

### **Bureau of Justice Statistics Centers for Disease Control and Prevention**

## **Special Report**

National Crime Victimization Survey

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# Injuries from Violent Crime, 1992-98

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Estimates from the National Crime Victimization Survey (NCVS) indicate that each year between 1992 and 1998 an average of 10.2 million U.S. residents age 12 or older were victims of violence, including simple assault, aggravated assault, robbery, rape, and sexual assault.

Overall, 25% of these violent crime victims — about 2.6 million people were injured each year. Approximately 1 in 8 of these victims, 344,000 people annually, were severely injured. In addition, on average each year more than 21,000 people were murdered, 1992-98.

Rates of injury from violence were higher among the young, the poor, urban dwellers, blacks, Hispanics, and American Indians. Injury rates were lower among the elderly, persons with higher incomes, persons with higher educational attainment, and the married or widowed. Persons victimized by an intimate partner were more likely than those victimized by acquaintances or strangers to be injured.

### **Highlights**

On average each year between 1992 and 1998, 2.6 million of the 10.2 million victims of violent crime in the United States were injured in the victimization

10.2 million nonfatal violent victimizations

No injury (74.7%)(25.3%) Injury Minor<sup>1</sup> (20.8%)Severe<sup>2</sup> 3.4%) Rape<sup>3</sup> 1.1%)

- Nearly 1 in 5 injured violent crime victims, or an average of just under 480,000 persons per year, were treated in an emergency department or hospital for violence-related injuries.
- From 1992 through 1998, for every homicide victim age 12 or older, approximately 121 people were injured in a violent crime, including 16 people with severe injuries.
- <sup>1</sup>Minor injuries include bruises, black eyes, cuts, scratches, swelling, chipped teeth, and undetermined injuries requiring less than 2 days of hospitalization.
- <sup>2</sup>Severe injuries include gunshot or knife wounds, broken bones, loss of teeth, internal injuries, loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.
- 3Rape/sexual assault with unspecified types of injuries.

- The young, those with lower household incomes, blacks, American Indians, and Hispanics were more likely to be victimized and were more likely to be injured than their counterparts.
- Of violent crimes measured by the NCVS, a higher percentage involved injury when committed by an intimate partner (48%) or a family member (32%) than when committed by a stranger (20%).
- · The percentage of victims of violence receiving severe nonfatal injuries was lowest in crimes committed without a weapon (2%), higher in crimes committed with a firearm (5%), and highest in crimes committed with a weapon other than a firearm (9%).
- Between 1992 and 1998, 72% of the average annual 21,232 homicide victims age 12 or older were killed with a firearm.
- From 1992 to 1998, 25% of victimizations resulting in severe injury and 46% of victimizations resulting in minor injury were not reported to law enforcement agencies.

From 1992 through 1998, there were 148,625 homicides in the United States among persons age 12 or older, an average of 21,232 homicides per year.

Homicide is consistently among the top 5 causes of death for persons younger than 35. Homicide victims represent the smallest proportion of violent crime victims. For every 1,000 violent crimes, 2 are homicides.

After cresting in 1993 rates of homicide, severe injury, and overall violent victimization have declined. Homicide and severe injury rates dropped 35% while violent victimization rates declined 30%, 1993-98.

Data on non-lethal violence are from the National Crime Victimization Survey (NCVS), a continuing survey of the public. The number of homicides are from the National Center for Health Statistics, compiled by the Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. The number of people in the population for these years was determined by data from the Census Bureau.

#### **National Crime Victimization Survey**

The NCVS is the Nation's primary source of information on criminal victimization. Data are continuously obtained from a nationally representative sample of around 43,000 households comprising nearly 78,000 persons age 12 or older. Household members are asked about the frequency, characteristics, and consequences of criminal victimization.

The survey enables the Bureau of Justice Statistics (BJS) to estimate the rate of victimization by rape, sexual assault, robbery, assault, theft, household burglary, and motor vehicle theft. The rates describe the susceptibility to crime by the population as a whole as well as by segments of the population such as women, the elderly, members of racial groups, and city dwellers.

In asking respondents about injuries resulting from crime, the NCVS does not examine emotional and mental trauma.

#### Types of injuries and crime

Between 1992 and 1998, 3 out of 4 violent crime victims reported that they were not injured during the crime

(table 1). During this 7-year period about 1 in 4 victims of violence reported sustaining some type of injury. mostly minor. While the proportion varied by type of crime, approximately 3% of all violent crime victims suffered a severe injury, and an additional 1% were victims of rape or sexual assault with unspecified type of injuries.

Of those injured, 82% reported such injuries as bruises, black eyes, cuts, scratches, swelling, chipped teeth, or other injuries requiring less than 2 days hospitalization denoted in this report as minor injuries.

Type of injury	Percentage
Total victims with injuries	100%
Minor	82%
Cuts and bruises	66
Other minor	16
Severe	13%
Broken bones or teeth	4
Knife/stab/slash wound	3
Loss of consciousness	3
Internal injuries	2
Gunshot wound	1
Rape without additional injuries	s 4%

The sum of the detail may not total to 100% due to rounding.

Approximately 13% of injured crime victims described severe injuries. These injuries included gunshot wounds, knife wounds, broken bones,

Table 1. Violent victimization rates and percent of victims injured, by type of violent crime, 1992-98

	Average annual			ersons		Percent of victims of violent crime					
	number of	All	Injured	Severely		No		Injui	red victims		
Violent crime	victimizations	victims	victimsa	injured	Total	injury	Alla	Rape⁵	Severe	Minord	
Total	10,201,080	47.2	11.9	1.6	100%	74.7%	25.3%	1.1%	3.4%	20.8%	
Rape/											
sexual assault	423,750	2.0	1.0	0.1	100	49.1%	50.9%	26.4%	2.9%	21.5%	
Robbery	1,159,460	5.4	1.6	0.3	100	70.1	29.9		5.7	24.1	
Assault	8,617,870	39.9	9.3	1.2	100	76.6	23.4		3.1	20.3	
Aggravated	2,199,910	10.2	2.9	1.2	100	71.2	28.8		12.0	16.8	
Simple	6,417,960	29.7	6.4	N/A	100	78.5	21.5		N/A	21.5	
Population <sup>e</sup>	215.909.570										

Note: Injury data were reported for 99.9% of all violent victimizations for 1992 through 1998. While a victim may report different types of injuries, in this report the most serious injury determines whether the injury is classified as severe or minor. N/A. There were four unweighted cases where the incident described was a simple assault but because the victims remained in the hospital for 2 or more days their respective cases were coded to aggravated assault.

alncludes completed rapes, attempted rapes, and sexual assaults with unspecified types of injuries. See text box on page 3 and Glossary. blincludes only rape/sexual assault with unspecified types of injuries. Rapes in which other injuries were sustained and reported

are categorized according to the level of other injuries. See text box on page 3 and Glossary for a more detailed discussion.

clincludes gunshot or knife wounds, broken bones, loss of teeth, internal injuries, loss of consciousness,

and undetermined injuries requiring 2 or more days of hospitalization.

