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Document Title: Estimating Crime Victimization in Large States and MSAs through Reweighting: Evaluation and Methodology

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**Abstract:**

Examines the extent to which weighting for National Crime Victimization Survey (NCVS) data can be adjusted to produce reliable subnational violent victimization statistics. This report also provides guidelines for aggregating NCVS data over multiple years to produce subnational estimates of interest. Data and methodology are based on analysis of the Bureau of Justice Statistics' National Crime Victimization Survey.

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**Cautionary note**

The NCVS was originally designed to provide national-level estimates of criminal victimization using a nationally representative sample of U.S. households. (For more information on the NCVS methodology, see *National Crime Victimization Survey, 2016 Technical Documentation*, NCJ 251442.) To address increasing interest in victimization data at the state and local levels, BJS has developed multiple approaches for obtaining subnational NCVS estimates.

The estimates in this report utilize data collected before the NCVS sample was expanded in 2016 to facilitate direct estimation in the largest 22 states (see *Criminal Victimization, 2016 Revised*, NCJ 252121). In the absence of directly-estimated NCVS data, this report is a proof-of-concept effort designed to describe reweighting methods that can be applied to produce subnational estimates for the years before the sample increase and reallocation. In some cases, the resulting estimates for subnational areas may not be as robust or accurate as estimates produced after the sample boost. The

estimates based on the reweighting methods are likely to be subject to two types of error: (1) sampling error and (2) coverage error.

Sampling error is the potential difference between an estimate based on a sample and an estimate based on the entire population. Sampling error occurs in all survey samples but is especially prominent when the respondent sample size is not adequate to produce estimates with the necessary level of precision. Smaller sample sizes increase the amount of sampling error, which results in larger standard errors and wider confidence intervals around the point estimates.

For this report, the production of estimates for three subnational area types was considered: states, metropolitan statistical areas (MSAs), and cities. In developing the reweighting methods, the sample sizes in most cities were found to be insufficient to produce estimates with reasonable precision, even when pooling multiple data years of data. Because of this lack of precision, city-level estimates are not presented in this report. To varying degrees, sample sizes in states and MSAs were sufficient, though they were often smaller than what is typically used to produce national estimates for the NCVS. As a result, the estimates in this report should be interpreted as the midpoint of an interval that is likely to contain the true value. This interval may be quite large for specific states or MSAs, depending on the sample size, the variability in responses, and the desired level of confidence that the interval contains the true value.

Coverage error occurs when the sampling population does not fully represent the inferential population. As noted above, prior to the 2016 sample boost, the NCVS design was focused on producing national-level estimates. As a result, the national sample was not allocated in a manner to fully represent each state. This may have been true even in states where the number of respondents was quite large.

To control data collection costs, the NCVS utilizes an area-based sample design. Under an area-based design, rather than randomly selecting households across the entire country for inclusion in the sample, smaller geographic areas are selected first (e.g., counties) and then households are selected within those selected geographic areas. This design yields unbiased national estimates because, across the entire country, a wide range of areas are selected to fully represent the nation as a whole. However, this level of representation may not occur in smaller geographic areas (e.g., states); when this happens, the resulting sample may suffer from coverage error. For example, in some states only urban counties and no rural counties may have been selected. In this type of scenario, if crime victimization differs between urban and rural counties, the resulting estimates may be biased because the state samples did not cover the rural counties.

The corrective measure used to reduce coverage bias for the 11 states examined in this report involved calibrating the distribution of respondents to as many known characteristics as possible. However, if there are latent or unobserved characteristics that are highly correlated with victimization rates, the calibration may not fully correct for the coverage error, leaving an unknown level of bias in the resulting estimates. Coverage errors are most likely to occur in and impact the state estimates presented in this report and are less likely at issue for the MSA estimates. Unlike some states, the geographic coverage in each MSA examined here was complete or nearly complete because the counties that comprise these MSAs were included in the NCVS sample with either certainty or a high probability of inclusion.

In general, this report considers three types of analyses that can be conducted for subnational areas:

1. comparisons of areas to the national average within a single time period (e.g., a comparison of having a higher or lower victimization rate than the national average)

2. comparisons within a specific area during a single time period (e.g., comparing subgroups within a single state or MSA)
3. comparisons within a specific area across time (e.g., comparing a state or MSA between time points).

Only two of these three analysis types are recommended: (#1) comparisons of areas to the national average within a single time period (because the national average does not suffer from coverage error and has smaller levels of sampling error, and because each area in the analysis likely suffers from similar sampling and coverage errors); and (#2) comparisons within a specific area during a single time period (because all respondents in that area are subject to the same level of error). Relative comparisons by person or household characteristics within specific areas can be conducted.

However, comparisons of a specific area across time (#3) are not recommended and should be viewed with caution. Unlike the other two types of analysis, comparing across time requires the use of the absolute value of the estimate rather than a relative measure. Because the estimates for different time periods may be subject to different levels of error, it is not possible to know if any differences are due to true change over time or different levels of bias across the estimates.

When the NCVS sample was increased in 2016, not only was the number of households selected increased, but the areas selected within the 22 largest states were altered to minimize coverage error (e.g., smaller and more rural counties were selected for inclusion in the state samples that previously may have had only larger and urban counties). By increasing both the number of selected households and areas within states, the sampling error and coverage error in each state was effectively reduced. However, since both error types may still exist in the earlier estimates prior to the sample redesign, the focal period for this report, a direct comparison over time is not advisable.

Thus, when reviewing this report, exercise caution by examining the confidence intervals in which the true estimates likely reside. Also—

- Evaluate differences in relative rather than absolute terms.
- Recognize that methods described for determining the number of years of data to pool may reduce the sampling error.
- Exercise greater caution with the state-level estimates than the MSA-level estimates because the state estimates are more likely than MSA estimates to suffer from coverage error.

BJS executed this proof of concept, accepting the limitations of the NCVS sample design for producing subnational estimates before the implementation of the 2016 redesign, including the insufficiency of selected sample areas in individual states to represent a given state. Despite these limitations, BJS believes the benefits of the potential insight from the reweighting methodology are worthwhile.

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# **ESTIMATING CRIME VICTIMIZATION IN LARGE STATES AND MSAS THROUGH REWEIGHTING: EVALUATION AND METHODOLOGY**

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## **INTRODUCTION**

The National Crime Victimization Survey (NCVS), sponsored by the Bureau of Justice Statistics (BJS), estimates the incidence and describes the characteristics of criminal victimization in the United States. Since its inception in the early 1970s, the NCVS has been a rich source of national-level information about criminal victimization, including victimizations that go unreported to the police. These data are particularly important because, nationwide, less than half of violent crime (45%) and about a third of property crime (36%) victimizations are reported to police (Morgan & Truman, 2018).

Historically, NCVS data were not available at the state or local level, meaning that most local areas had to rely on statistics generated from police activities, which provide only a partial picture of crime in the area. Because the NCVS was designed to produce national estimates, standard analysis weights were intended solely to generate representative victimization counts, rates, and proportions at the national level. Further, the sample size within many subnational areas was not large enough to support reliable estimates of criminal victimization with a single year of data. However, beginning in 2016, BJS changed the sample design of the NCVS to enable victimization estimates to be generated for the 22 most populous states and large local areas within those states. Local stakeholders can now use NCVS data to get a more accurate reflection of local crime conditions and as a tool to assess police and criminal justice services.

For the purposes of producing subnational estimates directly from the NCVS, there are some challenges, especially in the short term. First, the sample redesign was based on the assumption that, in states with average crime rates, data would have to be aggregated over 3 years to generate precise estimates of violent victimization. In higher-crime states or states with the largest NCVS sample sizes, fewer years of data may be sufficient for precise estimates, but for smaller areas or for subgroup analyses of violent crime, additional years of data may be necessary. Given that BJS is still in the process of collecting the first 3 years of data and evaluating the amount of data that will be needed to generate precise estimates for different analyses, it is currently unknown where those lines are drawn. Second, although the sample

change allows for more robust subnational estimation in 2016 and beyond, data for most state and local areas do not yet benefit from one of the strengths of the NCVS—the ability to use the data to examine trends of victimization and reporting to police over long periods of time.

This report begins to address both of those challenges. It presents one of several approaches BJS is using to generate subnational estimates of criminal victimization: examining the extent to which pre-2016 NCVS data can be reweighted to produce reliable subnational estimates of violent victimization. It also provides guidelines that users of post-2016 NCVS data can follow for considering the extent to which aggregation over multiple data years is necessary for the subnational estimates of interest.

This report is divided into four sections. ***Section 1*** provides a brief overview of the challenges faced when producing subnational estimates of criminal victimization using reweighted NCVS data and a summary of the methodology developed to produce the estimates in this report. ***Sections 2*** and ***3*** showcase the variation in NCVS crime rates across subnational areas by presenting direct, reweighted estimates of violent victimization in two types of subnational areas: states and metropolitan statistical areas (MSAs). The variation in subnational estimates compared with national estimates is examined with significant differences noted. In addition, state victimization trends are compared with the national-level trend. ***Section 4*** describes the methodology used to produce the direct estimates of criminal victimization within subnational areas and examines two of the major issues in generating subnational estimates using NCVS data: coverage bias in pre-2016 data and precision. These issues are addressed in the three components of the direct estimation evaluation: (1) the assessment of potential coverage bias in the pre-2016 NCVS sample in subnational areas of interest, (2) the development of reweighting and estimation approaches within subnational areas, and (3) data pooling recommendations for producing reliable estimates in subnational areas.

## **SECTION 1. DEVELOPING DIRECT ESTIMATES OF CRIMINAL VICTIMIZATION IN STATES AND METROPOLITAN STATISTICAL AREAS**

Although the NCVS was designed to produce estimates of nonfatal victimizations for all U.S. persons age 12 or older, the survey has also shown how rates of criminal victimization can vary greatly by place and across different subgroups of the population (e.g., age, race, and Hispanic origin). This demonstrated relationship suggests that crime rates within subnational areas, with variable population sizes and distributions, will also differ in relation to each other and to the nation as a whole. Published by the Federal Bureau of Investigation (FBI), the *Crime in the United States 2017* report showed this variability with rates of violent crime known to the police ranging from approximately 120 crimes per 100,000 persons to more than 1,000 crimes per 100,000 persons across the 50 states and the District of Columbia.<sup>1</sup> Because the makeup of the population within these subnational areas can fluctuate over time, with varying degrees and speeds in relation to each other and the United States overall, trends in victimization within subnational areas may not coincide with trends at the national level, either in magnitude or direction.

To evaluate these assumptions and validate the need for reliable subnational estimates of criminal victimization in addition to national-level estimates, this analysis focuses on two primary research questions: Do subnational areas—

1. differ from one another and the nation as a whole with respect to rates of violent<sup>2</sup> victimization?
2. have victimization rate trends that differ from one another and the nation?

With appropriate pooling of data across years, the NCVS sample within many large subnational areas is sufficient to produce estimates with a coefficient of variation of less than 50%, which is the point at which estimates are typically flagged in BJS publications and should

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<sup>1</sup> For more information, see <https://ucr.fbi.gov/crime-in-the-u.s./2017/crime-in-the-u.s.-2017>. Estimates produced by the FBI include only crimes reported to the police, while the NCVS includes both reported and unreported crimes. In addition, the definition of violent crime used by the FBI differs from the definition used in the NCVS and throughout the remainder of this report. For more information, see *The Nation's Two Crime Measures* (NCJ 246832, September 2014) at [https://www.bjs.gov/content/pub/pdf/ntcm\\_2014.pdf](https://www.bjs.gov/content/pub/pdf/ntcm_2014.pdf).

<sup>2</sup> As measured in the NCVS, violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. For more information, see the NCVS data collection webpage at <https://www.bjs.gov/index.cfm?ty=dcdetail&id=245>.

be interpreted with caution. At the subnational level, two main area types<sup>3</sup> were considered for this assessment: states and MSAs. MSAs are made up of the county or counties or equivalent entities associated with at least one urbanized area with at least 50,000 persons, plus adjacent counties having a high degree of social and economic integration with the central county or counties.<sup>4</sup> This assessment focused on the largest areas within each area type—the 11 largest states and the 52 MSAs with at least 1 million persons during 2015 and an average annual NCVS sample size of at least 250 persons during 2006–15. **Table 1** provides the specific areas included in the analysis.

**Table 1. Subnational Geographies Included**

Subnational Area	Number of Areas	Areas Included
State	11	California; Texas; New York; Florida; Illinois; Pennsylvania; Ohio; Georgia; North Carolina; Michigan; New Jersey
MSA	52	New York-Newark-Jersey City, NY-NJ-PA Los Angeles-Long Beach-Anaheim, CA Chicago-Naperville-Elgin, IL-IN-WI Dallas-Fort Worth-Arlington, TX Houston-The Woodlands-Sugar Land, TX Washington-Arlington-Alexandria, DC-VA-MD-WV Philadelphia-Camden-Wilmington, PA-NJ-DE-MD Miami-Fort Lauderdale-West Palm Beach, FL Atlanta-Sandy Springs-Roswell, GA Boston-Cambridge-Newton, MA-NH San Francisco-Oakland-Hayward, CA Phoenix-Mesa-Scottsdale, AZ Riverside-San Bernardino-Ontario, CA Detroit-Warren-Dearborn, MI Seattle-Tacoma-Bellevue, WA Minneapolis-St. Paul-Bloomington, MN-WI San Diego-Carlsbad, CA Tampa-St. Petersburg-Clearwater, FL Denver-Aurora-Lakewood, CO St. Louis, MO-IL Baltimore-Columbia-Towson, MD Charlotte-Gastonia-Concord, NC-SC Portland-Vancouver-Hillsboro, OR-WA Orlando-Kissimmee-Sanford, FL

(Continued)

<sup>3</sup> The cities associated with the 20 largest MSAs were also considered for direct estimation. However, these subnational areas lacked adequate sample size to support the weight calibration models. For additional details, see *Section 4.2.3.2*.

<sup>4</sup> For more information on MSAs, see the following reference: U.S. Census Bureau. (1994, November; revised May 16, 2018). Chapter 13: Metropolitan areas. In *Geographic areas reference manual* (pp. 13-1 to 13-12). Retrieved from <https://www.census.gov/programs-surveys/geography/guidance/geographic-areas-reference-manual.html>

**Table 1. Subnational Geographies Included (Continued)**

Subnational Area	Number of Areas	Areas Included
		San Antonio-New Braunfels, TX
		Pittsburgh, PA
		Sacramento-Roseville-Arden-Arcade, CA
		Cincinnati, OH-KY-IN
		Las Vegas-Henderson-Paradise, NV
		Kansas City, MO-KS
		Cleveland-Elyria, OH
		Columbus, OH
		Austin-Round Rock, TX
		Indianapolis-Carmel-Anderson, IN
		San Jose-Sunnyvale-Santa Clara, CA
		Nashville-Davidson-Murfreesboro-Franklin, TN
		Virginia Beach-Norfolk-Newport News, VA-NC
		Providence-Warwick, RI-MA
		Milwaukee-Waukesha-West Allis, WI
		Jacksonville, FL
		Oklahoma City, OK
		Memphis, TN-MS-AR
		Louisville/Jefferson County, KY-IN
		Raleigh, NC
		Richmond, VA
		New Orleans-Metairie, LA
		Hartford-West Hartford-East Hartford, CT
		Salt Lake City, UT
		Birmingham-Hoover, AL
		Buffalo-Cheektowaga-Niagara Falls, NY
		Rochester, NY
		Tucson, AZ

Source: U.S. Census Bureau, CBSA-EST2015-alldata: Annual Resident Population Estimates and Estimated Components of Resident Population Change for Metropolitan and Micropolitan Statistical Areas and Their Geographic Components: April 1, 2010, to July 1, 2015. File: 7/1/2015  
Metropolitan and Micropolitan Statistical Area Population Estimates. Population Division Release Date: March 2016

Direct estimation uses information collected directly from sample members to generate estimates, relies on direct observation, and allows estimates to be replicated easily. Direct estimates can be calculated using NCVS data for specific subnational areas (e.g., states, MSAs). However, prior to 2016, the NCVS was not designed to produce estimates within these smaller geographies. The NCVS collects data on households and persons, including demographic information and any crimes they may have experienced during the prior 6 months, from a nationally representative sample. Because the sample is selected and weighted to be nationally representative, the sampled households and persons within a given subnational area may not be representative of the population within that area. Because crime is a relatively rare event, sample sizes for certain crime types and certain subgroups can be small even at the national level, much less within a subnational area. Further complicating the direct estimation approach in subnational

areas prior to 2016 is the fact that crime is a relatively rare event. The sample sizes for certain crime types and certain subgroups can be small even at the national level, much less within a subnational area. Given this, an evaluation of potential coverage bias and estimate precision was undertaken before using the NCVS data to generate direct estimates in subnational areas. To determine the magnitude of coverage bias in the subnational areas, weighted population distributions were compared with population distributions from the U.S. Census Bureau's American Community Survey (ACS), which is the gold standard for control totals. The ratio of the NCVS weighted sum to the ACS weighted sum showed whether the NCVS subnational area or subgroup within the area was over- or underrepresented compared with the ACS control total. Although many NCVS areas had ratios close to one, suggesting reasonable coverage, different demographic groups within those areas were over- or underrepresented.

This evaluation determined that (1) NCVS analysis weights should be adjusted to more accurately reflect the population within these areas to avoid coverage bias at the subnational level; and (2) the sample size within most subnational areas is inadequate to produce direct estimates for many of the major crime types and analysis domains with a single year of NCVS data, so multiple years of data should be pooled to ensure estimates obtain adequate precision. To account for the coverage error, NCVS weights were then recalibrated to align with ACS control totals for each area. For each survey year during 2006–15, the NCVS household- and person-level weights were poststratified separately within the 11 states and 52 MSAs to ACS 1-year control totals. For each annual NCVS household and person data file, weight calibration models were fit through a stepwise reduction algorithm to determine the most robust model possible. The resulting calibrated estimates tended to reduce estimated victimization totals and rates for both states and MSAs and had minimal impacts on precision.

Throughout the remainder of this report, estimates of criminal victimization in subnational areas utilize NCVS analysis weights that have been recalibrated to match control totals from the ACS. Replicate weights were developed to estimate the variance around the estimates, and the analyses were conducted using standard statistical software (e.g., the SUDAAN® VARGEN procedure) that accounted for the complex sample design of the survey (RTI International, 2013). In addition, all estimates are based on multiple years of NCVS data (i.e., 3 years for state-level estimates and 5 years for MSA-level estimates), and estimates for a

given subnational area are included only when the effective sample size (ESS) from the pooled data meets a minimum threshold based on the crime type and analysis domain. These minimum thresholds were developed as part of a simulation study using replicate samples of varying sizes from the NCVS public use file (PUF). The minimum sample size threshold was identified as the smallest sample size for which 80% of estimates generated from the repeated samples achieved a relative standard error (RSE) of 50% or less. *Section 4* provides additional details on the reweighting methodology and the development of minimum sample size guidelines used throughout this report. *Table 2* presents the crime types and analysis domains selected for direct estimation in subnational areas.

**Table 2. Crime Types and Analysis Domains for Subnational Estimates**

Crime Type	Analysis Domain
Violent Crime	Overall; Sex; Age; Race/Hispanic Origin
Robbery	Overall
Assault	Overall
Aggravated Assault	Overall
Simple Assault	Overall
Domestic Violence	Overall
Violent Crime Committed by Other Known Offenders	Overall
Stranger Violence	Overall
Violent Crime Occurring during the Day	Overall
Violent Crime Occurring at Night	Overall
Violent Crime Involving a Weapon	Overall
Serious Violent Crime	Overall; Sex

## **SECTION 2. SUBNATIONAL FINDINGS AMONG STATES**

The first set of subnational areas to be analyzed included the 11 largest states. The analysis compares state-level victimization estimates during the 3-year period from 2013 to 2015 with U.S. rates overall during the same time. It also uses 3-year rolling averages to examine trends in state victimization estimates during 2008–15 compared with the national-level trend. An aggregate 3-year period was used for state-level estimates because this allowed for the generation of reliable victimization estimates for most states for each of the crime types and domains analyzed. Without this aggregation, the analysis would not be possible. The 3-year sample size did not meet the ESS requirement for the following crime types and states that were omitted from the analysis: serious violent crime by victim’s sex (North Carolina); violent crime by victim’s age (North Carolina); and violent crime by victim’s race and Hispanic origin (North Carolina and New Jersey). For all other analyses presented in this section, estimates are provided for each state listed in *Table 1*.

### **2.1 State-Level Victimization Rates Compared with National Rates**

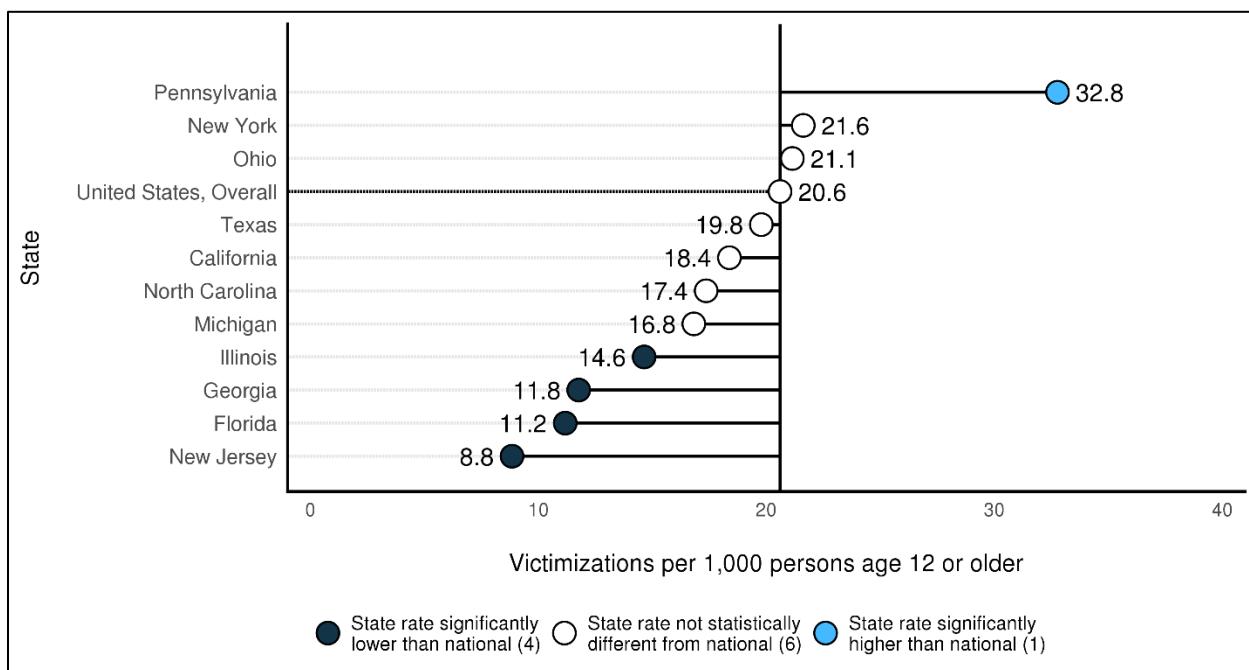
The following tables and figures present direct estimates of criminal victimization in states and for the United States overall for each of the crime types and analysis domains presented in *Table 2* during 2013–15. All differences where state-level estimates are described as higher or lower than the national average are statistically significant ( $\alpha=0.05$ ). Significant differences between states are not discussed. However, estimates and 95% confidence intervals are provided in *Appendix C* and can be used to assess significant differences among specific states.

#### **2.1.1 Violent Crime**

During 2013–15, the national rate of violent victimization in the United States was 20.6 victimizations per 1,000 persons age 12 or older (*Figure 1*).

- The rate of violent victimization was higher than the national average in Pennsylvania, lower than the national average in four states, and not significantly different from the U.S. rate in six states.
- Among the five states that were significantly different from the national average, the rate of violent victimization ranged from 8.8 victimizations per 1,000 persons age 12 or older in New Jersey to 32.8 per 1,000 in Pennsylvania.

**Figure 1. Rates of Violent Victimization, by State, 2013–15**



Note: Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-1* for estimates and confidence intervals.

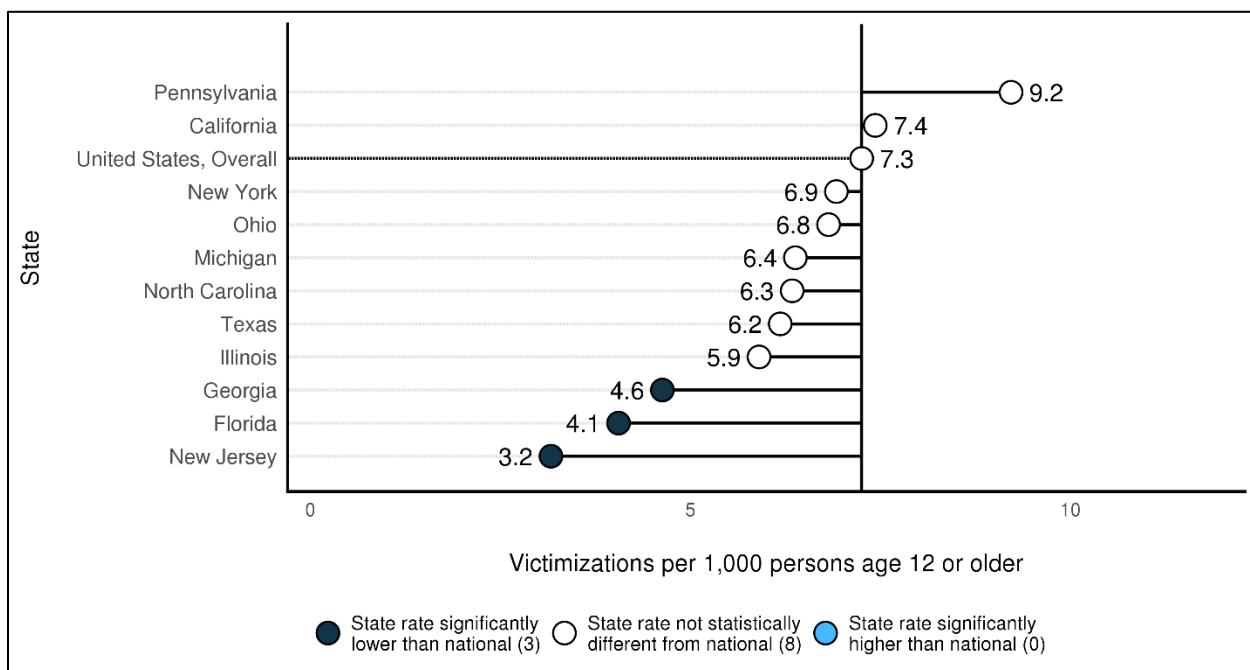
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.2 Serious Violent Crime

During 2013–15, the national rate of serious violent victimization in the United States was 7.3 victimizations per 1,000 persons age 12 or older (*Figure 2*).

- The rate of serious violent victimization was lower than the national average in three states and not significantly different from the U.S. rate in eight states.
- Three states had significantly lower rates than the national average: Georgia (4.6 victimizations per 1,000 persons age 12 or older), Florida (4.1 per 1,000), and New Jersey (3.2 per 1,000).
- For the United States overall, serious violent crime victimization accounted for 35% of all violent victimizations during 2013–15. In 8 of the 11 states, the percentage of total violent victimizations attributed to serious violent crime differed from the national average by more than two standard deviations, ranging from 28% in Pennsylvania to 40% in California (not shown).

**Figure 2. Rates of Serious Violent Victimization, by State, 2013–15**



Note: Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault. See appendix **Table C-2** for estimates and confidence intervals.

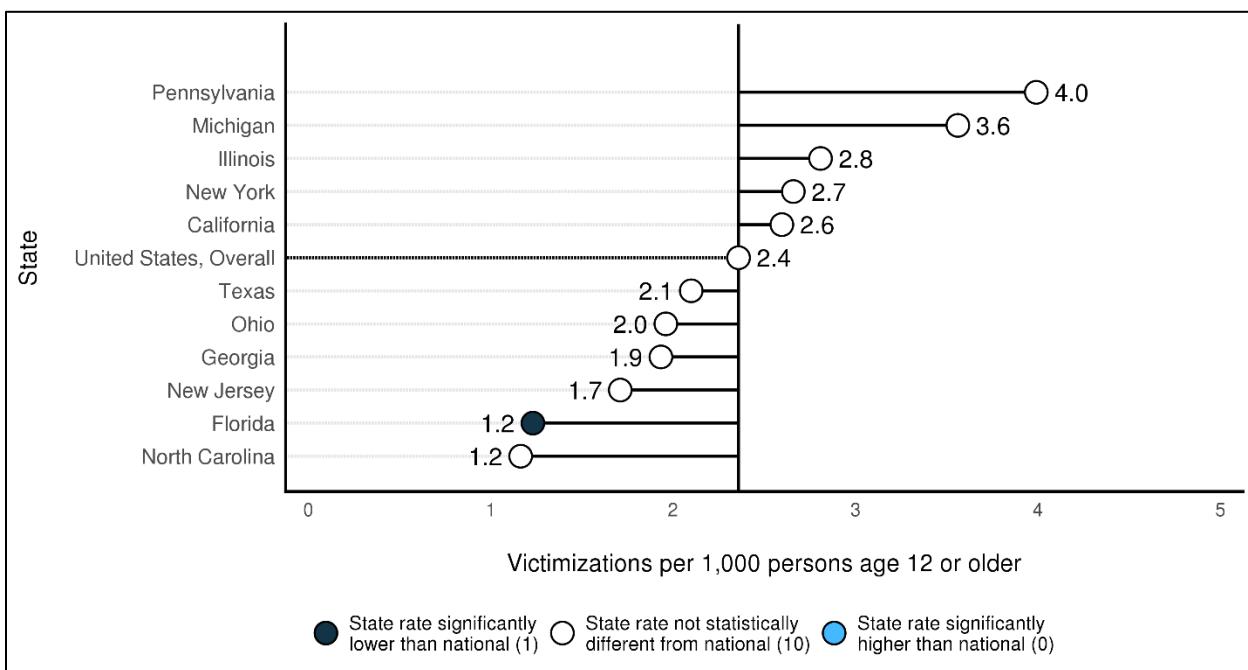
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.3 Robbery

During 2013–15, the national rate of robbery victimization in the United States was 2.4 victimizations per 1,000 persons age 12 or older (**Figure 3**).

- The rate of robbery victimization was lower than the national average in Florida (1.2 victimizations per 1,000 persons age 12 or older) and not significantly different from the U.S. rate in 10 states.
- For the United States overall, robbery victimization accounted for 11% of all violent victimizations during 2013–15. In 7 of the 11 states, the percentage of violent victimizations attributed to robbery differed from the national average by more than two standard deviations, ranging from 7% in North Carolina to 21% in Michigan (not shown).

**Figure 3. Rates of Robbery Victimization, by State, 2013–15**



Note: See appendix *Table C-3* for estimates and confidence intervals.

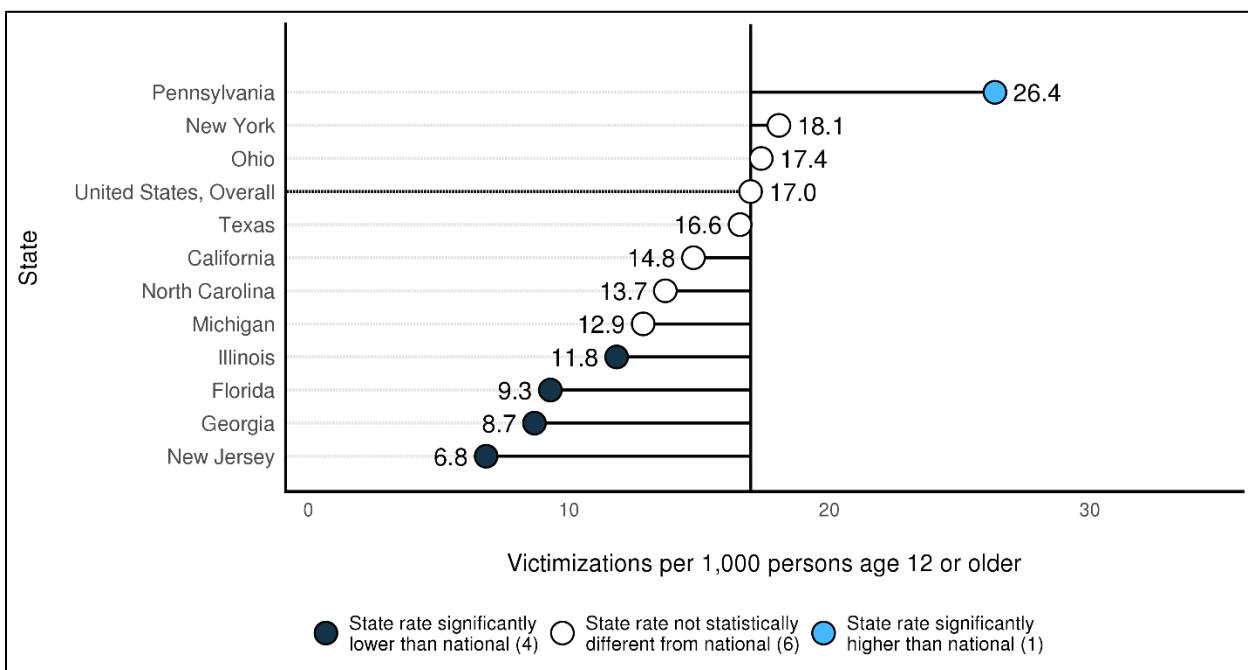
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

#### 2.1.4 Assault

During 2013–15, the national rate of assault victimization in the United States was 17.0 victimizations per 1,000 persons age 12 or older (*Figure 4*).

- The rate of assault victimization was higher than the national average in Pennsylvania, lower than the national average in four states, and not significantly different from the U.S. rate in six states.
- Among the five states that were significantly different from the national average, the rate of assault victimization ranged from 6.8 victimizations per 1,000 persons age 12 or older in New Jersey to 26.4 per 1,000 in Pennsylvania.

**Figure 4. Rates of Assault Victimization, by State, 2013–15**



Note: Assault includes aggravated assault and simple assault. See appendix *Table C-4* for estimates and confidence intervals.

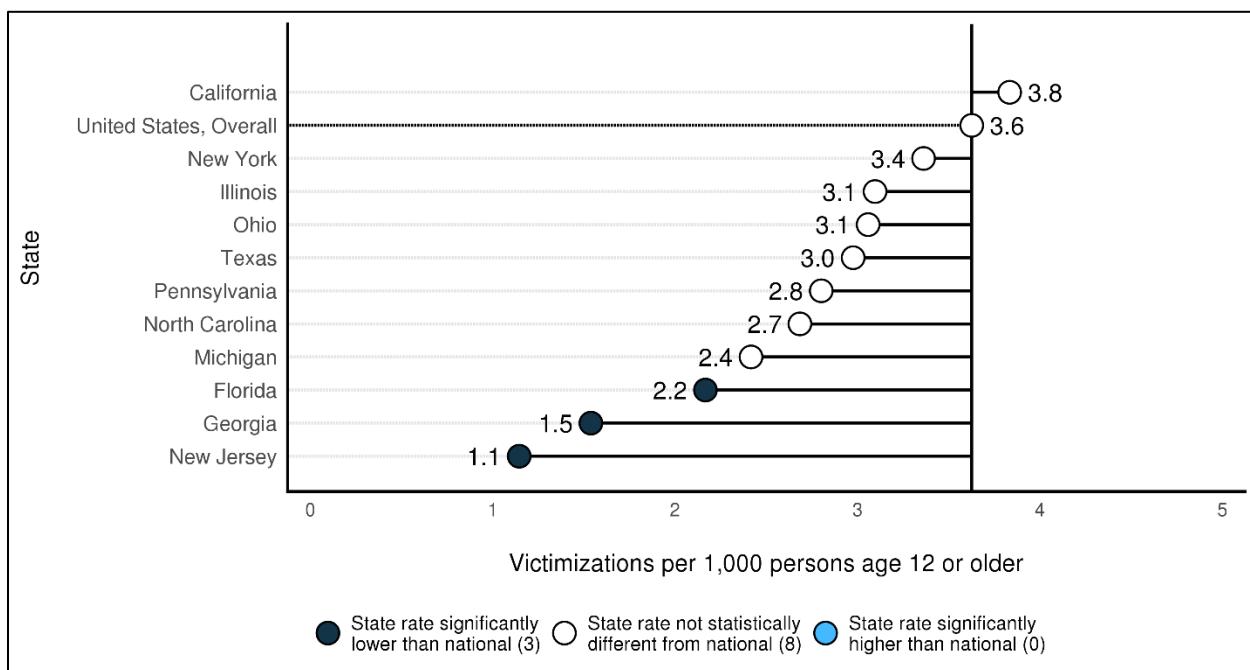
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.5 Aggravated Assault

During 2013–15, the national rate of aggravated assault victimization in the United States was 3.6 victimizations per 1,000 persons age 12 or older (*Figure 5*).

