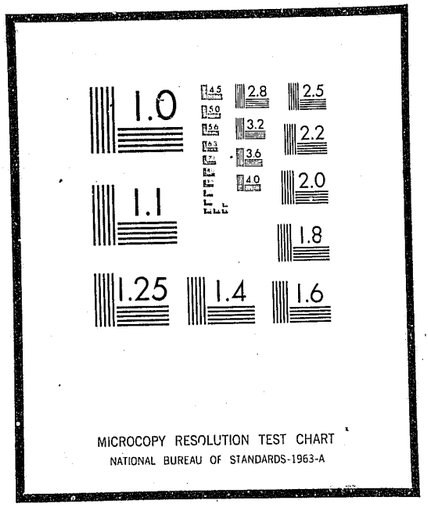

CRIMINAL INCIDENTS AND THE DEFENDANTS INVOLVED IN THEM--AN EMPIRICAL ANALYSIS BASED ON A NEW CRIME CLASSIFICATION SYSTEM

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Final Report

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This report is one of a series of descriptive statistics reports prepared at the end of the first year of the PROMIS Research Project. For a description of that Project, including its structure, data sources and data limitations, the reader is referred to "First Year Research Designs, PROMIS Research Project," Institute for Law and Social Research, Washington, D.C., April, 1975.

THE INSTITUTE FOR LAW AND SOCIAL RESEARCH
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Executive Summary

A new classification system of crime has been developed for use in the research on data contained in the Prosecutor's Management Information System (PROMIS) installed in the U.S. Attorney's Office of the Superior Court in Washington, D.C. Because both the offense committed and the defendant(s) charged with committing it are important to follow through the criminal justice system, the classification scheme was designed for criminal incidents and cases against one defendant. A criminal incident is defined as a criminal event taking place at a particular time in a particular location, involving one or more offenders and either no specific victims, one victim or several victims.

There were several considerations which were important to the development of the classification system:

(1) Statistics collected by one part of the criminal justice system should be comparable to statistics collected by another part. Specifically, the classification scheme allows data in PROMIS to be compared to LEAA victimization data, police data and corrections data.

(2) Since the types of crime committed in Washington, D.C. are similar to those committed in other large urban centers in the United States, the types of crime in the classification scheme were designed to be general enough to be applicable to other jurisdictions.

(3) The classification scheme was arranged in a hierarchy so that either large or small groups of offenses could be focused on for a particular research purpose.

The classification system finally developed is based on the most serious police charge in a case and some additional items collected in PROMIS. For criminal incidents, the most serious charge was determined by choosing the most serious charge against any of the codefendants. The seriousness of the charges was based primarily on the maximum sentence.

Cases against defendants were grouped into criminal incidents according to the criminal complaint number assigned by the police to each offense and contained in the PROMIS file. The classification system was used to type criminal events and cases brought to the prosecutor in 1973. The criminal incidents and cases were then described, based on other variables, such as the seriousness of the incident or the age of the defendant. There were 13,028 criminal incidents in which at least one arrest was made during 1973, and 15,460 arrests of individual defendants.

The major division in the classification system was into crimes involving a victim and crimes without an identifiable victim. In 1973, 70 percent of the criminal incidents involved a victim and 30 percent did not. Approximately the same percentages existed for cases against one defendant. The category of crimes involving a victim has four major subdivisions: personal victimizations involving violence, personal victimizations without violence, crimes against residences or households, and crimes against businesses or institutions. Personal victimizations involving violence comprised the largest group of criminal incidents with a victim, one-third of all offenses, followed by crimes against businesses or institutions, personal victimizations without violence, and finally,

crimes against residences or households. Within each of these subdivisions, specific crimes such as robbery or burglary, are listed. The category of crimes without an identifiable victim includes: weapons offenses, gambling, consensual sex offenses, drug offenses, and bail violations and prison breach. Drug offenses were the largest group of victimless crimes.

Eighty-six percent of the criminal incidents involved the arrest of only one defendant. However, certain types of offenses had higher percentages of multiple defendants. Robbery, burglary and auto theft were crimes which had proportions of multiple defendants between 20 and 25 percent. Two victimless crimes, gambling and drug offenses, also were likely to involve more than one defendant. Police are more likely to arrest several defendants for these victimless crimes at the same time.

The number of homicide victims and the number of victims of forcible sex offenses could be constructed from PROMIS data. Usually only one homicide occurred per criminal incident. The number of rape victims was greater than one in 10 percent of the adult female rapes, 6 percent of the child rapes, and 21 percent of the male rapes.

Turning from the criminal incidents to the defendants committing them, the age, race, sex, previous arrest history and employment status of the defendant could be described. For crimes involving a victim, the relationship between the victim and the defendant was available.

The median age of adult defendants arrested in 1973 was 26. Defendants arrested for robbery, auto theft, consensual sex offenses and drug offenses all had median ages below 23. Those arrested for weapons offenses, forcible sex with a child victim, residential arson, aggravated

assault and gambling all had median ages over 30 years. Persons arrested for gambling had an exceptionally high median age of 51.

Since the District of Columbia is a predominantly black community, the fact that 89 percent of the arrests in 1973 had a black defendant was not surprising. The crimes with the highest proportion of white defendants were consensual sex offenses, drug offenses, property destruction, forcible sex offenses with a male victim, and business embezzlement and fraud. In general, whites had lower proportions arrested for crimes involving a victim and higher proportions arrested for victimless crimes.

As would be expected, females had higher proportions than males in the consensual sex offenses category, which were mainly charges of prostitution. They also had higher proportions of fraud, arson and business larceny cases.

An item on whether the defendant had been arrested in the past five years was tabulated by type of crime. Defendants committing robbery, murder, burglary, and consensual sex offenses were those with the highest proportion of defendants arrested in the past five years. Murder was of particular note, since this is generally thought of as a one-time crime, occurring in a moment of "passion." The proportion of defendants accused of murder who have a previous arrest is low when the victim and defendant are in the same family. It may be that persons who are defendants in murder cases involving strangers have a history of violent criminal activity which finally results in the death of another person. Some of the murders of strangers may be "unintended" homicides occurring during the commission of a felony, such as an armed robbery. Robbery,

burglary and consensual sex offenses were also the crimes found to predict future recidivism most strongly, even after previous criminal history was statistically controlled for.

The distribution of employed and unemployed defendants by type of crime had an unexpected pattern, if one considers certain types of crime as a form of illegal employment. Crimes with a property motive (prostitution, robbery, burglary, etc.) had lower proportions of defendants employed, whereas violent crimes (homicide, assault, etc.) had higher proportions of defendants who were employed. Prostitution had a lower proportion than for any other crime--23 percent. For all defendants, the unemployment rate was very high--50 percent.

The relationship between the victim and the defendant was tabulated into three categories: family, friend or acquaintance, or stranger. Personal victimizations involving violence was the crime category having the highest proportions in the "family" or "friend or acquaintance" groups. Within that category, homicides and assaults were the crimes with the highest proportions of victims and defendants in the same family.

The classification system has proved to be of use in characterizing criminal incidents and the defendants involved in them. The system will be used for a number of separate analyses, including: the computation of "system flow" rates for criminal incidents and defendants, geographical and ecological studies of crime, a study of victims, and a study of recidivism.

CRIMINAL INCIDENTS AND THE DEFENDANTS INVOLVED IN THEM--AN EMPIRICAL ANALYSIS BASED ON A NEW CRIME CLASSIFICATION SYSTEM

Introduction

In any statistical analysis, a classification system is desirable to enable aggregation of individual observations into groups. The choice of groups is a complex question in regard to criminal events, since they can be analyzed from many different points of view. Leslie Wilkins clarifies the problem when he states:

> The primary function of criminal statistics is to provide quantitative classified information regarding both (a) crimes, and (b) criminals. That is to say, the data must cover: (a) descriptions of events which are identified as breaches of the law...(b) decisions made by authorized persons regarding individuals identified as associated with the criminal act, and, where possible, the consequences of such decisions.[1]

The Prosecutor's Management Information System (PROMIS) installed in the U.S. Attorney's Office of the Superior Court in Washington, D.C. has information on the criminal events, the decisions made by criminal justice agencies, and the defendants accused of various crimes. Several objectives were considered in developing a classification system for use with this information. These objectives were based on certain assumptions.

A central assumption throughout this research is that the criminal justice system is indeed a "system." This implies that actions taken in one part of the system affect actions taken in another. For example,

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[1] Leslie T. Wilkins, "New Thinking in Criminal Statistics," in Wolfgang et al. The Sociology of Crime and Delinquency, (New York: Wiley, 1970), p. 64.

the way in which a case is handled by the police affects how it is subsequently prosecuted in court. In day to day operations, however, each portion of the criminal justice system frequently acts as if it is in isolation. This tendency extends to data collection by different parts of the system. Usually no attempt is made to relate the statistics of the police to that of the court or to that of corrections. Thus, one of the objectives in forming a classification system was to have it be applicable to the different parts of the criminal justice system. Specifically, this meant that the LEAA victimization survey, police crime reports, PROMIS data and corrections data were considered in deciding upon the classifications.

Another assumption was that the types of crime committed in the District of Columbia are similar to those committed in other large urban centers in the United States. The classification system was designed to be general enough to be used by other jurisdictions, with perhaps the addition or deletion of a few categories.

A third consideration was that the classification system should be arranged in a hierarchy so that either large groups of offenses, such as so called "victimless crimes," or smaller groups, such as "weapons offenses," could be analyzed. The geographical study of D.C., for instance, will require large groups of offenses, whereas the smaller groups are important to look at with regard to defendant characteristics.

The fourth and final criterion for developing the classification scheme was the unit of analysis. Both the crime committed and the defendant(s) committing it are important to follow through the criminal justice system. The classification system focuses on the criminal incident,

which is defined as a criminal event taking place at a particular time in a particular location, involving one or more offenders and either no specific victims, one victim or several victims. Defendants are considered as participants in a criminal incident with a separate analysis for the criminal incidents and the defendants.

In addition to these criteria, the classification system should meet the two basic standards for any typology: its categories should be exhaustive and mutually exclusive. In other words, a given criminal incident or case against a defendant must be able to be classified into one, and only one category.

There will be two major parts to this paper. First, the frequency and characteristics of criminal incidents and the defendants involved in them in Washington, D.C. during 1973 will be described. Second, the development of the classification scheme will be discussed.

Distribution of Criminal Incidents and Cases Brought to the Superior Court in 1973

There were 13,028 criminal incidents which occurred in Washington, D.C. in which at least one arrest was made during 1973, resulting in 15,460 arrests of individual defendants. Since 86 percent of the criminal incidents involved only one defendant, the distribution of criminal incidents and cases in 1973 had similar patterns by type of crime.

The criminal incidents and cases against one defendant were classified according to most serious charge. For criminal incidents, the most serious charge was determined by choosing the most serious charge against any of the defendants. For a very high proportion of the criminal incidents (approximately 95 percent) the type of criminal incident

according to the classification scheme matched the type of crime for each of the codefendants in the case. The classification system has two major categories--"crimes involving a victim" and "crimes without an identifiable victim." Because the classification system is oriented to the offense, criminal incidents, rather than cases against one defendant, will be discussed in detail (Table 1.)

Out of the 13,028 criminal incidents, 1.5 percent could not be classified due to either an absence of any police charges in the individual cases or the presence of only charges which could not be fitted into any category, such as "cruelty to animals." Crimes involving a victim accounted for about 70 percent of the incidents, and crimes without a victim accounted for the other 30 percent.

The largest group of crimes involving a victim were personal victimizations involving violence. More than one-third of all criminal incidents in 1973 involved some violence to an individual victim or victims--a homicide, an assault, a forcible sex offense, or a robbery. In this group, assaults and robberies accounted for a very large proportion of the total cases--21 and 9 percent, respectively.

Crimes against businesses or institutions were the second largest group of criminal incidents which involved a victim--14 percent of the total. Over one-half of these business crimes were larcenies, and all of the crimes within the group of business crimes involved property.

Personal victimizations which did not involve violence were the third largest group of crimes involving a victim. Almost three-fourths of the personal victimizations without violence were thefts. Individual citizens were victimized in almost half of the criminal incidents in

TABLE 1
CRIMINAL INCIDENTS IN 1973 BY OFFENSE
TYPE OF MOST SERIOUS CHARGE AGAINST ANY DEFENDANT

	Number	Percent
I. Crimes Involving A Victim		
A. Personal Victimizations Involving Violence	4363	33.5%
1) Homicide	219	
a) Murder	169	
b) Manslaughter	40	
c) Negligent homicide	10	
2) Assault	2681	
a) Aggravated	1877	
b) Simple	636	
c) Assault on a police officer	168	
3) Forcible Sex Offenses	385	
a) Female victim 16 and over	295	
b) Victim under 16	71	
c) Male victim	19	
4) Robbery	1078	
a) Armed	548	
b) Other	530	
B. Personal Victimizations Without Violence	1580	12.1%
1) Larceny	1142	
2) Auto Theft	270	
3) Fraud	168	
C. Crimes Against Residences or Households	1106	8.5%
1) Burglary	922	
2) Property Destruction	158	
3) Arson	26	
D. Crimes Against Businesses or Institutions	1826	14.0%
1) Robbery	175	
2) Burglary	292	
3) Larceny	954	
4) Embezzlement and Fraud	292	
5) Auto Theft	48	
6) Arson	8	
7) Property Destruction	57	
II. Crimes Without An Identifiable Victim	3956	30.4%
A. Weapons Offenses	916	
1) Gun	723	
2) Other weapon	193	
B. Gambling	272	
C. Consensual Sex Offenses	731	
D. Drug Offenses	1443	
E. Bail Violations and Prison Breach	594	
III. Crimes Which Could Not Be Classified	197	1.5%
All Criminal Incidents	13,028	100.0%

1973 (indicated by adding categories IA and IIB in Table 1).

For crimes against residences or households, most of the offenses were burglaries. There were over three times as many burglaries of a home than burglaries of a business, in which an arrest was made in 1973.

The group of crimes without an identifiable victim is composed of weapons offenses, gambling, consensual sex offenses, drug offenses, and bail violations and prison breach. Thirty out of every one hundred criminal incidents in 1973 were for so called "victimless" crimes. The drug offenses were the largest subgroup, comprising 11 percent of all offenses during the year. Weapons offenses were the second largest, accounting for 7 percent. Approximately 80 percent of the weapons offenses involved a gun, rather than another weapon.

When the arrests of defendants in Table 2 are compared to the criminal incidents in Table 1, the percent distributions are quite similar, although there are always the same number or more defendants in each crime category compared to criminal incidents.

Characteristics of the Criminal Incidents and the Defendants in Each Case

Using the classification scheme for criminal incidents and cases, the types of crimes and the defendants who commit them may be described using other variables in the PROMIS data base. Criminal incidents may be described by the number of codefendants arrested for the crime, the number of victims (for homicides and rapes), and the seriousness score of the crime on the Sellin-Wolfgang Index. For cases against an individual defendant, the age, race and sex of the defendants charged with different types of crime is available from PROMIS, as well as the relationship between the victim and the defendant, whether the defendant was

TABLE 2.
ARRESTS IN 1973 BY OFFENSE TYPE OF
MOST SERIOUS CHARGE AGAINST THE DEFENDANT

	Number	Percent
I. Crimes Involving A Victim		
A. Personal Victimizations Involving Violence	5040	32.6%
1) Homicide	259	
a) Murder	200	
b) Manslaughter	49	
c) Negligent homicide	10	
2) Assault	2891	
a) Aggravated	2002	
b) Simple	684	
c) Assault on a police officer	205	
3) Forcible Sex Offenses	450	
a) Female victim 16 and over	357	
b) Victim under 16	72	
c) Male victim	21	
4) Robbery	1440	
a) Armed	726	
b) Other	714	
B. Personal Victimizations Without Violence	1898	12.3%
1) Larceny	1337	
2) Auto theft	372	
3) Fraud	189	
C. Crimes Against Residences Or Households	1370	8.9%
1) Burglary	1174	
2) Property destruction	164	
3) Arson	32	
D. Crimes Against Businesses Or Institutions	2099	13.6%
1) Robbery	217	
2) Burglary	372	
3) Larceny	1059	
4) Embezzlement and fraud	305	
5) Auto theft	74	
6) Arson	8	
7) Property destruction	64	
II. Crimes Without An Identifiable Victim	4757	30.8%
A. Weapons Offenses	1042	
1) Gun	827	
2) Other weapon	215	
B. Gambling	372	
C. Consensual Sex Offenses	834	
D. Drug Offenses	1874	
E. Bail Violations And Prison Breach	635	
III. Crimes Which Could Not Be Classified	296	1.9%
All Cases	15,460	100.0%

arrested in the past five years, and whether he was employed.

For a few of the criminal incidents there were a large number of codefendants, although for most there was only one defendant as shown in Table 3.

TABLE 3.
CRIMINAL INCIDENTS BY THE
NUMBER OF DEFENDANTS

Number of Defendants	Number of Criminal Incidents
1	11,228
2	1,394
3	278
4	78
5	32
6	10
7	1
8	3
9	1
10 or more	3
All criminal incidents	13,028

The number of codefendants varied by the type of criminal incident, with some crimes almost always being charged to a lone offender and others having a large proportion of multiple defendants.

Table 4 shows the percent of criminal incidents in which more than one defendant was arrested. For some crimes the percentages of lone offenders varied by type of victim. Assaults on persons other than police officers had a proportion of single defendants lower than that for all cases. The number of codefendants arrested for a forcible sex offense

TABLE 4.
PERCENT OF CRIMINAL INCIDENTS WITH MORE THAN ONE DEFENDANT,
BY TYPE OF CRIME

I.	Crimes Involving A Victim		
	A. Personal Victimizations Involving Violence		12.8%
	1) Homicide		17.8%
	a) Murder	18.9%	
	b) Manslaughter	17.5%	
	c) Negligent homicide	0.0%	
	2) Assault		7.9%
	a) Aggravated	8.0%	
	b) Simple	5.5%	
	c) Assault on a police officer	16.7%	
	3) Forcible Sex Offenses		13.5%
	a) Female victim 16 and over	15.9%	
	b) Victim under 16	2.8%	
	c) Male victim	15.8%	
	4) Robbery		23.7%
	a) Armed	29.6%	
	b) Other	17.7%	
	B. Personal Victimizations Without Violence		12.8%
	1) Larceny		11.6%
	2) Auto Theft		20.4%
	3) Fraud		8.9%
	C. Crimes Against Residences or Households		15.7%
	1) Burglary		18.1%
	2) Property Destruction		4.4%
	3) Arson		0.0%
	D. Crimes Against Businesses or Institutions		15.2%
	1) Robbery		30.9%
	2) Burglary		24.3%
	3) Larceny		11.5%
	4) Embezzlement and Fraud		5.8%
	5) Auto Theft		39.6%
	6) Arson		25.0%
	7) Property Destruction		8.8%
II.	Crimes Without An Identifiable Victim		
	A. Weapons Offenses		10.8%
	1) Gun	10.8%	
	2) Other weapon	10.9%	
	B. Gambling		25.7%
	C. Consensual Sex Offenses		9.6%
	D. Drug Offenses		20.2%
	E. Bail Violations and Prison Breach		4.5%
III.	Crimes Which Could Not Be Classified		15.6%
	All cases		13.8%
	N = 13,028		

also varied depending upon the type of victim. Children under 16 were sexually assaulted by single offenders 97 percent of the time, whereas adult females and males were raped by single offenders only 84 percent of the time. One explanation is that children would be easier to overcome than adults. Other crimes with high proportions of single defendants were negligent homicide, fraud, property destruction, residential arson and, of course, bail violations.

There were a few types of offenses which had high proportions of multiple defendants. In Table 5 below, a percent distribution of the number of codefendants is shown for the types of crimes having the highest proportions of multiple defendants.

TABLE 5

CRIMINAL INCIDENTS WITH THE HIGHEST PROPORTION OF MULTIPLE DEFENDANTS BY THE NUMBER OF DEFENDANTS

Type of Criminal Incident	Total		Number of Defendants 1	2	3	4 or more
	Number	Percent				
Robbery	1,153	100.0%	75.3%	18.2%	4.8%	1.8%
Burglary	1,214	100.0%	80.3%	14.7%	3.3%	1.6%
Auto Theft	318	100.0%	76.7%	16.4%	4.4%	2.5%
Gambling	272	100.0%	74.3%	18.0%	4.4%	3.3%
Drug Offenses	1,443	100.0%	79.8%	15.3%	3.2%	1.7%

There are different explanations as to why a large number of codefendants are arrested for a crime involving a victim than for a crime without an identifiable victim. Police may "crack" a gambling ring after several months of investigation, or "bust" a group of drug offenders at

the same time. The figures are more likely to reflect arrest patterns than offense patterns. For robbery, burglary, and auto theft, however, it can be more easily inferred that if the police arrest one of the persons involved in the crime, they will arrest the others as well. Of course, the type of incidents resulting in any arrest may differ from those in which no arrest is made. The percent of defendants committing robberies alone appeared to vary depending upon the type of victim. Defendants involved in committing business robberies or personal armed robberies were more likely to have the help of at least one other person, compared with defendants committing an unarmed personal robbery.

The number of victims involved in each criminal incident could not be determined for every type of offense. Using two items collected in PROMIS to be used in computing the Sellin-Wolfgang Index, the number of persons killed and the number of persons raped could be calculated.

Usually only one homicide occurred per criminal incident. Almost all the murder incidents in 1973 involved only one death. Two incidents involved two deaths and one involved seven. Of the manslaughter incidents, two involved two victims and one involved three. All of the negligent homicide incidents involved only one victim.

Rape incidents frequently involved more than one victim, with the number of rape victims varying by the sex of the victim. When adult females were raped, there tended to be several victims, whereas when children were molested there was almost always only one victim in the incident. Of the 19 incidents of male rape, two involved two victims, and two involved four victims.

TABLE 6

RAPE INCIDENTS BY THE NUMBER OF VICTIMS

Number of Victims	Number of Criminal Incidents
1	346
2	20
3	9
4 or more	10
All rape incidents	385

Another item available in PROMIS was the number of motor vehicles stolen. The data showed that in only three instances in 1973 was more than one car stolen in the same criminal incident.

