions 1 Through 9 (1981 Sample).

Table 11b: Predicted Probabilities of Escalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Table 12b: Predicted Probabilities of Deescalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (1981 Sample).

Figure 1b: Predicted Probability of Type of Offense Model 1 (1981 Sample)

Figure 2b: Predicted Probability for Type of Offense Model 2 (1981 Sample)

Figure 3b: Probability of Offense by Age (1981 Sample)

Figure 4b: Effect of Race (Non-white) on Odds of Type of Offense (1981 Sample)

Figure 5b: Effects of Substance Abuse of Odds of Type of Offense (1981 Sample)

Figure 6b: Effects of Prior Deviant Behavior on Odds of Type of offense (1981 Sample)

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 2b: Model Fit Statistics 1981 Sample.

Model	-2 log likelihood	Number of Parameters	df
0. Intercept Only	56053.2	6	15085
1. Arrest Number	55238.18	60	15031
2. Offender Background Characteristics	52746.8	120	14971
3. Age and Race Interaction Effects	52564.38	228	14863

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 3b: Predicted Probabilities for Each Offense Type (1981 Sample Model 0).

Type of Offense	Mean Predicted Probability
Violent	.131
Robbery	.061
Burglary	.216
Other Property	.239
Drug	.094
Alcohol	.105
Other Miscellaneous	.153

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 4b: Predicted Probabilities of Repeating the Same Offense: Arrest Transitions 1 Through 9 (1981 Sample).

	Arrest Transition									
Type of Offense	1	2	3	4	5	6	7	8	9	Mean
Violent	0.010	0.010	0.014	0.019	0.019	0.018	0.018	0.022	0.026	0.017
Robbery	0.003	0.004	0.004	0.004	0.004	0.004	0.005	0.004	0.003	0.004
Burglary	0.080	0.064	0.050	0.047	0.047	0.040	0.037	0.034	0.027	0.047
Other Property	0.088	0.081	0.070	0.057	0.051	0.048	0.046	0.042	0.037	0.058
Drug	0.003	0.004	0.005	0.006	0.007	0.010	0.014	0.016	0.021	0.010
Alcohol	0.020	0.017	0.016	0.012	0.010	0.009	0.007	0.005	0.005	0.011
Other Miscellaneous	0.005	0.011	0.016	0.024	0.030	0.035	0.034	0.039	0.041	0.026

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 5b: Predicted Probabilities of Escalation for Each Offense Type: Arrest Transitions 1 Through 9 (1981 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	0.005	0.006	0.009	0.009	0.008	0.008	0.010	0.010	0.010
Burglary to Violent	0.030	0.028	0.031	0.031	0.030	0.028	0.026	0.031	0.029
Burglary to Robbery	0.016	0.019	0.015	0.013	0.013	0.016	0.012	0.012	0.010
Other Property to Violent	0.031	0.030	0.037	0.036	0.031	0.030	0.029	0.034	0.032
Other Property to Robbery	0.017	0.020	0.018	0.015	0.014	0.016	0.014	0.013	0.011
Other Property to Burglary	0.084	0.068	0.060	0.054	0.049	0.042	0.042	0.038	0.030
Drug to Violent	0.005	0.006	0.009	0.011	0.011	0.011	0.016	0.019	0.022
Drug to Robbery	0.002	0.004	0.004	0.005	0.005	0.006	0.008	0.007	0.008
Drug to Burglary	0.012	0.013	0.015	0.016	0.018	0.015	0.023	0.021	0.021
Drug to Other Property	0.013	0.016	0.017	0.017	0.019	0.017	0.026	0.023	0.026
Alcohol to Violent	0.015	0.013	0.017	0.017	0.014	0.013	0.013	0.013	0.011
Alcohol to Robbery	0.008	0.009	0.008	0.007	0.006	0.007	0.006	0.005	0.004
Alcohol to Burglary	0.041	0.031	0.028	0.026	0.022	0.018	0.018	0.014	0.011
Alcohol to Other Property	0.044	0.037	0.033	0.028	0.023	0.021	0.020	0.015	0.013
Other Miscellaneous to Violent	0.006	0.010	0.015	0.021	0.022	0.025	0.025	0.029	0.036
Other Miscellaneous to Robbery	0.003	0.007	0.007	0.009	0.009	0.014	0.012	0.011	0.012
Other Miscellaneous to Burglary	0.015	0.022	0.024	0.032	0.034	0.036	0.036	0.032	0.033
Other Miscellaneous to Other Property	0.016	0.027	0.028	0.034	0.036	0.040	0.040	0.035	0.041

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 6b: Predicted Probabilities of Deescalation for Each Offense Type: Arrest Transitions 1 Through 9 (1981 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	0.005	0.007	0.006	0.008	0.008	0.010	0.009	0.008	0.009
Violent to Burglary	0.027	0.024	0.022	0.029	0.031	0.026	0.026	0.024	0.025
Violent to Other Property	0.029	0.029	0.026	0.030	0.032	0.029	0.029	0.026	0.030
Violent to Drug	0.005	0.007	0.008	0.011	0.012	0.016	0.016	0.018	0.025
Violent to Alcohol	0.013	0.013	0.012	0.014	0.014	0.012	0.011	0.009	0.012
Violent to Other Miscellaneous	0.009	0.011	0.015	0.021	0.027	0.025	0.024	0.029	0.030
Robbery to Burglary	0.014	0.013	0.015	0.014	0.013	0.011	0.014	0.012	0.009
Robbery to Other Property	0.015	0.015	0.017	0.014	0.014	0.013	0.016	0.013	0.012
Robbery to Drug	0.003	0.004	0.005	0.005	0.005	0.007	0.009	0.009	0.010
Robbery to Alcohol	0.007	0.007	0.008	0.006	0.006	0.005	0.006	0.005	0.005
Robbery to Other Miscellaneous	0.005	0.006	0.010	0.010	0.012	0.011	0.013	0.014	0.012
Burglary to Other Property	0.084	0.077	0.058	0.049	0.049	0.046	0.041	0.038	0.034
Burglary to Drug	0.016	0.019	0.018	0.018	0.018	0.025	0.022	0.026	0.028
Burglary to Alcohol	0.038	0.036	0.028	0.022	0.021	0.020	0.015	0.013	0.013
Burglary to Other Miscellaneous	0.028	0.030	0.034	0.034	0.041	0.039	0.035	0.042	0.033
Other Property to Drug	0.017	0.020	0.021	0.021	0.019	0.026	0.025	0.029	0.031
Other Property to Alcohol	0.040	0.038	0.034	0.026	0.023	0.020	0.017	0.015	0.015
Other Property to Other Miscellaneous	0.029	0.032	0.041	0.040	0.043	0.041	0.039	0.046	0.037

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 7b: Predicted Probabilities of Repeating the Same Offense for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	1.1E-06	1.1E-06	1.6E-06	2.1E-06	1.8E-06	1.6E-06	1.5E-06	1.5E-06	1.9E-06	1.6E-06
Robbery	2.2E-06	2.9E-06	3.6E-06	3.0E-06	2.5E-06	2.9E-06	2.9E-06	2.2E-06	3.3E-06	2.8E-06
Burglary	0.616	0.606	0.595	0.617	0.638	0.634	0.637	0.650	0.638	0.626
Other Property	0.033	0.034	0.035	0.030	0.026	0.026	0.026	0.024	0.025	0.029
Drug	1.0E-08	1.3E-08	1.5E-08	1.4E-08	1.1E-08	1.2E-08	1.3E-08	9.9E-09	1.1E-08	1.2E-08
Alcohol	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Other Miscellaneous	7.1E-06	1.6E-05	2.9E-05	4.3E-05	5.3E-05	6.4E-05	6.1E-05	7.2E-05	8.5E-05	4.8E-05

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 8b: Predicted Probabilities of Escalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	1.5E-06	1.6E-06	2.8E-06	2.6E-06	2.1E-06	1.9E-06	2.2E-06	2.0E-06	2.0E-06
Burglary to Violent	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Burglary to Robbery	1.2E-03	1.6E-03	1.4E-03	1.3E-03	1.2E-03	1.5E-03	1.2E-03	1.1E-03	1.9E-03
Other Property to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Property to Robbery	2.7E-04	3.5E-04	3.5E-04	3.0E-04	2.4E-04	3.1E-04	2.5E-04	2.2E-04	3.5E-04
Other Property to Burglary	0.146	0.138	0.149	0.145	0.132	0.126	0.134	0.128	0.122
Drug to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Drug to Robbery	1.5E-07	2.0E-07	2.3E-07	2.0E-07	1.7E-07	1.8E-07	1.9E-07	1.4E-07	2.3E-07
Drug to Burglary	7.9E-05	7.9E-05	9.6E-05	9.8E-05	9.2E-05	7.4E-05	1.0E-04	7.9E-05	8.0E-05
Drug to Other Property	1.8E-05	2.0E-05	2.3E-05	2.0E-05	1.8E-05	1.5E-05	2.0E-05	1.5E-05	1.7E-05
Alcohol to Violent	2.9E-05	2.9E-05	4.6E-05	4.7E-05	3.7E-05	3.7E-05	3.5E-05	3.6E-05	3.7E-05
Alcohol to Robbery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alcohol to Burglary	0.022	0.021	0.025	0.026	0.023	0.023	0.025	0.021	0.021
Alcohol to Other Property	0.005	0.005	0.006	0.005	0.005	0.005	0.005	0.004	0.004
Other Miscellaneous to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Miscellaneous to Robbery	3.0E-06	6.9E-06	8.2E-06	1.1E-05	1.0E-05	1.5E-05	1.2E-05	1.1E-05	2.2E-05
Other Miscellaneous to Burglary	0.002	0.003	0.003	0.005	0.005	0.006	0.007	0.006	0.008
Other Miscellaneous to Other Property	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 9b: Predicted Probabilities of Deescalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1981 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	1.6E-06	2.0E-06	2.0E-06	2.4E-06	2.1E-06	2.4E-06	1.9E-06	1.6E-06	3.1E-06
Violent to Burglary	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Violent to Other Property	1.9E-04	2.0E-04	2.0E-04	2.4E-04	2.3E-04	2.1E-04	2.0E-04	1.8E-04	2.2E-04
Violent to Drug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Violent to Alcohol	2.9E-05	3.3E-05	3.6E-05	4.2E-05	4.1E-05	3.9E-05	3.4E-05	3.0E-05	4.5E-05
Violent to Other Miscellaneous	3.7E-06	4.7E-06	7.0E-06	9.7E-06	1.1E-05	1.0E-05	9.6E-06	1.1E-05	1.2E-05
Robbery to Burglary	0.001	0.001	0.002	0.001	0.001	0.001	0.002	0.001	0.001
Robbery to Other Property	2.6E-04	2.8E-04	3.6E-04	3.0E-04	2.7E-04	2.5E-04	3.0E-04	2.3E-04	2.3E-04
Robbery to Drug	1.5E-07	1.8E-07	2.4E-07	2.1E-07	1.6E-07	1.9E-07	1.9E-07	1.5E-07	1.5E-07
Robbery to Alcohol	3.9E-05	4.7E-05	6.5E-05	5.3E-05	4.8E-05	4.6E-05	5.1E-05	4.0E-05	4.7E-05
Robbery to Other Miscellaneous	5.1E-06	6.6E-06	1.3E-05	1.2E-05	1.3E-05	1.2E-05	1.4E-05	1.4E-05	1.3E-05
Burglary to Other Property	0.140	0.151	0.140	0.128	0.127	0.133	0.125	0.124	0.132
Burglary to Drug	8.1E-05	9.8E-05	9.4E-05	8.9E-05	7.4E-05	1.0E-04	7.8E-05	8.1E-05	8.6E-05
Burglary to Alcohol	0.021	0.025	0.025	0.022	0.023	0.025	0.021	0.021	0.027
Burglary to Other Miscellaneous	0.003	0.004	0.005	0.005	0.006	0.007	0.006	0.008	0.007
Other Property to Drug	1.9E-05	2.2E-05	2.4E-05	2.1E-05	1.5E-05	2.0E-05	1.6E-05	1.6E-05	1.6E-05
Other Property to Alcohol	0.005	0.006	0.006	0.005	0.005	0.005	0.004	0.004	0.005
Other Property to Other Miscellaneous	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.001

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 10b: Predicted Probabilities of Repeating the Same Offense for Whites and Non Whites: Arrest Transitions 1 Through 9 (1981 Sample).

Panel A: Whites

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	2.2E-05	2.2E-05	1.1E-04	2.2E-04	2.0E-04	2.0E-04	2.3E-04	3.8E-04	8.8E-04	2.5E-04
Robbery	6.5E-05	3.6E-05	1.3E-04	2.7E-04	2.6E-04	4.6E-04	6.2E-04	6.3E-04	6.9E-04	3.5E-04
Burglary	0.595	0.603	0.424	0.425	0.443	0.423	0.403	0.374	0.333	0.447
Other Property	0.025	0.025	0.083	0.075	0.070	0.074	0.080	0.088	0.096	0.068
Drug	8.5E-06	1.3E-05	6.9E-05	6.6E-05	3.3E-05	5.7E-05	1.0E-04	1.7E-04	4.3E-04	1.0E-04
Alcohol	7.2E-05	6.5E-05	2.1E-04	2.1E-04	1.8E-04	1.4E-04	1.1E-04	8.3E-05	9.3E-05	1.3E-04
Other Miscellaneous	1.2E-05	2.2E-05	1.8E-04	3.3E-04	4.3E-04	4.9E-04	4.4E-04	5.5E-04	7.0E-04	3.5E-04

Panel B: Non-whites

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	2.5E-05	3.6E-05	2.0E-04	3.1E-04	3.5E-04	3.6E-04	3.8E-04	4.7E-04	5.8E-04	3.0E-04
Robbery	2.4E-04	4.5E-04	2.1E-03	2.0E-03	2.1E-03	2.8E-03	3.4E-03	3.0E-03	3.0E-03	2.1E-03
Burglary	0.596	0.529	0.360	0.366	0.376	0.357	0.344	0.353	0.334	0.402
Other Property	0.024	0.027	0.094	0.088	0.081	0.082	0.083	0.077	0.081	0.071
Drug	9.9E-06	2.1E-05	1.3E-04	1.6E-04	1.7E-04	2.7E-04	4.7E-04	5.3E-04	7.6E-04	2.8E-04
Alcohol	3.7E-05	4.0E-05	1.6E-04	1.3E-04	1.0E-04	1.0E-04	9.9E-05	8.0E-05	8.6E-05	9.3E-05
Other Miscellaneous	5.8E-06	1.6E-05	8.4E-05	1.2E-04	1.7E-04	2.3E-04	2.6E-04	3.5E-04	4.4E-04	1.9E-04

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 11b: Predicted Probabilities of Escalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (1981 Sample).

Panel A: Whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	3.2E-05	4.3E-05	9.4E-05	3.1E-04	1.8E-04	2.9E-04	3.6E-04	6.6E-04	8.4E-04
Burglary to Violent	0.002	0.007	0.009	0.010	0.008	0.010	0.009	0.017	0.020
Burglary to Robbery	0.004	0.006	0.013	0.009	0.012	0.017	0.016	0.016	0.016
Other Property to Violent	0.001	0.001	0.004	0.005	0.003	0.004	0.004	0.008	0.010
Other Property to Robbery	0.002	0.001	0.005	0.004	0.005	0.007	0.007	0.008	0.008
Other Property to Burglary	0.261	0.058	0.178	0.198	0.169	0.174	0.170	0.176	0.166
Drug to Violent	1.1E-05	1.7E-05	8.6E-05	1.8E-04	7.3E-05	8.8E-05	1.4E-04	2.7E-04	5.5E-04
Drug to Robbery	2.2E-05	1.4E-05	1.2E-04	1.6E-04	1.1E-04	1.4E-04	2.5E-04	2.6E-04	4.5E-04
Drug to Burglary	0.004	0.001	0.004	0.007	0.004	0.004	0.006	0.006	0.009
Drug to Other Property	3.6E-04	5.8E-04	1.8E-03	2.9E-03	1.6E-03	1.5E-03	3.0E-03	3.0E-03	5.4E-03
Alcohol to Violent	4.2E-05	3.7E-05	2.0E-04	2.4E-04	1.8E-04	2.0E-04	1.6E-04	2.6E-04	2.8E-04
Alcohol to Robbery	8.4E-05	3.1E-05	2.7E-04	2.1E-04	2.6E-04	3.2E-04	2.7E-04	2.5E-04	2.3E-04
Alcohol to Burglary	0.014	0.003	0.009	0.010	0.009	0.008	0.007	0.006	0.005
Alcohol to Other Property	0.001	0.001	0.004	0.004	0.004	0.003	0.003	0.003	0.003
Other Miscellaneous to Violent	1.4E-05	1.8E-05	1.3E-04	2.9E-04	2.3E-04	3.8E-04	2.9E-04	5.8E-04	8.5E-04
Other Miscellaneous to Robbery	2.8E-05	1.5E-05	1.8E-04	2.6E-04	3.3E-04	6.0E-04	5.0E-04	5.5E-04	6.9E-04
Other Miscellaneous to Burglary	0.005	0.001	0.006	0.012	0.012	0.015	0.013	0.013	0.014
Other Miscellaneous to Other Property	4.6E-04	6.3E-04	2.8E-03	4.6E-03	4.9E-03	6.5E-03	6.1E-03	6.4E-03	8.3E-03

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Panel B: Non-whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	7.9E-05	1.1E-04	8.0E-04	7.9E-04	9.1E-04	8.4E-04	1.3E-03	1.2E-03	1.4E-03
Burglary to Violent	0.002	0.011	0.010	0.011	0.011	0.012	0.012	0.014	0.015
Burglary to Robbery	0.006	0.043	0.025	0.029	0.027	0.040	0.031	0.033	0.032
Other Property to Violent	0.001	0.001	0.005	0.006	0.006	0.005	0.006	0.006	0.007
Other Property to Robbery	0.003	0.004	0.013	0.014	0.013	0.017	0.016	0.015	0.015
Other Property to Burglary	0.249	0.052	0.192	0.179	0.184	0.158	0.179	0.163	0.158
Drug to Violent	1.6E-05	2.2E-05	1.8E-04	2.1E-04	2.7E-04	2.3E-04	4.4E-04	4.9E-04	6.2E-04
Drug to Robbery	4.9E-05	9.1E-05	4.7E-04	5.5E-04	6.3E-04	7.8E-04	1.2E-03	1.2E-03	1.3E-03
Drug to Burglary	0.005	0.001	0.007	0.007	0.009	0.007	0.013	0.013	0.014
Drug to Other Property	4.6E-04	5.9E-04	3.3E-03	3.4E-03	3.9E-03	3.6E-03	6.0E-03	6.0E-03	7.3E-03
Alcohol to Violent	3.6E-05	3.8E-05	2.1E-04	2.4E-04	2.0E-04	1.9E-04	2.1E-04	2.2E-04	2.1E-04
Alcohol to Robbery	1.1E-04	1.5E-04	5.4E-04	6.1E-04	4.6E-04	6.3E-04	5.7E-04	5.3E-04	4.5E-04
Alcohol to Burglary	0.011	0.002	0.008	0.008	0.006	0.006	0.006	0.006	0.005
Alcohol to Other Property	0.001	0.001	0.004	0.004	0.003	0.003	0.003	0.003	0.002
Other Miscellaneous to Violent	9.1E-06	2.3E-05	1.4E-04	1.9E-04	2.3E-04	2.6E-04	3.4E-04	3.6E-04	5.5E-04
Other Miscellaneous to Robbery	2.8E-05	9.4E-05	3.5E-04	4.9E-04	5.5E-04	8.7E-04	9.1E-04	8.7E-04	1.2E-03
Other Miscellaneous to Burglary	0.003	0.001	0.005	0.006	0.008	0.008	0.010	0.009	0.013
Other Miscellaneous to Other Property	2.6E-04	6.1E-04	2.5E-03	3.0E-03	3.4E-03	4.1E-03	4.6E-03	4.4E-03	6.4E-03

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 12b: Predicted Probabilities of Deescalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (1981 Sample).