Includes bruises, black eyes, cuts, scratches, swelling, chipped teeth, and undetermined injuries requiring less than 2 days of hospitalization.

<sup>--</sup>No cases.

The population is the average number of persons age 12 or older for 1992-98.

loss of teeth, internal injuries, loss of consciousness, or other injuries requiring 2 or more days of hospitalization. Another 4% experienced rape/sexual assault with unspecified types of injuries. (See the box on this page.)

Each year from 1992 to 1998 among U.S. residents age 12 or older, about -

- 1 in 21 experienced a violent crime
- 1 in 84 suffered an injury as a result of a violent crime
- 1 in 627 sustained a severe injury

• 1 in 10,169 died as a result of a violent crime.

Between 1992 and 1998 an estimated average annual 2.6 million nonfatal injuries resulted from violent crime, including 344,190 severe injuries (table 2). The most common severe injuries classified were broken bones (33% of severe injuries and 4.4% of all injuries), knife wounds (25% and 3.3%), and loss of consciousness (19% and 2.6%). Most minor injuries were bruises, cuts, and scratches (80% of minor injuries and 66% of all injuries).

#### Injuries resulting from rape and sexual assault

Severity of injury in completed rape	Percentage
Total	100%
Rape with unspecified types of injuries <sup>a</sup>	61
Rape with additional minor injuries <sup>b</sup>	33
Rape with additional severe injuries <sup>b</sup>	6

<sup>a</sup>NCVS defines completed rape as injury. Sixty-one percent of rape victims did not report additional physical injuries. <sup>b</sup>Victims of completed rape with other injuries were grouped according to the severity of these additional injuries.

Rape is sexual intercourse forced on the victim through physical or psychological coercion. Forced sexual intercourse means vaginal, anal, or oral penetration by the offender(s), including penetration by a foreign object. Victims can be male or female, and the rape can be heterosexual or homosexual.

NCVS defines completed rape as an injury. Sixty-one percent of victims of completed rape did not report additional injuries. For purposes of this report, victims of completed rape without additional injuries were categorized as injured but not as sustaining a severe or minor injury. In addition, small percentages of victims of attempted rape (10%) and sexual assault (6%) who were injured but did not provide information on the nature of their injury beyond "attempted rape" or "sexual assault" were categorized as injured with unspecified types of injuries.

Victims of rape, attempted rape, or sexual assault who reported other injuries were grouped according to the severity of those additional injuries (for completed rape, 6% severe and 33% minor).

#### Injuries, treatment, and reporting to the police

One indicator of injury severity is the medical treatment victims received. The majority of injured victims either were not treated or received treatment somewhere other than a hospital or emergency department (ED).

Type of treat- ment for injured victims	Average annual rate per 1,000 persons age 12 or older	Percent, 1992- 98
Total	12	100%
Not treated	7	57
Treated Other than	5	43
hospital/ED	3	25
Hospital/ED	2	19
Not admitted	2	16
Admitted	0.3	2

Table 2. Violent victimizations with injury, by type of injury and type of crime, 1992-98

	Victin	nization with injury	/					
		Rate per	Violent crime with injury					
	Average	1,000 persons		Rape and			Assault	<u> </u>
Type and severity of injury	annual number	age 12 or older	Percent**	sexual assault	Robbery	All	Aggravated	Simple
All injured victims	2,576,710	11.9	100%	100%	100%	100%	100%	100%
Rape/sexual assault with								
unspecified types of injuries	111,850	0.5	4.3	51.9				
Severe	344,190	1.6	13.4	5.8	19.2	13.2	41.6	N/A
Gunshot wound	27,700	0.1	1.1		1.1*	1.2	3.7	
Knife/stab/slash wound	84,870	0.4	3.3	0.8*	5.4	3.2	10.2	
Broken bones or teeth	112,880	0.5	4.4	1.3*	4.3	4.7	15.0	
Internal injury	46,380	0.2	1.8	1.7	2.9	1.6	5.1	
Loss of consciousness	66,530	0.3	2.6	1.5*	5.3	2.2	7.1	
Other severe injuries	5,830	0.0	0.2	0.4*	0.2*	0.2	0.4*	N/A
Minor	2,120,670	9.8	82.3	42.3	80.8	86.8	58.4	99.9
Bruises, cuts, and scratches	1,700,310	7.9	66.0	33.8	65.0	69.6	47.4	79.8
Other minor injuries	420,360	1.9	16.3	8.5	15.8	17.2	11.0	20.1
Average annual population								
age 12 or older	215,909,570							

Note: Valid data for severity of injuries represent approximately 99.9% of victimizations resulting in injuries. While a victim may report different types of injuries, in this report the most serious injury determines whether the injury is classified as severe or minor.

N/A. There were four unweighted cases where the incident described was a simple assault but because the victims

remained in the hospital for 2 or more days their respective cases were coded to aggravated assault.

...Not applicable.

--No cases.

\*\*The sum of the detail may not total to 100% due to rounding. Fewer than 10 cases.

Table 3. Location of medical care among injured victims of violence, by type of violent crime and type and severity of injury, 1992-98

100

100

100

100

Percent of injured victims							
			Treatment at —	•	Emergency department or hospital care		
Type of violent crime and type and severity of injury	Total	No medical treatment	The crime scene	A doctor's office/clinic	Treated and released	Admitted to hospital	
All violent crime	100%	56.5%	17.5%	7.4%	16.4%	2.2%	
Rape/sexual assault	100	71.2	8.1	6.0	12.5	2.2	
Robbery	100	47.3	21.5	6.0	20.3	4.8	
Assault	100	56.5	17.8	7.8	16.2	1.7	
Aggravated	100	36.6	20.2	8.6	29.6	5.0	
Simple	100	65.6	16.7	7.5	10.0	0.2*	
Rape/sexual assault with							
unspecified types of injuries	100%	84.8%	1.2%*	5.1%*	7.9%	1.0%*	
Severe	100	10.7	16.5	10.9	48.8	13.1	
Gunshot wound	100	15.7*	6.1*	2.2*	43.4	32.6	
Knife/stab/slash wound	100	14.3	27.0	8.1	38.0	12.7	

Percent of injured victime

14.9

19.1

5.8

7.1

60.1

43.6

49.5

11.8

62.3 Note: Type of injury data were reported for 99.5% of victims of violent crime; treatment for 99.9% of cases.

7.0

8.2\*

12.1

Broken bones or teeth

Loss of consciousness

Internal injury

Minora

10.8

11.3

20.5

18.6

Injured victims of rape/sexual assault including those with additional. unspecified injuries — and victims with injuries from a simple assault (29% and 34%, respectively) were less likely than injured victims of other types of crime to receive medical attention. The majority of injured victims from aggravated assaults (63%) and approximately half of robbery victims (53%) required some form of medical treatment. By definition, aggravated assault subsumes either the presence of a weapon or severe injuries.