The seriousness score of an incident was determined by taking the maximum seriousness score of the event on the Sellin-Wolfgang Index for any of the codefendants involved in the case.[2] The reason for taking the highest score was to compensate for the fact that items are sometimes omitted when the forms from which the data is obtained are completed, thus producing lower scores than would be obtained if the data were always completely accurate.

Because the index was developed to measure crimes involving personal injury and/or property loss, it would be expected that crimes with

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[2] The Sellin-Wolfgang Index was developed by asking students, citizens and criminal justice practitioners to rate the seriousness of crimes. For further details on its development, see Thorsten Sellin and Marvin Wolfgang, The Measurement of Delinquency (New York: Wiley, 1964).

TABLE 7

CRIMINAL INCIDENTS BY THE SERIOUSNESS SCORE OF THE OFFENSE AND TYPE OF CRIME

Type of Criminal Incident	Seriousness Score of the Criminal Incident on the Sellin-Wolfgang Index					
	Total	0	1-5	6-10	11-20	21 or more
Crimes Involving a Victim	100.0%	14.2%	54.7%	15.7%	11.3%	4.2%
Personal Victimizations Involving Violence	100.0	9.0	37.0	26.2	20.0	7.8
Homicide	100.0	3.2	7.8	1.8	1.8	85.4
Assault	100.0	9.2	41.1	29.8	17.9	2.1
Forcible Sex Offenses	100.0	9.9	9.1	18.7	44.9	17.4
Robbery	100.0	9.5	42.8	24.6	20.2	3.0
Personal Victimizations Without Violence	100.0	21.3	73.4	4.9	0.4	0.0
Crimes against Residences or Households	100.0	20.8	66.0	7.3	5.0	0.9
Crimes against Businesses or Institutions	100.0	16.6	74.0	4.9	3.5	1.0
Crimes Without an Identifiable Victim	100.0	70.1	27.5	1.8	0.6	0.0
Weapons Offenses	100.0	6.2	85.9	5.7	2.1	0.1
Gambling	100.0	91.2	8.8	---	---	---
Consensual Sex Offenses	100.0	97.1	2.0	0.7	0.1	0.1
Drug Offenses	100.0	90.2	9.3	0.6	---	---
Bail Violations and Prison Breach	100.0	84.3	14.0	1.2	0.5	---
All Criminal Incidents	100.0	32.1	45.6	11.4	7.9	2.9

N = 13,028 criminal incidents

victims would be rated as more serious than crimes without a victim. This was the result, as shown in Table 7. Seventy percent of the "victimless" crimes had a score of zero, and only two percent had a score of more than five. The only "victimless" crimes which were considered at all serious were the weapons offenses. One point is given in computing the score if the defendant possessed a weapon and five points are given if he possessed a gun. All of the other "victimless" crimes, except bail violations, had over 90 percent of the scores in the zero category.

Crimes involving a victim were more frequently rated as serious. Only 14 percent of the incidents had a score of zero and 4 percent had scores of 21 or more. Personal victimizations involving violence were rated the most serious crimes involving victims, with 8 percent having a score of 21 or more. Since the incidents in this category (homicides, assaults, forcible sex offenses, and robbery) comprised a third of all the incidents in 1973, it is important to note that they are considered the most serious crimes. The most serious offenses within the category personal victimizations involving violence were the homicides, with 85 percent having a score greater than 21. Forcible sex offenses were the second most serious with 17 percent having a score greater than 21.

The other three categories of crimes involving a victim, personal victimizations without violence, crimes against residences or households, and crimes against businesses or institutions, had few very serious incidents, but also had low proportions of incidents with a score of zero. Three-fourths of the personal victimizations without violence and the crimes against businesses or institutions had a score between 1 and 5.

Two-thirds of the crimes against residences or households were in this category.

Turning from a description of the 13,028 criminal incidents in 1973 to a description of the 15,460 arrests of individual defendants charged with committing them, several characteristics of the defendants are available by type of case.

The median age for the defendants in all cases in the adult system in 1973 was 25.7 years (Table 8). This means that one half of the defendants were younger than approximately 26 years and one half were older. For most types of crime, the median ages were clustered closely around this overall median for all crimes. Figure 1 shows the extremes.

Figure 1.

MEDIAN AGES OF DEFENDANTS ARRESTED IN 1973

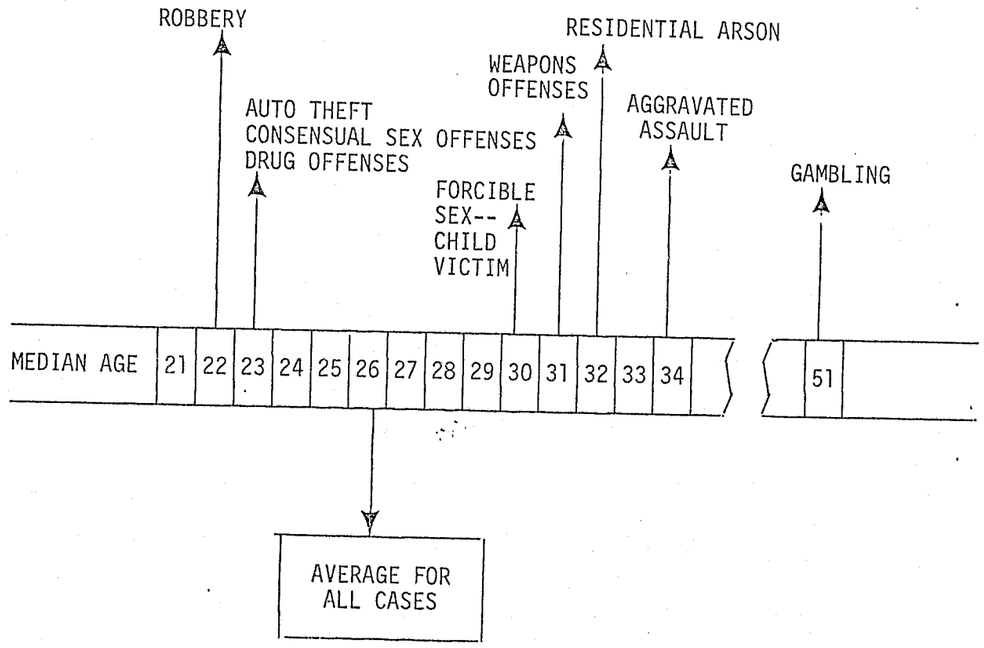

TABLE 8
MEDIAN AGE OF THE DEFENDANT BY TYPE OF CASE

I.	Crimes Involving A Victim	
	A. Personal Victimizations Involving Violence	
	1) Homicide	
	a) Murder	26.8 years
	b) Manslaughter	27.9
	c) Negligent homicide	25.0
	2) Assault	
	a) Aggravated	33.7
	b) Simple	27.8
	c) Assault on a police officer	25.6
	3) Forcible Sex Offenses	
	a) Female victim 16 and over	25.7
	b) Victim under 16	30.4
	c) Male victim	26.0
	4) Robbery	
	a) Armed	23.2
	b) Other	23.0
	B. Personal Victimizations Without Violence	
	1) Larceny	24.2
	2) Auto theft	23.1
	3) Fraud	27.4
	C. Crimes Against Residences Or Households	
	1) Burglary	24.6
	2) Property destruction	28.7
	3) Arson	32.0
	D. Crimes Against Businesses Or Institutions	
	1) Robbery	21.9
	2) Burglary	24.6
	3) Larceny	24.8
	4) Embezzlement and fraud	25.0
	5) Auto theft	23.3
	6) Arson	25.5
	7) Property destruction	27.3
II.	Crimes Without An Identifiable Victim	
	A. Weapons Offenses	30.6
	1) Gun	
	2) Other weapon	
	B. Gambling	51.0
	C. Consensual Sex Offenses	23.3
	D. Drug Offenses	23.3
	E. Bail Violations And Prison Breach	27.4
III.	Crimes Which Could Not Be Classified	26.6
	All Cases	25.7 years

N = 15,460 Cases

The defendants with the youngest median ages were those arrested for robbery, auto theft, consensual sex offenses and drug offenses. Among the robbers, the youngest median age was for business robberies--21.9 years. This was the youngest group of defendants charged with committing any crime. The older groups of defendants were accused of weapons offenses, forcible sex offenses with a victim under 16, residential arson, aggravated assault and gambling. The weapons offenses and aggravated assaults (which is assault with a weapon) had median ages of 30.6 and 33.7, respectively. Those defendants accused of gambling were relatively the oldest group with more than half of the defendants over age 51.

Because the District of Columbia is predominantly a black community, a large proportion of all the cases brought to the prosecutor in 1973 involved a black defendant--89.4 percent. By looking at the proportion of defendants who are white by type of case, the few types with a high proportion of white defendants can be identified (Table 9).

TABLE 9
TYPES OF CASES WITH THE HIGHEST PROPORTIONS OF WHITE DEFENDANTS

Type of Case	Percent of Cases With Defendants Who are White	Number of Cases
Property destruction--business	34.9%	64
Consensual sex offenses	26.0%	834
Drug offenses	22.1%	1,874
Property destruction--residential	19.2%	164
Forcible sex offenses--male victim	19.0%	21
Embezzlement and Fraud--business	17.6%	305
ALL CASES	10.6%	15,460

If, instead of looking at individual crimes, we look at the broader categories, whites were a smaller proportion of those arrested for personal victimizations involving violence--5.8 percent--and a larger proportion of those arrested for victimless crimes--16.9 percent (Table 10). It cannot be discerned from these arrest figures if the same proportions would exist if all those who committed crimes were identified.

The percentage of female defendants also varied by type of case. As would be expected, the highest proportion of females were found in the consensual sex offenses category--76.9 percent. Three other types of crime which had a percentage of female defendants above 20 percent were fraud--both personal and business, arson--both residential and business, and business larceny. For a more comprehensive discussion of the female offender, see The Female Offender in Washington, D.C.

An important question which can be addressed by using the classification scheme is: what types of crimes are being committed by persons with previous criminal records? The data that were available for use in this study was whether the defendant had been arrested in the five years previous to the current case. The five crimes (excluding Bail Violations) with the highest proportion of persons with prior records, are listed in Table 11. The overall percentage of defendants with prior arrests (45.7) was high (Table 12). The fact that defendants charged with robbery were both young and had the highest percentages of defendants arrested in the past five years is significant. It would appear

TABLE 10
PERCENT OF DEFENDANTS WHO ARE WHITE, BY TYPE OF CASE

(Cases where race was unknown were excluded - 445 cases or 2.9% of total)

I.	Crimes Involving A Victim		
	A. Personal Victimizations Involving Violence		5.8%
	1) Homicide		5.8%
	a) Murder	5.5%	
	b) Manslaughter	4.1%	
	c) Negligent homicide	22.2%	
	2) Assault		6.9%
	a) Aggravated	5.1%	
	b) Simple	11.6%	
	c) Assault on a police officer	9.5%	
	3) Forcible Sex Offenses		4.5%
	a) Female victim 16 and over	3.7%	
	b) Victim under 16	5.6%	
	c) Male victim	19.0%	
	4) Robbery		3.9%
	a) Armed	2.5%	
	b) Other	5.3%	
	B. Personal Victimizations Without Violence		8.0%
	1) Larceny	7.7%	
	2) Auto theft	7.7%	
	3) Fraud	10.9%	
	C. Crimes Against Residences Or Households		11.5%
	1) Burglary	8.4%	
	2) Property destruction	19.2%	
	3) Arson	6.3%	
	D. Crimes Against Businesses Or Institutions		10.9%
	1) Robbery	5.1%	
	2) Burglary	12.9%	
	3) Larceny	8.2%	
	4) Embezzlement and fraud	17.6%	
	5) Auto theft	11.6%	
	6) Arson	0.0%	
	7) Property destruction	34.9%	
II.	Crimes Without An Identifiable Victim		16.9%
	A. Weapons Offenses		9.7%
	1) Gun	9.7%	
	2) Other weapon	9.6%	
	B. Gambling		7.1%
	C. Consensual Sex Offenses		26.0%
	D. Drug Offenses		22.1%
	E. Bail Violations And Prison Breach		8.0%
III.	Crimes Which Could Not Be Classified		13.4%
	All Cases		10.6%

N = 15,015 Cases

TABLE 11
TYPES OF CASES WITH THE HIGHEST PROPORTIONS
OF DEFENDANTS WITH PRIOR ARRESTS

Type of Case	Percent of Defendants Arrested in the 5 Years Previous to Current Case	Number of Cases
Forcible Sex--Male Victim	71.4%	21
Robbery	57.3%	1,657
Murder	54.0%	200
Consensual Sex Offenses	52.3%	834
Burglary	52.0%	1,546

that persons committing robberies have had an active criminal career from an early age. Those charged with murder had the second highest proportion of defendants with previous arrests. This would not be expected, since murder is generally thought of as a one-time crime, occurring in a moment of "passion." The relationship between the victim and the defendant appears to correlate with the previous arrest record of the defendant. For murders of family members, the proportion arrested in the past five years is only 40 percent, but for murders of friends and acquaintances, the proportion rises to 56. For murders of strangers the proportion is 59 percent. Thus, persons arrested for murdering a friend or stranger tend to be persons who have a history of violent criminal activity which finally results in the death of another person. Persons arrested for murdering a family member are more likely to have acted in the "heat of passion," rather than as the culmination of a criminal career. The fact that consensual sex offenses (mostly prostitution) have a high proportion of persons with previous arrests

TABLE 12
PERCENT OF DEFENDANTS ARRESTED IN PAST 5 YEARS
BY TYPE OF CASE

I. Crimes Involving A Victim	
A. Personal Victimizations Involving Violence	
1) Homicide	
a) Murder	54.0%
b) Manslaughter	36.7%
c) Negligent homicide	10.0%
2) Assault	
a) Aggravated	42.1%
b) Simple	42.1%
c) Assault on a police officer	35.1%
3) Forcible Sex Offenses	
a) Female victim 16 and over	44.8%
b) Victim under 16	45.8%
c) Male victim	71.4%
4) Robbery	
a) Armed	62.3%
b) Other	50.3%
B. Personal Victimizations Without Violence	
1) Larceny	47.6%
2) Auto theft	44.6%
3) Fraud	45.5%
C. Crimes Against Residences Or Households	
1) Burglary	51.5%
2) Property destruction	42.7%
3) Arson	43.8%
D. Crimes Against Businesses Or Institutions	
1) Robbery	63.6%
2) Burglary	53.5%
3) Larceny	44.3%
4) Embezzlement and fraud	36.7%
5) Auto theft	45.9%
6) Arson	12.5%
7) Property destruction	37.5%
II. Crimes Without An Identifiable Victim	
A. Weapons Offenses	39.6%
1) Gun	39.9%
2) Other weapon	38.6%
B. Gambling	30.6%
C. Consensual Sex Offenses	52.3%
D. Drug Offenses	34.5%
E. Bail Violations And Prison Breach	69.3%
III. Crimes Which Could Not Be Classified	37.2%
All Cases	45.7%

N = 15,460 Cases

is not surprising. Burglary is another crime which appears to be an offense committed by persons frequently involved in crime.

The typology of offenses developed for use with the PROMIS data is oriented to the victim. Hence, the relationship between the victim and the defendant should be related to the type of case. The possible relationships are family, friend or acquaintance, stranger, or unknown. The group of offenses, "Crimes without an identifiable victim" should theoretically show all cases as having a relationship of "unknown." While this was not the case, there were very low percentages of cases in which "family" or "friend or acquaintance" appeared erroneously as responses (2 percent) for each of the victimless crime categories, except for weapons offenses where the percentage in this group was about six percent. Many times "stranger" was given as a response, rather than "unknown." This was more often true for consensual sex offenses, where the male, frequently an undercover police officer, is apparently being considered a "victim" of prostitution.

For approximately one-third of the cases which involved a victim, the relationship between the victim and the defendant was "unknown." These cases were subtracted out before the percentages in Table 13 were computed. If all cases were known, the percentages might differ from those computed after subtracting out the "unknowns." As would be expected from previous research, personal victimizations involving violence had larger proportions in the "family" and "friend or acquaintance" categories than any other of the four major groups involving a victim. Crimes against residences had the second highest percentages in these

TABLE 13
CASES IN 1973 BY THE RELATIONSHIP BETWEEN
THE VICTIM AND THE DEFENDANT, AND TYPE OF CASE

(Cases where relationship was unknown were excluded--
33.6 percent of all cases involving a victim.)

Type of Case	Relationship Between Victim and Defendant			
	All Cases	Family	Friend or Acquaintance	Stranger
I. Personal Victimizations Involving Violence	100.0%	13.5%	44.6%	42.2%
(1) Homicide	100.0	15.8	56.9	27.2
(2) Assault	100.0	19.7	51.6	28.7
(3) Forcible Sex Offenses	100.0	8.9	51.9	39.2
(4) Robbery	100.0	0.8	22.5	76.7
II. Personal Victimizations Without Violence	100.0	2.7	17.4	79.8
III. Crimes Against Residences or Households	100.0	5.7	37.5	56.8
IV. Crimes Against Businesses or Institutions	100.0	0.5	17.3	82.2

N = 6,910 cases

closer relationship categories, followed by personal victimizations without violence and finally, crimes against businesses.

Within the category "personal victimizations involving violence," homicides and assaults had the largest percentages of cases involving victims and defendants in the same family. These two groups also had high percentages of friend or acquaintance relationships, with only 27 percent of the homicides and 29 percent of the assaults as crimes between strangers. In the murder cases (one of the groups within the category "homicide") only 19 percent of the cases were between strangers. Forcible sex offenses had a large percent (51.9) of victims who were friends or acquaintances of the defendant. The high percent of "family" cases in this category is largely due to a high percent of family cases in the subcategory, forcible sex offenses of victims under 16 years of age. Unlike homicide, assault and forcible sex offenses, robbery is usually a crime between strangers. For personal armed robbery, 73 percent of the cases were between strangers and for unarmed robbery the percent of strangers was 80.

Any type of crime which provides a livelihood for the person committing it can be seen as a type of "employment." It would be expected that the employment status of defendants would vary by the type of crime committed. Specifically, certain "career" crimes, such as robbery or prostitution, would be expected to be committed largely by persons who are not employed in the labor force. This hypothesis was substantiated using data by type of crime on the percent of defendants who were employed at the time of their arrest in 1973. Persons who were employed comprised 50 percent of the defendants in all cases, after cases where

employment status was unknown were eliminated from the analysis (Table 14). An unemployment rate of 50 percent is an extremely high rate when compared to the average population. The lowest percentage of employed defendants was for consensual sex offenses--23 percent--which is a crime category composed mainly of prostitution cases. It would appear that prostitution is the ultimate in "professional crime" contained in the PROMIS data. For all other crimes in which some property motive was involved, the percentages of defendants employed was below that for all cases. Within the category "personal victimizations involving violence," homicide, assaults, and forcible sex offenses all had larger percentages of defendants employed than for all cases. In contrast, the percentage of defendants charged with robbery, who were employed was only 42. Personal victimizations without violence, crimes against residences or households, and crimes against businesses or institutions all are composed of crimes involving some motive to acquire property, except for the crime of property destruction, which is largely a drunk offense. In every instance, except for the cases of property destruction, the percent of defendants employed was below that for all cases.

Development of the Classification System

There were many revisions in the classification scheme before the present form. There were roughly four stages in its development.

First, existing criminal typologies were considered, in particular that of Clinard and Quinney, found in their book Criminal Behavior Systems.[3] The main reason for the rejection of their criminal behavior ty-

[3] Marshall B. Clinard and Richard Quinney, eds. Criminal Behavior Systems. (New York: Holt, Rinehart and Winston, Inc., 1969).

TABLE 14
PERCENT OF DEFENDANTS EMPLOYED BY TYPE OF CASE

(Cases where employment status was unknown were excluded -- 2087 cases or 13.5% of total.)

I. Crimes Involving A Victim	
A. Personal Victimizations Involving Violence	
1) Homicide	53.4%
2) Assault	62.4%
3) Forcible sex offenses	64.9%
4) Robbery	41.6%
B. Personal Victimizations Without Violence	
1) Larceny	44.1%
2) Auto theft	48.3%
3) Fraud	46.8%
C. Crimes Against Residences Or Households	
1) Burglary	42.4%
2) Property Destruction	56.9%
3) Arson	44.4%
D. Crimes Against Businesses Or Institutions	
1) Robbery	31.4%
2) Burglary	44.7%
3) Larceny	41.6%
4) Embezzlement and fraud	46.7%
5) Auto theft	43.9%
6) Arson	42.9%
7) Property destruction	50.0%
II. Crimes Without An Identifiable Victim	
A. Weapons Offenses	64.4%
B. Gambling	55.1%
C. Consensual Sex Offenses	23.2%
D. Drug Offenses	59.9%
E. Bail Violations and Prison Breach	31.9%
III. Crimes Which Could Not Be Classified	54.0%
All Cases	50.1%

N = 13,373 Cases

pology was that court cases could not be classified into one type from the data available in PROMIS. Other criminal typologies used in criminology were reviewed, including that of Gibbons, Glaser and Roebuck.[4] After examining these typologies based on criminal behavior, it was concluded that a classification scheme based on victimization would be more appropriate for this portion of the research, since this research utilizes data on criminal incidents and court cases against individuals. Criminals could be classified in terms of their career patterns in a separate analysis of recidivism. Although "victimology" has only recently become a specialization within criminology, there have been a number of victim typologies developed. The typology used by Sellin and Wolfgang, and developed further by Silverman, has elements which were adopted and used in the final classification scheme.[5]

The next step was to examine data sources with which PROMIS data would eventually be compared. The victimization survey conducted by LEAA was useful in regard to crimes involving a victim. The distinction between crimes involving a victim and victimless crimes eventually became the major division in the scheme. Police statistics are collected in Washington according to the definitions in the Uniform Crime Reports.

