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Bureau of Justice Statistics Technical Report

National Incident-Based Reporting System

Using NIBRS Data to Analyze Violent Crime

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With 1991 data, the Uniform Crime Reports (UCR) program of the Federal Bureau of Investigation (FBI) began moving from summary counts to a more comprehensive and detailed reporting system known as the National Incident-Based Reporting System (NIBRS). By 1982 the Bureau of Justice Statistics (BJS) had already provided over \$11 million to States to establish centralized State-level UCR programs. In a 1985 report, an FBI-BJS task force that BJS underwrote recommended an incident-based system. When the Attorney General approved NIBRS, BJS allocated an additional \$13 million to the States to implement the system.

NIBRS versus the traditional UCR system

The traditional, summary-based UCR system counts incidents and arrests, with some expanded data on incidents of murder and nonnegligent manslaughter. NIBRS, which will eventually replace the traditional UCR as the source of official FBI counts of crimes reported to law enforcement agencies, is designed to go far beyond the summary-based UCR in terms of information about crime.

One important difference between the two systems is number of crime categories. The traditional UCR counts incidents and arrests for the 8 offenses of the FBI Crime Index and counts arrests for other offenses; NIBRS provides detailed incident information on 46 Group A offenses representing 22 categories of crimes (table A). NIBRS, unlike the traditional UCR, also makes a distinction between attempted and completed crimes.

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In September 1982 a BJS-FBI task force undertook a study of improvements to the Uniform Crime Reporting Program, which was created in 1930. Law enforcement organizations, State UCR program managers, and the research community strongly supported this effort. In January 1984 a conference considered various recommendations, and in 1985 BJS and the FBI released *Blueprint for the Future of the Uniform Crime Reporting Program*.

The resulting program, the National Incident-Based Reporting System, collected its first data in 1991. An estimated

40% of the Nation will report to NIBRS by the end of 1994. NIBRS represents a new way of thinking about crime, providing details about victims, offenders, and the environments in which they interact. This report on the first NIBRS data is a beginning step toward using the data for planning and evaluating law enforcement responses to crime. It also illustrates the close partnership among BJS, the FBI, and the more than 17,000 State and local law enforcement agencies.

Lawrence A. Greenfield
Acting Director

Table A. The NIBRS Group A offenses

Arson	Negligent manslaughter
Assault offenses	Justifiable homicide
Aggravated assault	Kidnaping/abduction
Simple assault	Larceny/theft offenses
Intimidation	Pocket picking
Bribery	Purse snatching
Burglary/breaking and entering	Shoplifting
Counterfeiting/forgery	Theft from building
Destruction/damage/vandalism of property	Theft from coin-operated machines
Drug/narcotic offenses	Theft from motor vehicle
Drug/narcotic violations	Theft of motor vehicle parts/accessories
Drug equipment violations	All other larceny
Embezzlement	Motor vehicle theft
Extortion/blackmail	Pornography/obscene material
Fraud offenses	Prostitution offenses
False pretenses/swindle/confidence game	Prostitution
Credit card/ATM fraud	Assisting or promoting prostitution
Impersonation	Robbery
Welfare fraud	Sex offenses, forcible
Wire fraud	Forcible rape
Gambling offenses	Forcible sodomy
Betting/wagering	Sexual assault with an object
Operating/promoting/assisting gambling	Forcible fondling
Gambling equipment violations	Sex offenses, nonforcible
Sports tampering	Stolen property offenses
Homicide offenses	Weapon law violations
Murder/nonnegligent manslaughter	

NIBRS collects arrestee information on the 46 *Group A* offenses and an additional 11 *Group B* offenses (table B). Unlike the traditional UCR, NIBRS requires arrests as well as exceptional clearances to be linked to specific incidents.

In addition to expanded crime categories, NIBRS definitions of certain offenses are more inclusive than the traditional UCR definitions. For example, the NIBRS definition of rape has been expanded to include male victims.

In incidents where more than one offense occurs, the traditional UCR counts only the most serious of the offenses. NIBRS includes information about each of the different offenses (up to a maximum of 10) that may occur within a single incident. As a result, the NIBRS data can be used to study how often and under what circumstances certain offenses, such as burglary and rape, occur together.

The ability to link information about many aspects of a crime to the crime incident marks the most important difference between NIBRS and the traditional UCR. These various aspects of the crime incident are represented in NIBRS by a series of more than 50 data elements (table C). The NIBRS data elements are categorized in six segments: administrative, offense, property, victim, offender, and arrestee. NIBRS enables analysts to study how these data elements relate to each other for each type of offense.

Administrative segment includes the ORI (originating agency identifier) and incident numbers that uniquely identify each incident. These tie together all the records of a single incident. The administrative segment also includes the date and hour of the incident and if relevant, exceptional clearance information.

Offense segment includes the type of offense(s) reported, whether the offense was attempted or completed, whether the offender was suspected of using drugs or alcohol, the type of location where the offense occurred (such as a store or residence), the type of weapon or force used, and whether the offender was motivated by bias against the victim's race, religion, ethnicity, or sexual orientation. For certain offenses, the type of criminal activity (such as possessing, selling, or transporting) is indicated. For burglary incidents, the method of entry and the number of premises entered are included.

Table B. The NIBRS Group B offenses

- Bad checks
- Curfew/loitering/vagrancy
- Disorderly conduct
- Driving under the influence
- Drunkenness
- Liquor law violations
- Nonviolent family offenses
- Peeping Tom
- Runaway
- Trespassing
- All other offenses

Property segment includes (for all property offenses, extortion, kidnaping, and a few other specified offenses) the type of property loss (burned, counterfeited, destroyed, seized, or stolen), the type of property involved (such as cash or jewelry), the value of the property, and, if recovered, the recovery date. For incidents of motor vehicle theft, special indicators for the number of stolen and recovered vehicles are included. For drug offenses, the type and quantity of illegal drug(s) seized are included.

Victim segment includes a victim identification number, the UCR code

for offense(s) committed against the victim, and the victim's sex, age, race, ethnicity, and resident status. In cases where the victim is not an individual, codes are used to distinguish among businesses, financial institutions, governments, religious organizations, and society at large. For incidents of homicide or aggravated assault, codes describing the circumstances of the incident (such as an argument or drug deal) are provided. In incidents where the victim is injured, information describing the injury (such as fractures or lacerations) is included. Each victim is linked by an offender number to the offender(s) who committed an offense against him or her, and the nature of the victim's relationship (such as family member, acquaintance, or stranger) to each offender is reported.

Offender segment includes information on the age, sex, and race of the offender.

Arrestee segment includes information on persons arrested in connection with the incident, including the date of arrest, and the age, sex, race, ethnicity, and resident status of the arrestee.

Table C. NIBRS data elements

Administrative segment:		26	Type of victim
1	ORI number	27	Age of victim
2	Incident number	28	Sex of victim
3	Incident date/hour	29	Race of victim
4	Exceptional clearance indicator	30	Ethnicity of victim
5	Exceptional clearance date	31	Resident status of victim
Offense segment:		32	Homicide/assault circumstances
6	UCR offense code	33	Justifiable homicide circumstances
7	Attempted/completed code	34	Type of injury
8	Alcohol/drug use by offender	35	Related offender number
9	Type of location	36	Relationship of victim to offender
10	Number of premises entered	Offender segment:	
11	Method of entry	37	Offender number
12	Type of criminal activity	38	Age of offender
13	Type of weapon/force used	39	Sex of offender
14	Bias crime code	40	Race of offender
Property segment:		Arrestee segment:	
15	Type of property loss	41	Arrestee number
16	Property description	42	Transaction number
17	Property value	43	Arrest date
18	Recovery date	44	Type of arrest
19	Number of stolen motor vehicles	45	Multiple clearance indicator
20	Number of recovered motor vehicles	46	UCR arrest offense code
21	Suspected drug type	47	Arrestee armed indicator
22	Estimated drug quantity	48	Age of arrestee
23	Drug measurement unit	49	Sex of arrestee
Victim segment:		50	Race of arrestee
24	Victim number	51	Ethnicity of arrestee
25	Victim UCR offense code	52	Resident status of arrestee
		53	Disposition of arrestee under 18

An example of how those interested in the study of crime can tap the potentially rich source of new information represented by NIBRS is seen in the Supplementary Homicide Reports data published annually by the FBI in its *Crime in the United States* series. Crosstabulations of various incident-based data elements are presented, including the age, sex, and race of victims and offenders, the types of weapon(s) used, the relationship of the victim to the offender, and the circumstances surrounding the incident (for example, whether the murder resulted from a robbery, rape, or argument). These data were provided to the FBI for about 87% of the 24,703 murders reported nationwide in 1991.

For other violent crimes such as rape and robbery, UCR data beyond the summary counts have generally been limited to a univariate distribution by month. With the advent of NIBRS, the supplemental data elements that were previously available only for murder incidents can now be used in the analysis of other violent crimes.