The likelihood of receiving medical care also varied by type or severity of injury. A majority of those with minor injuries reported receiving no medical treatment (62%) or care only at the scene (19%) (table 3). Victims with severe injuries were most often treated in a hospital or ED (62% overall).

Compared to victims who sustained other types of injury, victims of rape/ sexual assault with unspecified types of injuries were the least likely to receive medical care (15%).

On average each year, just under 480,000 (19%) of the almost 2.6 million victims who were injured required treatment in an ED or hospital. This included the almost 56,000 victims admitted to the hospital for at least 1 night. Sixty-four percent of those admitted to a hospital for nonfatal injuries from violence stayed 3 days

or more. Approximately 1 in 5 injured victims admitted to the hospital stayed 8 days or longer.

7.2

17.8

12.2

0.2\*

Days in hospital	Percent of persons admitted to hospital
Total	100%
1	27
2	9
3	16
4 to 5	14
6 to 7	13
8 or more	21
Mean	7 days
Median	3
Range	1-90 days

Among victims of incidents that resulted in severe injuries, 37% were not treated in an ED or hospital, 25% were not reported to the police, and 18% were neither treated nor reported (table 4).

Table 4. Medical treatment of injuries from violence and reporting to police of violent victimizations with injury, by type of injury, 1992-98

	Average annual number of		Injuries treated at hospital or ED		Injuries <i>not</i> treated at hospital or ED		
Type of injury	victimizations	Total	Reported	Not reported	Reported	Not reported	
All injured victims	2,558,220	100%	15.9%	2.6%	40.0%	41.4%	
Rape/sexual assault with							
unspecified types of injuries	111,480	100%	7.7%	1.2%*	23.4%	67.7%	
Severe injuries	339,610	100	55.1	7.6	19.5	17.8	
Gunshot wound	26,330	100	73.0	2.4*	19.3*	5.4*	
Knife/stab/slash wound	84,070	100	45.2	5.9	22.9	26.0	
Broken bones or teeth	111,490	100	58.3	9.3	16.3*	16.1	
Internal injury	45,720	100	53.4	8.2*	19.1	19.4	
Loss of consciousness	66,160	100	55.8	5.6	22.8	15.8	
Other severe injuries	5,830	100	59.8*	40.2*	0.0*	0.0*	
Minor injuries <sup>a</sup>	2.094.770	100	10.1	1.9	44.1	43.9	

Note: "Reporting" data were provided by 99.5% of injured victims of violent crime for 1992 through 1998.

<sup>\*</sup>Fewer than 10 cases.

alncludes bruises, black eye, cuts, scratches, swelling, chipped teeth, and undetermined injuries requiring less than 2 days of hospitalization.

<sup>\*</sup>Fewer than 10 cases.

alncludes bruises, black eye, cuts, scratches, swelling, chipped teeth, and undetermined injuries requiring less than 2 days of hospitalization.

#### Counting crime-related injuries

Other methods for estimating the prevalence and trends for nonfatal injuries from violence in the United States rely on reports from emergency departments (ED) or law enforcement. However, many injured victims of violence may not seek medical assistance from ED's or legal help from the police.

Because the NCVS calculates incidence rates based on data gathered directly from victims, it can estimate the number of violent incidents resulting in injury regardless of official reporting.

Among the incidents that resulted in minor injuries, 88% were not treated in an ED or hospital, 46% were not reported to police, and 44% were neither treated nor reported. Among victims who suffered a rape/sexual assault with unspecified types of injuries, 91% were not treated in an ED or hospital, 69% did not report the crime to the police, and 68% neither sought treatment nor reported the incident to the police.

#### Level of homicide and trends in injury from violent crime

Each year from 1992 through 1998, an average of 21,232 persons age 12 or older were homicide victims. For every homicide that occurred, approximately 121 people were injured by violence, including 22 people treated in an ED or hospital and 16 people with severe injuries.

From 1993 to 1998 homicide rates dropped every year (table 5). Nonfatal violence showed a similar trend, with rates for nonfatal violent victimization and for victimizations with severe injury cresting in 1993. Rates for victimizations with minor injury and for all victimizations with injury declined since 1994 (table 6).

The violent victimization rate declined 26% from 52.2 per 1,000 persons age 12 or older in 1992 to 38.4 in 1998, an average annual percentage change of -3.6% (figure 1). The injury rate declined 32% during this time, from

Table 5. Homicides and rates of homicide, 1992-98

Year	Number of homicides	Rate per 100,000 persons age 12 or older	
Total	148,625	9.8	
1992	24,115	11.5	
1993	24,507	11.6	
1994	23,503	11.0	
1995	21,524	9.9	
1996	19,575	9.0	
1997	18,520	8.4	
1998	16,881	7.6	

Note: Rates are not adjusted for age. Source: Homicide data are from the National Center for Health Statistics, National Vital Statistics System. Population data are from the Census Bureau. Homicide rates were compiled by the Office of Statistics and Programming, National Center for Injury prevention and Control, Centers for Disease Control and Prevention, using the web-based Injury Statistics Query and Reporting System (WISQARS) (www.cdc.gov/ncipc/wisqars).

13.8 per 1,000 persons age 12 or older in 1992 to 9.4 in 1998, an average annual percentage change of -4.7%.

The proportion of violent victimizations resulting in injuries did not change substantially, ranging between 24% and 26% during this 7-year period. The proportion of violent victimizations resulting in severe injuries also remained relatively stable, around 3.4%.

#### Characteristics of injured victims

Average annual victimization and injury rates, 1992-98, varied considerably by characteristics of the victim (table 7).



1996

1998

Figure 1

1992

1994

The young had higher rates of injury from crime than older persons. Urbanites had higher rates than persons living in a suburb or rural area. Black, Hispanic, or American Indian persons had higher injury rates than non-Hispanic whites or Asian/Pacific Islanders. Comparing households at all annual income levels, members of households with the lowest income had the highest rates of violent victimization, injury from violent crime, and severe injury.

While the rate of violent victimization was higher for males than females (55.8 versus 39.3 per 1,000 persons, respectively), injury rates for males and females were not significantly different (12.3 versus 11.6, respectively) because male victims of crime were less likely to be injured than female victims (22% versus 29%, respectively).

Table 6. Violent victimization, by severity of injury and year, 1992-98

		Percent of crime result		Rate pe	ersons		
	Number of violent	All	Severely	All	All	Severely	
Year	victimizations <sup>a</sup>	injured <sup>b</sup>	injured°	victims	Injured <sup>b</sup>	injured°	
Average annual	10,201,080	25.3%	3.4%	47.2	11.9	1.6	
1992	10,922,050	26.4	3.5	52.2	13.8	1.8	
1993	11,610,560	24.8	3.8	54.9	13.6	2.1	
1994	11,575,830	25.5	3.5	54.2	13.8	1.9	
1995	10,221,980	23.8	2.9	47.4	11.3	1.4	
1996	9,530,260	25.6	3.1	43.7	11.2	1.4	
1997	9,005,060	26.1	3.3	40.9	10.7	1.3	
1998	8,541,830	24.6	3.5	38.4	9.4	1.3	

<sup>a</sup>Includes all victimizations where there were valid data for the nature of the injuries.

blncludes rape/sexual assault with unspecified types of injuries.