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[4] Don Gibbons, Society, Crime and Criminal Careers (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1968); Daniel Glaser, The Effectiveness of a Prison and Parole System (Indianapolis, Indiana: Bobbs-Merrill, 1964); Julian B. Roebuck, Criminal Typology (Springfield, Ill.: Charles C. Thomas, 1967).

[5] Thorsten Sellin and Marvin E. Wolfgang, The Measurement of Delinquency. (New York: John Wiley & Sons, 1964); Robert A. Silverman, "Victim Typologies: Overview, Critique, and Reformulation," in Victimology by Israel Drapkin and Emilio Viano (Lexington, Mass.: Lexington Books, 1974), pp. 55-65.

When an attempt was made to compare the police figures to victimization data in Washington, D.C., among the problems discovered were:

(1) Victimization data includes only victims who are residents of D.C., whereas police statistics include anyone who is victimized in D.C.

(2) The victimization survey gives separate estimates for personal and business crimes, whereas the UCR figures combine both types.

(3) Assaults on police officers are included as assaults in UCR figures, but not in the victimization survey.

After consideration of these and other problems, it was decided to structure the classification system to allow comparisons of PROMIS to both victimization data and police data. Because police data are less detailed than the victimization survey, the classification system can be simplified with certain categories added together for use with police figures. Although police and victimization data cannot be directly compared, PROMIS can provide a link between them.

The next step was to look at PROMIS data for 1973. The U.S. Attorney's Office of the Superior Court in the District of Columbia handles cases involving street crime, with the following exceptions which are handled by the D.C. Corporation Counsel:

(1) all juvenile cases,

(2) traffic offenses, except negligent homicide, and

(3) other minor offenses, such as disorderly conduct, indecent sexual proposals not involving money, unregistered firearms and ammunition, etc.

Based on an examination of all charges against all defendants in 1973 coded in PROMIS, adjustments were made in the original classification scheme. This preliminary typology was reviewed by prosecutors of the Superior Court, resulting in numerous changes. After checking the definitions used in the victimization survey, the present version of the classification system was developed.

Procedure for Classifying Criminal Incidents and Cases in PROMIS

There are two units of analysis to be used in following a case through the Superior Court. One is to follow a criminal incident by grouping together all cases against defendants involved in a particular criminal incident. This can be done using the police criminal complaint number in the PROMIS file. The other way of looking at cases is to follow a court case against each defendant. Classification of cases against one defendant will be discussed first, followed by the classification of criminal incidents.

In order to classify a case against a defendant, police charges were used. The reason for using police charges, rather than prosecutor charges, was that the police charges are closest to the criminal incident. After screening the case, the prosecutor may begin to change the charges based on considerations of evidence, available witnesses, etc. In addition to the charges in the case, some questions from the PROMIS worksheet were needed to classify a given charge into one of two or more categories. The following distinctions were made:

(1) For the crime categories of robbery, burglary, property destruction, arson, larceny and fraud, a question on the PROMIS evaluation form could be used to distinguish

whether the victim was a corporation, association or institution.

(2) When a charge of sodomy was brought, the crime was classified as "Forcible sex offense-male victim" if the number of victims of forced sexual intercourse was one or more, and the victim was a male. If the number of victims of forced sexual intercourse was one or more, and the victim was female or "unknown" it was classified as "Forcible sex offense-female victim." If there were no victims, the crime was classified as a consensual sex offense.

(3) If the answer to either of two questions on whether a weapon was used during the offense was yes, a personal robbery was further classified into "armed robbery" rather than "other robbery."

(4) One of the weapons offenses, carrying a deadly weapon after a felony conviction, could not be classified as a gun offense or other weapons offense solely on its charge name. A question was used from the PROMIS evaluation form which asked whether a gun or other prohibited weapon was used during the offense, in order to make this distinction.

After classifying each of the charges in the case, a case against one defendant was typed by choosing the most serious charge. The choice of the most serious charge was based primarily upon the maximum sentence

a person could receive if convicted on the charge. This produced 15 groups of charges which were subsequently broken down into 43 groups based on three criteria:

(1) Any charge involving a victim was considered more serious than a victimless crime.

(2) A charge with a potential for personal injury was considered more serious than a property charge.

(3) Certain obvious distinctions, such as a burglary I being considered more serious than burglary II, were made.

Table 15 shows the resulting number of cases brought by the police in 1973 by the court code of the most serious charge in the case.

Having typed cases against one defendant in this manner, these cases were grouped into criminal incidents. A criminal incident record contains all the codefendants involved in a particular offense. The first step was to group cases based on the criminal complaint number which is assigned by the police to each reported offense and recorded in the PROMIS file for each charge in a case. Since only 5 percent of the cases had charges with different criminal complaint numbers, the criminal complaint number used to group cases was the one in the first charge record in the case. To type the criminal incident, the most serious charge in any of the codefendants' cases was used.

Further Uses of the Classification System

The classification system was developed as a tool for the PROMIS research project. It will be used in all the subtasks of the patterns of criminal and related community behavior topic, whenever breakdowns

by type of crime are appropriate. The system flow rates to be described in another paper are based on the use of the classification system. The geographical analysis of crime in the District of Columbia will use the broader categories to show patterns by type of crime. The comparisons of LEAA victimization data and police reported offenses data will be made for certain types of crime in the classification system. In the recidivism analysis, criminal events will be characterized by using the same system.

TABLE 15
NUMBER OF CASES BROUGHT BY THE POLICE IN 1973
BY COURT CODE OF MOST SERIOUS CHARGE

I. Crimes Involving a Victim	
A. Personal Victimizations Involving Violence	
1) Homicide	
a) Murder	
First degree murder - F	122
Second degree murder - F	78
b) Manslaughter	
Manslaughter - F	49
c) Negligent homicide	
Negligent homicide - M	10
2) Assault	
a) Aggravated	
Assault with a dangerous weapon - other - F	640
Assault with a dangerous weapon - gun - F	768
Assault with a dangerous weapon - knife - F	594
b) Simple	
Simple assault - M	604
Threats to do bodily harm - M	80
c) Assault on a police officer	
Assault on a police officer - F	205
3) Forcible sex offenses	
a) Female victim 16 years and over	
Rape - F	297
Assault with intent to rape - F	32
Attempted rape - M	7
Sodomy* - F	21
b) Victim under 16 years	
Carnal knowledge - F	27
Seduction by teacher - F	1
Indecent acts - F	44
c) Male victim	
Sodomy* - F	21

"M" or "F" designates whether the charge is a felony or a misdemeanor.

*Court code could be classified into more than one group.

4) Robbery

a) Armed

Robbery* - F	645
Attempted robbery* - F	6
Attempted armed robbery - F	12
Assault with intent to rob* - F	63

b) Other

Robbery* - F	649
Attempted robbery* - F	27
Assault with intent to rob* - F	38

B. Personal Victimizations without Violence

1) Larceny

Bringing stolen property into D.C.* - F	13
Grand larceny* - F	344
Receiving stolen goods* - F	51
Larceny under $100* - M	635
Taking property without right* - M	2
Larceny* - M	6
Attempted larceny* - M	88
Bringing stolen property into D.C.* - M	12
Receiving stolen goods* - M	186

2) Auto theft

Unauthorized use of a vehicle* - F	363
Attempted unauthorized use of a vehicle* - M	9

3) Fraud

Forgery* - F	112
Bad check* - M	10
Larceny after trust* - M	8
Larceny after trust* - F	13
False pretenses over $100* - F	14
False pretenses* - M	32

C. Crimes against Residences or Households

1) Burglary

Burglary I* - F	288
Burglary II* - F	465
Attempted burglary* - M	34
Attempted burglary* - M	51
Unlawful entry* - M	336

2) Property destruction

Destruction of property over $200* - F	8
Destruction of property* - M	156

3) Arson

Arson* - F	32

D. Crimes against Businesses or Institutions

1) Robbery

Robbery* - F	204
Attempted robbery* - F	4
Assault with intent to rob* - F	9

2) Burglary

Burglary I* - F	8
Burglary II* - F	199
Attempted burglary* - M	14
Unlawful entry* - M	151

3) Larceny

Unlawful entry vending machines - F	6
Grand larceny* - F	147
Receiving stolen goods* - F	19
Bringing stolen property into D.C.* - F	10
Larceny interstate shipment - F	3
Larceny under $100* - M	767
Taking property without right* - M	2
Larceny* - M	1
Attempted larceny* - M	55
Bringing stolen property into D.C.* - M	2
Receiving stolen goods* - M	47

4) Embezzlement and fraud

Embezzlement - D.C. property - F	1
Embezzlement - F	28
Embezzlement - M	22
Bad check* - M	16
Forgery* - F	148
Larceny after trust* - M	9
Larceny after trust* - F	4
False pretenses over $100* - F	25
False pretenses* - M	37
Unpaid board - M	15

5) Auto theft

Unauthorized use of a vehicle* - F	74

6) Arson

Arson* - F	8

7) Property destruction

Destruction of property over $200* - F	10
Destruction of property* - M	54

II. Crimes without an Identifiable Victim

A. Weapons offenses

1) Gun

Carrying a dangerous weapon after a felony* - F	161
National Firearms Act - F	3
Carrying a dangerous weapon - gun - M	605
Possession of a prohibited weapon - gun - M	40
Unlawful possession of a pistol - M	18

2) Other weapon

Carrying a dangerous weapon after a felony* - F	34
Possession of a prohibited weapon after a felony - F	2
Carrying a dangerous weapon - M	11
Carrying a dangerous weapon - knife - M	80
Possession of a prohibited weapon - blackjack- M	12
Possession of a prohibited weapon - others - M	1
Possession of a prohibited weapon - knife - M	25
Possession of a prohibited weapon - others - M	42
Possession of a prohibited weapon - switchblade - M	8

B. Gambling

Gaming tables - F	1
Lottery promotion - F	245
Sale lottery tickets - F	25
Permitting gaming tables - M	3
Possession of number slips - M	96
Three card monte - F	2

C. Consensual sex offenses

Sodomy* - F	39
Pandering - F	5
Procuring - F	8
Attempted procuring - M	22
Disorderly house - M	27
Soliciting for lewd and immoral purposes - M	92
Soliciting for prostitution - M	632
Possession of obscene - M	1
Indecent publications - M	8

D. Drug offenses

Forgery of narcotics prescription - F	3
Harrison Narcotics Act - F	16
Uniform Narcotics Act - F	44
Control substance - F	19
Exempt narcotics forms - M	1
Dangerous drugs - M	74
Sale and possession of narcotics - M	1445
Uniform Narcotics Act - M	7
Possession of implements of crime - M	263
Presence in an illegal establishment - M	2

E. Bail violations, prison breach

Bail Reform Act - F	180
Bail Reform Act - M	406
Prison breach - F	19
Prison escape - F	30

III. Other Misdemeanors

Attempted crime not listed - M	7
Cruelty to animals - M	9
Disorderly and disruptive - M	9
Unlawful assembly - M	25
Unlawful public gathering - M	1

IV. Other Felonies

Other - F	17
Accessory after fact - F	4
Assisting with any - F	22
Bribery - F	3
Destruction of stolen property - F	1
Extortion - F	6
Obstruction of justice - F	29
False impersonation of the police - F	9
Arson - own property - F	1
False impersonation of a public official - F	1
Kidnapping - F	7

V. Cases without police charges 145

Total cases 15,460

END

PROMIS RESEARCH PROJECT

RESEARCH DESIGN REPORT

END OF FIRST YEAR

Final Report

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(3) If the victim has an arrest record, this will cause his case to result in prosecution or conviction less often. As a witness, he is impeachable if he has had a felony conviction in the past ten years, or a conviction for a misdemeanor involving "moral turpitude"--for example, larceny. It will be assumed that some proportion of the victims with arrest records are impeachable.

(4) If the victim provoked the defendant or participated in the offense, it would be less likely that the case would result in conviction. Mendolsohn constructed a typology of victims based on the degree to which the victim was responsible for his own crime.[25] If a victim is actually labeled as having provoked the defendant or participated in the offense, the prosecutor would probably be less likely to pursue the case.

To complete the research under this area will require five steps:

- A literature search on situational variables associated with various types of criminal behavior should be conducted.
- Situational variables available in PROMIS should be defined.
- Other situational variables available from the case jacket, but not presently recorded in PROMIS, should be examined to see which ones might be worth recording in a small sample study.
- Hypotheses should be developed as to the relationship of the situational variables to the papering and conviction rates.
- Multivariate analysis of the situational variables in terms of their relationship to the papering and conviction rates should be conducted.

6. Predicting Recidivism with PROMIS data

a. Introduction Due to the overcrowding of calendars and the overburdening of prosecutive and adjudicature resources in the urban courts of the United States, there is a need to assign priorities to individual

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[25] Discussed in The Victim and His Criminal by Stephen Schafer (New York: Random House, 1968), pp. 42-43.

cases. Limited resources demand careful answers to these questions: Which cases should receive more attention? What is the most effective way of handling particular types of cases? Such questions force one to examine the goals of the criminal justice system. Cases should be handled to produce what result, what effect?

One criterion for judging the effectiveness of the criminal justice system is its ability to reduce crime. Basically, there are two ways of accomplishing this goal. One is to reduce the number of persons who commit a crime for the first time and the other is to reduce recidivism among those who have already committed a crime. Since court cases involve arrested persons (some proportion of whom, it may be assumed, have indeed committed a crime), an appropriate way of deciding how to assign priorities in case handling is to use the goal of reducing recidivism. However, actions taken to reduce recidivism may produce an increase in the number of persons committing a crime for the first time. A recent article by Cook points out that if recidivism is reduced by providing effective vocational rehabilitation in prisons, for example, any deterrent effect of incarceration on the general public may be lost.[26]

If the reduction of recidivism through effective policies of the criminal justice system is set as a goal, three basic research questions emerge:

- When a person is screened for prosecution, what is the best prediction that can be made as to whether he or she will recidivate?
- How do the actions of the police, the prosecutor, the defense counsel and judge during the processing of a case affect recidivism, controlling for the presonal characteristics of the defendant and the defendant's criminal history?

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[26] Phillip Cook, "The Correctional Carrot: Better Jobs for Parolees," Policy Analysis, 1, No. 1 (Winter 1975), p. 49.

PROMIS RESEARCH PROJECT

RESEARCH DESIGNS

Contents

CHAPTER 1. INTRODUCTION

The PROMIS Research Project is a three-year, multidisciplinary applied research effort being conducted by the Institute for Law and Social Research (INSLAW), a nonprofit, tax-exempt corporation chartered in the District of Columbia. The project involves performing applied research and developing policy, resource, and procedurally oriented recommendations for improvements in the criminal justice system. It is structured to utilize data drawn from ongoing, offender-based transaction systems in the District of Columbia. The rationale for this approach is to evaluate changes in operational policies, procedures, and data collection suggested by research efforts. Linking mechanisms, using fingerprint-based police department identification numbers for defendants; police-criminal incident numbers of reported criminal events; court case numbers; and police, attorney, and judge identification numbers, are used to relate the prosecutor's data base to police, court, and corrections data files in structuring the research data base.

The District of Columbia was selected as the focal point for the research because of the availability of detailed data going back several years and because of established working relationships between INSLAW and some local criminal justice agencies. The results are to be generalized to other jurisdictions to the extent that they can be.

The prosecution agency being analyzed is the Superior Court Division of the U.S. Attorney's Office for the District of Columbia. Although part of a federal agency, the Superior Court Division closely resembles a local district attorney's or state attorney's office in that it has trial

jurisdiction for common law misdemeanor and felony crimes. The D.C. Superior Court, in which this local prosecutive element functions, is the equivalent of a state court of general jurisdiction with trial responsibility for local civil and criminal litigation in Washington, D.C.

Information about the criminal court process is generated as a by-product of a computer-based information system known as PROMIS (Prosecutor's Management Information System). PROMIS is used to support the daily operations of the Superior Court Division of the U.S. Attorney's Office in Washington, D.C. In constructing the research data base, additional information from police, defender, court, and corrections agency data bases will be added to PROMIS to create a comprehensive picture of offender and case handling in the criminal justice system.

As can be observed from the outline of the PROMIS data base shown in Attachment I, it provides a wealth of information on the workings of the court process and the decisions that are made. Although PROMIS will not be the only data source utilized, the perspective provided by the prosecutor is particularly relevant because:

- The prosecutor controls the intake to the court system, deciding what cases brought by the police or other complainants will be filed with the criminal court and what cases will be handled and disposed of through other means such as diversionary programs;
- The prosecutor determines how matters presented to the criminal court are to be "packaged," deciding, for example, whether to file lesser included charges, whether to include all possible counts of a particular charge or just a representative number, and whether to initially join codefendant cases together into a single triable unit;
- The prosecutor can promote expeditious dispositions through the use of plea negotiation strategies and tactics;

- The prosecutor can accelerate case processing times by varying the court processes in certain instances through such means as priority handling of cases of "repeat offenders" or presenting a case directly to the grand jury instead of proceeding through the initial presentment and preliminary hearing.

Statistical analyses will be made to diagnose problems in the criminal courts, simulation models will be developed to test alternative remedies for these problems, and field tests will be conducted. The research findings and the methodology will be generalized and documented for use in other jurisdictions.

A multidisciplinary team of INSLAW staff members participated in an analysis of the PROMIS research data base during the first year of this project and in a study of witness cooperation problems under a separate grant from the National Institute of Law Enforcement and Criminal Justice (NILECJ). To assist in the ongoing evaluation of the project and to facilitate the dissemination and acceptance of the findings nationwide, INSLAW created a National Advisory Committee composed of prominent criminal justice practitioners and scholars from various parts of the country and a Local Advisory Committee composed of representatives of the criminal justice agencies in the District of Columbia. Evaluation will also be implemented by monitoring changes in significant performance indices through PROMIS and other D.C. criminal justice data systems, and special data collection efforts following the introduction of field tests.

To ensure that the PROMIS Research Project produces findings that contribute, as fully as the data support, to the improvement of the criminal justice system, it is necessary to structure a design for the

project. That is the purpose of this document. It is actually a collection of research designs for the first set of tasks structured under the PROMIS Research Project. Since the project is ongoing, these designs will be periodically updated to incorporate changes made as the research develops. Complementing this report, as a first-year product, is a separately bound set of research papers presenting descriptive statistical profiles pertaining to the various research topics.

A. Objectives

The objectives of the research project are to conduct empirical analyses; to develop, test, and evaluate recommendations for improving the criminal justice system; and to develop a research methodology transfer program, while focusing on the following major research topics:

- Prosecution performance
- Police operations from the court's perspective
- Patterns of criminal and related community behavior
- Plea bargaining
- Speedy trial
- Judicial decision-making

The PROMIS Research Project was established so that those segments of the criminal justice system about which data are recorded could be described and evaluated. These descriptions and evaluations are intermediate objectives toward the larger aim of improving the criminal justice system. Such improvement seems most likely to follow from a research orientation that focuses primarily on the policies and decisions that are made within the system.

To achieve these objectives, the research will be technically rigorous, at a level that is acceptable to the academic community. At the same time, it will be practical and understandable so that the results are usable by the principals that the research is intended to serve--prosecutors, police, judges, lawyers, and, ultimately, the citizens who are affected by the criminal justice system.

B. Approach

In addressing each research topic the analysis begins by describing how the court and related systems are functioning, then defining and diagnosing problems, recommending and testing systems improvements, and implementing research results.

The research method emphasizes the uses of statistical techniques and systems analysis, but it is recognized that a valid understanding requires careful reviews with the attorneys, judges, police officers and other operational personnel. It became quite clear in the first year of research that great care must be exercised in attempting to describe the workings of the judicial system through the use of statistics. Nevertheless, a sound set of statistics is an indispensible tool in obtaining an understanding of how the system is functioning.

The approach to be used in developing and presenting statistical profiles is illustrated by a sample of the tables developed under the first year PROMIS Research grant, as shown in Attachment II. Table II-1 shows simple frequency counts of crimes in accordance with a typology developed under this grant to facilitate comparisons with Uniform Crime Reports data, LEAA victimization data, and data from other jurisdictions. Table II-2

provides another illustration of a simple, single-dimensional presentation, showing reasons for delay, i.e., case postponements. This type of presentation is interesting, but usually leads to further questions, such as about the types of cases being discussed.

Tables II-3 and II-4 present examples of two-dimensional presentations which show simple relationships. These begin to reveal more about how the system is working, but still lead to further questions about the other variables. Several two-way tables can be used to study different two-variable relationships, but they still leave open questions about the simultaneous effects of multiple variables on each other. In the typical situation, many variables are interacting simultaneously. Table II-5 illustrates a three-dimensional presentation (sex, relationship, and type crime) and is even more informative. But even this type of tabular presentation leads to further questions, such as what types of controls were established for the type of crime, its seriousness, the age and race of the defendant, etc.

To develop a sound understanding of causal relationships, it is necessary to conduct in-depth statistical analyses which include controls for many variables simultaneously and compare alternative causal models. Table II-6 illustrates the results of one type of presentation based on such an analysis. It indicates that whether a misdemeanor case is accepted for prosecution is determined by (1) the number of lay witnesses, (2) whether evidence is recovered, and (3) the sex of the defendant, while controlling for many other variables. The first two determinants may have implications for police operations, and the third for evenhandedness in prosecutorial operations.

Along the same lines of analysis, simple computations of conviction rates can be quite misleading as an indicator of prosecutorial effectiveness. In the numerator, one must decide whether to include only guilty findings in trial (jury and/or nonjury) or both guilty pleas and guilty findings. In the denominator, one needs to decide whether to include all cases brought by the police, only those "papered" (prosecuted) by the prosecutor, only indictments (in the cases of felonies), or only cases that go to trial. When analyzing differences in conviction rates, it is necessary to control for such variables as the specific charges, the judge, type evidence, witnesses, and witness-victim-defendant relationships. One also needs to consider whether the conviction is on the original charge or on a lesser charge.

Measures of prosecutorial effectiveness must consider more than conviction rates. Most cases never go to trial, and there is wide discretion in plea bargaining to reducing charges in order to obtain a guilty plea. One needs to measure dropout rates (i.e., dismissals and nolle prosequis), plea bargaining, and extent of reduction in charges.