- The rate of aggravated assault victimization was lower than the national average in three states and not significantly different from the U.S. rate in eight states.
- Three states had a rate of aggravated assault victimization significantly lower than the national average: Florida (2.2 victimizations per 1,000 persons age 12 or older), Georgia (1.5 per 1,000), and New Jersey (1.1 per 1,000).
- For the United States overall, aggravated assault victimization accounted for 18% of all violent victimizations during 2013–15. In 10 of the 11 states, the percentage of violent victimizations attributed to aggravated assault differed from the national average by more than two standard deviations, ranging from 9% in Pennsylvania to 21% in Illinois (not shown).

**Figure 5. Rates of Aggravated Assault Victimization, by State, 2013–15**



Note: See appendix *Table C-5* for estimates and confidence intervals.

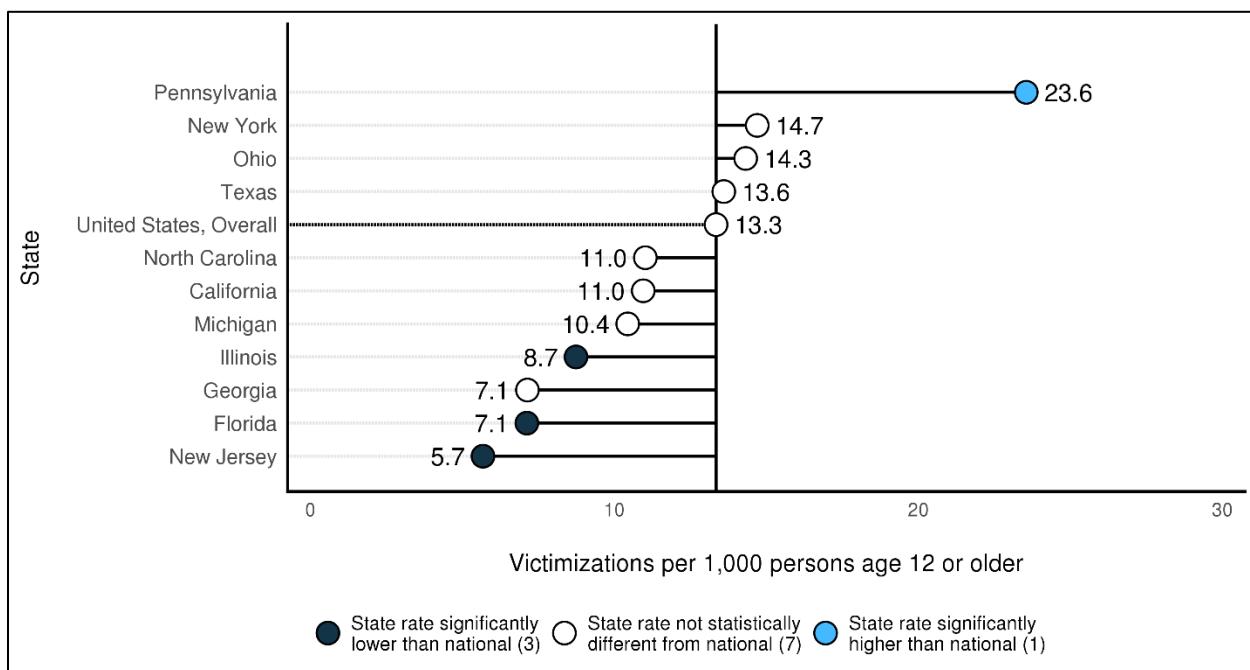
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.6 Simple Assault

During 2013–15, the national rate of simple assault victimization in the United States was 13.3 victimizations per 1,000 persons age 12 or older (*Figure 6*).

- The rate of simple assault victimization was higher than the national average in Pennsylvania, lower than the national average in three states, and not significantly different from the U.S. rate in seven states.
- Among the four states that were significantly different from the national average, the simple assault victimization rate ranged from 5.7 victimizations per 1,000 persons age 12 or older in New Jersey to 23.6 per 1,000 in Pennsylvania.
- For the United States overall, simple assault victimization accounted for 65% of all violent victimizations during 2013–15. In 8 of the 11 states, the percentage of violent victimizations attributed to simple assault differed from the national average by more than two standard deviations, ranging from 60% in California to 72% in Pennsylvania (not shown).

**Figure 6. Rates of Simple Assault Victimization, by State, 2013–15**



Note: See appendix *Table C-6* for estimates and confidence intervals.

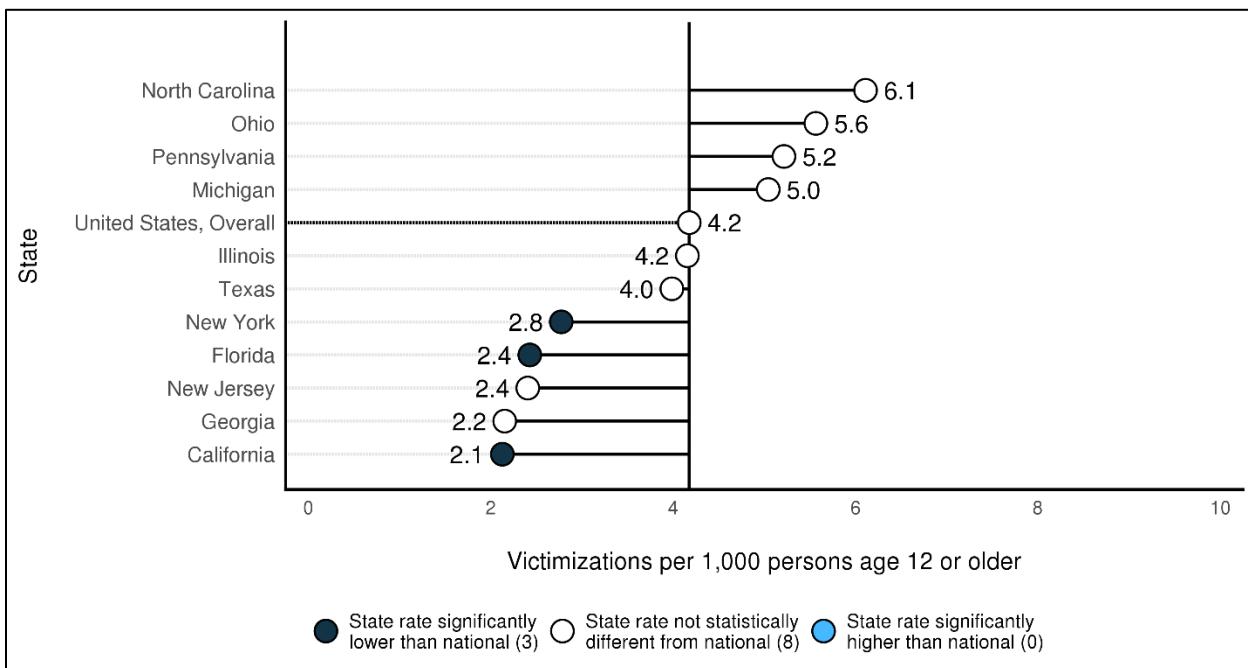
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.7 Domestic Violence

During 2013–15, the national rate of domestic violence victimization (violence committed by an intimate partner or family member) in the United States was 4.2 victimizations per 1,000 persons age 12 or older (*Figure 7*).

- The rate of domestic violence victimization was lower than the national average in three states and not significantly different from the U.S. rate in eight states.
- Three states had a significantly lower rate of domestic violence victimization than the national average: New York (2.8 victimizations per 1,000 persons age 12 or older), Florida (2.4 per 1,000), and California (2.1 per 1,000).
- For the United States overall, 20% of violent victimizations were committed by an intimate partner or other relative during 2013–15. In 8 of the 11 states, the percentage of violent victimizations committed by an intimate partner or other relative differed from the national average by more than two standard deviations, ranging from 12% in California to 35% in North Carolina (not shown).

**Figure 7. Rates of Domestic Violence Victimization, by State, 2013–15**



Note: Domestic violence includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by intimate partners (current or former spouses, boyfriends, or girlfriends) and family members. See appendix *Table C-7* for estimates and confidence intervals.

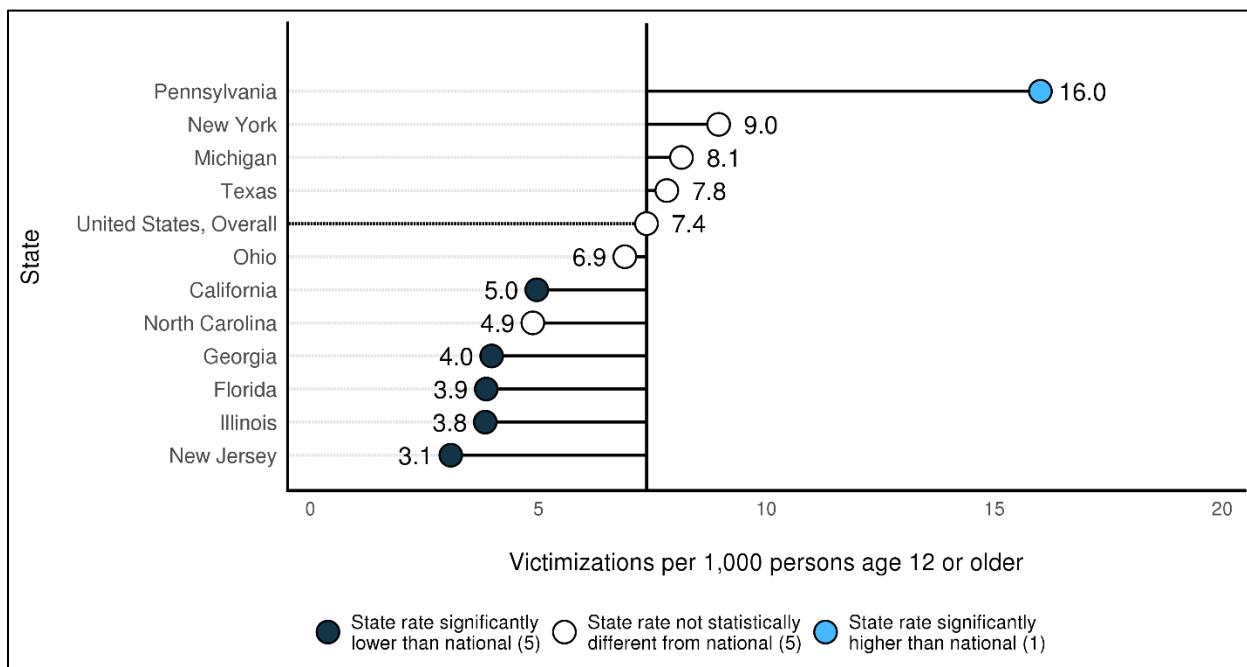
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.8 Violent Crime Committed by Other Known Offenders

During 2013–15, the national rate of violent victimization committed by an offender that was known to the victim (excluding intimate partners and other relatives) in the United States was 7.4 victimizations per 1,000 persons age 12 or older (*Figure 8*).

- The rate of violent victimization committed by other known offenders was higher than the national average in Pennsylvania, lower than the national average in five states, and not significantly different from the U.S. rate in five states.
- Among the six states that were significantly different from the national average, the rate of violent victimization committed by other known offenders ranged from 3.1 victimizations per 1,000 persons age 12 or older in New Jersey to 16.0 per 1,000 in Pennsylvania.
- For the United States overall, 36% of violent victimizations were committed by an offender that was known to the victim (excluding intimate partners and other relatives) during 2013–15. In 7 of the 11 states, the percentage of violent victimizations committed by an offender that was known to the victim differed from the national average by more than two standard deviations, ranging from 26% in Illinois to 49% in Pennsylvania (not shown).

**Figure 8. Rates of Violent Victimization Committed by Other Known Offenders, by State, 2013–15**



Note: Victimization rates include violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by offenders that are known to the victim, excluding intimate partners (current or former spouses, boyfriends, or girlfriends) and family members. See appendix *Table C-8* for estimates and confidence intervals.

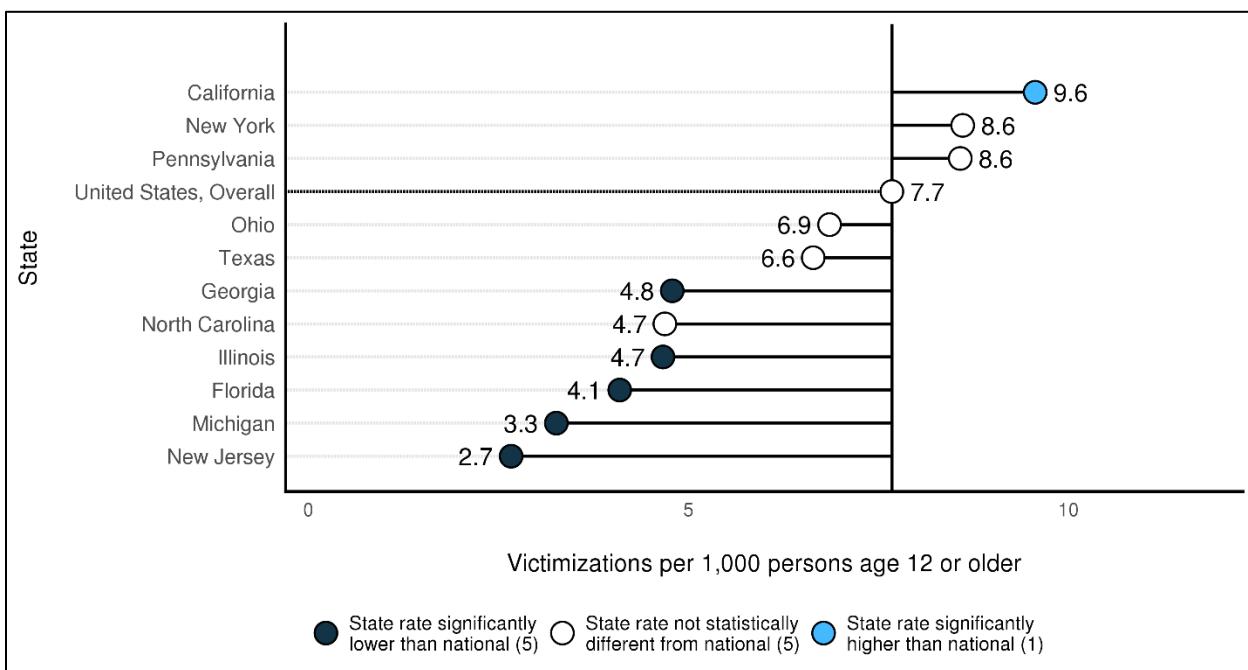
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.9 Violent Crime Committed by Strangers

During 2013–15, the national rate of violent victimization committed by strangers in the United States was 7.7 victimizations per 1,000 persons age 12 or older (*Figure 9*).

- The rate of violent victimization committed by strangers was higher than the national average in California, lower than the national average in five states, and not significantly different from the U.S. rate in five states.
- Among the six states that were significantly different from the national average, the rate of violent victimization committed by strangers ranged from 2.7 victimizations per 1,000 persons age 12 or older in New Jersey to 9.6 per 1,000 in California.
- For the United States overall, 37% of violent victimizations were committed by a stranger during 2013–15. In 9 of the 11 states, the percentage of violent victimizations committed by strangers differed from the national average by more than two standard deviations, ranging from 19% in Michigan to 52% in California (not shown).

**Figure 9. Rates of Violent Victimization Committed by Strangers, by State, 2013–15**



Note: Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-9* for estimates and confidence intervals.

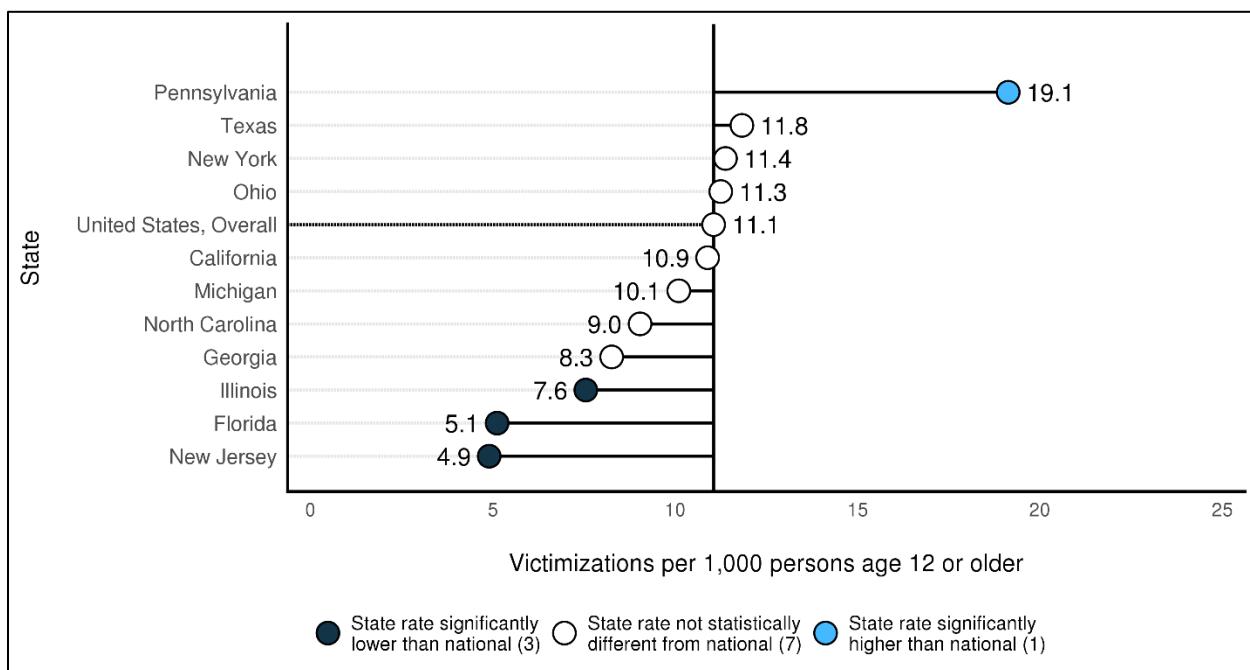
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.10 Violent Crime Occurring during the Day

During 2013–15, the national rate of violent victimization occurring during the day (from 6 a.m. to 6 p.m.) in the United States was 11.1 victimizations per 1,000 persons age 12 or older (*Figure 10*).

- The rate of violent victimizations occurring during the day was higher than the national average in Pennsylvania, lower than the national average in three states, and not significantly different from the U.S. rate in seven states.
- Among the four states that were significantly different from the national average, the rate of violent victimizations occurring during the day ranged from 4.9 victimizations per 1,000 persons age 12 or older in New Jersey to 19.1 per 1,000 in Pennsylvania.
- For the United States overall, 54% of violent victimizations occurred during the day during 2013–15. In 6 of the 11 states, the percentage of violent victimizations that occurred during the day differed from the national average by more than two standard deviations, ranging from 46% in Florida to 70% in Georgia (not shown).

**Figure 10. Rates of Violent Victimization Occurring during the Day, by State, 2013–15**



Note: Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 a.m. to 6 p.m. See appendix *Table C-10* for estimates and confidence intervals.

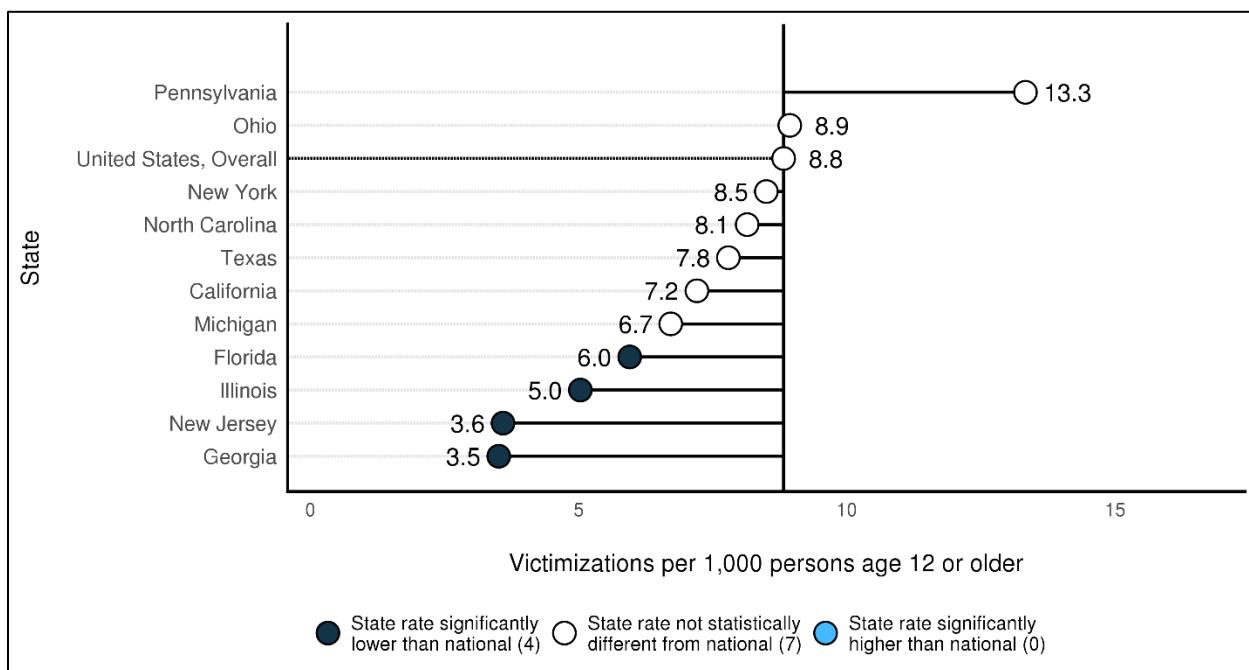
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.11 Violent Crime Occurring at Night

During 2013–15, the national rate of violent victimization occurring at night (from 6 p.m. to 6 a.m.) in the United States was 8.8 victimizations per 1,000 persons age 12 or older (*Figure 11*).

- The rate of violent victimizations occurring at night was lower than the national average in four states and not significantly different from the U.S. rate in seven states.
- Among the four states that were significantly lower than the national average, Georgia had the lowest rate (3.5 victimizations per 1,000 persons age 12 or older).
- For the United States overall, 43% of violent victimizations occurred at night during 2013–15. In 7 of the 11 states, the percentage of violent victimizations that occurred at night differed from the national average by more than two standard deviations, ranging from 30% in Georgia to 53% in Florida (not shown).

**Figure 11. Rates of Violent Victimization Occurring at Night, by State, 2013–15**



Note: Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 p.m. to 6 a.m. See appendix *Table C-11* for estimates and confidence intervals.

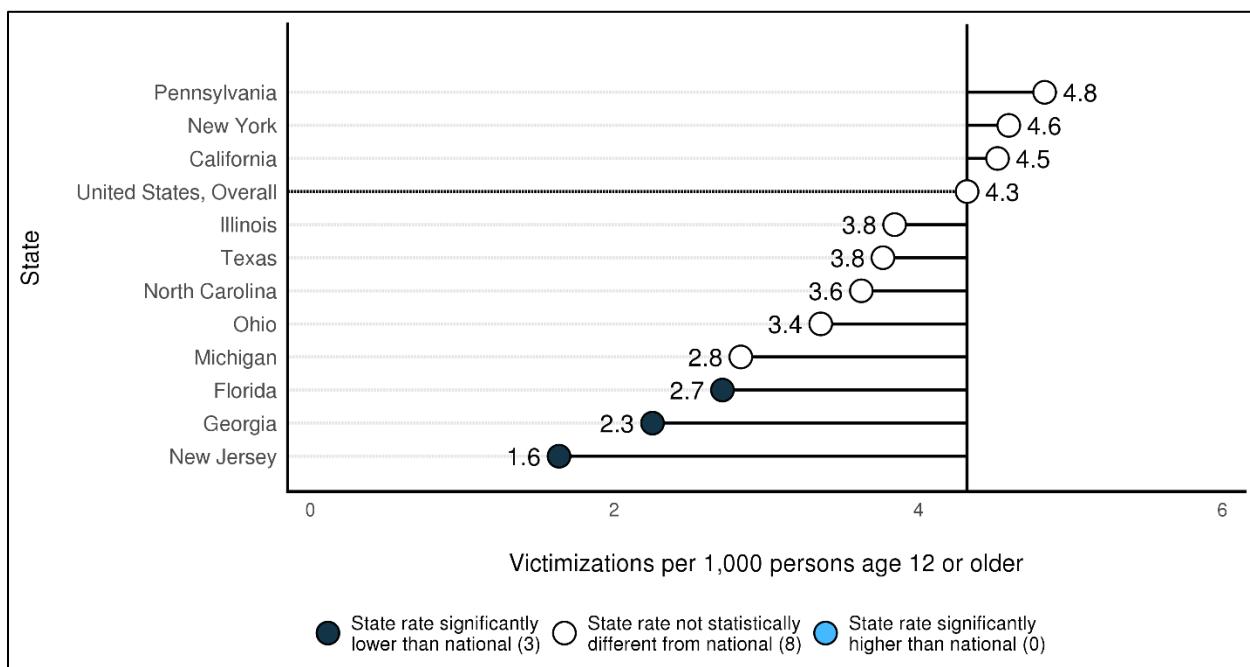
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.12 Violent Crime Involving a Weapon

During 2013–15, the national rate of violent victimization involving a weapon in the United States was 4.3 victimizations per 1,000 persons age 12 or older (*Figure 12*).

- The rate of violent victimization involving a weapon was lower than the national average in three states and not significantly different from the U.S. rate in eight states.
- Three states had significantly lower rates than the national average: Florida (2.7 victimizations per 1,000 persons age 12 or older), Georgia (2.3 per 1,000), and New Jersey (1.6 per 1,000).
- For the United States overall, 21% of violent victimizations involved a weapon during 2013–15. In 7 of the 11 states, the percentage of violent victimizations involving a weapon differed from the national average by more than two standard deviations, ranging from 15% in Pennsylvania to 26% in Illinois (not shown).

**Figure 12. Rates of Violent Victimization Involving a Weapon, by State, 2013–15**



Note: Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-12* for estimates and confidence intervals.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.13 Violent Crime, by Victim's Sex

During 2013–15, the national rate of violent victimization in the United States was 20.2 victimizations per 1,000 males age 12 or older and 21.0 per 1,000 females age 12 or older (*Table 3*).

- The rate of violent victimization for males was lower than the national average in three states and not significantly different from the U.S. rate in eight states. The rate of violent victimization for females was higher than the national average in Pennsylvania, lower than the national average in three states, and not significantly different from the U.S. rate in seven states.
- Among the states that were significantly different from the national rate, rates of violent victimization among males age 12 or older ranged from 6.7 victimizations per 1,000 in Georgia to 11.3 per 1,000 in Florida. Among females age 12 or older, rates of violent victimization ranged from 9.7 victimizations per 1,000 in New Jersey to 38.2 per 1,000 in Pennsylvania.
- In Florida and New Jersey, the rate of violent victimization was lower than the national average for both males and females. In Georgia, the rate of violent victimization was lower than the national average for males but not significantly different from the national average for females. In Illinois, the rate of violent victimization for females was lower than the national average, while the rate of violent victimization for females was higher

than the national average in Pennsylvania. In both Illinois and Pennsylvania, the rate of violent victimization for males was not significantly different from the national average.

**Table 3. Rates and 95% Confidence Intervals of Violent Victimization, by Victim's Sex and State, 2013–15**

State	Male			Female		
	Lower 95%		Upper 95%	Lower 95%		Upper 95%
	Confidence Rate	Confidence Interval	Confidence Interval	Confidence Rate	Confidence Interval	Confidence Interval
United States Overall*	20.2	18.2	22.2	21.0	18.8	23.2
California	19.4	13.4	25.5	17.4	13.7	21.0
Florida	11.3 †	7.2	15.5	11.0 †	7.5	14.6
Georgia	6.7 †	3.2	10.2	16.4	8.1	24.8
Illinois	16.5	12.0	20.9	12.9 †	8.3	17.5
Michigan	19.7	0.7	38.7	14.1	3.8	24.4
New Jersey	7.9 †	2.8	13.0	9.7 †	4.1	15.3
New York	22.4	15.9	28.9	20.9	5.3	36.6
North Carolina	17.7	8.5	26.8	17.1	9.9	24.3
Ohio	17.3	8.0	26.5	24.8	16.4	33.1
Pennsylvania	27.0	14.6	39.3	38.2 †	23.4	53.0
Texas	21.2	17.5	24.9	18.4	13.1	23.8

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.1.14 Serious Violent Crime, by Victim's Sex

During 2013–15, the national rate of serious violent victimization was 7.1 victimizations per 1,000 males age 12 or older and 7.4 per 1,000 females age 12 or older. Among the 11 states under consideration, all states except North Carolina met the sample size requirement for both males and females for inclusion in the analysis (*Table 4*).

- Among the 10 states, the rate of serious violent victimization for males was lower than the national average in three states and not significantly different from the U.S. rate in seven states. For females, the rate of serious violent victimization was lower than the national average in four states and not significantly different from the U.S. rate in six states.
- Among the states that were significantly lower than the national average, Georgia had the lowest rate for males (2.4 victimizations per 1,000 males age 12 or older), and New Jersey had the lowest rate for females (2.7 per 1,000 females age 12 or older).
- In Florida, the rate of serious violent victimization was lower than the national rate for both males and females. In Georgia and Ohio, the rate of serious violent victimization was lower than the national rate for males but not significantly different from the national average for females. In comparison, in Illinois, New Jersey, and Texas, the rate of serious

violent victimization was lower than the national average for females but not significantly different from the national average for males.

**Table 4. Rates and 95% Confidence Intervals of Serious Violent Victimization, by Victim's Sex and State, 2013–15**

State	Male			Female		
	Rate	Lower 95%	Upper 95%	Lower 95%	Upper 95%	
		Confidence Interval	Confidence Interval		Confidence Interval	Confidence Interval
United States Overall*	7.1	6.2	8.0	7.4	6.5	8.3
California	8.3	5.5	11.1	6.6	4.9	8.4
Florida	3.5 †	2.4	4.6	4.6 †	3.6	5.5
Georgia	2.4!†	0.7	4.1	6.7	4.2	9.2
Illinois	9.2	3.5	14.9	2.8 †	1.1	4.6
Michigan	6.0	2.5	9.5	6.7	0.6	12.9
New Jersey	3.6!	0.2	7.0	2.7!†	1.0	4.5
New York	9.1	4.3	14.0	4.9	2.4	7.4
Ohio	4.2 †	2.3	6.1	9.3	4.7	13.8
Pennsylvania	6.6	2.4	10.9	11.7!	-1.0	24.3
Texas	7.0	4.9	9.0	5.4 †	3.9	7.0

Note: Victimization rates are per 1,000 persons age 12 or older. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.1.15 Violent Crime by Victim's Age

During 2013–15, the national rate of violent victimization in the United States was 37.9 victimizations per 1,000 persons aged 12 to 17; 28.6 per 1,000 persons aged 18 to 24; 23.6 per 1,000 persons age 25 to 49; and 11.4 per 1,000 persons age 50 or older. Among the 11 states under consideration, all states except North Carolina met the sample size requirement for all age groups for inclusion in the analysis (*Table 5*).

- Among the 10 states, the rate of violent victimization was lower than the national average in five states for persons aged 12 to 17, two states for those aged 18 to 24, five states for those aged 25 to 49, and three states for those age 50 or older. All remaining states had rates that were not significantly different from the U.S. rate.
- Among the states that were significantly lower than the national average, Florida had the lowest rate for persons aged 12 to 17 (10.5 victimizations per 1,000) and for those age 50 or older (6.5 per 1,000), while New Jersey had the lowest rate among those age 18 to 24 (8.1 per 1,000) and those aged 25 to 49 (10.4 per 1,000).

**Table 5. Rates and 95% Confidence Intervals of Violent Victimization, by Victim's Age and State, 2013–15**

State	Aged 12–17			Age 18–24			Aged 25–49			Age 50 or Older		
	Lower 95%		Upper 95%		Lower 95%		Upper 95%		Lower 95%		Upper 95%	
	Rate	Confidence Interval	Rate	Confidence Interval	Rate	Confidence Interval	Rate	Confidence Interval	Rate	Confidence Interval	Rate	Confidence Interval
United States Overall*	37.9	30.4	45.3	28.6	24.6	32.5	23.6	21.3	25.9	11.4	9.7	13.2
California	27.5	18.0	36.9	17.4 †	11.8	22.9	22.6	16.2	28.9	11.8	8.1	15.4
Florida	10.5!†	3.0	17.9	18.4	8.8	28.0	15.1 †	8.7	21.4	6.5 †	3.7	9.4
Georgia	15.4!†	6.2	24.5	21.2	7.2	35.1	12.6 †	4.7	20.4	6.8!	-0.6	14.2
Illinois	15.5 †	9.7	21.2	17.2	6.1	28.4	14.5 †	8.8	20.2	13.8	8.9	18.7
Michigan	63.8!	-45.4	172.9	23.0!	-5.9	51.9	11.8 †	5.7	17.8	9.0!	-0.7	18.7
New Jersey	15.0!†	-1.0	31.0	8.1!†	-0.3	16.4	10.4 †	5.9	14.9	6.2	0.5	11.9
New York	23.6 †	12.5	34.8	38.3	9.1	67.4	16.7	8.8	24.7	21.2	10.5	31.9
Ohio	65.3	25.2	105.3	24.3	12.3	36.4	25.6	17.7	33.5	6.6 †	3.8	9.3
Pennsylvania	56.8	27.0	86.6	56.3	22.9	89.7	36.4	21.4	51.4	19.0	2.9	35.1
Texas	57.4	27.6	87.2	20.1	10.0	30.3	20.3	15.6	25.0	7.6 †	6.4	8.7

Note: Victimization rates are per 1,000 persons per age group. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## **2.1.16 Violent Crime, by Victim's Race and Hispanic Origin**

During 2013–15, the national rate of violent victimization in the United States was 19.9 victimizations per 1,000 for non-Hispanic whites age 12 or older, 23.4 victimizations per 1,000 for non-Hispanic blacks age 12 or older, and 19.2 victimizations per 1,000 for Hispanics age 12 or older. Among the 11 states under consideration, all states except North Carolina and New Jersey met the sample size requirement for all race and Hispanic origin groups for inclusion in the analysis (*Table 6*).

- Among the nine states, the rate of violent victimization committed against non-Hispanic whites age 12 or older was higher than the national average in Pennsylvania, lower than the national average in three states, and not significantly different from the U.S. rate in five states. The rate of violent victimization committed against non-Hispanic blacks age 12 or older was significantly lower than the national average in Florida and not significantly different from the U.S. rate in eight states. The rate of violent victimization committed against Hispanics age 12 or older was lower than the national average in two states and not significantly different from the U.S. rate in seven states.
- Among the states that were significantly different from the national average, Georgia had the lowest rate among non-Hispanic whites (8.4 victimizations per 1,000) and non-Hispanic blacks (7.3 per 1,000), while Florida had the lowest rate among Hispanics (7.7 per 1,000). Pennsylvania had a violent victimization rate that was significantly higher than the national rate among non-Hispanic whites (32.7 per 1,000).
- In Florida, the rate of violent victimization was significantly lower than the national average for non-Hispanic whites, non-Hispanic blacks, and Hispanics age 12 or older. In Illinois, the rate of violent victimization was lower than the national rate for non-Hispanic whites and Hispanics but not significantly different from the national average for non-Hispanic blacks.