See text box on page 3 and Glossary for a more detailed discussion.

clncludes gunshot or knife wounds, broken bones, loss of teeth, internal injuries,

loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.

Violent victimization rates differed significantly across race/ethnicity categories. The rates for violent victimization, victimization with injury, and severe injury were lowest among Asian/Pacific Islanders, higher among whites and Hispanics, higher still among blacks, and highest for American Indians.

Persons between the ages of 12 and 24 were about 9 times more likely than individuals age 50 or older to be a victim of a violent crime, approximately 14 times more likely to be injured as a result of a violent crime, and about 9 times more likely to be severely injured.

Persons with the lowest household incomes had the highest violent victimization rates, and a higher proportion of these victimizations resulted in physical injuries (34% versus 20%, respectively).

Compared to persons with annual household incomes of \$50,000 or more, persons with incomes of less than \$20,000 were about 1.5 times more likely to become a victim of a violent crime, about 2.5 times more likely to be injured during the course of the violent victimization, and about 3.5 times more likely to sustain a severe injury.

> Average annual rate per 1,000 persons age 12 or

	older, 1992-98						
Annual household	Violent	All	Severe				
income	victimization	injuries	injuries				
Less than \$20,000	62.2	19.0	2.9				
\$20,000 to \$49,999	46.5	10.8	1.4				
\$50,000 or more	30.6	7.8	0.8				

Persons who did not go beyond junior high school had significantly higher victimization and injury rates than people with other levels of education.

Persons who had never married and those who were separated or divorced had higher violent victimization, injury, and severe injury rates than those who were married or widowed.

Table 7. Type of injury from violent victimizations, by victim characteristics, 1992-98

	Average annual rate per 1,000 persons age			Percent of victims of violent crime				
	12 or older				Injured victims			
	All		Severely					
Victim characteristic		victims <sup>a</sup>		Total	No injury		Severe <sup>b</sup>	
All victims of violence	47.2	11.9	1.6	100%	74.7%	25.3%	3.4%	20.8%
Gender								
Male	55.8	12.3	2.2	100%	77.9%	22.1%	3.9%	18.1%
Female	39.3	11.6	1.1	100	70.6	29.4	2.7	24.3
Race/ethnicity								
White	45.6	11.0	1.3	100%	75 0%	24.1%	2.9%	20.2%
Black <sup>d</sup>	56.5	16.5	_	100 / 0	70.8	29.2	5.5	22.2
American Indiand	113.0	39.6	_	100	64.9	35.1	5.9	27.2
Asian/Pacific Islande		6.6		100	75.0	25.0	3.1	19.7
Hispanic	51.1	13.8		100	73.0	27.0	3.6	22.7
Age	4400	20.4	2.0	4000/	70.70/	07.00/	4.00/	04.00/
12 to 14 15 to 17	110.2 106.7	30.1 29.3	2.0 3.4	100% 100	72.7%	27.3% 27.5	1.8% 3.2	24.9% 23.1
18 to 21	100.7	29.3 30.6	_	100	72.5 70.1	29.9	3.2 4.5	23.7
22 to 24	84.4	23.4	_	100	70.1	27.8	3.6	22.8
25 to 34	56.9	14.0		100	75.3	24.7	3.7	19.7
35 to 49	37.8	8.1		100	78.6	21.4	3.1	17.2
50 to 64	16.1	3.0		100	81.1	18.9	3.6	15.1
65 or older	4.9	1.1		100	78.5	21.5	3.0	18.1
Annual household inco								
Less than \$10,000	73.0	24.6		100%		33.6%		26.0%
\$10,000 to \$19,999	54.8	15.2	_	100	72.3	27.7	3.7	22.9
\$20,000 to \$29,999	48.5	12.1	_	100	75.1	24.9	3.7	20.3
\$30,000 to \$39,999 \$40,000 to \$49,999	46.5 43.9	10.1 10.0		100 100	78.3 77.1	21.7 22.9	2.3 2.9	18.4 18.9
\$50,000 or more	39.6	7.8	_	100	80.3	19.7	2.9	17.1
ψ30,000 or more	33.0	7.0	0.0	100	00.5	13.1	2.1	17.1
Education								
Grade school or less		11.9		100%		25.5%		23.5%
Junior high school	69.0	19.6		100	71.6	28.4	2.6	24.9
High school	46.2	13.0		100	71.8	28.2	4.5	22.6
College	43.3	8.9	1.1	100	79.5	20.5	2.6	16.7
Marital status								
Never married	87.4	23.6	3.2	100%	73.0%	27.0%	3.6%	22.2%
Married	23.0	4.0		100	82.5	17.5	2.1	14.8
Separated/divorced	74.1	23.2		100	68.7	31.3	4.4	25.0
Widowed	8.9	2.1	0.3	100	76.8	23.2	3.4	19.5
Location of residence								
Urban	60.5	15.8	2.4	100%	73.9%	26.1%	4.0%	21.0%
Suburban	44.8	10.7		100	76.1	23.9	2.8	20.2
Durol	240	0.5	1 2	100	72.0	27.2	2.6	22.2

Note: Injury data were reported for 99.9% of violent victimizations for 1992 through 1998. Data were reported on gender for 100%; on race and ethnicity for 98.9%; on age for 100%; on education for 99.0%; on marital status for 99.7%; on household income for 91.0%; and on location of residence for 100%.

<sup>a</sup>Includes rape/sexual assault with unspecified types of injuries. See text box on page 3 and Glossary for a more detailed discussion.

blncludes gunshot or knife wounds, broken bones, loss of teeth, internal injuries,

loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.

clncludes bruises, black eye, cuts, scratches, swelling, chipped teeth, and undetermined injuries requiring less than 2 days of hospitalization.

dExcludes Hispanics.

Rural

Persons living in urban areas had higher victimization, injury, and severe injury rates than their suburban or rural counterparts.