Panel A: Whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	4.5E-05	1.8E-05	1.5E-04	2.0E-04	3.0E-04	3.1E-04	3.9E-04	3.7E-04	7.2E-04
Violent to Burglary	0.008	0.002	0.005	0.009	0.011	0.008	0.010	0.009	0.015
Violent to Other Property	0.001	0.001	0.002	0.004	0.004	0.003	0.005	0.004	0.009
Violent to Drug	1.7E-05	1.6E-05	9.1E-05	8.2E-05	9.1E-05	1.3E-04	1.6E-04	2.4E-04	6.9E-04
Violent to Alcohol	3.8E-05	3.8E-05	1.2E-04	2.0E-04	2.1E-04	1.4E-04	1.5E-04	1.2E-04	2.9E-04
Violent to Other Miscellaneous	1.9E-05	2.6E-05	1.5E-04	2.5E-04	3.9E-04	2.6E-04	3.4E-04	3.7E-04	7.3E-04
Robbery to Burglary	0.011	0.004	0.004	0.013	0.010	0.012	0.016	0.015	0.014
Robbery to Other Property	0.001	0.002	0.002	0.005	0.004	0.005	0.007	0.007	0.008
Robbery to Drug	2.5E-05	3.3E-05	7.6E-05	1.1E-04	8.1E-05	1.9E-04	2.5E-04	4.1E-04	6.6E-04
Robbery to Alcohol	5.5E-05	7.7E-05	1.0E-04	2.7E-04	1.9E-04	2.1E-04	2.4E-04	2.1E-04	2.8E-04
Robbery to Other Miscellaneous	2.7E-05	5.2E-05	1.2E-04	3.4E-04	3.5E-04	3.8E-04	5.4E-04	6.3E-04	7.0E-04
Burglary to Other Property	0.057	0.254	0.197	0.162	0.182	0.179	0.190	0.186	0.192
Burglary to Drug	0.001	0.006	0.007	0.004	0.004	0.007	0.006	0.010	0.015
Burglary to Alcohol	0.003	0.013	0.010	0.009	0.009	0.007	0.006	0.005	0.006
Burglary to Other Miscellaneous	0.001	0.009	0.012	0.011	0.016	0.014	0.014	0.016	0.016
Other Property to Drug	0.001	0.001	0.003	0.002	0.001	0.003	0.003	0.005	0.008
Other Property to Alcohol	0.001	0.001	0.004	0.004	0.003	0.003	0.003	0.003	0.003
Other Property to Other Miscellaneous	0.001	0.001	0.005	0.005	0.006	0.006	0.006	0.008	0.008

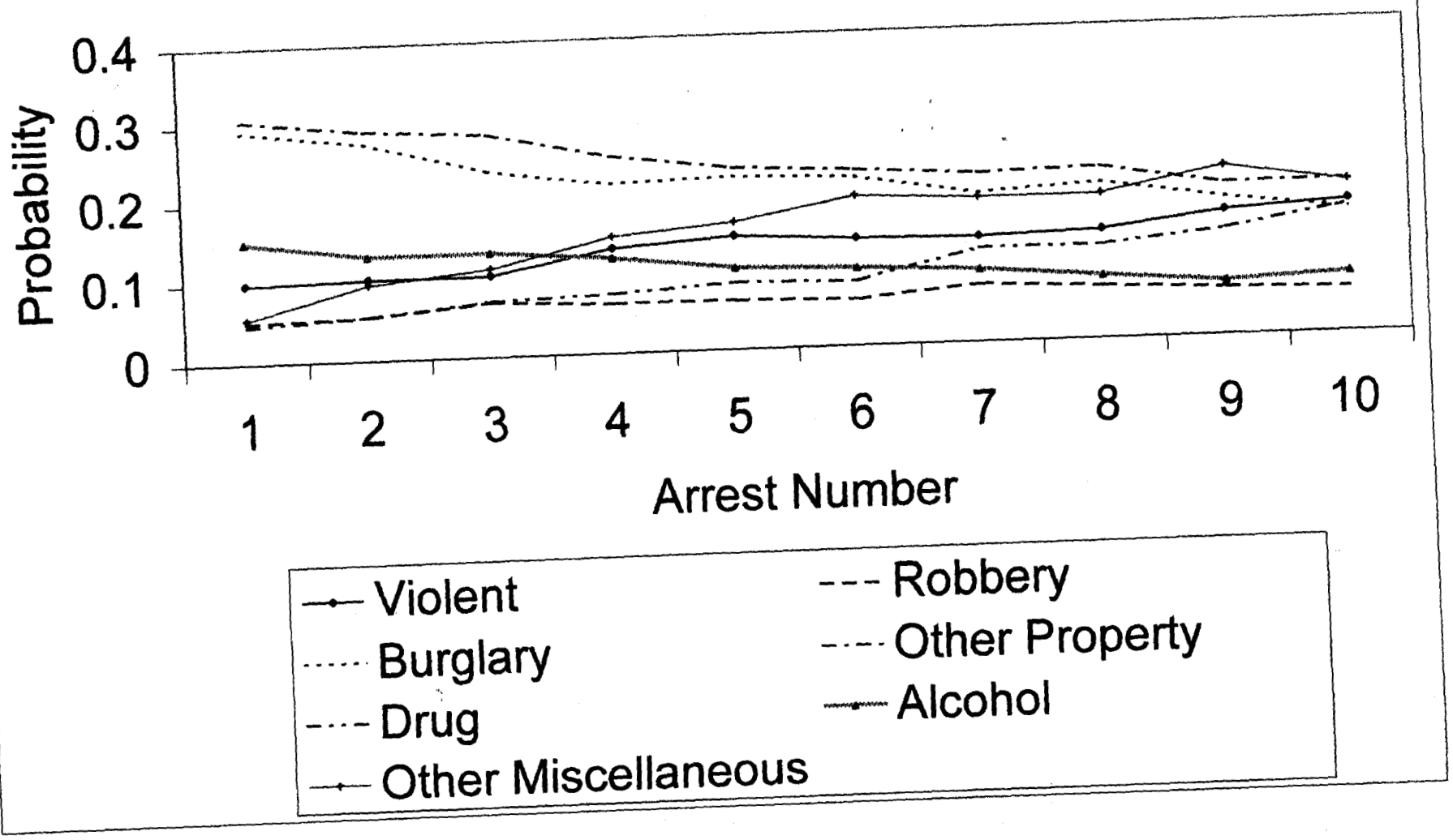
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Panel B: Non-whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	7.6E-05	1.5E-04	5.1E-04	7.9E-04	8.3E-04	1.2E-03	1.0E-03	1.1E-03	1.2E-03
Violent to Burglary	0.007	0.002	0.007	0.010	0.012	0.011	0.011	0.012	0.013
Violent to Other Property	0.001	0.001	0.004	0.005	0.005	0.006	0.005	0.006	0.007
Violent to Drug	1.5E-05	3.4E-05	1.4E-04	2.3E-04	2.3E-04	4.1E-04	4.1E-04	5.0E-04	7.0E-04
Violent to Alcohol	2.6E-05	3.9E-05	1.5E-04	1.7E-04	1.8E-04	2.0E-04	1.8E-04	1.7E-04	2.3E-04
Violent to Other Miscellaneous	1.6E-05	2.5E-05	1.2E-04	2.0E-04	2.5E-04	3.2E-04	3.0E-04	4.5E-04	4.5E-04
Robbery to Burglary	0.023	0.006	0.030	0.026	0.030	0.026	0.038	0.032	0.031
Robbery to Other Property	0.002	0.003	0.014	0.013	0.013	0.013	0.018	0.015	0.016
Robbery to Drug	4.8E-05	1.0E-04	5.6E-04	6.0E-04	5.9E-04	9.7E-04	1.4E-03	1.3E-03	1.7E-03
Robbery to Alcohol	8.2E-05	1.2E-04	6.2E-04	4.4E-04	4.8E-04	4.6E-04	6.1E-04	4.5E-04	5.7E-04
Robbery to Other Miscellaneous	5.0E-05	7.7E-05	4.9E-04	5.2E-04	6.6E-04	7.5E-04	1.0E-03	1.2E-03	1.1E-03
Burglary to Other Property	0.058	0.282	0.176	0.180	0.166	0.186	0.159	0.167	0.172
Burglary to Drug	0.001	0.010	0.007	0.009	0.007	0.014	0.012	0.015	0.018
Burglary to Alcohol	0.002	0.011	0.008	0.006	0.006	0.007	0.005	0.005	0.006
Burglary to Other Miscellaneous	0.001	0.007	0.006	0.007	0.008	0.010	0.009	0.013	0.012
Other Property to Drug	0.001	0.001	0.004	0.004	0.004	0.006	0.006	0.007	0.008
Other Property to Alcohol	0.001	0.001	0.004	0.003	0.003	0.003	0.003	0.002	0.003
Other Property to Other Miscellaneous	0.001	0.001	0.003	0.004	0.004	0.005	0.005	0.006	0.006

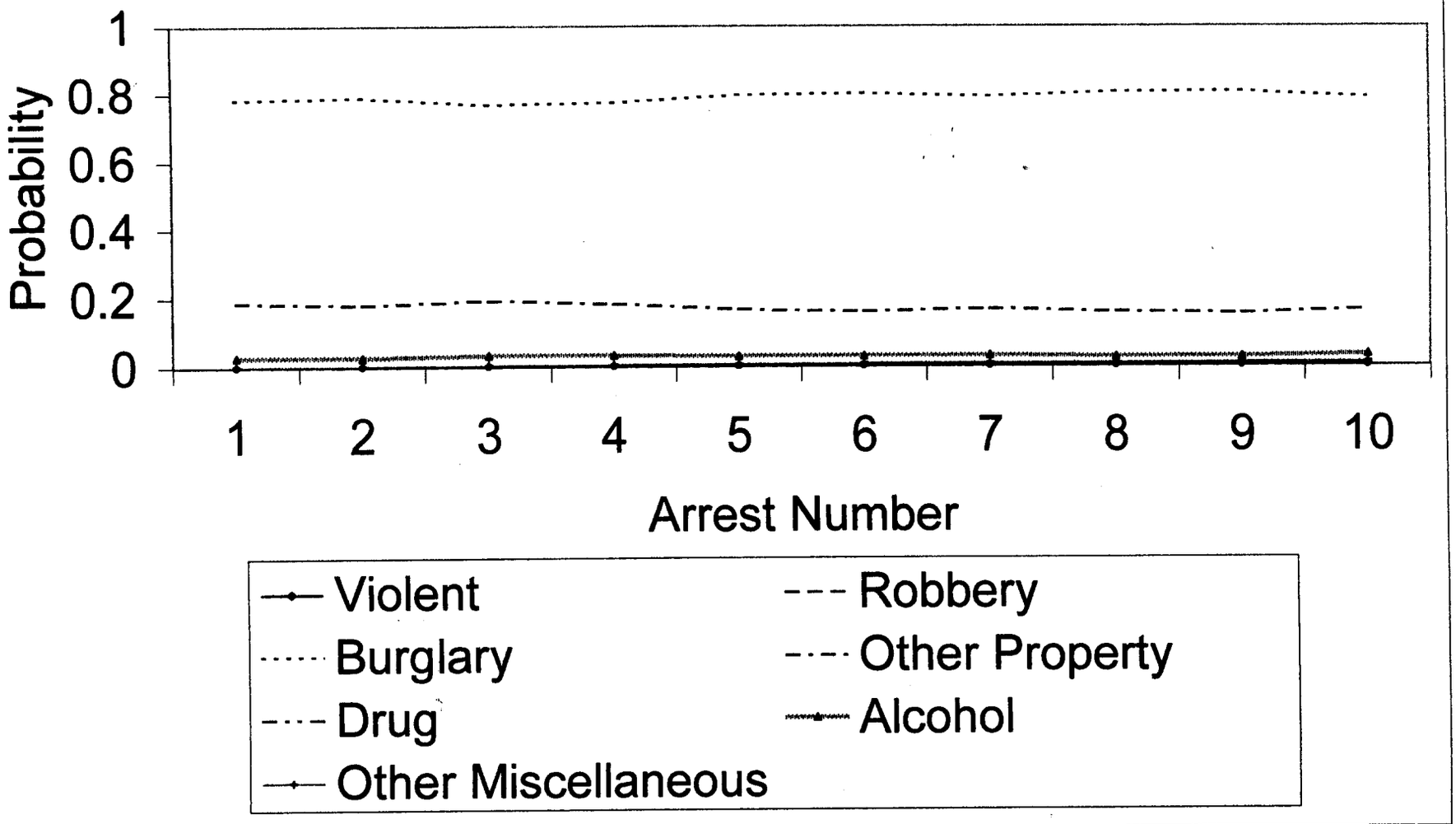
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 1b: Predicted Probability for Type of Offense Model 1 (1981 Sample)



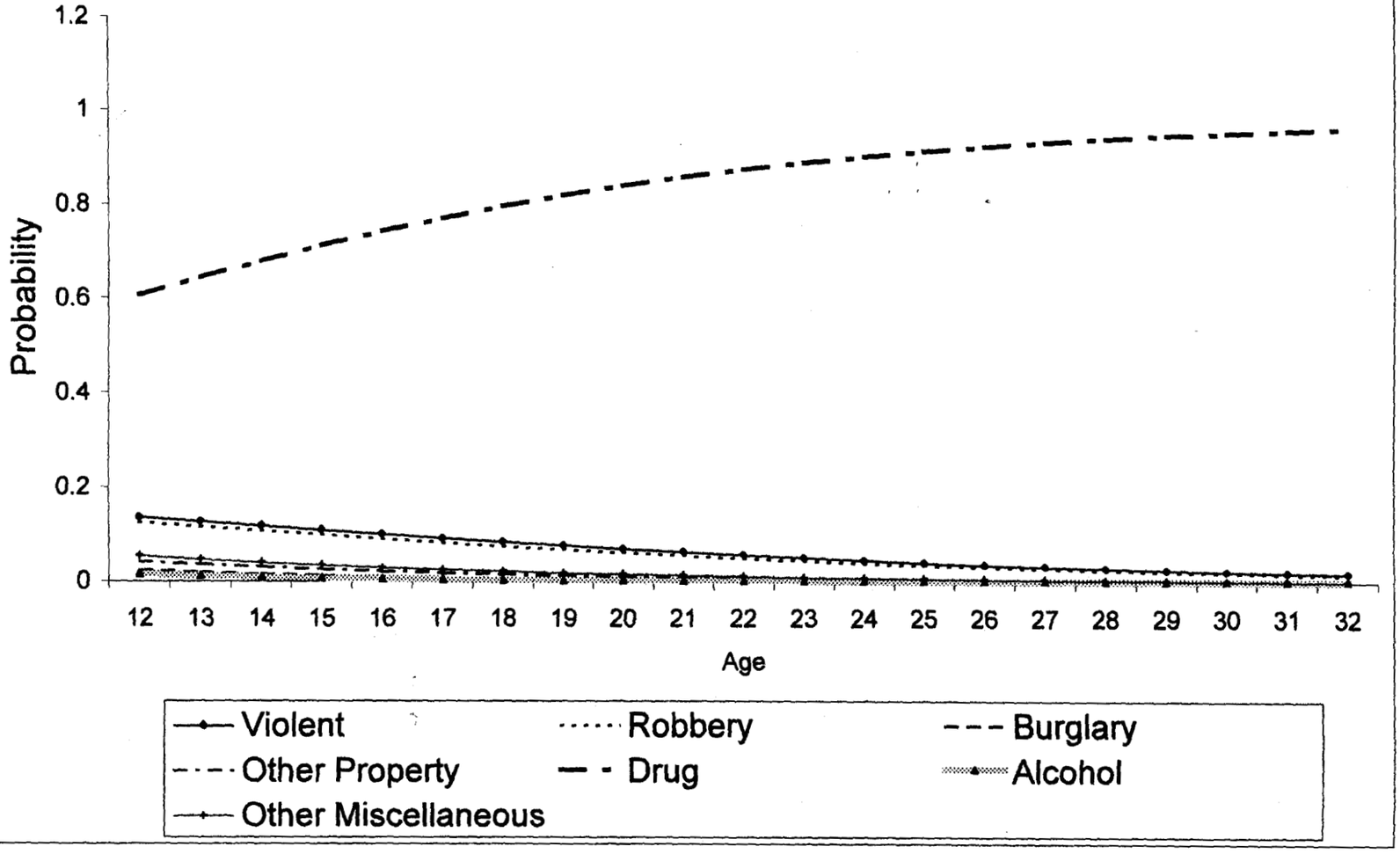
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 2b: Predicted Probability for Type of Offense Model 2 (1981 Sample)

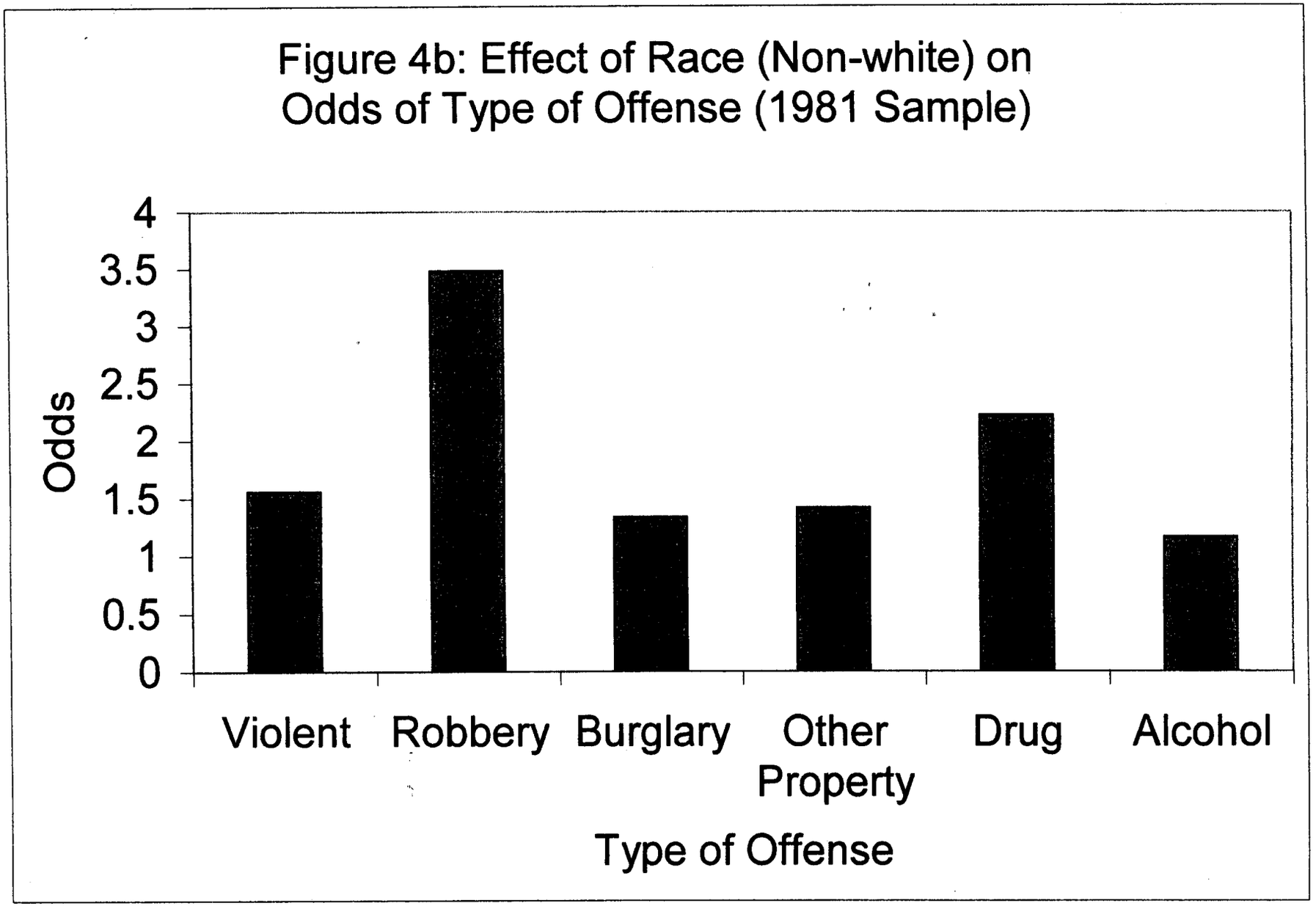


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 3b: Probability of Offense by Age (1981 Sample)