**Table 6. Rates and 95% Confidence Intervals of Violent Victimization, by Victim's Race and Hispanic Origin and State, 2013–15**

State	Non-Hispanic White			Non-Hispanic Black			Hispanic		
	Rate	Lower 95%	Upper 95%	Rate	Lower 95%	Upper 95%	Rate	Lower 95%	Upper 95%
		Confidence Interval	Confidence Interval		Confidence Interval	Confidence Interval		Confidence Interval	Confidence Interval
United States Overall*	19.9	18.0	21.9	23.4	19.8	26.9	19.2	16.2	22.2
California	16.9	13.9	20.0	19.0	11.1	27.0	21.4	13.7	29.1
Florida	12.6 †	8.0	17.1	7.3 †	2.4	12.2	7.7 †	4.9	10.4
Georgia	8.4 †	3.6	13.3	20.7	12.2	29.1	7.8!	-3.9	19.5
Illinois	10.8 †	4.8	16.8	25.6	10.1	41.1	13.0 †	7.9	18.2
Michigan	17.1	3.6	30.7	19.5	9.4	29.5	14.9!	-2.3	32.1
New York	23.4	8.3	38.4	19.0	11.8	26.1	21.7	14.0	29.5
Ohio	17.6	12.0	23.2	32.4	14.3	50.5	20.6!	-2.6	43.7
Pennsylvania	32.7 †	21.9	43.6	33.9	1.5	66.2	30.1	2.6	57.6
Texas	22.0	17.8	26.2	20.3	5.6	34.9	16.5	7.5	25.6

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## **2.2 Trends in States Compared with National Victimization Rates**

The following tables and figures present 3-year rolling averages of criminal victimization rates in the 11 largest states and for the United States overall for each of the crime types and analysis domains presented in *Table 2* from 2008 to 2015.<sup>5</sup> A test of whether the linear trend for each state is significantly different from the national-level trend ( $\alpha=0.05$ ) is also noted. This was accomplished by calculating the difference between the national- and state-level rates for each year from 2008 to 2015. A linear regression model was then fit with the differences between the national and state rates as the dependent variable and year as the independent variable. If the effect of year, as measured by the slope of the regression line, is significantly greater than zero, this indicates that state-level victimization rates are increasing relative to the national-level trend. Similarly, a slope that is significantly less than zero indicates that state-level victimization rates are decreasing relative to the national-level trend. The significance of the trend line for each state is measured relative to the national-level trend and does not indicate whether the victimization rate within a given state is increasing, decreasing, or unchanged. For additional details on significance testing in this report, see *Section 4.3.2*. *Appendix C* provides estimates and standard errors (SEs).

### **2.2.1 Violent Crime**

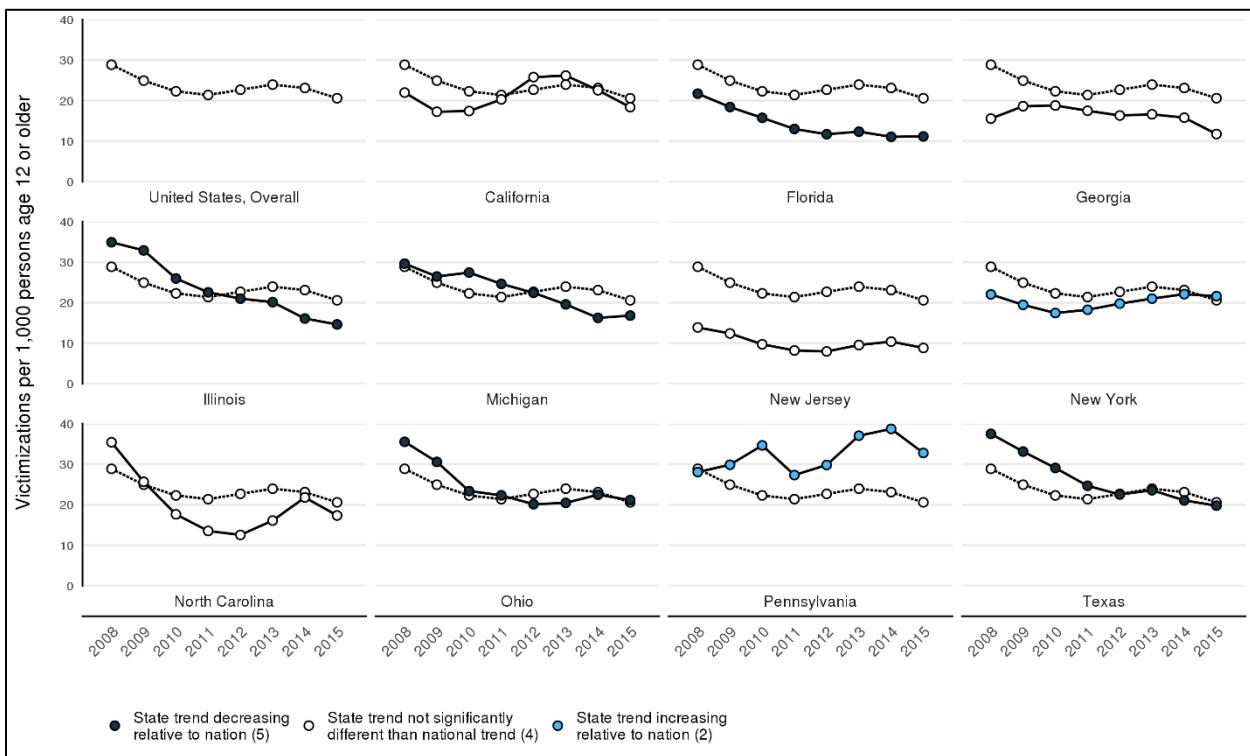
For the United States as a whole, the slope of the violent victimization rate trend line (i.e., the rate of change) was not significantly different from zero ( $p$ -value=0.058) from 2008 to 2015 for persons age 12 or older (*Figure 13*).

- Rates of violent victimization for persons age 12 or older increased relative to the national trend in two states (New York and Pennsylvania), decreased relative to the national trend in five states (Florida, Illinois, Michigan, Ohio, and Texas), and were not significantly different from the national trend in the remaining four states.

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<sup>5</sup> The 3-year sample size did not meet the ESS requirement for the following crime types and states and were omitted from the analysis: serious violent crime by victim's sex (North Carolina); violent crime by victim's age (North Carolina); and violent crime by victim's race and Hispanic origin (North Carolina and New Jersey).

**Figure 13. Trends in Rates of Violent Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-13* for estimates and SEs.

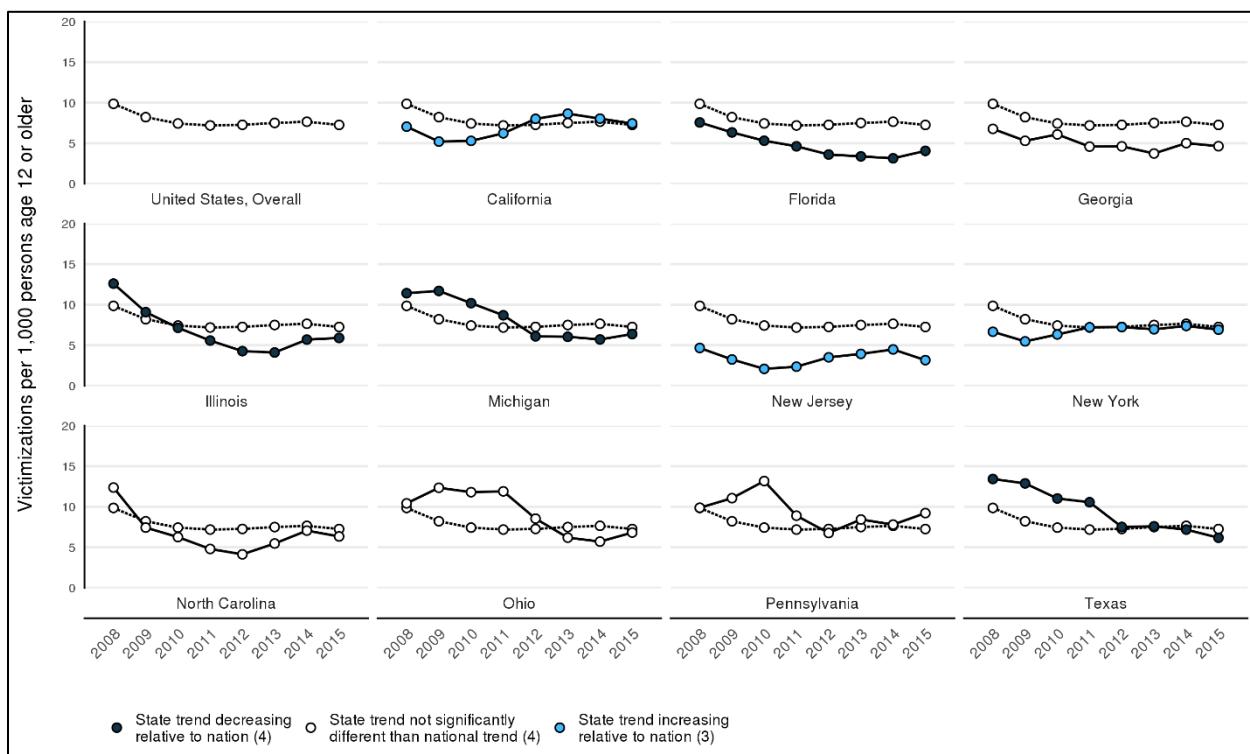
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.2 Serious Violent Crime

For the United States as a whole, the slope of the serious violent victimization rate trend line was not significantly different from zero ( $p$ -value=0.066) from 2008 to 2015 for persons age 12 or older (*Figure 14*).

- Rates of serious violent victimization for persons age 12 or older increased relative to the national trend in three states (California, New Jersey, and New York), decreased relative to the national trend in four states (Florida, Illinois, Michigan, and Texas), and were not significantly different from the national trend in the remaining four states.

**Figure 14. Trends in Rates of Serious Violent Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault. See appendix *Table C-14* for estimates and SEs.

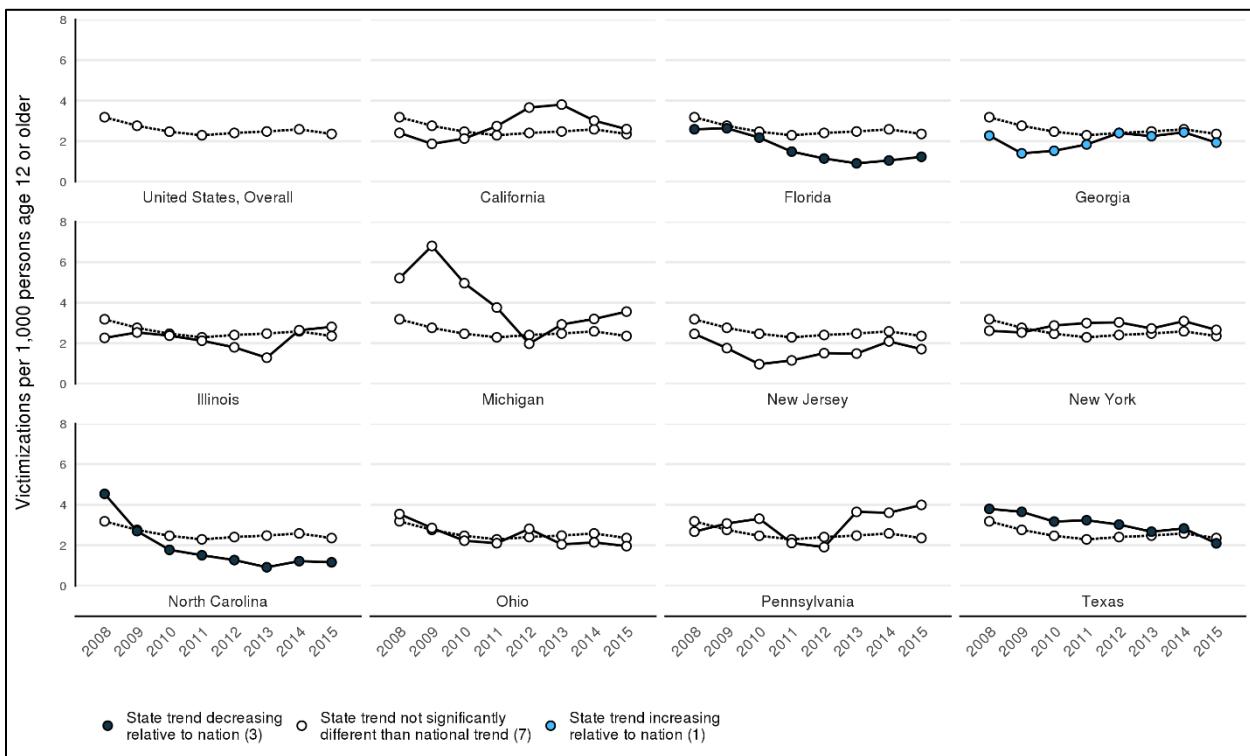
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.3 Robbery

For the United States as a whole, the slope of the robbery victimization rate trend line was not significantly different from zero ( $p$ -value=0.075) from 2008 to 2015 for persons age 12 or older (*Figure 15*).

- Rates of robbery victimization for persons age 12 or older increased relative to the national trend in Georgia, decreased relative to the national trend in three states (Florida, North Carolina, and Texas), and were not significantly different from the national trend in the remaining seven states.

**Figure 15. Trends in Rates of Robbery Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. See appendix *Table C-15* for estimates and SEs.

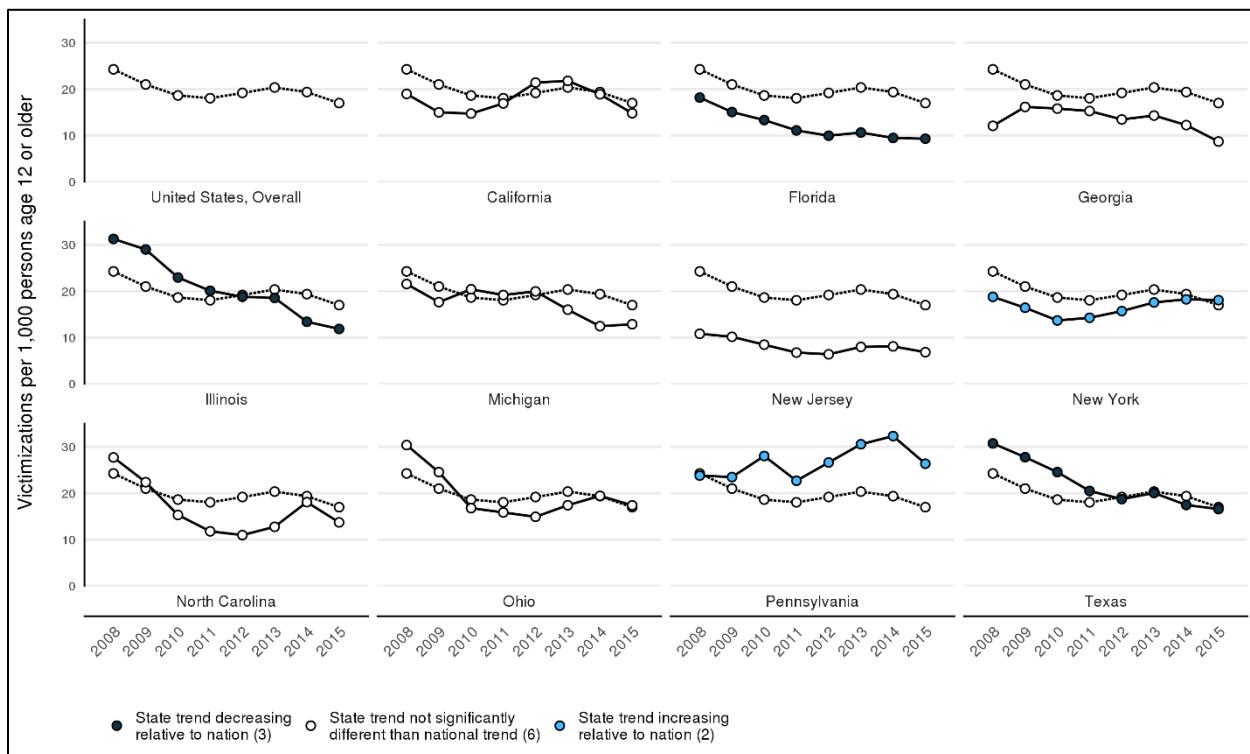
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.4 Assault

For the United States as a whole, the slope of the assault victimization rate trend line was not significantly different from zero ( $p$ -value=0.057) from 2008 to 2015 for persons age 12 or older (*Figure 16*).

- Rates of assault victimization for persons age 12 or older increased relative to the national trend in two states (New York and Pennsylvania), decreased relative to the national trend in three states (Florida, Illinois, and Texas), and were not significantly different from the national trend in the remaining six states.

**Figure 16. Trends in Rates of Assault Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Assault includes aggravated assault and simple assault. See appendix **Table C-16** for estimates and SEs.

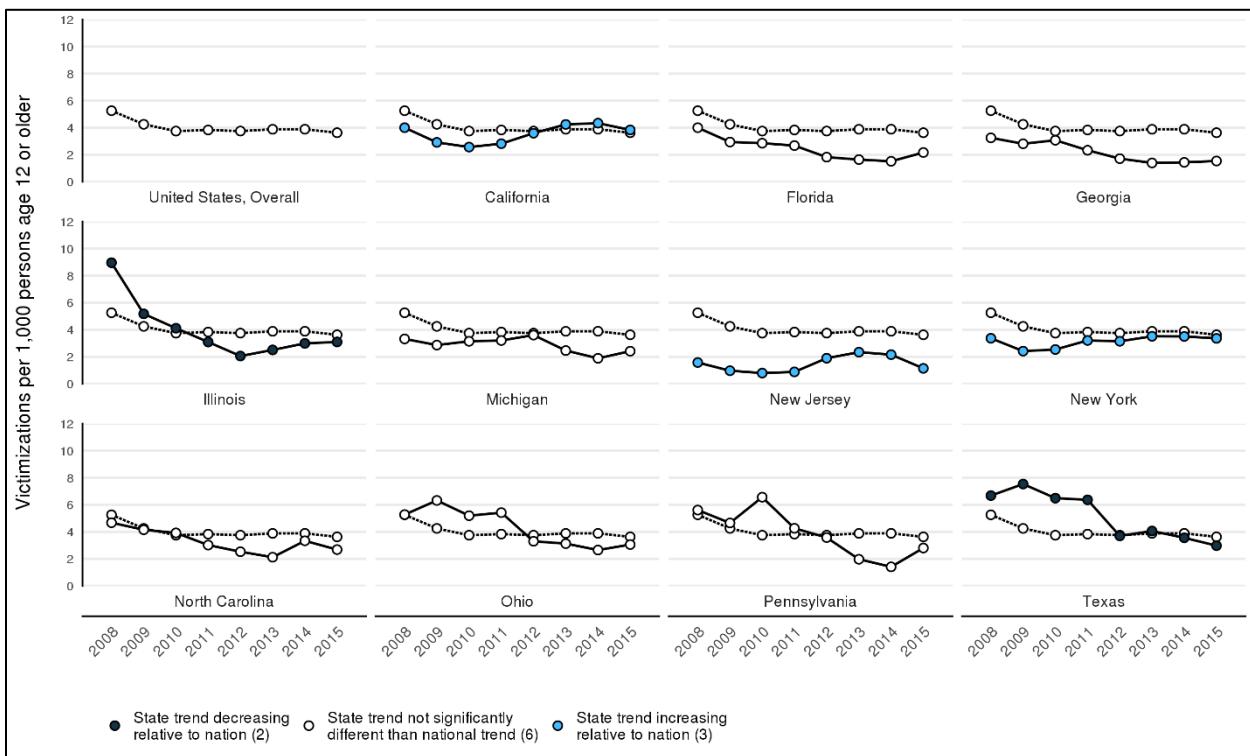
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.5 Aggravated Assault

For the United States as a whole, the slope of the aggravated assault victimization rate trend line was significantly less than zero ( $p\text{-value}=0.048$ ) from 2008 to 2015 for persons age 12 or older (**Figure 17**).

- Rates of aggravated assault victimization for persons age 12 or older increased relative to the national trend in three states (California, New Jersey, and New York), decreased relative to the national trend in two states (Illinois and Texas), and were not significantly different from the national trend in the remaining six states.

**Figure 17. Trends in Rates of Aggravated Assault Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. See appendix *Table C-17* for estimates and SEs.

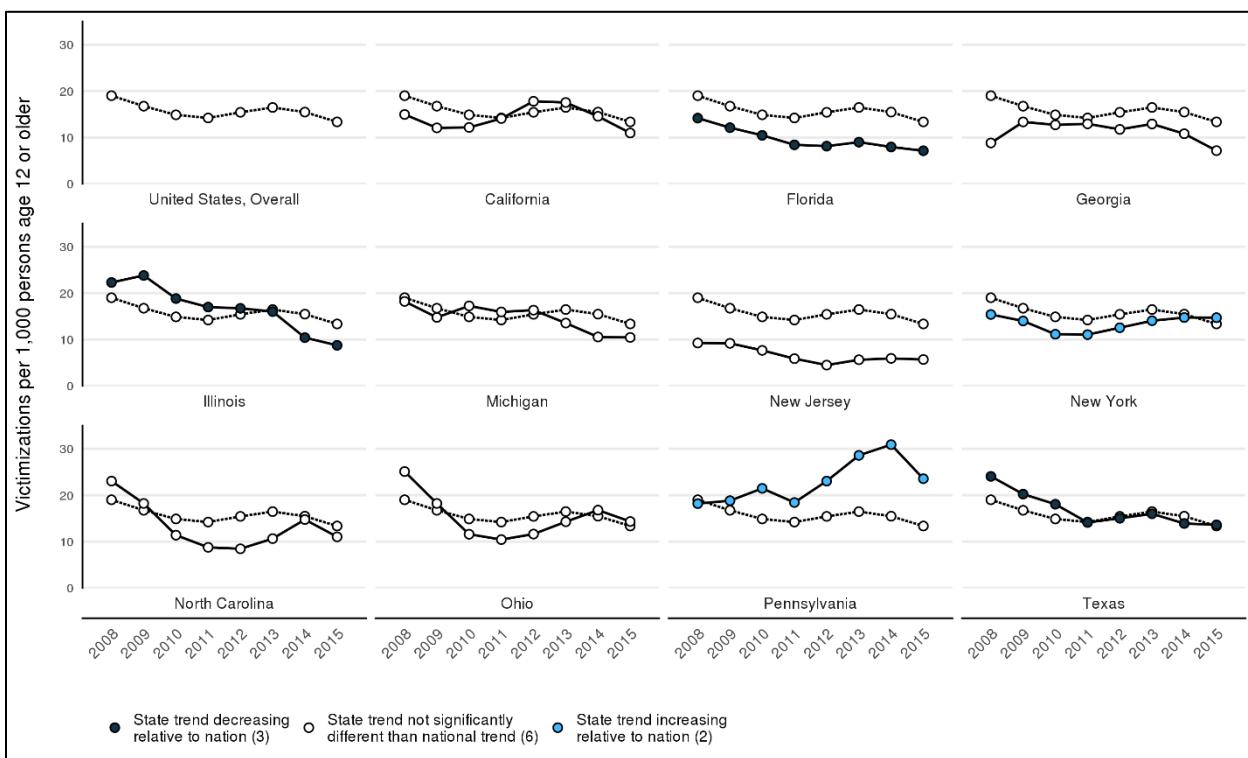
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.6 Simple Assault

For the United States as a whole, the slope of the simple assault victimization rate trend line was not significantly different from zero ( $p$ -value=0.069) from 2008 to 2015 for persons age 12 or older (*Figure 18*).

- Rates of simple assault victimization for persons age 12 or older increased relative to the national trend in two states (New York and Pennsylvania), decreased relative to the national trend in three states (Florida, Illinois, and Texas), and were not significantly different from the national trend in the remaining six states.

**Figure 18. Trends in Rates of Simple Assault Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. See appendix **Table C-18** for estimates and SEs.

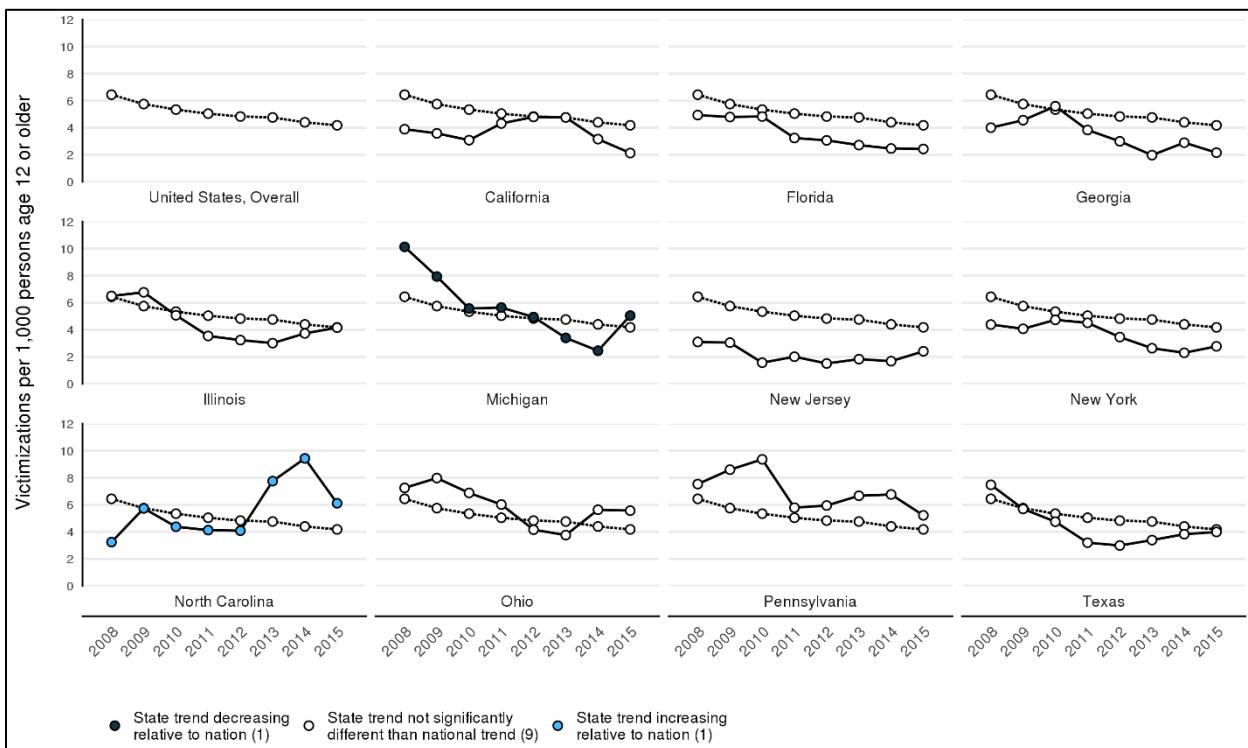
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.7 Domestic Violence

For the United States as a whole, the slope of the domestic violence victimization rate trend line was significantly less than zero ( $p$ -value < 0.0001) from 2008 to 2015 for persons age 12 or older (**Figure 19**).

- Rates of domestic violence victimization for persons age 12 or older increased relative to the national trend in North Carolina, decreased relative to the national trend in Michigan, and were not significantly different from the national trend in the remaining nine states.

**Figure 19. Trends in Rates of Domestic Violence Victimization, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Domestic violence includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by intimate partners (current or former spouses, boyfriends, or girlfriends) and family members. See appendix *Table C-19* for estimates and SEs.

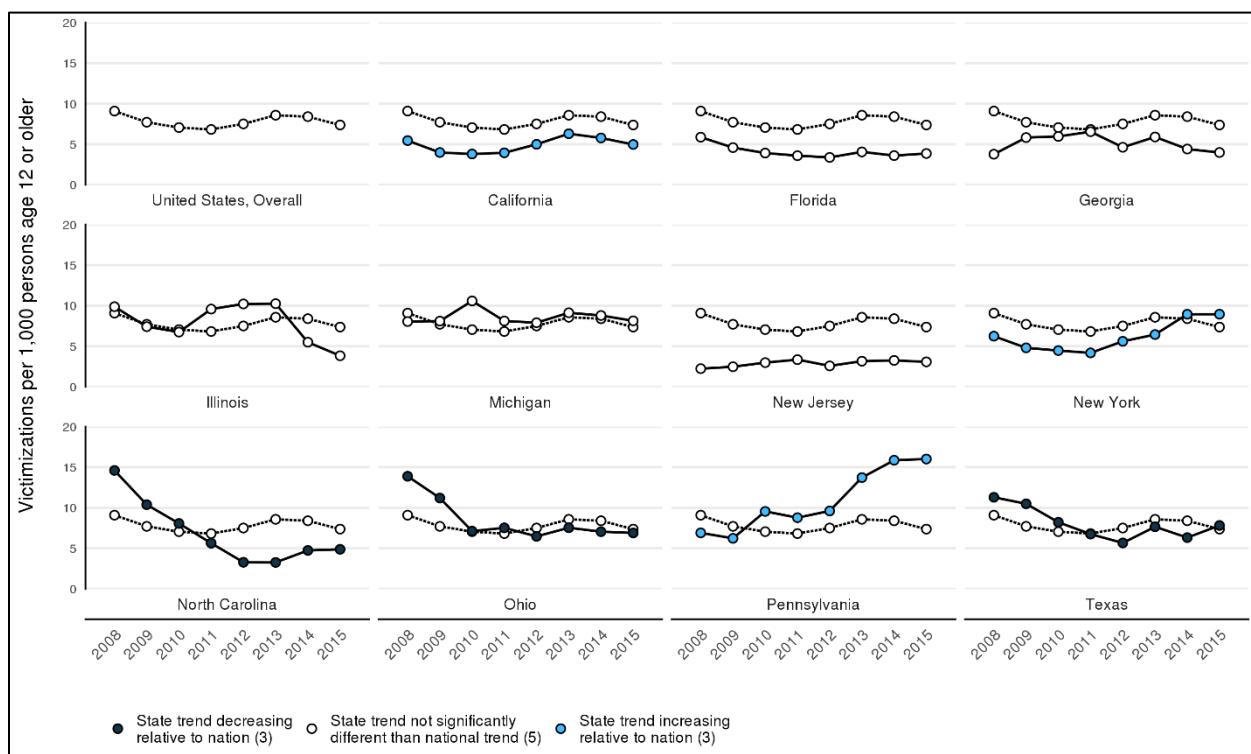
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.8 Violent Crime Committed by Other Known Offenders

For the United States as a whole, the slope of the trend line for violent victimization committed by an offender that was known to the victim (excluding intimate partners and other relatives) was not significantly different from zero ( $p\text{-value}=0.774$ ) from 2008 to 2015 for persons age 12 or older (*Figure 20*).

- Rates of violent victimization committed by an offender that was known to the victim (excluding intimate partners and other relatives) increased relative to the national trend in three states (California, New York, and Pennsylvania), decreased relative to the national trend in three states (North Carolina, Ohio, and Texas), and were not significantly different from the national trend in the remaining five states for persons age 12 or older.

**Figure 20. Trends in Rates of Violent Victimization Committed by Other Known Offenders, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Victimization rates include violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by offenders that are known to the victim, excluding intimate partners (current or former spouses, boyfriends, or girlfriends) and family members. See appendix *Table C-20* for estimates and SEs.

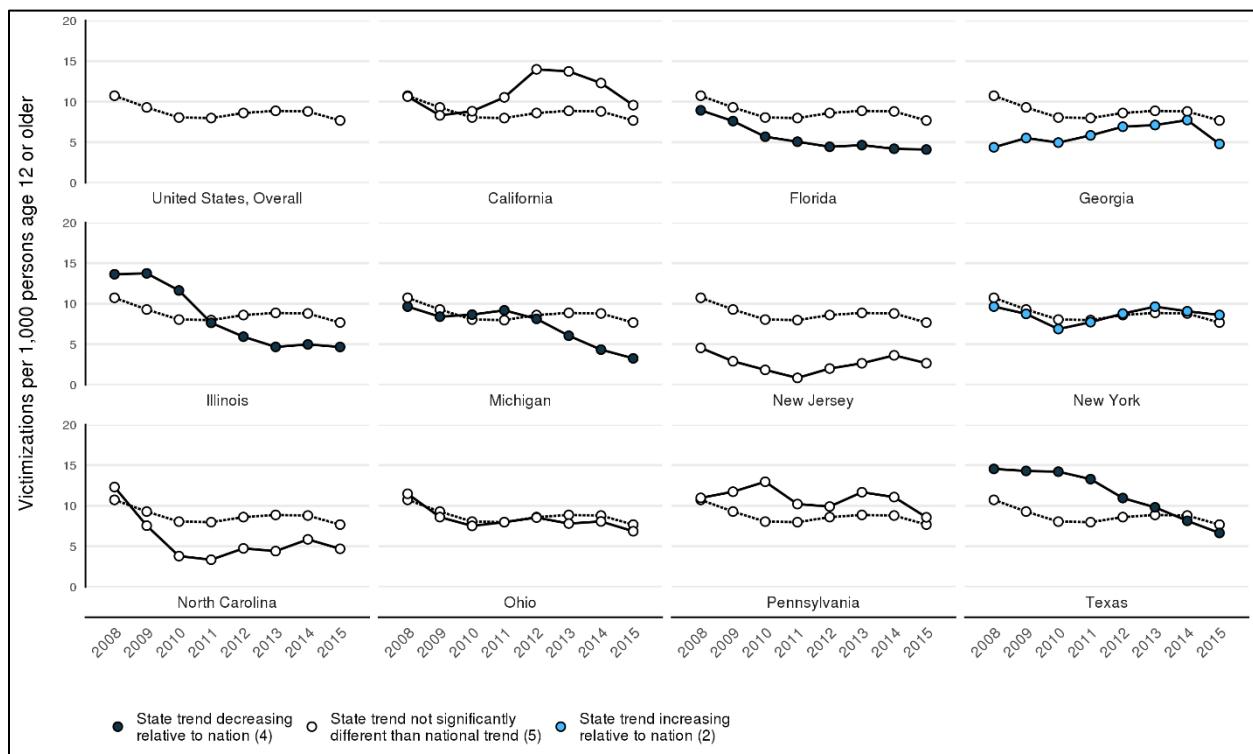
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.9 Violent Crime Committed by Strangers

For the United States as a whole, the slope of the trend line for violent victimization committed by strangers was not significantly different from zero ( $p$ -value=0.096) from 2008 to 2015 for persons age 12 or older (*Figure 21*).

- Rates of violent victimization committed by strangers increased relative to the national trend in two states (Georgia and New York), decreased relative to the national trend in four states (Florida, Illinois, Michigan, and Texas), and were not significantly different from the national trend in the remaining five states for persons age 12 or older.

**Figure 21. Trends in Rates of Violent Victimization Committed by Strangers, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-21* for estimates and SEs.

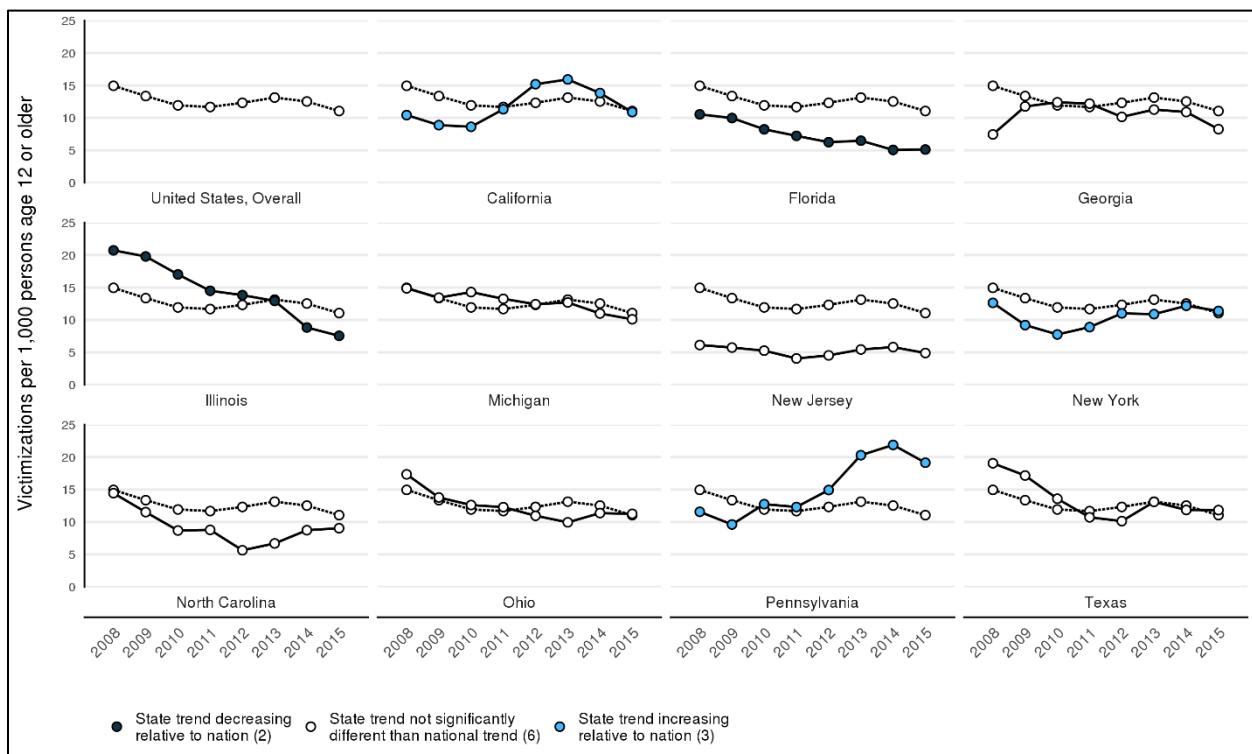
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.10 Violent Crime Occurring during the Day

For the United States as a whole, the slope of the trend line for violent victimization occurring during the day (from 6 a.m. to 6 p.m.) was not significantly different from zero ( $p$ -value=0.076) from 2008 to 2015 for persons age 12 or older (*Figure 22*).