Of course, NIBRS also provides some data elements that were not previously available for any violent crimes, including murder. These new data elements include whether the offender was suspected of using alcohol or drugs shortly before or during the incident, the type of location of the crime, the resident status of the victim, and the nature of any injuries sustained by the victim.

For robbery incidents, NIBRS also provides previously unavailable data describing the property that was lost and its value. Using NIBRS, a researcher could study carjackings, for example, by selecting robbery incidents that included a vehicle as the property description.

Coverage of 1991 NIBRS data

BJS received NIBRS data tapes covering the entire 1991 reporting year. These tapes included crime incidents reported in Alabama, North Dakota, and South Carolina. All of the law enforcement agencies in South Carolina contributed data, as did nearly all of the agencies in Alabama and North Dakota. The NIBRS tapes are updated regularly, with the analyses contained in this report based on data tapes produced in June 1992.

In addition to the three reporting States for 1991, NIBRS data for 1992 will cover most of the population of Idaho and all of Iowa. The FBI anticipates that 14 additional States will provide test submissions of 1992 data, with 7 more States and the District of Columbia planning to provide 1993 test data. The FBI projects that 1994 data submissions will cover the entire population of 12 States and the District of Columbia as well as parts of several other States.

The 3 States with 1991 NIBRS data had a collective population of about 8.3 million in 1991, 3.3% of the total U.S. population.

Population of the 3 NIBRS States, 1991

	Population	Percent of U.S. total
Total	8,284,000	3.3%
Alabama	4,089,000	1.6
South Carolina	3,560,000	1.4
North Dakota	635,000	.3

According to the UCR summary crime counts for 1991, the three NIBRS States collectively accounted for 3.4% of all rapes reported in the United States, which was roughly equivalent to their population representation. They accounted for a smaller percentage of the robberies (1.8%) reported nationwide. As with population, North Dakota accounted for the smallest percentages of each type of crime (0.1% or less for each type). South Carolina (2.0%) accounted for the highest percentage of rapes of the three States, and South Carolina and Alabama each accounted for 0.9% of all robberies reported nationwide during 1991.

Reported rapes and robberies, in the 3 NIBRS States, 1991

	Incidents in the three NIBRS States			
	Rape		Robbery	
	Num-ber	Percent of U.S. total	Num-ber	Percent of U.S. total
Total	3,669	3.4%	12,389	1.8%
Alabama	1,455	1.4%	6,246	.9%
S. Carolina	2,098	2.0	6,092	.9
N. Dakota	116	.1	51	—

—less than 0.05%

NIBRS is separate from the summary-based UCR, and the crime counts produced from the 1991 NIBRS tapes received by BJS are slightly different from those published by the FBI, based on the summary-based UCR. For the three NIBRS States, the ratio of NIBRS cases to published UCR figures was 1.04 for rape and .94 for robbery.

Rape and robbery counts for NIBRS and summary-based UCR, 1991

	Number of cases in the three NIBRS States			
	Rape		Robbery	
	NIBRS	UCR	NIBRS	UCR
Total	3,801	3,669	11,618	12,389
Alabama	1,422	1,455	5,853	6,246
S. Carolina	2,274	2,098	5,730	6,092
N. Dakota	105	116	35	51

To some extent the larger number of rape cases in NIBRS results from the expanded definition of this crime used by NIBRS. About 10% of the rapes reported under NIBRS do not fit the traditional UCR definition, which includes only rape incidents involving a female victim. If only the NIBRS rape incidents that fit the traditional UCR definition are included, the ratio of the NIBRS rape count to the summary-based UCR rape count is .94 — the same as for robbery. The fact that UCR counts are based on number of victimizations, not incidents, may account for this difference.

Format of NIBRS data records

The data summarizing each NIBRS incident begin with a single administrative record, followed by one or more records for each offense, victim, and offender, depending on the number of records needed to summarize the incident accurately. Each NIBRS incident summary must include a minimum of one administrative record, one offense record, one victim record, and one offender record, even when the information about an incident is extremely limited.

One or more property records precede the victim records for those crimes where drugs or property are involved (as in robbery). Arrestee records are also included if information of that type is available. Arrestee records were present for less than 1% of the incidents included on the 1991 NIBRS tapes received by BJS.

The FBI has placed maximum limits on the number of records of each type that can be reported for any single incident. A maximum of 10 offense records, 10 property records, 999 victim records, and 99 offender records is allowed. Despite these limitations on the amount of information allowed per incident, a single incident could hypothetically require more than 1,000 records.

NIBRS data can be obtained in a variable-length or a fixed-length record format. In the variable-length format, the length of each type of record is as follows: administrative record (387 bytes), offense record (357 bytes), property record (467 bytes), victim record (421 bytes), and offender record (403 bytes). Because of computer system requirements, BJS requested that all NIBRS records in its data file be padded to the 467-byte length used for property records, thus creating a fixed-length format.

Storage requirements for NIBRS data

Regardless of whether a variable-length or a fixed-length format is used, a range of storage requirements needed for NIBRS data can be calculated using the minimum and maximum record requirements discussed in the previous section. The range of storage space that could be required for an incident is large — from a minimum of nearly 2,000 bytes to a maximum of about a half million bytes if all the allowed records are used. About 90% of this maximum storage amount is allocated to the 999 victim records permitted per incident summary. The maximum storage requirement for the variable-length record format is about 10% less than for the fixed-length format.

Minimum and maximum data storage requirements per NIBRS incident

Record format	Number of storage bytes needed			
	Rape		Robbery	
	Minimum	Maximum	Minimum	Maximum
Variable	1,568	464,433	2,035	469,103
Fixed	1,868	517,903	2,335	522,573

Fortunately, crime incidents of the type requiring over 500,000 bytes of storage space (that is, 10 or more offenses, 99 or more offenders, and 999 or more victims) are highly improbable. The 1991 NIBRS data tapes received by BJS contained an average of approximately 2,400 bytes per incident, equivalent to about 5 records each. Although the amount of space required per incident was relatively small, the more than 500,000 crime incidents reported in the 3 NIBRS States during 1991 resulted in a large volume of data. The 1991 NIBRS data tapes from Alabama, North Dakota, and South Carolina spanned 7 reels of magnetic tape and required nearly 1.4 billion bytes of storage space.

Clearly, even with only three States, the NIBRS data in their raw form present formidable logistical problems for computer storage and memory. Most users will want or require a smaller data file. And if the current file size is not enough to cause concern, one need only consider that just 1 in 30 Americans live in the 3 States included. If current NIBRS storage demands were extrapolated to full nationwide participation, 200 reels of tape to store 40 billion bytes would be needed. Certainly the development of new data storage technologies such as CD-ROM has important implications for users of NIBRS data.

Although full nationwide participation in NIBRS is not a realistic short-term expectation, it is realistic to expect that a fourth of the U.S. could be represented in NIBRS within the next several years. The corresponding volume of data, 10 billion bytes on 50 reels of tape, could still be problematic, and the exploration of ways to reduce the storage space needed is desirable.

Strategies for reducing the size of the NIBRS data file

The size of the NIBRS data file can be reduced at three levels: (1) incidents, (2) records, and (3) data elements. For example, since most users of NIBRS data will not need a data file that contains all 22 types of *Group A* offenses, the size of the data file can be reduced significantly by creating a subfile that contains only those incidents of interest to the user. Of course, the magnitude of this reduction depends on which crimes are chosen.

The crimes analyzed later in this report — rape (106,593 reported nationwide during 1991) and robbery (687,732 reported) — result in smaller data files than if more common offenses such as aggravated assault, motor vehicle theft, burglary, or larceny/theft are chosen. Compared with robbery, UCR national totals for 1991 indicate there were —

- 11.8 times as many larceny/thefts reported
- 4.6 times as many burglaries
- 2.4 times as many motor vehicle thefts
- 1.6 times as many aggravated assaults.

As NIBRS expands, analysts may want to use a systematic sample of incidents of specific types to reduce the number of records required for analysis.

Regardless of the type(s) of crimes selected for analysis, redesigning the NIBRS record layout can achieve further reduction in the size of the data file. The multiple-record format may simplify matters for those inputting the information, but it can create difficulties for analysts. One of the problems associated with the 1991 NIBRS format is the excess space occupied by redundant information and filler space. For example, each NIBRS record, regardless of the record type, begins with 300 bytes reserved for an ORI header that includes various agency, geographic, and incident identifiers as well as census information. Currently, nearly a third of each ORI header is filler space reserved for future use.

For the "average" 5-record incident found in the 1991 NIBRS data file, the multiple ORI fields occupy 1,200 bytes of unnecessary space. When more records are required for an incident, even more space is wasted by the ORI headers. For example, if 100 records are needed for an incident, then the 300-byte ORI field is repeated 100 times. This results in about 30,000 bytes of wasted space. In the future, the FBI will offer a data format that includes just one ORI header per incident. More such improvements may occur as the number of NIBRS data users increases.