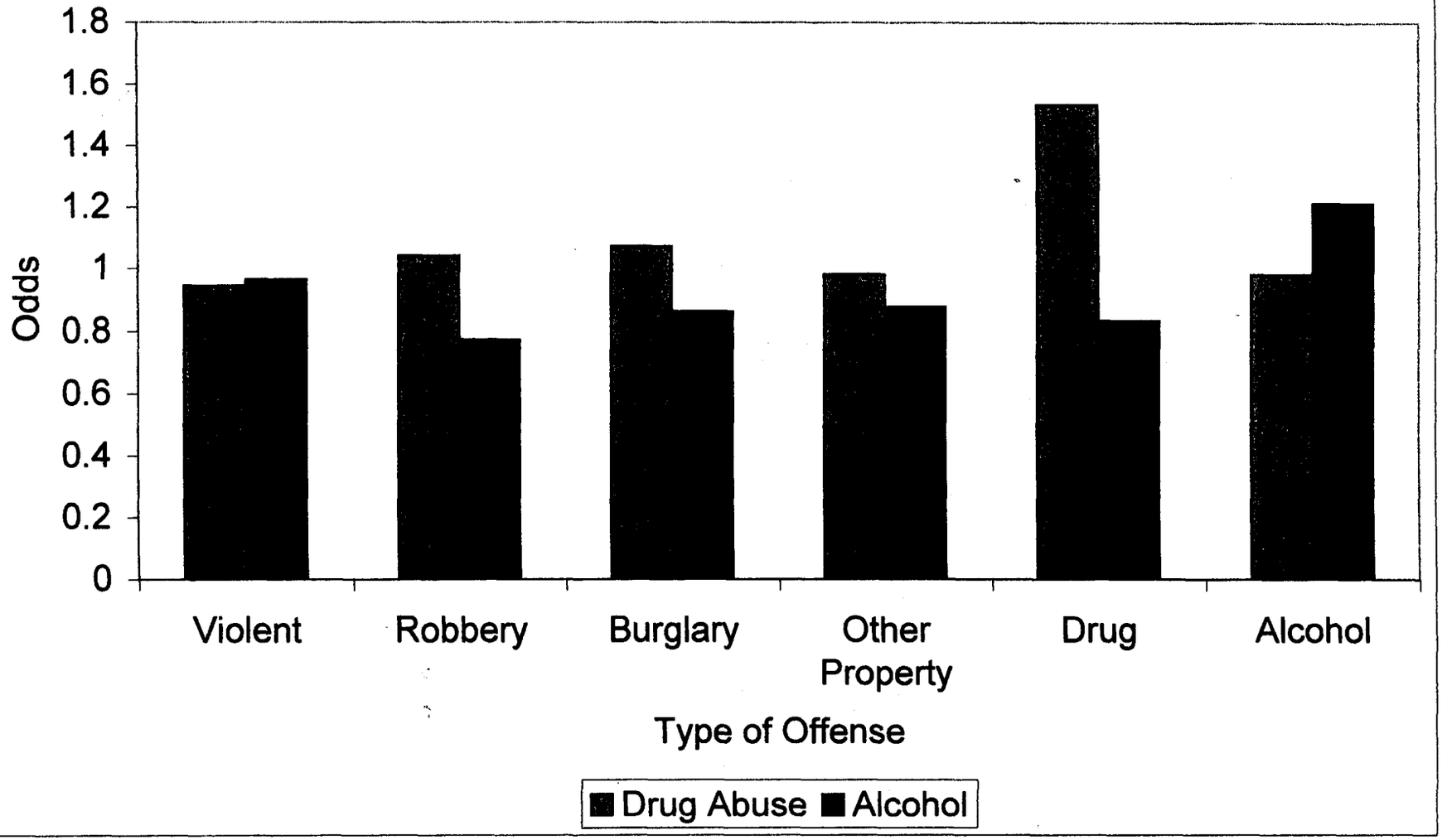


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



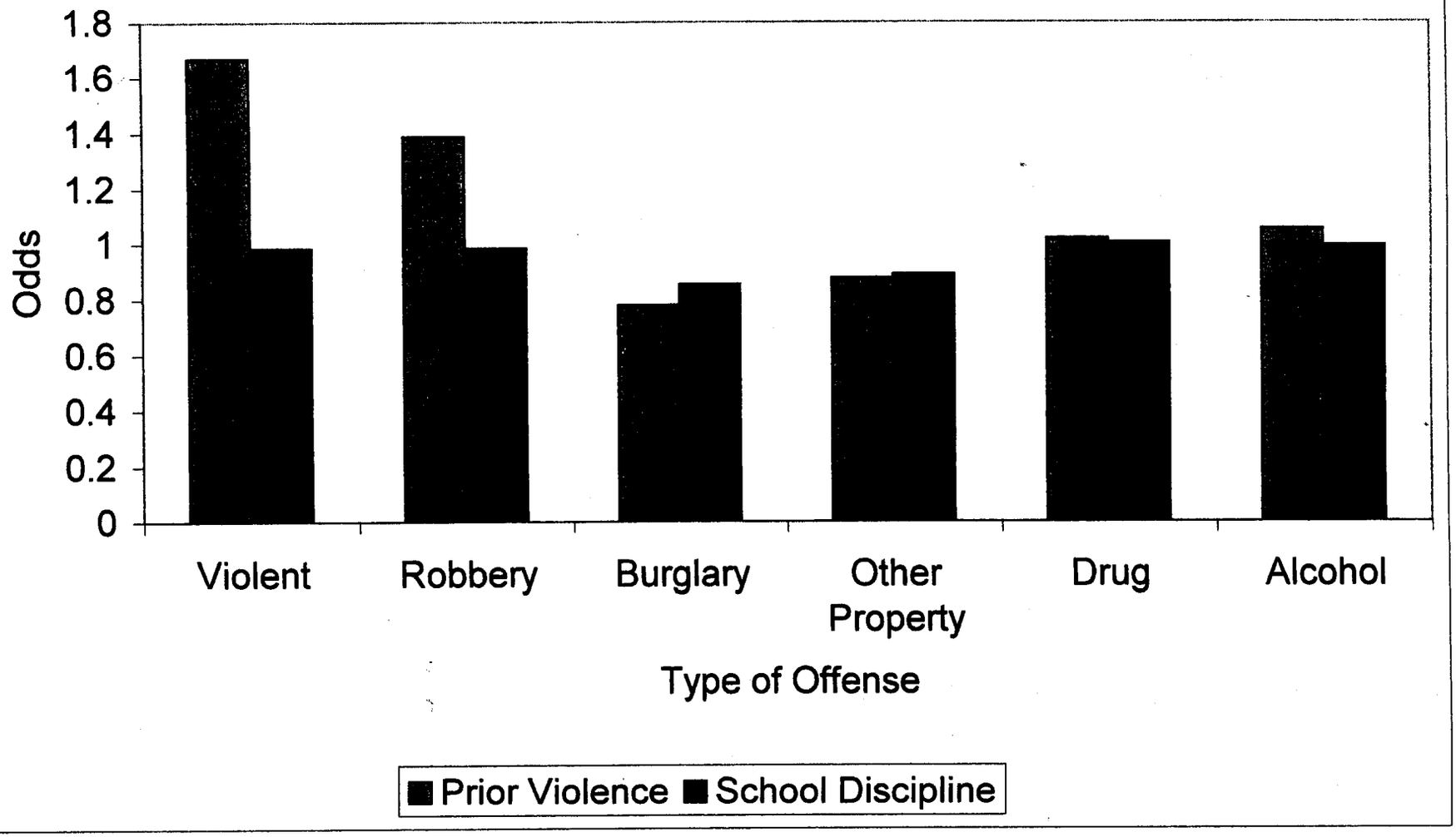
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 5b: Effects of Substance Abuse on Odds of Type of Offense
(1981 Sample)

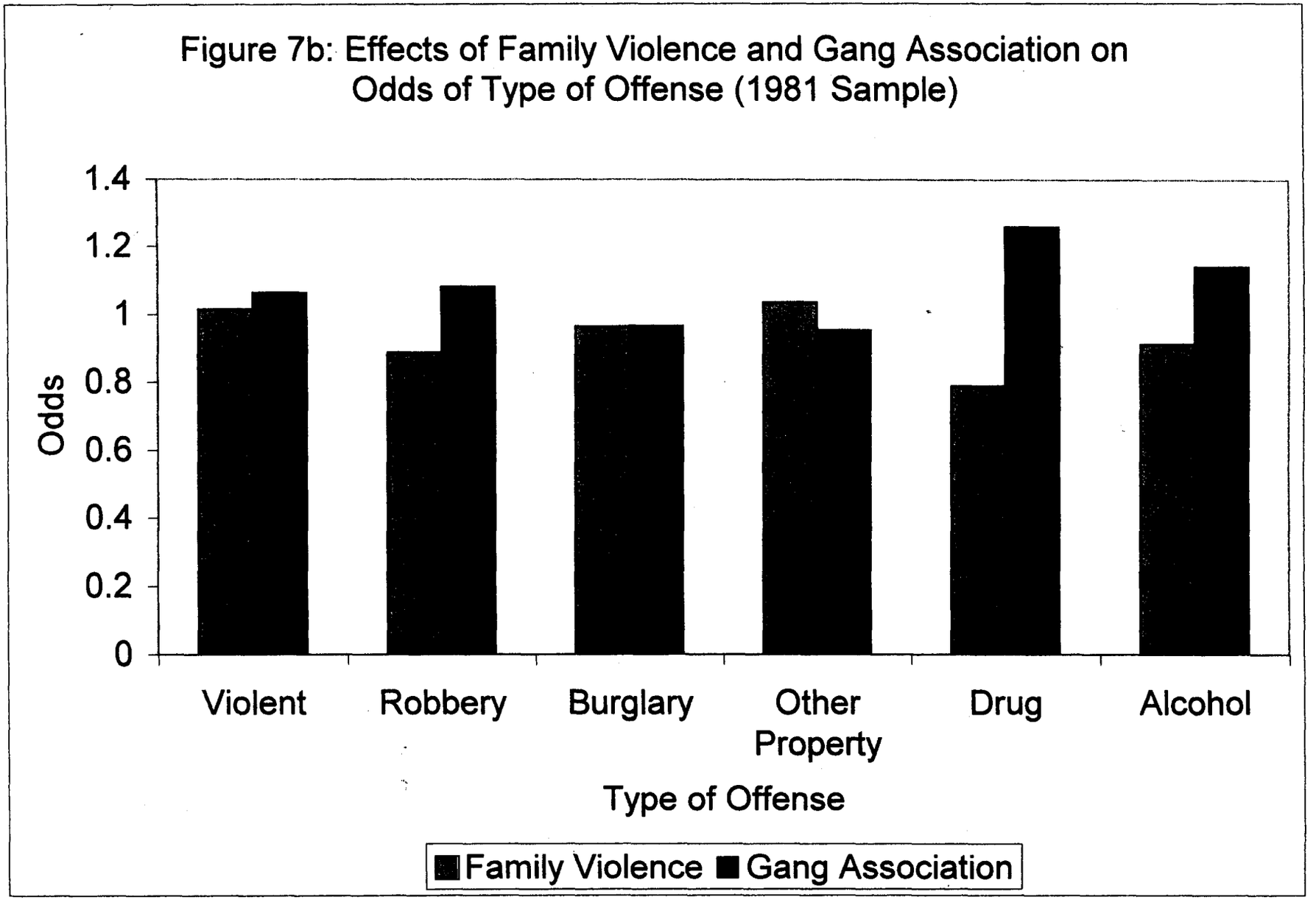


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

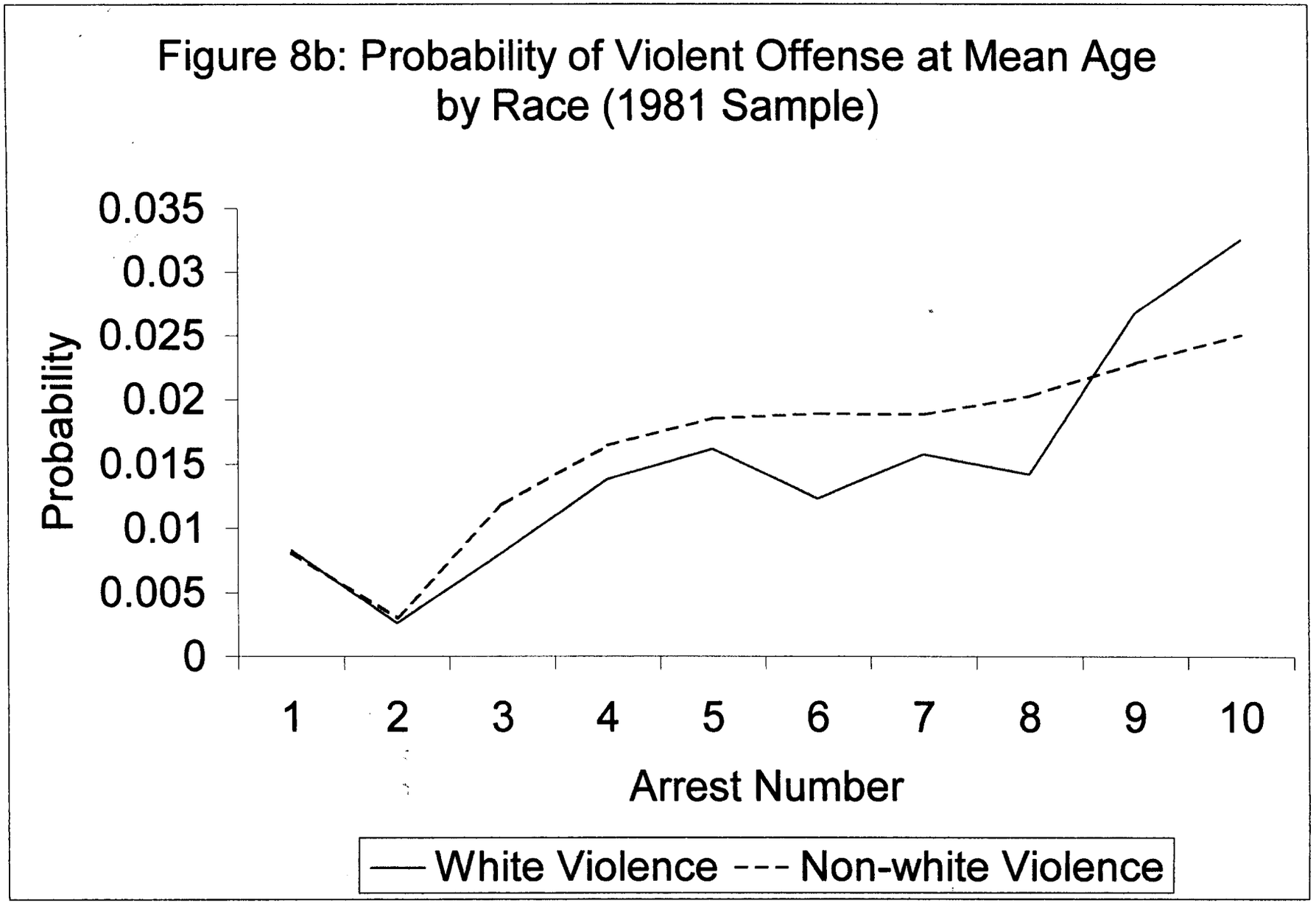
Figure 6b: Effects of Prior Deviant Behavior on Odds of Type of Offense (1981 Sample)



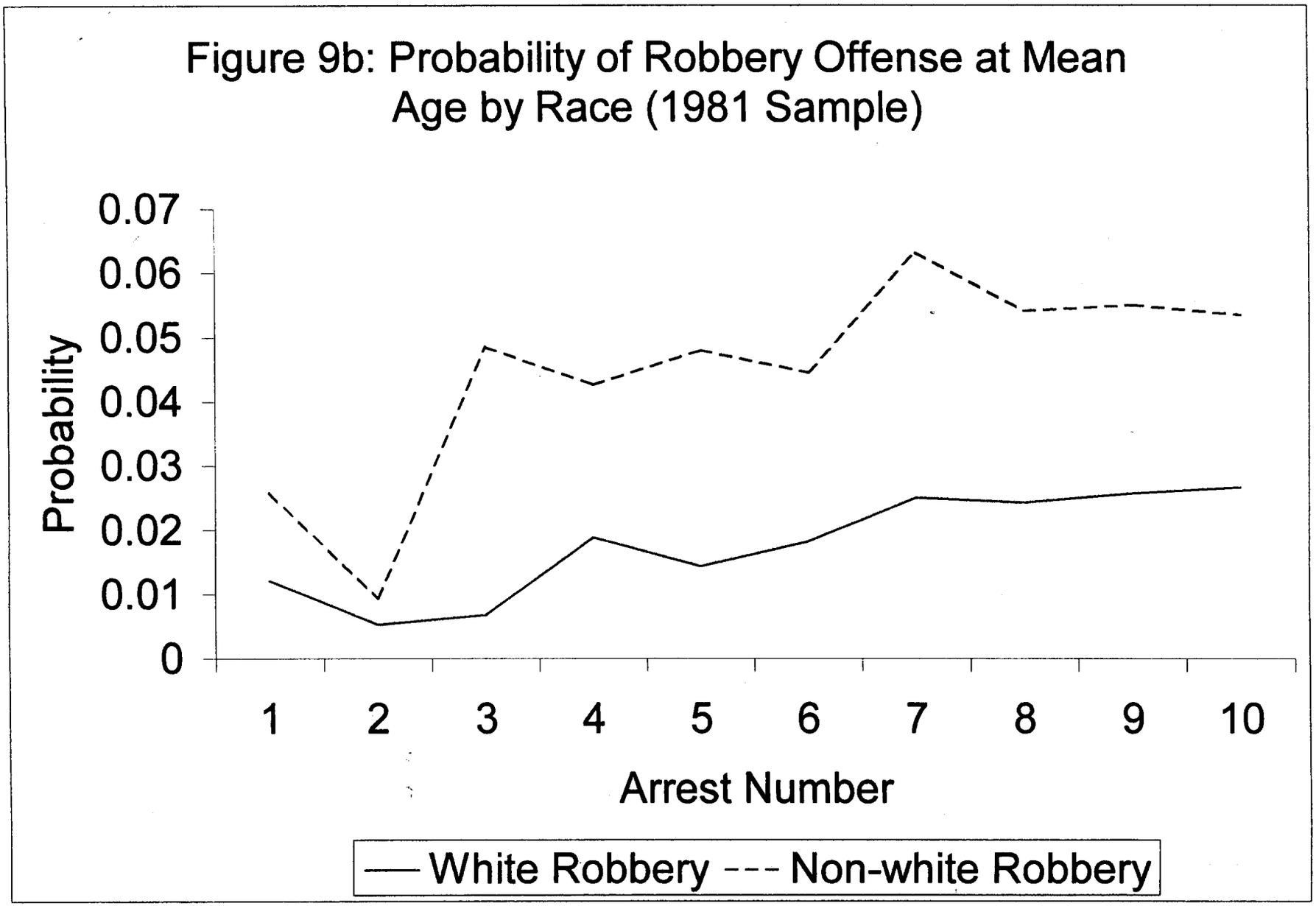
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



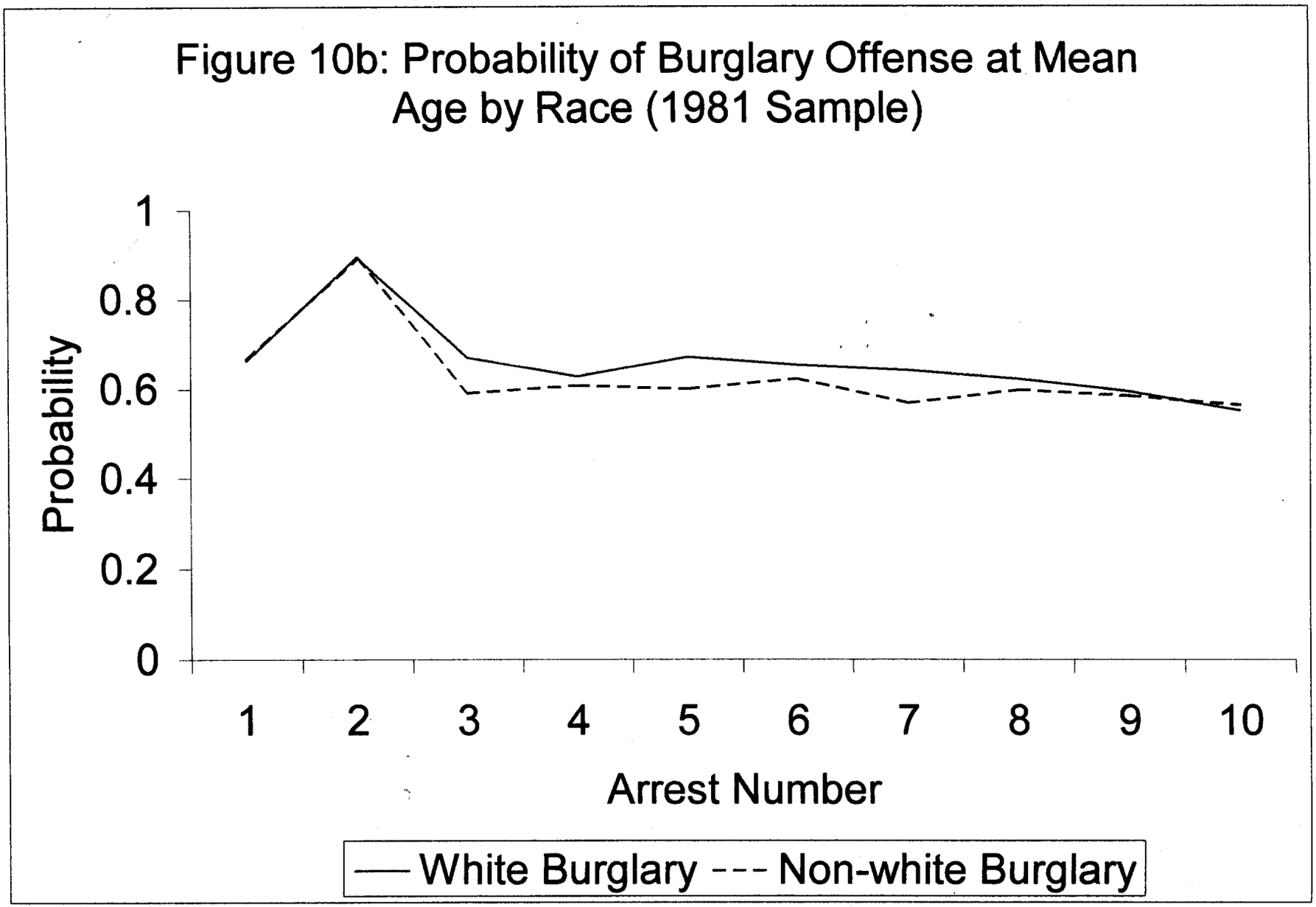
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