- Rates of violent victimization occurring during the day increased relative to the national trend in three states (California, New York, and Pennsylvania), decreased relative to the national trend in two states (Florida and Illinois), and were not significantly different from the national trend in the remaining six states for persons age 12 or older.

**Figure 22. Trends in Rates of Violent Victimization Occurring during the Day, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 a.m. to 6 p.m. See appendix **Table C-22** for estimates and SEs.

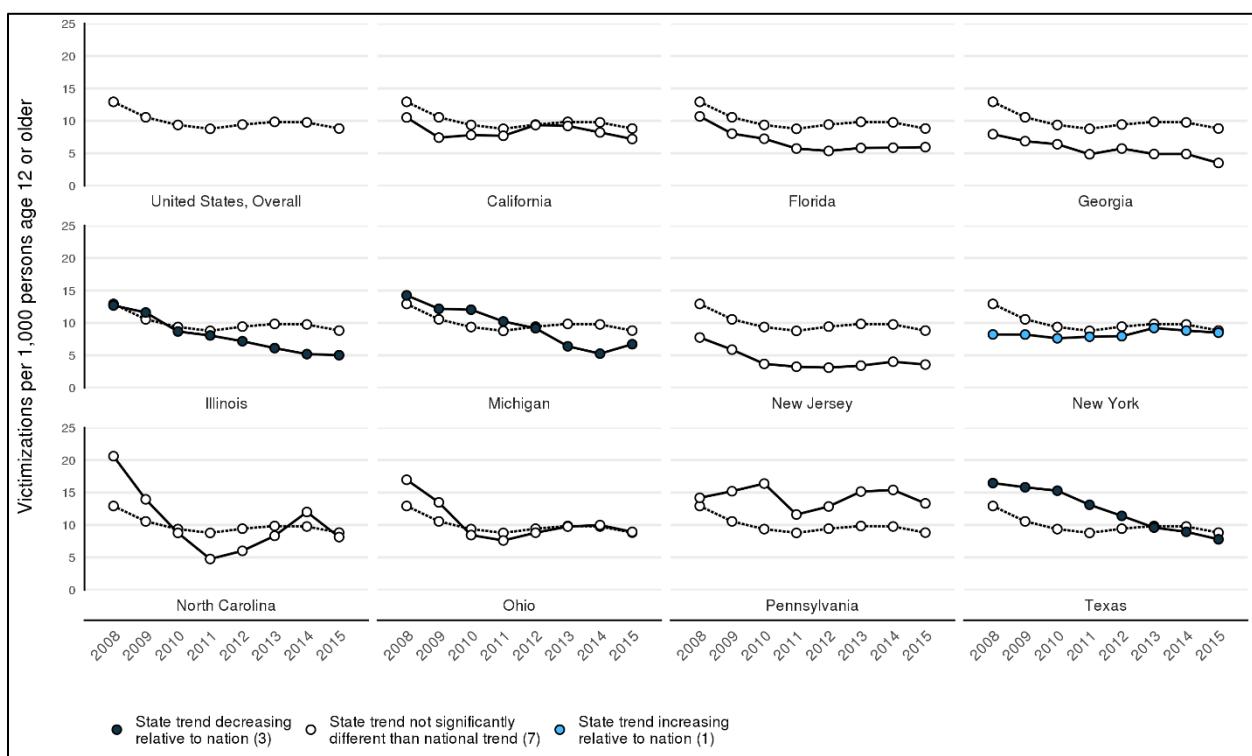
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.2.11 Violent Crime Occurring at Night

For the United States as a whole, the slope of the trend line for violent victimization occurring at night (from 6 p.m. to 6 a.m.) was not significantly different from zero ( $p$ -value=0.071) from 2008 to 2015 for persons age 12 or older (**Figure 23**).

- Rates of violent victimization occurring at night increased relative to the national trend in New York, decreased relative to the national trend in three states (Illinois, Michigan, and Texas), and were not significantly different from the national trend in the remaining seven states for persons age 12 or older.

**Figure 23. Trends in Rates of Violent Victimization Occurring at Night, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 p.m. to 6 a.m. See appendix *Table C-23* for estimates and SEs.

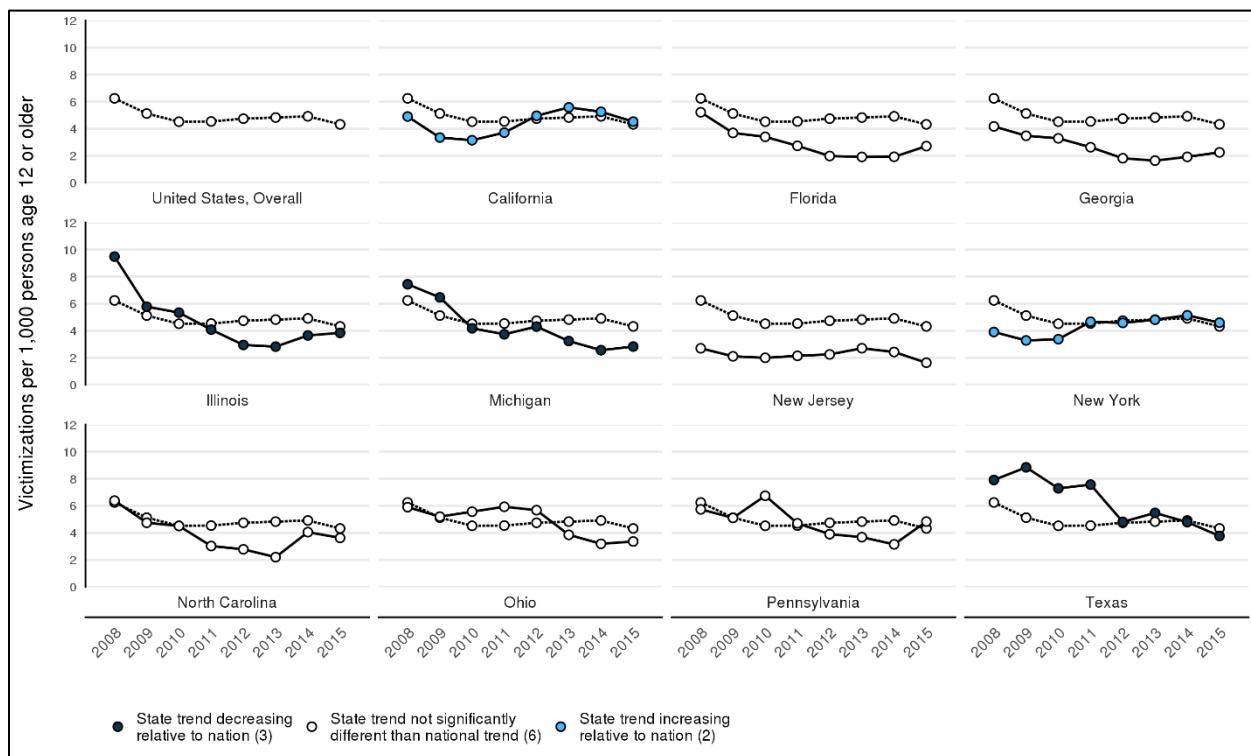
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.12 Violent Crime Involving a Weapon

For the United States as a whole, the slope of the trend line for violent victimizations involving a weapon was not significantly different from zero ( $p$ -value=0.080) from 2008 to 2015 for persons age 12 or older (*Figure 24*).

- Rates of violent victimization involving a weapon increased relative to the national trend in two states (California and New York), decreased relative to the national trend in three states (Illinois, Michigan, and Texas), and were not significantly different from the national trend in the remaining six states for persons age 12 or older.

**Figure 24. Trends in Rates of Violent Victimization Involving a Weapon, by State, 2008–15**



Note: Based on 3-year rolling averages, centered on the most recent year. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-24* for estimates and SEs.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 2.2.13 Violent Crime, by Victim's Sex

For the United States as a whole, the violent victimization rate trend line was not significantly different from zero for males age 12 or older ( $p$ -value=0.064) or females age 12 or older ( $p$ -value=0.078) from 2008 to 2015 (*Tables 7* and *8*).

- Rates of violent victimization committed against males age 12 or older increased relative to the national trend in New York, decreased relative to the national trend in two states (Illinois and Texas), and were not significantly different from the national trend in the remaining eight states. For females age 12 or older, rates of violent victimization increased relative to the national trend in three states (California, Georgia, and Pennsylvania), decreased relative to the national trend in three states (Florida, Michigan, and Texas), and were not significantly different from the national trend in the remaining five states.

**Table 7. Rates and SEs of Violent Victimization Committed against Males, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States																
Overall*	31.6	1.4	26.6	1.2	23.1	1.2	22.6	1.0	24.9	1.1	26.1	1.2	24.6	1.3	20.2	1.0
California	26.8	3.9	21.6	2.1	21.4	2.8	24.4	4.2	29.3	3.9	26.8	2.9	23.2	2.1	19.4	3.1
Florida	20.4	3.1	16.9	2.5	15.1	2.6	13.0	1.6	12.2	1.1	14.5	2.2	13.2	1.9	11.3	2.1
Georgia	15.7	5.6	22.2	5.4	21.5	4.5	20.5	3.5	14.0	2.4	12.0	2.2	8.4	1.7	6.7	1.8
Illinois †	48.4	11.8	42.1	10.6	29.3	7.4	20.3	2.8	17.1	2.8	17.7	2.6	18.1	2.1	16.5	2.3
Michigan	23.4	4.9	24.2	5.6	29.1	6.6	26.3	5.2	21.7	4.8	23.1	8.7	20.0	9.7	19.7	9.7
New Jersey	15.3	3.0	14.3	4.4	12.7	4.7	10.8	3.2	10.9	3.2	12.7	3.0	11.7	3.3	7.9	2.6
New York †	22.5	2.8	21.1	2.4	16.9	2.7	19.3	2.7	24.8	1.5	26.8	1.7	27.8	3.0	22.4	3.3
North Carolina	43.0	18.8	22.6	9.7	15.1	1.7	9.6	1.8	11.7	2.6	11.4	3.2	21.0	5.4	17.7	4.7
Ohio	39.2	4.4	27.8	3.3	18.8	3.2	15.0	2.8	17.6	2.4	18.4	2.1	21.5	5.0	17.3	4.7
Pennsylvania	35.1	7.4	31.9	14.4	40.8	14.3	31.8	7.3	37.5	12.9	40.4	14.6	37.6	12.2	27.0	6.3
Texas †	41.0	7.1	36.0	6.3	32.7	6.6	33.6	4.7	31.1	6.2	30.4	3.3	24.1	3.0	21.2	1.9

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 8. Rates and SEs of Violent Victimization Committed against Females, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	26.3	1.1	23.4	1.1	21.6	1.2	20.2	1.2	20.6	1.1	22.0	1.0	21.7	1.0	21.0	1.1
California †	17.3	1.7	13.1	1.9	13.6	2.3	16.3	2.4	22.4	2.2	25.6	2.0	22.0	1.7	17.4	1.9
Florida †	23.0	3.1	19.8	1.9	16.4	2.3	13.1	1.9	11.3	2.2	10.4	1.8	9.1	1.5	11.0	1.8
Georgia †	15.5	2.6	15.3	2.6	16.3	2.8	14.8	3.5	18.5	4.2	20.9	3.6	22.6	4.1	16.4	4.3
Illinois	22.1	4.1	24.2	5.1	22.9	6.4	24.7	7.5	24.7	9.1	22.5	9.3	14.2	2.7	12.9	2.4
Michigan †	35.5	6.7	28.6	6.6	25.9	9.7	23.1	7.9	23.1	6.8	16.3	5.4	12.8	2.8	14.1	5.2
New Jersey	12.6	3.5	10.7	3.2	7.0	1.0	5.8	1.2	5.3	1.1	6.7	2.9	9.2	2.5	9.7	2.9
New York	21.6	3.3	18.0	3.2	18.0	3.2	17.4	2.9	15.2	1.7	15.7	4.8	16.9	6.6	20.9	8.0
North Carolina	28.3	5.4	28.5	8.6	20.0	5.6	17.2	5.8	13.4	3.1	20.4	5.4	22.5	4.5	17.1	3.7
Ohio	32.1	6.0	33.1	7.0	27.7	8.1	29.1	9.2	22.5	5.0	22.4	3.6	23.4	3.7	24.8	4.3
Pennsylvania †	21.6	3.3	28.0	8.4	29.0	8.4	23.2	6.6	22.7	6.1	33.8	8.3	39.7	8.3	38.2	7.5
Texas †	34.1	4.0	30.3	3.5	25.5	4.0	16.1	2.1	14.4	0.9	17.0	1.2	18.2	2.1	18.4	2.7

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.14 Serious Violent Crime, by Victim's Sex

For the United States as a whole, the serious violent victimization rate trend line was not significantly different from zero for males age 12 or older ( $p$ -value=0.186) and significantly less than zero for females age 12 or older ( $p$ -value=0.040) from 2008 to 2015. Among the 11 states under consideration, all states except North Carolina met the sample size requirement to include both males and females in the analysis (**Tables 9 and 10**).

- Among the 10 states, rates of serious violent victimization committed against males age 12 or older increased relative to the national trend in three states (California, New Jersey, and New York), decreased relative to the national trend in two states (Ohio and Texas), and were not significantly different from the national trend in the remaining five states. For females age 12 or older, rates of serious violent victimization increased relative to the national trend in California, decreased relative to the national trend in four states (Florida, Illinois, Michigan, and Texas), and were not significantly different from the national trend in the remaining five states.

**Table 9. Rates and SEs of Serious Violent Victimization Committed against Males, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	10.3	0.7	8.4	0.5	7.3	0.4	7.4	0.4	7.9	0.5	8.3	0.5	8.5	0.6	7.1	0.5
California †	8.8	1.3	7.4	1.1	6.5	1.1	7.8	0.9	9.8	1.0	10.3	1.2	9.5	1.2	8.3	1.4
Florida	6.4	0.8	6.2	1.5	5.0	1.5	4.1	1.3	2.7	0.6	2.7	0.5	2.5	0.6	3.5	0.6
Georgia	5.8	1.9	4.5	1.8	5.8	1.8	4.3!	0.7	4.5!	1.2	3.5!	0.6	3.0!	1.1	2.4!	0.9
Illinois	17.2	6.1	10.7	3.5	8.2	2.0	7.6	1.3	5.5	1.2	6.7	1.9	9.0	2.8	9.2	2.9
Michigan	5.2	2.2	8.3	4.0	12.2	4.1	11.8	4.2	8.0	2.4	7.4	1.3	6.7	2.1	6.0	1.8
New Jersey †	5.3!	1.3	3.3!	0.8	2.8!	0.8	2.4!	1.3	4.2!	1.6	4.8!	1.1	5.9	2.0	3.6!	1.7
New York †	8.5	1.6	8.2	1.3	7.9	1.3	8.1	1.6	8.9	1.0	9.4	0.7	10.9	2.7	9.1	2.5
Ohio †	9.6	1.6	8.5	1.7	6.9	1.6	6.1	1.6	5.4	1.4	4.0	1.4	4.1	0.9	4.2	1.0
Pennsylvania	9.0	3.8	8.5	3.3	12.2	3.2	8.4	2.5	7.8	2.8	7.0	2.3	6.1	2.1	6.6	2.2
Texas †	16.8	4.7	15.3	3.6	12.7	2.8	12.8	1.8	8.9	0.8	9.8	1.1	8.7	1.8	7.0	1.0

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 10. Rates and SEs of Serious Violent Victimization Committed against Females, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE												
United States Overall*	9.5	0.7	8.0	0.7	7.6	0.6	7.0	0.6	6.7	0.5	6.8	0.4	6.9	0.4	7.4	0.5
California †	5.3	1.3	3.1	0.5	4.1	0.7	4.7	0.9	6.3	0.9	7.1	0.9	6.6	0.7	6.6	0.9
Florida †	8.7	2.1	6.4	1.4	5.6	1.0	5.1	0.9	4.5	0.7	4.0	0.6	3.7	0.8	4.6	0.5
Georgia	7.7	1.5	6.0	1.4	6.4	1.6	4.8!	1.0	4.7	1.2	4.0!	1.6	6.9	1.8	6.7	1.3
Illinois †	8.3	1.7	7.5	1.9	6.2	1.8	3.7	0.5	3.1	0.9	1.7!	0.6	2.6!	0.9	2.8	0.9
Michigan †	17.3	3.6	14.9	4.8	8.3	3.7	5.7	2.5	4.3	1.0	4.8	1.0	4.8	1.4	6.7	3.1
New Jersey	4.1!	1.7	3.2!	1.7	1.4!	1.0	2.3!	0.9	2.9!	0.8	3.2!	1.2	3.2!	0.9	2.7!	0.9
New York	4.9	0.9	2.9	0.5	4.9	0.8	6.4	0.7	5.7	0.8	4.7	0.9	4.2	1.2	4.9	1.3
Ohio	11.2	2.5	15.9	4.6	16.3	7.5	17.3	7.5	11.4	4.0	8.3	1.3	7.2	1.6	9.3	2.3
Pennsylvania	10.7	2.7	13.5	4.8	14.1	5.5	9.4	4.1	5.8	1.6	9.8!	5.0	9.4!	4.9	11.7!	6.5
Texas †	10.1	2.0	10.6	2.5	9.4	2.6	8.4	1.6	6.2	0.8	5.5	1.0	5.8	0.9	5.4	0.8

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.15 Violent Crime, by Victim's Age

For the United States as a whole, the violent victimization rate trend line was not significantly different from zero for persons age 12 to 17 ( $p$ -value=0.076), those aged 25 to 49 ( $p$ -value=0.151), and those age 50 or older ( $p$ -value=0.099) from 2008 to 2015. For persons age 18 to 24, the violent victimization rate trend line was significantly less than zero ( $p$ -value=0.007) from 2008 to 2015. Among the 11 states under consideration, all states except North Carolina met the sample size requirement to include all age groups in the analysis (**Tables 11 to 14**).

- Among the 10 states, rates of violent victimization committed against persons aged 12 to 17 increased relative to the national trend in two states (Florida and Illinois), decreased relative to the national trend in two states (Michigan and Pennsylvania), and were not significantly different from the national trend in the remaining six states.
- Rates of violent victimization committed against persons aged 18 to 24 increased relative to the national trend in three states (California, New York, and Pennsylvania), decreased relative to the national trend in Texas, and were not significantly different from the national trend in the remaining six states.
- Among persons aged 25 to 49, rates of violent victimization decreased relative to the national trend in four states (Florida, Illinois, Michigan, and Texas) and were not significantly different from the national trend in the remaining six states.
- Rates of violent victimization committed against persons age 50 or older increased relative to the national trend in three states (New Jersey, New York, and Pennsylvania), decreased relative to the national trend in three states (Michigan, Ohio, and Texas), and were not significantly different from the national trend in the remaining four states.

**Table 11. Rates and SEs of Violent Victimization Committed against Persons Aged 12 to 17, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	58.2	3.9	53.1	3.7	41.9	2.9	36.3	2.7	38.2	2.6	46.2	4.0	43.5	4.0	37.9	3.8
California	43.6	8.1	35.6	4.9	30.3	4.0	29.0	4.5	33.5	4.0	37.5	5.6	34.5	5.0	27.5	4.8
Florida †	40.4	11.5	39.6	8.7	33.6	8.1	25.6	5.9	19.5	6.0	22.8	5.3	15.2	2.6	10.5!	3.8
Georgia	34.1	13.4	40.5	18.5	40.5	16.8	42.3	14.5	40.2	9.4	37.9	8.8	19.6!	2.4	15.4!	4.6
Illinois †	85.1	14.1	80.7	22.1	61.9	19.3	34.6	6.9	29.5	5.1	18.2	2.8	16.1	4.7	15.5	2.9
Michigan †	43.9	8.8	33.8	8.3	28.3	10.0	22.7!	12.9	28.4	13.4	80.2!	51.2	68.5!	52.7	63.8!	55.7
New Jersey	25.3!	5.7	27.4!	14.3	25.5!	15.9	18.8!	12.6	15.0!	4.2	20.6!	10.5	19.7!	10.6	15.0!	8.2
New York	52.7	16.0	37.3	13.0	30.1	9.1	31.1	7.2	39.2	8.1	37.0	8.8	33.4	5.5	23.6	5.7
Ohio	82.5	13.0	58.7	15.5	36.4	10.4	48.3	16.3	54.9	19.0	69.4	21.2	66.1	16.4	65.3	20.4
Pennsylvania †	34.0	8.2	36.5	8.0	32.5	5.8	22.6	8.9	34.8	15.9	59.8	22.8	64.0	20.2	56.8	15.2
Texas	79.7	13.4	73.9	7.2	50.3	8.0	36.3	12.4	27.4	4.8	48.2	12.0	42.2	8.1	57.4	15.2

Note: Victimization rates are per 1,000 persons age 12 to 17. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 12. Rates and SEs of Violent Victimization Committed against Persons Aged 18 to 24, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	51.5	3.2	42.7	2.8	38.5	2.7	40.5	3.2	41.3	3.2	41.2	3.2	33.9	2.1	28.6	2.0
California †	34.2	4.2	25.1	3.4	24.1	3.0	28.2	3.8	40.1	5.8	38.6	5.4	32.6	5.6	17.4	2.8
Florida	32.8	4.7	32.8	5.0	32.8	4.6	28.4	4.8	17.8	3.4	17.5	5.6	15.5	3.3	18.4	4.9
Georgia	25.2!	14.6	32.9	13.1	33.5	12.1	23.5	4.7	20.5	6.1	23.8	6.1	29.3	9.4	21.2	7.1
Illinois	85.9	24.3	60.4	22.6	21.1	5.4	57.6!	30.4	58.4!	31.8	58.8!	32.2	19.4	6.0	17.2	5.7
Michigan	49.5	15.2	44.3	15.1	50.5	17.5	52.0	15.4	33.9	9.7	23.0	8.0	14.3!	4.2	23.0!	14.7
New Jersey	26.5!	12.5	17.9!	14.4	9.7!	5.0	7.2!	4.5	9.6!	5.8	9.1!	2.9	11.9!	3.5	8.1!	4.3
New York †	40.0	6.6	40.4	6.2	28.3	5.1	26.1	3.8	32.2	14.0	46.7	5.4	51.3	10.1	38.3	14.9
Ohio	62.3	11.3	84.2	19.7	82.6	34.4	75.3	33.1	55.1	15.8	38.7	4.7	33.7	5.1	24.3	6.1
Pennsylvania †	39.0	14.3	37.7	14.7	41.1	13.1	30.5	7.3	43.8	17.6	53.9	26.4	56.9	21.3	56.3	17.1
Texas †	60.8	13.8	50.5	12.8	36.8	10.3	36.7	7.6	26.9	5.7	28.2	3.6	21.6	3.1	20.1	5.2

Note: Victimization rates are per 1,000 persons age 18 to 24. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 13. Rates and SEs of Violent Victimization Committed against Persons Age 25 to 49, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	31.0	1.4	26.7	1.4	24.8	1.5	23.5	1.2	25.9	1.3	26.3	1.2	26.6	1.3	23.6	1.2
California	25.2	3.3	18.0	2.8	19.1	3.7	23.3	4.9	30.1	4.8	30.1	3.8	25.5	2.8	22.6	3.2
Florida †	29.9	4.4	23.6	4.0	18.4	2.5	13.5	2.1	13.5	2.4	15.1	3.8	16.0	3.2	15.1	3.3
Georgia	17.6	4.8	19.9	2.8	19.3	3.2	15.6	2.3	14.0	2.1	12.2	2.5	15.9	4.2	12.6	4.0
Illinois †	28.5	8.9	29.9	9.3	30.7	8.5	18.9	3.1	15.3	1.6	15.7	3.8	15.4	4.5	14.5	2.9
Michigan †	35.8	9.7	34.6	7.2	36.7	13.4	30.8	10.8	29.3	11.3	14.5	5.8	13.0	2.6	11.8	3.1
New Jersey	17.2	3.6	15.9	5.1	12.2	3.7	11.1	3.5	10.9	1.9	11.9	3.7	12.4	2.4	10.4	2.3
New York	22.0	2.7	21.1	3.3	20.2	3.3	23.2	4.7	22.7	4.6	20.5	4.3	16.5	4.3	16.7	4.1
Ohio	37.6	4.3	27.0	6.3	17.0	3.8	13.7	2.1	15.7	2.2	17.9	3.0	24.9	4.0	25.6	4.0
Pennsylvania	44.4	8.9	45.4	18.8	60.3	22.5	45.3	15.1	46.0	11.5	45.1	15.2	46.1	16.2	36.4	7.7
Texas †	35.7	6.4	31.7	3.9	32.9	5.9	27.0	4.4	27.1	6.7	24.7	3.2	25.5	3.6	20.3	2.4

Note: Victimization rates are per 1,000 persons age 25 to 49. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 14. Rates and SEs of Violent Victimization Committed against Persons Age 50 or Older, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE								
United States Overall*	10.8	0.8	9.7	0.6	9.4	0.6	9.5	0.6	9.9	0.6	11.0	0.8	11.7	0.9	11.4	0.9
California	5.9	1.0	7.5	1.1	9.0	1.6	11.2	2.1	13.5	2.0	14.2	2.1	12.7	1.5	11.8	1.8
Florida	7.0	1.2	5.5	1.2	5.4	1.4	6.2	1.9	7.1	1.7	6.8	1.7	5.3	1.8	6.5	1.4
Georgia	3.0 !	1.6	4.6 !	3.0	6.0 !	2.4	10.2	2.8	10.7	2.3	13.2	5.1	10.1	4.4	6.8 !	3.8
Illinois	10.0	4.1	13.3	4.8	12.1	4.5	12.2	3.2	13.4	4.0	13.6	2.7	15.8	3.9	13.8	2.5
Michigan †	12.6	3.2	10.4	3.4	11.1	3.8	11.3	3.3	11.5	3.2	9.0	3.4	7.8	3.6	9.0 !	4.9
New Jersey †	3.4 !	2.0	3.1 !	0.9	3.1 !	0.5	2.9 !	0.6	2.9 !	1.6	4.7	2.0	5.9	2.7	6.2	2.9
New York †	8.0	2.2	6.4	1.7	7.8	1.8	7.5	1.6	8.3	1.2	10.1	1.9	16.6	3.9	21.2	5.5
Ohio †	12.6	2.4	11.4	3.6	9.7	4.1	9.6	3.3	6.4	1.5	6.6	1.7	7.5	1.4	6.6	1.4
Pennsylvania †	7.4	1.8	11.2	3.2	9.4	3.8	11.3	4.1	10.8	1.9	20.8	6.5	22.6	8.0	19.0	8.2
Texas †	15.9	3.6	14.3	2.6	13.9	2.5	13.3	3.7	13.7	3.4	12.8	3.3	9.0	1.1	7.6	0.6

Note: Victimization rates are per 1,000 persons age 50 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## 2.2.16 Violent Crime, by Victim's Race and Hispanic Origin

For the United States as a whole, the slope of the violent victimization rate trend line was significantly less than zero for non-Hispanic whites age 12 or older ( $p$ -value=0.047) and non-Hispanic blacks age 12 or older ( $p$ -value=0.007) and not significantly different from zero for Hispanics age 12 or older ( $p$ -value=0.392) from 2008 to 2015. Among the 11 states under

consideration, all states except North Carolina and New Jersey met the sample size requirement to include all categories of race and Hispanic origin in the analysis (**Tables 15 to 17**).

- Among the nine states, rates of violent victimization committed against non-Hispanic whites age 12 or older increased relative to the national trend in New York, decreased relative to the national trend in four states (Florida, Illinois, Ohio, and Texas), and were not significantly different from the national trend in the remaining four states.
- Rates of violent victimization committed against non-Hispanic blacks age 12 or older increased relative to the national trend in Ohio, decreased relative to the national trend in two states (Michigan and Texas), and were not significantly different from the national trend in the remaining six states.
- Among Hispanics age 12 or older, rates of violent victimization increased relative to the national trend in California, decreased relative to the national trend in Illinois, and were not significantly different from the national trend in the remaining seven states.

**Table 15. Rates and SEs of Violent Victimization Committed against Non-Hispanic Whites, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	28.2	1.0	24.8	1.1	22.0	1.1	20.5	1.0	21.7	1.0	23.0	0.9	22.6	1.1	19.9	1.0
California	22.5	2.2	17.8	1.8	17.0	1.6	23.1	3.4	32.1	4.4	29.9	4.2	23.9	2.5	16.9	1.6
Florida †	25.9	2.9	21.8	2.3	18.4	1.7	14.4	2.1	14.4	2.5	14.9	3.0	13.4	2.5	12.6	2.3
Georgia	18.9	6.0	20.0	3.4	19.5	3.6	14.1	1.8	14.4	1.7	13.5	1.7	14.6	2.3	8.4	2.5
Illinois †	32.2	8.3	33.9	9.8	25.2	9.2	16.9	3.8	13.5	2.4	12.0	1.4	10.3	2.0	10.8	3.1
Michigan	20.0	3.1	20.9	4.0	25.1	7.6	25.7	6.1	22.3	5.9	20.2	3.7	16.7	5.8	17.1	6.9
New York †	24.6	2.4	23.4	2.4	17.4	2.2	18.1	2.8	21.1	1.7	23.6	1.8	24.1	3.9	23.4	7.7
Ohio †	33.7	4.4	29.9	4.8	23.6	5.4	20.0	5.3	15.7	3.2	15.4	2.3	18.5	2.2	17.6	2.8
Pennsylvania	22.7	4.2	31.8	8.9	36.5	11.1	28.6	8.1	27.2	5.9	33.4	3.3	35.6	4.5	32.7	5.5
Texas †	43.3	6.9	34.3	6.6	30.6	8.4	21.8	4.8	19.6	4.6	19.2	1.5	19.8	2.1	22.0	2.1

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.  
Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

† Comparison group.

‡ Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 16. Rates and SEs of Violent Victimization Committed against Non-Hispanic Blacks, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States																
Overall*	36.3	3.4	31.4	3.2	28.3	2.1	27.6	2.7	28.9	2.8	28.6	3.0	27.3	2.4	23.4	1.8
California	23.7	4.9	35.7	9.5	42.9	9.8	40.9	10.9	27.2	4.9	20.6	4.8	22.5	4.5	19.0	4.0
Florida	16.6	3.6	15.7	3.2	13.4	3.0	12.8	2.6	8.2	2.5	7.0!	2.3	5.7!	1.6	7.3	2.5
Georgia	11.4	3.5	21.1	8.5	23.2	7.9	27.0	5.1	21.9	3.1	25.1	5.0	22.6	4.7	20.7	4.3
Illinois	47.8	12.8	32.0	5.4	33.6	2.9	57.3	24.9	59.2	29.3	65.4	31.4	31.9	10.2	25.6	7.9
Michigan †	96.1	22.3	72.0	17.1	51.7	14.8	24.2	7.2	27.5	8.0	18.9	9.0	18.5	6.2	19.5	5.1
New York	19.8	4.6	11.1!	1.7	16.8	4.6	22.4	5.3	21.2	4.3	15.8	2.7	15.2	3.3	19.0	3.6
Ohio †	31.3	3.8	20.7	7.1	19.0	5.0	29.7	6.4	41.9	6.2	45.5	11.2	42.6	10.7	32.4	9.2
Pennsylvania	30.4	9.2	22.4	6.7	30.4	8.5	22.0	6.8	62.7	29.4	67.7!	42.1	71.1!	43.5	33.9	16.5
Texas †	54.7	17.4	53.5	12.8	51.2	13.0	41.2	10.6	38.7	10.0	42.5	10.8	36.5	9.9	20.3	7.5

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.  
Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 17. Rates and SEs of Violent Victimization Committed against Hispanics, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States																
Overall*	24.8	1.7	21.7	1.6	19.8	1.5	21.0	1.8	21.9	1.5	24.4	1.8	21.8	1.4	19.2	1.5
California †	22.4	3.3	17.1	2.3	15.6	2.7	15.5	2.2	20.7	2.0	26.3	2.0	22.9	2.0	21.4	3.9
Florida	14.7	3.4	11.0	2.5	10.8	2.9	10.3	3.0	8.0	2.7	7.8	2.1	7.0	1.9	7.7	1.4
Georgia	12.5!	7.8	7.0!	4.2	6.4!	1.6	18.2!	9.4	19.7!	8.5	16.3!	8.7	7.2!	3.4	7.8!	6.0
Illinois †	43.3	10.5	35.8	11.2	30.3	11.6	22.5	7.1	26.4	10.8	20.4	7.0	20.9	8.9	13.0	2.6
Michigan	19.7!	8.7	12.3!	6.2	--	--	--	--	10.0!	5.2	12.0!	4.8	11.7!	4.6	14.9!	8.8
New York	18.3	5.0	19.0	6.1	22.2	6.0	19.7	7.3	17.1	2.9	20.6	6.1	22.6	4.9	21.7	3.9
Ohio	41.0!	17.5	14.0!	10.0	13.8!	8.4	60.2!	48.0	63.0!	45.7	61.3!	38.6	20.1!	5.7	20.6!	11.8
Pennsylvania	54.5!	33.1	26.9!	7.5	24.5!	4.4	21.0!	6.1	20.0!	4.8	37.3	16.6	36.2	15.9	30.1	14.0
Texas	23.9	3.1	26.8	4.0	20.7	3.6	23.2	4.9	20.5	2.6	22.5	4.3	18.3	2.8	16.5	4.6

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.  
Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

-- Estimate suppressed by the Census Bureau Disclosure Review Board.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## SECTION 3. SUBNATIONAL FINDINGS AMONG MSAS

The second set of subnational areas to be analyzed included the 52 MSAs with 1 million or more persons during 2015 and an average annual NCVS sample size of at least 250 persons during 2006–15. Estimates are based on 5 years of pooled data from 2011 to 2015. Using 5 years of data allowed reliable victimization estimates to be generated for at least 10 MSAs for most crime types and analysis domains.<sup>6</sup>

### 3.1 MSA-Level Victimization Rates Compared with National Rates

The following tables and figures present direct estimates of criminal victimization in MSAs and for the United States overall for each of the crime types and analysis domains presented in *Table 2* during 2011–15. All differences where MSA-level estimates are described as higher or lower than the national average are statistically significant ( $\alpha=0.05$ ). Due to the number of comparisons involved,<sup>7</sup> significant differences between subnational areas are not discussed. However, estimates and 95% confidence intervals are provided in *Appendix C* and can be used to assess significant differences among specific MSAs.

#### 3.1.1 Violent Crime

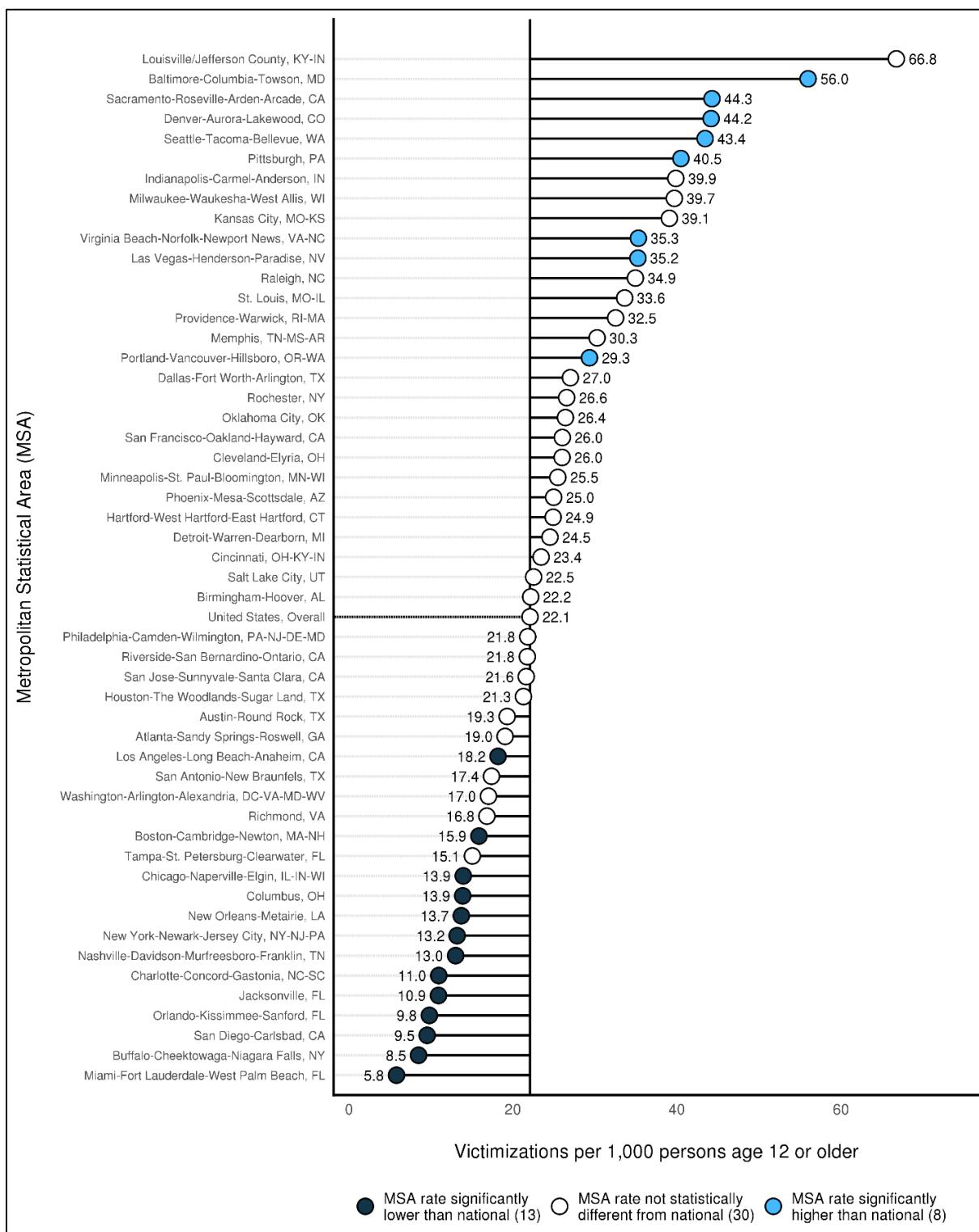
During 2011–15, the national rate of violent victimization in the United States was 22.1 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 51 areas met the sample size requirement for inclusion in the analysis (*Figure 25*).