In addition to that contained within the ORI header, the fixed-length record format requires filler space at the end of all records except property records. This filler space occupies 80 bytes on administrative records, 110 bytes on offense records, 46 bytes on victim records, and 64 bytes on offender records. The information unique to each incident and of interest to analysts is found only between the ORI header and the end-of-record filler.

The wasted space occupied by multiple ORI headers and filler space can be virtually eliminated by rewriting the data records into a single long record in a "flat file" format, with one fixed-length multi-segment record per incident. Such an approach resulted in a major reduction in the size of the 1991 NIBRS data file. It also enhanced the readability of the file, by eliminating the multiple record-type format that creates data-reading complexities for those using popular statistical software such as SAS or SPSS-X.

The critical dilemma faced in creating the optimal single record per incident file involves the paradox of minimizing both file size and information loss. Preliminary analyses of the 1991 NIBRS tapes suggested that, in addition to the single administrative record found for all incidents, 4 offense records, 10 property records, 2 victim records, and 3 offender records would provide nearly all of the information for each incident that existed on the original data tapes. That is, almost all of the 1991 NIBRS incidents could be described completely by including a total of 10 records for each type of incident not requiring property records and 20 records for each type of incident requiring property records.

Consequently, for each incident the records in excess of those for four offenses, two victims, and three offenders were eliminated. Although information for some incidents was sacrificed, the loss of information was small relative to the additional storage space that would have been needed to include this information.

If the 10 records for each rape incident and 20 records for each robbery incident had been left in the original multiple record format and merely patched together to create one long single record, each rape incident would have required 4,670 bytes and each robbery incident would have required 9,340 bytes. By eliminating the multiple ORI headers and filler space, the amount of space needed was reduced to 1,166 bytes per rape incident and 2,836 bytes per robbery incident.

Storage space required based on optimal number of records of each type needed: multiple- versus single-record format

Record segment	Storage bytes required			
	Rape		Robbery	
	Multiple records	Single record	Multiple records	Single record
Total	4,670	1,166	9,340	2,836
Administrative	467	387	497	387
Offense	1,868	228	1,868	228
Property	0	0	4,670	1,670
Victim	934	242	934	242
Offender	1,401	309	1,401	309

Allowing for 1,166 bytes per rape incident and 2,836 bytes per robbery incident, the data from the 3 NIBRS States would have required about 4.4 million bytes of storage space for rape incidents and about 33 million bytes for robbery incidents. While these are manageable file sizes, more common UCR index crimes would have required considerably more space. Furthermore, as NIBRS participation increases, the volume of data produced by these records would once again become too large: An extrapolation to nationwide crime reporting levels yields an estimated requirement of 125 million bytes for rape incidents and 2 billion bytes for robberies. These nationwide estimates

Reporting levels of selected NIBRS data elements, 1991

Segment	Data element number and name	Reporting level	
		Rape	Robbery
Administrative	3 Time of incident	95%	99%
Offense	6 UCR offense code	100%	100%
	7 Attempted/completed	100	100
	9 Type of location	84	90
	13 Type of weapon used	99	98
Property	16 Property description	—	79%
	17 Property value	—	84
Victim	25 Victim offense code	100%	100%
	26 Type of victim	—	98
	27 Age of victim	98	100
	28 Sex of victim	98	91
	29 Race of victim	97	91
	31 Residency of victim	87	86
	34 Type of injury	98	99
	36 Victim/offender relationship	84	68
Offender	38 Age of offender	78%	64%
	39 Sex of offender	86	78
	40 Race of offender	85	78

—Not applicable

With elimination of those data elements that were irrelevant to the crimes of rape and robbery, that had no analytical utility, or that had poor reporting levels, the original list of 40 data elements was reduced to 19 data elements for robbery incidents and 16 data elements for rapes. These totals do not include data on the ORI header that may be of interest to an analyst, such as the name and location of the reporting agency or census information.

Reporting levels of the retained NIBRS data elements

The data elements containing the UCR code for the reported offense and the UCR code specific to each victim were present for 100% of the incidents in the final rape and robbery data files. Since NIBRS incident reports from jurisdictions in Alabama were limited to one UCR offense code, there is no way to know how many additional offenses occurred in conjunction with these incidents but were not included on the original NIBRS data file.

suggested that a file design that further reduced the volume of the NIBRS data was desirable.

Estimated size of NIBRS data files with single-record format and all data elements, 1991

	Size of data file	
	Incidents	Bytes
3 NIBRS States		
Rape	3,801	4,433,000
Robbery	11,632	32,988,000
U.S. total		
Rape	106,593	124,874,000
Robbery	687,732	1,950,408,000

At this point, the data elements themselves were the only remaining potential source of space reduction. Examination of the NIBRS data elements revealed numerous elements that could be eliminated from the data file because of poor analytical utility and/or lack of relevance to the crimes of rape or robbery.

The following were the most obvious candidates for elimination:

- 5 data elements in the administrative segment used for identification and linkage purposes only (ORI number, incident number, victim sequence number, related offender number, and offender sequence number)
- 2 data elements in the administrative segment used for exceptional clearance information
- 3 data elements in the offense segment not required for rape or robbery (number of premises entered, method of entry, and type of criminal activity)
- 6 data elements in the property segment not required for robbery incidents.

Other data elements were removed because of low reporting levels:

- Data element indicating date of property recovery
- Data elements on alcohol or drug use of the offender and on bias-related crime — both unreported for 1991
- All 13 data elements in the arrestee segment (reported for 1% of all incidents).

The data element indicating if the offense was "completed" or "attempted" was reported for all rapes and all robberies as were the month and day of the incident. The time of day of the incident was reported for 95% of rapes and 99% of robberies, and type of weapon or force used was reported for 99% of rapes and for 98% of robberies. Type of location was not quite as well reported as these data elements but was available for 84% of the rape incidents and 90% of the robberies. To indicate type of location, the NIBRS system uses the same code for "other" and "unknown"; thus, no distinction can be made between the two.

Most victim-related data were well reported, including a 100% reporting rate for age of robbery victims and 98% for age of rape victims. Sex (98%) and race (97%) were reported for nearly all rape victims and for 91% of robbery victims. Type of injury received was reported for 98% of rape victims and 99% of robbery victims.

Victim-offender relationship had a low reporting level relative to other victim-related data elements — 68% for robberies and 84% for rapes. The most poorly reported data element within the victim segment was ethnicity of victim, which was reported for only 51% of the rape incidents and 42% of the robbery incidents. This low reporting rate made the ethnicity data a justifiable target for elimination from the file. It was not used in any of the analyses presented in this report but was retained as a possible source of information about Hispanic crime victims.

For rape incidents, the sex (86%), race (85%), and age (78%) of the offender were reported at a somewhat higher rate than for robbery incidents. Offender sex and race were each reported for 78% of robberies, while offender age was reported for 64%.

Among the three data elements required for robbery incidents but not rape incidents, type of victim had the highest reporting level — 98%. Property value was reported for 84% of robberies, and the description of the type of property was available for 79%.

Creation of the final NIBRS data file

Separate data files containing rape and robbery incidents were created, and each file was designed to contain only the data elements relevant to that type of crime. The files created were SPSS-X system files, which saved space because these files use less space for missing data than a standard ASCII data file does.

The SPSS-X files created contain data for rape or robbery incidents reported during 1991 in Alabama, South Carolina, and North Dakota. The average space required per incident for the rape file was 316 bytes. Because of the property information required, the robbery file required more storage space, an average of 481 bytes per incident, but this was still just a fifth of the 2,400 bytes per incident required on the original data file.

Under the new file format, about 34 million bytes of storage space would have been needed to include all rapes reported to all law enforcement agencies in the United States during 1991. An estimated 331 million bytes would have been needed to include all reported robberies. It is unlikely that the size of these files could be reduced further, and if data on offender alcohol/drug use or bias crime codes are included in the future, then these size estimates would have to be revised slightly upward.

Storage space required for SPSS-X system file for NIBRS rape and robbery incidents, 1991

	Average bytes per incident	Estimated bytes needed	
		3 NIBRS States	U.S. total
Rape	316	1,200,000	33,683,000
Robbery	481	5,600,000	330,799,000

Results of analyses using the 1991 NIBRS rape and robbery data

The results of analyses conducted using 1991 NIBRS data from Alabama, North Dakota, and South Carolina are presented in the following sections. These results provide information about various aspects of rape and personal robbery incidents including demographic characteristics of offenders and victims, victim-offender relationships, type of location, time of occurrence, type of weapon used, and victim injuries. The analyses presented include attempted rapes (11% of all rape incidents) and attempted robberies (5% of all personal robbery incidents). As the NIBRS database grows, detailed analyses comparing completed crimes with attempted ones will become feasible.