#### Characteristics of violent offenders

When each characteristic was considered separately, a majority of injured violent crime victims described the

Table 8. Offender characteristics, by type of injury from violent victimizations, 1992-98

	Percent of victims of violence				
	All	Injured	Severely		
Offender(s) characteristic	victims	victims <sup>a</sup>	injured <sup>b</sup>		
Gender	100%	100%	100%		
Male	81.9	82.1	86.6		
Female	14.9	15.0	9.9		
Both males and females	3.1	2.9	3.6		
Age	100%	100%	100%		
All younger than 12 years old	1.3	1.3	0.3*		
All between ages 12 to 14	9.0	8.6	3.5		
All between ages 15 to 17	12.1	12.1	11.2		
All between ages 18 to 20	10.1	10.4	11.0		
All between ages 21 to 29 All 30 or older	25.2 31.5	27.1	30.2		
	31.5 10.8	29.6	28.0 15.8		
Mixed ages	10.6	10.9	15.6		
Race	100%	100%	100%		
All white	60.4	60.1	50.1		
All black	27.0	26.6	37.5		
All other	9.6	10.2	8.6		
Mixed races <sup>c</sup>	3.0	3.1	3.8		
Perceived alcohol and/or drug use	100%	100%	100%		
Yes	31.1	37.8	41.6		
No	28.2	28.2	15.4		
Do not know	40.7	34.1	43.0		
Relationship to victim	100%	100%	100%		
Intimate partner	10.8	20.7	16.1		
Spouse	3.6	7.0	4.0		
Ex-spouse	1.5	1.9	1.4		
Boyfriend/girlfriend <sup>d</sup>	5.8	11.8	10.8		
Known non-intimate	38.7	39.2	32.3		
Other family members	4.7	6.0	4.3		
Friend/acquaintance	34.0	33.1	28.0		
Stranger	50.4	40.1	51.6		
First crime by offender against victim	100%	100%	100%		
Yes	70.5	65.2	73.0		
No	28.2	33.5	24.7		
Do not know	1.3	1.3	2.4		

Note: This is the victim's perception of the offender's characteristics. Injury data were reported for 99.9% of violent victimizations for 1992-98. Data were reported on gender of offender for 97.4%; on age of offender for 94.5%; on race of offender for 95.8%; on offender drug/ alcohol use for 98.9%; on victim/offender relationship for 98.2%; and on whether this incident is the first crime against the victim for 97.7%. \*Fewer than 10 cases.

<sup>a</sup>Includes rape/sexual assault with unspecified types of injuries. See text box on page 3 and Glossary for more discussion.

blncludes gunshot or knife wounds, broken bones, loss of teeth, internal injuries, loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.

<sup>c</sup>A group of offenders that included persons of two or more races. dIncludes ex-boyfriends and ex-girlfriends.

offender(s) as being male, white, and strangers or acquaintances. An intimate victim-offender relationship and the offender's consumption of alcohol and/or drugs increased the likelihood of an injury to the victim.

Among the injured, about 8 in 10 victims reported that the offender was male, and about

1 in 3 reported that the offender was younger than 21 (table 8). Sixty percent of injured

#### Intimate partner violence and injury, 1992-98

While a majority of males who were injured from violence reported that the offender was a stranger (56%), a far smaller percentage of injured females were victimized by a stranger (24%). Females who were injured in a violent crime were more likely to have been victimized by an intimate (37%) than a stranger. The opposite is true for injured males (4% of the injuries were perpetrated by an intimate).

\*Intimate includes spouse, ex-spouse, boyfriend/girlfriend, ex-boyfriend, and ex-girlfriend.

Victim's gender	Percent of victimizations				
and relationship	All	Vic	tims with inju	ıries	
to the offender	victims	All*	Severe	Minor	
Male	100%	100%	100%	100%	
Intimate	2.5	3.9	3.2	4.0	
Known non-intimate	35.7	39.8	32.7	41.0	
Other family member	3.0	4.0	3.5	4.1	
Friend/acquaintance	32.6	35.8	29.2	37.0	
Stranger	61.8	56.4	64.1	55.0	
Female	100%	100%	100%	100%	
Intimate	21.8	37.4	40.2	37.8	
Known non-intimate	42.7	38.6	31.6	38.3	
Other family member	6.9	8.1	5.7	8.7	
Friend/acquaintance	35.8	30.5	25.8	29.6	
Stranger	35.5	24.0	28.2	23.9	

Among the victims of intimate partner violence, about half of the females versus one third of the males were injured. Female victims of intimate partner violence were more likely to receive a severe (5%) or minor (42%) injury than females who were victimized by a known non-intimate (2% severe and 22% minor) or a stranger (2% severe and 17% minor). Males victimized by an intimate were more likely to have minor injuries (28%) than males victimized by a known non-intimate (21%) or a stranger (16%). The percentage of males with severe injuries did not differ by relationship to the offender.

Victim's gender	Percent of victimizations					
and relationship	No Victims with injuries					
to the offender	Total	injury	All*	Severe	Minor	
Total	100%	74.7%	25.3%	3.3%	20.9%	
Male	100%	77.9%	22.1%	3.8%	18.2%	
Intimate	100	66.6	33.4	4.8	28.4	
Known non-intimate	100	75.4	24.6	3.5	20.9	
Other family member	100	71.2	28.8	4.4	24.4	
Friend/acquaintance	100	75.8	24.2	3.4	20.6	
Stranger	100	79.9	20.1	3.9	16.2	
Female	100%	70.5%	29.5%	2.7%	24.5%	
Intimate	100	49.3	50.7	4.9	42.4	
Known non-intimate	100	73.3	26.7	2.0	21.9	
Other family member	100	65.5	34.5	2.2	30.5	
Friend/acquaintance	100	74.8	25.2	1.9	20.2	
Stranger	100	80.0	20.0	2.1	16.5	

<sup>\*</sup>Includes rape/sexual assault with unspecified types of injuries.

victims reported that the offender was white. About 40% of all injured victims and severely injured victims described

the offender as being on drugs and/or alcohol at the time of the incident. Approximately 1 in 5 injured victims reported that the offender was an intimate partner, and about 1 in 3 injured victims reported the offender had committed a crime against them previously.

Those victimized by a female offender were just as likely to be injured as were those victimized by a male offender (both 25%) (table 9). However victims of violence by male offenders were significantly more likely than victims of female offenders to be severely injured (3% versus 2%, respectively). Overall, the percent of victims injured as a result of violent crime did not vary substantially by the age or race of the offender.

When the offender was thought to have been drinking alcohol or using drugs, the victim was more likely to report being injured and about 2.5 times as likely to report being severely injured as victims of offenders not perceived to be under the influence.

Persons who were victimized by a spouse or current or former boyfriend/girlfriend were more likely to be injured than those victimized by an ex-spouse or other family member; those victimized by a friend or acquaintance or stranger were the least likely to be injured. Overall, victims reporting the offender to have been a spouse were 2.5 times more likely to be injured than those reporting the offender to have been a stranger (50% versus 20%, respectively).

Victims who reported that the offender had committed a crime against them previously were somewhat more likely to be injured than those reporting that the offender had committed a crime against them for the first time (30% versus 23%, respectively).