- Among the 51 MSAs, the rate of violent victimization was higher than the national average in 8 MSAs, lower than the national average in 13 MSAs, and not significantly different from the U.S. rate in 30 MSAs.
- Among the 21 MSAs that were significantly different from the national average, the rate of violent victimization ranged from 5.8 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 56.0 per 1,000 in Baltimore-Columbia-Towson, MD.

<sup>6</sup> For rates of violent victimization by the victim's race and Hispanic origin, nine MSAs met the sample size requirement for all three race and Hispanic origin categories analyzed (non-Hispanic white, non-Hispanic black, and Hispanic).

<sup>7</sup> As an example, with 51 MSAs included in the analysis of overall violent victimization, there are 1,275 possible pairwise comparisons between MSAs.

**Figure 25. Rates of Violent Victimization, by MSA, 2011–15**



Note: Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-25* for estimates and confidence intervals.

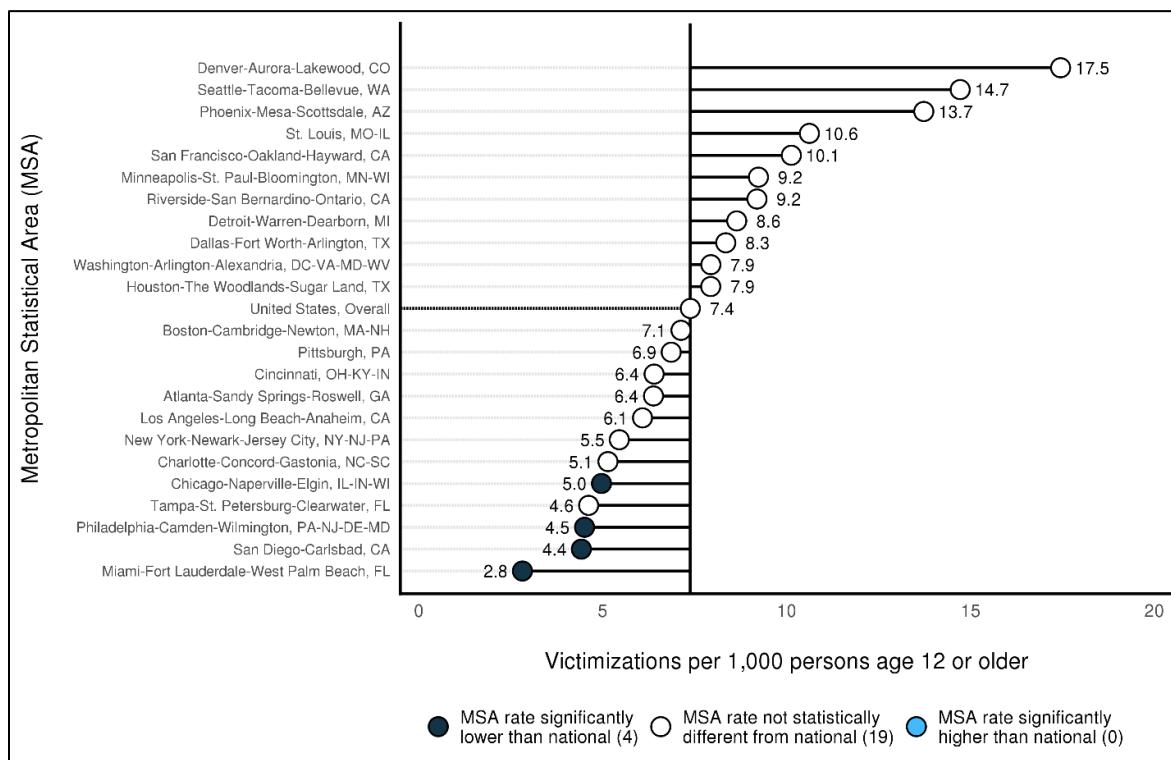
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.2 Serious Violent Crime

During 2011–15, the national rate of serious violent victimization in the United States was 7.4 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 23 areas met the sample size requirement for inclusion in the analysis (*Figure 26*).

- Among the 23 MSAs, the rate of serious violent victimization was lower than the national average in 4 MSAs and not significantly different from the U.S. rate in 19 MSAs.
- The four MSAs with a serious violent victimization rate significantly lower than the national average were Chicago-Naperville-Elgin, IL-IN-WI (5.0 victimizations per 1,000 persons age 12 or older); Philadelphia-Camden-Wilmington, PA-NJ-DE-MD (4.5 per 1,000); San Diego-Carlsbad, CA (4.4 per 1,000); and Miami-Fort Lauderdale-West Palm Beach, FL (2.8 per 1,000).
- For the United States overall, serious violent crime accounted for 33% of all violent victimizations during 2011–15. In 18 of the 23 MSAs, the percentage of total violent victimizations attributed to serious violent crime differed from the national average by more than two standard deviations and ranged from 17% in Pittsburgh, PA, to 55% in Phoenix-Mesa-Scottsdale, AZ (not shown).

**Figure 26. Rates of Serious Violent Victimization, by MSA, 2011–15**



Note: Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault. See appendix *Table C-26* for estimates and confidence intervals.

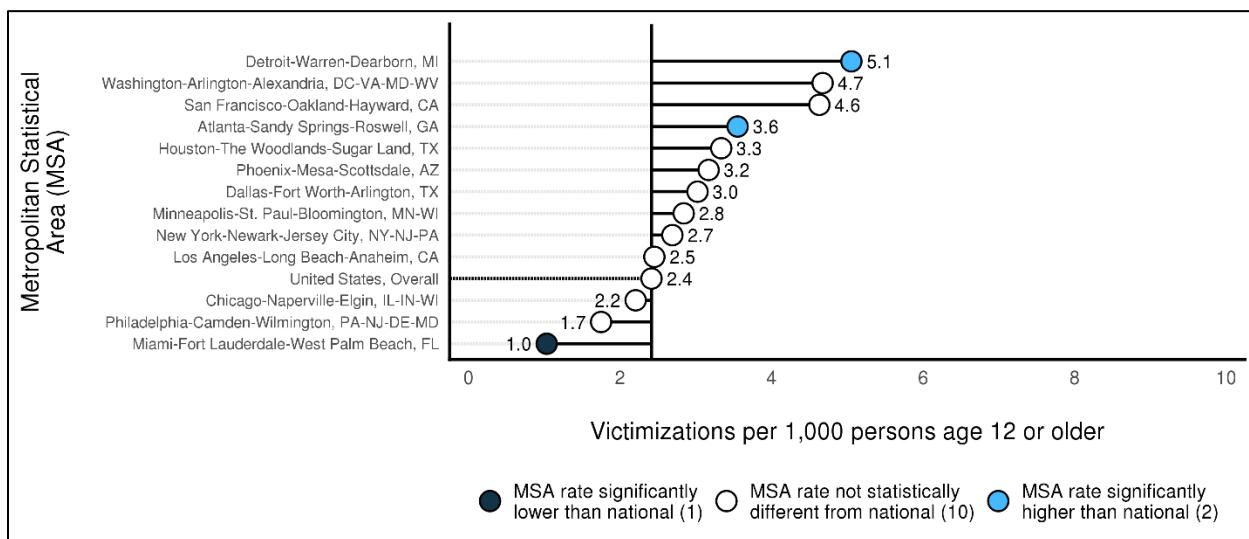
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.3 Robbery

During 2011–15, the national rate of robbery victimization in the United States was 2.4 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 13 areas met the sample size requirement for inclusion in the analysis (*Figure 27*).

- Among the 13 MSAs, the rate of robbery victimization was higher than the national average in 2 MSAs, lower than the national average in Miami-Fort Lauderdale-West Palm Beach, FL, and not significantly different from the U.S. rate in 10 MSAs.
- Among the three MSAs that were significantly different from the national average, robbery victimization rates ranged from 1.0 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 5.1 per 1,000 in Detroit-Warren-Dearborn, MI.
- For the United States overall, robbery accounted for 11% of all violent victimizations during 2011–15. In 11 of the 13 MSAs, the percentage of violent victimizations attributed to robbery differed from the national average by more than two standard deviations and ranged from 8% in Philadelphia-Camden-Wilmington, PA-NJ-DE-MD, to 27% in Washington-Arlington-Alexandria, DC-VA-MD-WV (not shown).

**Figure 27. Rates of Robbery Victimization, by MSA, 2011–15**



Note: See appendix *Table C-27* for estimates and confidence intervals.

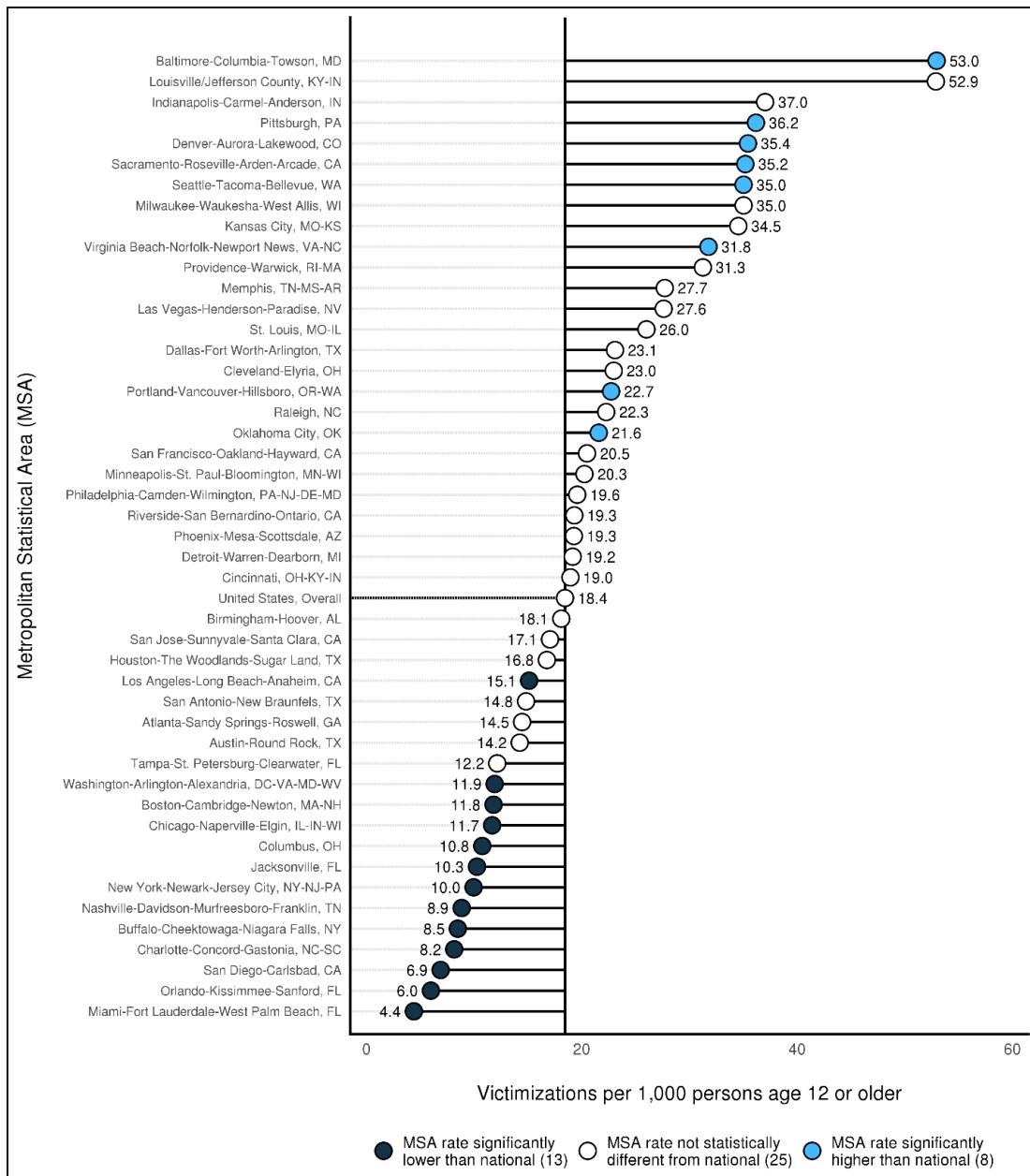
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.4 Assault

During 2011–15, the national rate of assault victimization in the United States was 18.4 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 46 areas met the sample size requirement for inclusion in the analysis (*Figure 28*).

- Among the 46 MSAs, the rate of assault victimization was higher than the national average in 8 MSAs, lower than the national average in 13 MSAs, and not significantly different from the U.S. rate in 25 MSAs.
- Among the 21 MSAs that were significantly different from the national average, the rate of assault victimization ranged from 4.4 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 53.0 per 1,000 in Baltimore-Columbia-Towson, MD.

**Figure 28. Rates of Assault Victimization, by MSA, 2011–15**



Note: Assault includes aggravated assault and simple assault. See appendix *Table C-28* for estimates and confidence intervals.

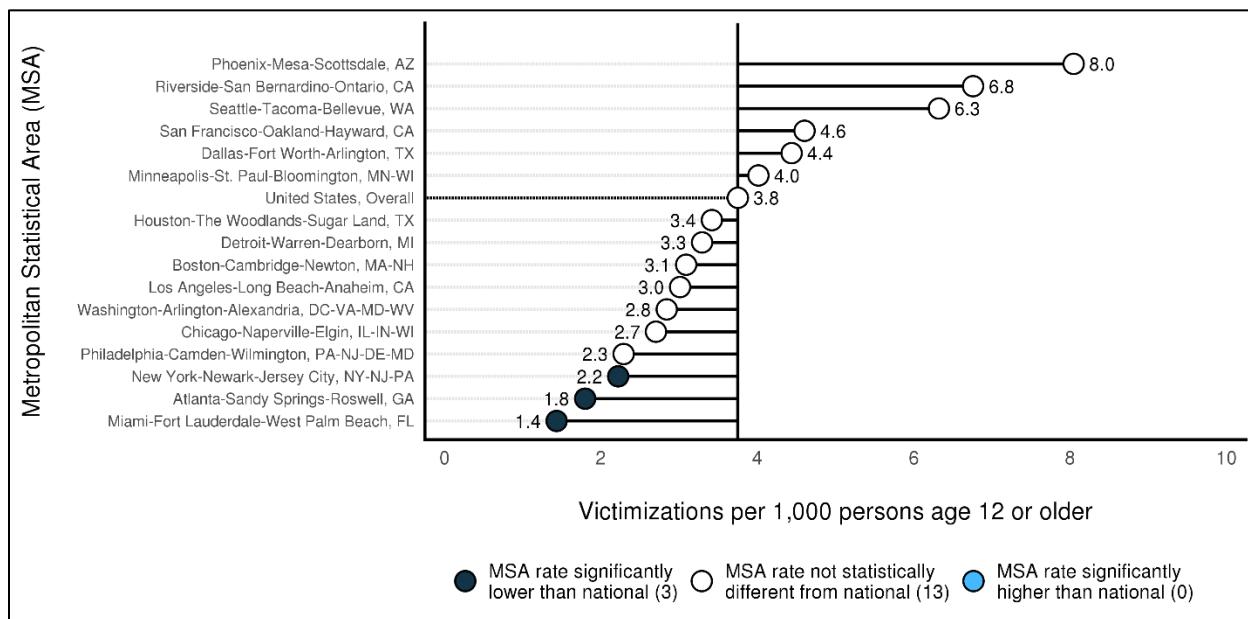
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.5 Aggravated Assault

During 2011–15, the national rate of aggravated assault victimization in the United States was 3.8 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 16 areas met the sample size requirement for inclusion in the analysis (*Figure 29*).

- Among the 16 MSAs, the rate of aggravated assault was lower than the national average in 3 MSAs and not significantly different from the U.S. rate in 13 MSAs.
- The three MSAs with an aggravated assault victimization rate lower than the nation as a whole were Miami-Fort Lauderdale-West Palm Beach, FL (1.4 victimizations per 1,000 persons age 12 or older), Atlanta-Sandy Springs-Roswell, GA (1.8 per 1,000), and New York-Newark-Jersey City, NY-NJ-PA (2.2 per 1,000).
- For the United States overall, aggravated assault accounted for 17% of all violent victimizations during 2011–15. In 9 of the 16 MSAs, the percentage of violent victimizations attributed to aggravated assault differed from the national average by more than two standard deviations and ranged from 9% in Atlanta-Sandy Springs-Roswell, GA, to 32% in Phoenix-Mesa-Scottsdale, AZ (not shown).

**Figure 29. Rates of Aggravated Assault Victimization, by MSA, 2011–15**



Note: See appendix *Table C-29* for estimates and confidence intervals.

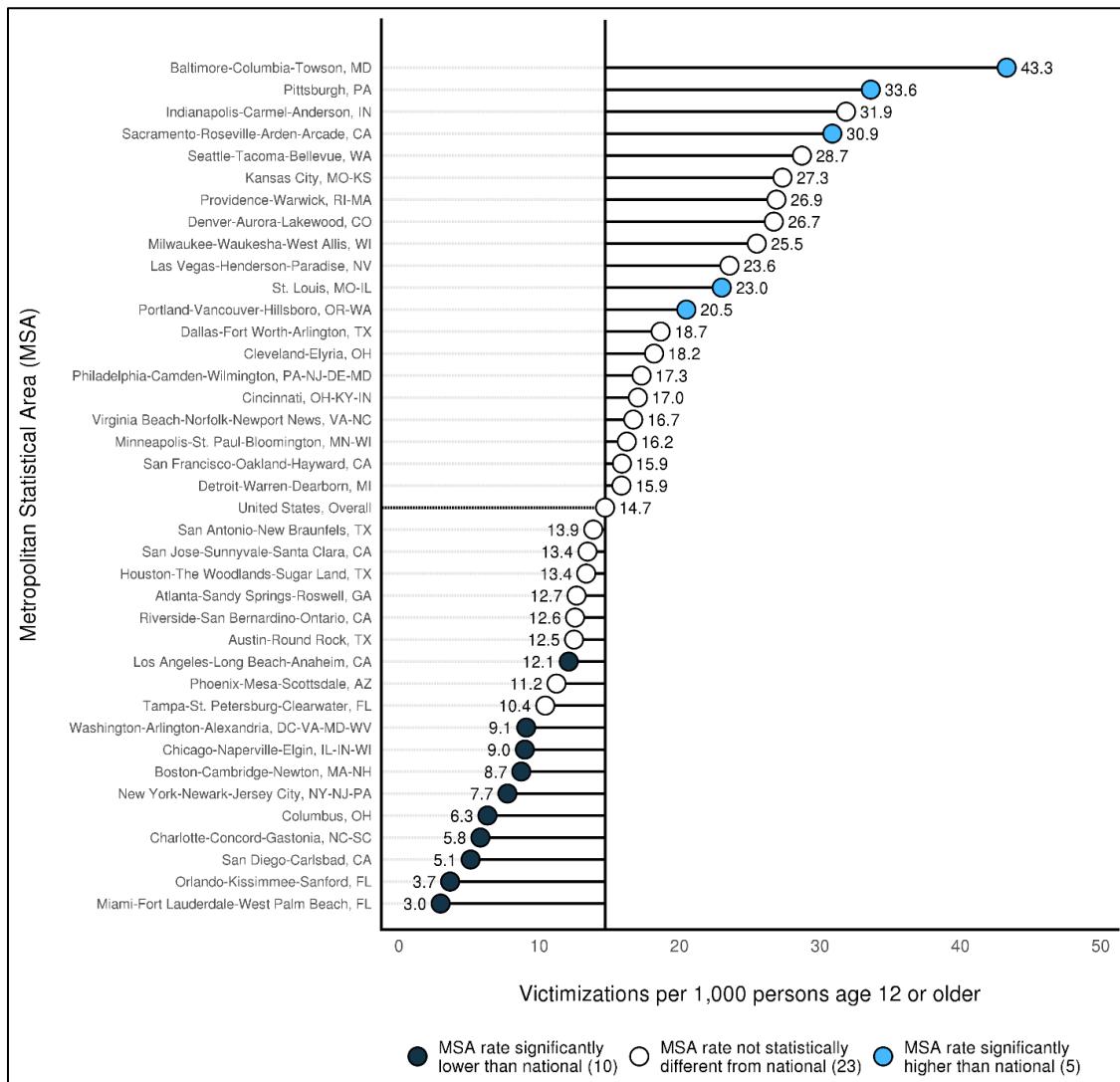
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.6 Simple Assault

During 2011–15, the national rate of simple assault victimization in the United States was 14.7 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 38 areas met the sample size requirement for inclusion in the analysis (*Figure 30*).

- Among the 38 MSAs, the rate of simple assault victimization was higher than the national average in 5 MSAs, lower than the national average in 10 MSAs, and not significantly different from the U.S. rate in 23 MSAs.
- Among the 15 MSAs that were significantly different from the national average, rates of simple assault victimization ranged from 3.0 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 43.3 per 1,000 in Baltimore-Columbia-Towson, MD.
- For the United States overall, simple assault accounted for 67% of all violent victimizations during 2011–15. In 31 of the 38 MSAs, the percentage of violent victimizations attributed to simple assault differed from the national average by more than two standard deviations and ranged from 37% in Orlando-Kissimmee-Sanford, FL, to 83% in Pittsburgh, PA (not shown).

**Figure 30. Rates of Simple Assault Victimization, by MSA, 2011–15**



Note: See appendix *Table C-30* for estimates and confidence intervals.

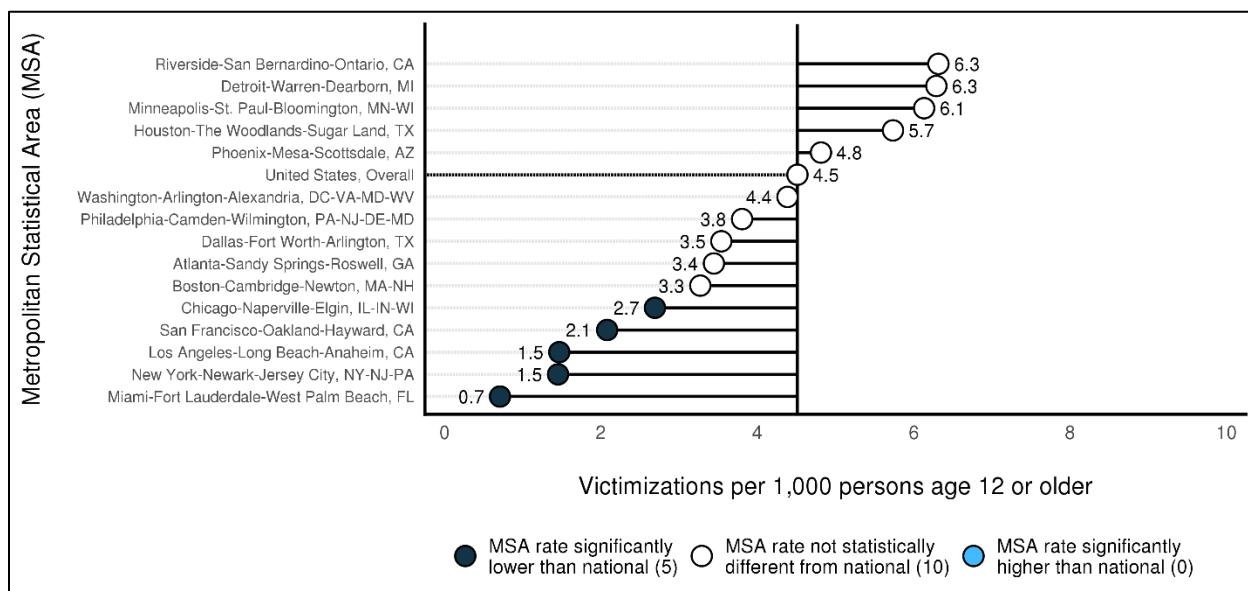
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.7 Domestic Violence

During 2011–15, the national rate of domestic violence victimization (violence committed by an intimate partner or family member) in the United States was 4.5 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 15 areas met the sample size requirement for inclusion in the analysis (**Figure 31**).

- Among the 15 MSAs, the rate of domestic violence victimization was lower than the national average in 5 MSAs and not significantly different from the U.S. rate in 10 MSAs.
- Compared with the United States overall, five MSAs had a significantly lower domestic violence victimization rate: Chicago-Naperville-Elgin, IL-IN-WI (2.7 victimizations per 1,000 persons age 12 or older); San Francisco-Oakland-Hayward, CA (2.1 per 1,000); Los Angeles-Long Beach-Anaheim, CA (1.5 per 1,000); New York-Newark-Jersey City, NY-NJ-PA (1.5 per 1,000); and Miami-Fort Lauderdale-West Palm Beach, FL (0.7 per 1,000).
- For the United States overall, 20% of violent victimizations were committed by an intimate partner or other relative during 2011–15. In 12 of the 15 MSAs, the percentage of violent victimizations committed by an intimate partner or other relative differed from the national average by more than two standard deviations and ranged from 8% in San Francisco-Oakland-Hayward, CA, to 29% in Riverside-San Bernardino-Ontario, CA (not shown).

**Figure 31. Rates of Domestic Violence Victimization, by MSA, 2011–15**



Note: Domestic violence includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by intimate partners (current or former spouses, boyfriends, or girlfriends) and family members. See appendix **Table C-31** for estimates and confidence intervals.

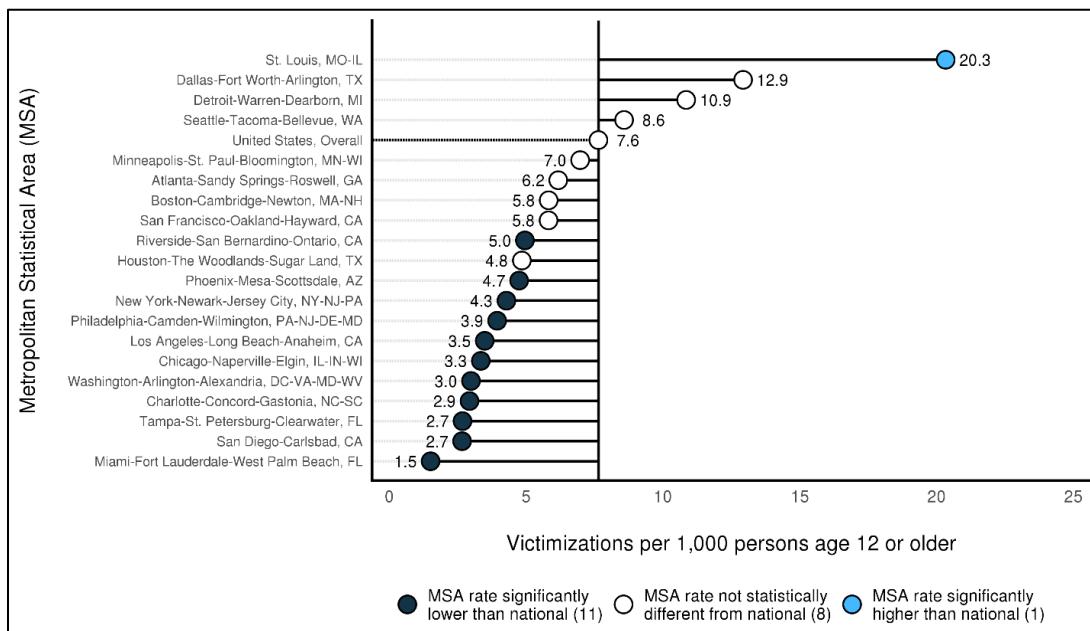
Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–2015, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.8 Violent Crime Committed by Other Known Offenders

During 2011–15, the national rate of violent victimization committed by an offender that was known to the victim (excluding intimate partners and other relatives) in the United States was 7.6 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 20 areas met the sample size requirement for inclusion in the analysis (*Figure 32*).

- Among the 20 MSAs, the rate of violent victimization committed by other known offenders was higher than the national average in St. Louis, MO-IL, lower than the national average in 11 MSAs, and not significantly different from the U.S. rate in 8 MSAs.
- Among the 12 MSAs that were significantly different from the national average, the rate of violent victimization committed by other known offenders ranged from 1.5 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 20.3 per 1,000 in St. Louis, MO-IL.
- For the United States overall, 35% of violent victimizations were committed by an offender that was known to the victim (excluding intimate partners and other relatives) during 2011–15. In 17 of the 20 MSAs, the percentage of violent victimizations committed by an offender that was known to the victim differed from the national average by more than two standard deviations and ranged from 18% in Washington-Arlington-Alexandria, DC-VA-MD-WV, to 60% in St. Louis, MO-IL (not shown).

**Figure 32. Rates of Violent Victimization Committed by Other Known Offenders, by MSA, 2011–15**



Note: Victimization rates include violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by offenders that are known to the victim, excluding intimate partners (current or former spouses, boyfriends, or girlfriends) and family members. See appendix *Table C-32* for estimates and confidence intervals.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### **3.1.9 Violent Crime Committed by Strangers**

During 2011–15, the national rate of violent victimization committed by strangers in the United States was 8.3 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 35 areas met the sample size requirement for inclusion in the analysis (*Figure 33*).

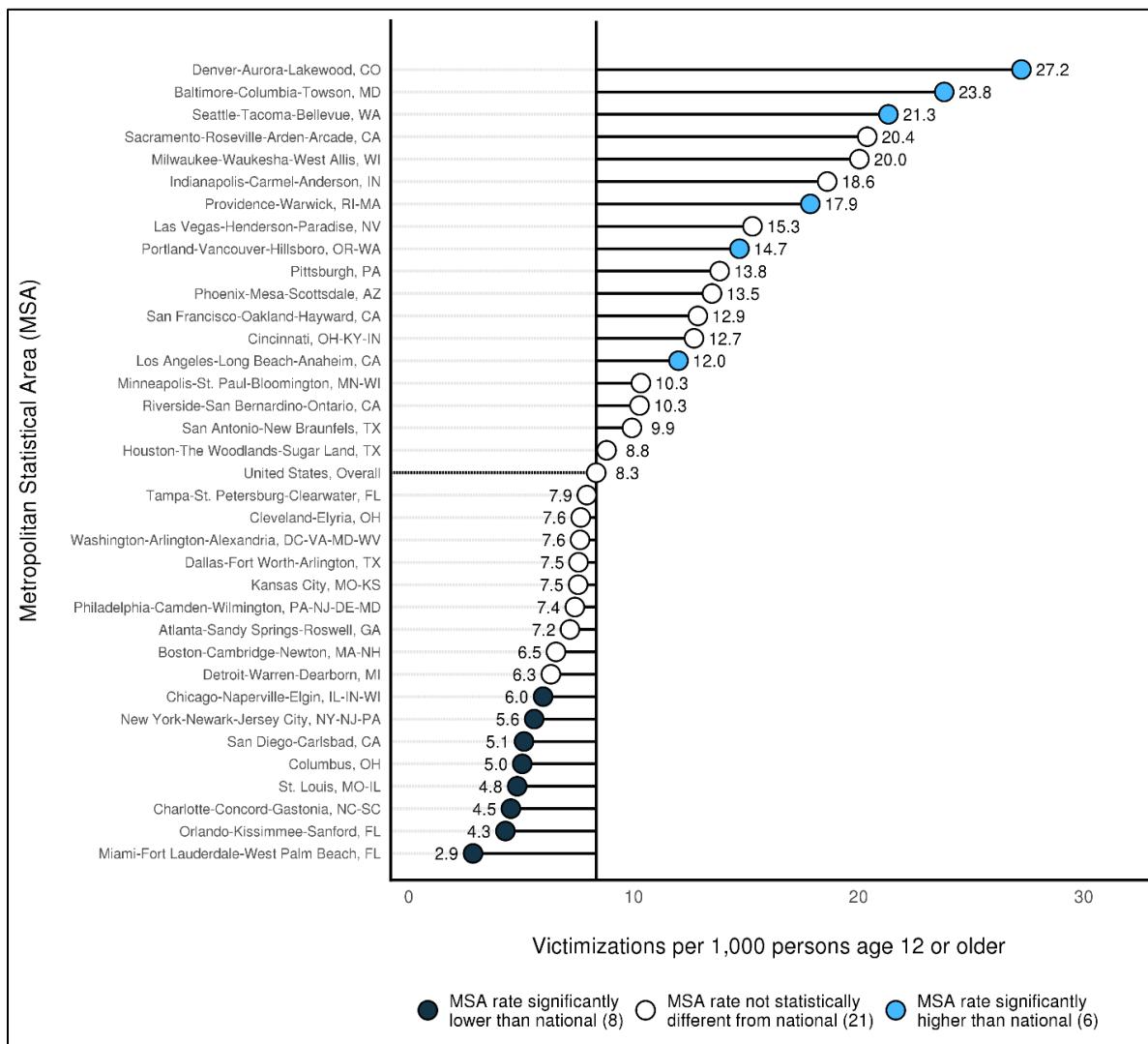
- Among the 35 MSAs, the rate of violent victimization committed by a stranger was higher than the national average in 6 MSAs, lower than the national average in 8 MSAs, and not significantly different from the U.S. rate in 21 MSAs.
- Among the 14 MSAs that were significantly different from the national average, rates of violent victimization committed by strangers ranged from 2.9 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 27.2 per 1,000 in Denver-Aurora-Lakewood, CO.
- For the United States overall, 38% of violent victimizations were committed by a stranger during 2011–15. In 33 of the 35 MSAs, the percentage of violent victimizations committed by a stranger differed from the national average by more than two standard deviations and ranged from 14% in St. Louis, MO-IL, to 66% in Los Angeles-Long Beach-Anaheim, CA (not shown).

### **3.1.10 Violent Crime Occurring during the Day**

During 2011–15, the national rate of violent victimization occurring during the day (from 6 a.m. to 6 p.m.) in the United States was 12.0 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 40 areas met the sample size requirement for inclusion in the analysis (*Figure 34*).

- Among the 40 MSAs, the rate of violent victimization during the day was higher than the national average in 4 MSAs, lower than the national average in 13 MSAs, and not significantly different from the U.S. rate in 23 MSAs.
- Among the 17 MSAs that were significantly different from the national average, rates of violent victimization during the day ranged from 3.1 victimizations per 1,000 persons age 12 or older in Jacksonville, FL, to 29.3 per 1,000 in Sacramento-Roseville-Arden-Arcade, CA.
- For the United States overall, 54% of violent victimizations occurred during the day during 2011–15. In 36 of the 40 MSAs, the percentage of violent victimizations that occurred during the day differed from the national average by more than two standard deviations and ranged from 22% in Providence-Warwick, RI-MA, to 76% in Riverside-San Bernardino-Ontario, CA (not shown).