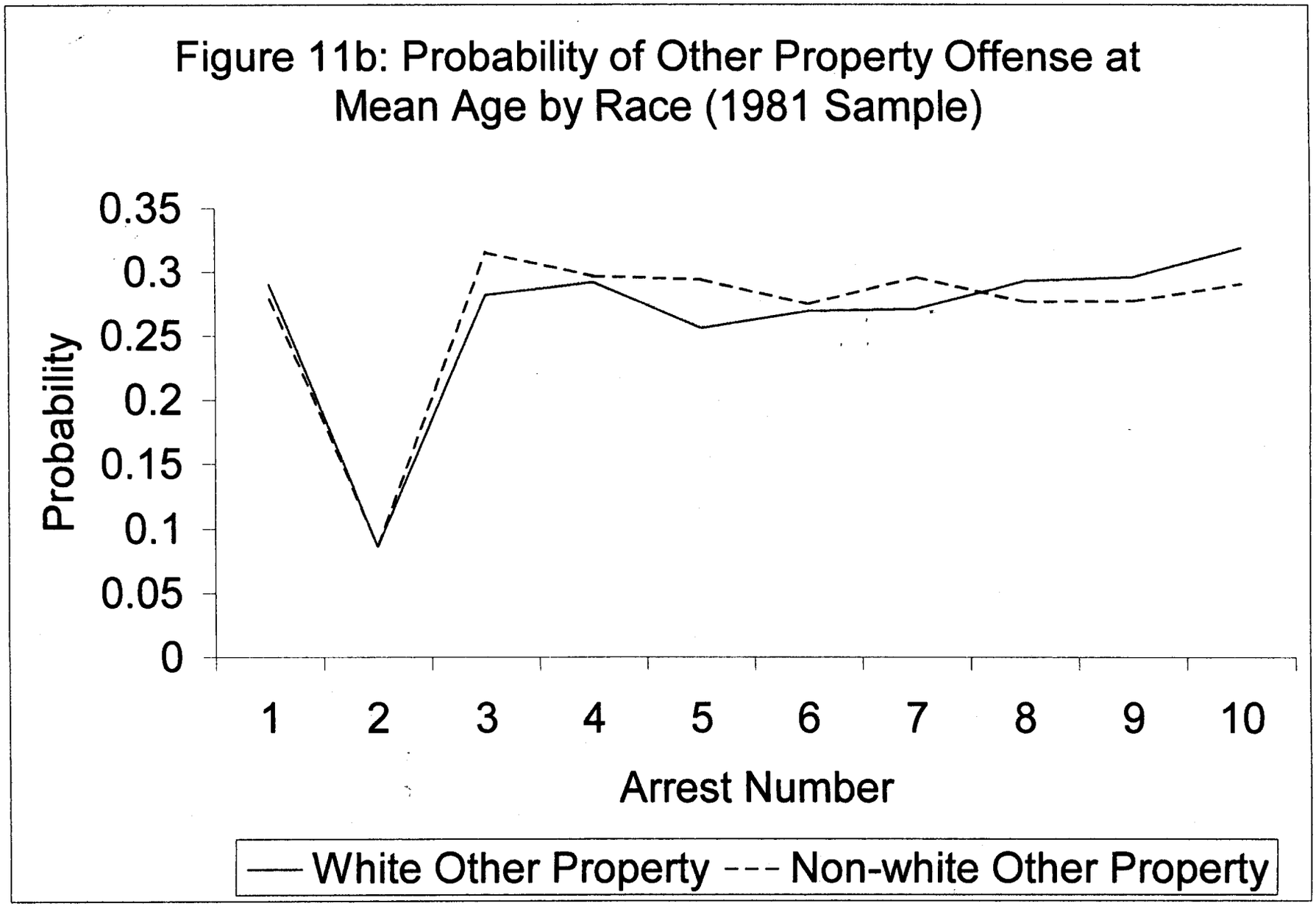
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



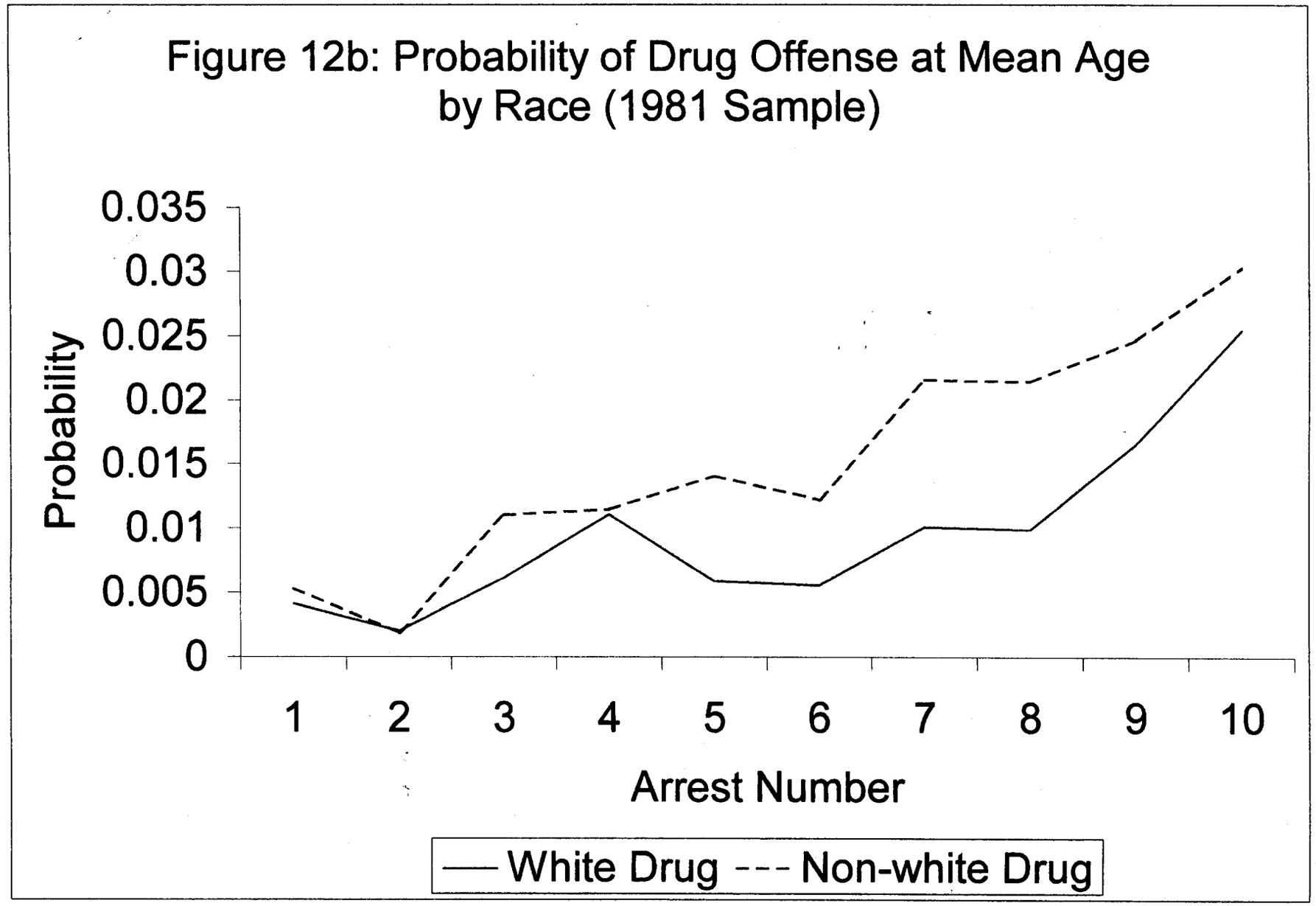
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

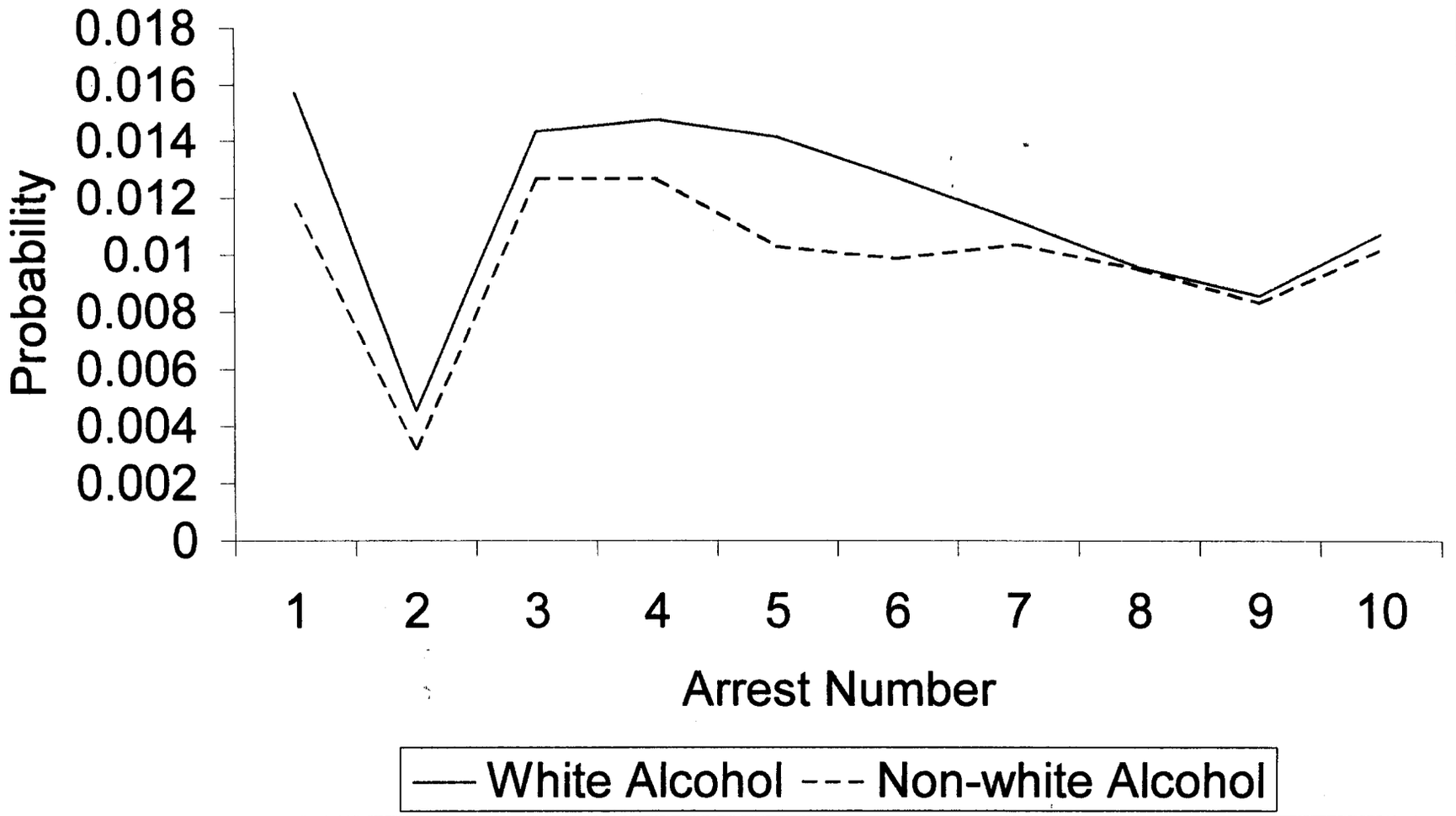


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



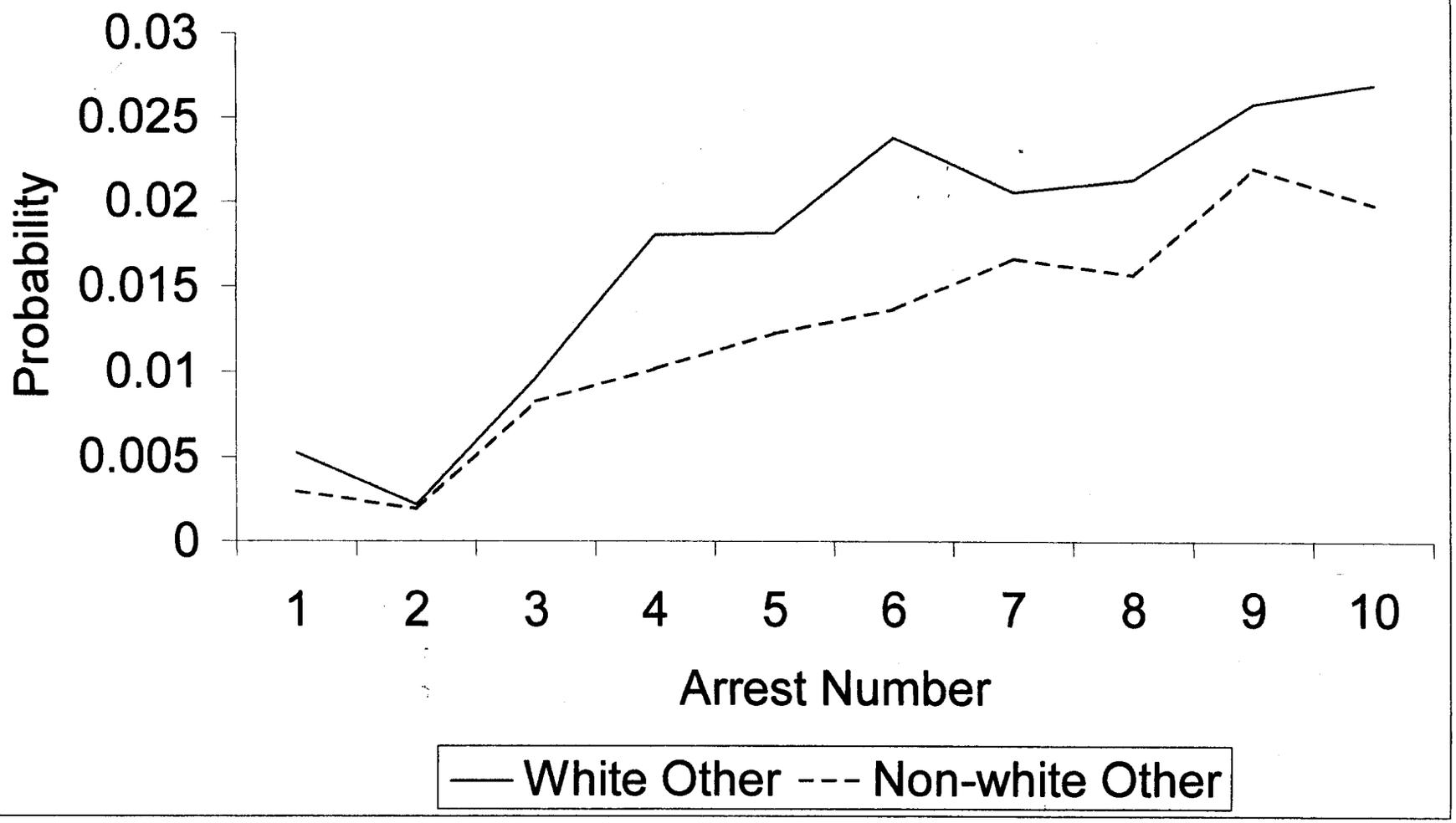
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 13b: Probability of Alcohol Offense at Mean Age by Race (1981 Sample)



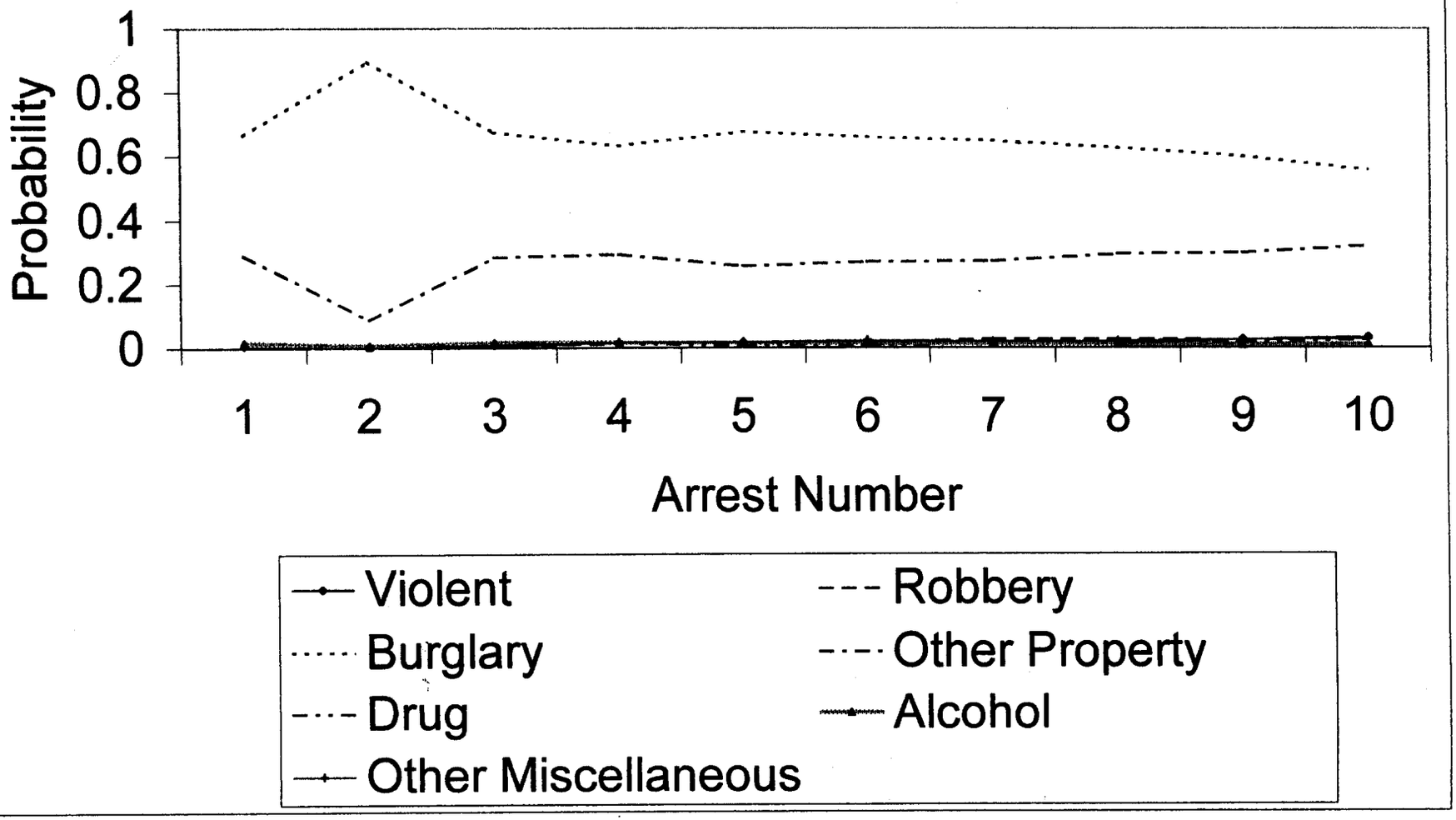
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 14b: Probability of Other Miscellaneous Offense at Mean Age by Race (1981 Sample)

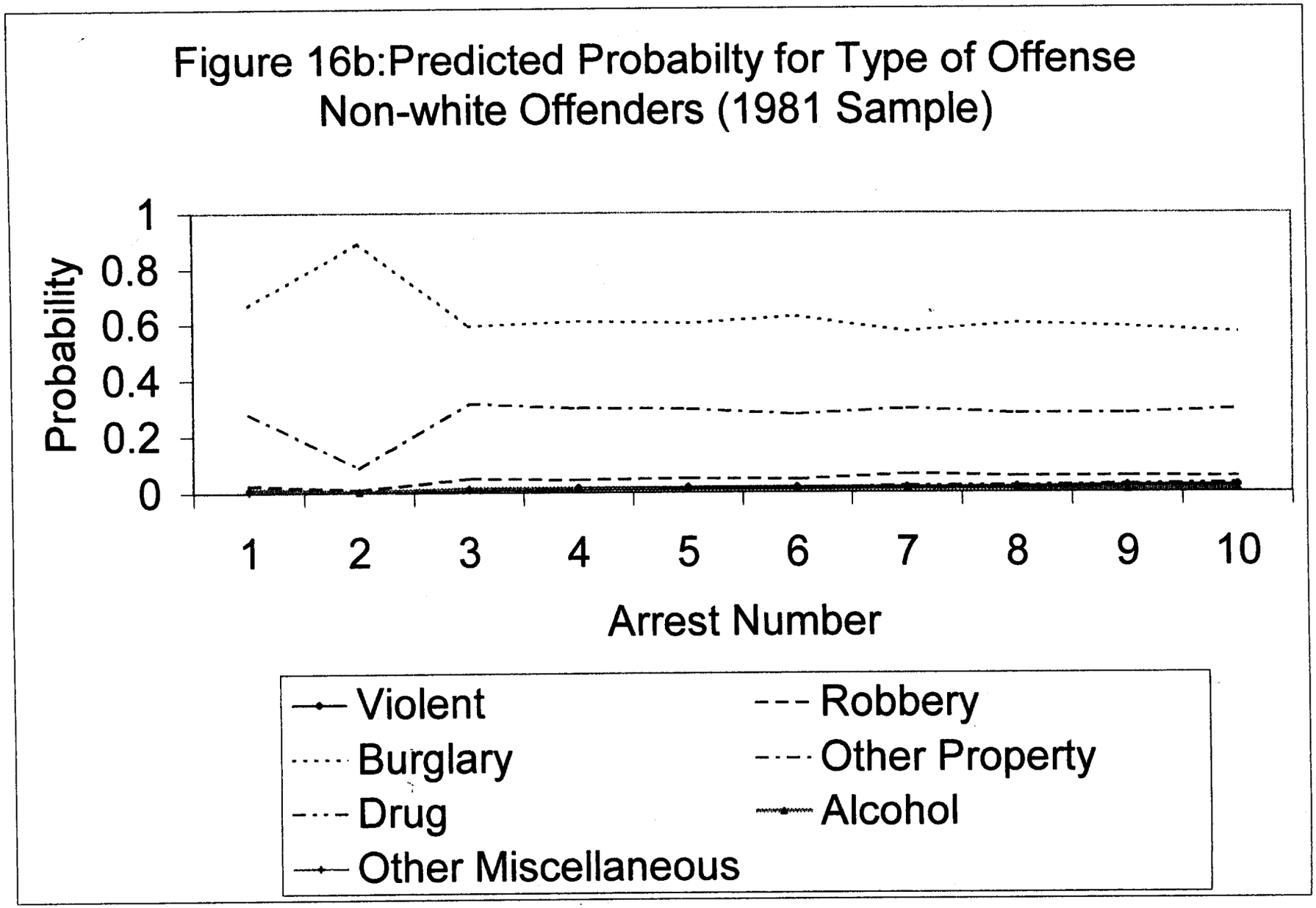


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 15b: Predicted Probability for Type of Offense White Offenders (1981 Sample)



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

APPENDIX B

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 2c: Model Fit Statistics 1986 Sample.