Table 9. Percentage of victims injured, by offender characteristics, 1992-98

		,	violent ci	ime		
fender(s) characteristics	Total	No injury	Alla	Severeb	Minor <sup>c</sup>	
ender						
Male	100%	74.7%	25.3%	3.4%	20.6%	
Eomolo	100	717	25.2	2.2	22.0	

Percent of injured victims of

			VIOLETTI CIT	1110		
Offender(s) characteristics	Total	No injury	Alla	Severe <sup>b</sup>	Minor <sup>c</sup>	
Gender						
Male	100%	74.7%	25.3%	3.4%	20.6%	
Female	100	74.7	25.3	2.2	22.9	
Both males and females	100	76.6	23.4	3.7	19.7	
Age						
All younger than 12 years old	100%	74.4%	25.6%	0.8%*	24.8%	
All between ages 12 to 14	100 %	75.7	24.3	1.2	22.9	
	100	73.7 74.7	25.3	3.0	21.7	
All between ages 15 to 17						
All between ages 18 to 20	100	74.0	26.0	3.5	21.2	
All between ages 21 to 29	100	72.7	27.3	3.8	22.0	
All 30 or older	100	76.2	23.8	2.8	19.5	
Mixed ages	100	74.2	25.8	4.7	20.9	
Race						
All white	100%	74.8%	25.2%	2.7%	21.3%	
All black	100	75.1	24.9	4.5	19.4	
All other	100	73.1	26.9	2.9	23.1	
Mixed races <sup>d</sup>	100	73.1	26.1	4.2	21.7	
Mixed races	100	75.5	20.1	4.2	21.7	
Danasius di alaah ali an d/an duus usa						
Perceived alcohol and/or drug use	4000/	00.00/	00.00/	4.50/	0.4.00/	
Yes	100%	69.2%	30.8%	4.5%	24.8%	
No	100	74.7	25.3	1.8	22.1	
Do not know	100	78.8	21.2	3.6	17.0	
Relationship to victim						
Intimate partner	100%	51.6%	48.4%	4.9%	40.6%	
Spouse	100	50.4	49.6	3.7	42.8	
Ex-spouse	100	66.8	33.2	3.1	28.8	
					42.2	
Boyfriend/girlfriend <sup>e</sup>	100	48.5	51.5	6.1	42.2	
Known non-intimate	100	74.4	25.6	2.8	21.4	
Other family members	100	67.6	32.4	3.0	28.3	
Friend/acquaintance	100	75.4	24.6	2.7	20.4	
•						
Stranger	100	79.9	20.1	3.4	16.3	
First crime by offender against victim						
	1000/	76 60/	22 40/	2 40/	10.00/	
Yes	100%	76.6%	23.4%	3.4%	19.0%	

Note: Injury data were reported for 99.9% of violent victimizations for 1992 through 1998. Data were reported on gender of offender for 97.4%; on age of offender for 94.5%; on race of offender for 95.8%; on offender drug/alcohol use for 98.9%; on victim/offender relationship for 98.2%; and on whether this incident is the first crime against the victim for 97.7%. \*Fewer than 10 cases.

100

100

69.9

75.3

30.1

24.7

2.9

25.8

<sup>a</sup>Includes rape/sexual assault with unspecified types of injuries. See text box on page 3 and Glossary for a more detailed discussion.

blncludes gunshot or knife wounds, broken bones, loss of teeth, internal injuries, loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.

clincludes bruises, black eye, cuts, scratches, swelling, chipped teeth, and

undetermined injuries requiring less than 2 days of hospitalization. <sup>d</sup>A group of offenders that included persons of two or more races.

eIncludes ex-boyfriends and ex-girlfriends.

No

Do not know

Over three-fourths of victims of violence reported that there was one offender. Victims were slightly more at risk of a severe injury if there were two or more offenders.

_	Number of offenders				
Severity of injury	1	2 or more			
Total	100%	100%			
Not injured	76	73			
Injured	24	26			
Severe	3	5			
Minor	21	21			

Average annual number of violent

victimizations 7.718.510 2.198.720

The sum of the detail may not total to 100% due to rounding.

Table 10. Characteristics of violent victimizations, by type of injury, 1992-98

	Percent of victims of violence				
Characteristic of the victimization <sup>a</sup>	All victims	Injured victims <sup>b</sup>	Severely injured <sup>c</sup>		
Time of day	100%	100%	100%		
6 a.m. to 6 p.m.	52.7	44.8	36.4		
6 p.m. to midnight	34.6	37.5	41.0		
Midnight to 6 a.m.	12.2	16.8	21.8		
Do not know time of night	0.6	0.8	0.8*		
Location of crime	100%	100%	100%		
At or near victim's home/lodging	26.2	33.1	28.7		
Friend's/relatives/neighbors home	9.4	12.7	14.0		
Commercial places	12.9	9.1	10.6		
Parking lots/garages	7.7	7.1	8.5		
School	13.1	12.0	7.3		
Open area/public transportation	21.3	19.2	24.4		
Other	9.3	6.8	6.4		
Distance from victim's home	100%	100%	100%		
Inside or near home or lodging	28.2	35.0	31.6		
1 mile or less	20.2	20.2	24.5		
5 miles or less	24.9	22.7	22.6		
50 miles or less	22.9	19.0	18.1		
More than 50 miles	3.8	3.2	3.2		
Victim's activity	100%	100%	100%		
At work	18.4	8.6	6.9		
School	8.3	7.6	5.1		
Activities at home	21.8	28.3	23.6		
Shopping/errands	3.7	3.2	4.1		
Leisure activities away from home	23.4	28.6	35.7		
Going to and away from home	16.9	15.5	17.2		
Other	7.5	8.3	7.3		
	-		-		
Weapons	100%	100%	100%		
No weapon	65.6	67.4	35.9		
Weapons present	26.3	27.1	57.7		
Firearms	10.0	5.9	13.7		
Other type of weapon <sup>d</sup>	16.4	21.2	44.0		
Weapon presence unknown	8.1	5.5	6.4		

Note: Injury data were reported for 99.9% of violent victimizations for 1992 through 1998. Data were reported on time of incident for 98.7%; on location of incident for 100%; on distance from victim's home at time of incident for 99.4%; on activity at time of incident for 99.6%; and on weapon type for 91.8%.

#### Characteristics of the incident

Most victimizations involving injury occurred at night (6 p.m. to 6 a.m.) rather than during the day, and a higher percentage of injuries took place while the victim was inside or near their home compared to other locations examined.

Victimizations that took place at night and those that happened while the victims were at home or at the home of a friend, relative, or neighbor were more likely to result in injury than those

that took place during the day or in other locations.

While about half of violent crimes occurred during the day, nearly two-thirds of violence resulting in severe injury occurred at night (table 10).

Time of		Injured victims of				
violent	All victims	violent c	violent crime			
incident	of violence	All	Severe			
Total Day Night	100% 52.7 47.3	100% 44.8 55.2	100% 36.4 63.6			

#### Firearms-related fatal and nonfatal iniuries

While NCVS data show that firearms were involved in about 14% of the violent victimizations that resulted in severe nonfatal injuries, Vital Statistics data show that most homicide victims died from injuries caused by firearms. Data from the National Center for Health Statistics, Vital Statistics System, indicate that 72% of the 148,625 homicide victims age 12 or older between 1992 and 1998 died from firearm-related injuries.