The 1991 NIBRS data represent a very small percentage of all rapes and robberies reported nationwide and are not representative of all such crimes. Furthermore, since 1991 was the first year that NIBRS data were available, some agencies did not adhere completely to the NIBRS reporting guidelines. For example, data from Alabama jurisdictions were limited to two offender records and one victim record per incident. As a result of this problem, it was decided that the analyses presented would be based on one offender and one victim per incident.

While the results presented here are not intended to provide a definitive profile of rape and robbery in the United States, they do illustrate the potential utility of the NIBRS data. Despite various limitations of the data to be expected in a newly developed system, it is clear that these new data have the potential to be an important source of information about crime in the United States.

**Reported rapes in three States:
Sample analyses using the
1991 NIBRS rape data**

The NIBRS data file contained a total of 3,801 incidents of forcible rape or sodomy reported in Alabama, South Carolina, or North Dakota during 1991. These included 3,172 incidents for which the sex of both the offender and victim was recorded. About 90% of these incidents fit the traditional summary-based UCR definition involving a male offender attacking a female victim. The expanded definition of rape used in NIBRS also produced 275 rape incidents involving male offenders and male victims, about 9% of all rapes reported in the 3 NIBRS States during 1991. The remaining 1% of rapes involved female offenders.

Sex of offender and victim in NIBRS rape incidents, 1991

Sex of offender	Sex of victim	Number of incidents	Percent of incidents
Male	Female	2,865	90.3%
Male	Male	275	8.7
Female	Female	26	.8
Female	Male	6	.2

Because of the relatively small number of rape incidents that did not involve a male offender and a female victim, such cases are excluded from the analyses presented in this report. As NIBRS participation grows, analysis of other types of rape such as those involving male victims will be more feasible.

Race of victim and offender

A very small number of the 1991 NIBRS rape incidents involved victims or offenders of racial groups other than blacks or whites — American Indians, Alaskan Natives, and Asian/Pacific Islanders. Consequently, "black" and "white" are the only racial categories used in the tables presented in this report. As NIBRS coverage expands, additional racial categories can be included.

The race of victims was almost evenly distributed between black (49%) and white (51%). Fifty-eight percent of the rapes involved a black offender, and nearly all (97%) black victims reported being raped by a black offender. Rapes involving a black offender and black victim accounted for nearly half (48%) of all rapes, and intra-racial rapes involving whites accounted for another 40%. About 11% of rapes

Table 1. Age of offender and victim in rapes reported in 3 NIBRS States, 1991

Age of offender	Age of victim				
	Total	Under 12	12-17	18-29	30 or older
Total	100 %	15 %	29 %	37 %	20 %
Under 18	13 %	5 %	6 %	1 %	1 %
18-29	46	4	14	22	6
30 or older	41	6	8	14	13

Note: Data include 90% of all cases. Detail may not add to total because of rounding.

Table 2. Relationship of offender to victim in rapes reported in 3 NIBRS States, by race of offender and victim and by age of victim, 1991

	Number of cases	Relationship of offender to victim					
		Total	Known by victim			Not known by victim	Relationship not identified
			Total	Family member	Non-family member		
Total	2,865	100 %	72 %	17 %	55 %	23 %	5 %
Race of offender/victim							
Black/black	1,345	100 %	75 %	15 %	60 %	21 %	4 %
White/white	1,131	100	79	25	54	15	6
Black/white	300	100	36	1	35	55	9
White/black	43	100	53	5	49	40	7
Age of victim							
Under 12	397	100 %	89 %	43 %	46 %	3 %	8 %
12-17	804	100	82	20	62	14	3
18-29	1,063	100	65	8	57	29	6
30 or older	601	100	57	11	45	36	8

Note: Data by age of victim includes all cases. Data by race of victim and offender include 98% of all cases.

involved a black offender and a white victim, and 2% involved a white offender and a black victim.

Race of offender and victim in NIBRS rape incidents, 1991

Race of offender	Race of victim		
	Total	Black	White
Total	100%	49%	51%
Black	58	48	11
White	42	2	40

Age of victim and offender

Eighty percent of the rape victims were under age 30, including 43% who were under age 18 and 15% who were under age 12 (table 1). Rape offenders (13%) were much less likely than victims to be under age 18, and 41% of the offenders were at least age 30.

About two-thirds (66%) of the victims age 30 or older reported being raped by someone who was also in that age category, and 60% of the victims between ages 18 and 29 reported the offender to be in the same age range.

About a fourth (26%) of all rape incidents involving a victim under age 18 also involved an offender under age 18, and two-thirds (67%) of such incidents involved an offender under age 30. Among victims under age 12, 59% reported the offender to be under age 30, and 32% reported the offender was under age 18.

In nearly all (89%) of the rapes in which the offender was under age 18, the victim was also under 18. In 37% of the rapes involving an offender under age 18, the victim was under age 12.

Victim-offender relationship

In 72% of the 1991 NIBRS rape incidents, the victim knew the offender. In about a fourth of such incidents (17% of all rapes), the victim identified the offender as a family member (table 2). In NIBRS, the offender is defined as a family member if his or her relationship to the victim is spouse, parent (or step-parent), sibling (or step-sibling), child (or step-child), grandparent, or in-law. The original NIBRS data provides the relationship of the victim to the offender. For presentation purposes, this data has been recoded to represent the relationship of the offender to the victim.

In intra-racial rapes, the offender was more likely to be a family member among whites (25%) than among blacks (15%). In 55% of the rapes involving a black offender and a white victim, the victim did not know the offender. The victim and offender were strangers in 40% of the rapes involving a white offender and a black victim.

Rape victims under age 18 were the most likely to know the offender (84%) and 27% of victims under 18 identified the offender as a family member. This was 3 times the percentage of victims 18 or older (9%) who identified the offender as a family member.

Nearly all (89%) of the rape victims under age 12 knew the offender, and 43% identified the offender as a family member. A similar percentage (82%) of the victims age 12 to 17 knew the offender, but these

victims (20%) were about half as likely as those under age 12 to report that the offender was a family member.

Among victims under age 12 who reported being raped by a family member, 43% reported the offender was a parent or step-parent, and 14% reported the offender was a sibling or step-sibling (table 3). Among family rapes in which the victim was between ages 12 and 17, 52% reported

being raped by a parent or step-parent, and 6% by a sibling or step-sibling.

In cases where a victim 18 or older reported being raped by a family member, the offender was most likely to be a spouse. This was the case in 49% of the reported family rape incidents involving a victim age 18 to 29 and in 62% of such incidents involving a victim age 30 or older.

Table 3. Relationship of offender to victim in rapes reported in 3 NIBRS States, by age of victim, 1991

Relationship of offender to victim	Age of victim				
	Total	Under 12	12-17	18-29	30 or older
Family member					
Number of cases	482	170	158	86	68
Total	100 %	100 %	100 %	100 %	100 %
Spouse	18 %	0	1 %	49 %	62 %
Parent	36	43	52	17	3
Sibling	8	14	6	1	6
In-law	4	0	3	10	7
Other	35	44	37	22	22
Known, nonfamily					
Number of cases	1,563	184	502	605	272
Total	100 %	100 %	100 %	100 %	100 %
Acquaintance	67 %	69 %	72 %	60 %	68 %
Friend	16	10	17	17	17
Boyfriend	9	2	6	12	9
Neighbor	3	9	3	1	2
Ex-spouse	2	0	0	3	3
Other	4	10	2	5	1

Note: Parent category includes step-parents. Sibling category includes step-siblings. Data include all cases. Detail may not add to total because of rounding.

Table 4. Type of location of rapes reported in 3 NIBRS States, by relationship of offender to victim, and by age of victim, 1991

	Number of cases	Total	Type of location						
			Residence	Roadway, alley	Field, woods, waterway	Bar, motel, restaurant	Parking facility	Office building	Other, unknown
Total	2,865	100 %	61 %	13 %	4 %	3 %	2 %	1 %	15 %
Relationship of offender to victim									
Family member	482	100 %	87 %	3 %	1 %	1 %	--	--	8 %
Known, nonfamily	1,563	100	64	11	4	3	1	1	15
Stranger	651	100	35	25	7	5	3	3	22
Unidentified	169	100	50	14	6	2	2	2	22
Age of victim									
Under 12	397	100 %	85 %	2 %	2 %	1 %	--	1 %	10 %
12-17	804	100	64	10	5	4	1	1	15
18-29	1,063	100	53	16	5	4	3	2	18
30 or older	601	100	54	18	5	4	1	2	15

Note: Data by victim-offender relationship and data by age of victim include all cases. Detail may not add to total because of rounding. --Less than 0.5%

Type of location

A majority of all reported rapes (61%) occurred in a residence; however, the NIBRS data do not specify if the residence was the victim's (table 4). The next most common type of location was in or near a roadway or alley (13%). Rapes involving family members were the most likely to occur in a residence (87%). About 35% of stranger rapes occurred in a residence, with 25% occurring in or near a roadway or alley.