Although the research will be based on comprehensive statistical analyses, the tentative findings using the most significant variables will be carefully presented in simpler formats to facilitate communications and reviews with the operational and management officials in the affected agencies. It has been INSLAW's experience that only through careful interaction with such officials can the interpretations of statistical results be sound and lead to implementation of research findings.

C. Translating Research Findings Into Recommendations

Since this is an applied research project, considerable emphasis will be placed on testing and implementing recommendations to improve policies and operations suggested by research findings. A few examples of the types of recommendations which may result from the research tasks are characterized below.

Changes in prosecutor and police recruitment, staff assignment, and training policies may be suggested by statistical analyses relating personal characteristics variables to effectiveness measures. For example, it may be found that the probability of conviction is related to the source of recruitment of the arresting police officer, experience of the papering prosecutor and some other personal characteristics variables. It might also be found that the effectiveness of the prosecutor's office will be greater if, contrary to existing policy, the more experienced prosecutors are assigned to intake and screening activities, and the more junior ones to felony trials.

Another recommendation that may result from the research is a more reliable case-ranking procedure for flagging cases of career criminals for special assignment of more experienced prosecutors based on a validation and modification of existing crime seriousness (Sellin-Wolfgang) and base expectancy scales (for recidivism prediction).

The research may reveal reasons for case delay and dismissals that may be correctable by new procedures and training materials. It appears from preliminary findings in this project that some of the more common reasons for continuances, nolle-prosequis, or dismissals can be remedied

by improving communications with witnesses and training police and prosecution personnel in handling witnesses. Insights about who is requesting continuances and under what circumstances may reveal problems in police-prosecutor communications (high percentage of "police witness no-show," or "prosecution not prepared" as reason for continuance), certain types of defense counsel tactics, or other bottlenecks in achieving speedy dispositions. Among the recommendations that might be considered in this area are the use of omnibus hearings and changes in plea negotiation timing and strategy.

D. Research Topics

In the first year, research focused on prosecution operations, police operations from the court's perspective, and patterns of criminal and related community behavior. The first-year products consist of research design documents as contained in this report and descriptive statistical profiles.

In the second year, research will continue in these first three topics, moving into more in-depth explanatory analyses, and into testing and implementing research findings. Also in the second year, research will begin in the analysis of plea bargaining, speedy trial (court delay and defendant flow), and judicial decision-making topics.

The third year will proceed with explanatory analysis, testing, implementation, evaluation, and transfer of research findings and methodology for the final three topics.

E. Resources

1. Staffing and Research Tools

As the PROMIS project enters its second year, the following individuals are working either part time or full time on the project:

Sidney H. Brounstein	Director of Research
C. Madison Brewer	Attorney
Kathleen B. Brosi	Statistical Analyst/Programmer
Sarah Cox	Court Administration Specialist
Joyce Deroy	Systems Analyst
Katherine Falkner	Secretary
Brian Forst	Operations Research Analyst
Susan Katzenelson	Criminologist
Judith Lucianovic	Statistical Programmer
Dean Merrill	Systems Analyst
Kristen Williams	Social Science Analyst

The composition of the National Advisory Committee is given in Attachment III. The composition of the Local Advisory Committee, which consists of representatives of the criminal justice agencies of the District of Columbia, is given in Attachment IV.

In the first year, the staff of the PROMIS Research Project utilized the following computer facilities:

. Metropolitan Police Department	IBM 370-158
. Department of Justice	IBM 370-158
. Federal National Mortgage Association	CDC Cyber 72

The following software is available for PROMIS Research Project use:

. Statistical Programs for the Social Sciences (SPSS)

. Two- and Three-Stage Regression (Zellner's Method)

. Logit, Likert Scaling, and other special programs developed by the project

. Goodman's ECTA Programs

. Cluster Analysis

. Q-GERTS (Simulation - micro level)

. PHILJIM (Simulation - macro level)

A Stage I model of the Superior Court system was structured using Q-GERTS. This model is based on calendar year 1973 statistics. The purpose of this first stage is to gain familiarity with Q-GERTS and to provide a base for further refinement in establishing the second-year simulation tasks.

In addition, a District of Columbia geographic equivalence table file was obtained from the D.C. Planning and Administration Division and was updated. Street codes for offenses and arrests and defendants' residence data in PROMIS can be converted to census tract codes by use of these tables. This will allow census tract-level statistical summaries to be generated for analysis.

2. Research Data Base

A major task during the first year was to structure and develop a research data base that would be amenable to analysis by standard statistical software packages. This task was designed and will be conducted as a multistaged effort to provide for data purification, file restructuring, and supplementation with data acquired from sources other than PROMIS. The following stages were defined:

. Stage I (15,000 felony and misdemeanor cases filed in calendar year 1973). The descriptive statistics profiles will be primarily developed from the calendar year 1974 PROMIS data base. This data base will have been cleaned up to the extent of correcting errors detected by the new PROMIS software. The reliability

of each data field will have been determined from a sample study (a 100-case stratified random sample) comparing data recorded manually by prosecutors, police, and court clerks to those recorded in PROMIS. The reliability estimates will be essential to the interpretation of all research findings.

- Stage II (additional data from first-year sample study). A stratified random sample of 600 cases was drawn from the calendar year 1973 data base, and a set of forms was developed to record data from police, prosecutor, and court records in order to verify the accuracy of PROMIS data and to record additional data beyond that recorded in PROMIS, using such sources as the prosecutor and court case jackets, bail agency forms, and court records. These added data include a more up-to-date definition of the type of defense attorney (e.g., in some cases the defense attorney is privately retained, while in other cases the same attorney is appointed by the court) updated bail conditions, data on whether the defendant actually makes the bail set at the initial hearing, sentencing data, and data on prior convictions. It is expected that this sample data base will be available in machine-readable form by the end of the first year for subsequent analysis and use in developing descriptive statistics.

- Stage III (expanded Research Data Base created in first year and analyzed in second year). In accordance with the research designs for the initial topics, additional data will be acquired from various sources external to PROMIS to complete the analysis. Included are data on:

    - prosecutor characteristics
    - police officer characteristics
    - bail conditions
    - sentencing
    - postsentencing arrangements

Arrangements have been made with the U.S. Attorney's Office to select a set of characteristics from each prosecutor's personnel file that will be converted to machine-readable form. The Metropolitan Police Department of the District of Columbia has provided selected data from its court tapes, including updated defense attorney, bail, and

sentencing data for cases filed in calendar year 1973. Finally, a request has been made to the D.C. Corrections Department to obtain their data on a sample of persons sentenced in cases filed in 1973.

F. Descriptive Statistics Profiles

A prerequisite to any diagnostic analysis and effort to develop system improvements is to understand how the present system works. Such an understanding can be obtained from a combination of firsthand experience with the system, system flow charts, and a comprehensive set of descriptive statistics. The statistical profiles were designed to reveal relationships among workload and performance characteristics and problems in the court and prosecution systems.

The following types of descriptive statistics will be developed from the Stage I data base for the first-year report:

- Simple univariate statistics, such as frequency distributions, averages, and measures of dispersion applied to such measures as time delays, continuances, and outcomes;

- Simple cross tabulation and multidimensional contingency tables.

The specific models and data elements are described in the design documents for each research topic. Further iterations of the analysis will be conducted in the second year to refine the models, perform diagnostic and explanatory analyses, and attempt to understand causal relationships.

G. Advisory Committee Reviews

All first-year research designs and findings will be reviewed with the two advisory committees created by INSLAW. During the first year, three meetings, attended by a representative of the NILECJ, were held with the National Advisory Committee. In addition, the Local Advisory Committee held one meeting to review research findings and to assist in making arrangements for acquiring additional data.

CHAPTER 2. ANALYSIS OF PROSECUTOR OPERATIONS

A. Introduction

In all the volumes that have been written about crime and the system that has evolved to deal with it, a surprisingly small portion is devoted to the role of the prosecutor. A student of criminology is likely to read considerably more about offenders and their characteristics, or about police and prisons and their respective characteristics, or even about juries and their characteristics, than about the district attorney.

One might infer from this relative lack of scholarly attention to the prosecutor that his role is not so important as that of the other principals in the system. A few, however, have recognized that the opposite may be nearer the truth. An especially bold acknowledgment of the extensive authority of the American prosecutor was offered by former U.S. Attorney General Jackson: "The prosecutor has more control over life, liberty, and reputation than any other person in America."[1] More recently, Davis has written "Viewed in broad perspective, the American legal system seems to be shot through with many excessive and uncontrolled discretionary powers but the one that stands out above all others is the power to prosecute or not to prosecute."[2] A similar theme has

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[1] Robert H. Jackson, "The Federal Prosecutor," Journal of American Judicature Society, volume 24 (1940), p. 18.

[2] Kenneth Culp Davis, Discretionary Justice: A Preliminary Inquiry, University of Illinois Press, Urbana, 1971, p. 188.

been put forward by a prominent criminologist: "By legal authority and by practice, U.S. prosecutors have the greatest discretion in the formally organized criminal justice network."[3] Further insights into the specific powers of the prosecutor are in works by Davis, Miller, and Grosman.[4]

What has been written about the prosecutor has been largely insightful, but almost entirely theoretical and anecdotal, rather than empirical. Perhaps the most substantial empirical analysis of prosecution in the United States that has been done to date is an LEAA-sponsored study of the processing of adult felony cases in Los Angeles.[5] This study focuses on disparities in the exercise of prosecutorial discretion across branch offices of the Los Angeles County District Attorney. It concluded that substantial disparities do, indeed, exist.

Economists have joined in the analysis of the prosecutor, following the pioneering work of William Landes.[6] This approach consists, typically, of a mathematical theory that is often tested empirically with the use of advanced forms of regression analysis. Landes postulated that the prosecutor's decision to go to trial or settle a case

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[3] Albert J. Reiss, "Discretionary Justice in the United States," International Journal of Criminology and Penology, volume 2 (May 1974), p. 195.

[4] Davis, ibid.; Frank W. Miller, Prosecution: The Decision to Charge a Suspect with a Crime, Little, Brown and Co., Boston, 1969; and Brian A. Grosman, The Prosecutor, An Inquiry into the Exercise of Discretion, University of Toronto Press, Toronto, 1969.

[5] Peter R. Greenwood, et al., Prosecution of Adult Felony Defendants in Los Angeles County: A Policy Perspective, Rand Corporation, Santa Monica California, 1973.

[6] William M. Landes, "An Economic Analysis of the Courts," Journal of Law and Economics, volume 16 (April 1971), pp. 61-108.

prior to trial depends on the probability of conviction, the severity of the crime, the availability and productivity of his resources and those of the defendant, the costs of prosecuting the case, and attitudes toward risk. This theory assumes that the prosecutor allocates resources toward the end of maximizing the expected number of convictions weighted by their respective sentences, subject to a resource constraint.

Williams Rhodes has attempted to expand Landes' theory by introducing participants in the adjudication process other than the prosecutor and defendant, and by emphasizing institutional features of the plea bargaining process.[7] Judith Lachman has produced another variant in the theory of prosecutor behavior by formulating a "switch function" that specifies the point beyond which the district attorney should opt for a trial rather than a negotiated plea.[8]

One important element of prosecutor operations that has been left out of these analyses involves the prosecutor's concern about recidivists. There is indirect evidence of this concern. In the District of Columbia, for example, a "Major Violators Unit" was established in the prosecutor's office to ensure that misdemeanor cases involving repeat offenders not be handled in the "mass production" fashion that is customarily associated with extraordinarily large misdemeanor case

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[7] William M. Rhodes, An Economic Analysis of the Criminal Courts, doctoral dissertation, University of Minnesota, 1974, p. 17.

[8] Judith A. Lachman, An Economic Model of Plea Bargaining in the Criminal Court System, doctoral dissertation, Michigan State University, 1974.

loads.[9] It has also been reported that the D.A. in the Bronx, New York, gives extra attention to cases involving repeat offenders.[10] Further evidence is provided by the existence of a body of legislation that sets forth provisions for the prosecutor to initiate additional charges against defendants who have several prior convictions.[11]

This document attempts to move toward a further understanding of the operations of the prosecutor. Our eventual aim is to learn how the prosecutor interacts with other forces to influence case outcomes and office performance. The means to this end is the development of a model that can be estimated using data from the Prosecutor's Management Information System (PROMIS).

We go about this in two ways. First, we present a "naive" model, designed as a very general structure that relates policy variables to performance measures in a logical, even if somewhat oversimplified, structure. This model has as its chief purpose to "mine" the very large set of data elements in PROMIS and other data bases augmented to PROMIS. A primary product of the naive model is the identification of the subset of data elements to which outcomes are most sensitive in

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[9] William A. Hamilton and Charles R. Work, "The Prosecutor's Role in the Urban Court System: The Case for Management Consciousness," Journal of Criminal Law and Criminology, vol. 64, (June 1973), p. 187.

[10] Joan E. Jacoby, "Case Evaluation: Quantifying Prosecutorial Policy," Judicature, vol. 58 (May 1975), p. 489.

[11] These laws, referred to as "repeat offender statues," "habitual offender laws," and "Baumes Laws," were designed to increase sentence lengths. They are often used today by the prosecutor to provide leverage in plea bargaining. Legal aspects of these statutes have been analyzed by Phillip H. Ginsberg and Margaret Klockars, in "The 'Dangerous Offender' and Legislative Reform," Williamette Law Journal, vol. 10 (1974), pp. 167-184.

the analysis. This will be crucial to the analyses under the subsequent model, which will analyze the smaller subset of variables under a more explicit theory and using a more rigorous set of statistical techniques. The formal model will be based on previously developed theory together with other reasonable assumptions.

B. A "Naive" Model of the Role of the Prosecutor

In order to understand empirically how the prosecutor influences case outcomes, it is necessary to start with a simple model of the role of the prosecutor. Toward this end, we address, first, what constitutes a successful outcome from the prosecutor's perspective. We presume that some outcomes must be more desirable than others. We would expect that those who set policy in prosecutor operations would like to do so in a manner that produces the most desirable outcomes that can be feasibly attained.

Of course, everyone may not agree about what constitutes a desirable outcome for the prosecutor. Surely, most agree that is undesirable for cases to move slowly through the system, from time of arrest to time of final court disposition. There is likely to be less agreement with the proposition that it is desirable for the prosecutor to obtain a much higher probability of conviction for each case that flows into the system.

Nor do we receive much help on what constitutes an outcome that is both desirable and readily measurable by reviewing the literature about the objectives of the prosecutor. According to Miller,

> The initial task of the prosecutor facing a request for a warrant is to determine whether the suspect is guilty and whether a judge and jury will concur in his belief in the suspect's guilt. It is those determinations which the law assumes to be the primary function of the prosecutor.[12]

And Grosman,

> Counsel on each side will do his best to establish his client's and to destroy his opponent's case. Out of this conflict truth and justice will emerge.[13]

And according to the National Advisory Commission on Criminal Justice Standards and Goals, the prosecutor

> ...must focus the power of the State on those who defy its prohibitions. He must argue to the bench and the jury that the sanctions of the law need to be applied. He must meet the highest standard of proof because the right of freedom hangs in the balance.[14]

We see from these authorities that desirable outcomes have to do with truth, justice, and freedom. No data base contains the information that enables meaningful measurement of such concepts. Of the three authorities cited, Miller and Grossman seem nearest the concept that success for the prosecutor has to do with obtaining convictions. Miller suggests first that the prosecutor determine whether the suspect is guilty, which has to do with truth, and we have noted the difficulty in measuring such a concept. So we shall take Grosman's notion that the prosecutor will do his (or her) best to establish the government's and destroy the defense counsel's case to mean that, *other things held constant*, the prosecutor is more successful when he combines

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[12] Miller, op.cit., p. 30

[13] Grosman, op.cit., p. 83

[14] National Advisory Commission on Criminal Justice Standards and Goals, Courts, U.S. Government Printing Office, Washington, D.C., 1973, p. 227.

his policy variables in such a way as to produce a higher proportion of convictions out of the cases brought by the police. We recognize a multitude of pitfalls contained within the phrase "other things held constant." For example, the prosecutor may be able to increase the conviction rate by expanding the extent to which he reduces charges in encouraging guilty pleas in some of the more serious cases, so that he can give more attention to other cases. Or the conviction rate may increase because the police bring forward better cases. So we see that other factors must be accounted for in analyzing relationships between prosecutor policy and case outcomes.

As it turns out, an unusually large number of other factors may be accounted for in our analysis, due to the data available for the study. For each case, we know characteristics about the offense, the defendant, the victim and witnesses, and the police officers, prosecutors, defense counsel, and judge assigned to the case; and we know the events, dates, and reasons recorded for certain actions taken by principals of the court.[15] Data elements available to this analysis are listed in Appendix A.

With this simple and tangible notion about what we assume the prosecutor is trying to achieve, we can begin to categorize our readily available data elements as variables reflecting outcomes, prosecution policy, and other factors that may affect outcomes. Among the data elements listed in Appendix A in the first of these categories, factors

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[15] Hamilton and Work, op.cit., p. 187.

that reflect case outcomes, we include variables such as whether a case is accepted for prosecution, whether it terminates with a plea of guilty, whether it goes to trial, whether it ends up as a conviction, and, for felonies, whether it is indicted by the grand jury. We are in the process of developing measures of the extent of charge reduction, so that such issues as "quality" of negotiated plea may be addressed.

We also see factors that reflect policy of the prosecutor's office. One of these is the decision to assign a misdemeanor case involving an apparently serious offender to the Major Violators Unit, which, in the period for which we have data, allocated more resources to the prosecution of its cases than were available for other misdemeanor cases. Another is the decision, made consciously or otherwise, to assign a case to a more experienced attorney at either the screening stage or later in the prosecution system. Other case assignment decisions have to do with the sex of the screening prosecutor, of the final prosecutor, and the race of each.

The most fundamental policy decisions of all, however, have to do with the determination of the kinds of cases that are to receive the greatest amount of prosecutive effort. Obviously, cases with very weak evidence are likely not to warrant much effort. Beyond this consideration, however, the district attorney appears to be in a position to exercise a substantial degree of latitude in deciding how much effort to give to each case, with its unique set of characteristics. Characteristics of major interest, after the strength of the evidence in a case, are likely to be the type and seriousness of the offense and the defendant's

revealed crime proneness, as reflected in his or her criminal history. In the next section we advance a structure for this decision.

Still other quasi-policy factors can be identified, which are, presumably, influenced by the prosecutor, although not as fully as those cited immediately above. Included among these are time between screening and final disposition for misdemeanors, time between screening and indictment for felonies, time between indictment and final disposition for felonies, the development of any witness problem and the number of continuances.[16] These factors can, of course, also be regarded as outcome measures, as well.

The remainder of the list consists primarily of control variables --factors that we include in order to minimize the danger of attributing a cause-and-effect relationship to two variables when it does not, in fact, exist. We must incorporate these control variables because we are dealing with nonexperimental data. Countless studies that have used nonexperimental data with insufficient control variables have been found to be seriously flawed. These studies often had attributed erroneous causal associations between variables that were statistically related primarily due to a factor or factors that had been left out of the analysis.

We can obtain a sense of the importance of control variables by thinking about defense attorneys, for whom "success" consists of nonconviction, within our adversary system of justice. It would be most

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[16] For a thorough analysis of witnesses in the D.C. Superior Court, see Frank J. Cannavale, Jr., Witness Cooperation With a Handbook for Witness Management, D.C. Heath and Co., Lexington, Mass., 1976.

unsound, for example, to test the hypothesis that lawyers from the Public Defender Service (PDS) are more successful at winning cases for their clients than are other defense counsels, simply by comparing the conviction rates for cases handled by the two respective groups. Suppose cases handled by the PDS are more difficult to win at the outset than other cases. Then any simple conviction rate comparison will be misleading, even if it shows the PDS with a lower conviction rate, since under the circumstance supposed the difference in conviction rates would have been even greater if case difficulty had been reflected in the analysis. Moreover, if it is true that PDS lawyers are found to be more successful when a large set of other pertinent factors are accounted for, then in analyzing prosecutor operations, it becomes necessary to take account of whether, in a given case, the defendant was represented by a PDS lawyer. So we include a variable reflecting this condition in our naive model of prosecutor operations, as well as one for every other condition recorded in PROMIS that we hypothesize could affect case outcomes.

With the large set of control variables that we have included in Appendix A, we anticipate that the problem of not having taken account of enough important factors will be much smaller than is often the case in the analysis of nonexperimental data. It will be possible to include such a large number of control variables not only because they are available in PROMIS, but also because of the unusually large number of observations on which we base our analysis. The existence of over 15,000 cases processed in the Washington, D.C., PROMIS data for 1973,

for example, is more than adequate to overcome the statistical difficulties that usually stand in the way of incorporating so large a set of explanatory variables as we report here.

Further insights into prosecutor operations can be obtained by regarding days rather than cases as units of observation. Thus, it will be possible to measure case loads both for individual prosecutors and for the office as a whole over time. This will enable analyses of the effects of variation in work load on rates of case rejections at screening, plea acceptances, continuances, reductions in charges from arrest to final disposition, and average processing time between each major successive stage of prosecution.