Model	-2 log likelihood	Number of Parameters	df
0. Intercept Only	43966.74	6	11780
1. Arrest Number	42968.34	60	11726
2. Offender Background Characteristics	40720.64	126	11660
3. Age and Race Interaction Effects	40530.38	228	11552

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 3c: Predicted Probabilities for Each Offense Type (1986 Sample Model 0).

Type of Offense	Mean Predicted Probability
Violent	.114
Robbery	.060
Burglary	.163
Other Property	.257
Drug	.096
Alcohol	.122
Other Miscellaneous	.189

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 4c: Predicted Probabilities of Repeating the Same Offense: Arrest Transitions 1 Through 9 (1986 Sample).

Type of Offense	Arrest Transition									
	1	2	3	4	5	6	7	8	9	Mean
Violent	.012	.013	.015	.013	.014	.016	.015	.018	.021	.015
Robbery	.002	.002	.002	.002	.002	.002	.003	.003	.003	.002
Burglary	.058	.046	.038	.034	.034	.027	.022	.017	.013	.032
Other Property	.083	.068	.056	.046	.038	.037	.029	.025	.026	.045
Drug	.004	.006	.006	.007	.010	.012	.015	.020	.024	.012
Alcohol	.034	.030	.026	.023	.017	.013	.011	.008	.006	.018
Other Miscellaneous	.005	.012	.025	.042	.051	.058	.075	.082	.086	.048

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 5c: Predicted Probabilities of Escalation for Each Offense Type: Arrest Transitions 1 Through 9 (1986 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	0.004	0.006	0.006	0.005	0.005	0.006	0.006	0.008	0.008
Burglary to Violent	0.028	0.028	0.025	0.021	0.024	0.023	0.018	0.021	0.017
Burglary to Robbery	0.012	0.010	0.009	0.007	0.009	0.009	0.009	0.008	0.006
Other Property to Violent	0.033	0.034	0.030	0.025	0.027	0.024	0.024	0.022	0.024
Other Property to Robbery	0.015	0.013	0.011	0.009	0.010	0.009	0.011	0.009	0.008
Other Property to Burglary	0.069	0.055	0.047	0.041	0.038	0.028	0.029	0.018	0.019
Drug to Violent	0.006	0.009	0.009	0.009	0.012	0.014	0.014	0.019	0.021
Drug to Robbery	0.003	0.003	0.003	0.003	0.004	0.005	0.006	0.008	0.007
Drug to Burglary	0.013	0.015	0.015	0.015	0.017	0.016	0.016	0.016	0.017
Drug to Other Property	0.015	0.018	0.018	0.017	0.017	0.021	0.017	0.023	0.023
Alcohol to Violent	0.021	0.021	0.021	0.016	0.020	0.014	0.013	0.014	0.011
Alcohol to Robbery	0.010	0.008	0.008	0.006	0.008	0.006	0.006	0.006	0.004
Alcohol to Burglary	0.045	0.034	0.033	0.027	0.028	0.017	0.016	0.012	0.009
Alcohol to Other Property	0.054	0.042	0.040	0.030	0.029	0.022	0.017	0.017	0.012
Other Miscellaneous to Violent	0.006	0.011	0.016	0.020	0.029	0.028	0.032	0.041	0.041
Other Miscellaneous to Robbery	0.003	0.004	0.006	0.007	0.011	0.011	0.015	0.017	0.014
Other Miscellaneous to Burglary	0.013	0.018	0.025	0.034	0.042	0.034	0.038	0.034	0.032
Other Miscellaneous to Other Property	0.015	0.022	0.030	0.038	0.042	0.044	0.039	0.049	0.044

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 6c: Predicted Probabilities of Deescalation for Each Offense Type: Arrest Transitions 1 Through 9 (1986 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	0.005	0.005	0.005	0.005	0.005	0.007	0.007	0.007	0.007
Violent to Burglary	0.024	0.022	0.023	0.022	0.020	0.019	0.018	0.015	0.016
Violent to Other Property	0.029	0.027	0.028	0.025	0.020	0.026	0.019	0.021	0.022
Violent to Drug	0.008	0.008	0.010	0.011	0.012	0.015	0.017	0.018	0.023
Violent to Alcohol	0.018	0.019	0.018	0.019	0.012	0.014	0.012	0.010	0.011
Violent to Other Miscellaneous	0.010	0.014	0.023	0.028	0.025	0.034	0.036	0.034	0.043
Robbery to Burglary	0.007	0.010	0.009	0.008	0.007	0.007	0.007	0.007	0.007
Robbery to Other Property	0.009	0.012	0.010	0.009	0.007	0.010	0.008	0.010	0.009
Robbery to Drug	0.002	0.004	0.004	0.004	0.004	0.005	0.007	0.009	0.009
Robbery to Alcohol	0.006	0.009	0.007	0.007	0.004	0.005	0.005	0.005	0.004
Robbery to Other Miscellaneous	0.003	0.007	0.009	0.010	0.009	0.013	0.014	0.016	0.017
Burglary to Other Property	0.070	0.056	0.046	0.038	0.034	0.036	0.022	0.025	0.019
Burglary to Drug	0.019	0.018	0.016	0.017	0.020	0.021	0.020	0.022	0.019
Burglary to Alcohol	0.044	0.040	0.029	0.029	0.021	0.020	0.015	0.012	0.009
Burglary to Other Miscellaneous	0.023	0.031	0.038	0.043	0.041	0.048	0.043	0.041	0.036
Other Property to Drug	0.023	0.021	0.020	0.020	0.022	0.021	0.026	0.022	0.027
Other Property to Alcohol	0.052	0.048	0.036	0.035	0.023	0.021	0.019	0.012	0.013
Other Property to Other Miscellaneous	0.027	0.037	0.046	0.051	0.046	0.049	0.057	0.042	0.051

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 7c: Predicted Probabilities of Repeating the Same Offense for Model 2: Arrest Transitions 1 Through 9 (1986 Sample).

	Arrest Transition									
Type of Offense	1	2	3	4	5	6	7	8	9	Mean
Violent	2.1E-06	2.6E-06	1.0E-06	8.7E-07	8.6E-07	1.0E-06	1.0E-06	1.2E-06	1.4E-06	1.3E-06
Robbery	1.8E-07	2.9E-07	2.9E-07	2.5E-07	2.8E-07	4.0E-07	5.4E-07	7.1E-07	6.8E-07	4.0E-07
Burglary	0.534	0.527	0.526	0.538	0.564	0.548	0.543	0.538	0.508	0.536
Other Property	0.047	0.046	0.044	0.039	0.033	0.037	0.036	0.037	0.045	0.040
Drug	2.7E-09	3.6E-09	3.9E-09	4.0E-09	4.5E-09	5.1E-09	6.0E-09	7.4E-09	7.6E-09	5.0E-09
Alcohol	0.002	0.003	0.004	0.004	0.004	0.004	0.004	0.004	0.005	0.004
Other Miscellaneous	1.3E-06	3.4E-06	7.6E-06	1.3E-05	1.5E-05	1.8E-05	2.5E-05	3.0E-05	3.2E-05	1.6E-05

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 8c: Predicted Probabilities of Escalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1986 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	8.3E-07	5.4E-07	5.5E-07	4.6E-07	4.6E-07	6.1E-07	6.7E-07	9.8E-07	1.0E-06
Burglary to Violent	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Burglary to Robbery	3.9E-04	4.0E-04	3.9E-04	3.4E-04	4.4E-04	5.2E-04	5.7E-04	6.8E-04	5.4E-04
Other Property to Violent	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Property to Robbery	1.2E-04	1.2E-04	1.1E-04	9.5E-05	1.1E-04	1.2E-04	1.7E-04	1.5E-04	1.6E-04
Other Property to Burglary	0.160	0.155	0.155	0.152	0.145	0.126	0.160	0.120	0.155
Drug to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Drug to Robbery	2.4E-08	3.2E-08	3.3E-08	2.9E-08	3.8E-08	4.7E-08	5.8E-08	7.4E-08	6.8E-08
Drug to Burglary	3.3E-05	4.3E-05	4.5E-05	4.6E-05	4.9E-05	5.0E-05	5.5E-05	5.9E-05	6.4E-05
Drug to Other Property	9.8E-06	1.3E-05	1.3E-05	1.2E-05	1.1E-05	1.5E-05	1.2E-05	1.8E-05	1.9E-05
Alcohol to Violent	1.2E-04	5.2E-05	6.3E-05	5.1E-05	6.8E-05	5.6E-05	6.4E-05	8.1E-05	7.6E-05
Alcohol to Robbery	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Alcohol to Burglary	0.034	0.037	0.045	0.043	0.052	0.039	0.049	0.047	0.046
Alcohol to Other Property	0.010	0.011	0.013	0.011	0.012	0.011	0.011	0.014	0.013
Other Miscellaneous to Violent	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Other Miscellaneous to Robbery	4.7E-07	7.9E-07	1.2E-06	1.5E-06	2.3E-06	2.6E-06	3.8E-06	4.8E-06	4.2E-06
Other Miscellaneous to Burglary	0.001	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004
Other Miscellaneous to Other Property	0.000	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 9c: Predicted Probabilities of Deescalation for Each Offense Type for Model 2: Arrest Transitions 1 Through 9 (1986 Sample).

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	4.4E-07	1.4E-06	5.5E-07	4.7E-07	5.1E-07	6.7E-07	8.3E-07	8.8E-07	9.3E-07
Violent to Burglary	0.001	0.002	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Violent to Other Property	1.8E-04	5.3E-04	2.1E-04	1.9E-04	1.5E-04	2.1E-04	1.7E-04	2.1E-04	2.5E-04
Violent to Drug	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Violent to Alcohol	4.2E-05	1.6E-04	6.0E-05	6.9E-05	4.7E-05	6.5E-05	6.8E-05	6.4E-05	8.6E-05
Violent to Other Miscellaneous	1.2E-06	5.8E-06	3.4E-06	4.0E-06	3.3E-06	4.8E-06	5.5E-06	5.5E-06	7.1E-06
Robbery to Burglary	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.001	0.001
Robbery to Other Property	7.1E-05	1.1E-04	1.1E-04	1.0E-04	8.1E-05	1.3E-04	1.1E-04	1.7E-04	1.8E-04
Robbery to Drug	2.0E-08	3.3E-08	3.4E-08	3.4E-08	3.2E-08	4.3E-08	5.6E-08	7.2E-08	7.5E-08
Robbery to Alcohol	1.7E-05	3.3E-05	3.2E-05	3.6E-05	2.5E-05	3.9E-05	4.5E-05	5.2E-05	6.3E-05
Robbery to Other Miscellaneous	4.8E-07	1.2E-06	1.8E-06	2.1E-06	1.8E-06	2.8E-06	3.6E-06	4.5E-06	5.2E-06
Burglary to Other Property	0.157	0.155	0.149	0.138	0.130	0.161	0.121	0.164	0.147
Burglary to Drug	4.3E-05	4.5E-05	4.5E-05	4.7E-05	5.1E-05	5.5E-05	5.9E-05	6.8E-05	6.0E-05
Burglary to Alcohol	0.037	0.045	0.042	0.050	0.040	0.050	0.047	0.049	0.050
Burglary to Other Miscellaneous	0.001	0.002	0.002	0.003	0.003	0.004	0.004	0.004	0.004
Other Property to Drug	1.3E-05	1.3E-05	1.3E-05	1.3E-05	1.3E-05	1.3E-05	1.7E-05	1.5E-05	1.8E-05
Other Property to Alcohol	0.011	0.013	0.013	0.014	0.010	0.011	0.014	0.011	0.015
Other Property to Other Miscellaneous	0.000	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.001

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 10c: Predicted Probabilities of Repeating the Same Offense for Whites and Non Whites: Arrest Transitions 1 Through 9 (1986 Sample).

Panel A: Whites

	Arrest Transition									
Type of Offense	1	2	3	4	5	6	7	8	9	Mean
Violent	3.0E-05	4.6E-05	6.1E-05	5.3E-05	4.7E-05	5.9E-05	9.8E-05	1.2E-04	2.0E-04	7.9E-05
Robbery	1.6E-06	2.2E-06	2.4E-06	1.6E-06	1.7E-06	4.5E-06	5.6E-06	7.2E-06	7.2E-06	3.8E-06
Burglary	0.486	0.455	0.454	0.449	0.479	0.464	0.484	0.492	0.430	0.466
Other Property	0.076	0.083	0.081	0.082	0.068	0.071	0.060	0.056	0.079	0.073
Drug	4.9E-06	8.3E-06	7.5E-06	5.6E-06	5.6E-06	8.0E-06	9.3E-06	9.8E-06	1.8E-05	8.6E-06
Alcohol	1.0E-04	1.3E-04	9.8E-05	6.1E-05	5.2E-05	5.1E-05	4.0E-05	3.1E-05	2.5E-05	6.6E-05
Other Miscellaneous	4.1E-05	1.7E-04	3.7E-04	6.1E-04	7.9E-04	8.5E-04	9.4E-04	1.2E-03	1.4E-03	7.1E-04

Panel B: Non-whites

	Arrest Transition									
Type of Offense	1	2	3	4	5	6	7	8	9	Mean
Violent	3.6E-05	5.4E-05	7.6E-05	8.0E-05	9.9E-05	1.5E-04	1.6E-04	2.3E-04	2.9E-04	1.3E-04
Robbery	7.1E-06	1.3E-05	1.9E-05	1.8E-05	1.8E-05	2.8E-05	4.4E-05	6.1E-05	6.0E-05	3.0E-05
Burglary	0.486	0.484	0.476	0.492	0.495	0.443	0.412	0.393	0.360	0.449
Other Property	0.078	0.076	0.074	0.065	0.062	0.076	0.080	0.083	0.094	0.076
Drug	7.2E-06	1.3E-05	1.9E-05	2.9E-05	4.4E-05	6.8E-05	1.3E-04	2.4E-04	3.1E-04	9.5E-05
Alcohol	5.5E-05	5.7E-05	6.5E-05	7.5E-05	5.6E-05	4.6E-05	6.4E-05	4.2E-05	3.5E-05	5.5E-05
Other Miscellaneous	1.9E-05	4.8E-05	1.3E-04	2.8E-04	3.8E-04	6.2E-04	1.2E-03	1.5E-03	2.0E-03	6.9E-04

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 11c: Predicted Probabilities of Escalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (1986 Sample).

Panel A: Whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	4.5E-06	1.6E-05	8.2E-06	1.6E-05	4.9E-06	2.0E-05	2.2E-05	2.9E-05	4.9E-05
Burglary to Violent	0.004	0.006	0.004	0.005	0.004	0.007	0.006	0.009	0.011
Burglary to Robbery	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.002
Other Property to Violent	0.001	0.003	0.002	0.002	0.002	0.002	0.003	0.002	0.005
Other Property to Robbery	4.4E-04	3.7E-04	5.4E-04	2.4E-04	5.6E-04	5.5E-04	7.3E-04	5.9E-04	6.8E-04
Other Property to Burglary	0.172	0.200	0.189	0.193	0.204	0.154	0.223	0.132	0.182
Drug to Violent	9.0E-06	2.5E-05	2.0E-05	1.9E-05	1.4E-05	2.4E-05	3.2E-05	3.4E-05	5.9E-05
Drug to Robbery	3.2E-06	3.3E-06	6.0E-06	2.0E-06	4.6E-06	5.5E-06	8.1E-06	8.2E-06	8.6E-06
Drug to Burglary	0.001	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.002
Drug to Other Property	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Alcohol to Violent	4.8E-05	1.0E-04	8.2E-05	6.3E-05	4.6E-05	6.7E-05	7.4E-05	6.2E-05	1.0E-04
Alcohol to Robbery	1.7E-05	1.3E-05	2.4E-05	6.6E-06	1.5E-05	1.5E-05	1.9E-05	1.5E-05	1.5E-05
Alcohol to Burglary	0.007	0.007	0.008	0.005	0.006	0.004	0.006	0.003	0.004
Alcohol to Other Property	0.003	0.003	0.004	0.002	0.002	0.002	0.002	0.001	0.002
Other Miscellaneous to Violent	2.1E-05	9.0E-05	1.2E-04	1.7E-04	1.7E-04	2.8E-04	3.0E-04	3.6E-04	6.7E-04
Other Miscellaneous to Robbery	7.4E-06	1.2E-05	3.4E-05	1.8E-05	5.7E-05	6.3E-05	7.6E-05	8.9E-05	9.8E-05
Other Miscellaneous to Burglary	0.003	0.006	0.012	0.014	0.021	0.018	0.023	0.020	0.026
Other Miscellaneous to Other Property	0.001	0.003	0.005	0.006	0.007	0.008	0.006	0.008	0.011

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Panel B: Non-whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Robbery to Violent	1.4E-05	2.7E-05	3.6E-05	4.2E-05	4.3E-05	6.0E-05	7.6E-05	1.3E-04	1.3E-04
Burglary to Violent	0.005	0.006	0.007	0.006	0.008	0.009	0.008	0.011	0.010
Burglary to Robbery	0.002	0.003	0.003	0.003	0.003	0.004	0.005	0.005	0.005
Other Property to Violent	0.002	0.002	0.003	0.002	0.003	0.003	0.004	0.005	0.005
Other Property to Robbery	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002
Other Property to Burglary	0.202	0.187	0.193	0.190	0.169	0.161	0.193	0.164	0.183
Drug to Violent	1.5E-05	2.7E-05	3.8E-05	4.0E-05	7.0E-05	9.2E-05	1.2E-04	2.5E-04	2.8E-04
Drug to Robbery	7.3E-06	1.3E-05	2.0E-05	1.8E-05	2.9E-05	4.3E-05	7.0E-05	1.1E-04	1.3E-04
Drug to Burglary	0.001	0.002	0.003	0.003	0.004	0.005	0.006	0.009	0.010
Drug to Other Property	0.001	0.001	0.001	0.001	0.002	0.002	0.002	0.004	0.005
Alcohol to Violent	5.3E-05	5.6E-05	7.7E-05	6.7E-05	1.1E-04	7.5E-05	1.0E-04	1.4E-04	8.6E-05
Alcohol to Robbery	2.6E-05	2.6E-05	4.0E-05	2.9E-05	4.5E-05	3.5E-05	5.9E-05	6.7E-05	3.8E-05
Alcohol to Burglary	0.005	0.005	0.006	0.006	0.006	0.004	0.005	0.005	0.003
Alcohol to Other Property	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.002
Other Miscellaneous to Violent	2.5E-05	4.2E-05	8.6E-05	1.3E-04	2.2E-04	2.5E-04	4.0E-04	6.8E-04	6.6E-04
Other Miscellaneous to Robbery	1.2E-05	2.0E-05	4.4E-05	5.5E-05	9.0E-05	1.2E-04	2.3E-04	3.1E-04	3.0E-04
Other Miscellaneous to Burglary	0.003	0.004	0.006	0.011	0.013	0.013	0.019	0.024	0.023
Other Miscellaneous to Other Property	0.001	0.001	0.002	0.004	0.005	0.006	0.008	0.012	0.012

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Table 12c: Predicted Probabilities of Deescalation for Each Offense Type for Whites and Non-whites: Arrest Transitions 1 Through 9 (1986 Sample).