Rapes involving a victim under age 12 (85%) were the most likely to occur in a residence. About half (53%) of the rapes involving a victim who was 18 or older occurred in a residence compared to about two-thirds (64%) of the rapes involving a victim between ages 12 and 17. Rape victims who were 18 or older (17%) were about twice as likely as younger victims (8%) to be victimized in or near a roadway or alley.

Time of incident

An average of eight rapes per day were reported to law enforcement agencies in the three NIBRS States during 1991. Higher than average numbers of rapes occurred on Fridays (9) and Saturdays (11).

Average number of reported rapes occurring on each day of the week, 1991

	Daily average for the 3 NIBRS States
Sunday	8
Monday	7
Tuesday	8
Wednesday	6
Thursday	7
Friday	9
Saturday	11

By month, the highest number of reported rapes per day (10) occurred during June, July, and August. The only other month with an average number of rapes per day above the overall average of eight was May (nine per day).

Average number of rapes reported per day, by month, 1991

	Daily average for the 3 NIBRS States
January	8
February	7
March	7
April	7
May	9
June	10
July	10
August	10
September	7
October	6
November	8
December	6

Slightly more than half (53%) of the rapes reported in the three NIBRS States occurred between 8:00 p.m. and 3:59 a.m., including nearly a third (31%) between midnight and 3:59 a.m. (table 5). Rapes in which the offender and victim were strangers (59%) were somewhat more likely to occur between 8:00 p.m. and 3:59 a.m. than rapes in which the offender was a family member (49%) or not a family member but known by the victim (52%). Rapes in which the offender was a family member (29%) were about twice as likely to occur between 8:00 a.m. and 3:59 p.m. as rapes in which the offender and victim were strangers (13%).

As with the overall distribution by time of day, the largest percentage of rapes occurring in most types of locations occurred between midnight and 3:59 a.m. The only exception was for rapes occurring in office buildings, where equal percentages (24%) occurred between 4:00 p.m. and 7:59 p.m., between 8:00 p.m. and 11:59 p.m., and between midnight and 3:59 a.m. Sixty-one percent of rapes occurring in or near a roadway or alley occurred between 8:00 p.m. and 3:59 a.m., a higher percentage than for other types of locations.

Table 5. Time of day of rapes reported in 3 NIBRS States, by relationship of offender to victim and type of location, 1991

	Number of cases	Total	Time of day					
			Midnight - 3:59 a.m.	4:00 a.m. - 7:59 a.m.	8:00 a.m. - 11:59 a.m.	Noon - 3:59 p.m.	4:00 p.m. - 7:59 p.m.	8:00 p.m. - 11:59 p.m.
Total	2,718	100 %	31 %	12 %	11 %	11 %	14 %	22 %
Relationship of offender to victim								
Family member	415	100 %	31 %	7 %	16 %	13 %	14 %	18 %
Known, nonfamily	1,495	100	29	11	11	12	14	23
Stranger	643	100	36	16	6	7	12	23
Unidentified	165	100	27	15	16	7	18	18
Type of location								
Residence	1,626	100 %	30 %	11 %	12 %	12 %	14 %	21 %
Roadway, alley	364	100	37	17	6	7	9	24
Field, woods, waterway	125	100	31	9	10	4	20	26
Bar, motel, restaurant	87	100	29	14	5	17	11	24
Parking facility	50	100	34	12	8	10	14	22
Office building	42	100	24	10	7	12	24	24
Other, unknown	424	100	30	11	12	10	14	22

Note: Data by victim-offender relationship and data by type of location include 95% of all cases. Detail may not add to total because of rounding.

If all rape incidents were spread evenly over time, then 2.4% of all rapes would have occurred during each of the 42 4-hour periods occurring during any given week. There were two blocks of time in which more than twice this many rapes occurred: Saturday midnight to 3:59 a.m. (7.0%) and Sunday midnight to 3:59 a.m. (5.7%). About a seventh (14.6%) of all reported rapes occurred during one 12-hour time block — 8:00 p.m. Friday to 7:59 a.m. Saturday. The smallest percentage (0.9%) of rapes occurred between 4:00 a.m. and 7:59 a.m. on Mondays. As the NIBRS data collection grows, further temporal analyses of rape incidents (such as comparing stranger and nonstranger rapes) can be conducted.

Periods with the highest number of reported rapes, 1991

	Percent of rapes in the 3 NIBRS States
Saturday, midnight-3:59 a.m.	7.0%
Sunday, midnight-3:59 a.m.	5.7
Friday, midnight-3:59 a.m.	4.7
Friday, 8:00 p.m.-11:59 p.m.	4.1
Tuesday, midnight-3:59 a.m.	3.9
Thursday, midnight-3:59 a.m.	3.8
Saturday, 8:00 p.m.-11:59 p.m.	3.8

Type of weapon used

Twelve percent of the 1991 NIBRS rape incidents involved the use of a gun (5%) or knife (7%) (table 6). Most of the rapes involved only the use of physical force (80%). In 4% of the rapes, the victim reported that the offender did not use any physical force or weapon to commit the rape. An example of this type of rape would be one involving an incapacitated victim.

About a fourth (26%) of stranger rapes involved the use of either a gun (10%) or a knife (16%), and such rapes were much more likely to involve the use of a gun or a knife than rapes in which the offender was a family member (5%) or otherwise known to the victim (7%).

Among rapes involving an offender who was a family member, those in which the offender was the victim's spouse were the most likely to involve the use of a gun (5%) or a knife (14%). Among rapes in which the offender was not a family member but known by the victim, the use of a gun (8%) or a knife (12%) was most likely when the

Table 6. Type of weapon/force used to commit rapes reported in 3 NIBRS States, by relationship of offender to victim, 1991

Relationship of offender to victim	Number of cases	Type of weapon/force used					
		Total	Physical force only	Gun	Knife	Other, unknown	None reported
Total	2,865	100 %	80 %	5 %	7 %	3 %	4 %
Family member	482	100 %	90 %	2 %	3 %	2 %	3 %
Parent	172	100	91	1	1	1	6
Spouse	86	100	78	5	14	2	1
Sibling	38	100	95	3	0	3	0
Other	186	100	94	1	1	4	1
Known, nonfamily	1,563	100 %	85 %	3 %	4 %	4 %	4 %
Acquaintance	1,042	100	86	3	4	3	3
Friend	252	100	88	4	4	3	1
Neighbor	43	100	81	7	7	2	2
Boyfriend	133	100	79	3	8	8	3
Ex-spouse	26	100	73	8	12	8	0
Other	67	100	73	3	4	1	18
Stranger	651	100 %	69 %	10 %	16 %	3 %	3 %
Unidentified	169	100 %	57 %	13 %	7 %	7 %	17 %

Note: Data include all cases. Detail may not add to total because of rounding.

Table 7. Type of weapon/force used to commit rapes reported in 3 NIBRS States, by type of location and by race of offender and victim, 1991

Type of location	Number of cases	Type of weapon/force used					
		Total	Physical force only	Gun	Knife	Other, unknown	None reported
Total	2,811	100 %	81 %	5 %	7 %	3 %	4 %
Type of location							
Residence	1,738	100 %	82 %	3 %	6 %	3 %	5 %
Roadway, alley	373	100	74	13	8	3	2
Field, woods, waterway	128	100	78	5	8	5	4
Bar, motel, restaurant	93	100	87	4	2	1	5
Parking, storage facility	51	100	73	6	14	4	4
Office building	42	100	79	5	12	2	2
Other, unknown	386	100	81	4	10	3	2
Race of offender/victim							
Black/black	1,345	100 %	80 %	7 %	7 %	4 %	2 %
White/white	1,131	100	84	2	5	2	6
Black/white	300	100	72	9	13	4	2
White/black	43	100	70	7	14	2	7

Note: Data by type of location and by race include 98% of all cases. Detail may not add to total because of rounding.

offender was the victim's ex-spouse. Seven percent of the rapes in which the offender was a neighbor of the victim involved the use of a gun.

By type of location, the use of a gun or a knife was most frequent among rapes

occurring in or near a roadway or alley (21%) or at a parking facility (20%) (table 7). The use of a gun or knife was the least likely when the rape occurred at a bar, motel, or restaurant (6%) or in a residence (9%).

There was some variation in weapon use depending on the race of the offender and victim. Among inter-racial rapes, about the same percentage involved the use of a gun or knife regardless of whether the offender was black (22%) or white (21%). Among intra-racial rapes, the use of a gun or a knife was about twice as likely among those involving blacks (14%) as among those involving whites (7%). This difference may be attributable to the fact that a higher proportion of intra-racial white rapes involved an offender who was a family member, since such rapes were less likely to involve the use of a weapon.