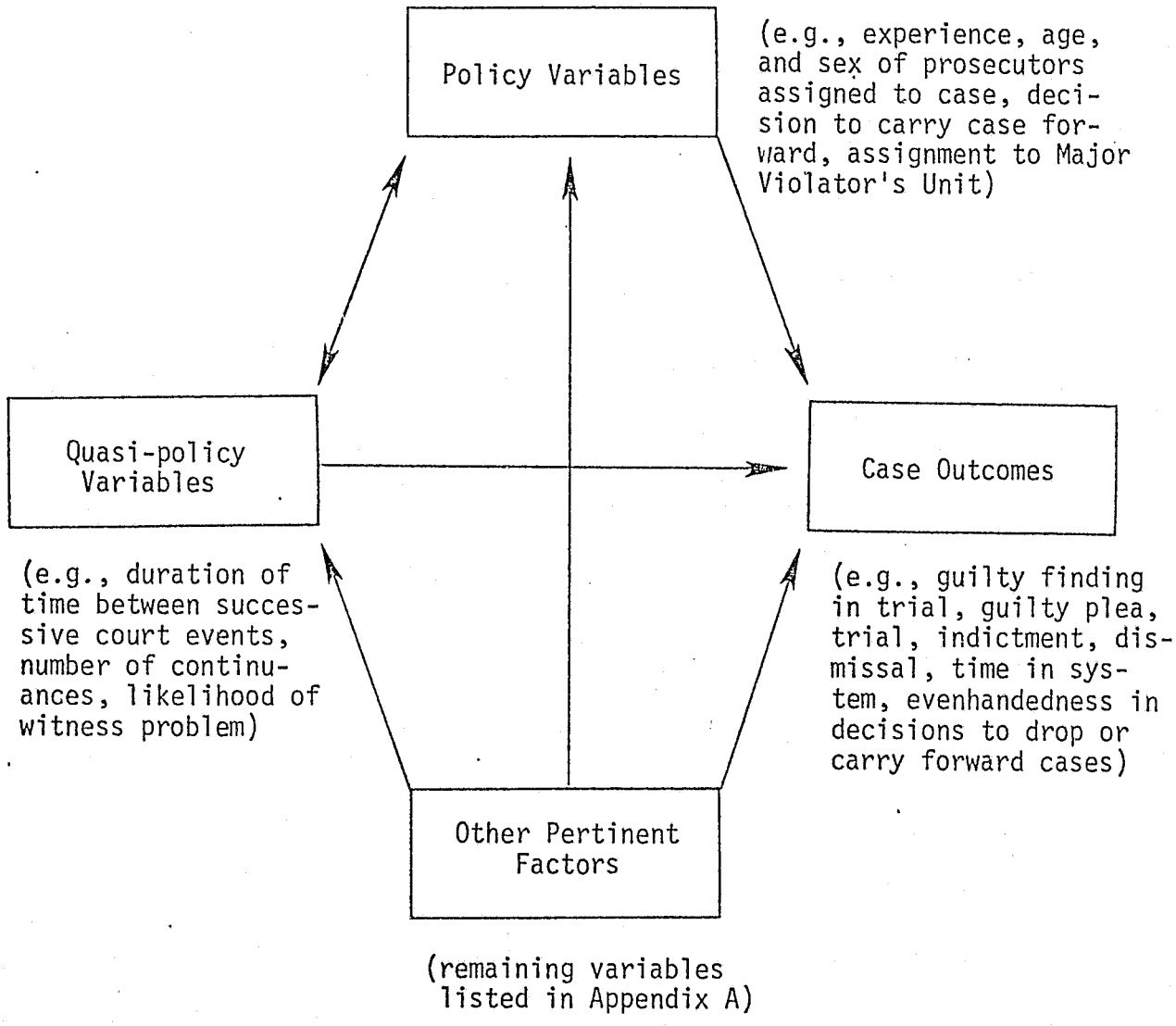
Some of the key hypotheses, which we shall state as questions for statistical estimation, to be investigated with the variables at Appendix A are as follows:

- What effects do specific prosecutor characteristics (e.g., sex, race, experience) at selected stages of the prosecution system have on the likelihood that the case will be accepted for prosecution? that it will terminate as a guilty plea? that it will receive a guilty verdict if it goes to trial?
- What effect does case "targeting" (e.g., special assignment of misdemeanor cases involving repeat offenders to the Major Violators Unit) have on the outcomes of these cases? on the outcomes of other cases?

- What effects do specific prosecutor characteristics have on the likelihood that a witness problem will develop?
- What effects does case processing time have on case outcome?
- Does the prosecutor use the same criteria to drop a case as the other judicial authorities (judge, grand jury, trial jury)?
- What is the relative importance that the prosecutor attaches to the strength of the evidence in a case, to the seriousness of the offense that gave rise to the case, and to the defendant's criminal history, in deciding to carry forward or drop a case from prosecution?
- To what degree do individual prosecutors vary from the office norm in deciding which cases to drop and which ones to carry forward?
- What effects do variations in case work load have on the rate of rejections at initial screening, the ratio of pleas to trials, the conviction rate, and average times between successive stages of prosecution?

The basic model we start from to address these and other issues is depicted in Figure 1. The hypotheses noted above can all be examined within this basic model. Each one focuses on how some particular policy variable or set of policy variables affects various case outcomes.

Figure 1. Schematic of Basic Relationships Among Variables in Analysis of Prosecutor Operations



C. A "Formal" Theory of the Prosecutor

We now develop a more formal theory of the district attorney. We begin this development with the preexisting theory set forth by William Landes.[17] We adopt Landes' basic model in the next section. In the subsequent section we modify the model by incorporating the problem of handling repeat offenders as an investment decision for the prosecutor. Next, we specify the model in terms of available data elements and discuss considerations that may affect the accuracy of any estimates that follow this model.

1. The Single-Period Model

We begin by constructing a single-period model along lines very similar to the Landes formulation as noted above. We assume that

(a) there are n cases brought to the prosecutor by the police; and

(b) for the i^{th} case ($i = 1, 2, \ldots, n$), the probability of conviction, P_i, depends on the amount of resources, R_i, that the district attorney allocates to the case, and a set of exogenous factors, X_i, such as tangible evidence, testimonial evidence, and so on. We write this relationship as

$$P_i = P(R_i, X_i). \tag{1}$$

We presume that increases in R_i produce increases in P_i, so that

$$\frac{\partial P_i}{\partial R_i} > 0. \tag{2}$$

[17] Landes, op.cit., pp. 62-64

The prosecutor's single-period decision rule will be to maximize the expected number of convictions weighted by the respective severity of the punishment associated with each conviction, T_i, subject to an office budget constraint B, where

$$B = \sum_{i=1}^{n} R_i . \tag{3}$$

Conditions for satisfying this maximization rule can be derived from the expression

$$E(T) = \sum_{i=1}^{n} P_i T_i + \lambda\left(B - \sum_{i=1}^{n} R_i\right) , \tag{4}$$

where λ is a Lagrangean multiplier. This yields the single-period equilibrium condition

$$\frac{\partial P_1}{\partial R_1} \cdot T_1 = \frac{\partial P_2}{\partial R_2} \cdot T_2 = \ldots = \frac{\partial P_n}{\partial R_n} \cdot T_n \tag{5}$$

Hence, all other factors held constant, the prosecutor allocates more resources to more serious cases and to those for which the probability of conviction is more sensitive to changes in the amount of prosecutor resources allocated.

2. A Multi-period Model with Investments in Crime Reduction

We now introduce an investment element to the model. Assume that

(a) there are n_t cases brought to the prosecutor in period t; and

(b) for the i^{th} case in period t $(i_t = 1, 2, \ldots, n_t)$, the probability of conviction, P_{i_t}, depends on the amount of resources, R_{i_t}, that the district attorney allocates to the case, and a set of exogenous factors, X_{i_t}. We write this as

$$P_{i_t} = P(R_{i_t}, X_{i_t}). \tag{6}$$

As before, we presume that increase in R_{i_t} produce increases in P_{i_t}, so that

$$\frac{\partial P_{i_t}}{\partial R_{i_t}} > 0. \tag{7}$$

(c) Then if we define S_t to measure the seriousness of crimes committed in period t, there will exist a number d, such that the prosecutor is indifferent between S_t being committed in his jurisdiction during t and crimes of seriousness

$$S_{t+j} = S_t(1 + d)^j \tag{8}$$

being committed j periods later. The number d, which we will call the prosecutor's "discount rate," is assumed here to be constant and positive over all future periods.[18]

(d) The prosecutor will be indifferent between the stream of crimes

$$\Omega = S_1, S_2, \ldots, S_t, \ldots \tag{9}$$

[18] We recognize that there may be exceptions to a constant discount rate. For example, an elected district attorney's discount rate immediately prior to election may well be larger than his rate immediately afterward.

and a crime or crimes in the present of seriousness

$$P.V.(\Omega) = \sum_{t=1}^{m} \frac{S_t}{(1+d)^t}. \tag{10}$$

We call $P.V.(\Omega)$ the "present value" of Ω.

(e) For the i^{th} case that is brought to the district attorney during an initial period, the D.A. can envision a stream of future crimes

$$\Omega = S_{1i}, S_{2i}, \ldots, S_{ti}, \ldots \tag{11}$$

to result if he does not convict the defendant in case i, where S_{ti} is a measure of the seriousness of all crimes committed in period t that follow the nonconviction of case i. He can also envision the alternative stream of crimes

$$\Omega_i^c = S_{1i}^c, S_{2i}^c, \ldots, S_{ti}^c, \ldots \tag{12}$$

that result if he convicts the defendant in case i. The difference

$$D_i = P.V.(\Omega_i) - P.V.(\Omega_i^c) \tag{13}$$

represents the present value of the stream of future crimes, by seriousness, that are averted by the conviction of current case i.

(f) We assume D_i to depend on the severity of the punishment, T_i, that follows the conviction of case i, and on the characteristics of the defendant, H_i, that shape his underlying propensity to participate in illegal activities. We write this as

$$D_i = D(T_i, H_i). \tag{14}$$

Following Gary Becker, increases in T_i constitute increases in the "price" of participation in crime and, thus, should reduce the quantity

of crime.[19] This effect can be expected to operate through "general deterrence" (i.e., the extent to which others who learn about the conviction of i are deterred from committing crime). Further reductions may operate through the effect of the punishment on the amount of subsequent participation in crime by the defendant of case i after punishment. (It is possible, of course, that this "specific deterrence" effect will be at least partly offset by the effects that increases in T_i have to improve the defendant's criminal skills or alienate him, or both.) Increases in T_i should also produce increases in D_i due to the incapacitation of the defendant of case i. For these reasons, we expect

$$\frac{\partial D_i}{\partial T_i} > 0 \quad . \tag{15}$$

The underlying crime proneness of the defendant, H_i, will also affect D_i for a given level of punishment severity. One defendant characteristic of particular potential importance here is his criminal history; we presume that the extent of a person's previously demonstrated propensity to commit crimes serves as a predictor of his subsequent propensity to do so.[20] Indeed, ethical and legal problems are likely to stand in the way of the prosecutor's making decisions about a case on the basis of characteristics of the defendant other than his criminal history.

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19 Gary S. Becker, "Crime and Punishment: An Economic Approach," Journal of Political Economy, vol. 76 (March/April 1968), p. 177.

20 This presumption has considerable empirical support; e.g., Marvin E. Wolfgang, "Crime in a Birth Cohort," in The Aldine Crime and Justice Annual, 1973, edited by Sheldon L. Messinger, Aldine Publishing, Chicago, 1973, pp. 110-112; also Jacob Belkin, Alfred Blumstein, and William Glass, "Recidivism as a Feedback Process: An Analytical Model and Empirical Validation," Journal of Criminal Justice, volume 1 (March 1973), pp. 7-26.

Hence, for all practical purposes, H_i may be regarded as the defendant's criminal history, and we assume

$$\frac{\partial D_i}{\partial H_i} > 0 \quad . \tag{16}$$

(g) We now specify alternative utility functions for the prosecutor. Each will bring together his concern for obtaining convictions with his concern for reducing future crimes. Our first model is

$$U = U\left(\sum_{i=1}^{n} D_i\right) \quad . \tag{17a}$$

Under this specification, the prosecutor allocates resources in the current period solely toward the goal of obtaining the largest possible expected reduction in the present value of the future stream of crime. He is interested in obtaining convictions here precisely to the extent that doing so reduces crime. Dropping the time subscript only for notational simplicity, we can express this as the constrained maximization of the expected value

$$E(D) = \sum_{i=1}^{n} P_i D_i + \lambda\left(B - \sum_{i=1}^{n} R_i\right), \tag{18a}$$

where B is defined as in equation (3) and λ is a Lagrangean parameter. From (14) and (18a) we derive the first order condition

$$\frac{\partial P_1}{\partial R_1} \cdot D(T_1, H_1) = \ldots = \frac{\partial P_n}{\partial R_n} \cdot D(T_n, H_n) \quad . \tag{19a}$$

According to this rule, the district attorney allocates more resources to cases for which the probability of conviction is relatively responsive to prosecutive effort, and for which the severity of punishment

associated with the offense and the extensiveness of the defendant's criminal history are greater.

A potential weakness of this model is that the prosecutor may, in fact, obtain utility from convictions beyond that which derives from the effect of convictions on future crimes, according to equation (14). For example, he may see himself as a public agent who convicts offenders so that society can obtain retribution for criminal acts, even when these convictions have no effect on the stream of subsequent crimes. Or he may derive personal or political benefit (particularly when he is an elected D.A.) from publicizing his convictions, for purposes that are separate from the effect he perceives this publicity to have on the crime rate. While societal vengeance and personal aggrandizement of the prosecutor may not be regarded as appropriate purposes to provide a basis for allocating scarce public resources, there may exist more suitable reasons to regard the social value of convictions as being greater than the value of the crime rate reduction associated with these convictions. To accommodate all such considerations, we write the alternative model

$$U = U\left(\sum_{i=1}^{n} T_i, \sum_{i=1}^{n} D_i\right) . \qquad (17b)$$

Under this specification, the prosecutor will maximize expected utility, subject to his budget constraint, as given by

$$E(U) = \sum_{i=1}^{n} P_i \cdot U(T_i, D_i) + \lambda\left(B - \sum_{i}^{n} R_i\right) . \qquad (18b)$$

This yields the equilibrium condition

$$\frac{\partial P_1}{\partial R_1} \cdot U[T_1, D(T_1, H_1)] = \ldots = \frac{\partial P_n}{\partial R_n} \cdot U[T_n, D(T_n, H_n)] . \qquad (19b)$$

We see that under this latter model the D.A. will give greater weight to the severity of punishment associated with each prospective conviction and less weight to crime reduction than under the model given by (17a). The extent to which this is so will depend on the explicit form of equation (17b). Suppose, for example, that $\sum T_i$ and $\sum D_i$ were perfect substitutes in (17b), with the D.A. indifferent to risk in both arguments. This supposition might be justifiable on grounds that the caseload of the D.A. in most jurisdictions is large enough for him to pool all risks other than those already captured by the discount rate contained in $\sum D_i$. We can write this utility model as

$$U = \sum_{i} T_i + r \cdot \sum_{i} D_i , \qquad (20)$$

where the constant r is the prosecutor's rate of substitution of $\sum D_i$ for $\sum T_i$. The prosecutor will allocate resources optimally under this model according to

$$\frac{\partial P_1}{\partial R_1} \cdot (T_1 + rD_1) = \ldots = \frac{\partial P_n}{\partial R_n} \cdot (T_n + rD_n), \qquad (21)$$

and we see that this allocation rule converges to equation (19a) as r grows arbitrarily large.

We can restate the fundamental notions of this section as follows: A set of reasonable assumptions combined with previous empirical findings indicate that the prosecutor will minimize the expected future stream of serious crime by concentrating more resources on cases for which the

probability of conviction is more responsive to the allocation of resources, to cases involving defendants with more extensive criminal histories, and to cases involving more serious offenses. This extends previous theory by regarding the reduction of future crime as an objective toward which the prosecutor can direct his operations. By concentrating more effort on cases involving repeat offenders, in the interest of reducing future crime, the prosecutor with fixed resources gives up some attention to other cases. Allocating resources toward such an end constitutes an investment. To the extent that the district attorney, in allocating resources to cases, ignores the criminal histories of defendants as a reflection of potential subsequent criminality, he may be trading away a reduction in future crimes (and work load) for an increase in current convictions.

3. Empirical Specification of the Model

The opportunity to test major aspects of this theory empirically is made possible by the existence of the data described in Section II, above. We can specify an empirical counterpart to equations (19a) and (19b), based on these data, as follows:

$$R_{.} = R(P, T, H) \quad , \tag{22}$$

where R is measured as the number of days the prosecutor carries the case, P is the probability that the defendant in the case will be convicted, T is an index of the seriousness of offenses that gave rise to the case, and H is an index of crime proneness of the defendant in the case.[21]

[21] T can be measured as the Sellin-Wolfgang index of crime seriousness (see Appendix A) or the maximum sentence associated with the charges

This specification enables us to estimate the relative importance that the prosecutor assigns to the strength of evidence in a case, the seriousness of the crime, and the defendant's criminal history, respectively. We assume that the relative importance that the district attorney attaches to any case is revealed in the length of time he or she indicates willingness to carry the case.

It seems reasonable to anticipate that the prosecutor will carry a case longer when there is stronger evidence, a more serious offense, or a defendant with a more extensive and recent criminal record. The *relative* importance of each, however, is worthy of estimation for several reasons: First, the prosecutor, upon learning these estimates, may find it appropriate to alter his operations. Second, while theory, conjecture, and anecdotes provide useful insights, the most compelling sort of evidence about this fundamental aspect of prosecutor operations comes from empirical analysis. Third, we are not aware that such an analysis has ever been done before. As a result, these estimates may remove some of the mystery that has surrounded the operations of the prosecutor.

At the same time, we must acknowledge limitations in drawing inferences from this model. One is that the strength of evidence variable, P, is measured as the likelihood of conviction in the case, based primarily on objective factors in the data such as number of witnesses,

cited by the police. H can be measured as the number or recency of prior convictions; to the extent that arrests are correlated with convictions, the number or recency of prior arrests can be used instead (note that the correlation is likely to be positive, particularly since a defendant cannot have prior convictions in a jurisdiction without having prior arrests).

whether tangible evidence (e.g., stolen property, weapons) was recovered, whether defendant and victim are members of the same family, and elapsed time between offense and arrest. P will, of course, also be affected by the amount of attention given to the case by the prosecutor, R, so that the statistical technique used to infer the effect of P on R will have to purge this estimate of the reverse effect of R on P. Such techniques are available, and are discussed in a companion document.[22]

Certain elements of the strength of the evidence in a case are not captured in our data, however. For example, we do not measure the precise degree of support to the prosecutor's argument that the testimony of a particular witness provides. Nor do we have record of the strength of any tangible evidence that we may know to exist in a case. The crucial point here is that the absence of any factor from the analysis will not materially affect our inferences as long as this factor is not precedent to and highly correlated with the factors included in the analysis, and as long as the number of observations is sufficiently large. We are aware of no such factor absent from our data, and, as pointed out earlier, have available many thousands of observations.

A related potential limitation is that the number of days the prosecutor carries the case, R, may not measure prosecutor effort well enough for us to draw inferences about the relative importance the

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[22] "The Application of Mutlivariate Analysis Techniques in the PROMIS Research Project," Institute for Law and Social Research technical document, 1975.

prosecutor attaches to P, T, and H, based on their empirical relationships with R. While we recognize that R is sure to be less than perfectly correlated with the true amount of prosecutive effort, especially in misdemeanor cases, we are persuaded that it is a suitable stand-in variable.[23] In particular, we know of no important factors that would cause the errors in the use of this proxy measure to distort our inferences of the prosecutor's rates of substitution among P, T, and H.

In addition, if felony cases involving defendants with criminal histories, in fact, received no more prosecutive effort than other felony cases, it may be due to a greater tendency for defendants with prior records to plead guilty (rather than risk going to trial), and not to any lack of concern by the prosecutor about the defendant's record. However, the 1973 data cited in footnote 23 indicate that felony cases accepted by the prosecutor and involving defendants with prior arrest records were no more likely to leave the court with a plea of guilt than felony cases accepted by the prosecutor and involving

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[23] Accordingly, we find it appropriate to limit the initial test of the formal model to the several thousand felony cases in the Washington, D.C. data base. In the District of Columbia, where cases are prosecuted by the U.S. Attorney's Office, about one fourth of all 6,000 felonies brought to the prosecutor in 1973 were rejected at initial screening. Those rejected, clearly, received less prosecutive effort and were in the system for less time than those accepted. Slightly more than half of those that were accepted were indicted in 1973. Indicted felonies were in the system 109 days longer, on average, than other cases originally accepted as felonies; we know that the indicted felonies receive more prosecutive attention per case than unindicted felonies. At the next stage, 27 percent of the indicted felonies went to trial in 1973. We know that the indicted cases that did not go to trial were dropped or pled guilty; we are quite certain that the former received more attention per case than the latter. Hence, the true correlation between prosecutive effort and R is likely to be large and positive.

defendants with previously "clean" records (33.5 percent for both groups), and were more likely to go to trial (19.8 percent and 13.9 percent, respectively).

Finally, felony cases against defendants with arrest records may be weaker to begin with than other felony cases. If the police were more inclined to arrest a person with an arrest record than a person with no prior record, ignoring all other factors, then these cases might receive less prosecutive effort because they have weaker evidence, because they involve less serious offenses, or both, and not because the prosecutor ignores the defendant's criminal history. However, we have found generally small and positive correlation coefficients between H and P and between H and T. Moreover, the statistical techniques we have proposed provide estimates of the effect of the defendant's criminal record on R after taking explicit account of the effect that the criminal record has on R by way of its effect on the probability of conviction. Thus, the confounding association of criminal record and strength of case will have been removed from the estimates of the effect of criminal record on R.

Appendix A. List of Data Elements

Whether any charge is disposed as either guilty plea or guilty verdict.

Whether an indicted felony or a papered misdemeanor terminates without a conviction on any charge and does not go to trial.

Whether case terminates with a guilty verdict on any charge.

Days between felony screening and indictment.

Days between felony indictment and final disposition.

Days between misdemeanor screening and final disposition.

Number of continuances.

Whether felony case is indicted.

Whether defendant pleads to at least one charge.

Whether case goes to trial.

Months that final action prosecutor has served as an Assistant U.S. Attorney at the Superior Court.

Whether final action prosecutor is male.

Whether final action prosecutor is white.

Whether defendant and final action prosecutor are either both white or both nonwhite.

Whether sex of defendant is same as that of the final action prosecutor.

Whether misdemeanor case is assigned to the Major Violators Unit.

Whether case is dropped by prosecutor (nolle prosequi).

Whether any charge is accepted for prosecution ("papered").

Whether person screening case is not an official Assistant U.S. Attorney.

Whether screening prosecutor is male.

Whether screening prosecutor is white.

Whether defendant and screening prosecutor are either both white or both nonwhite.