	Perd	Percent of victims					
Type of	All violent	Severe					
weapon	crime <sup>a</sup>	injury	Homicide				
Total	100%	100%	100%				
None	65.5	35.9	4.5				
Firearm	10.1	13.7	71.6				
Other <sup>b</sup>	16.4	44.0	18.6				
Unknown <sup>c</sup>	8.1	6.4	5.2				

Note: The sum of the detail may not total to 100% due to rounding.

The highest proportion of injured victims reported that they were at or near their home when they were injured (33%) compared to other locations. Approximately half of injured victims reported that they were at their home or within 1 mile of their home when they were injured.

Most violence resulting in injury occurred while the victim was engaged in activities at home (28%) or in leisure activities while away from home (29%). Substantially fewer injuries occurred while the victim was at work (9%) or school (8%).

Most nonfatal violent crimes (66%) did not involve a weapon. However 58% of severely injured victims reported the offender(s) having a weapon, usually a knife or other sharp object — such as a scissors, ice pick, or ax — or a blunt object such as a rock or club (44% altogether) rather than a firearm (14%).

<sup>\*</sup>Fewer than 10 cases.

<sup>&</sup>lt;sup>a</sup>Where appropriate, excludes cases for which information on variables was not available.

blncludes rape/sexual assault with unspecified types of injuries.

See text box on page 3 and Glossary for a more detailed discussion.

Includes gunshot or knife wounds, broken bones, loss of teeth, internal injuries, loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.

dIncludes knives, sharp or blunt objects, and unknown types of weapons.

<sup>&</sup>lt;sup>a</sup>Includes homicide victims.

<sup>&</sup>lt;sup>b</sup>Includes knives, sharp or blunt objects, and unspecified types of weapons.

<sup>&</sup>lt;sup>c</sup>Weapon presence unknown.

Table 11. Percentage of victims injured, by characteristics of the violent victimizations, 1992-98

	Percent of victims of violent crime				
			Victi	ims with in	juries
Characteristic of the victimization <sup>a</sup>	Total	No injury	Allb	Severe	Minord
Time of day					
6 a.m. to 6 p.m.	100%	78.5%	21.5%	2.3%	18.6%
6 p.m. to midnight	100	72.5	27.5	4.0	22.3
Midnight to 6 a.m.	100	65.1	34.9	6.1	26.2
Do not know time of night	100	66.0	34.0	4.6	23.0
Location of crime					
At or near victim's home/lodging	100%	68.1%	31.9%	3.7%	26.2%
Friend's/relatives/neighbors home	100	65.8	34.2	5.0	25.7
Commercial places	100	82.3	17.7	2.8	14.6
Parking lots/garages	100	76.7	23.3	3.7	19.3
School	100	77.0	23.0	1.9	21.1
Open area/public transportation	100	77.2	22.8	3.9	18.6
Other	100	81.6	18.4	2.3	15.2
Distance from victim's home					
Inside or near home or lodging	100%	68.7%	31.3%	3.8%	25.5%
1 mile or less	100	74.7	25.3	4.1	20.7
5 miles or less	100	77.0	23.0	3.1	19.2
50 miles or less	100	79.0	21.0	2.7	17.4
More than 50 miles	100	78.9	21.1	2.8	17.2
Victim's activity					
At work	100%	88.3%	11.7%	1.3%	10.2%
School	100	77.0	23.0	2.1	20.9
Activities at home	100	67.2	32.8	3.7	26.7
Shopping/errands	100	78.4	21.6	3.7	17.7
Leisure activities away from home	100	69.2	30.8	5.1	24.4
Going to and away from home	100	76.9	23.1	3.4	19.3
Other	100	71.9	28.1	3.3	23.0
Weapons					
No weapon	100%	74.0%	26.0%	1.8%	22.7%
Weapons present	100	74.0	26.0	7.4	18.1
Firearms	100	85.1	14.9	4.6	9.7
Other type of weapon <sup>e</sup>	100	67.3	32.7	9.1	23.2

Note: Injury data were reported for 99.9% of violent victimizations for 1992 through 1998. Data were reported on time of incident for 98.7%; on location of incident for 100%; on distance from victim's home at time of incident for 99.4%; on activity at time of incident of 99.6%; and on weapon type for 91.8%.

Victims who experienced violence between midnight and 6 a.m. were more likely than persons victimized at other hours to sustain an injury (35%) or to suffer a severe injury (6%) (table 11). Among those victimized during the day (6 a.m. to 6 p.m.), 22% were injured, including 2% with severe injuries. Victimizations occurring between midnight and 6 a.m. were about 2.5 times as likely as victimizations occurring during the day to result in severe injuries.

Victimizations that occurred at or near the victim's home or at the home of a friend, relative, or neighbor were more likely to result in injury (32% and 34%, respectively) than victimizations that occurred elsewhere, including open areas or public transportation (23%).

As the distance between the location of the incident and the victim's home increased, the risk for injury tended to decrease. While 31% of those victimized at home were physically injured, 21% of those victimized more than 50

miles from home were physically injured.

Victims engaged in activities at home or leisure activities away from home at the time of the victimization were more likely to be injured (33% and 31%, respectively) than those victimized while working (12%), shopping (22%), going to and away from home (23%), or attending school (23%).

Victims of violent crime were less likely to be injured when the offender had a firearm (15%), compared to crimes by unarmed offenders (26%) or by offenders armed with weapons other than firearms (33%). Victims were more likely to have severe injuries if a firearm (5%) or other weapon (9%) were present than if no weapon was present (2%).

#### Survey methodology

This Special Report presents data on nonlethal violence from the National Crime Victimization Survey (NCVS). The number of homicides are from the National Center for Health Statistics, compiled by the Office of Statistics and Programming, National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. The number of people in the population for these years was determined by data from the Census Bureau.

The NCVS collects data on nonfatal crimes against persons age 12 or older, reported and not reported to the police, from a nationally representative sample of households in the United States. The NCVS provides information about victims (age, gender, race, ethnicity, marital status, income, and educational level), offenders (gender, race, approximate age, and victimoffender relationship), and characteristics of victimizations (time and place of occurrence, use of weapons, and nature of injury).

Standard error computations

Comparisons made in this Special Report were tested to determine if

<sup>&</sup>lt;sup>a</sup>Where appropriate, excludes cases for which information on variables was not available. blncludes rape/sexual assault with unspecified types of injuries.

See text box on page 3 and Glossary for a more detailed discussion.