Victim injuries

Rape victims suffered major physical injuries such as severe lacerations, fractures, internal injuries, or unconsciousness in 5% of the 1991 NIBRS rape incidents, and an additional 36% of the victims suffered minor physical injuries (table 8). About half (52%) of the victims who reported being raped by a stranger were injured. The percentage of the rape incidents in which the victim was killed cannot be accurately determined because the 1991 NIBRS data are incomplete in terms of multiple offenses committed within a single incident.

The victim suffered an injury in 37% of the rapes in which the offender was not a family member but known to them. The victim was most likely to be injured in such incidents when the offender was her ex-spouse (50%) or boyfriend (47%). The victim was injured in 34% of the rapes involving a family member, including 7% in which the victim suffered a major injury. Among family rapes, the victim was most likely to be injured when the offender was her spouse (52%).

Fifty percent of rape victims age 30 or older were injured, including 6% with major injuries (table 9). The NIBRS data indicate that victims age 30 or older had a higher likelihood of physical injury, regardless of whether the offender was a family member, a known person who was not a family member, or a stranger. Among victims age 18 to 29, 43% were injured in some way and 4% suffered a major injury. In rape incidents where the victim was under age 18, 33% were injured, with 5% suffering a major injury. Among victims under the age of 12, 36% were injured, including 8% with a major injury.

Table 8. Most serious physical injury sustained by victim in rapes reported in 3 NIBRS States, by relationship of offender to victim, 1991

Relationship of offender to victim	Number of cases	Most serious injury received by victim				
		Total	Percent injured		Not injured	
		Total	Total	Major	Minor	Injured
Total	2,865	100 %	40 %	5 %	36 %	60 %
Family member	482	100 %	34 %	7 %	27 %	66 %
Spouse	86	100	52	7	45	48
Parent	172	100	26	8	17	74
Sibling	38	100	34	5	29	66
Other	186	100	34	6	28	66
Known, non-family	1,563	100 %	37 %	4 %	33 %	63 %
Acquaintance	1,042	100	37	4	33	64
Friend	252	100	36	2	34	64
Boyfriend	133	100	47	7	40	53
Neighbor	43	100	42	5	37	58
Ex-spouse	26	100	50	8	42	50
Other	67	100	25	9	16	75
Stranger	651	100 %	52 %	5 %	47 %	48 %
Unidentified	169	100 %	46 %	5 %	40 %	54 %

Note: Data include all cases. Major injury category includes fractures, internal injuries, severe lacerations, loss of teeth, unconsciousness, and other injuries considered to be serious. Detail may not add to total because of rounding.

Table 9. Most serious injury sustained by victim in rapes reported in 3 NIBRS States, by type of weapon used and age of victim, 1991

	Number of cases	Most serious injury received by victim				
		Total	Percent injured		Not injured	
		Total	Total	Major	Minor	Injured
Age of victim						
Under 12	397	100 %	36 %	8 %	28 %	64 %
12-17	804	100	31	3	27	69
18-29	1,063	100	43	4	40	57
30 or older	601	100	50	6	45	50
Type of weapon/force used						
Physical force only	2,305	100 %	39 %	4 %	34 %	61 %
Gun	149	100	48	3	46	52
Knife	199	100	57	10	47	43
Other, unknown	96	100	48	5	43	52
None reported	116	100	30	5	25	70

Note: Data by type of weapon and by age of victim include all cases. Major injury category includes fractures, internal injuries, severe lacerations, loss of teeth, unconsciousness, and other injuries considered to be serious. Detail may not to total because of rounding.

A majority (57%) of rape victims received physical injuries when the offender was using a knife, compared to 46% when a gun was used and 39% when only physical force was used (table 9). Ten percent of the rapes in which a knife was used resulted in a major injury to the victim, compared to 3% when a gun was used and 4% when physical force was used without a weapon.

**Reported robberies in 3 States:
Sample analyses using the
1991 NIBRS robbery data**

The NIBRS data file contained a total of 11,618 robbery incidents reported in Alabama, South Carolina, or North Dakota during 1991. About three-fourths (72%) of these robberies were committed against individuals, with most of the remainder involving the robbery of a business establishment. The tables presented in this report include only those robberies of an individual. In some instances, these personal robberies may have occurred in conjunction with a commercial robbery.

Type of victim in NIBRS robbery incidents, 1991

Victim	Number	Percent of robberies in the 3 NIBRS States
Total	11,618	100.0%
Individual	8,394	72.2%
Commercial	3,079	26.5
Other/unknown	145	1.3

Type and value of property

The type of property lost was reported for 85% of the personal robberies reported in the three NIBRS States. Among incidents for which property loss was reported, money (77%) was the most frequently lost item. The only other types of property lost in more than 10% of personal robberies were jewelry (14%) and clothing (12%). A motor vehicle was taken in 6% of all personal robbery incidents.

Type of property taken during reported personal robberies, 1991

Type of property	Percent of robberies in the 3 NIBRS States
Money	77%
Jewelry	14
Clothing	12
Motor vehicle	6
Consumable goods	4
Electronic items	3
Firearm	2

Note: More than 1 type of property was taken in some robberies. Type of property was available for 79% of all incidents.

Among the personal robbery incidents for which data on the value of property lost were available, the total value of the property lost was approximately \$6.8 million, with a median loss of \$120. The mean loss per robbery was \$962. If the average loss for the 16% of incidents for

Table 10. Age of offender and victim in personal robberies reported in 3 NIBRS States, 1991

Age of offender	Age of victim			
	Total	Under 18	18-29	30 or older
Total	100 %	13 %	36 %	51 %
Under 18	11 %	4 %	3 %	4 %
18-29	62	6	26	30
30 or older	27	2	7	18

Note: Data include 64% of all cases. Detail may not add to total because of rounding.

which no property value data were available matched the overall average, the total value of property lost during personal robberies reported in the three NIBRS States during 1991 would have exceeded \$8 million.

About a fourth (27%) of all personal robberies involved the loss of less than \$50 in cash and/or property. Nearly a third (32%) involved a loss of \$250 or more, including 12% which involved the taking of cash and/or property valued at over \$1,000. Nearly half (47%) of the robberies that represented a loss of \$1,000 or more involved the taking of a motor vehicle.

Value of property taken during reported personal robberies, 1991

Value of property	Percent of robberies in the 3 NIBRS States
\$1,000 or more	12%
\$250-\$999	20
\$100-\$249	25
\$50-\$99	16
Under \$50	27

Note: Value of property taken was available for 84% of all incidents.

Sex of victim and offender

The sex of both the victim and the offender was known for 85% of the NIBRS personal robbery incidents. Two-thirds (67%) of these robberies involved both a male offender and a male victim, and 28% involved male offender and a female victim. Males committed nearly 95% of all personal robberies.

Sex of offender and victim in NIBRS personal robbery incidents, 1991

Sex of offender	Sex of victim	Number	Percent
Male	Male	4,291	66.8%
Male	Female	1,779	27.7
Female	Male	212	3.3
Female	Female	139	2.2

Race of victim and offender

As with rape incidents, a very small number of the 1991 NIBRS personal robbery incidents involved victims or offenders of racial groups other than blacks or whites, and the analyses presented are limited to those two racial categories. The race of robbery victims was almost evenly distributed between black (51%) and white (49%); however, a large majority of the robbery offenders were black (86%).

In 58% of the robbery incidents involving a black offender the victim was also black, and half of all robberies were black-on-black. Nearly all (90%) white offenders robbed white victims, with such offenses accounting for 13% of all robberies reported. Among the 37% of robberies that were interracial, nearly all (96%) of them involved a black offender and a white victim.

Race of victim and offender in reported personal robberies, 1991

Race of offender	Race of victim in the 3 NIBRS States		
	Total	Black	White
Total	100%	51%	49%
Black	86	50	36
White	14	1	13

Age of victim and offender

Nearly two-thirds (62%) of the robbery offenders included in the 1991 NIBRS data were between ages 18 and 29, while about 11% were under age 18 (table 10). A slight majority (51%) of the robbery victims were 30 years of age or older, while 13% were under age 18.

For all age categories of offenders, a majority of the victims were age 18 or older. Among robberies involving an offender under age 18, more than a third (39%) of the victims were also under age 18, a higher proportion than for robberies involving older offenders.

Victim-offender relationship

In about a third (32%) of the personal robbery incidents, the victim was unable to ascertain whether or not they knew the offender (table 11). In nearly half (47%) of the incidents, the victim described the offender as a stranger, and in about a fifth (21%) the victim recognized the offender as someone he or she knew. In nearly all (94%) of the incidents in which the victim knew the offender, the victim identified the offender as someone from outside the family.