Panel A: Whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	1.1E-05	6.1E-06	1.8E-05	5.5E-06	1.6E-05	1.3E-05	2.5E-05	2.8E-05	2.9E-05
Violent to Burglary	0.004	0.003	0.006	0.004	0.006	0.004	0.008	0.006	0.008
Violent to Other Property	0.002	0.001	0.003	0.002	0.002	0.002	0.002	0.003	0.003
Violent to Drug	1.6E-05	1.5E-05	2.2E-05	1.5E-05	1.9E-05	1.9E-05	2.8E-05	3.4E-05	6.2E-05
Violent to Alcohol	6.6E-05	6.1E-05	7.3E-05	5.1E-05	5.3E-05	4.5E-05	5.2E-05	5.9E-05	5.0E-05
Violent to Other Miscellaneous	5.9E-05	8.7E-05	2.0E-04	1.9E-04	2.2E-04	1.8E-04	3.0E-04	3.9E-04	4.2E-04
Robbery to Burglary	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002
Robbery to Other Property	2.7E-04	4.9E-04	3.6E-04	5.5E-04	2.0E-04	5.8E-04	4.6E-04	6.8E-04	8.3E-04
Robbery to Drug	2.4E-06	5.4E-06	3.0E-06	4.5E-06	2.0E-06	6.5E-06	6.4E-06	8.5E-06	1.5E-05
Robbery to Alcohol	9.8E-06	2.2E-05	9.8E-06	1.5E-05	5.6E-06	1.5E-05	1.2E-05	1.5E-05	1.2E-05
Robbery to Other Miscellaneous	8.7E-06	3.1E-05	2.6E-05	5.6E-05	2.3E-05	6.1E-05	6.9E-05	9.8E-05	1.0E-04
Burglary to Other Property	0.214	0.189	0.195	0.191	0.159	0.214	0.130	0.209	0.186
Burglary to Drug	0.002	0.002	0.002	0.002	0.002	0.002	0.002	0.003	0.003
Burglary to Alcohol	0.008	0.008	0.005	0.005	0.004	0.006	0.003	0.005	0.003
Burglary to Other Miscellaneous	0.007	0.012	0.014	0.019	0.018	0.022	0.019	0.030	0.023
Other Property to Drug	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001	0.001
Other Property to Alcohol	0.003	0.004	0.002	0.002	0.002	0.002	0.002	0.001	0.001
Other Property to Other Miscellaneous	0.002	0.005	0.006	0.008	0.008	0.007	0.009	0.008	0.010

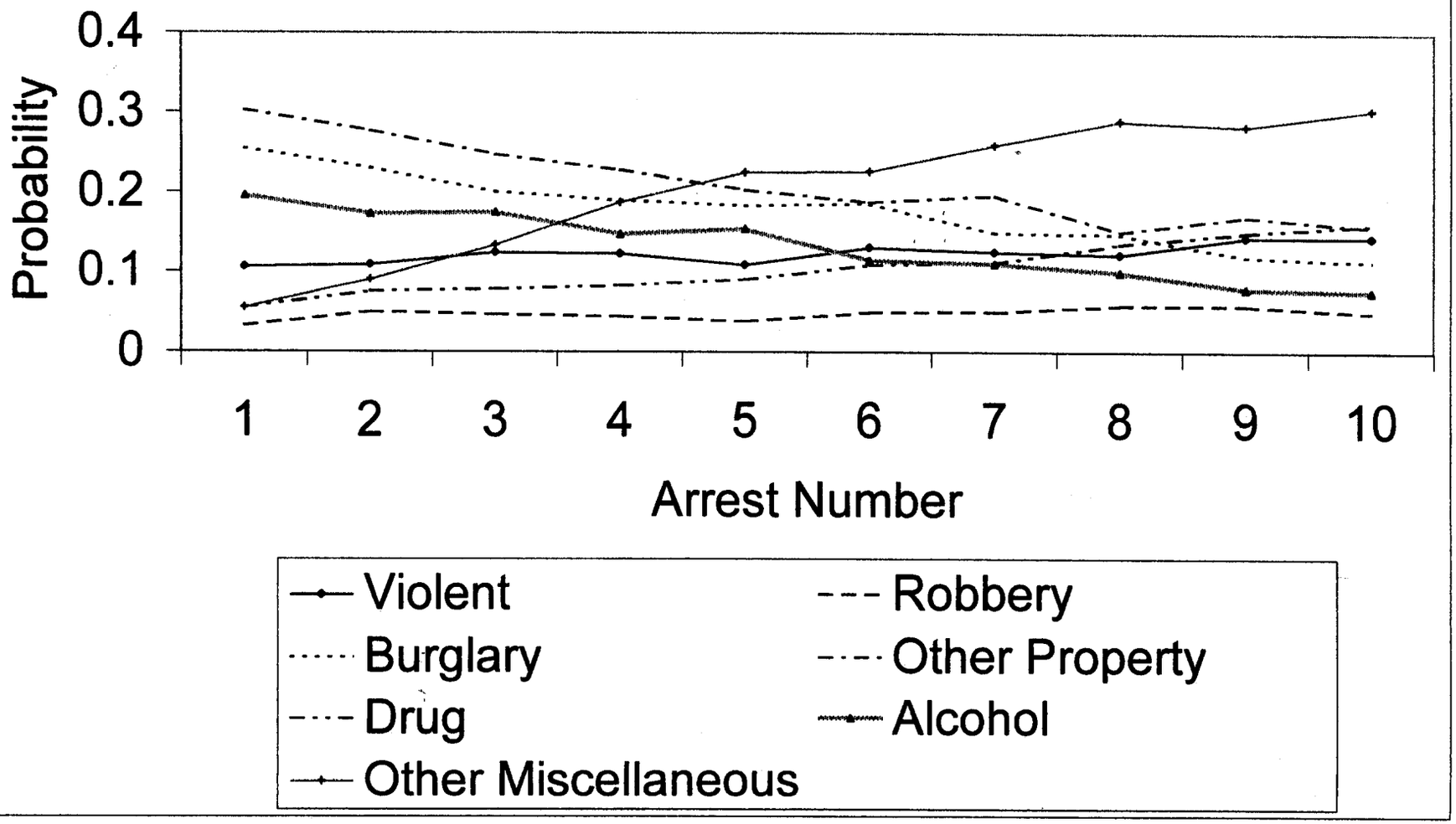
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Panel B: Non-whites

Type of Offense	Arrest Transition								
	1	2	3	4	5	6	7	8	9
Violent to Robbery	1.8E-05	2.5E-05	3.9E-05	3.5E-05	4.0E-05	6.8E-05	9.5E-05	1.0E-04	1.3E-04
Violent to Burglary	0.004	0.005	0.005	0.007	0.006	0.008	0.008	0.008	0.010
Violent to Other Property	0.001	0.002	0.002	0.002	0.002	0.004	0.003	0.004	0.005
Violent to Drug	1.8E-05	2.7E-05	3.8E-05	5.7E-05	6.3E-05	1.1E-04	1.8E-04	2.2E-04	3.2E-04
Violent to Alcohol	3.7E-05	5.5E-05	6.4E-05	8.9E-05	5.1E-05	9.0E-05	1.0E-04	6.7E-05	1.2E-04
Violent to Other Miscellaneous	2.8E-05	6.1E-05	1.2E-04	1.8E-04	1.7E-04	3.6E-04	4.9E-04	5.1E-04	8.9E-04
Robbery to Burglary	0.001	0.002	0.003	0.004	0.003	0.003	0.004	0.005	0.005
Robbery to Other Property	0.001	0.001	0.001	0.001	0.001	0.001	0.002	0.002	0.002
Robbery to Drug	7.0E-06	1.3E-05	1.8E-05	3.0E-05	2.7E-05	4.4E-05	8.3E-05	1.3E-04	1.5E-04
Robbery to Alcohol	1.5E-05	2.8E-05	3.0E-05	4.6E-05	2.2E-05	3.7E-05	4.9E-05	3.9E-05	5.5E-05
Robbery to Other Miscellaneous	1.1E-05	3.1E-05	5.6E-05	9.2E-05	7.5E-05	1.5E-04	2.3E-04	3.0E-04	4.1E-04
Burglary to Other Property	0.188	0.196	0.183	0.168	0.180	0.208	0.172	0.199	0.185
Burglary to Drug	0.002	0.003	0.003	0.004	0.005	0.006	0.009	0.011	0.011
Burglary to Alcohol	0.005	0.006	0.006	0.006	0.004	0.005	0.005	0.003	0.004
Burglary to Other Miscellaneous	0.004	0.006	0.010	0.013	0.015	0.021	0.025	0.025	0.032
Other Property to Drug	0.001	0.001	0.001	0.002	0.002	0.002	0.004	0.004	0.006
Other Property to Alcohol	0.002	0.002	0.002	0.002	0.001	0.002	0.003	0.001	0.002
Other Property to Other Miscellaneous	0.002	0.002	0.004	0.005	0.005	0.008	0.012	0.010	0.016

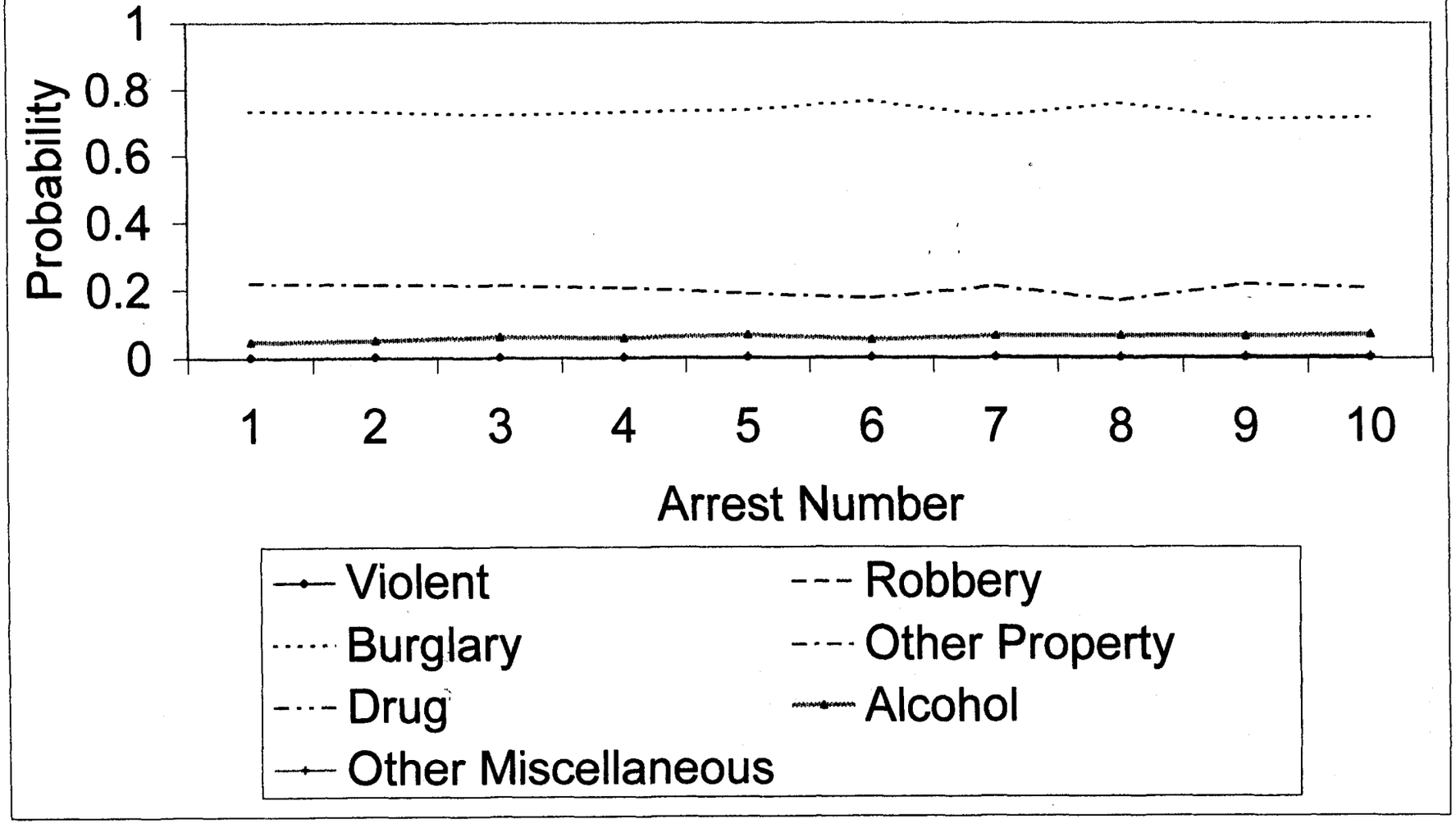
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 1c: Predicted Probability for Type of Offense Model 1 (1986 Sample)

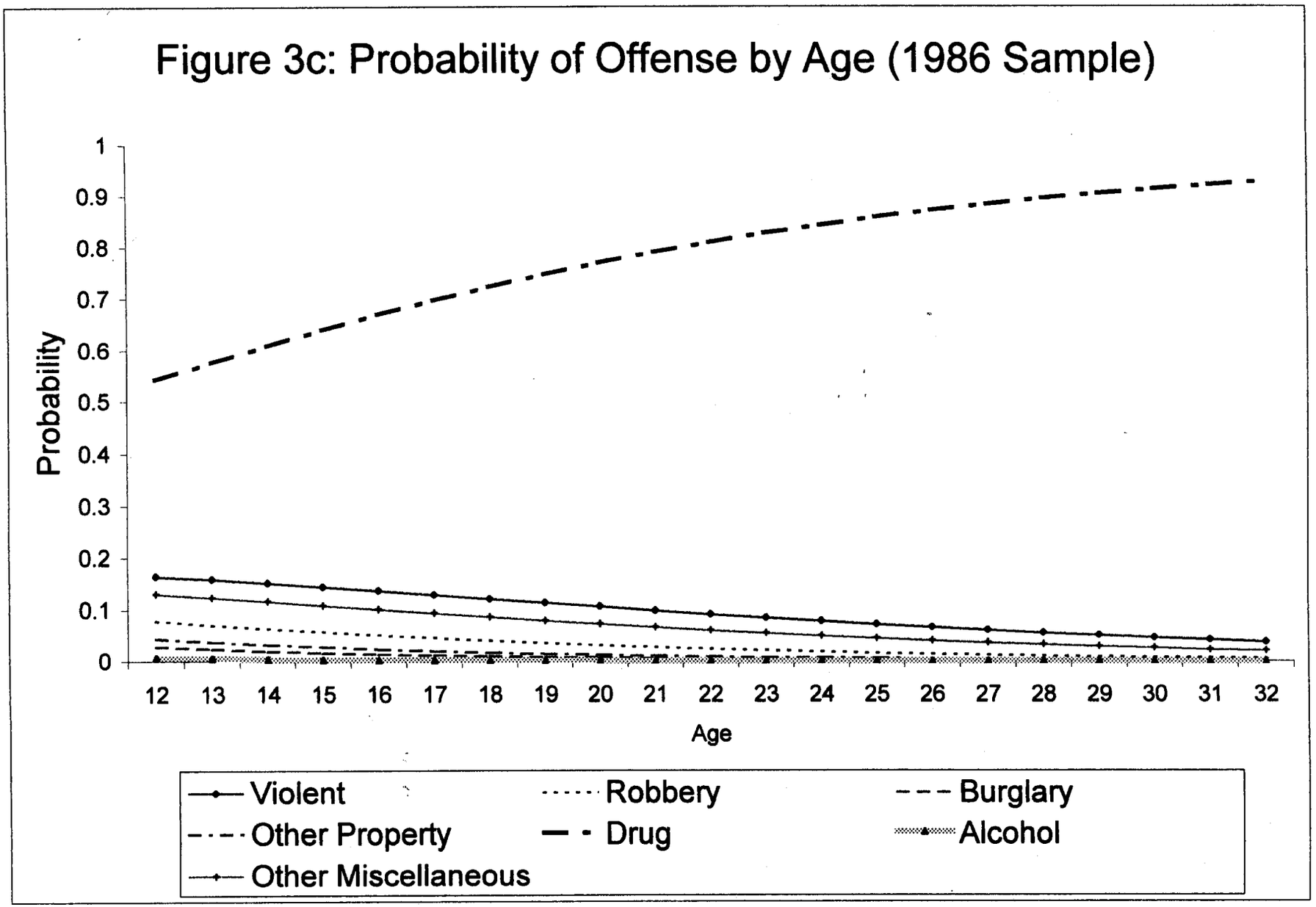


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

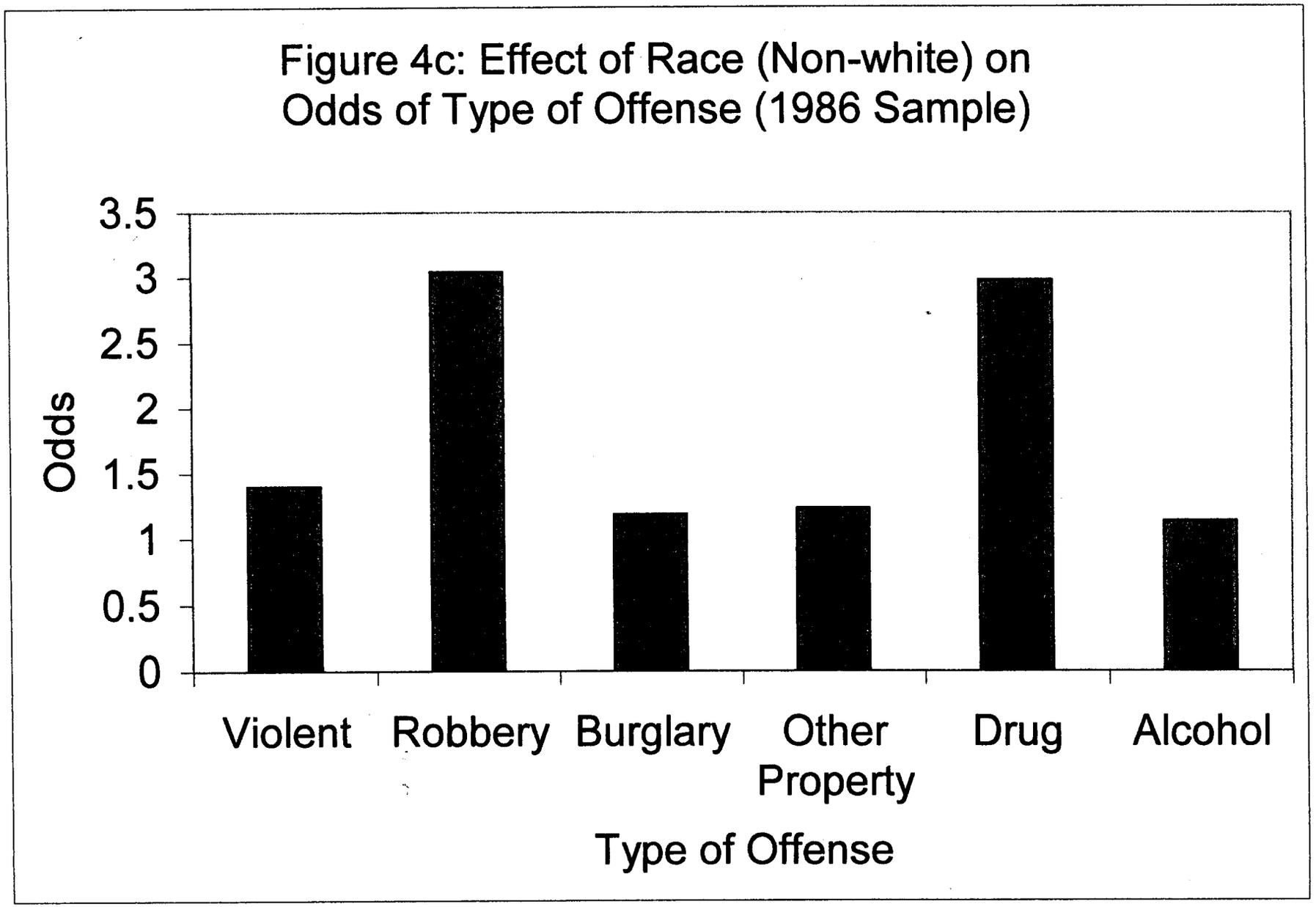
Figure 2c: Predicted Probability for Type of Offense Model 2 (1986 Sample)