<sup>°</sup>Includes gunshot or knife wounds, broken bones, loss of teeth, internal injuries,

loss of consciousness, and undetermined injuries requiring 2 or more days of hospitalization.

dIncludes bruises, black eye, cuts, scratches, swelling, chipped teeth, and

undetermined injuries requiring less than 2 days of hospitalization.

eIncludes knives, sharp or blunt objects, and unknown types of weapons.

observed differences were statistically significant. Differences described as higher, lower, or different passed a

#### Overall patterns and analytical considerations

Data from self-report surveys are subject to nonsampling error.1 Among the sources of nonsampling error is misreporting by respondents, both deliberate and unintentional. This is particularly important for estimates of sexual violence and victimization by intimates. NCVS data presented in this report were collected using redesigned questionnaires incorporating improvements that address concerns about these sources of nonsampling error.2

Some have suggested that the subgroups of the population at greatest risk for victimization and injury, such as youth, minorities, and those with lower household incomes, may be less willing to participate in NCVS interviews. Refusal to participate could result in an underestimate of the victimization and injury rates for these groups.3 However, overall NCVS participation rates, 1992-98, ranged from 93% to 96% of eligible households and from 89% to 94% of eligible individuals.

The Census Bureau adjusts the weighting procedures for the National Crime Victimization Survey to account for nonresponse.

The data presented are limited to patterns between pairs of variables; however, many of the factors examined are interrelated. A multivariate analysis is necessary to determine whether the patterns observed are independent.

hypothesis test at the .05 level of statistical significance (95% confidence level). That is, the tested difference was greater than twice the standard error of that difference. For comparisons which were statistically significant at the 0.10 level (90% confidence level), "somewhat," "marginally," or "slightly" is used to note the nature of the difference.

Caution is required when comparing estimates not explicitly discussed in this Special Report. What may appear to be large differences may not test as statistically significant at the 95% or even the 90% confidence level. Significance testing calculations were conducted at BJS using statistical programs developed specifically for the NCVS by the Census Bureau. These programs consider the complex NCVS sample design when calculating generalized variance estimates.

#### **Glossary**

Aggravated assault — Attack or attempted attack with a weapon, regardless of whether or not an injury occurred, or attack without a weapon when severe injury results.

**Incident** — A specific criminal act involving one or more victims and offenders. For example, if two people are robbed at the same time and place, this is classified as two robbery victimizations but only one robbery incident.

**Minor injury** — Includes bruises, black eye, cuts, scratches, swelling, chipped teeth, and undetermined injuries requiring less than 2 days of hospitalization.

Rape — Forced sexual intercourse, including psychological coercion or physical force. Forced sexual intercourse means vaginal, anal, or oral penetration by the offender(s). This category also includes incidents where the penetration is from a foreign object such as a bottle. Includes attempted rapes, male and female victims,

#### Generating confidence intervals

Below are the formulas for testing differences in percentages or rates of a single response variable with the same base. This formula calculates the standard error of the difference between two percentages derived from a single response variable with the same base:

$$\begin{aligned} var(p_{x}) &= \frac{b(p_{x})(1.0-p_{x})}{Y} + \frac{c((p_{x})(p_{x}\sqrt{p_{x}}-p_{x}))}{\sqrt{Y}} \\ & s\left(p_{1}p_{2}\right) = \sqrt{var(p_{1}) + var(p_{2}) - ((2\rho)(\sqrt{var(p_{1})}\ )(\sqrt{var(p_{2})}\ ))} \quad \text{where} \ \ \rho = -\sqrt{\frac{p_{1}p_{2}}{q_{1}q_{2}}} \end{aligned}$$

 $p_x$  = percent or rate (expressed as a proportion in decimal form)

 $q = 1 - p_x$ 

Y = base from which rates were derived

b,c = generalized variance function parameters (1992-98 estimates: b = 5,107 and c = 1.620)

The following example illustrates the use of these formulas. The proportion of violent victimizations resulting in severe injuries was 3.4% (p<sub>1</sub>), and the proportion resulting in minor injuries was 20.8% (p2) out of an annual average total of 10,201,080 violent crime victimizations. Substituting the appropriate values into the formula gives:

$$\begin{split} var(p_1) &= \frac{5,107(0.034)(1.0-0.034)}{10,201,080} + \frac{\frac{1.620(0.034(\sqrt{0.034}-0.034))}{\sqrt{10,201,080}}}{\frac{1.620(0.208(\sqrt{0.208}-0.208))}{\sqrt{10,201,080}}} = 0.000019 \\ var(p_2) &= \frac{5,107(0.208)(1.0-0.208)}{10,201,080} + \frac{\frac{1.620(0.208(\sqrt{0.208}-0.208))}{\sqrt{10,201,080}}}{\frac{1.620(0.208(\sqrt{0.208}-0.208))}{\sqrt{10,201,080}}} = 0.001086 \end{split}$$

Standard error of the difference =

 $\sqrt{0.00000019 + 0.0001086 - 2(0.096144)(0.00436)(0.01042)} = 0.01168 \text{ or } 1.2\%$ 

The confidence interval around the difference at one standard error is from -16.2% (-17.4%+1.2%) to -18.6% (-17.4%-1.2%). The ratio of the difference (-0.174%) to its standard error (0.012) is (-.174/0.012) or -14.5. Since 14.5 is greater than 2.0, the difference between these two percentages is statistically significant at a confidence level exceeding 95%.

<sup>&</sup>lt;sup>1</sup>Criminal Victimization in the United States, 1994. Appendix II, Survey Methodology for a Discussion of Nonsampling Error. BJS. May 1997, NCJ 162126.

<sup>&</sup>lt;sup>2</sup>Violence Against Women: Estimates from the Redesigned Survey. BJS. November 1994, NCJ 149259.

<sup>&</sup>lt;sup>3</sup>Cook, Philip J. "The Case of the Missing Victims: Gunshot Woundings in the National Crime Survey." Journal of Quantitative Criminology, Vol. 1, pp. 91-102, 1985.

and both heterosexual and homosexual rape. Attempted rape includes verbal threats of rape. For the NCVS completed rape is always considered to involve injury. Attempted rape may or may not involve injury.

Robbery — Completed or attempted theft, directly from a person, of property or cash by force or threat of force, with or without a weapon, and with or without injury.

Severe injury — Includes gunshot or knife wounds, broken bones, loss of teeth, internal injuries, loss of consciousness, or undetermined injuries requiring 2 or more days of hospitalization.

Sexual assault — A wide range of victimizations, separate from rape or attempted rape. These crimes include attacks or attempted attacks generally involving unwanted sexual contact between victim and offender. Sexual assaults may or may not involve force and include such things as grabbing or fondling. Sexual assault includes verbal threats and may or may not involve injury.

Simple assault — Attack without a weapon resulting in no injury, minor injury (such as bruises, black eyes, cuts, scratches, or swelling) or in undetermined injury requiring less than 2 days of hospitalization. Includes verbal threats and attempted assault without a weapon.

Victimization — A crime as it affects one individual person. The number of victimizations is equal to the number of victims involved. The number of victimizations may be greater than the number of incidents because more than one person may be victimized during an incident.

Victimization rate — A measure of the occurrence of victimizations among a specified population group. This rate is based on the number of victimizations per 1,000 residents age 12 or older.

Violence, crimes of — Rape, sexual assault, personal robbery, or assault as measured by the NCVS. This category includes both attempted and completed crimes. Homicide data are from the National Center for Health Statistics, Centers for Disease Control and Prevention.

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