Whether sex of defendant is same as that of screening prosecutor.

Months that screening prosecutor has served as an Assistant U.S. Attorney at the Superior Court.

Whether any witness problem is recorded.

Case seriousness score, based on the Sellin-Wolfgang index.*

Number of codefendants.

Years of age of defendant.

Days between offense and arrest.

Days between arrest and screening before a prosecutor.

Defendant seriousness score, based on the Gottfredson index.**

Years of age of the final action judge.

Years final action judge has served at the D.C. Superior Court.

Number of government witnesses (lay and expert) at time of initial case screening.

Whether any of the charges brought by the police or prosecutor indicate a crime against either person or property.

Whether there was corroboration (i.e., evidence that a crime was committed).

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* See Thorsten Sellin and Marvin Wolfgang, The Measurement of Delinquency, John Wiley and Sons, New York, 1964.

** Donald M. Gottfredson, "Development and Operational Use of Prediction Methods in Correctional Work," Proceedings of the Social Statistics Section of the American Statistical Association, 1962.

Whether any indication that defendant was only an aider or abettor to the crime.

Whether defendant known ever to use an alias.

Whether defendant has an arrest record.

Whether defendant is male.

Whether defendant is white.

Whether defendant's residence is in the District of Columbia.

Whether defendant's counsel is from the Public Defender Service.

Whether defendant's counsel was appointed under the Criminal Justice Act and handled at least 75 cases in Superior Court between April 1, 1973 and March 1, 1974.

Whether any evidence indicates that defendant is innocent.

Whether defendant and victim are members of the same family.

Whether any indication that a gun was either present or used (or both) at time of arrest.

Whether final action judge is judge #1.

Whether final action judge is judge #2.

Whether final action judge is judge #58.

Whether final action judge resides in the District of Columbia.

Whether final action judge is male.

Whether defendant and final action judge are either both white or both nonwhite.

Whether sex of defendant is same as that of the final action judge.

Whether final action judge is white.

Whether any charge indicates crime against person and no charge indicates property-motivated crime.

Whether screening prosecutor indicates racial confrontation, assault on public official, or major violator.

Whether any charge indicates property motivated offense.

Whether property or evidence was recovered.

Whether defendant and victim are strangers.

Whether urinalysis test was positive.

Whether victim is employed.

Whether victim is a corporation, association or institution.

Whether any indication of participation in crime by victim.

Whether victim is reported to have physical or health problem.

Whether any indication of provocation by victim.

Whether any indication that a prohibited weapon other than a gun was present or used (or both) at time of arrest.

Years of age of victim.

CHAPTER 3. ANALYSIS OF POLICE PERFORMANCE FROM A COURT'S PERSPECTIVE

A. Introduction

One of the conspicuous features of the criminal justice system in the United States is its fragmentation. Criminal cases are managed in a sequence that begins with the police and, after the involvement of various officials, occasionally terminates with prison authorities. Most informed observers seem to acknowledge that an essential step toward crime reduction consists of coordinating these involvements. The National Advisory Commission on Criminal Justice Standards and Goals, for example, has stated

> ... no element of the criminal justice system completely discharges its responsibility simply by achieving its own immediate objective. It must also cooperate effectively with the system's other elements.... Police agencies have a responsibility to participate fully in the system and cooperate actively with the courts, prosecutors, prison parole boards, and noncriminal elements.[1]

In this paper we attempt to move toward such coordination by setting forth the framework for an analysis of one important sector of the criminal justice system, the police, from the vantage point of another, the court.

A central notion motivating such an analysis is that policy implications can be gleaned from knowing the extent to which factors under police control are systematically related to "desirable" court outcomes.

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[1] National Advisory Commission on Criminal Justice Standards and Goals, Report on Police, U.S. Government Printing Office, Washington, 1973, p. 70

We presume that the police leadership would find utility in knowing, for example, the extent in which a police officer's sex, age, and education affect the probability that his or her arrest will leave the court as a conviction, other factors held constant; such knowledge is potentially useful in setting policy both for recruitment and assignment of police officers.

Other factors immediately reflect the effectiveness of police operations, factors that weaken or destroy the prosecutability of the case. Among these are insufficiency of evidence, illicit search and seizure actions, cases in which inadmissable confessions or statements were obtained, instances where the police officer failed to appear at trial as a witness, delays in apprehending suspects, and lack of cooperation on the part of nonpolice witnesses. By knowing how individual characteristics of arresting officers affect these outcomes, a more detailed analysis of recruitment, training, and assignment policies is possible.

We attempt to set the foundation for this analysis by describing a model to enable inferences about relationships between readily measurable police policies, as applied to individual cases, and the court outcomes of these cases. An alternative model is also described, based upon the individual officer rather than the individual case. Both models relate officer characteristics to court outcomes.

In taking the court perspective, we are breaking tradition from most previous empirical research on police. Police operations have been analyzed on the basis of the rate of clearance of reported offense by

arrest,[2] rate of reported crime,[3] rate of victimization,[4] level of citizen satisfaction,[5] response time,[6] and resource expenditure.[7] The various problems associated with these performance measures have been well documented.[8] We are attracted to court outcomes as a basis for further analysis of police operations primarily because this strikes us as an important link between arrests and subsequent crime levels that has not been thoroughly examined. Moreover, data are now available to conduct such a study. These data are a product of the Prosecutor's Management Information System (PROMIS).[9]

[2] R.A. Carr-Hill and N.H. Stern, "An Econometric Model of the Supply and Control of Recorded Offenses in England and Wales," Journal of Public Economics, vol. 2 (1973), pp. 289-318.

[3] George B. Weathersby, "Some Determinants of Crime: An Econometric Analysis of Major and Minor Crimes Around Boston," unpublished manuscript, September 1970; S.J. Press, Some Effects of an Increase in Police Manpower in the 20th Precinct of New York City, Rand Corp. Paper no. R-704-NYC, New York, 1971.

[4] George L. Kelling, et al., The Kansas City Preventive Patrol Experiment Summary Report, Police Foundation, Washington, DC, 1974, pp. 20-21.

[5] Rita Mae Kelly, et al., The Pilot Police Project: A Description and Assessment of a Police - Community Relations Experiment in Washington, D.C., American Institutes for Research, Kensington, Maryland, 1972.

[6] Richard C. Larson, Urban Police Patrol Analysis, M.I.T. Press, Cambridge, Mass., 1972.

[7] A.J. Tenzer, et al., Applying the Concepts of Program Budgeting to the New York City Police Department, Rand Corp. Paper No. RM-5846-NYC, Santa Monica, Calif., 1969.

[8] Urban Institute, The Challenge of Productivity Diversity: Part III - Measuring Police-Crime Control Productivity, report prepared for the National Commission on Productivity, 1972; Saul I. Gass and John M. Dawson, An Evaluation of Police Related Research: Reviews and Critical Discussions of Police-Related Research in the Field of Police Protection, Mathematica, Inc., Bethesda, MD, 1974

[9] PROMIS is described in William A. Hamilton and Charles R. Work, "The Prosecutor's Role in the Urban Court System: The Case for Management Consciousness," Journal of Criminal Law and Criminology, June 1973.

place of residence, and martial status. And having decided what mix of persons to recruit, the department must decide how to train and assign these persons.

Any systematic relationships that are found to exist between these policies and court outcomes that are desirable to the police are likely to have implications for recruitment, training, or assignment policies. For example, if, among those officers in positions to make arrests, officers with 10 to 15 years of experience more often arrest and bring forward serious cases to the prosecutor that end in conviction than other officers, after other factors are accounted for, then the department might reassess a policy of promoting officers with 5 to 10 years of experience to administrative positions. In such instances, it might be more appropriate to promote the officer and give him or her the opportunity to remain in a patrol capacity.

2. Performance or Productivity Measures

The central purpose of this model, as noted above, is to provide a structure for estimating the effects that factors under police control have on court outcomes that are in some sense "desirable." We now attempt to pin down some elements of desirability.

a. Case Acceptance by Prosecutor

It seems reasonable to assert that it is undesirable for the police to arrest a suspect and then for the prosecutor to reject the case. When this happens, unnecessary costs are imposed on the police (unless arrests have a deterrent effect on crime that is independent of sanctions imposed subsequently by the criminal justice system), on the prosecutor,

on whomever of the suspects that are truly innocent, and on all persons victimized elsewhere due to this engagement of criminal justice resources. Accordingly, we find "probability of case acceptance by prosecutor," P(P), to be a reasonable measure of performance within the model.

b. Case Conviction

The police appear to have very little control over what happens to a case after it is accepted by the prosecutor, if it is accepted. At the same time, the prosecutor may accept some marginal cases that would have been stronger were it not for some weakness, such as alienated witnesses or evidence not obtained, that was attributable to police operations. These cases, even though accepted for prosecution, may be less likely to end up as convictions than other cases. To the extent that this is true, it seems reasonable to treat "probability of conviction given acceptance by prosecutor," $P(C|P)$, as another measure of performance.

Since the simple probability of conviction, P(C), is equal to the product $P(P) \cdot P(C\ P)$, we see that we can estimate relationships between police policy and conviction either in the large or in some detail, or both. This detail could be made even more elaborate by considering events between initial screening by prosecutor and final disposition from the court, events such as preliminary hearings and grand jury proceedings.

c. Extent of Reduction in Charges

Further elaboration may be possible by focusing on the charges in the case. Charges are generally reduced between arrest and final court disposition, with the defendant most often freed on all charges (through

"no papers," dismissals, acquittals, etc.), although in a few rare cases the defendant is convicted on charges at least as serious as those originally brought by the arresting officer. Charges are reduced either because the police overcharged in the first place (the evidentiary criterian for conviction is higher than for arrest), or due to factors beyond police control, or both. To the extent that charge reductions reflect police overcharging, unnecessary costs may be imposed on defendants, since arrest records contain information about police charges and are rarely expunged.

Moreover, outstanding police work should reveal itself not only in the level of convictions, but also in the seriousness of the charges that the convictions are based on. One would expect that the strength of evidence on each charge in a case is influenced by the police handling of witnesses and tangible evidence, and that improvements in police operations would strengthen the individual charges as well as the likelihood of conviction for the case as a whole.

A simple proxy for charge reduction is whether a conviction is obtained on the most serious charge cited by the police at the time of arrest. Another is whether the attorney who screens the case for the court agrees to prosecute the most serious charge cited by the arresting officer. A proxy for the seriousness of the charges on which the conviction is based is the maximum sentence associated with the most serious charge. Convictions on other charges are likely to be superfluous due to the extensive use of concurrent sentencing by judges.

d. Evenhandedness Measures

It may also be possible to perform certain analyses of evenhandedness. A simple example of such an analysis consists of comparing the racial characteristics of arresting officers with those of victims and defendants.[10] Is the prosecution of the case affected by various combinations such as white officer-black defendant, black officer-white victim, etc.? Analyses of this sort could also be done with regard to other characteristics that may be subject to unfair discrimination, such as age and sex. To the extent that the data permit, this part of the analysis will control for other factors that may affect arrest decisions. The importance of such statistical control in the analysis of discrimination has been well documented.[11] We now look further into the matter of controlling for other factors.

3. Control Factors

Due to ethical and legal considerations, controlled experiments tend to be impractical in real-world analyses of the criminal justice system. For this reason, our model will be applied to nonexperimental data (i.e., data that accumulate out of normal operations). It is essential, in analyzing such data, to incorporate factors other than those of primary concern. Failure to do so may distort the relationships observed between any two variables of interest.

[10] The Philadelphia Inquirer conducted a study along a similar line which revealed, among other things, that black defendants were found guilty by the judge 32 percent of the time when the judge was black, and 42 percent of the time when the judge was white. This finding is reported in a 1973 supplement entitled "Crime and Injustice," by Inquirer reporters Donald L. Barlett and James B. Steele.

[11] Peter J. Bickel, et al., "Sex Bias in Graduate Admissions: Data from Berkeley," Science, vol. 187 (February 7, 1975), pp. 398-404.

For example, it surely would be misleading to investigate whether police officers assigned to a special tactical unit are either more or less effective than other officers based on court outcomes, in an analysis that ignores every other factor. Suppose that these officers tend to handle cases that, by their very nature, are easier to obtain convictions for once an arrest is made -- cases less likely to involve intrafamily crimes, for example. In order to isolate the effect of the police officer's unit or assignment on the probability of a desirable outcome, then, account will be taken for the relationship between victim and defendant, as well as other factors that affect court outcomes, such as evidence, witnesses, case seriousness, defendant seriousness, characteristics of the prosecutor, judge, and so on.

4. Graphical Depiction of the Basic Structure

Figure 1 depicts fundamental relationships between policy variables, performance measures, and control factors. It is an oversimplified structure that is intended only to serve as a starting place from which

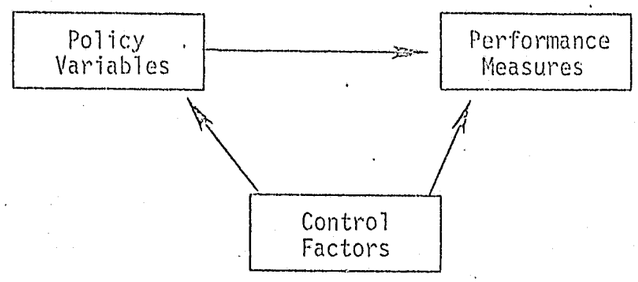


Figure 1

we build a more elaborate model. That this model is oversimplified can be realized by considering that a policy variable such as "experience of the arresting officer" may affect the length of delay between the date of the offense and the date on which the case is brought to the prosecutor, and this may in turn affect the performance measure "likelihood that the prosecutor will accept the case." Thus, the variable "delay between offense and prosecutor screening" is intermediate to a policy variable and a performance measure, and not explicitly reflected in Figure 1. Quality and amount of tangible evidence, probability of exclusionary rule violations (e.g., illegal search or seizure, illicitly obtained testimonial evidence, improperly executed arrest warrant), and witness cooperativeness are other factors that are likely to be intermediate in the same sense.

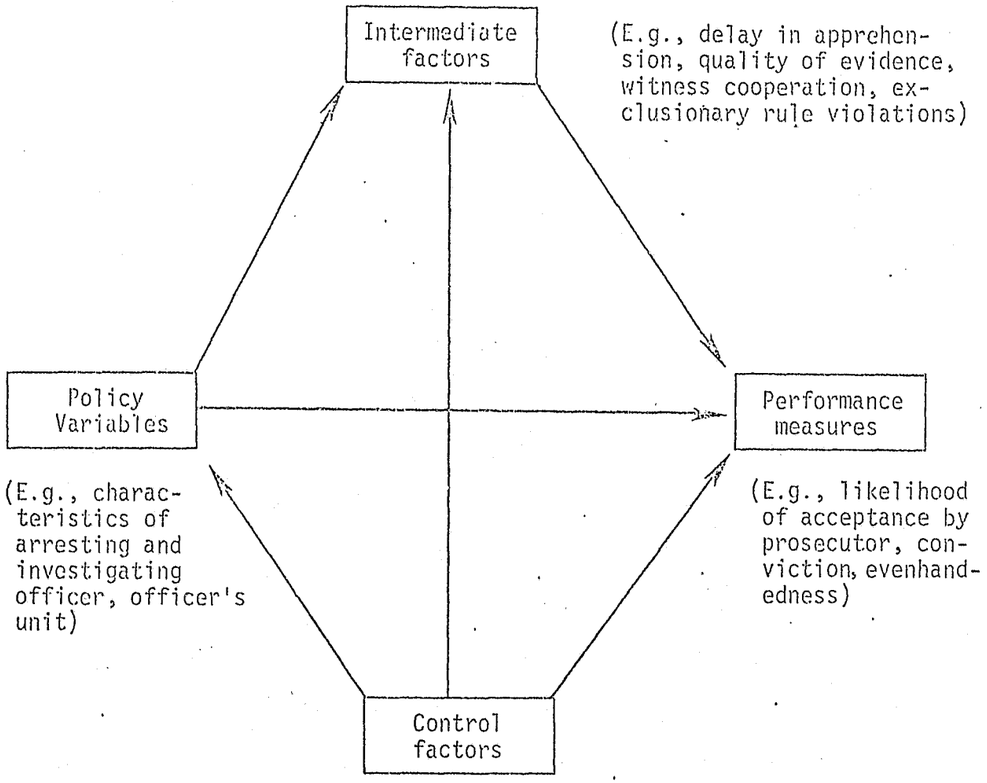
We can elaborate on Figure 1 to reflect these intermediate factors, in the manner depicted in Figure 2. Note that control factors (such as relationship between victim and defendant) can exert independent influences on policy variables (e.g., officer's unit), on intermediate factors (e.g., witness cooperation), and on performance measures (e.g., evenhandedness).

5. Algebraic Representation

The graphical depictions of the previous section, when expressed in algebraic terms, provide a more precise structure for the empirical estimates to follow. To do this, we first define principal variables of the analysis:

P: probability of a court outcome desirable to the police (e.g., conviction)

Figure 2



D: delay in apprehension; number of days from offense to arrest

W: probability that witnesses will not cause the case to drop out of the court

N: number of witnesses cited at the time of screening by the prosecutor

E: whether tangible evidence, such as weapons or stolen property, was recovered by the police

$\bar{X}$: vector of variables that describe the primary arresting officer (e.g., years on force, age, unit, sex, residence)

$\bar{C}$: vector of control variables (e.g., crime category, relationship between victim and defendant, case seriousness, defendant's criminal history, characteristics of screening attorney).[12]

We then can write

$$P = P(D, W, N, E, \bar{X}, \bar{C}_P) \qquad (1)$$

which says that the likelihood of a court outcome desirable to the police is determined by the length of delay in apprehending the suspect, the quality of testimonial evidence, the existence of tangible evidence, certain characteristics of the arresting officer, and other factors that affect this likelihood, to be determined empirically.

A more detailed analysis of the manner in which the characteristics of the arresting officer affect the likelihood of a court outcome desirable to the police can be inferred by estimating parameters of the expressions

$$D = D(\bar{X}, \bar{C}_D) \quad , \qquad (2)$$

$$W = W(N, \bar{X}, \bar{C}_W) \quad , \qquad (3)$$

and

$$E = E(\bar{X}, \bar{C}_E) \quad . \qquad (4)$$

[12]Variables in PROMIS available for use as statistical controls are described in PROMIS Briefing Series, Volumes 1 (pp. 7-8) and 3, Institute for Law and Social Research, Washington, 1975.

The value of estimating the parameters of these equations lies largely in the implications that these parameters have for police training and assignment policies. For example, preliminary results of multiple regression analysis that follows this model indicate that younger police officers are more likely than older officers to bring cases to the court that drop out due to witness problems. In most other respects, younger officers appear not to be measurably inferior to older officers. Hence, it may be appropriate to give additional training on the proper handling of witnesses to the younger officers, or to assign them to cases where witness problems are less likely to exist, or both. Other multivariate techniques to be considered for use in the estimation of these relationships are described in a separate document.[13]

C. Officer-Oriented Model

The model described above is based upon an analysis of individual cases that come to the prosecutor. An alternative, but similar model is based on the individual police officer. Under this alternative model we bring together all cases brought forward to prosecution for a single arresting officer during a period, as a single observation. Officers who made no arrests during the period will be excluded, since many of these officers were assigned to positions that precluded the possibility of their making arrests. The policy variables of primary interest here, as before, are characteristics of the officer and the officer's unit.

[13]"The Application of Multivariate Analysis Techniques in the PROMIS Research Project," Institute for Law and Social Research technical document, 1975.

The performance measures under this alternative model are analogues to those posited earlier. One is the number of cases accepted by the prosecutor. Another is the number of cases in which the defendant was convicted. A third is the proportion of arrests made by this officer that were accepted for prosecution. A fourth is the proportion of arrests that ended in conviction. A fifth is the total seriousness score for the crime or the defendants, or both, of all cases accepted by the prosecutor. A sixth is the total seriousness score of all cases that terminated in conviction.

The respective effects of each officer characteristic on each performance measure will be estimated and assessed. These results will then be compared with those of the case-based model. The multivariate statistical techniques to be used in this analysis will be drawn from the methodological design set forth in the document cited in footnote 13.

D. Conclusion

It is, of course, too early to draw conclusions about police operations from a model that has not yet been thoroughly tested empirically. At the same time, one cannot perform a meaningful empirical analysis without a reasonable structure that organizes the data elements available for analysis. The set of data elements available for this analysis is unique, and the number of cases is quite large. These data are clearly capable of providing new insights into police operations.

For example, it has been asserted *without empirical support* that a police officer who lives in the same jurisdiction where he works will be

more effective than the officer who lives elsewhere, due to a greater sense of commitment to the community.[14] If this were so, we would expect officers residing in the District of Columbia to bring to the court cases that are prosecuted successfully more often than cases brought by other officers. Our preliminary findings indicate that most officers live outside the District, that these officers tend to make slightly more arrests per officer than those living in D.C., and that the conviction probability appears to be virtually insensitive to the residence of the officer, after a very large set of other factors are accounted for. We report this here not because we regard this as a particularly crucial finding that warrants any sort of immediate attention, but because it serves to exemplify the kind of policy relevant issue on which light can be cast from the analytic design described in this paper.

[14] This debate has been summarized in Jerry Wilson, Police Report: A View of Law Enforcement, Little Brown & Co., Boston, 1975, pp. 193-195.

CHAPTER 4. PATTERNS OF CRIMINAL AND RELATED COMMUNITY BEHAVIOR

A. Introduction

The overall objective of the PROMIS research grant is to develop information which will be useful in improving the equity and the effectiveness of the criminal justice system in Washington, D.C., and which may be applicable to other jurisdictions. Knowledge about patterns of criminal and related community behavior within Washington, D.C., may be a direct help to the prosecutor in making decisions about how to handle certain cases and defendants and to the police in allocating resources. There may also be indirect benefits gained from looking at variables associated with different types of criminal behavior. Preventive measures may be taken to alleviate some of the conditions associated with a high incidence of a particular crime.

The research on patterns of criminal and related community behavior will be conducted in four phases: preparation of the research design and descriptive statistics, multivariate statistical analysis of the data, testing and evaluation of the findings through field experiments, and preparation of reports on the findings including specific recommendations to the police and prosecutor.