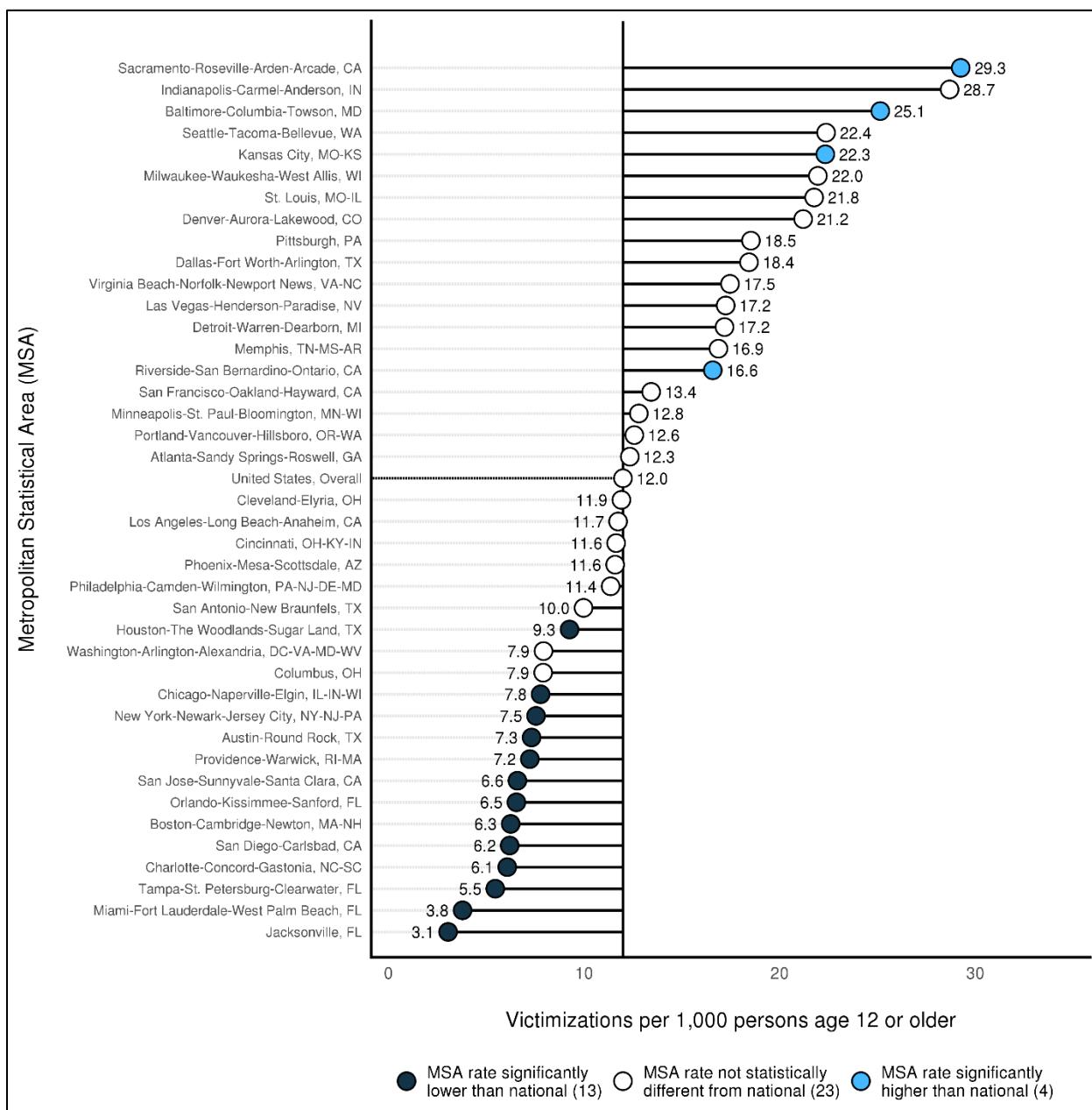
**Figure 33. Rates of Violent Victimization Committed by Strangers, by MSA, 2011–15**



Note: Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-33* for estimates and confidence intervals.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Figure 34. Rates of Violent Victimization Occurring during the Day, by MSA, 2011–15**



Note: Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 a.m. to 6 p.m. See appendix *Table C-34* for estimates and confidence intervals.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### **3.1.11 Violent Crime Occurring at Night**

During 2011–15, the national rate of violent victimization occurring at night (from 6 p.m. to 6 a.m.) in the United States was 9.2 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 35 areas met the sample size requirement for inclusion in the analysis (*Figure 35*).

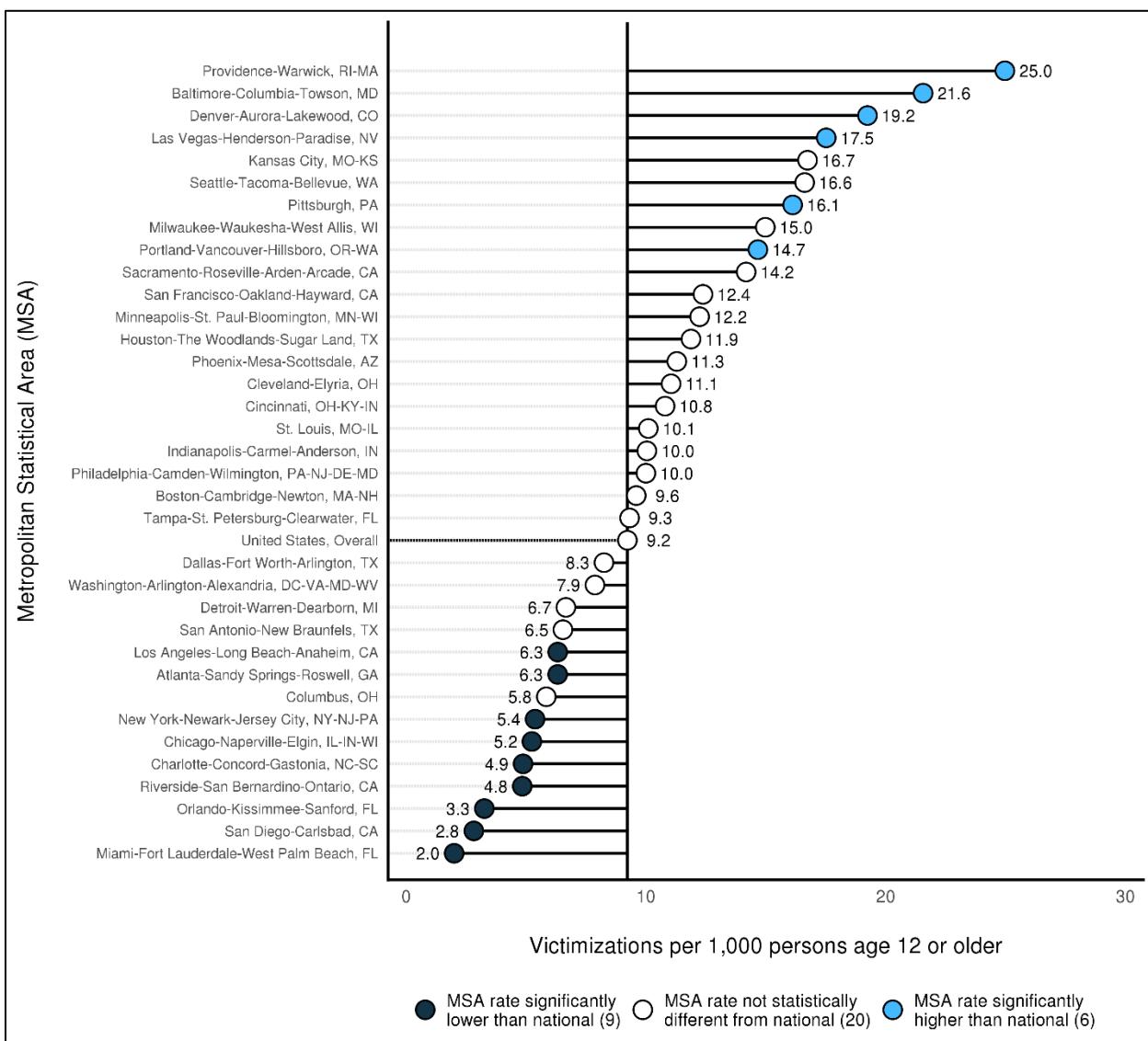
- Among the 35 MSAs, the rate of violent victimization occurring at night was higher than the national average in 6 MSAs, lower than the national average in 9 MSAs, and not significantly different from the U.S. rate in 20 MSAs.
- Among the 15 MSAs that were significantly different from the national average, the rate of violent victimization occurring at night ranged from 2.0 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 25.0 per 1,000 in Providence-Warwick, RI-MA.
- For the United States overall, 42% of violent victimizations occurred at night during 2011–15. In 29 of the 35 MSAs, the percentage of violent victimizations that occurred at night differed from the national average by more than two standard deviations and ranged from 22% in Riverside-San Bernardino-Ontario, CA, to 77% in Providence-Warwick, RI-MA (not shown).

### **3.1.12 Violent Crime Involving a Weapon**

During 2011–15, the national rate of violent victimization involving a weapon in the United States was 4.6 victimizations per 1,000 persons age 12 or older. Among the 52 MSAs under consideration, 19 areas met the sample size requirement for inclusion in the analysis (*Figure 36*).

- Among the 19 MSAs, the rate of violent victimization involving a weapon was higher than the national average in Dallas-Fort Worth-Arlington, TX, lower than the national average in 4 MSAs, and not significantly different from the U.S. rate in 14 MSAs.
- Among the five MSAs that were significantly different from the national average, rates of violent victimization involving a weapon ranged from 1.7 victimizations per 1,000 persons age 12 or older in Miami-Fort Lauderdale-West Palm Beach, FL, to 5.8 per 1,000 in Dallas-Fort Worth-Arlington, TX.
- For the United States overall, 21% of violent victimizations involved a weapon during 2011–15. In 16 of the 19 MSAs, the percentage of violent victimizations involving a weapon differed from the national average by more than two standard deviations and ranged from 11% in Philadelphia-Camden-Wilmington, PA-NJ-DE-MD, to 51% in Phoenix-Mesa-Scottsdale, AZ (not shown).

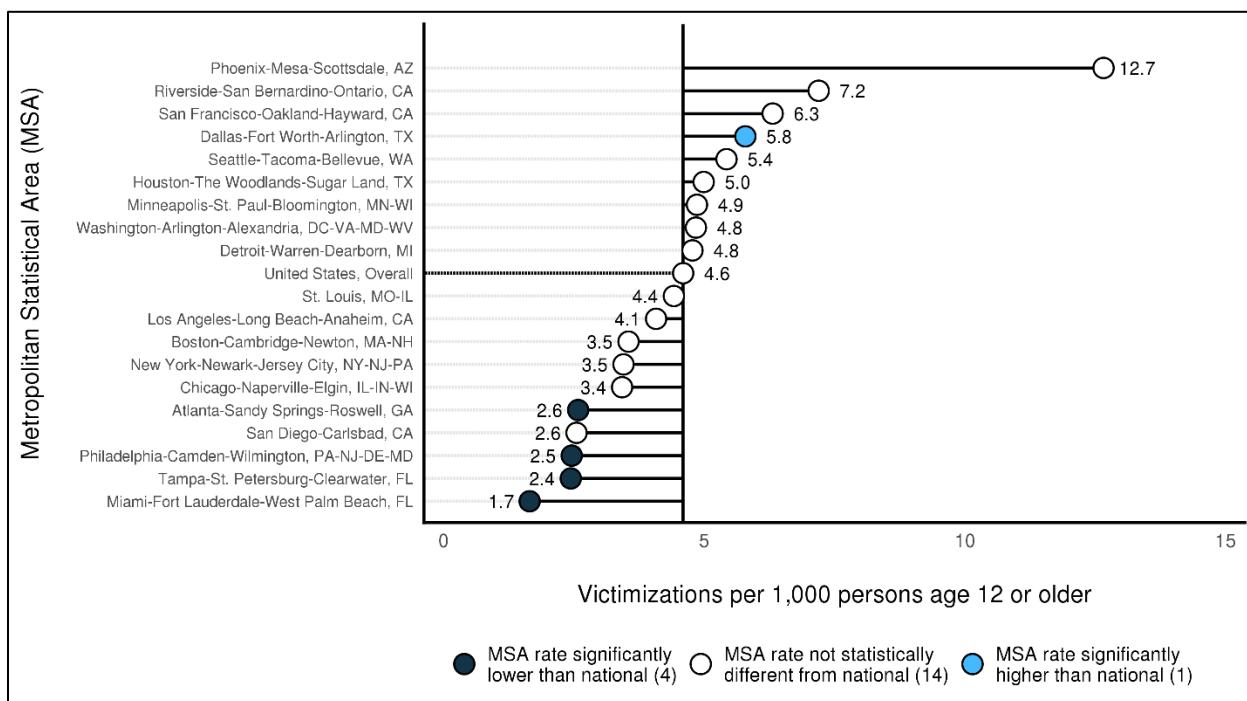
**Figure 35. Rates of Violent Victimization Occurring at Night, by MSA, 2011–15**



Note: Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 p.m. to 6 a.m. See appendix *Table C-35* for estimates and confidence intervals.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Figure 36. Rates of Violent Victimization Involving a Weapon, by MSA, 2011–15**



Note: Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault. See appendix *Table C-36* for estimates and confidence intervals.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.13 Violent Crime, by Victim's Sex

During 2011–15, the national rate of violent victimization was 23.0 victimizations per 1,000 males age 12 or older and 21.2 per 1,000 females age 12 or older. Among the 52 MSAs under consideration, 36 areas met the sample size requirement for both males and females for inclusion in the analysis (*Table 18*).

- Among the 36 MSAs, the rate of violent victimization for males age 12 or older was higher than the national average in 6 MSAs, lower than the national average in 6 MSAs, and not significantly different from the U.S. rate in 24 MSAs. The rate of violent victimization for females age 12 or older was higher than the national average in 11 MSAs, lower than the national average in 3 MSAs, and not significantly different from the U.S. rate in 22 MSAs.
- Among the MSAs that were significantly different from the national average, Miami-Fort Lauderdale-West Palm Beach, FL, had the lowest rate among both males (5.6 victimizations per 1,000 males) and females (5.9 per 1,000 females) age 12 or older. Denver-Aurora-Lakewood, CO, had the highest rate among males age 12 or older (58.8 per 1,000 males), and Baltimore-Columbia-Towson, MD, had the highest rate among females age 12 or older (54.5 per 1,000 females).

**Table 18. Rates and 95% Confidence Intervals of Violent Victimization, by Victim's Sex and MSA, 2011–15**

MSA	Male			Female		
	Rate	Lower 95%	Upper 95%	Rate	Lower 95%	Upper 95%
		Confidence Interval	Confidence Interval		Confidence Interval	Confidence Interval
United States Overall*	23.0	21.3	24.7	21.2	19.5	22.9
Atlanta-Sandy Springs-Roswell, GA	12.8 †	8.5	17.1	24.8	17.2	32.4
Baltimore-Columbia-Towson, MD	57.7 †	34.1	81.2	54.5 †	23.9	85.1
Boston-Cambridge-Newton, MA-NH	15.8 †	11.0	20.6	15.9	8.8	22.9
Charlotte-Concord-Gastonia, NC-SC	12.4 †	7.8	16.9	9.7 †	5.6	13.7
Chicago-Naperville-Elgin, IL-IN-WI	14.1 †	9.4	18.9	13.8 †	9.1	18.4
Cincinnati, OH-KY-IN	24.2	5.6	42.8	22.7	17.6	27.7
Cleveland-Elyria, OH	20.4	8.0	32.8	31.0	11.0	51.0
Columbus, OH	12.9 †	8.6	17.3	14.8	6.9	22.6
Dallas-Fort Worth-Arlington, TX	34.5 †	24.3	44.7	19.9	12.9	26.8
Denver-Aurora-Lakewood, CO	58.8 †	51.6	65.9	29.8	15.9	43.8
Detroit-Warren-Dearborn, MI	30.0 !	-0.1	60.0	19.5	7.6	31.4
Houston-The Woodlands-Sugar Land, TX	21.5	11.8	31.1	21.1	12.4	29.8
Indianapolis-Carmel-Anderson, IN	39.9	20.1	59.7	39.8	3.5	76.1
Kansas City, MO-KS	44.6 †	27.1	62.1	33.9	10.9	56.9
Las Vegas-Henderson-Paradise, NV	42.1	17.4	66.7	28.5	1.7	55.3
Los Angeles-Long Beach-Anaheim, CA	19.8	14.9	24.6	16.7 †	12.8	20.5
Miami-Fort Lauderdale-West Palm Beach, FL	5.6 †	3.4	7.9	5.9 †	4.2	7.7
Milwaukee-Waukesha-West Allis, WI	40.2 !	-23.2	103.5	39.3	12.9	65.6
Minneapolis-St. Paul-Bloomington, MN-WI	22.4	13.4	31.4	28.5	19.6	37.3
New York-Newark-Jersey City, NY-NJ-PA	17.3	8.8	25.7	9.5 †	6.5	12.4
Orlando-Kissimmee-Sanford, FL	10.5 !	-3.3	24.3	9.1 ! †	3.4	14.9
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	31.0 !	-1.0	63.1	13.4 †	10.3	16.5
Phoenix-Mesa-Scottsdale, AZ	28.6	22.4	34.8	21.5	1.6	41.3
Pittsburgh, PA	30.5	9.5	51.5	49.7 †	31.4	68.0
Portland-Vancouver-Hillsboro, OR-WA	34.4	18.0	50.8	24.5	9.2	39.7
Providence-Warwick, RI-MA	53.8	21.5	86.0	13.0 †	10.5	15.5
Riverside-San Bernardino-Ontario, CA	30.5	14.5	46.6	13.3 †	8.6	18.0
Sacramento-Roseville-Arden-Arcade, CA	45.8	1.6	90.1	42.8	17.2	68.4
San Antonio-New Braunfels, TX	21.0 !	-1.9	43.9	13.9	5.6	22.2
San Diego-Carlsbad, CA	9.1 †	8.3	10.0	9.9 †	2.1	17.8
San Francisco-Oakland-Hayward, CA	29.0	6.6	51.4	23.1	8.5	37.7
Seattle-Tacoma-Bellevue, WA	45.8 †	34.1	57.4	41.1 †	35.7	46.6
St. Louis, MO-IL	28.4	20.3	36.5	38.4	16.7	60.1
Tampa-St. Petersburg-Clearwater, FL	20.0	6.7	33.3	10.5 †	4.1	16.9
Washington-Arlington-Alexandria, DC-VA-MD-WV	18.8	8.7	29.0	15.3	9.0	21.6

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

- Two MSAs (Baltimore-Columbia-Towson, MD, and Seattle-Tacoma-Bellevue, WA) were higher than the national average for both males and females age 12 or older. Four MSAs (San Diego-Carlsbad, CA; Miami-Fort Lauderdale-West Palm Beach, FL; Charlotte-Concord-Gastonia, NC-SC; and Chicago-Naperville-Elgin, IL-IN-WI) were lower than the national average for both males and females age 12 or older.
- Compared with the national average, six MSAs (Atlanta-Sandy Springs-Roswell, GA; Boston-Cambridge-Newton, MA-NH; Columbus, OH; Dallas-Fort Worth-Arlington, TX; Denver-Aurora-Lakewood, CO; and Kansas City, MO-KS) had significantly different rates for male victims but not significantly different rates for female victims age 12 or older. Eight MSAs (Los Angeles-Long Beach-Anaheim, CA; New York-Newark-Jersey City, NY-NJ-PA; Orlando-Kissimmee-Sanford, FL; Philadelphia-Camden-Wilmington, PA-NJ-DE-MD; Pittsburgh, PA; Providence-Warwick, RI-MA; Riverside-San Bernardino-Ontario, CA; and Tampa-St. Petersburg-Clearwater, FL) had significantly different rates from the national average for female victims but not significantly different rates for male victims age 12 or older.

### **3.1.14 Serious Violent Crime, by Victim's Sex**

During 2011–15, the national rate of serious violent victimization in the United States was 7.7 victimizations per 1,000 males age 12 or older and 7.1 per 1,000 females age 12 or older. Among the 52 MSAs under consideration, 10 areas met the sample size requirement for both males and females for inclusion in the analysis (*Table 19*).

- Among the 10 MSAs, the rate of serious violent victimization for males age 12 or older was lower than the national average in two MSAs and not significantly different from the U.S. rate in 8 MSAs. The rate of serious violent crime for females age 12 or older was lower than the national average in five MSAs and not significantly different from the U.S. rate in five MSAs.
- Among the MSAs that were significantly lower than the national average, Miami-Fort Lauderdale-West Palm Beach, FL, had the lowest rate among males (1.9 victimizations per 1,000 males age 12 or older), and New York-Newark-Jersey City, NY-NJ-PA, had the lowest rate among females (3.3 per 1,000 females).
- In Miami-Fort Lauderdale-West Palm Beach, FL, the rate of serious violent victimization was lower than the national average for both males and females age 12 or older. In Atlanta-Sandy Springs-Roswell, GA, the rate was significantly lower than the national average for males and not significantly different for females. In four MSAs (New York-Newark-Jersey City, NY-NJ-PA; Philadelphia-Camden-Wilmington, PA-NJ-DE-MD; Los Angeles-Long Beach-Anaheim, CA; and Chicago-Naperville-Elgin, IL-IN-WI), the rate of serious violent victimization was significantly lower than the national average for females and not significantly different from the national average for males age 12 or older.

**Table 19. Rates and 95% Confidence Intervals of Serious Violent Victimization, by Victim's Sex and MSA, 2011–15**

MSA	Male			Female		
	Lower 95%		Upper 95%	Lower 95%		Upper 95%
	Confidence Rate	Confidence Interval	Confidence Interval	Confidence Rate	Confidence Interval	Confidence Interval
United States, Overall*	7.7	7.0	8.4	7.1	6.4	7.8
Atlanta-Sandy Springs-Roswell, GA	3.8! <sup>†</sup>	2.4	5.1	8.8	6.1	11.5
Chicago-Naperville-Elgin, IL-IN-WI	6.4	4.2	8.6	3.6 <sup>†</sup>	2.0	5.3
Dallas-Fort Worth-Arlington, TX	10.3	7.8	12.8	6.5	3.5	9.6
Houston-The Woodlands-Sugar Land, TX	8.4	3.3	13.4	7.5	4.3	10.8
Los Angeles-Long Beach-Anaheim, CA	8.1	5.8	10.3	4.2 <sup>†</sup>	2.6	5.8
Miami-Fort Lauderdale-West Palm Beach, FL	1.9! <sup>†</sup>	-0.4	4.2	3.7 <sup>†</sup>	2.0	5.3
New York-Newark-Jersey City, NY-NJ-PA	7.8	4.4	11.2	3.3 <sup>†</sup>	2.0	4.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5.7	2.9	8.6	3.4 <sup>†</sup>	1.5	5.3
San Francisco-Oakland-Hayward, CA	11.8	2.7	21.0	8.5	3.1	13.9
Washington-Arlington-Alexandria, DC-VA-MD-WV	8.9	3.3	14.5	7.0	3.8	10.3

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

<sup>!</sup> Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

<sup>†</sup> Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### 3.1.15 Violent Crime, by Victim's Age

During 2011–15, the national rate of violent victimization was 40.0 victimizations per 1,000 persons aged 12 to 17; 35.1 per 1,000 persons aged 18 to 24; 25.1 per 1,000 persons aged 25 to 49; and 11.0 per 1,000 persons age 50 or older. Among the 52 MSAs under consideration, 11 areas met the sample size requirement for all age groups for inclusion in the analysis (*Table 20*).

- Among the 11 MSAs, the rate of violent victimization was lower than the national average in 6 MSAs for persons aged 12 to 17, 1 MSA for those age 18 to 24, 4 MSAs for those aged 25 to 49, and 2 MSAs for those age 50 or older. No MSAs had a violent victimization rate that significantly exceeded the age-specific U.S. rate.
- Among the MSAs that were significantly lower than the national average, Philadelphia-Camden-Wilmington, PA-NJ-DE-MD, had the lowest rate among persons aged 12 to 17 (13.2 victimizations per 1,000 persons aged 12 to 17); Washington-Arlington-Alexandria, DC-VA-MD-WV, had the lowest rate among those ages 18 to 24 (22.1 per 1,000 persons ages 18 to 24); and Miami-Fort Lauderdale-West Palm Beach, FL, had the lowest rate among those aged 25 to 49 (7.9 per 1,000 persons aged 25 to 49) and among those age 50 or older (4.9 per 1,000 persons age 50 or older).

**Table 20. Rates and 95% Confidence Intervals of Violent Victimization, by Victim's Age and MSA, 2011–15**

MSA	Age 12-17			Age 18-24			Aged 25-49			Age 50 or Older		
	Rate	Lower 95% Confidence Interval		Rate	Lower 95% Confidence Interval		Rate	Upper 95% Confidence Interval		Rate	Lower 95% Confidence Interval	
		Upper 95% Confidence Interval	Upper 95% Confidence Interval		Upper 95% Confidence Interval	Upper 95% Confidence Interval		Upper 95% Confidence Interval	Upper 95% Confidence Interval		Upper 95% Confidence Interval	Upper 95% Confidence Interval
United States, Overall*	40.0	34.4	45.5	35.1	30.9	39.2	25.1	23.2	27.1	11.0	9.8	12.3
Atlanta-Sandy Springs-Roswell, GA	41.5	27.4	55.6	34.5	16.9	52.0	15.1 †	7.8	22.4	12.1	1.4	22.7
Chicago-Naperville-Elgin, IL-IN-WI	15.6 †	11.0	20.3	21.2	7.2	35.1	15.0 †	9.9	20.0	10.2	7.0	13.4
Dallas-Fort Worth-Arlington, TX	96.5	28.9	164.1	28.0	12.7	43.4	24.1	14.5	33.6	7.7 †	6.2	9.1
Detroit-Warren-Dearborn, MI	87.0! -84.3	258.3	35.6!	13.2	58.0	20.9	9.9	31.9	10.2! -0.7	-0.7	21.2	
Houston-The Woodlands-Sugar Land, TX	23.2 †	18.4	28.0	32.5	20.8	44.2	26.3	13.2	39.4	10.1	8.7	11.4
Los Angeles-Long Beach-Anaheim, CA	18.4 †	11.3	25.6	23.5	9.6	37.4	22.8	19.0	26.6	10.7	7.5	13.9
Miami-Fort Lauderdale-West Palm Beach, FL	--	--	--	--	--	--	7.9 †	5.5	10.2	4.9 †	2.0	7.7
New York-Newark-Jersey City, NY-NJ-PA	25.2 †	14.5	35.9	27.4	6.8	48.1	10.2 †	7.0	13.3	9.7	7.2	12.2
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	13.2!† -2.0	28.4	20.7! 4.5	36.9	34.3	2.9	65.7	11.9	6.1	17.8		
San Francisco-Oakland-Hayward, CA	20.2! -7.3	47.8	26.4! 13.1	39.7	34.2	3.9	64.6	17.8	7.9	27.8		
Washington-Arlington-Alexandria, DC-VA-MD-WV	20.7!† 6.7	34.6	22.1!† 10.9	33.2	21.4	15.4	27.4	9.0! -0.7	18.7			

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons per age group. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

-- Estimate suppressed by the Census Bureau Disclosure Review Board.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### **3.1.16 Violent Crime, by Victim's Race and Hispanic Origin**

During 2011–15, the national rate of violent victimization was 21.3 victimizations per 1,000 non-Hispanic whites age 12 or older, 26.1 per 1,000 non-Hispanic blacks age 12 or older, and 21.1 per 1,000 Hispanics age 12 or older. Among the 52 MSAs under consideration, 9 areas met the sample size requirement for all race and Hispanic origin groups for inclusion in the analysis (*Table 21*).

- Among the nine MSAs, the rate of violent victimization was lower than the national average in five MSAs for non-Hispanic whites, three MSAs for non-Hispanic blacks, and two MSAs for Hispanics age 12 or older. All other MSAs were not significantly different from the race-specific U.S. rate.
- Among the MSAs that were significantly lower than the national average, Miami-Fort Lauderdale-West Palm Beach, FL, had the lowest rate for non-Hispanic whites (6.2 victimizations per 1,000 persons age 12 or older), non-Hispanic blacks (9.3 per 1,000), and Hispanics (4.4 per 1,000).
- For two MSAs (Miami-Fort Lauderdale-West Palm Beach, FL, and New York-Newark-Jersey City, NY-NJ-PA), the rate of violent victimization was lower than the national average for non-Hispanic whites, non-Hispanic blacks, and Hispanics age 12 or older.
- For three MSAs (Washington-Arlington-Alexandria, DC-VA-MD-WV; Atlanta-Sandy Springs-Roswell, GA; and Chicago-Naperville-Elgin, IL-IN-WI), the rate of violent victimization was significantly lower than the national average for non-Hispanic whites and not significantly different from the national average for non-Hispanic blacks and Hispanics age 12 or older. The violent victimization rate in Los Angeles-Long Beach-Anaheim, CA, was significantly lower than the national average for non-Hispanic blacks but not significantly different from the national average for non-Hispanic whites and Hispanics age 12 or older.

**Table 21. Rates and 95% Confidence Intervals of Violent Victimization, by Victim's Race and Hispanic Origin and MSA, 2011–15**

MSA	Non-Hispanic White			Non-Hispanic Black			Hispanic		
	Rate	Lower 95%	Upper 95%	Rate	Lower 95%	Upper 95%	Rate	Lower 95%	Upper 95%
		Confidence Interval	Confidence Interval		Confidence Interval	Confidence Interval		Confidence Interval	Confidence Interval
United States, Overall*	21.3	19.8	22.9	26.1	22.2	30.0	21.1	18.6	23.6
Atlanta-Sandy Springs-Roswell, GA	13.8 †	9.0	18.5	31.4	25.3	37.4	18.3!	2.6	33.9
Chicago-Naperville-Elgin, IL-IN-WI	10.0 †	6.7	13.3	23.6	13.0	34.2	18.8	10.7	26.8
Dallas-Fort Worth-Arlington, TX	23.0	18.9	27.1	40.1	10.2	70.1	29.7!	-0.6	59.9
Houston-The Woodlands-Sugar Land, TX	23.2	10.4	35.9	33.5	17.3	49.8	16.8	11.9	21.6
Los Angeles-Long Beach-Anaheim, CA	19.8	14.2	25.3	18.1 †	11.2	25.1	19.0	14.6	23.4
Miami-Fort Lauderdale-West Palm Beach, FL	6.2 †	1.3	11.1	9.3!†	-3.6	22.3	4.4 †	2.4	6.3
New York-Newark-Jersey City, NY-NJ-PA	14.3 †	8.3	20.2	17.7 †	13.8	21.6	11.5 †	7.0	15.9
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	17.1	8.5	25.6	46.9!	-11.6	105.4	14.4!	1.6	27.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	13.3 †	8.3	18.4	21.2	7.6	34.9	28.8	14.8	42.9

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

## **SECTION 4. DEVELOPMENT OF METHODOLOGICAL PROCEDURES TO PRODUCE DIRECT SUBNATIONAL ESTIMATES USING THE NCVS**

### **4.1 Motivation for Producing Direct Subnational Estimates Using Pre-2016 NCVS Data**

Given the rare nature of crime and the national design of the NCVS sample prior to 2016, the sample sizes and representativeness of the sample within many subnational areas may preclude direct estimation of criminal victimization for certain crime types or subgroups. As part of the 2016 sample redesign, the NCVS sample was expanded and redistributed to allow direct estimation for the 22 most populous states (Morgan & Kena, 2018). Boosting the sample increases the precision and representativeness of the estimates through direct observation. The augmented sample in the 22 most populous states increases the number of areas for which reliable direct estimates can be made. However, the sample boost is designed to produce estimates of violent crime with an RSE of 10% or less with 3 years of data,<sup>8</sup> so it cannot be used for subnational estimation for detailed crime types or subgroups in the short term. Additionally, the increased sample is not available for survey years prior to 2016, preventing assessment of victimization trends for most subnational areas over time. For these reasons, methodological procedures are needed to account for any coverage error in a subnational area due to a lack of NCVS sample in a given area and to determine the level at which sample sizes are sufficient under the pre-2016 sample design.

At the subnational level, states, MSAs, and cities are among the area types that could potentially support direct estimation given the NCVS sample size and the rarity of crime. This assessment focused on the largest areas within each area type—the 11 largest states, the 52 MSAs with at least 1 million persons during 2015 and an average annual NCVS sample size of at least 250 persons during 2006–15, and the cities associated with the 20 largest MSAs. The cities included in the analysis are listed in *Table 22*. For a list of states and MSAs, see *Table 2*.

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<sup>8</sup> Estimates of other crime types (e.g., property crime), or estimates with RSEs greater than 10%, can be generated with less than 3 years of data.

**Table 22. Cities Considered for Direct Estimation Using the NCVS**

Subnational Area	Number of Areas	Areas Included
Cities	20	Austin, TX Charlotte, NC Chicago, IL Columbus, OH Dallas, TX Detroit, MI El Paso, TX Fort Worth, TX Houston, TX Indianapolis, IN Jacksonville, FL Los Angeles, CA Memphis, TN New York, NY Philadelphia, PA Phoenix, AZ San Antonio, TX San Diego, CA San Francisco, CA San Jose, CA

#### **4.2 Quantifying and Correcting for Potential Coverage Bias in Subnational Areas, 2006–15**

Given the national focus of the NCVS sample design, estimates generated within subnational areas could suffer from coverage bias because standard analysis weights are intended only for the production of representative victimization counts, rates, and proportions at the national level. Although the primary sampling units (PSUs)<sup>9</sup> within a subnational area should produce unbiased estimates for that area in expectation, an unfortunate sample selection in any given year could lead to conditional coverage bias at the subnational level. Here, conditional bias refers to the way in which differences between the weighted sample and the population of interest in variables correlated with the outcome variable contributes to the SE of an estimate (Royall, 1971). In other words, for a given sample, the national-level weights may not accurately reflect the subnational population as a whole or at the subdomain level (e.g., race and Hispanic origin, income group) leading to potential bias when estimating totals or rates. Given this

<sup>9</sup> For additional information on PSUs, see Bureau of Justice Statistics (2017).

potential bias, direct subnational estimation using pre-2016 NCVS data requires corrective action to account for the national focus of the sample design.

#### **4.2.1 Overview of Coverage Assessment**

To determine the magnitude of the conditional coverage bias in a given area, the weighted distributions of key person- and household-level demographic characteristics were compared with external gold-standard control totals. The most timely and comprehensive data source available for this comparison is the ACS, which provides population estimates for key demographic subgroups nationally and some subnational areas. Whereas some geographic identifiers are publicly available (e.g., state), others (e.g., city indicators) are available only with ACS microdata, which can be accessed at Federal Statistical Research Data Centers (FSRDCs).<sup>10</sup>

Coverage estimates were calculated for the person- and household-level characteristics listed below by taking the ratio of the NCVS weight sum<sup>11</sup> to the ACS microdata weight sum for each characteristic of interest. These coverage ratios provide an indication of which areas and demographic subgroups within areas are over- or underrepresented by the current NCVS weights. For each state, MSA, and city, 1-year coverage ratios from 2006 through 2015 were calculated and examined.

##### **Selected Person-Level Characteristics**

- Sex
- Age Category
- Race/Hispanic Origin
- Percent FPL of Household
- Household Tenure
- Education Level
- Marital Status
- Employment

##### **Selected Household-Level Characteristics**

- Age of Householder
- Race/Hispanic Origin of Householder
- Percent FPL<sup>12</sup> of Household
- Education Level of Householder
- Number of Housing Units in Structure
- Number of Motor Vehicles

Note: *Section 4.2.3.1* discusses how percentage of the federal poverty level (FPL) estimates were calculated. The householder is the person identified as owning, buying, or renting the living quarters.

<sup>10</sup> For more information on FSRDCs, see the following webpage: <https://www.census.gov/fsrdc>.

<sup>11</sup> Person-level weights were used to estimate coverage for person-level characteristics, and household-level weights were used to estimate coverage for household-level characteristics.

<sup>12</sup> The FPL is an economic measure that is used to decide whether the income level of an individual or family qualifies them for certain federal benefits and programs. The FPL is based on household income and household size.

#### **4.2.2 Coverage in States, MSAs, and Cities**

If the weights appropriately represented a subnational area or subgroup within a given subnational area, the ratio of the NCVS weight sum to the ACS weight sum would be close to one. Ratios below one indicate that the subnational area or the domain within the subnational area is underrepresented by the current NCVS weights, and ratios above one indicate that the area or domain is overrepresented.

Generally, coverage ratios for subnational areas and demographic characteristics are quite reasonable (close to one), although for certain areas and demographic characteristics the NCVS sample under- or overestimated the true population. *Table 23* shows the 2015 coverage ratios for person-level characteristics, and *Table 24* displays household-level characteristics by area type. The range of coverage ratios observed as a whole during 2006–14 were similar to those presented for 2015, although ratios within specific subnational areas fluctuated over time (not shown). Even within well-represented subnational areas, some subdomains are not appropriately represented.

Because not all subnational areas and domains within subnational areas are appropriately represented by the current NCVS weights across all data years, estimates can be biased if the current NCVS national weights are applied at the subnational level—especially at the subdomain level. If victimization rates differ across subgroups within the population and those subgroups are not appropriately represented by the NCVS weights, then overall estimates will exhibit bias. To address this potential bias, NCVS weights can be recalibrated to ACS control totals.