The victim knew the offender in 35% of intra-racial robberies involving blacks, a slightly higher percentage than for intra-racial robberies involving whites (27%). The offender was a nonstranger in 17% of the robberies involving a white offender and a black victim, about twice the percentage for those involving a black offender and a white victim (8%).

Type of location

A fifth (20%) of all personal robberies occurred in a residence (table 12). The only type of location reported more frequently was a roadway or alley (42%). Other types of locations that were reported for at least 5% of all robberies were parking facilities (9%), stores (9%), and office buildings (5%). Among robberies involving an offender known but not related to the victim, similar percentages occurred in or near roadways or alleys (39%) and residences (35%). Robberies in which the victim and offender were strangers occurred about 3 times as often in or near a roadway or alley (42%) as in a residence (13%).

Time of incident

An average of 23 personal robberies per day were reported to law enforcement agencies in the 3 NIBRS States during 1991. Higher than average numbers of robberies occurred on Fridays (29) and Saturdays (31).

Table 11. Relationship of offender to victim in personal robberies reported in 3 NIBRS States, by age of victim, and race of offender and victim, 1991

	Number of cases	Relationship of offender to victim					Relationship not identified
		Total	Known by victim			Stranger	
		Total	Family member	Nonfamily			
Total	8,392	100 %	21 %	1 %	19 %	47 %	32 %
Age of victim							
Under 18	1,507	100 %	22 %	1 %	21 %	36 %	42 %
18-29	2,754	100	23	1	22	49	28
30 or older	4,131	100	18	2	17	50	32
Race of offender/victim							
Black/black	3,146	100 %	35 %	2 %	33 %	45 %	20 %
White/white	815	100	27	3	24	60	13
Black/white	2,257	100	8	--	7	68	24
White/black	93	100	17	1	16	70	13

Note: Data by age of victim include all cases. Data by race include 75% of all cases. Detail may not add to total because of rounding.
--Less than 0.5%.

Table 12. Type of location of personal robberies reported in 3 NIBRS States, by relationship of offender to victim, 1991

Type of location	Total	Relationship of offender to victim			Relationship not identified
		Family member	Known, nonfamily	Stranger	
Number of cases	8,317	103	1,601	3,898	2,715
All types	100 %	100 %	100 %	100 %	100 %
Roadway, alley	42 %	20 %	39 %	42 %	43 %
Residence	20	66	35	13	19
Parking facility	9	2	4	10	11
Store	9	1	4	11	8
Office building	5	0	3	8	3
Hotel, motel	2	0	1	3	1
Bar, night club	1	1	2	2	1
Financial institution	1	1	--	2	1
Gas station	1	1	--	1	2
Other, unknown	10	8	11	9	11

Note: Data include 99% of all cases. Detail may not add to total because of rounding.
--Less than 0.5%.

Average number of reported personal robberies occurring each day of the week, 1991

	Daily average for the 3 NIBRS States
Sunday	20
Monday	20
Tuesday	19
Wednesday	20
Thursday	21
Friday	29
Saturday	31

By month, the lowest number of robberies per day (19) occurred during February, March, and April. The only other months with an average number of robberies per day below the overall average of 23 were October (20) and January (22). The highest daily average of 27 robberies per day occurred during November, followed by August and December with 26 per day each.

Average number of personal robberies reported per day, by month, 1991

Month	Daily average for the 3 NIBRS States
January	22
February	19
March	19
April	19
May	24
June	25
July	24
August	26
September	25
October	20
November	27
December	26

Table 13. Time of day of personal robberies reported in 3 NIBRS States, by type of location, 1991

Type of location	Number of cases	Total	Time of day					
			Midnight - 3:59 a.m.	4:00 a.m. - 7:59 a.m.	8:00 a.m. - 11:59 a.m.	Noon - 3:59 p.m.	4:00 p.m. - 7:59 p.m.	8:00 p.m. - 11:59 p.m.
All types	8,265	100 %	24 %	9 %	7 %	11 %	18 %	32 %
Roadway	3,444	100 %	26 %	9 %	6 %	10 %	17 %	32 %
Residence	1,628	100	23	9	10	11	17	31
Parking facility	739	100	22	9	7	11	17	33
Store	708	100	19	8	8	11	24	30
Office building	438	100	18	10	7	12	21	32
Hotel, motel	145	100	30	12	2	4	13	39
Bar, night club	117	100	46	6	0	2	15	32
Financial institution	106	100	8	7	17	12	14	42
Gas station	104	100	27	15	8	8	14	28
Other, unknown	836	100	22	9	8	14	18	29

Note: Data include 98% of all cases. Detail may not add to total because of rounding.

Slightly more than half (56%) of all reported personal robberies occurred between 8:00 p.m. and 3:59 a.m., with about a third (32%) occurring between 8:00 p.m. and 11:59 p.m. (table 13). Nearly half (46%) of the robberies at bars or night clubs occurred between midnight and 3:59 a.m., and more than three-fourths (78%) of such robberies occurred between 8:00 p.m. and 3:59 a.m. Lodging facilities (59%) were the only other type of location in which more than two-thirds of the robberies occurred between 8:00 p.m. and 3:59 a.m.

Among the periods used in this study, the fewest personal robberies occurred between 8:00 a.m. and 11:59 a.m. (7%). No more than 8% of the personal robberies at any type of location occurred during these hours except for those at financial institutions (17%) and residences (10%).

If all robbery incidents were evenly spread over time, then 2.4% of all incidents would have occurred during each of the 42 4-hour periods in a week. In three blocks of time more than twice this percentage of robberies occurred: Friday 8:00 p.m. to 11:59 p.m. (6.6%), Saturday midnight to 3:59 a.m. (6.3%), and Saturday 8:00 p.m. to 11:59 p.m. (5.0%). Thirteen percent of all personal robberies occurred between 8:00 p.m. Friday and 3:59 a.m. Saturday, and another 10% between 8:00 p.m. Saturday and 3:59 a.m. Sunday. Thus, nearly a fourth (23%) of all personal robberies occurred during two 8-hour weekend periods, representing less than 10% of the 168 hours in a week.

Table 14. Type of weapon/force used to commit personal robberies reported in 3 NIBRS States, by relationship of offender to victim and race of offender and victim, 1991

	Number of cases	Total	Type of weapon/force used			
			Physical force only	Gun	Knife	Other, unknown
Total	8,361	100 %	41 %	35 %	10 %	14 %
Relationship of offender to victim						
Family member	105	100 %	69 %	13 %	9 %	10 %
Known, nonfamily	1,613	100	52	23	11	14
Stranger	3,920	100	42	36	10	12
Relationship unknown	2,723	100	32	40	10	18
Race of offender/victim						
Black/black	3,134	100 %	43 %	37 %	9 %	11 %
White/white	811	100	49	23	14	14
Black/white	2,241	100	44	35	11	10
White/black	93	100	27	49	12	12

Note: Data by victim-offender relationship include 99.6% of all cases. Data by race include 75% of all cases. Detail may not add to total because of rounding.

Periods with the highest number of personal robberies, 1991

Period	Percent of robberies in the 3 NIBRS States
Friday, 8:00 p.m.-11:59 p.m.	6.6%
Saturday, midnight-3:59 a.m.	6.3
Saturday, 8:00 p.m.-11:59 p.m.	5.0
Thursday, 8:00 p.m.-11:59 p.m.	4.7
Sunday, midnight-3:59 a.m.	4.5
Monday, 8:00 p.m.-11:59 p.m.	4.4
Wednesday, 8:00 p.m.-11:59 p.m.	4.3

Fewer than 1% of all robberies occurred during each of the following periods: Monday 4:00 a.m. to 7:59 a.m. (0.8%), Sunday noon to 3:59 p.m. (0.9%), Monday 8:00 a.m. to 11:59 a.m. (0.9%), and Wednesday 8:00 a.m. to 11:59 a.m. (0.9%).

Type of weapon used

Nearly half (45%) of the personal robberies reported in the three NIBRS States involved the use of a gun (35%) or a knife (10%) (table 14). The percentage of robberies involving the use of a knife as weapon varied only slightly by victim-offender relationship; however, guns were used more often when the offender was a stranger to the victim (36%) than when the offender was known to the victim but not a family member (23%), or was a member of the victim's family (13%).

The frequency of gun use by black robbery offenders varied little by whether the victim was black (37%) or white (35%). Robberies with a white offender and a black victim (1% of all robberies) were the

most likely to involve the use of a gun (49%). Robberies in which both the victim and offender were white were the least likely to involve the use of a gun (23%).

By type of location, personal robberies occurring at financial institutions (55%) were the most likely to involve the use of a gun (table 15). The next highest percentages in terms of gun use were among robberies occurring at lodging facilities (41%) or gas stations (40%). Robberies occurring at bars or night clubs (18%) were the least likely to involve the use of guns; a majority (55%) of the robberies at such locations involved the use of physical force exclusively.