The research focuses on specific subtopics, phased over three years of effort. The first involves developing a typology of criminal behavior specific to Washington, D.C., and the second involves developing and computing geographically oriented systems rates of criminal behavior for each step in the criminal justice process, based upon the typology. The first two subtopics involve a description of criminal behavior occurring in Washington, D.C. The third, fourth and fifth subtopics are attempts to explain the rates by different methods. The ecological characteristics of

where the crime was committed and where the defendant lives are considered as possible explanatory factors. The fourth subtopic focuses on the effects of the situational variables of the crime, including characteristics of the case and the defendant, on the systems rates. The fifth subtopic also involves a situational factor--the victim--but the question is handled separately since data sources available on victimization are not available for other situational variables. The sixth subtopic involves developing, testing, and implementing methods for predicting recidivism. There will be a yet unspecified seventh subtopic concerning the factors associated with citizens coming forward to participate in the criminal justice process as witnesses.

B. Research Subtopics and Tasks

1. Crime Classification Scheme.

a. Introduction. Due to the complexity of the cases which are handled by the Superior Court in the District of Columbia, or any urban criminal court, some method of grouping and organizing the data must be found. If, for example, every court charge code were to be examined in regard to characteristics of the crime, the victim, and the defendant, it would be very difficult to come up with any useful generalizations. On the other hand, it is possible to have such broad categories of criminal behavior that any recommendations could never be applied to a specified case. Therefore, the first task of this area of research is to develop a model--a typology of criminal behavior. When such a model is developed, all other tasks under patterns of criminal behavior can use this model as a base. It is probable that the model will be changed and modified as the research proceeds.

The idea of forming a typology of criminal behavior is scarcely new. Lombroso, the Italian criminologist of the middle 1800's, used his analysis of skulls to form a typology of criminals. Since then numerous others have formed typologies based on psychological characteristics of the offender, constitutional types, family background, etc. Most of the typologies have been based on the offender, rather than the criminal incident, due to the criminologist's concern with treatment and rehabilitation. There have also been numerous typologies of victims. Formation of a typology depends upon the goals of the research. For instance, if a typology is formed which explains the causes of crime, it is unlikely that it will give insight into punishment and correction. In this project we are less concerned with forming a universal theory of criminal behavior than with using the typology as a way of organizing the data for examining decisions made by the police, courts, prosecutor, witnesses, and victim.

There are at least two possible reasons for forming a typology for use in the project. The first is to describe criminal incidents occurring in the District of Columbia in terms of systems rates and then to look for factors associated with the rates. The second is to focus on the defendant in terms of predicting the likelihood of his recidivating. These two purposes require different approaches, since the first focuses on the offense (Where, when and why does it occur? How is it processed through the criminal justice system?) and the second on the defendant (How can he be prevented from recidivating?). The second purpose of predicting recidivism will be in Section E.

There are three data sources on crime to which the typology must be oriented: data in PROMIS, LEAA victimization data, and police date. This implies several considerations. Victimization data obviously only involves

crimes in which there is a victim, leaving out victimless crimes, such as public order offenses contained in the police and court data. Police data contain offenses such as traffic violations which are not processed in the Superior Court which has the PROMIS data. Since the interest here is in computing systems rates for criminal behavior which can be compared, coordination of these three data sources will be a large factor in the formation of the typology. Additional constraints are that there should be enough cases in any "type" so that it can be further broken down by geographic area and that the way in which criminal behavior is examined is applicable to other jurisdictions.

b. Standards for a typology of crime. The two standards that any typology should meet are that it is exhaustive and that its categories are mutually exclusive. In other words, a given case must be able to be classified into one, and only one, category. The typology can be built on one dimension or several. The criteria of exhaustive and mutually exclusive categories are probably easiest to meet if the typology is structured using one dimension and then other dimensions are associated with each resulting type. The problem with using several dimensions is that the number of types can become very large if one constructs the typology by cross-classifying the dimensions. For example, if there are three dimensions each of which can assume three values, 27 types will be formed. Unless some types formed by the cross-classification never have any cases in them according to empirical tests, the only way to reduce such a large typology is to combine categories, which loses the specificity originally desired. In terms of criminal behavior, it becomes important to determine what the basis of the typology should be--the offense, the defendant, the victim, or some

combination of these. Due to the need to coordinate the data sources mentioned above, the basis will probably be the offense. After determining the base or bases, one can choose many different characteristics of each base to be the variable or variables used as dimensions. For instance, if the offense is used as the basis, the seriousness of the offense could be a dimension, as well as the legal crime category, number of charges, maximum sentence possible, etc.

Originally, it was felt that the offense-based typology developed by Clinard and Quinney would be suitable for grouping the offenses recorded in PROMIS.[1] However, there are many disadvantages to the typology. The typology consists of nine types structured from five dimensions. Clinard and Quinney never make it clear how they reduce their typology to nine types. If each dimension only had two possible values, this would create 32 types. If the typology were used empirically, one would surely have cases whose values on the five dimensions would cause them to fall outside the typology, thus eliminating cases. This means the typology is not exhaustive. Secondly, the types do not appear to be mutually exclusive, or at least not according to any measurements available from the data presently available. There are problems in choosing between two or more types in some cases. For instance, shoplifting might be classified into three of the types: occasional property, occupational, or professional criminal behavior. The other four dimensions, other than legal offense category, do not appear sufficient to discriminate between various shoplifting cases. The greatest problem, however, with the Clinard and Quinney typology is that

[1] Marshall B. Clinard and Richard Quinney, Criminal Behavior Systems: A Typology (New York: Holt, Rinehart and Winston, Inc., 1973).

it is not well oriented to the data base. Even if it were possible to classify most of the cases in PROMIS, there is very little chance of classifying the police and LEAA data into the same types.

The typology must be formed with three considerations in mind: it should be of use to the people for whom it is primarily being developed, i.e., the police and prosecutor; the model must be appropriate to the various types of data to be used, including LEAA victimization data, police offense reporting and arrest data, PROMIS data, and census data; and most important, the typology should be geared to the criminal behavior processed through the D.C. Superior Court and, at the same time, have application to other jurisdictions. It appears that the typology used with the systems rates will be a criminal-incident based typology.

c. Tasks. There are six basic tasks which should be completed to develop the typology:

- A literature search on typologies and related methodologies should be conducted, with particular emphasis on research in-involving a large urban criminal court.
- Local police and prosecutors should be questioned as to how they group criminal incidents.
- A review of methods of classification by LEAA in its victimization survey and methods of classification by the police should be made.
- Frequency distributions of various charges, cases and defendants, flowing through the Superior Court should be examined, looking for patterns.
- A tentative typology should be developed based on the above

and reviewed with operational personnel.

- After a typology is developed from combining information obtained from the five steps above, a computer program should be written to classify the criminal behavior reflected in PROMIS, police and victimization data along the lines of the typology. Modifications will have to be made to be sure each case falls into one type only.

2. Systems rates.

a. Introduction. There is a "true crime rate" of any geographical area which is the number of crimes actually committed, whether reported or not, per unit of population or organizational unit exposed to risk. The victimization surveys being conducted in major U.S. cities by LEAA are an attempt to measure this "true crime rate" or at least to estimate it. From the actual criminal incident until someone is sentenced for the crime, cases drop out of the criminal justice system at each point in the process. The first point at which cases drop out occurs because not every person who is victimized reports the incident to the police. In the case of victimless crimes, not all offenses are detected and reported by other citizens or discovered by the police. The next dropout point occurs when only a certain percentage of criminal incidents reported to the police are considered to be founded offenses. Of the founded offenses, some proportion are cleared by arrest; this clearance rate is a well-known traditional measure of police performance. The cases which continue to drop out all along the process until some proportion of the defendants are sentenced can be quantified in terms of systems rates. Each rate can be expressed as either the cases reaching a certain point in the process divided by the population exposed

to risk or divided by the number of cases processed at the previous step. The rates can be seen as probabilities when expressed as the cases reaching a certain point in the process divided by the number of cases processed at the previous step. The probability of a case reaching any point in the process, such as arrest or conviction, is the joint probability that it passed through all the previous points. Thus, the probability of conviction can be computed by multiplying the victimization rate, reporting rate, arrest rate, papering rate, and conviction rate. These systems rates can be used to measure the effectiveness of the system at each point in the process.

This idea of computing systems rates was suggested in a recent article by Klein, et al.[2] Previous researchers usually chose to study either offenses reported to the police, arrest data, court data, or corrections data, without comparing data from one part of the criminal justice system to the other. One important part of any comparison of rates is to have data measuring the "true crime rate." One can estimate the true crime rate by either interviewing people to see if they have been victimized or interviewing them to see if they have committed a crime. The former method has been chosen by LEAA in its victimization surveys. It must be noted that since some crimes do not involve a victim, a victimization survey will not provide data on some crimes.

b. Considerations in computing systems rates. The systems rates computed will be specific to a geographical area and type of crime, using the typology of criminal behavior previously developed. Mannheim

[2] Malcolm W. Klein, Solomon Kobrin, A.W. McEachern, and Herbert R. Sigurdson, "System Rates: An Approach to Comprehensive Criminal Justice Planning," Crime and Delinquency, 17 (October 1971), pp. 335-372.

raises the question of whether crime rates should be studied "in relation to the residence of the offender or to the place where the crime has been committed: the first would be significant as revealing potential breeding grounds of crime, i.e., the place where the offender lives presumably helps to shape his personality and conduct; the second would indicate features attractive to law breakers."[3] Both these methods have been used in previous research and this study will attempt to compute both types of rates.

There are three additional considerations in developing the rates: the spatial unit of analysis, the time frame to be used, and the population base for the rates. It has been mentioned above that the typology of criminal behavior developed should be compatible with the LEAA victimization data, police complaint and arrest data, PROMIS data, and census data. Similarly, the geographical divisions of Washington, D.C., chosen to be the spatial unit of analysis must fit these sources. Probably the smallest unit analyzed will be a census tract. Data appear to be available for this level of analysis from police and court data. However, residence of the victim appears to be the only information possibly available by census tract from the victimization survey. To compare systems rates, the place of the offense is needed.

The time frame for comparing systems rates for the base year will be calendar year 1973. Police and court data will be available for this time period. The LEAA victimization survey for the District of Columbia asked residents to recall incidents which happened in the previous 12 months,

[3] Hermann Mannheim, Comparative Criminology (London: Routledge and Kegan Paul, 1969), p. 547.

with interviews taking place from January through April 1974. Census data, for use in relationship to neighborhood characteristics, are only available for 1970, but certain limited population estimates may be available for calendar year 1973.

In computing crime rates, different bases must be used for different crimes. The rates by residence of the offender present a simpler problem than the rates by place of offense. The base for a rate by place of residence of the defendant can be computed per 1,000 population since the unit of analysis would be the individual. The defendants who have several cases would only be counted once in the numerator. Computing rates by place of the offense involves other problems. For crimes in which a person is victimized, population can be used. However, in the case of property crimes, such as shoplifting or burglary, stores or residences are at risk, not people. Further, if rates of shoplifting using population bases were to be computed for census tracts, high rates would be found in the business districts partially due to the lack of residential population. Other researchers have dealt with this problem by computing rates for certain crimes using bases other than population. Lottier, who computed rates by place of offense for Part I offenses in Detroit, used burglaries occurring in a particular chain store which had stores throughout the city, as his crime rate for burglary.[4] Boggs used a business-residential land-use ratio as the base for rates of business robbery, nonresidential burglary and grand larceny. She used the amount of parking space as the base for auto theft and square feet of street space as the base for robbery.[5] When the typology

[4] Stuart Lottier, "The Distribution of Criminal Offenses in Metropolitan Regions," Journal of Criminal Law and Criminology, 23, 1, (1938), pp. 37-50.

[5] Sarah Boggs, "Urban Crime Patterns," American Sociological Review, 30, 6 (December 1965), pp. 899-908.

discussed in Section B.1 is developed, the bases for the rates will be determined.

c. Types of Systems Rates. The systems rates to be developed for each type of criminal behavior and geographical area are as follows.

(1) The victimization rate. This rate should be available from LEAA's victimization study of the District of Columbia for the entire city, but not by census tract. The survey questioned approximately 10,000 households and 2,000 commercial establishments to see if they had been victims of selected crimes. The survey was conducted over a four-month period from January through April 1974, and respondents were asked about events within the last 12 months. Measures obtained from the survey should approximate the "true crime rate" for the District of Columbia. Since the crimes selected for study by LEAA will have to be interfaced with the model for criminal behavior, probably victimization rates can be computed for only certain types of criminal behavior. From these rates, it can be determined what the actual rates for certain types of crimes are in Washington, D.C., in order to compare them to rates from police and court data. The victimization data will be based on a sample which means that sampling variability may limit some of the findings.

(2) The complaint rate. This rate should be available from the police and is intended to measure the amount of crime coming to the attention of the police either through complaints (offense reports) or crime discovered by police patrols. It is the rate at which criminal incidents are reported to the police whether or not a suspect is apprehended. This rate can also be a measure of police performance throughout the city and a measure of citizen's confidence in the criminal justice system if computed as a ratio of complaints

to victimizations. Since victimization data will only be available for Washington, D.C., as a whole, these ratios can only be computed for each type of criminal behavior occurring in the District of Columbia, not by census tract. Also, victimization data are only available for certain types of criminal behavior. Rates will also be computed using a base other than victimization data, such as population, for each census tract and type of criminal behavior. Indications are that a police offense tape can be geocoded to provide data by census tract.

(3) The arrest and clearance by arrest rates. These rates will be computed by type of criminal behavior and by area, using the offense location recorded in PROMIS. The arrests would be those brought to the prosecutor and recorded in PROMIS. As with the complaint rate, the clearance rate can be computed in two ways: as a ratio of arrests to complaints and clearances to complaints, or by using some form of population base.

(4) The papering rate. This rate would be measured from the cases papered for each type of criminal behavior and geographic area. A definition of papering will have to be developed which takes into account the practice of the prosecutor sometimes not papering the charge in the case. The papering rate can also be computed in two ways: as the cases papered divided by the cases brought to the prosecutor, or using population data. The papering rate can be used as an indication of the quality of police arrests.

(5) The conviction rate. This rate can be computed from the PROMIS data using the offense location and computing the rate based on cases in which there has been a final disposition. Conviction must be defined, taking into account the changes which take place in the charges during

prosecution of the case. If a criminal incident is taken as the unit of analysis, a conviction might be a finding of guilty on at least one charge. This rate can be computed as the rate of convictions compared to cases which have at least one charge papered. As such, this might serve as a measure of prosecution performance.

The other systems rates which can be computed by type of criminal behavior and geographical area focus on the defendant, not the crime and the victim. Such rates can be computed by residence of the defendant which is available in PROMIS, although the information may have questionable reliability. These rates can be computed for those defendants arrested, those with cases papered, and for those convicted by type of criminal behavior and area of residence in the District of Columbia. This rate would give an indication of where people who are arrested, prosecuted, and convicted of criminal incidents live, as opposed to where victimization takes place. It is important to realize that the persons arrested and/or convicted of crimes may differ in characteristics from the universe of persons who commit crimes.

The following tasks must be completed in order to compute all these rates:

- A literature search should be conducted on the methodology of developing systems rates.
- The sources of data for computing the rates should be contacted, including LEAA and the police, in order to define the geographical unit of analysis possible for each rate, as well as the time frame.
- A geocoding system for matching addresses and areas should be developed for the different rates.
- Bases for the rates should be developed.

° Geographical maps of Washington, D.C., should be developed for each rate and type of criminal behavior.

3. An Ecological Study of Crime and the Processing of Cases in the District of Columbia

a. Introduction. The District of Columbia is not a homogeneous community. Different geographical areas of the city vary in terms of whether the structures in the area are primarily for residential or commercial use, the percent of black residents, the average income and size of the family units, etc. Crime occurrence also varies throughout Washington, with some neighborhoods being considered more "dangerous" than others. This suggests an appropriate area to research: the relationship of crime to the characteristics of the various neighborhoods in the District of Columbia. A further question raised by Mannheim in his book, Comparative Criminology, is whether crime rates should be studied "in relation to the residence of the offender or to the place where the crime has been committed: the first would be significant as revealing potential breeding grounds of crime, i.e., the place where the offender lives presumably helps to shape his personality and conduct; the second would indicate features attractive to lawbreakers."[6] Since the PROMIS data contain information on both the residence of the offender and the place of the offense, both types of studies can be conducted.

Evenhandedness is an issue in this ecological study of crime. Citizens have a right to receive equal consideration by criminal justice agencies, whether as victims or defendants, regardless of the part of the city in which they live.

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[6]Hermann Mannheim, Comparative Criminology (London: Routledge and Kegan Paul, 1969), p. 547.

In terms of the place of the offense, arrest rates, prosecution rates, and conviction rates should not vary according to some characteristic of the area, such as the average income of its residents. In the same vein, the prosecution and conviction of defendants should not be based on the neighborhood in which they live.

There will be two steps to the full exploration of the geographic patterns of crime and the court processing of crime in Washington, D.C. The first task will be to establish where the offenses are being committed and where the defendants are living. This can be accomplished by analyzing the reported offenses and arrested defendants for different types of crime by census tract for the District of Columbia. Next, by following cases through PROMIS, rates of arrest, prosecution and conviction by type of crime and census tract can be established for criminal incidents. Prosecution and conviction rates can also be prepared by type of crime and census tract for defendants. The final step will be to relate these geographic patterns to the neighborhood characteristics.

b. Previous research. Ecological studies of crime in major urban cities, including Chicago, Baltimore, Seattle, Detroit, and others, have been done rather extensively in the United States since the 1920s. The early research focused on the residence of the defendant rather than the place of the offense. The sociological theory behind these studies of large cities was that delinquency is at least partially influenced by economic and social conditions, rather than being determined by something innate within the delinquent. Since juvenile delinquency frequently leads to adult crime, the conditions causing delinquency, i.e., the ecological and environmental characteristics of the neighborhoods where delinquents live, must be improved in order to affect the

crime rate. The Chicago Area Project, a community crime prevention program, grew out of an early ecological study by Shaw and McKay.[7] This study was followed by many others in various cities, including those by Boggs, Bordua, Lander, Polk, Quinney and White.[8] The studies varied by the city or cities studied, whether the offenses were grouped or handled separately, whether delinquents or adults were studied, and the source of data that was used--police, courts, etc. In general, negative associations with the crime rate were found for measures of high socioeconomic status and family stability, and positive associations were found for population density, substandard housing, and the racial or ethnic composition of the community, measured as the percent of foreign-born or nonwhite residents.

Ecological studies focussing on the place of the offense have a different purpose than those focussing on the residence of the defendant, and have usually been conducted by different researchers. Finding crime types that occur together in a geographical area is a frequent goal when place of the offense is studied. Two researchers, White in Indianapolis and Schmid in Seattle, found high offense rates in the center of the city, as well as high rates of defendants residing there.[9] Boggs, who also computed offense

7 Clifford Shaw and Henry D. McKay, Juvenile Delinquency in Urban Areas (Chicago: University of Chicago Press, revised edition, 1969).

8 Sarah Boggs, "Urban Crime Patterns," American Sociological Review, 30, 6 (Dec., 1965), pp. 899-908.; David J. Bordua, "Juvenile Delinquency and 'Anomie': An Attempt at Replication," Social Problems, 6, 3 (Winter, 1958-59), pp. 230-238; Bernard Lander, Towards an Understanding of Juvenile Delinquency (New York: Columbia University Press, 1954; Kenneth Polk, "Juvenile Delinquency and Social Areas," Social Problems, 5, 3 (Winter, 1957-58), pp. 214-217; Richard Quinney, "Crime, Delinquency and Social Areas," The Journal of Research in Crime and Delinquency, 1, 2 (July, 1964), pp. 149-154; Clyde R. White, "The Relation of Felonies to Environmental Factors in Indianapolis," Social Forces, 10, 4 (May, 1932), pp. 498-513.

9 White, op.cit.; Calvin Schmid, "Urban Crime Areas; Part I" and "Urban Crime Areas; Part II," American Sociological Review, 24, 4 (Aug., 1960), pp. 527-542, and 5(Oct. 1960), pp. 655-678.

rates and rates by residence of the defendant, found that the rates for homicide, assault and residential burglary were high in the same area, but that rates for other crimes differed by whether the rate was computed by place of the crime or the residence of the defendant.[10]

Since much work has already been done in other cities with this concept of ecological patterns of crime, what merit is there in doing an ecological study of the District of Columbia? By describing the neighborhoods where the offenses are occurring and the defendants are living, information can be obtained which is useful to the police and to citizens. Police patrol patterns can be made more efficient through the utilization of feedback on the patterns of offenses and arrests. This study also has another emphasis--evenhandedness. Is justice being distributed equally throughout the city? In particular, is there evenhandedness for all socioeconomic groups? In addressing these issues, the ecological variables will be tested to see how they affect the system flow rates at each point in the criminal justice process. In the past, either police complaint data, police arrest data, or court data has been selected for study because of various theories about which data best reflect the "true crime rate." Some researchers chose offenses reported to the police because these seemed to be closest to the actual victimization; others chose court data because they were screened and therefore would be a better measure of the cases worthy of public attention. By looking instead at each step along the process, from reported offenses to conviction, one can see the differing effects of neighborhood characteristics on the different system flow rates, and therefore begin to separate factors which possibly influence the police not to arrest a suspect, or the court not to prosecute.

10 Boggs, op.cit.

Another feature of this study is that the influence of ecological factors will be measured for different types of crime. In the earlier studies of crime and delinquency, rates by place of offense or rates by residence of the defendant were not specified by type of crime. Later researchers found that relationships between crime and neighborhood characteristics vary by crime type. A study by Scheussler and Slatin of index crimes for cities in the U.S. with over 100,000 population found that robbery, burglary, grand larceny, petty larceny and auto theft were associated with certain socioeconomic conditions, such as median monthly rent, and that murder and aggravated assault were associated with other factors, such as the percent of homes with more than 1.5 persons per room.[11]

c. Dependent variables - Geographic system flow rates. A geographical analysis of the District of Columbia by neighborhood where criminal incidents are occurring and neighborhood were defendants live can be produced using data for 1973. In addition to PROMIS, one additional type of data is needed for the analysis of crimes involving a victim: offenses reported to the police. The rates to be prepared will be discussed below, first in terms of the criminal incident and second in terms of the defendant.