*Section 4.2.3* describes the process of recalibrating the weights. *Section 4.2.4* provides a comprehensive analysis to assess the impact of recalibration on victimization point estimates and their estimated precision.

**Table 23. Estimated Coverage of the NCVS Person-Level Sample, by Area Type and Demographic Characteristics, 2015**

Demographic Characteristic	States				MSAs				Cities			
	Min	Median	Mean	Max	Min	Median	Mean	Max	Min	Median	Mean	Max
All Persons Age 12 or Older	0.77	0.97	0.99	1.29	0.39	1.00	1.00	1.49	0.73	1.01	1.03	1.26
Sex												
Male	0.78	0.98	0.99	1.26	0.41	0.99	1.00	1.45	0.71	1.04	1.04	1.34
Female	0.77	0.96	0.99	1.31	0.38	0.98	1.00	1.53	0.74	0.98	1.01	1.23
Age												
12–15	0.83	0.99	1.01	1.37	0.54	0.98	0.96	1.51	0.35	0.89	0.92	1.62
16–19	0.69	1.00	1.01	1.30	0.48	1.04	1.01	1.79	0.33	1.00	1.00	1.75
20–24	0.68	0.93	0.98	1.36	0.20	0.99	1.00	2.13	0.47	1.08	1.06	1.88
25–34	0.76	0.96	1.00	1.27	0.21	1.02	1.02	1.51	0.71	1.02	1.06	1.72
35–49	0.79	1.01	1.00	1.29	0.45	1.01	1.00	1.39	0.79	1.01	1.04	1.38
50–64	0.79	0.97	0.97	1.22	0.54	1.00	0.99	1.47	0.84	0.99	1.00	1.20
65 or Older	0.78	0.93	0.98	1.30	0.68	1.01	1.04	1.77	0.65	1.06	1.04	1.58
Race/Hispanic Origin												
White <sup>a</sup>	0.78	0.97	0.99	1.33	0.46	0.96	0.99	1.64	0.75	1.06	1.06	1.46
Black <sup>a</sup>	0.79	0.98	0.99	1.14	0.58	1.08	1.09	1.87	0.61	0.96	1.10	2.55
Hispanic	0.63	0.97	0.94	1.08	0.43	1.02	1.09	2.00	0.54	0.98	0.98	1.58
Other <sup>a,b</sup>	0.53	0.94	0.92	1.21	0.00	1.03	1.02	2.09	0.22	0.89	0.90	2.03
More than One Race <sup>a</sup>	0.33	0.61	0.61	1.11	0.00	0.63	0.71	2.38	0.00	0.53	0.68	2.53
Percent of FPL of Household												
FPL ≤ 100%	0.66	1.25	1.27	1.81	0.57	1.34	1.35	2.26	0.57	1.27	1.29	2.24
100% < FPL ≤ 200%	0.76	1.17	1.18	1.70	0.73	1.13	1.17	2.36	0.60	1.27	1.21	1.86
200% < FPL ≤ 300%	0.81	1.05	1.06	1.41	0.37	1.08	1.10	1.99	0.66	1.06	1.09	1.63
300% < FPL ≤ 400%	0.74	0.92	0.91	1.06	0.32	0.93	0.94	1.64	0.37	0.95	0.98	1.64
400% < FPL ≤ 500%	0.66	0.73	0.78	0.92	0.35	0.78	0.79	1.27	0.37	0.77	0.80	1.18
FPL > 500%	0.78	0.92	0.92	1.12	0.21	0.92	0.93	1.56	0.60	0.91	0.96	2.34
Household Tenure												
Own	0.83	0.96	0.99	1.31	0.44	1.01	1.01	1.56	0.81	1.01	1.02	1.32
Rent/No Cash Rent	0.69	1.00	1.02	1.30	0.28	1.04	1.03	1.64	0.47	1.02	1.04	1.45

(Continued)

**Table 23. Estimated Coverage of the NCVS Person-Level Sample, by Area Type and Demographic Characteristics, 2015 (Continued)**

Demographic Characteristic	States				MSAs				Cities			
	Min	Median	Mean	Max	Min	Median	Mean	Max	Min	Median	Mean	Max
<b>Education Level</b>												
Less than High School	0.81	0.96	1.00	1.45	0.17	1.02	1.01	1.58	0.64	0.94	1.02	1.61
High School	0.78	0.95	1.00	1.44	0.48	0.96	0.97	2.03	0.54	1.02	1.07	1.73
Some College/Associate's Degree	0.67	0.85	0.86	1.08	0.47	0.87	0.89	1.34	0.59	0.89	0.88	1.12
College Degree or Greater	0.81	1.03	1.02	1.18	0.17	1.07	1.06	1.58	0.75	1.04	1.07	1.41
<b>Marital Status</b>												
Married	0.82	1.01	1.01	1.28	0.53	1.03	1.03	1.41	0.83	1.10	1.10	1.52
Single	0.71	0.94	0.95	1.24	0.13	0.96	0.96	1.45	0.65	0.95	0.97	1.46
Separated/Divorced	0.76	0.91	0.95	1.39	0.66	0.91	0.95	1.83	0.43	0.95	0.91	1.20
Widowed	0.67	0.97	0.98	1.28	0.26	1.03	1.06	1.62	0.48	1.02	1.02	1.46
<b>Employed Last Week</b>												
Employed	0.78	0.97	0.98	1.23	0.36	0.98	0.99	1.40	0.78	1.02	1.03	1.25
Unemployed	0.74	0.99	1.00	1.34	0.56	1.01	1.03	1.71	0.78	1.03	1.06	1.51
Minor (Age 17 or Younger)	0.85	0.98	1.01	1.39	0.08	0.95	0.95	1.53	0.22	0.90	0.91	1.79

FPL=federal poverty level.

<sup>a</sup>Excludes persons of Hispanic/Latino origin.

<sup>b</sup>Includes American Indians and Alaska Natives; and Asians, Native Hawaiians, and Other Pacific Islanders.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2015, and U.S. Census Bureau, American Community Survey, 2015, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table 24. Estimated Coverage of the NCVS Household-Level Sample, by Area Type and Demographic Characteristics of Reference Person, 2015**

Demographic Characteristic	States				MSAs				Cities			
	Min	Median	Mean	Max	Min	Median	Mean	Max	Min	Median	Mean	Max
All Households	0.82	1.10	1.09	1.32	0.50	1.12	1.12	1.49	0.92	1.16	1.16	1.36
Age of Householder												
29 or Younger	0.86	1.62	1.51	1.93	0.34	1.50	1.48	2.08	0.66	1.53	1.47	1.95
30–34	0.89	1.16	1.15	1.48	0.23	1.19	1.20	2.06	0.75	1.11	1.23	2.23
35–49	0.83	1.06	1.06	1.30	0.51	1.07	1.06	1.45	0.70	1.07	1.12	1.54
50–64	0.82	1.03	1.02	1.20	0.49	1.04	1.04	1.47	0.93	1.08	1.10	1.29
65 or Older	0.76	0.99	1.02	1.31	0.69	1.06	1.09	1.68	0.72	1.12	1.08	1.37
Race/Hispanic Origin of Householder												
White <sup>a</sup>	0.82	1.07	1.07	1.34	0.59	1.07	1.09	1.57	0.92	1.14	1.15	1.42
Black <sup>a</sup>	0.85	1.18	1.17	1.36	0.00	1.22	1.21	1.79	0.81	1.23	1.34	3.30
Hispanic	0.75	1.10	1.03	1.17	0.00	1.16	1.20	2.29	0.54	1.14	1.13	1.56
Other/More than One Race <sup>a,b</sup>	0.44	0.87	0.86	1.16	0.00	0.91	0.93	2.06	0.39	0.71	0.89	2.61
Percent of FPL of Household												
FPL ≤ 100%	0.58	1.21	1.19	1.54	0.65	1.18	1.23	1.98	0.49	1.29	1.20	2.04
100% < FPL ≤ 200%	0.76	1.20	1.19	1.64	0.80	1.13	1.19	2.10	0.77	1.26	1.27	1.70
200% < FPL ≤ 300%	0.90	1.20	1.20	1.42	0.56	1.27	1.27	2.13	0.85	1.28	1.33	2.06
300% < FPL ≤ 400%	0.90	1.10	1.09	1.28	0.41	1.09	1.13	1.93	0.57	1.17	1.25	1.98
400% < FPL ≤ 500%	0.75	0.94	0.91	1.08	0.36	0.94	0.94	1.44	0.45	1.02	1.00	1.60
FPL > 500%	0.90	0.98	1.01	1.15	0.25	1.02	1.04	1.58	0.52	0.94	1.06	2.31
Household Tenure												
Own	0.86	1.08	1.08	1.35	0.57	1.12	1.12	1.50	0.93	1.14	1.17	1.46
Rent/No Cash Rent	0.74	1.12	1.10	1.27	0.31	1.12	1.12	1.55	0.57	1.19	1.15	1.45
Education Level												
Less than High School	0.78	1.07	1.10	1.57	0.40	1.11	1.21	2.60	0.55	1.09	1.18	2.26
High School	0.90	1.06	1.16	1.54	0.53	1.14	1.15	2.22	0.70	1.27	1.37	2.41
Some College/Associate's Degree	0.79	1.08	1.07	1.30	0.70	1.09	1.09	1.49	0.69	1.10	1.09	1.40
College Degree or Greater	0.80	1.10	1.05	1.19	0.18	1.08	1.08	1.46	0.82	1.11	1.09	1.43
Number of Housing Units in Structure												
1	0.83	1.04	1.07	1.33	0.56	1.08	1.09	1.50	0.83	1.06	1.13	1.77
2	0.97	1.45	1.58	2.19	0.58	1.57	1.85	5.88	0.00	2.07	2.13	4.59
3 or More	0.70	1.13	1.12	1.36	0.28	1.15	1.12	1.85	0.51	1.11	1.09	1.41
Number of Motor Vehicles												
0	0.62	1.08	1.05	1.25	0.58	1.08	1.07	1.82	0.72	1.21	1.18	1.71
1	0.76	1.07	1.04	1.23	0.48	1.07	1.07	1.43	0.69	1.09	1.08	1.28
2	0.89	1.09	1.09	1.27	0.48	1.11	1.10	1.58	0.81	1.18	1.23	1.68
3 or More	0.79	1.18	1.20	1.77	0.58	1.23	1.25	2.16	0.68	1.11	1.21	2.02

FPL=federal poverty level.

<sup>a</sup>Excludes persons of Hispanic/Latino origin.

<sup>b</sup>Includes American Indians and Alaska Natives; and Asians, Native Hawaiians, and Other Pacific Islanders.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2015, and U.S. Census Bureau, American Community Survey, 2015, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

### **4.2.3 Calibration of NCVS Weights for Subnational Estimation**

The recalibration process requires appropriate control totals for each subnational area of interest. Control totals were based on the ACS person- and household-level microdata made available in the Triangle FSRDC. To adjust NCVS national-level weights to reflect the demographic and socioeconomic composition of each subnational area, a weight calibration approach based on the generalized exponential model (GEM; Folsom & Singh, 2000) was used. This model-based technique ensures that control totals are calibrated simultaneously for the set of covariates specified.

#### **4.2.3.1 Imputation of NCVS Missing Data**

The recalibration process requires that all covariates in the data have the same categories as specified in the control totals and that none of these variables is missing. Because some NCVS variables contain missing values, imputation was required before weight calibration could proceed.

With the exception of the measure of household income as a percent of the FPL, variables were missing at a low rate.<sup>13</sup> Therefore, relatively simple imputation rules were employed. Unknown Hispanic origin values were imputed to non-Hispanic. Unknown values for education level and marital status were imputed to the mode value obtained after classifying by minor/adult. For variables related to the number of vehicles and number of housing units in the structure, missing values were imputed to the overall mode.

Percent-FPL had a larger magnitude of missing values than the other variables, so more care was required for imputation. Income provides the basis for percent-FPL and was directly imputed. Income imputation was based on a weighted, sequential-hot-deck approach (Cox, 1980; Iannacchione, 1982), with imputation cells defined by the cross-classification of collection year and household size.<sup>14</sup> Once household income was imputed, the 14-level categorical variable was

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<sup>13</sup> Hispanic origin: 0.19%; education level: 1.86%; marital status: 0.77%; number of vehicles: 0.84%; number of housing units in structure: 0.04%; and household income/percent-FPL: 30.79%.

<sup>14</sup> The national income imputation approach developed by Berzofsky et al. (2015) could not be implemented within the Federal Statistical Research Data Center, so an alternative approach was developed and used.

used to interpolate a continuous income value for each respondent and assign him or her to a percent-FPL value. This process follows the approach described in Couzens et al. (2016).

#### **4.2.3.2 Weighting Approach**

For each 2006–15 survey year, the NCVS household- and person-level weights were poststratified separately within each subnational area of interest to ACS 1-year control totals. For each annual NCVS household and person data file, weight calibration models were fit through a stepwise reduction algorithm in which the most robust model possible was used. Each model was evaluated to assess convergence and to ensure the increase in the design effect due to unequal weighting resulting from the calibration was less than 100% (Kish, 1965; Valliant et al., 2013). If either or both of these criteria were not satisfied, the last variable in the covariate set (as ordered in *Section 4.2.1*) was dropped or collapsed. This process continued until the convergence and design effect due to unequal weighting inflation criteria were satisfied or until the simplest (intercept only) model failed.

Using this approach, all state- and MSA-level models converged and required minimal model reduction, whereas many city-level models did not have sufficient data to support the calibration models. For this reason, it was determined that the pre-2016 NCVS design does not have adequate sample sizes to allow for reliable city-level estimates based on direct estimation, and further analysis of subnational areas was limited to states and MSAs.

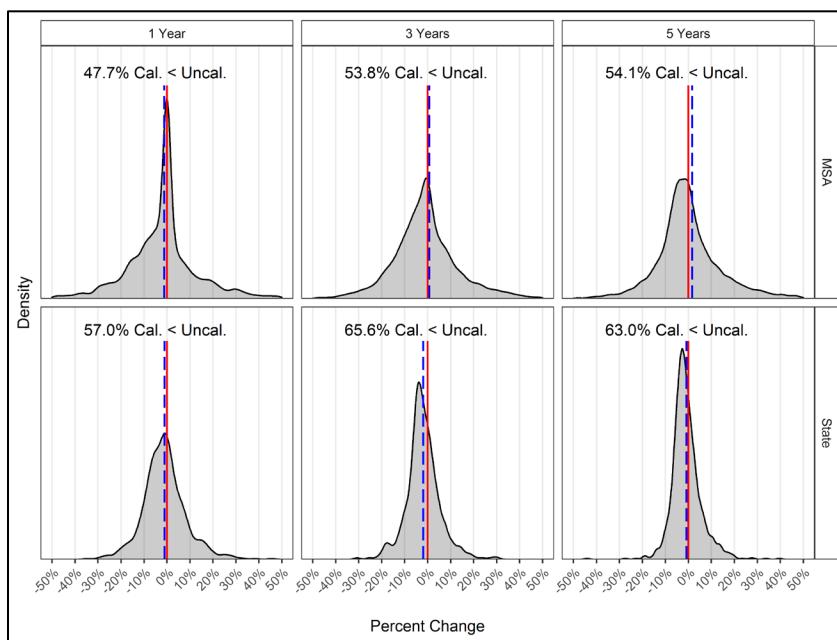
#### **4.2.4 Comparison of Recalibrated Weights to Original Weights**

Recalibration to state- and MSA-level ACS control totals should lead to estimates that are more representative of the population in these subnational areas. However, reducing coverage bias could potentially allow for decreased precision due to the recalibration process. Calibration weighting can often reduce the mean squared error of an estimator when the outcome is correlated with covariates used in the calibration model (Kott & Liao, 2015). However, calibration can also increase the design effects due to increased unequal weighting. Therefore, to ensure that reducing coverage bias did not outweigh a potentially negative impact on precision, estimates based on the original (uncalibrated) NCVS weights were compared with estimates based on the revised (calibrated) NCVS weights. The key estimates compared include all major crime types and violent and property crime by key demographic characteristics.

The following density plots compare estimates based on the calibrated and uncalibrated weights, pooled separately across states and MSAs. In each figure, a 0% change in the estimate is denoted by the red line, and the blue dashed line denotes the mean change across all estimates. The plots also indicate the percentage of calibrated estimates that are less than the uncalibrated estimates to further assess the effects of calibration on victimization estimates.

Calibration tended to lead to a reduction in estimated victimization totals and rates for both states and MSAs. **Figure 37** presents the percent change in victimization rates resulting from calibration for states and MSAs for the 1-, 3-, and 5-year periods ending in 2015. Although the mean difference across all estimates was generally close to 0%, the magnitude of differences was sometimes large. For MSAs, approximately 50% of estimates were lower after the calibration process, with most estimates changing by 20% or less. For states, approximately 60% of estimates were lower after the calibration process, although the magnitude of change was generally less than the changes observed for MSAs. For the majority of state-level estimates, the percent change in victimization rates resulting from calibration was less than 10%.

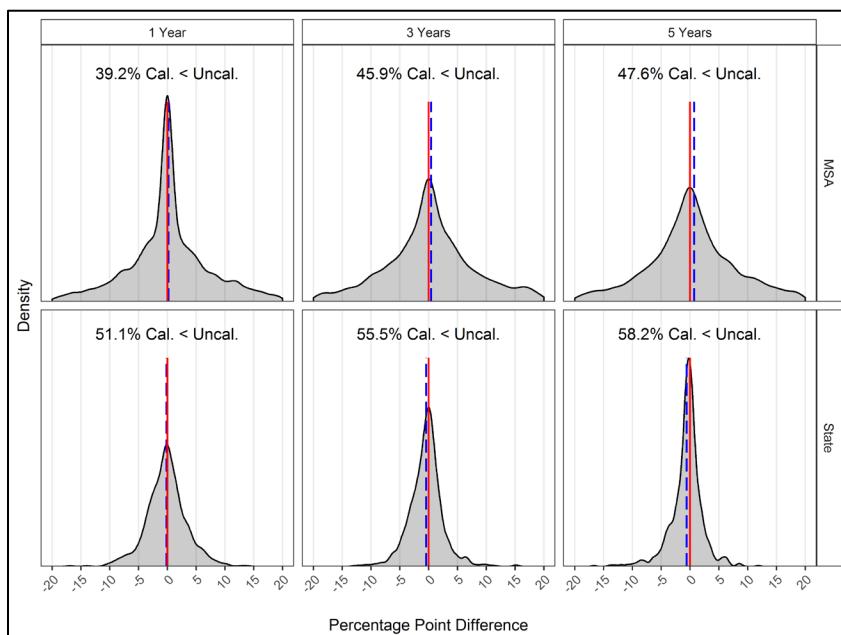
**Figure 37. Percent Change in Victimization Rates Resulting from Calibration Process for States and MSAs, 1-, 3-, and 5-Year Estimates for 2015**



Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

The precision of estimates before and after recalibration was also compared. **Figure 38** compares the RSEs for estimated victimization rates for 1-, 3-, and 5-year estimates. Dashed blue lines denote the mean, and solid red lines represent a 0% change. The percentage of estimates for which the calibrated RSE was less than the uncalibrated RSE is presented at the top of each plot. Similar to the impact on rates, the magnitude of the effect on precision was more pronounced for MSAs than states, and 50% to 60% of MSA-level estimates had lower (worse) precision after calibration. In comparison, state-level estimates exhibited, on average, a slight improvement in precision when calculated with the calibrated weights than with the uncalibrated (national) weights. Although the calibration models for both MSAs and states incorporated variables that were highly correlated with the outcomes of interest (i.e., crime rates), reweighting tended to increase the design effects due to unequal weighting more in MSAs than in states. This difference in the impact on unequal weighting effects (UWEs) most likely led to the difference in precision effects between states and MSAs. However, generally, the effects on precision were minor for both area types. In both cases, as more years of data were pooled, any negative impact of the reweighting was lessened. This is likely because any required adjustment in the weights can be allocated to more respondents, thereby reducing any weight disparity in a single case.

**Figure 38. Change in RSEs of Victimization Rates Resulting from Calibration Process for States and MSAs, 1-, 3-, and 5-Year Estimates for 2015**



Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

This analysis shows that recalibration to ACS control totals leads to differences in victimization totals and rates within states and MSAs. Thus, recalibrated weights should be used for subnational analyses. Estimates based on uncalibrated weights should not be reported for these areas. Recalibration marginally reduces the estimated precision of some types of estimates and marginally improves the estimated precision of others. In general, the recalibration process had a minimal effect on estimate precision, and the reduction in potential bias outweighs the slight loss in precision that occurs for some estimate types.

#### **4.3 Direct Variance Estimation Methodology in Subnational Areas**

To produce SEs at the subnational level properly, the estimation process needs to account for the survey design at a lower level of geography than the national PSU level.<sup>15</sup> When calculating estimates from the NCVS PUFs, generalized variance functions (GVFs) or direct estimation typically accounts for the complex sample design. Although GVF parameters are provided on an annual basis for both national-level estimates and subdomain estimates (e.g., race or sex), these models have not been estimated at a subnational level and were not appropriate for use in the current analysis. Therefore, subnational estimates require a direct estimation method.

Direct estimation can be accomplished through Taylor Series Linearization (TSL) or a replicate weighting approach. For TSL, the design (at the area of estimation) needs to support a sufficient number of degrees of freedom (e.g., a minimum of 30) because the nominal degrees of freedom provides a measure of a variance estimate's stability. However, using the PSUs from the national-level design would lead to a small number of degrees of freedom and unstable variance estimates within many subnational areas. Because the national PSUs were too large to be used at the subnational level, the use of census tracts and census blocks within each subnational area was evaluated as a potential option for creating pseudo-PSUs. However, the use of these pseudo-PSUs had the potential to reduce SEs of estimates artificially by inflating the degrees of freedom. Therefore, TSL was ruled out as an appropriate option. Replicate weights, however, do not require a minimum number of degrees of freedom because the replicate weights account for the design. A replication method, delete-a-group jackknife (DAGJK), was chosen for variance

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<sup>15</sup> For more information on the NCVS sample design, see Bureau of Justice Statistics (2014) and Bureau of Justice Statistics (2017).

estimation in subnational areas. DAGJK was selected because it would create a uniform number of replicates within each MSA or state, thereby simplifying statistical analysis across areas.

The DAGJK method divides the PSUs and secondary sampling units (SSUs) into R random groups. The variance is then estimated by deleting one group at a time from the sample, computing R replicate estimates, and taking the sum of the squared differences between the R replicate estimates and the original estimate multiplied by an adjustment factor. The variance estimator becomes—

$$Var(\hat{\theta}) = \frac{R-1}{R} \sum_{r=1}^R (\hat{\theta}_r - \hat{\theta})^2,$$

where R is the number of replicates,  $\hat{\theta}_r$  is the estimate based on the r<sup>th</sup> replicate, and  $\hat{\theta}$  is the estimate for the full sample. For a weighted estimate  $\hat{\theta} = \sum_S w_i y_i$  such as the rate of violent crime, the R replicate estimates will have the form  $\hat{\theta}_r = \sum_S w_{i(r)} y_i$ . To use the DAGJK variance estimator, the R replicate weights  $w_{i(r)}$  are developed. The maximum number of replicates is limited by the number of PSUs selected in each stratum, which, for the current analysis, is sometimes small. For situations such as this, the extended DAGJK can be implemented as described in Kott (2001). Kott defines the replicate weights as—

$$w_{hjk(r)}^{(E)} = \begin{cases} w_{hjk} & \text{when } S_{hr} \text{ is empty} \\ w_{hjk}(1 - [n_h - 1]Z) & \text{when } j \text{ is in } S_{hr}, \text{ and} \\ w_{hjk}(1 + Z) & \text{otherwise,} \end{cases}$$

where  $w_{hjk}$  is the weight of respondent k in PSU j, stratum h,  $n_h$  is the number of sampled PSUs in stratum h, and  $Z = \sqrt{R/[(R-1)n_h(n_h-1)]}$ . The number of replicates does not need to be large, and for this work, 30 were used, as recommended by Kott (2001).

#### **4.3.1 Application of the Delete-a-Group Jackknife Method in Subnational Areas**

To construct the replicate weights for each subnational area, a two-step process was used. First, replicate weights at the national level were generated using the NCVS PSUs. Second, once the national-level replicates had been generated for each 2006–15 survey year, the analysis

weight and each replicate were poststratified separately within each subnational area of interest according to the weighting approach described in *Section 4.2.3.2*.

Subsequent analyses within subnational areas were conducted using standard statistical software (e.g., SUDAAN’s VARGEN procedure) that allows an estimate’s variance to be calculated using replicate weights while accounting for the complex sample design of the survey.

### 4.3.2 Significance Testing

The subnational analyses conducted in *Sections 2* and *3* attempted to answer two primary research questions: Do subnational areas—

1. differ from one another and the nation as a whole?
2. have victimization rate trends that differ from one another and the nation?

Because the subnational areas examined here do not overlap for a given area type (i.e., states or MSAs), comparisons between different subnational areas (e.g., California and New York) were made using an independent samples *t*-test. Comparisons between each individual area and the nation as a whole were also treated as independent and evaluated using *t*-tests. Although these areas do overlap and are not technically independent, each individual area makes up a relatively small portion of the national population (i.e., generally less than 10%), and ignoring the correlation likely results in a slightly more conservative test.

For the analysis in *Section 2.2*, the national-level trend was analyzed using linear regression techniques. For each crime type, a linear model was fit with the observed crime rate as the dependent variable and year as the lone independent variable. The slope of the regression line (i.e., the effect of year) was then tested to determine if it was significantly different from zero. A slope that is significantly greater than zero indicates increasing rates of victimization at the national level, while a slope that is significantly less than zero indicates decreasing victimization rates. Similarly, comparisons between the national- and state-level trends were tested using linear regression. The dependent variable in the linear regression analysis measured the difference between a given state and national rate for each 3-year period from 2008 to 2015. The regression model included a single independent variable (year), and the slope of the regression line was tested for statistical significance. A slope that is significantly greater than zero indicates that state-level victimization rates are increasing relative to the national-level trend. Similarly, a slope

that is significantly less than zero indicates that state-level victimization rates are decreasing relative to the national-level trend. If the state-level trend is not significantly different from the national-level trend, the effect of year (i.e., the slope) should be flat on average. These comparisons do not indicate whether victimization rates within a given state are increasing, decreasing, or unchanged during 2008–15. Instead, the trend within each state is measured relative to the national-level trend. For example, victimization rates can be unchanged during 2008–15 for a given state, but the state trend line can be significantly different from the national trend line if victimization rates have significantly increased or decreased for the nation as a whole during the same period.

#### **4.4 Data Pooling Recommendations for State- and MSA-Level Estimation**

Given the sample size constraints at the subnational level in the pre-2016 sample design, minimum sample size guidelines have been developed. For specific crime types and analysis domains, these guidelines provide estimates for the subnational sample sizes required to support estimates with RSEs of at most 50% and 30%.<sup>16</sup> These minimum sample size estimates serve as a starting point for researchers to decide whether a given subnational area will support estimation of a particular crime type within a domain of interest, and, if so, the estimates can be used to determine the number of data years that will need to be combined to produce reliable estimates.

##### **4.4.1 Developing Minimum Sample Size Requirements for Subnational Estimation**

To develop general sample size recommendations for meeting estimate precision targets, an analysis framework based on Monte Carlo replication and empirical estimation was established. Under this framework, the rates of the most commonly analyzed person and household crimes were estimated from random NCVS subsamples taken from the national person and household samples<sup>17</sup> covering 2006–15 and yielding specific sample size counts. For a given crime type and analysis domain (e.g., violent crime among Hispanics, domestic violence among all persons), the RSE of the rate was estimated across 100 unique random replicate samples. For household-level crimes, this process was repeated for each sample size ranging

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<sup>16</sup> RSEs of 30% or 50% or larger are what many federal surveys use as a threshold to classify an estimate as unreliable.

<sup>17</sup> These person and household files contained crime summaries taken from 2006 to 2015 incident files as described in Shook-Sa et al. (2015).

from 250 to 2,000 in increments of 250 households and from 2,000 to 50,000 in increments of 500. For person-level crimes, this process was repeated for each sample size ranging from 1,000 to 50,000 in increments of 500 persons. Across the range of sample sizes, for each increment, the percentage of replicate samples yielding RSEs lower than two RSE target levels (30% and 50%) was recorded. For each RSE target, the smallest sample size increment to achieve the RSE target for 80% of replicates was taken as the recommended minimum sample size required for that level of precision.

For example, to estimate the population required to support an RSE of 50% for a total violent victimization rate among males, 9,900 estimates were generated from 9,900 unique samples (100 replicates each for sample sizes of 1,000, 1,500, 2,000...50,000). For each sample size increment, the percentage of replicates (out of 100) with an RSE of 50% or less was calculated, and the first sample size (beginning at 1,000 and going up) with at least an 80% success rate was selected for the recommendation. Because the simulation was based on the national-level file and the recalibration process can increase the design effect due to unequal weighting, the first sample size with at least an 80% success rate was treated as an effective sample size, as opposed to a nominal sample size, for further analysis. **Table 25** shows the estimated effective sample sizes required to obtain an  $RSE \leq 50\%$  for person-level crimes. **Appendix A** presents additional details, including estimated minimum ESSs required to obtain an  $RSE \leq 30\%$  for person-level crimes and estimated minimum ESSs required to achieve an  $RSE \leq 30\%$  or an  $RSE \leq 50\%$  for household-level crimes.

**Table 25. Minimum Estimated ESS Required to Achieve an RSE of 50% or Less, by Person-Level Crime Type and Domain**

Crime Type/Domain	Estimated ESS Required	Crime Type/Domain	Estimated ESS Required
Violent Crime: O/M/F	1,500 / 3,500 / 3,500 4,500 / 6,000 / 9,500	Violent Crime (Continued)	
Serious Violent Crime: O/M/F	31,000	Race/Hispanic Origin	
Rape/Sexual Assault	8,000	White <sup>a</sup>	2,500
Robbery	2,000 / 4,000 / 4,000	Black <sup>a</sup>	10,000
Assault: O/M/F	7,000	Hispanic	9,500
Aggravated	3,000 / 4,500 / 5,500	Other <sup>a</sup>	45,000
Simple: O/M/F	27,000	Poverty Level	
Personal Theft		FPL $\leq 100\%$	7,500

<b>Crime Type/Domain</b>	<b>Estimated ESS Required</b>	<b>Crime Type/Domain</b>	<b>Estimated ESS Required</b>
Violent Crimes Involving a Weapon: O/M/F	5,500 / 8,500 / 14,000	100% < FPL ≤ 200%	6,000

(Continued)

**Table 25. Minimum Estimated ESS Required to Achieve an RSE of 50% or Less, by Person-Level Crime Type and Domain (Continued)**

Crime Type/Domain	Estimated ESS Required	Crime Type/Domain	Estimated ESS Required
Violent Crimes Involving a Firearm: O/M/F	13,500 / 21,000 / 32,500	200% < FPL ≤ 300%	9,500
Intimate Partner Violence: O/M/F	14,000 / -- / 16,500	300% < FPL ≤ 400%	16,000
Domestic Violence: O/M/F	7,500 / 31,500 / 9,500	400% < FPL ≤ 500%	28,500
Acquaintance Violence: O/M/F	5,000 / 10,500 / 10,500	500% < FPL	8,500
Stranger Violence: O/M/F	3,500 / 5,500 / 7,500	Tenure	
Violent Crimes Occurring during the Day	2,500	Own	3,500
Violent Crimes Occurring at Night	3,500	Rent/No Cash Rent	3,500
Violent Crime		Education Level	
Age		Less than High School	5,500
12–17	9,000	High School	6,000
18–24	8,000	Some College/Associate's	
25–49	4,000	Degree	6,000
50 or Older	7,000	College Degree or Greater	8,500
12–24	4,500	Marital Status	
		Married	5,500
		Single (Never Married)	3,000
		Separated or Divorced	7,500
		Job Last Week: Employed	3,000
		Job Last Week: Unemployed	4,500

ESS=effective sample size; FPL=federal poverty level; O=Overall; M=Male; F=Female.

Note: Unless otherwise specified, the crime type/domain includes all respondents. This is equivalent to estimates marked as O=Overall for crime types presented by respondent sex.

<sup>a</sup> Excludes persons of Hispanic/Latino origin.

#### 4.4.2 Performance of Sample Size Recommendations in Subnational Areas

The estimated ESS required to obtain a certain level of precision was based on a series of random samples drawn from NCVS respondents from the entire United States. However, the ESS requires adjustment for area-specific design effects due to the (1) recalibration of weights in subnational areas; (2) random samples in the simulation being drawn from U.S. respondents from which the distribution of respondent characteristics (e.g., age, race) could differ significantly from each individual subnational area; and (3) the local crime rate, which could differ significantly from those based on a random sample from the national population. For example, approximately 14.5% of NCVS respondents were of Hispanic or Latino origin during 2006–15. However, according to the ACS, the percentage of the population in Pennsylvania that

was of Hispanic or Latino origin ranged from 4.2% to 6.8% during this same period.<sup>18</sup> This difference could lead to lower levels of precision for some estimates (e.g., violent victimization rate among Hispanics in Pennsylvania) within specific subnational areas relative to the precision observed in the simulated samples. For these reasons, the estimated sample sizes needed to obtain certain levels of precision were validated using the restricted-use data files by performing the following steps:

1. The nominal sample size in each of the 52 MSAs and 11 states was calculated for each survey year from 2006 to 2015.
2. The UWEs was calculated for each area by survey year. The nominal sample size from (1) was then divided by the UWE to obtain the ESS for each area by year.
3. For each area, the ESS from (2) in each X-year period ( $X=1, 2, 3\dots10$ ) was compared with the estimated ESS needed to obtain the desired level of precision ( $RSE \leq 30\%$  or  $RSE \leq 50\%$ ) for a given crime type and domain. The minimum number of years ( $M_A$ ) required to meet the estimated threshold in at least one X-year period was then identified for each area.
4. For each crime type and domain, the crime rate and percent RSE was calculated for each area by pooled year grouping if the following conditions were met:  
(a) the ESS for the area by pooled year grouping met or exceeded the estimated threshold, and (b) the threshold was not met or exceeded with a smaller number of pooled years for that area (i.e.,  $X=M_A$ ).
5. The percentage of estimates from (4) that met the desired precision (e.g.,  $RSE \leq 50\%$ ) was calculated for each crime type and domain.

For most crime types and domains, the desired level of precision was obtained for at least 80% of the area by pooled year groupings included in the validation when the RSE was set at 50% (see **Tables A-1** and **A-2** in *Appendix A*). Results show that 54 of the 61 person-level crime types (88.5%) and 31 of the 35 household-level crime types (88.6%) achieved an  $RSE \leq 50\%$  for at least 80% of the area by year groupings that met or exceeded the ESS threshold predicted by the simulation. With the precision criteria set to an  $RSE \leq 30\%$ , 26 of the 53 person-level crime types (49.1%) and 21 of the 35 household-level crime types (60%) achieved an  $RSE \leq 30\%$  for at least 80% of the area by year groupings that met or exceeded the estimated sample size from the simulation. Although the estimated sample sizes required to achieve an  $RSE \leq 30\%$  did not perform as well during the validation phase within specific subnational areas, the percentage of estimates meeting the criteria was close (i.e., within 5%) to the desired level (i.e., 80% of all estimates) for many additional crime types and domains. For example, at least 75% of estimates

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<sup>18</sup> Statistics taken from the U.S. Census Bureau's American FactFinder (<https://factfinder.census.gov>).

achieved an RSE  $\leq 30\%$  for 41 of the 53 person-level crime types (77.4%) and 28 of the 35 household-level crime types (80%).

To assess the extent to which population characteristics in MSAs might affect the performance of sample size guidelines (especially for 30% RSE precision), ACS prevalence estimates for key demographic and socioeconomic indicators were analyzed in conjunction with a binary pass/fail outcome indicating for each area-by-crime-type-by-domain whether the desired precision was achieved when the guidelines were followed. **Table 26** presents the ACS characteristics included in this analysis.

**Table 26. ACS Demographic and Socioeconomic Characteristics Included in Sample Size Guideline Analysis**

Demographic and Socioeconomic Characteristic	Level
Percentage of Persons within Age Groups below the Poverty Limit	Age 17 or Younger; 18–34; 35–64; 65 or Older
Percentage of the Population Who Are Hispanic/Latino	N/A
Percentage of the Population in Race Categories	White; Black; American Indian or Alaska Native; Asian, Native Hawaiian, or Other Pacific Islander; Other; Persons of Two or More Races
Percentage of the Population Age 18 or Older	N/A
Percentage of the Population Age 65 or Older	N/A
Percentage of the Population Who Are Male	N/A
Percentage of Those Age 25 or Older with a Bachelor's Degree or Greater	N/A

N/A=not applicable.