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

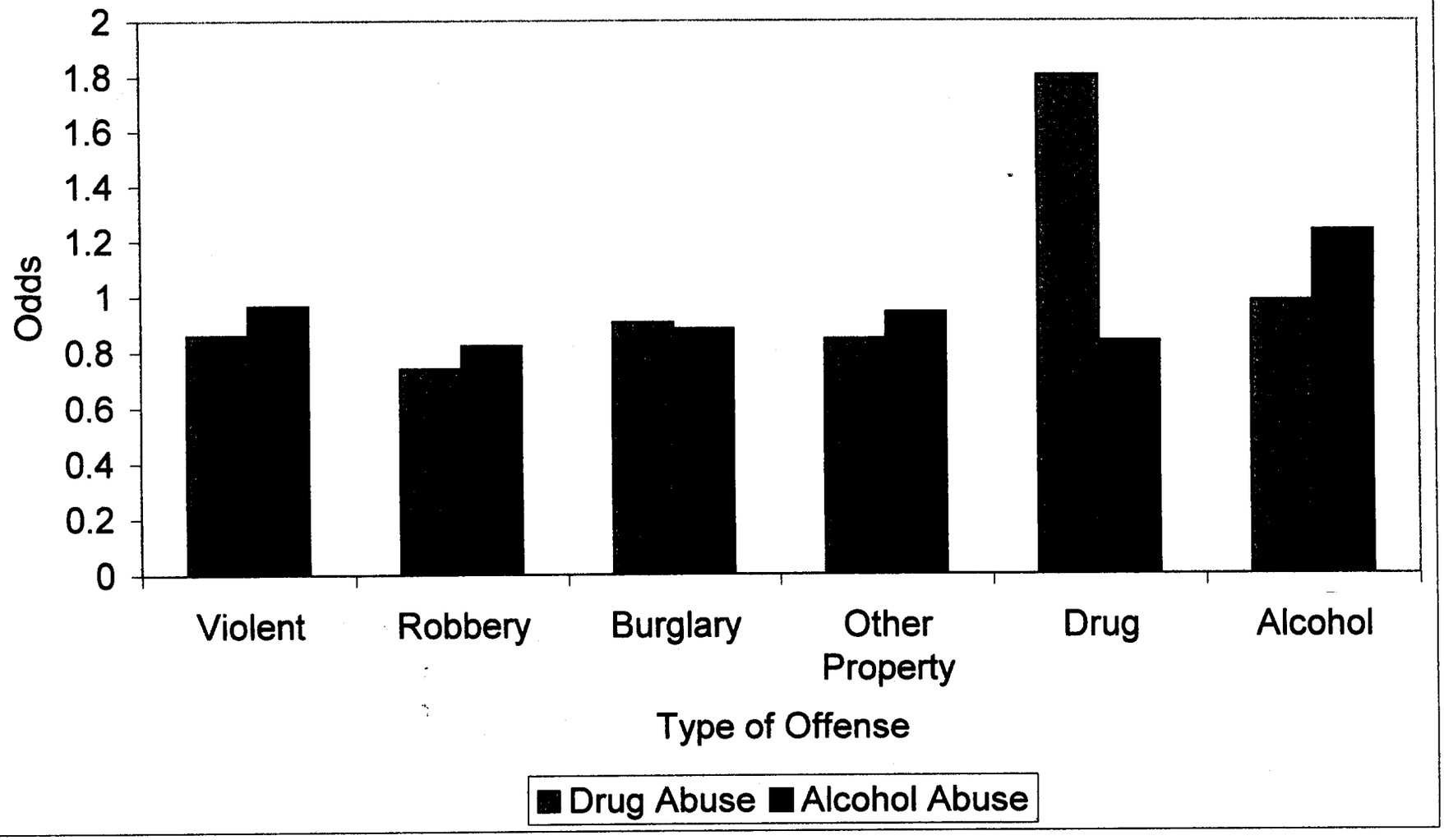


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



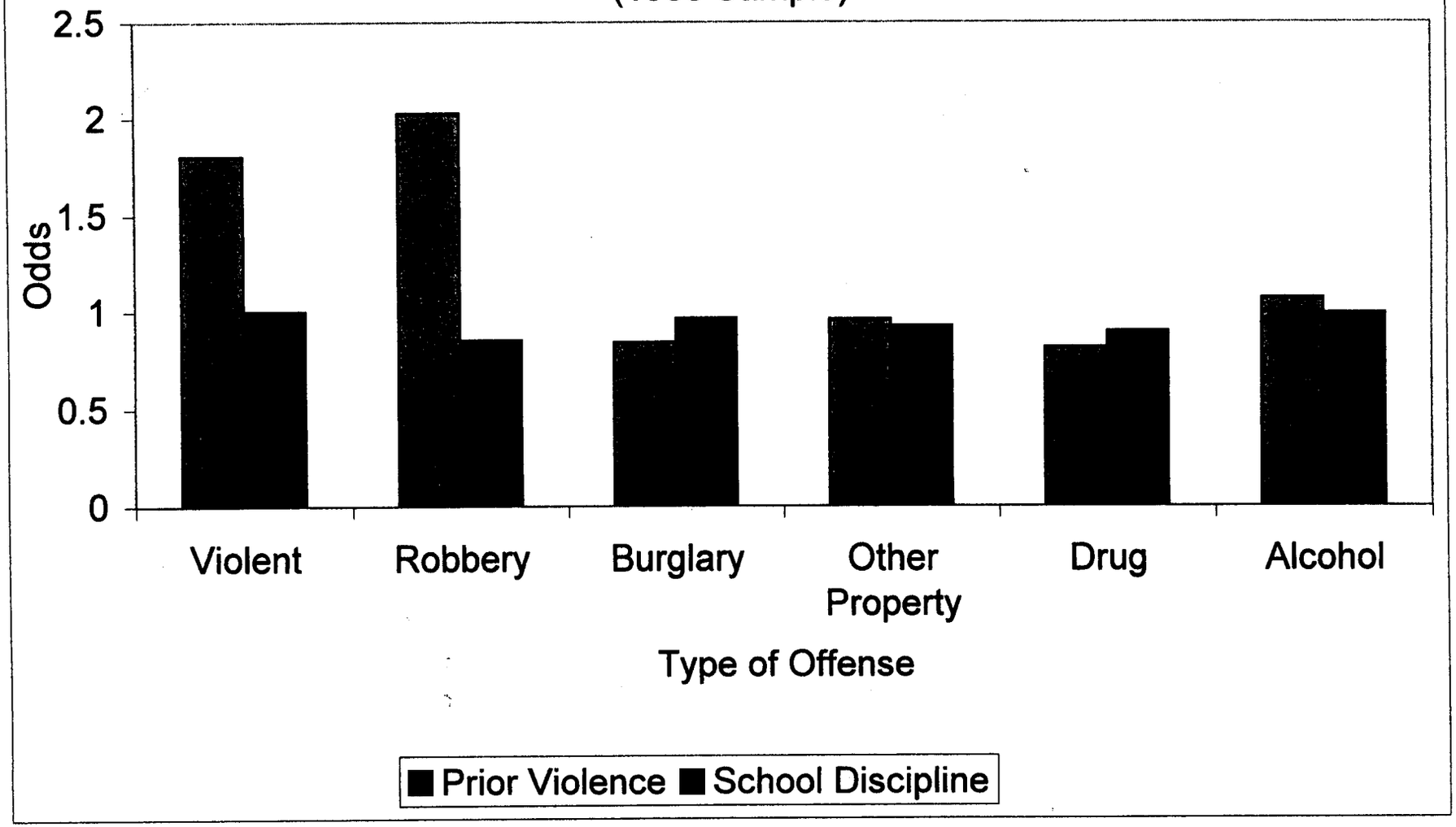
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 5c: Effects of Substance Abuse on Odds of Type of Offense
(1986 Sample)



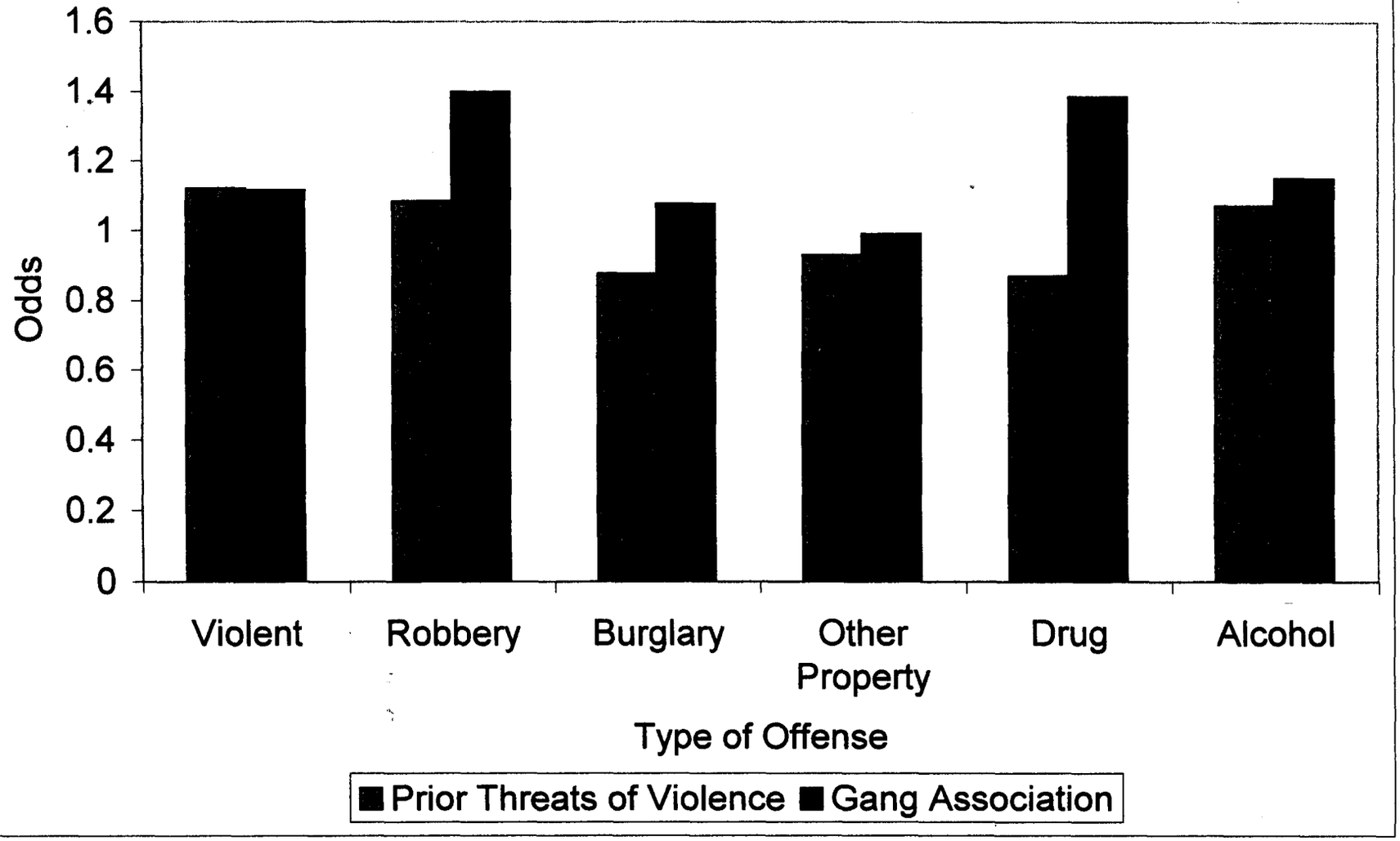
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 6c: Effects of Prior Deviant Behavior on Odds of Type of Offense
(1986 Sample)

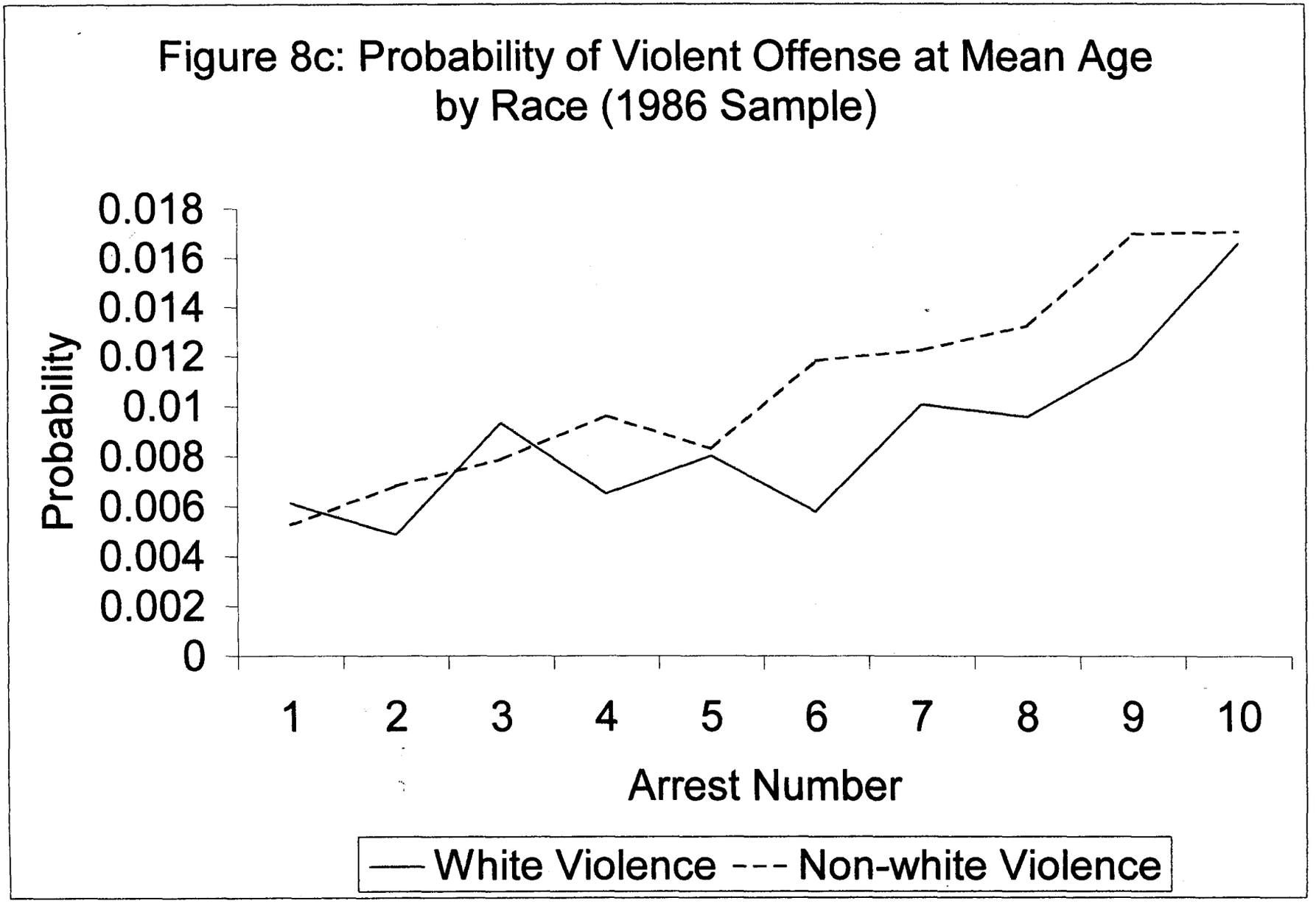


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

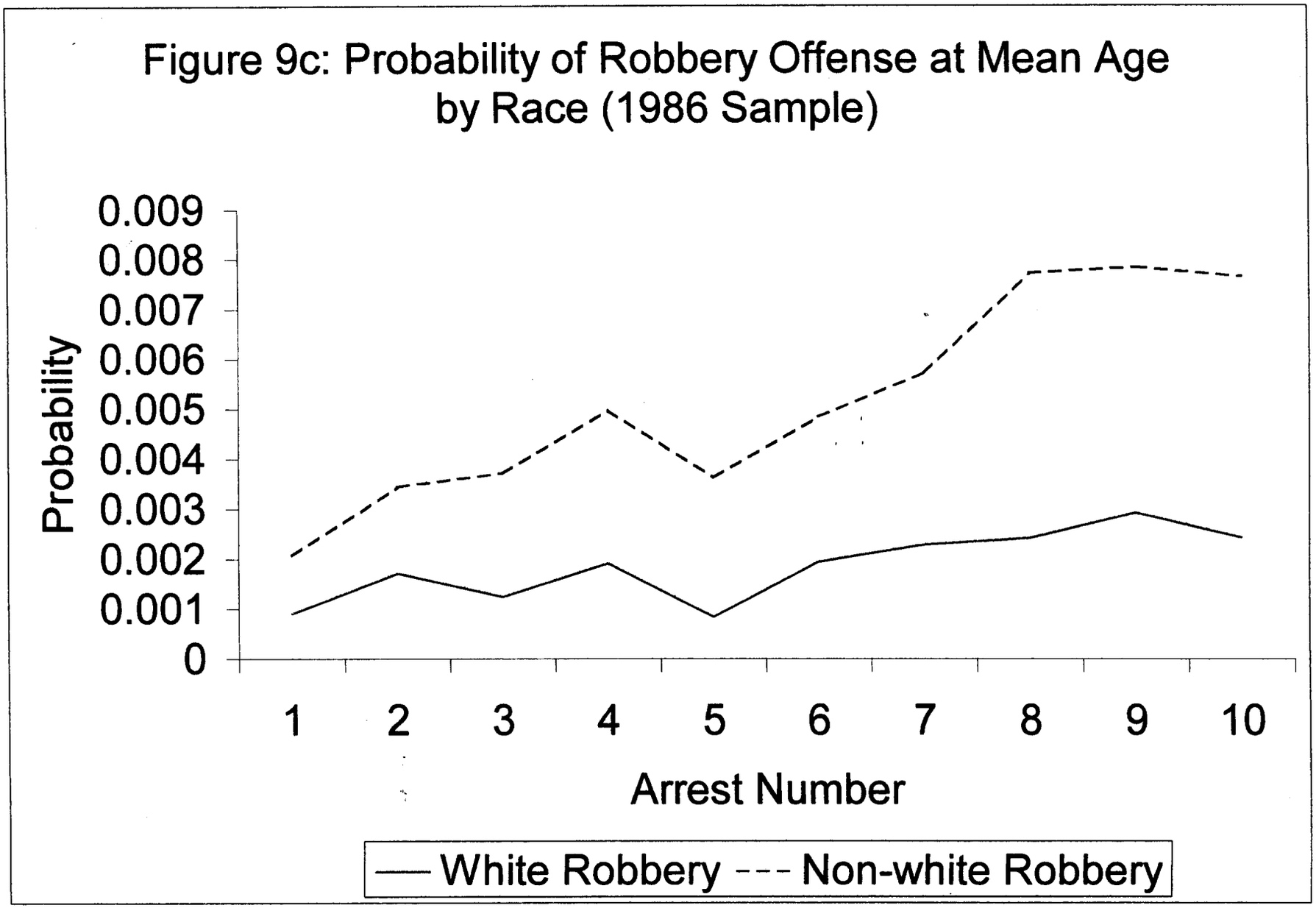
Figure 7c: Effects of Prior Threats of Violence and Gang Association on Odds of Type of Offense (1986 Sample)



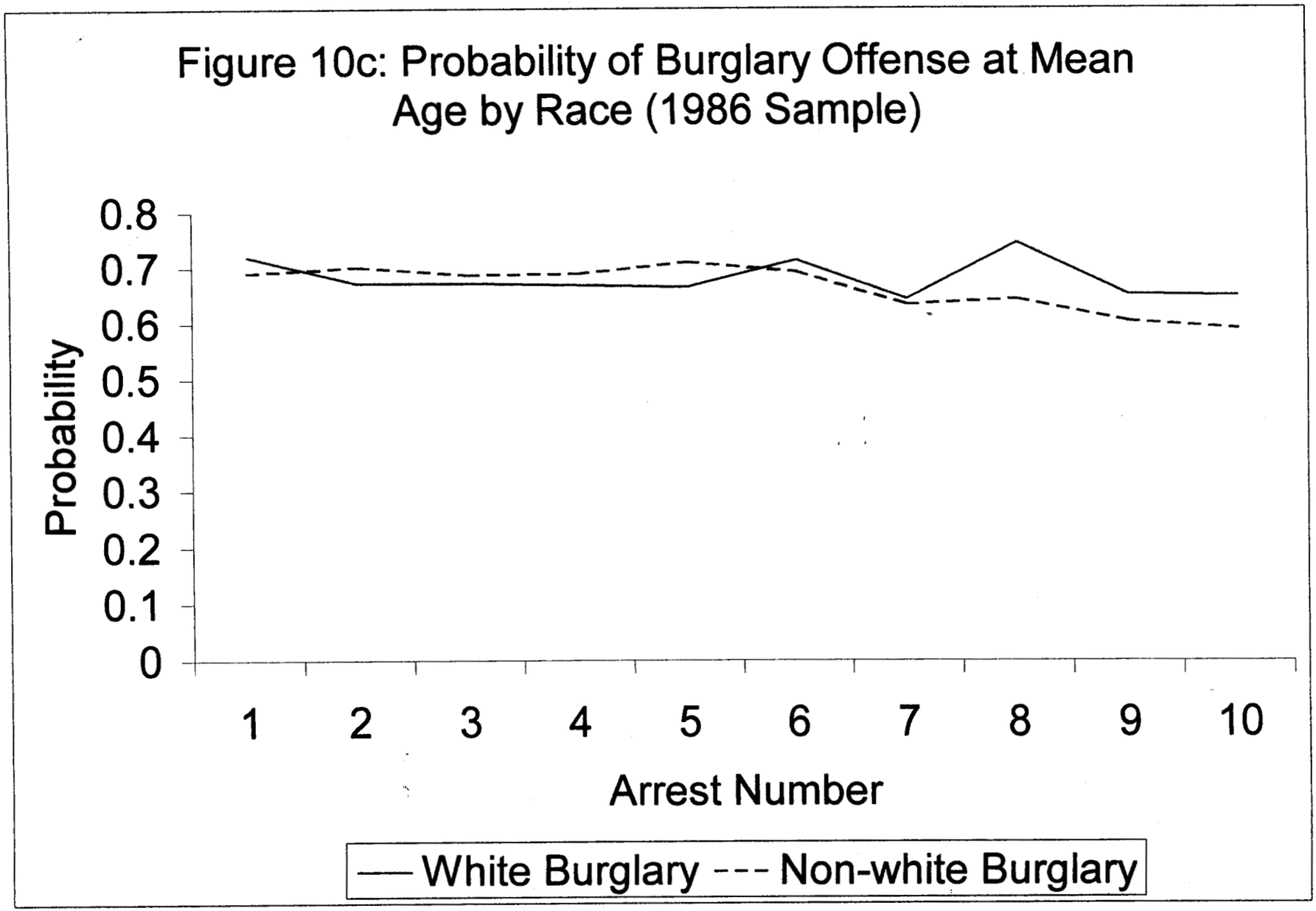
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