An armed robbery can involve several victims and several defendants. The theoretical definition of a criminal incident to be used in this research is a criminal event taking place at a particular time in a particular location involving one or more offenders and either no specific victims, one victim or several victims. The practical definition available in police

[11] Karl Schuessler and Gerald Slatin, "Sources of Variation in U.S. City Crime, 1950 and 1960," Journal of Research in Crime and Delinquency, 1, 2(July, 1964), pp. 127-148.

data and in PROMIS is achieved by using the criminal complaint number which is assigned to each offense as it is reported to or by the police. Each unique number will be considered a criminal incident.

Theoretically, one would want to begin with victimizations when doing a geographical analysis of criminal incidents or offenses. Since these data are not available for Washington by census tracts, reported offenses must be the baseline of the analysis. This does not allow one to address the question of what parts of the city are more likely to report crimes to the police. Using the classification system developed for criminal incidents, described in the paper "Classification of Criminal Incidents and Cases by Type of Crime," the following numbers can be computed by type of crime and census tract where the offense occurred:

- Criminal incidents reported to or discovered by the police.
- Criminal incidents in which at least one arrest was made.
- Criminal incidents in which at least one defendant was prosecuted.
- Criminal incidents in which at least one defendant was convicted.

From these numbers, three rates can be computed: an arrest rate, a prosecution rate, and a conviction rate. The arrest rates will be computed only for crimes which involve a victim. Rates will be computed for categories of crime which have large numbers of offenses.

The first point at which one can begin to follow an offender is after arrest. However, persons who are arrested might be a different group from those who commit crimes. Measurements of the possible bias between persons committing crimes and those arrested cannot be made from the available data, however. For this reason, only the following will be tabulated by type of crime and census tract where the defendant lives:

° Number of persons arrested.

° Number of defendants prosecuted.

° Number of defendants convicted.

From these figures, prosecution rates and conviction rates can be computed. In addition, the pattern of arrests can be studied.

d. Independent variables - Neighborhood characteristics. Information on the neighborhodd characteristics of geographic areas in the District of Columbia is available from several sources. From surveying the previous ecological studies of crime done by other researchers, eight characteristics have been identified which can be tested to see if they explain either crime rates in particular areas or the handling of cases:

° Socioeconomic status

° Residential versus business land use

° Condition of housing

° Racial or ethnic composition

° Age distribution of the population

° Population density

° Family structure

° Community stability

Each of these concepts is discussed below. Measures of the concept as well as sources for the information will be outlined. In identifying sources, it did not seem important to use only data available for 1973, since the absolute measures for the census tracts are not important as the relationships between census tracts on a particular variable. The relationships were probably relatively unchanged from 1970 to 1973.

(1) Socioeconomic status. This concept is widely used in social research. A person's status is his or her ranking in a stratified society,

based on the amount of wealth and/or prestige he or she has. Income, occupation, and educational attainment are the three measures of this concept most commonly used. In keeping with these measures, the socioeconomic status of a neighborhood (as opposed to an individual) would be the average income or the average educational attainment of the residents, or the percent of residents employed in high or low status occupations. There are two possible sources of data on socioeconomic status by census tract for Washington, both based on the 1970 census. The Government of the District of Columbia is developing a system of social indicators for Washington. One of the indicators is socioeconomic conditions, measured by a composite index of over-crowded households, imcomplete plumbing, and median family income.[12] The other source of data is a series of social indicators developed by the National Institute of Mental Health (NIMH). Socioeconomic status has been broken into three components: economic status measured by median income or percent of families in poverty, social status measured by percent of employed males 16 years and over in low status occupations or the percent in high status occupations, and educational status measured by median years of school completed by persons 25 years and older.[13]

(2) Residential versus business land use. The purpose of measuring this variable is simply to indicate whether the neighborhood is primarily

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[12] A Social Indicator System for the District of Columbia, District of Columbia Government Executive Office, Office of Planning and Management, Statistical Systems Group, April, 1973.

[13] Richard W. Redwick and Harold F. Goldsmith, 1970 Census Data Used to Indicate Areas with Different Potentials for Mental Health and Related Problems, National Institute of Mental Health, April 1971, p. 29.

residential or commercial. This would make a difference in terms of the types of crime committed in the area and whether large numbers of offenders would even have a possibility of residing in a particular neighborhood. This variable can be constructed using the District's Real Property Data Bank as the percentage of land in a census tract used for commercial purposes.

(3) Conditions of housing. There is some indication that crowding may be a factor in crime. Ennis found in a national victimization survey conducted in 1967 that metropolitan areas had violent crime rates five times as high as rural areas and property crime rates twice as high.[14] Condition of housing was included in the D.C. Government's index of socio-economic status, but also appears separately in the system of social indicators developed by the National Institute of Mental Health. The measure used for overcrowding by NIMH is the percent of persons in households with 1.10 or more persons per room. There is also a measure of substandard housing in a neighborhood as the percent of occupied housing units with direct access to complete plumbing and kitchen facilities for exclusive use.

(4) Racial or ethnic composition. Racial composition is an important neighborhood characteristic to consider in terms of actual crime occurrence and evenhandedness in case processing. Three different measures are available from the National Institute of Mental Health: percent Negro, percent other nonwhite, and the percent foreign born or first generation. The percent black is probably the most important measure for Washington,

[14] Phillip H. Ennis, "Crime, Victims and the Police" reprinted in Wolfgang et. al. (eds.) The Sociology of Crime and Delinquency, (New York: Wiley, 1970) p.76.

but the other two can be tested as well.

(5) Age distribution of the population. Since the peak age for adult criminal activity is 18 to 26, a neighborhood with large numbers of persons in this age range would be likely to have a large number of defendants. Age distributions of the population by census tract are available directly from the Bureau of the Census for 1970. Although an update of population was done by the D.C. Government, it is not available by census tract.

(6) Population density. Then crime rates are computed with population as a base, high rates can be found in business areas due to the fact that there are few residents living there, rather than because the number of crimes is so high. One method of controlling for this problem is to include a variable measuring the number of persons per unit of land. The Metropolitan Washington Council of Governments has prepared such a measure of population per square mile or per acre for the census tracts in the District of Columbia in 1970.

(7) Family structure. Broken homes have been cited as one factor leading to delinquency. A variable measuring the types of family structures in a particular area is available from NIMH. Four measures are listed as available: percent of all households composed of both a husband and a wife, median age of the head of household, persons under 18 per 100 persons 18-64 (youth dependency ratio), and persons 65 and over per 100 persons 18-64 (age dependency ratio). In addition, a variable on disrupted families is available--the percent of households with own children that are headed by females.

(8) Community stability. The turnover in a neighborhood may have an influence on criminal activity. An indicator of community instability

is available from NIMH--the percent of population moving into their residence within the past year. As with the other variables available from NIMH, this is available for 1970 only.

c. Research methods. There will be two steps in the analysis: preparation of the geographic system flow rates and maps of the different types of crime occurring in the District of Columbia, and the analysis of the effects of neighborhood characteristics on these rates. In both phases of the research, the unit of observation will be a census tract. Data on crime for 1973 will be used; data on neighborhood characteristics will be largely based on 1970 data, using updated information as it is available.

In looking at the effect of the neighborhood characteristics on the systems rates, the null hypothesis will be tested. The two parts of the null hypothesis are that, after controlling for other factors, persons having contact with the criminal justice system as defendants are treated the same no matter what type of neighborhood they come from, and that crimes which occur in various neighborhoods are handled the same. The null hypothesis is assumed because this is the way the criminal justice system is supposed to operate, and there is no evidence to suggest that this is not the case. Any relationships found between case processing and neighborhood characteristics after proper controls would indicate a lack of evenhandedness. In order to control for the characteristics of cases which may influence the prosecution or conviction rates of a census tract, the following control variables will be included in the analysis:

- Percent of defendants with an arrest record.
- Median age of the defendant.
- Average number of witnesses.

- Percent of cases where property or evidence was recovered.
- Average seriousness score of the crimes on the Sellin-Wolfgang Index.
- Average time delay between the offense and apprehension.
- Percent of "stranger" crimes in a neighborhood.

By including these control variables in the analysis, any differences in case processing based on neighborhood characteristics are less likely to be a spurious finding.

The technique to be used in the statistical analysis is multiple regression. Because the variables characterizing a neighborhood will be ratio measures (with a zero point and a standard interval between units), this technique is particularly well-suited.

The dependent variables will be the system flow rates. The independent variables will include the neighborhood characteristics and the control variables of the characteristics of cases in each census tract.

4. Situational Variables

a. Introduction. In the same manner that ecological characteristics of the place of the offense and the residence of the defendant may be associatied with systems rates of offenses, arrests, prosecutions and convictions, situational variables surrounding the criminal incident might influence the decisions made throughout the criminal justice process. There are some variables which would be expected to show an association with the prosecution and conviction rates, and others which would not be expected to have any association. For instance, if conviction rates vary by the number of charges in a case, this would be an expected and desirable result of analysis of the PROMIS data. If the conviction rates vary by the race of the

defendant, on the other hand, this might be an indication of a lack of evenhandedness in the system.

b. Discussion of variables. As mentioned in Section B.2, systems rates will be computed for papering and conviction by type of criminal behavior. All the data needed for computing these rates are available in PROMIS. The papering rate will be the ratio of papered cases to arrests, and the conviction rate will be the ratio of cases resulting in a conviction to papered cases. Situational variables available for study in the PROMIS data include characteristics of the offense, the defendant, and the victim and/or witnesses. Characteristics of the victim are discussed separately in Section E. Specific hypotheses about the relationship between the papering and conviction rates and the situational variables in PROMIS have yet to be developed. The situational variables will also be used as control factors in the study of the ecological variables.

Relevant characteristics of the offense recorded in PROMIS include:

- Charges in the case
- Number of charges
- Number of codefendants
- Offense date and time
- Number of witnesses
- Possession of weapon by the defendant
- Number of persons receiving minor injuries
- Number of persons treated and released
- Number of persons hospitalized
- Number killed
- Number intimidated by physical or verbal force only

- Number of persons intimidated by display of weapon(s)
- Number of motor vehicles stolen
- Approximate dollar value of property stolen, damaged, or destroyed
- Number of premises forcibly entered
- Narcotics involved in the case

In addition to characteristics of the offense, there are characteristics of the defendant recorded in PROMIS:

- Sex
- Race
- Length of residence in the District of Columbia
- Physical disability of poor health
- Use of opiates
- Chronic alcohol abuse
- Employment status
- Relationship to victim
- Relationship to essential witness
- Use of alias or aliases and
- Prior criminal activity in terms of previous arrests:
  - arrested in past five years
  - first arrest was for auto theft
  - number of previous arrests
  - number of previous arrests for crimes against person
  - years of last three arrests
  - conditional release at the time of this arrest

c. Approach. Part of the study of situational variables may be conducted using the variables available in PROMIS. Additionally, a more

comprehensive study using a small sample can be made using information from the case jacket, not recorded in PROMIS.

To complete the research under this area will require five steps:

- A literature search on situational variables associated with various types of criminal behavior should be conducted.
- Situational variables available in PROMIS should be defined.
- Other situational variables available form the case jacket, but not presently recorded in PROMIS, should be examined to see which ones might be worth recording in a small sample study.
- Hypotheses should be developed as to the relationship of the situational variables to the papering and conviction rates.
- Multivariate analysis of the situational variables in terms of their relationship to the papering and conviction rates should be conducted.

5. Victimization

a. Introduction. A citizen not employed by a criminal justice agency can nevertheless become involved in crime in three ways--as a defendant, as a victim, or as a witness. For years the emphasis of criminologists has been on persons identified as criminals, but recently there has been an increasing concern over the community affected by the criminals' activities. Three examples of the growing concern are: victimology has become a specialization apart from criminology; victim crisis centers have been established in several cities including New York City, Fort Lauderdale, Fresno, St. Louis, and Sacramento; and programs have been established in

several states to provide restitution to the victims of crime.[15] Because PROMIS data contain information on the victims of crimes which have resulted in the arrest of at least one defendant, there are several research areas which can be explored. The focus of the research on the most general level is to determine how the different victims of various crimes are treated by the criminal justice system, and how the actions of the victims in turn affect criminal justice. This study will focus on specific research areas:

- The statistical description of the flow of criminal incidents from victimization through conviction for crimes which involve a victim.
- A description of the characteristics of victims of various types of crime.
- The effects of the characteristics of victims on case processing.

The first research area will look at the attrition of cases from the victim's point of view. A case may drop out of the system due to insufficient evidence, the arrest of the wrong person, or for a myriad of other legitimate legal problems. From the victim's point of view, however, a dropout is still a failure if his or her victimization did not result in the conviction of the offender. Measuring where different types of victimization are most likely to leave the system is the purpose of this first research effort. The second part of the study is to describe the victims of different types of crimes. The prosecutors in the criminal justice system can profit from knowing the characteristics of the persons who have been victimized by the defendants they are prosecuting. Better victim/witness management may result. The third and last area is aimed at measuring

[15] Mary E. Baluss, Integrated Services for Victims of Crime, paper prepared for the National Association of Counties Research Foundation, September, 1974.

evenhandedness in regard to these victim characteristics. Any lack of evenhandedness should be rectified by specific changes in office policy.

b. Previous research. PROMIS data afford an opportunity to avoid some of the methodological problems which could not be overcome by previous research on victims and to make some unique contributions to the field of victimology in each of the three areas to be studied.

Measuring the attrition of cases from victimization through conviction has been attempted by previous researchers. Ennis' estimates of the percent of cases that drop out at each stage of the criminal justice process was based on a survey of 10,000 households in the United States during 1965.[16] When the 2,077 victimizations reported by those interviewed were compared to Uniform Crime Report (UCR) figures, adjustments had to be made in the police figures based on whether the victim was a person, a household or an organization. Some sources of noncomparability could not be overcome. In 1966, Biderman and others conducted a pilot study on victimizations in the District of Columbia. The problems of comparing victimizations to police data were also present in their study. Biderman summarized the problems as follows: the survey was based on personal victims not incidents; police reports are by place where the offense occurred, whereas victim surveys are based on where the victims live; and respondents might give false testimony.[17]

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[16] Phillip H. Ennis, "Crime, Victims and the Police" reprinted in Wolfgang, Savitz and Johnson (eds.), The Sociology of Crime and Delinquency (New York: Wiley, 1970), p. 74.

[17] Albert Biderman, et al., Report on A Pilot Study in the District of Columbia on Victimization and Attitudes Toward Law Enforcement and Administration of Justice, Field Surveys I, President's Commission on Law Enforcement and Administration of Justice, 1967, pp. 61-63.

Adjustments were made for these three factors. In addition, the following categories had to be deleted from police figures by estimation based on an FBI survey: offenses against businesses, offenses against nonresidents, and offenses against persons too young to be interviewed.[18] Biderman found large discrepancies between victimization figures and police figures--"even when only the totals for offenses reported to the police are considered, the survey-based estimate is about four times as great as the derived from the police statistics.[19]

PROMIS data can eliminate some of the difficulties in comparison since the data can be counted in different ways depending upon the problem to be addressed. Victimization data from the survey conducted in Washington by LEAA in 1973 can be compared to PROMIS data. Although comparison between victimization data and police data remains a problem, PROMIS can be compared with police figures. Thus, a link between the victimization survey and police data can be made through PROMIS data.

The second research question, which involves describing the persons who are victimized for different types of crime, should ideally be approached by examining the characteristics of persons actually victimized, rather than persons who have been victimized, reported their victimization to the police, and subsequently the police arrested a suspect. It was not until the victim surveys of the last ten years that the true population of crime victims could be sampled and studied. Albert Reiss, who was one of the

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[18] Ibid., pp. 82-90.

[19] Ibid., p. 91.

first to conduct such a study, looked at the probability of being victimized by race and sex:

> For all major crimes against the person then, the probability of being a victim is greater for any Negro man or woman. The Negro male runs the greatest risk of being a victim of an offense involving a dangerous weapon and robbery. The Negro woman runs the greatest risk of being a victim of rape and all forms of assault and battery that do not involve a dangerous weapon.[20]

Until such victim surveys, police data were generally used in describing the victims of particular types of crimes. Two examples of such studies were Wolfgang's study of victim-precipitated homicide and Amir's study of forcible rape.[21] Both of these studies used police files and concentrated on a particular type of crime. Wolfgang was looking for differences in the characteristics of persons involved in victim-precipitated homicides compared with nonvictim-precipitated homicides. Amir examined the social context in which rapes occurred. Like these two studies, the present research using PROMIS data will be limited to victims of crimes in which an arrest took place. Characteristics of victims of different types of crimes can be described and compared. Unlike previous studies, the purpose of such a description is to help the criminal justice agencies deal more effectively with victims and their problems.

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20 Albert J. Reiss, Studies in Crime and Law Enforcement in Major Metropolitan Areas, Vol. I., Field Surveys III, President's Commission on Law Enforcement and Administration of Justice, 1967, p. 45.

21 Marvin E. Wolfgang, "Victim-Precipitated Criminal Homicide," Journal of Criminal Law, Criminology and Police Science, 48 (June 1957), pp. 1-11; Menachem Amir, "Forcible Rape" reprinted in Wolfgang, Savitz and Johnson (eds.), The Sociology of Crime and Delinquency (New York: Wiley, 1970), pp. 644-653.

The third research area on victims is one that is relatively unexplored: the effect of victim characteristices on case processing. The studies which have been conducted have focused on the effect of the victim's characteristics on the jury and judge. The study of juries conducted by Kalven and Zeisel in 1966 was one of the first of such analyses. One of their findings was that the jury took the contributory fault of the victim into account during its deliberations, whereas the judge was less inclined to do so.[22] Following this analysis, Landy and Aronson hypothesized that the decision of the jury will be affected by the "character" of the victim.[23] Using students as subjects in a simulated sentencing decision experiment, they found differences in treatment of "attractive" as opposed to "unattractive" victims. However, the differences were not statistically significant. Using PROMIS data, the decisions of actors in the criminal justice system, including the judge and prosecutor, as well as jurors, can be examined to see the effect of victim characteristics on case processing.

c. Comparison of LEAA victimization data, police reported offenses and PROMIS data for different types of victimization. The specific questions which this portion of the research on victims intends to answer are:

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22 Harry Kalven, Jr. and Hans Zeisel, The American Jury, Phoenix edition, (Chicago: The University of Chicago Press, 1971), pp. 242-257.

23 David Landy and Elliot Aronson, "The Influence of the Character of the Criminal and His Victim on the Decisions of Simulated Jurors" in Drapkin and Viano (eds.), Victimology (Lexington, Mass.: Lexington Books, 1974), pp. 195-204.

- If a person is victimized in a particular type of criminal incident, how likely is it that it will result eventually in the conviction of at least one of the defendants?
- If it doesn't result in conviction, where does it drop out along the way?
- How does this attrition process vary by type of victimization?

Data are available for the District of Columbia to follow some types of criminal incidents from victimization through conviction. Although this has been attempted before, as mentioned in the previous section, PROMIS data allow the solution of many of the methodological problems usually encountered in such studies.

The unit of observation will be a criminal incident occurring in the District of Columbia involving victims who are residents of the District. A criminal incident is defined as a criminal event taking place at a particular time in a particular location, involving one or more offenders and one or more victims. The types of crimes analyzed will be taken from a classification of criminal incidents developed from a victim's point of view.

Using a simplified model, there are five steps which a criminal incident must go through in order to result in a conviction:

- A victimization occurs.
- The crime is reported to or discovered by the police.
- The police arrest one or more suspects.
- The prosecutor decides to prosecute one or more defendants.
- One or more of the defendants is found guilty or pleads guilty.

PROMIS data can provide figures for the last three steps in the process. The LEAA victimization survey can provide an estimate of the first step

and also the second, based on the victim's statement as to whether he or she reported it to the police. By requesting some additional breakdowns of police data on the place of the offense, the type of victim and the victim's residence, an additional check may be made on the citizen's report to the police.

Using the five figures obtained for each type of victimization, four system flow rates can be computed:

- A reporting rate
- An arrest rate
- A prosecution rate
- A conviction rate

By multiplying these four rates, or probabilities, together, an overall probability of victimization resulting in the conviction of at least one defendant can be obtained. By looking at each step in the process, one can find out where the greatest attrition rates are. One part of the criminal justice system can be seen as primarily, but not completely, responsible for each rate. Thus, the victim and witnesses are responsible for reporting the crime, the police for finding suspects, the police and prosecutor for accepting a case for prosecution (sometimes based on the adequacies of the police investigation), and the prosecutor for convicting the defendant or defendants.

The system flow rates can be computed from victimization through conviction for the following crimes involving a victim:

- Personal victimizations involving violence:
  - aggravated assault
  - simple assault
  - rape of an adult female

- personal robbery (armed, other)

° Residential victim:

- burglary
- property destruction

° Business or institutional victim:

- robbery
- burglary

d. Description of victims for different types of crimes. The classification of criminal indicents was developed from a victim point of view, making it well-suited to a descriptive analysis of the type of victims involved in particular cases. Using PROMIS, which contains data on victims whose cases resulted in an arrest, will not provide insight into why particular kinds of people are the victims of crime. However, it is useful to describe the victims who, because an arrest ensued, now have contact with the police and the court. These victims, along with witnesses, are the persons with whom the police, prosecution and judge must deal.

Comparisons between different kinds of victimization will be made for all the crimes involving a victim in PROMIS. The information available for analysis includes:

° Personal characteristics of the victim--age; sex; whether employed; whether victim has a physical disability, has used opiates, and/or has a history of chronic alcohol abuse.

° The relationship between the victim and the defendant.

° Whether the victim has an arrest record.

° Whether the victim provoked the defendant or participated in the offense.

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1 OF 2