Offenders age 30 or older (29%) were somewhat less likely to use a gun during a robbery than younger offenders (37%). Robbers who were age 30 or older (13%) were about 3 times as likely as those under age 18 (4%) to use a knife.

Robbers using a gun or knife to commit a personal robbery, 1991

Age of offender	Percent of robberies in the 3 NIBRS States	
	Gun	Knife
Under 18	36%	4%
18-29	37	10
30 or older	29	13

Victim injuries

Personal robbery victims suffered major physical injuries such as severe lacerations, fractures, internal injuries, or unconsciousness in 6% of the 1991 NIBRS incidents (table 16). In another 26% of the robberies, the victim suffered minor physical injuries. As was the case with the NIBRS rape data, complete information was not available on additional offenses committed in conjunction with the robberies; thus, the number of robbery victims who were killed cannot be determined.

The percentage of victims who were injured was lowest for robberies involving the use of a gun (14%). This was a considerably lower percentage than for robberies in which a knife (33%) or only physical force (41%) was used. Among robberies, a victim sustained a major injury in 10% of the incidents when a knife was used — about twice the likelihood of major injury from physical force (5%) and about 3 times the likelihood of injury from a gun (3%).

The victim suffered an injury in 38% of the robberies where the offender was someone whom they knew but who was not a

Table 15. Type of weapon/force used to commit personal robberies reported in 3 NIBRS States, by type of location, 1991

Type of location	Number of cases	Total	Type of weapon/force used			
			Physical force only	Gun	Knife	Other, unknown
All types	8,284	100 %	41 %	35 %	10 %	14 %
Roadway	3,456	100 %	38 %	37 %	11 %	14 %
Residence	1,630	100	44	29	12	15
Parking facility	740	100	42	37	9	12
Store	711	100	45	33	9	14
Office building	439	100	37	38	9	16
Hotel, motel	147	100	33	41	10	16
Bar, night club	118	100	55	18	6	21
Financial institution	106	100	26	55	7	12
Gas station	103	100	39	40	11	10
Other, unknown	834	100	42	33	11	14

Note: Data include 99% of all cases. Detail may not add to total because of rounding.

Table 16. Most serious physical injury sustained by victim in personal robberies reported in 3 NIBRS States, by relationship of offender to victim, type of weapon used, race of offender and victim, and age of victim, 1991

	Number of cases	Total	Most serious injury received by victim			
			Total	Major	Minor	Not injured
Total	8,394	100 %	31 %	6 %	26 %	69 %
Type of weapon/force used						
Physical force only	2,029	100 %	41 %	5 %	35 %	59 %
Gun	2,474	100	14	3	12	86
Knife	579	100	33	10	22	67
Other, unknown	630	100	45	11	35	55
Relationship of offender to victim						
Family member	105	100 %	33 %	4 %	30 %	67 %
Known, nonfamily	1,618	100	38	6	32	62
Stranger	3,946	100	32	7	25	68
Relationship unknown	2,725	100	25	3	22	75
Race of offender/victim						
Black/black	3,146	100 %	33 %	6 %	27 %	67 %
White/white	815	100	41	8	32	59
Black/white	2,257	100	33	5	27	67
White/black	93	100	25	4	20	75
Age of victim						
Under 18	1,507	100 %	14 %	1 %	13 %	86 %
18-29	2,754	100	32	6	27	68
30 or older	4,131	100	37	7	29	63

Note: Data by type of weapon used include 68% of all cases. Data by victim-offender relationship include all cases. Data by race include 75% of all cases. Data by age of victim include all cases. Detail may not add to total because of rounding.

family member, a slightly higher percentage than when the offender was a family member (33%) or a stranger (32%). Major injuries occurred most often when the offender was a stranger to the victim (7%).

The victim was most likely to be injured in some way when both the victim and offender were white (41%). About a third (33%) of both black and white victims were injured when the offender was black, and a fourth (25%) of black victims were injured when the offender was white. The prevalence of major injuries followed a similar

pattern, with white victims (8%) twice as likely as black victims (4%) to receive a major injury during a robbery by a white offender. When the offender was black, 5% of white victims, and 6% of black victims suffered a major injury.

Robbery victims under age 18 (14%) were less likely to be injured than victims age 18 to 29 (32%) or victims age 30 or older (37%). Victims age 18 or older (6%) were more likely than younger victims (1%) to suffer a major injury during a personal robbery.

Recommended further reading

Data Collection Guidelines for the National Incident-Based Reporting System, FBI.

Futures in Crime Analysis: Exploring Applications of Incident-based Crime Data, Criminal Justice Statistics Association, January 1991, NCJ-127201.

Bureau of Justice Statistics Technical Reports are prepared by BJS staff. This report was written by Brian A. Reaves, and edited by Tom Hester. Tom Hester, Priscilla Middleton, and Yvonne Boston produced the report. Marilyn Marbrook administered production. Statistical verification was provided by Pheny Z. Smith. The report was also reviewed by staff of the Criminal Justice Information Services Division of the FBI.

October 1993, NCJ-144785

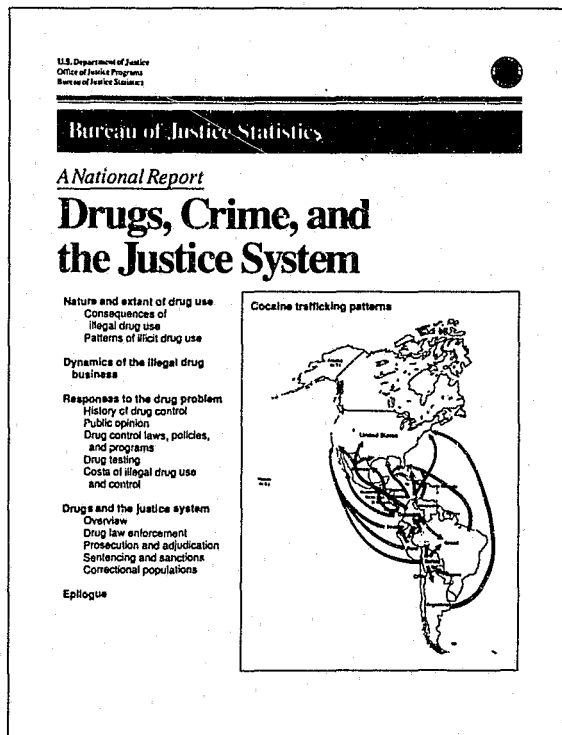
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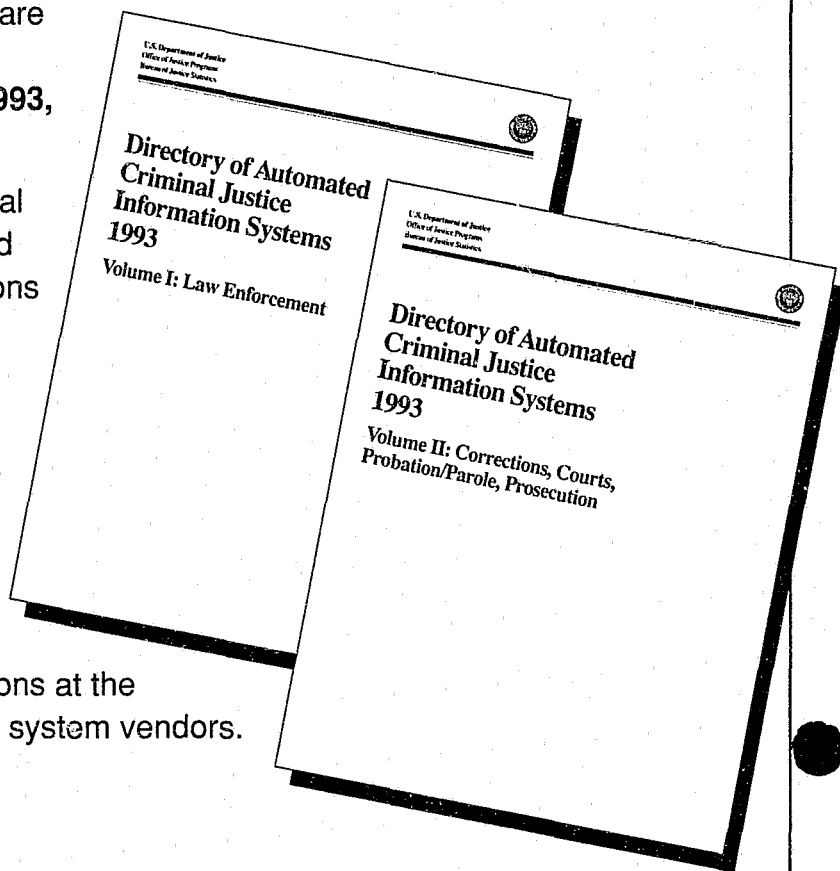
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