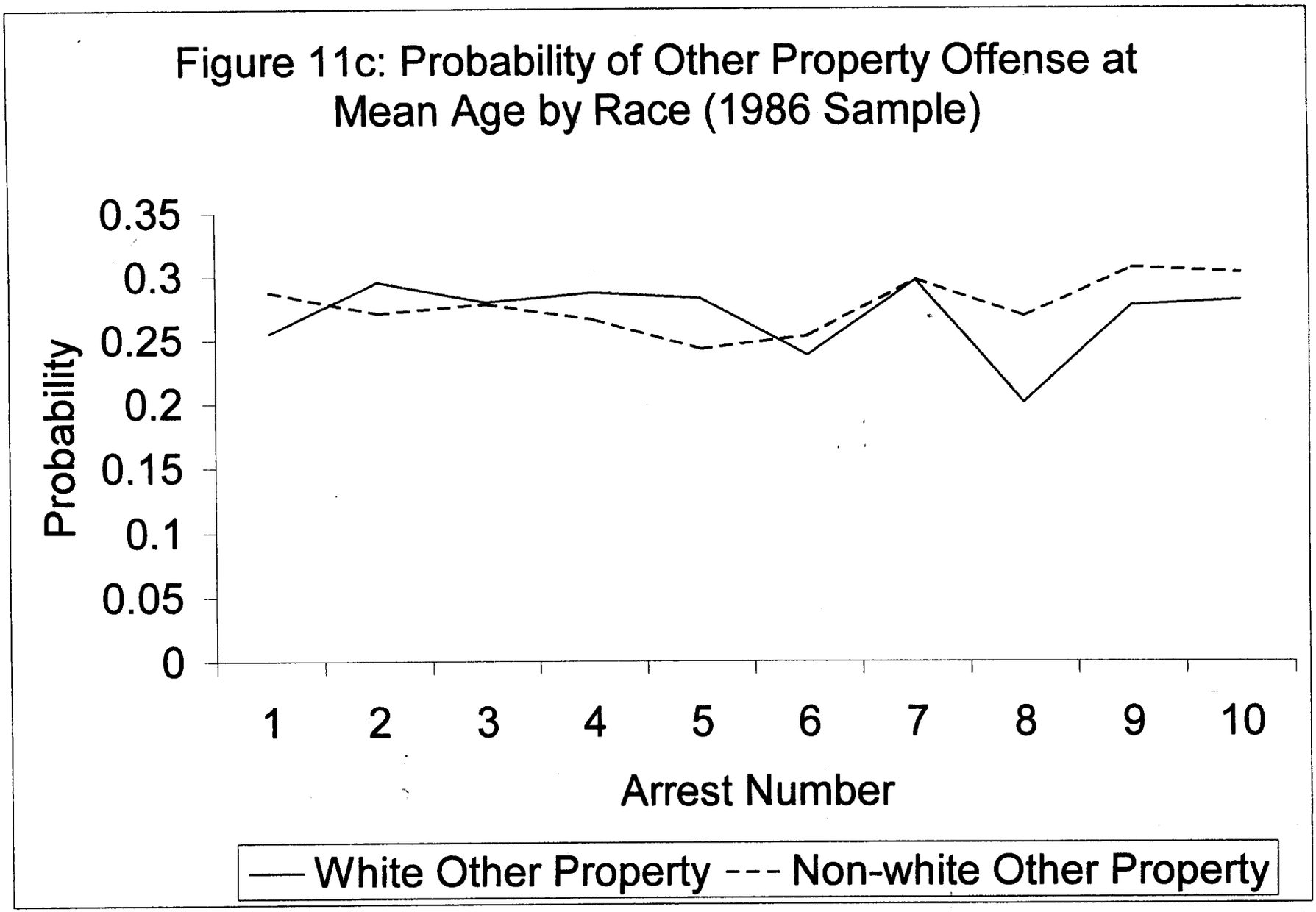
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

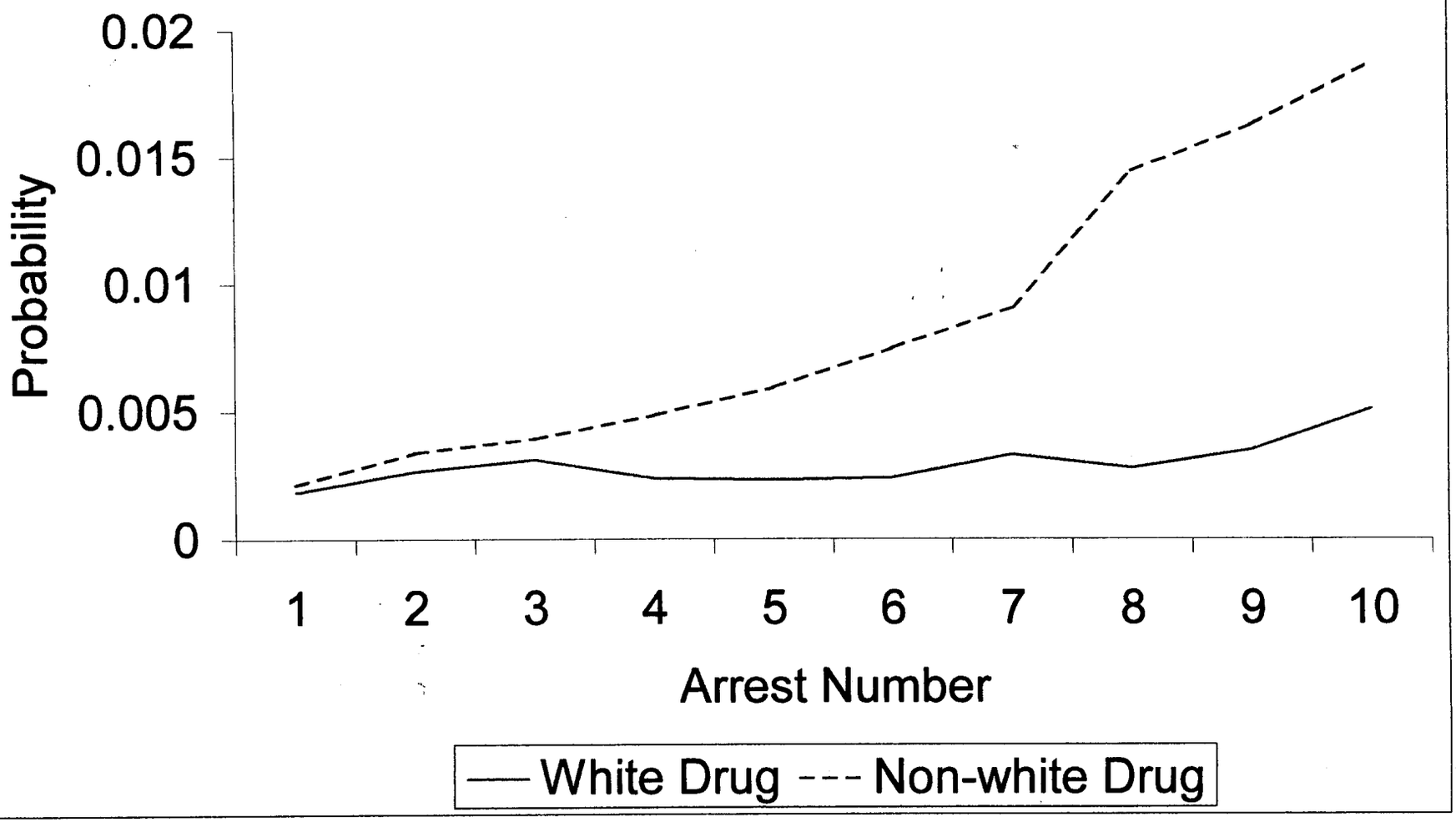


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

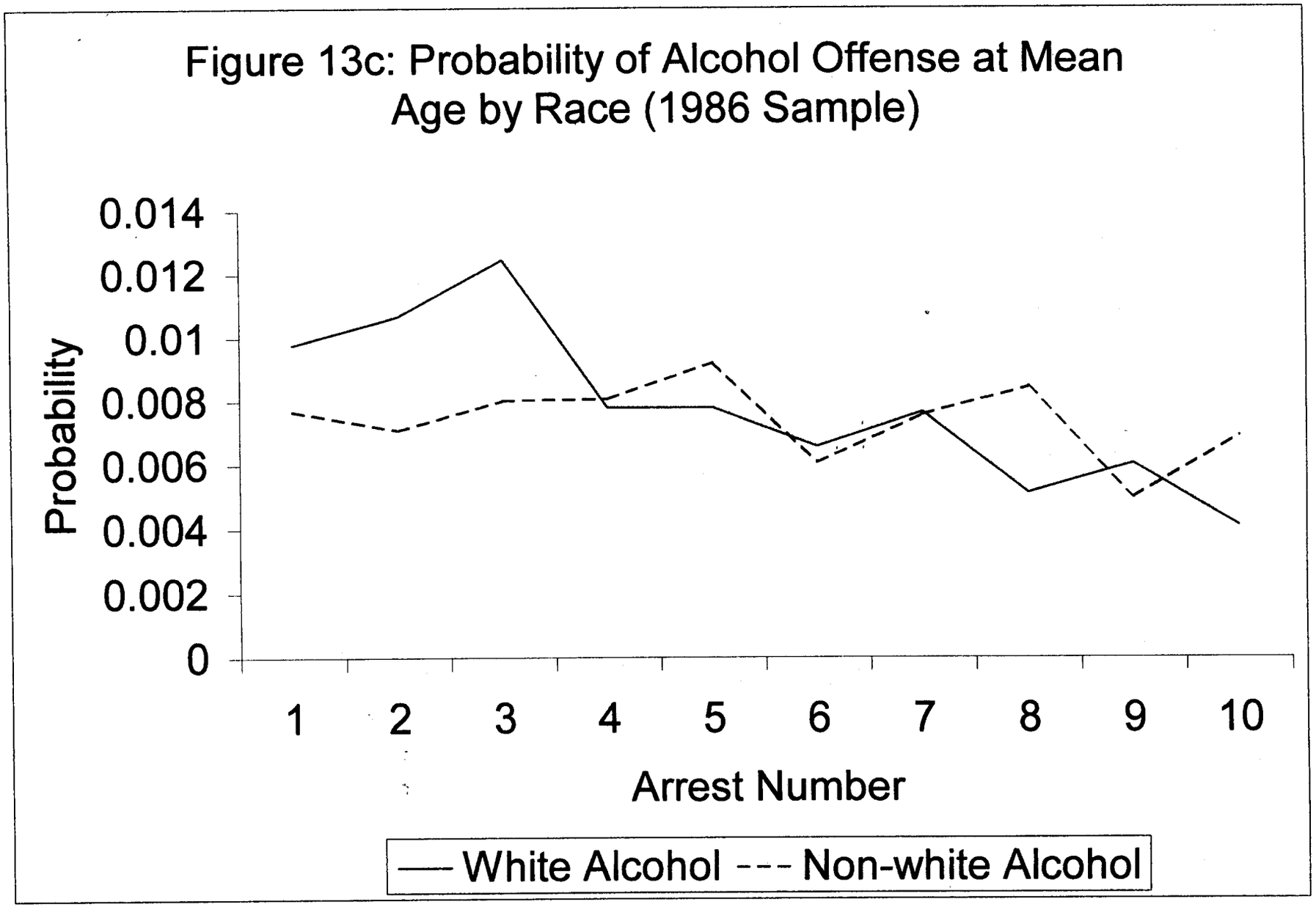


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

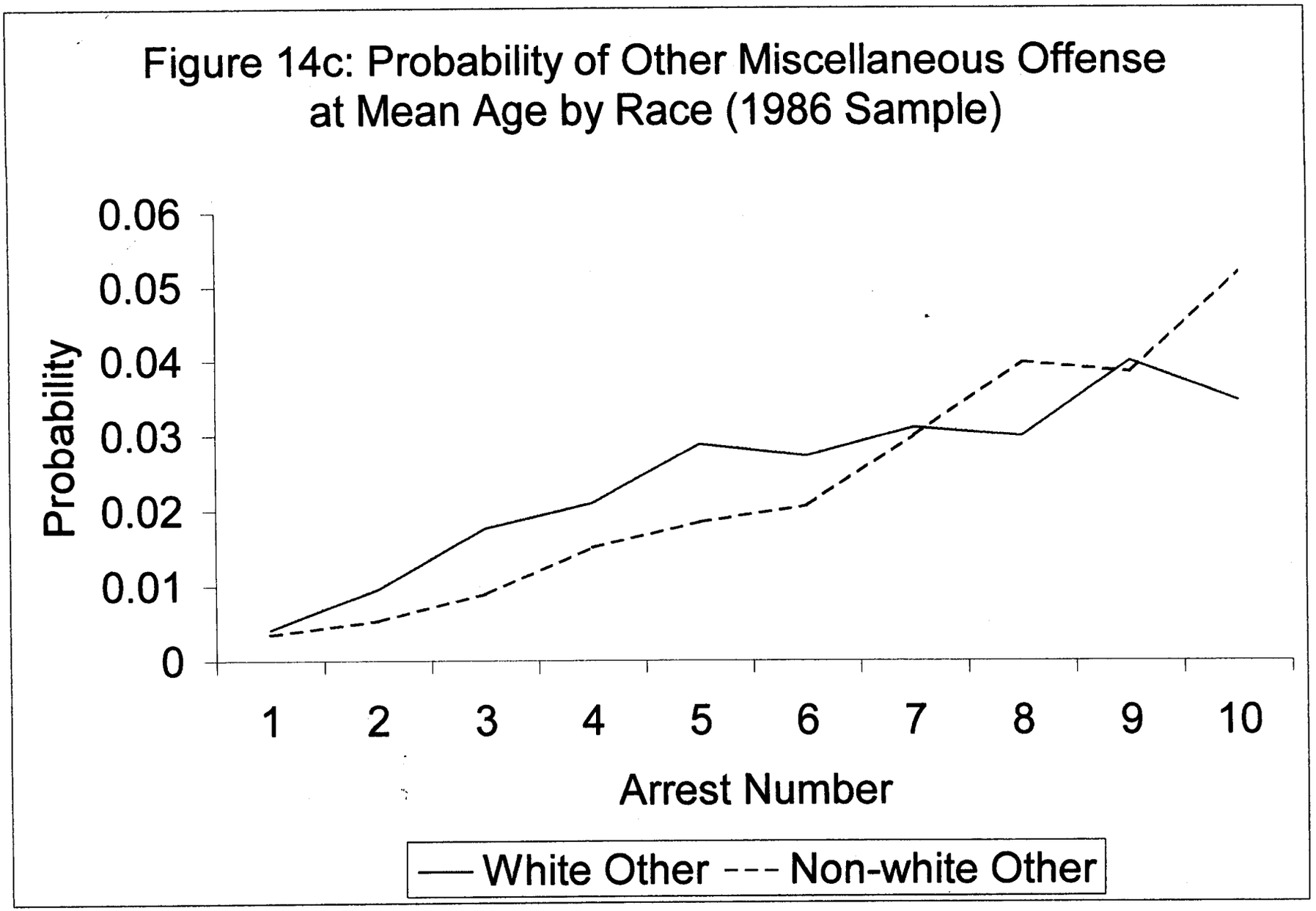
Figure 12c: Probability of Drug Offense at Mean Age by Race (1986 Sample)



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

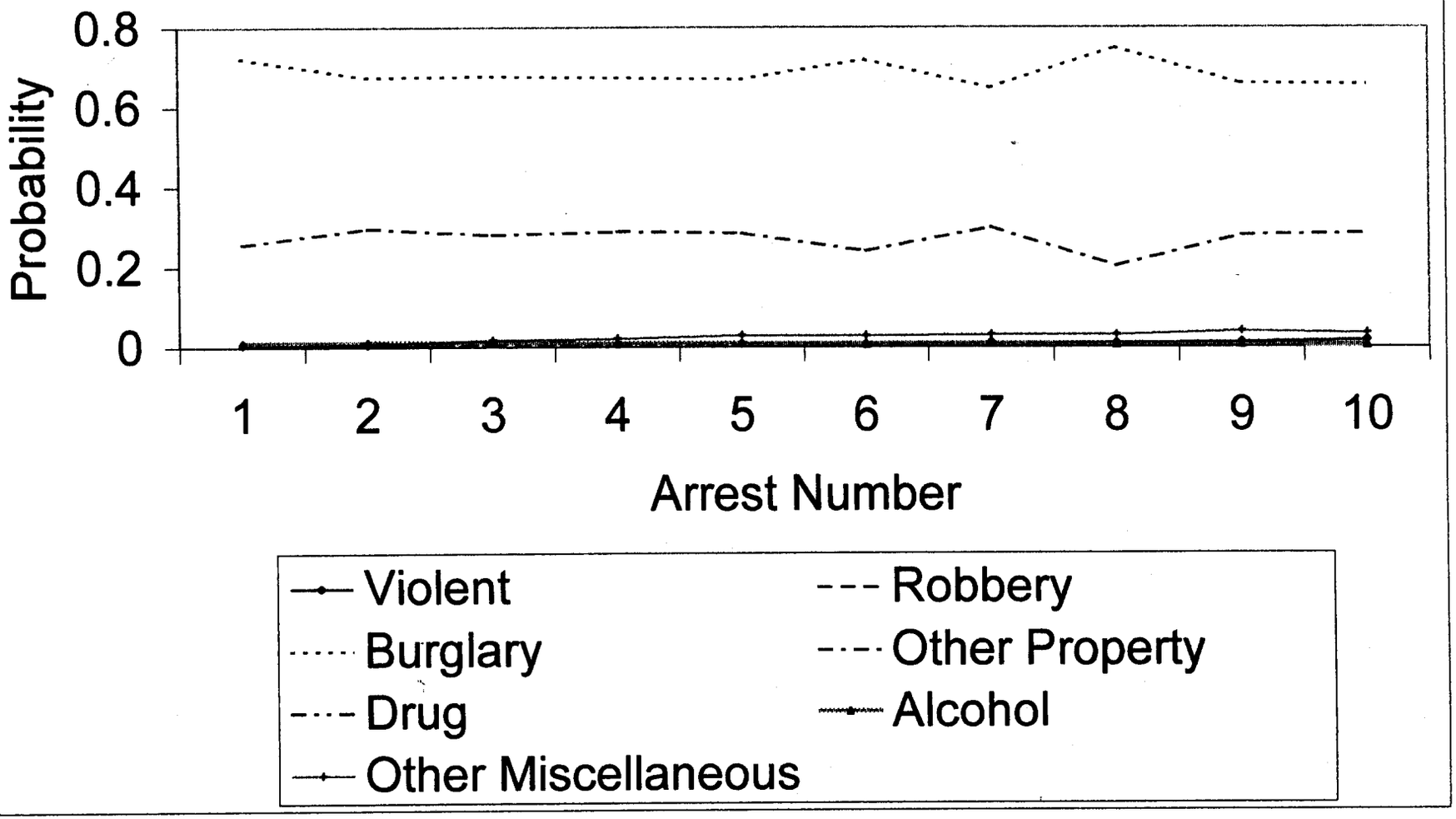


This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.



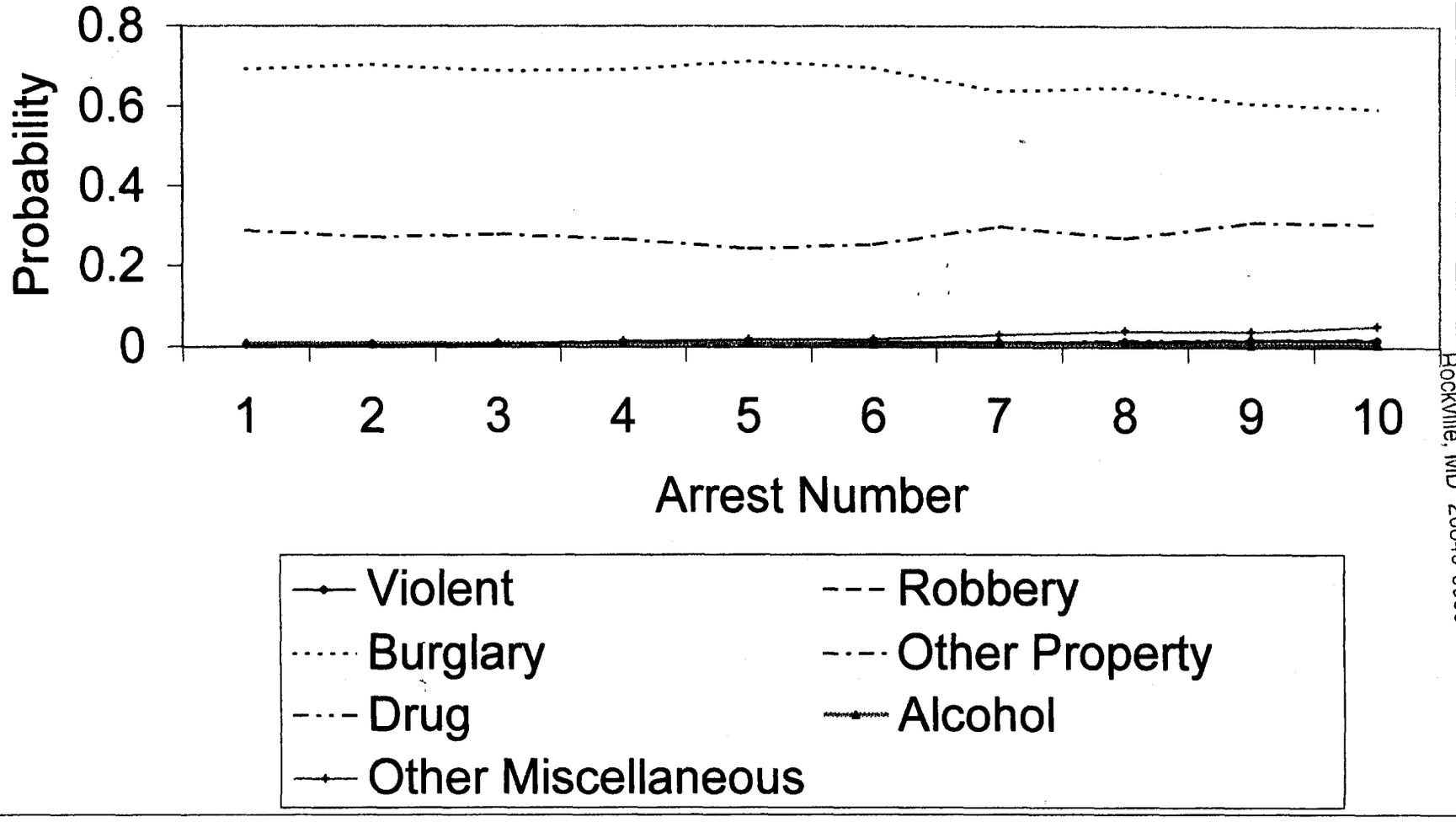
This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 15c: Predicted Probability for Type of Offense White Offenders (1986 Sample)



This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.

Figure 16c: Predicted Probability for Type of Offense Non-white Offenders (1986 Sample)



PROPERTY OF
National Criminal Justice Reference Service (NCJRS)
Box 6000
Rockville, MD 20849-6000

This document is a research report submitted to the U.S. Department of Justice. This report has not been published by the Department. Opinions or points of view expressed are those of the author(s) and do not necessarily reflect the official position or policies of the U.S. Department of Justice.