Source: Comparative Social Characteristics in the United States, 2012–16 American Community Survey 5-year Estimates. Obtained from American FactFinder at <https://factfinder.census.gov>.

The first step in analyzing the importance of MSA population composition in the performance of the sample size guidelines was to assess the relative importance of the listed measures as predictors of whether the estimate precision targets were met. This was done for 30% RSE targets and separately for person and household crimes.

To limit the impact of area-by-crime-by-domain combinations where the sample size far outstripped the recommendation (thereby increasing the likelihood that the precision target would be met for reasons unrelated to the quality of the recommendation), the assessment was limited to combinations where the ratio of the ESS to the recommended sample size was less than 1.1 or where the recommendation was not exceeded by more than 10%. For person crimes,

this kept 61.2% of combinations in the analysis ( $n=1,428$ ), and for household crimes, 27.7% of combinations remained ( $n=2,272$ ). With this reduced set of estimates, each area-by-crime-by-domain's pass/fail status was used as the outcome in a random forest variable importance analysis, which measured the predictive strength of all available general population characteristics, in addition to a variable indicating the number of pooled data years from which the estimate was derived. The strongest predictor from each category (e.g., age of the general population is made up of separate estimates for the percentage of the population who are age 18 or older and 65 or older) was then included in a multiple logistic regression model estimated using the same subset of area-by-crime-by-domain combinations.

For person crimes, the logistic model included main effects for the number of data years, population age (percent age 65 or older), poverty (percent in poverty among those aged 18 to 34), diversity (percent nonwhite), and education (percent with bachelor's degree among those age 25 or older). Only population age ( $p < 0.0001$ ), poverty ( $p < 0.0001$ ), and education ( $p < 0.05$ ) proved significant. Population age showed by far the strongest effect with a 22% reduction in the odds that an area-by-crime-by-domain combination would achieve the desired precision for every 1 percentage point increase in the percentage of the population age 65 or older. Poverty showed the second strongest effect on passage with an odds ratio of 0.81, or a 19% reduction in the odds of meeting the desired precision for every 1 point increase in the percentage of the population age 18 to 34 living in poverty. Education had the lowest impact with an odds ratio of 0.91, or a 9% reduction in the odds of meeting the precision target for every 1 point increase in the percentage of those age 25 or older with a bachelor's degree. In other words, areas with larger populations of older residents, residents age 18 to 34 living in poverty, or adults with a bachelor's degree may require a larger sample size than the base recommendation to achieve a 30% RSE level.

For household crimes, the logistic regression analysis included main effects for the number of data years, diversity (percent nonwhite), population age (percent age 18 or older), education (percent with bachelor's degree among those age 25 or older), and poverty (percent in poverty among those aged 18 to 34). Only population age ( $p < 0.0001$ ) proved significant with an odds ratio of 0.87, or a 13% reduction in the odds that an area-by-crime-by-domain combination would achieve the desired precision for every 1 percentage point increase in the

percentage of the population age 18 or older. *Appendix A* presents additional results from the validation phase.

#### **4.4.3 Determining the Number of Years to Pool for Subnational Estimation**

When applying the developed guidelines to a particular analysis, this process should begin with defining the type(s) of crime to be analyzed, domain(s) of interest (e.g., all respondents, males, females), desired level of precision, and specific areas for inclusion in the analysis. Once these features are chosen, the next step will be to determine the number of years of data to pool to help ensure the resulting estimates achieve the desired level of precision for the specified analysis. This step will require two pieces of information: (1) the estimated ESS required to achieve the specified level of precision, and (2) the ESS for the area(s) of interest. *Table 25* and *Appendix A* present the estimated ESS for many crime types and domains for an RSE  $\leq 50\%$ . *Table 27* shows the average annual ESSs for persons in the 11 largest states and the 52 largest MSAs.<sup>19</sup>

This information helps to determine the number of years of data to pool for many types of analyses. For example, if a particular analysis involved estimating the serious violent victimization rate among females in North Carolina with an RSE  $\leq 50\%$ , the first step would be to obtain the estimated minimum ESS given the type of crime, domain, and desired precision. From *Table 25*, the estimated minimum ESS for this particular analysis is 9,000. The average annual NCVS ESS of persons in North Carolina is 2,851 as shown in *Table 27*. Dividing the estimated minimum ESS (9,000) by the average annual ESS (2,851) and rounding up provides the estimated number of years of data needed for this analysis (i.e., 4 years).

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<sup>19</sup> *Appendix B* presents additional information, including average annual nominal sample sizes and average annual UWEs at both the person and household level.

**Table 27. NCVS Average Annual ESS of Persons, by MSA, 2006–15**

MSA	Average Annual ESS	MSA	Average Annual ESS
Atlanta-Sandy Springs-Marietta, GA	2,276	Pittsburgh, PA	903
Austin-Round Rock, TX	660	Portland-Vancouver-Beaverton, OR-WA	887
Baltimore-Towson, MD	890	Providence-Warwick, RI-MA	780
Birmingham-Hoover, AL	415	Raleigh, NC	413
Boston-Cambridge-Quincy, MA-NH	1,594	Richmond, VA	334
Buffalo-Cheektowaga-Niagara Falls, NY	413	Riverside-San Bernardino-Ontario, CA	1,543
Charlotte-Gastonia-Concord, NC-SC	1,016	Rochester, NY	382
Chicago-Joliet-Naperville, IL-IN-WI	4,056	Sacramento-Roseville-Arden-Arcade, CA	741
Cincinnati, OH-KY-IN	944	St. Louis, MO-IL	1,179
Cleveland-Elyria, OH	871	Salt Lake City, UT	350
Columbus, OH	815	San Antonio-New Braunfels, TX	723
Dallas-Fort Worth-Arlington, TX	2,682	San Diego-Carlsbad-San Marcos, CA	1,208
Denver-Aurora-Lakewood, CO	1,004	San Francisco-Oakland-Fremont, CA	1,910
Detroit-Warren-Livonia, MI	1,875	San Jose-Sunnyvale-Santa Clara, CA	612
Hartford-West Hartford-East Hartford, CT	379	Seattle-Tacoma-Bellevue, WA	1,489
Houston-Sugar Land-Baytown, TX	2,127	Tampa-St. Petersburg-Clearwater, FL	1,127
Indianapolis-Carmel-Anderson, IN	740	Tucson, AZ	270
Jacksonville, FL	529	Virginia Beach-Norfolk-Newport News, VA-NC	648
Kansas City, MO-KS	824	Washington-Arlington-Alexandria, DC-VA-MD-WV	2,217
Las Vegas-Henderson-Paradise, NV	810		
Los Angeles-Long Beach-Santa Ana, CA	4,864	<b>State</b>	
Louisville/Jefferson County, KY-IN	467	California	14,597
Memphis, TN-MS-AR	508	Texas	9,142
Miami-Fort Lauderdale-Pompano Beach, FL	2,557	New York	7,701
Milwaukee-Waukesha-West Allis, WI	736	Florida	8,426
Minneapolis-St. Paul-Bloomington, MN-WI	1,637	Illinois	5,494
Nashville-Davidson-Murfreesboro-Franklin, TN	481	Pennsylvania	4,637
New Orleans-Metairie, LA	324	Ohio	6,325
New York-Northern New Jersey-Long Island, NY-NJ-PA	7,096	Georgia	3,886
Oklahoma City, OK	415	North Carolina	2,851
Orlando-Kissimmee-Sanford, FL	736	Michigan	4,410
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,048	New Jersey	3,244
Phoenix-Mesa-Glendale, AZ	1,735		

ESS=effective sample size; NCVS=National Crime Victimization Survey.

Note: Average annual ESS is calculated as the average annual nominal sample size divided by the average annual design effect due to unequal weighting. The ESS for individual years within a particular area may vary due to differences in nominal sample sizes and design effects due to unequal weighting.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

For analyses involving multiple domains, researchers should use the largest minimum ESS value across all domains under consideration. For example, to estimate the violent crime rate by employment status, **Table 25** indicates that a minimum ESS of 3,000 is required to achieve an  $RSE \leq 50\%$  among persons that are employed, while a minimum ESS of 4,500 is required to achieve the same level of precision among persons that are unemployed. In this scenario, the largest value (i.e., 4,500) should be used to determine the number of years of data to pool for the analysis. Similarly, when an analysis includes multiple areas, the smallest average annual sample size across all areas under consideration should be used when calculating the number of years of data to pool.

As noted previously, these guidelines serve as a starting point for planning subnational analyses. However, following these guidelines will not guarantee that the analysis will produce estimates with the desired level of precision in all instances. The method for developing the guidelines was designed such that 80% of estimates calculated from a series of random samples of a given size, drawn from NCVS respondents, would achieve the specified precision level. Therefore, each specific analysis should be evaluated to ensure the reliability of its resulting estimates.

## SECTION 5. REFERENCES

- Berzofsky, M., Creel, D., Moore, A., Smiley-McDonald, H., & Krebs, C. (2015). *Imputing NCVS income data* (NCJ 248563). Office of Justice Programs. <https://www.ncjrs.gov/pdffiles1/bjs/grants/248563.pdf>
- Bureau of Justice Statistics. (2014). *National Crime Victimization Survey: Technical documentation* (NCJ 247252). <https://www.bjs.gov/content/pub/pdf/ncvstd13.pdf>
- Bureau of Justice Statistics. (2017). *National Crime Victimization Survey, 2016: Technical documentation* (NCJ 251442). <https://www.bjs.gov/content/pub/pdf/ncvstd16.pdf>
- Couzens, G. L., Berzofsky, M. E., & Peterson, K. C. (2016). Income interpolation from categories using a percentile-constrained inverse-CDF approach. *Survey Practice*, 9(5), 1-11. <https://doi.org/10.29115/sp-2016-0032>
- Cox, B. G. (1980). The weighted sequential hot deck imputation procedure. In American Statistical Association, *JSM Proceedings, Survey Research Methods Section* (pp. 721-726). <http://www.asasrms.org/Proceedings/y1980f.html>
- Folsom, R. E., Jr., & Singh, A. C. (2000). The generalized exponential model for sampling weight calibration for extreme values, nonresponse, and poststratification. In American Statistical Association, *JSM Proceedings, Survey Research Methods Section* (pp. 598-603). [http://www.asasrms.org/Proceedings/papers/2000\\_099.pdf](http://www.asasrms.org/Proceedings/papers/2000_099.pdf)
- Iannacchione, V. G. (1982). Weighted sequential hot deck imputation macros. In SAS Institute Inc., *Proceedings of the Seventh Annual SAS Users Group International Conference* (pp. 759-763).
- Kish, L. (1965). *Survey sampling*. John Wiley & Sons, Inc.
- Kott, P. S. (2001). The delete-a-group jackknife. *Journal of Official Statistics*, 17(4), 521-526. <https://www.scb.se/contentassets/ca21efb41fee47d293bbe5bf7be7fb3/the-delete-a-group-jackknife.pdf>
- Kott, P. S., & Liao, D. (2015). One step or two? Calibrating weighting from a complete list frame with nonresponse. *Survey Methodology*, 41(1), 165-181. <https://www150.statcan.gc.ca/n1/en/pub/12-001-x/2015001/article/14172-eng.pdf?st=WpUdPT1y>
- Morgan, R. E., & Kena, G. (2018). *Criminal victimization, 2016: Revised* (NCJ 252121). Bureau of Justice Statistics. <https://www.bjs.gov/content/pub/pdf/cv16re.pdf>
- Morgan, R. E., & Truman, J. L. (2018). *Criminal victimization, 2017* (NCJ 252472). Bureau of Justice Statistics. <https://www.bjs.gov/content/pub/pdf/cv17.pdf>

- Royall, R. M. (1971). Linear regression models in finite population sampling theory. In V. P. Godambe & D. A. Sprott (Eds.), *Foundations of statistical inference* (pp. 259-279). Holt, Rinehart, and Winston.
- RTI International. (2013). *SUDAAN language manual, Release 11.0.1*.
- Shook-Sa, B., Couzens, G. L., & Berzofsky, M. (2015). *User's guide to National Crime Victimization Survey (NCVS) direct variance estimation* (NCJ 249474). Bureau of Justice Statistics.  
[https://www.bjs.gov/content/pub/pdf/NCVS\\_Variance\\_User\\_Guide%2011.06.14.pdf](https://www.bjs.gov/content/pub/pdf/NCVS_Variance_User_Guide%2011.06.14.pdf)
- Valliant, R., Dever, J. A., & Kreuter, F. (2013). *Practical tools for designing and weighting survey samples*. Springer.

## **APPENDIX A: SLIDE RULE SIMULATION AND VALIDATION RESULTS**

**Table A-1 Estimated ESS Required to Achieve Specified Level of Precision and Performance of Guidelines in Subnational Areas, by Crime Type/Domain, Person-Level Crimes**

Crime Type/Domain	RSE ≤ 30%			RSE ≤ 50%			
	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 30%	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 50%	
<b>Violent Crime</b>							
Serious Violent Crime	5,000	262	81.7	1,500	447	90.2	
Rape/Sexual Assault	13,000	123	88.6	4,500	271	92.6	
Robbery	--	--	--	31,000	43	81.4	
Assault	30,500	43	95.3	8,000	178	78.1	
Aggravated	6,000	240	80.0	2,000	392	90.6	
Simple	18,500	89	78.7	7,000	196	89.3	
Personal Theft	7,500	200	77.0	3,000	363	89.0	
--	--	--	--	27,000	59	96.6	
<b>Violent Crimes Involving a Weapon</b>							
16,500	95	85.3	5,500	247	90.3		
<b>Violent Crimes Involving a Firearm</b>							
40,500	41	85.4	13,500	114	85.1		
<b>Intimate Partner Violence</b>							
41,000	37	78.4	14,000	118	84.7		
<b>Domestic Violence</b>							
25,500	63	76.2	7,500	200	76.5		
<b>Acquaintance Violence</b>							
15,000	115	67.8	5,000	262	85.9		
<b>Stranger Violence</b>							
10,500	139	82.7	3,500	321	90.7		
<b>Violent Crimes Occurring during the Day</b>							
9,500	149	85.9	2,500	375	86.4		
<b>Violent Crimes Occurring at Night</b>							
9,500	149	80.5	3,500	321	90.0		
<b>Violent Crime</b>							
Sex							
Male	9,500	149	81.9	3,500	321	87.5	
Female	10,000	158	80.4	3,500	321	90.3	
Age							
12–17	25,500	63	81.0	9,000	149	85.9	
18–24	23,500	69	79.7	8,000	178	79.2	
25–49	11,500	138	76.1	4,000	304	87.8	
50 or Older	20,000	80	85.0	7,000	196	83.7	
12–24	13,500	114	76.3	4,500	271	87.1	
Race/Hispanic Origin							
White <sup>a</sup>	7,000	196	64.3	2,500	375	85.6	
Black <sup>a</sup>	31,500	47	74.5	10,000	158	84.2	
Hispanic	33,500	48	79.2	9,500	149	79.2	
Other <sup>a</sup>	--	--	--	45,000	27	92.6	
Poverty Level							
FPL ≤ 100%	20,500	72	72.2	7,500	200	82.5	
100% < FPL ≤ 200%	18,000	85	80.0	6,000	240	88.8	
200% < FPL ≤ 300%	29,500	49	73.5	9,500	149	84.6	

(Continued)

**Table A-1 Estimated ESS Required to Achieve Specified Level of Precision and Performance of Guidelines in Subnational Areas, by Crime Type/Domain, Person-Level Crimes (Continued)**

Crime Type/Domain	RSE ≤ 30%			RSE ≤ 50%		
	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 30%	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 50%
<b>Violent Crime (Continued)</b>						
300% < FPL ≤ 400%	--	--	--	16,000	89	84.3
400% < FPL ≤ 500%	--	--	--	28,500	53	92.5
500% < FPL	25,500	63	77.8	8,500	182	84.1
Tenure						
Own	10,000	158	68.4	3,500	321	86.0
Rent/No Cash Rent	9,000	149	74.5	3,500	321	89.4
Education Level						
Less than High School	15,500	101	88.1	5,500	247	89.1
High School	20,000	80	70.0	6,000	240	82.9
Some College/Associate's Degree	17,500	95	89.5	6,000	240	90.8
College Degree or Greater	25,500	63	76.2	8,500	182	87.9
Marital Status						
Married	20,000	80	75.0	5,500	247	83.4
Single (Never Married)	10,000	158	80.4	3,000	363	87.1
Separated or Divorced	24,500	68	85.3	7,500	200	81.5
Job Last Week						
Employed	8,500	182	83.0	3,000	363	88.7
Unemployed	13,000	123	67.5	4,500	271	81.5
<b>Serious Violent Crime</b>						
Male	20,000	80	93.8	6,000	240	81.3
Female	26,500	55	92.7	9,500	149	88.6
<b>Assault</b>						
Male	11,000	154	75.3	4,000	304	87.2
Female	12,000	142	76.1	4,000	304	88.5
<b>Simple Assault</b>						
Male	14,000	118	78.8	4,500	271	81.2
Female	15,000	115	67.8	5,500	247	87.9
<b>Violent Crimes Involving a Weapon</b>						
Male	27,000	59	83.1	8,500	182	80.8
Female	42,000	32	87.5	14,000	118	87.3

(Continued)

**Table A-1 Estimated ESS Required to Achieve Specified Level of Precision and Performance of Guidelines in Subnational Areas, by Crime Type/Domain, Person-Level Crimes (Continued)**

Crime Type/Domain	RSE ≤ 30%			RSE ≤ 50%		
	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 30%	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 50%
<b>Violent Crimes Involving a Firearm</b>						
Male	--	--	--	21,000	82	90.2
Female	--	--	--	32,500	44	84.1
<b>Intimate Partner Violence</b>						
Male	--	--	--	--	--	--
Female	47,500	22	95.5	16,500	95	84.2
<b>Domestic Violence</b>						
Male	--	--	--	31,500	47	68.1
Female	32,000	42	71.4	9,500	149	85.2
<b>Acquaintance Violence</b>						
Male	30,500	43	79.1	10,500	139	79.9
Female	31,000	43	55.8	10,500	139	73.4
<b>Stranger Violence</b>						
Male	17,500	95	81.1	5,500	247	87.0
Female	25,500	63	87.3	7,500	200	87.0

ESS=effective sample size; FPL=federal poverty level; RSE=relative standard error.

-- Estimated ESS required to achieve specified precision is more than 50,000 persons.

<sup>a</sup> Excludes persons of Hispanic/Latino origin.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table A-2. Estimated ESS Required to Achieve Specified Level of Precision and Performance of Guidelines in Subnational Areas, by Crime Type/Domain, Household-Level Crimes**

Crime Type/Domain	RSE ≤ 30%			RSE ≤ 50%		
	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 30%	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 50%
<b>Property Crime</b>	250	569	89.8	250	569	97.7
Household Burglary	1,750	343	79.6	750	456	91.7
Theft	250	569	85.2	250	569	96.8
Motor Vehicle Theft	6,500	134	70.1	2,500	267	82.0
<b>Property Crimes Occurring during the Day</b>	750	456	84.6	250	569	92.6
<b>Property Crimes Occurring at Night</b>	750	456	88.8	250	569	94.7
<b>Property Crime</b>						
Sex						
Male	750	456	86.8	250	569	94.0
Female	750	456	90.4	250	569	93.1
Age						
16–19	19,500	45	57.8	8,000	116	70.7
20–24	4,500	184	78.3	1,750	343	84.0
25–34	1,750	343	81.9	750	456	91.2
35–49	1,000	405	82.2	250	569	89.8
50–64	1,500	357	84.0	500	490	90.8
65 or Older	3,500	220	74.1	1,250	365	86.6
Race/Hispanic Origin						
White <sup>a</sup>	250	569	81.7	250	569	97.2
Black <sup>a</sup>	3,000	242	83.9	1,000	405	86.9
Hispanic	2,500	267	70.8	750	456	75.2
Other <sup>a</sup>	8,000	116	70.7	3,500	220	70.5
More than One Race <sup>a</sup>	19,500	45	42.2	7,000	142	58.5
Poverty Level						
FPL ≤ 100%	2,000	316	76.9	750	456	86.4
100% < FPL ≤ 200%	1,500	357	78.7	500	490	88.0
200% < FPL ≤ 300%	2,500	267	85.0	750	456	89.5
300% < FPL ≤ 400%	3,000	242	81.0	1,000	405	90.4
400% < FPL ≤ 500%	4,000	200	78.0	1,750	343	87.8
500% < FPL	1,250	365	84.9	500	490	92.9
Tenure						
Own	500	490	85.5	250	569	95.8
Rent/No Cash Rent	750	456	87.1	250	569	93.0

(Continued)

**Table A-2. Estimated ESS Required to Achieve Specified Level of Precision and Performance of Guidelines in Subnational Areas, by Crime Type/Domain, Household-Level Crimes (Continued)**

Crime Type/Domain	RSE ≤ 30%			RSE ≤ 50%		
	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 30%	Estimated ESS Required	# of Estimates in Validation	% of Estimates with RSE ≤ 50%
<b>Property Crime (Continued)</b>						
Education Level						
Less than High School	2,500	267	73.8	1,000	405	85.7
High School	1,500	357	83.8	500	490	90.4
Some College/Associate's Degree	1,000	405	81.2	500	490	94.7
College Degree or Greater	1,250	365	86.3	250	569	87.7
Marital Status						
Married	750	456	88.2	250	569	94.2
Single (Never Married)	1,500	357	86.6	500	490	93.1
Separated or Divorced	1,750	343	77.6	750	456	91.0
Widowed	6,000	148	75.0	2,500	267	84.3

ESS=effective sample size; FPL=federal poverty level; RSE=relative standard error.

<sup>a</sup> Excludes persons of Hispanic/Latino origin.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**APPENDIX B: AVERAGE ESS, BY SUBNATIONAL AREA**

**Table B-1. Average Nominal Sample Size, Design Effect Due to Unequal Weighting, and Effective Sample Size, by State, 2006–15**

State	Persons			Households		
	Average Annual Nominal Sample Size	Average UWE	Average Annual ESS	Average Annual Nominal Sample Size	Average UWE	Average Annual ESS
California	16,471	1.128	14,597	8,939	1.084	8,246
Texas	10,359	1.333	9,142	5,655	1.105	5,118
New York	9,300	1.208	7,701	5,461	1.098	4,975
Florida	9,409	1.117	8,426	5,434	1.084	5,011
Illinois	6,121	1.114	5,494	3,351	1.089	3,078
Pennsylvania	5,471	1.180	4,637	3,209	1.115	2,878
Ohio	7,437	1.176	6,325	4,200	1.131	3,713
Georgia	4,427	1.139	3,886	2,537	1.118	2,268
North Carolina	3,639	1.276	2,851	2,021	1.209	1,671
Michigan	5,249	1.190	4,410	2,887	1.111	2,598
New Jersey	3,856	1.189	3,244	2,189	1.095	2,000

ESS=effective sample size; UWE=unequal weighting effect.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table B-2. Average Nominal Sample Size, Design Effect Due to Unequal Weighting, and Effective Sample Size, by MSA, 2006–15**

MSA	Persons			Households		
	Average Annual Nominal Sample Size	Average UWE	Average Annual ESS	Average Annual Nominal Sample Size	Average UWE	Average Annual ESS
Atlanta-Sandy Springs-Marietta, GA	2,621	1.152	2,276	1,439	1.113	1,293
Austin-Round Rock, TX	835	1.264	660	455	1.323	344
Baltimore-Towson, MD	1,145	1.287	890	701	1.161	604
Birmingham-Hoover, AL	523	1.262	415	311	1.331	234
Boston-Cambridge-Quincy, MA-NH	1,958	1.228	1,594	1,135	1.106	1,027
Buffalo-Cheektowaga-Niagara Falls, NY	590	1.431	413	344	1.325	260
Charlotte-Gastonia-Concord, NC-SC	1,362	1.341	1,016	748	1.325	564
Chicago-Joliet-Naperville, IL-IN-WI	4,633	1.142	4,056	2,498	1.097	2,278
Cincinnati, OH-KY-IN	1,097	1.162	944	631	1.157	545
Cleveland-Elyria, OH	1,063	1.220	871	628	1.153	545
Columbus, OH	1,029	1.264	815	582	1.225	475
Dallas-Fort Worth-Arlington, TX	2,973	1.109	2,682	1,637	1.096	1,494
Denver-Aurora-Lakewood, CO	1,200	1.196	1,004	734	1.221	601
Detroit-Warren-Livonia, MI	2,274	1.212	1,875	1,272	1.143	1,114
Hartford-West Hartford-East Hartford, CT	557	1.471	379	335	1.336	251
Houston-Sugar Land-Baytown, TX	2,578	1.212	2,127	1,417	1.151	1,232
Indianapolis-Carmel-Anderson, IN	924	1.249	740	543	1.253	433
Jacksonville, FL	655	1.236	529	412	1.347	306
Kansas City, MO-KS	1,012	1.227	824	585	1.197	488
Las Vegas-Henderson-Paradise, NV	987	1.219	810	516	1.213	425
Los Angeles-Long Beach-Santa Ana, CA	5,770	1.186	4,864	3,160	1.103	2,867
Louisville/Jefferson County, KY-IN	603	1.291	467	341	1.285	265
Memphis, TN-MS-AR	675	1.330	508	399	1.301	307
Miami-Fort Lauderdale-Pompano Beach, FL	2,894	1.132	2,557	1,539	1.107	1,391
Milwaukee-Waukesha-West Allis, WI	921	1.251	736	506	1.250	405
Minneapolis-St. Paul-Bloomington, MN-WI	1,962	1.198	1,637	1,140	1.240	919
Nashville-Davidson-Murfreesboro-Franklin, TN	633	1.317	481	373	1.276	293
New Orleans-Metairie, LA	468	1.445	324	293	1.384	212
New York-Northern New Jersey-Long Island, NY-NJ-PA	8,296	1.169	7,096	4,479	1.083	4,386
Oklahoma City, OK	557	1.342	415	344	1.266	272
Orlando-Kissimmee-Sanford, FL	902	1.225	736	470	1.199	392
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2,515	1.228	2,048	1,448	1.156	1,252

(Continued)

**Table B-2. Average Nominal Sample Size, Design Effect Due to Unequal Weighting, and Effective Sample Size, by MSA, 2006–15 (Continued)**

MSA	Persons			Households		
	Average Annual Nominal Sample Size	Average UWE	Average Annual ESS	Average Annual Nominal Sample Size	Average UWE	Average Annual ESS
Phoenix-Mesa-Glendale, AZ	2,175	1.253	1,735	1,286	1.184	1,086
Pittsburgh, PA	1,114	1.233	903	673	1.161	580
Portland-Vancouver-Beaverton, OR-WA	1,065	1.201	887	603	1.162	519
Providence-Warwick, RI-MA	1,025	1.315	780	586	1.205	487
Raleigh, NC	642	1.557	413	356	1.493	239
Richmond, VA	540	1.617	334	347	1.709	203
Riverside-San Bernardino-Ontario, CA	1,833	1.188	1,543	939	1.172	801
Rochester, NY	526	1.377	382	307	1.410	218
Sacramento-Roseville-Arden-Arcade, CA	928	1.252	741	560	1.235	453
St. Louis, MO-IL	1,414	1.199	1,179	851	1.169	728
Salt Lake City, UT	470	1.343	350	239	1.357	176
San Antonio-New Braunfels, TX	938	1.298	723	520	1.268	411
San Diego-Carlsbad-San Marcos, CA	1,493	1.236	1,208	805	1.201	670
San Francisco-Oakland-Fremont, CA	2,207	1.156	1,910	1,188	1.135	1,046
San Jose-Sunnyvale-Santa Clara, CA	793	1.295	612	452	1.290	350
Seattle-Tacoma-Bellevue, WA	1,754	1.178	1,489	1,004	1.164	862
Tampa-St. Petersburg-Clearwater, FL	1,310	1.162	1,127	808	1.155	700
Tucson, AZ	402	1.491	270	274	1.342	204
Virginia Beach-Norfolk-Newport News, VA-NC	852	1.315	648	470	1.289	364
Washington-Arlington-Alexandria, DC-VA-MD-WV	2,609	1.176	2,217	1,472	1.124	1,310

ESS=effective sample size; MSA=metropolitan statistical area; UWE=unequal weighting effect.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**APPENDIX C: ESTIMATED RATES AND PRECISION ESTIMATES FOR SELECTED  
CRIME TYPES AND DOMAINS**

**Table C-1. Rates and 95% Confidence Intervals of Violent Victimization, by State, 2013–15**

State	Overall		
	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	20.6	18.9	22.3
California	18.4	14.5	22.3
Florida	11.2 †	7.7	14.6
Georgia	11.8 †	6.4	17.1
Illinois	14.6 †	11.4	17.9
Michigan	16.8	6.9	26.7
New Jersey	8.8 †	4.8	12.9
New York	21.6	11.7	31.6
North Carolina	17.4	12.4	22.4
Ohio	21.1	15.1	27.2
Pennsylvania	32.8 †	25.1	40.4
Texas	19.8	16.6	22.9

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-2. Rates and 95% Confidence Intervals of Serious Violent Victimization, by State, 2013–15**

State	Lower 95% Confidence Interval			Upper 95% Confidence Interval		
	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	7.3	6.6	7.9	7.3	6.6	7.9
California	7.4	5.4	9.4	7.4	5.4	9.4
Florida	4.1 †	3.4	4.7	4.1 †	3.4	4.7
Georgia	4.6 †	2.7	6.6	4.6 †	2.7	6.6
Illinois	5.9	3.1	8.7	5.9	3.1	8.7
Michigan	6.4	3.1	9.7	6.4	3.1	9.7
New Jersey	3.2 †	1.6	4.7	3.2 †	1.6	4.7
New York	6.9	4.4	9.5	6.9	4.4	9.5
North Carolina	6.3	2.6	10.1	6.3	2.6	10.1
Ohio	6.8	3.7	9.9	6.8	3.7	9.9
Pennsylvania	9.2	3.2	15.3	9.2	3.2	15.3
Texas	6.2	5.0	7.4	6.2	5.0	7.4

Note: Victimization rates are per 1,000 persons age 12 or older. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-3. Rates and 95% Confidence Intervals of Robbery Victimization, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	2.4	2.0	2.7
California	2.6	1.5	3.7
Florida	1.2 †	0.7	1.7
Georgia	1.9 !	0.6	3.2
Illinois	2.8	0.8	4.9
Michigan	3.6	1.5	5.7
New Jersey	1.7 !	0.5	2.9
New York	2.7	0.6	4.7
North Carolina	1.2 !	-0.3	2.6
Ohio	2.0	1.1	2.8
Pennsylvania	4.0	0.5	7.5
Texas	2.1	1.4	2.8

Note: Victimization rates are per 1,000 persons age 12 or older.

\* Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

! Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-4. Rates and 95% Confidence Intervals of Assault Victimization, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	17.0	15.5	18.5
California	14.8	11.4	18.1
Florida	9.3 †	6.2	12.4
Georgia	8.7 †	2.2	15.2
Illinois	11.8 †	8.3	15.3
Michigan	12.9	4.8	20.9
New Jersey	6.8 †	3.3	10.3
New York	18.1	8.4	27.7
North Carolina	13.7	9.9	17.5
Ohio	17.4	12.8	22.0
Pennsylvania	26.4 †	19.2	33.5
Texas	16.6	13.6	19.6

Note: Victimization rates are per 1,000 persons age 12 or older. Assault includes aggravated assault and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-5. Rates and 95% Confidence Intervals of Aggravated Assault Victimization, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	3.6	3.2	4.1
California	3.8	2.9	4.8
Florida	2.2 †	1.3	3.0
Georgia	1.5 ! †	0.8	2.3
Illinois	3.1	1.0	5.2
Michigan	2.4	0.1	4.7
New Jersey	1.1 ! †	0.6	1.7
New York	3.4	2.3	4.4
North Carolina	2.7	0.9	4.5
Ohio	3.1	1.9	4.2
Pennsylvania	2.8	1.7	3.9
Texas	3.0	2.3	3.7

Note: Victimization rates are per 1,000 persons age 12 or older.

\* Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

! Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-6. Rates and 95% Confidence Intervals of Simple Assault Victimization, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	13.3	12.0	14.7
California	11.0	7.9	14.0
Florida	7.1 †	4.1	10.1
Georgia	7.1	1.1	13.2
Illinois	8.7 †	5.4	12.1
Michigan	10.4	2.7	18.2
New Jersey	5.7 †	2.7	8.7
New York	14.7	5.5	23.9
North Carolina	11.0	8.3	13.8
Ohio	14.3	9.7	19.0
Pennsylvania	23.6 †	16.0	31.1
Texas	13.6	10.6	16.6

Note: Victimization rates are per 1,000 persons age 12 or older.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-7. Rates and 95% Confidence Intervals of Domestic Violence Victimization, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	4.2	3.5	4.8
California	2.1 †	1.5	2.7
Florida	2.4 †	1.1	3.8
Georgia	2.2	0.1	4.2
Illinois	4.2	1.4	6.9
Michigan	5.0 !	-0.0	10.1
New Jersey	2.4	0.4	4.4
New York	2.8 †	1.6	3.9
North Carolina	6.1	1.9	10.3
Ohio	5.6	3.1	8.0
Pennsylvania	5.2	1.4	9.0
Texas	4.0	2.6	5.4

Note: Victimization rates are per 1,000 persons age 12 or older. Domestic violence includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by intimate partners (current or former spouses, boyfriends, or girlfriends) and family members.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-8. Rates and 95% Confidence Intervals of Violent Victimization Committed by Other Known Offenders, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	7.4	6.4	8.4
California	5.0 †	3.3	6.7
Florida	3.9 †	1.7	6.0
Georgia	4.0 †	0.9	7.0
Illinois	3.8 †	1.7	5.9
Michigan	8.1 !	-2.6	18.9
New Jersey	3.1 †	0.6	5.5
New York	9.0	0.3	17.6
North Carolina	4.9	1.2	8.5
Ohio	6.9	3.3	10.5
Pennsylvania	16.0 †	11.3	20.7
Texas	7.8	5.2	10.5

Note: Victimization rates are per 1,000 persons age 12 or older. Victimization rates include violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by offenders that are known to the victim, excluding intimate partners (current or former spouses, boyfriends, or girlfriends) and family members.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-9. Rates and 95% Confidence Intervals of Violent Victimization Committed by Strangers, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	7.7	6.9	8.4
California	9.6 †	7.9	11.3
Florida	4.1 †	2.9	5.3
Georgia	4.8 †	2.6	7.0
Illinois	4.7 †	3.3	6.0
Michigan	3.3 †	1.0	5.5
New Jersey	2.7 †	0.9	4.4
New York	8.6	6.3	10.9
North Carolina	4.7	0.7	8.7
Ohio	6.9	4.1	9.6
Pennsylvania	8.6	2.9	14.3
Texas	6.6	4.7	8.6

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-10. Rates and 95% Confidence Intervals of Violent Victimization Occurring during the Day, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	11.1	9.9	12.2
California	10.9	8.8	13.0
Florida	5.1 †	3.5	6.8
Georgia	8.3	3.4	13.1
Illinois	7.6 †	4.8	10.3
Michigan	10.1	0.8	19.4
New Jersey	4.9 †	2.6	7.2
New York	11.4	6.1	16.7
North Carolina	9.0	5.4	12.6
Ohio	11.3	6.1	16.4
Pennsylvania	19.1 †	11.6	26.7
Texas	11.8	8.7	15.0

Note: Victimization rates are per 1,000 persons age 12 or older. Includes violent victimization (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 a.m. to 6 p.m.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-11. Rates and 95% Confidence Intervals of Violent Victimization  
Occurring at Night, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	8.8	8.0	9.7
California	7.2	4.7	9.7
Florida	6.0 †	3.5	8.4
Georgia	3.5 †	2.2	4.8
Illinois	5.0 †	2.9	7.1
Michigan	6.7	1.9	11.5
New Jersey	3.6 †	1.4	5.7
New York	8.5	4.8	12.2
North Carolina	8.1	3.7	12.6
Ohio	8.9	6.7	11.1
Pennsylvania	13.3	8.4	18.3
Texas	7.8	5.1	10.4

Note: Victimization rates are per 1,000 persons age 12 or older. Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 p.m. to 6 a.m.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-12. Rates and 95% Confidence Intervals of Violent Victimization Involving  
a Weapon, by State, 2013–15**

State	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	4.3	3.8	4.8
California	4.5	3.3	5.8
Florida	2.7 †	2.2	3.2
Georgia	2.3 †	1.3	3.2
Illinois	3.8	2.4	5.3
Michigan	2.8	0.5	5.2
New Jersey	1.6! †	0.8	2.4
New York	4.6	2.1	7.1
North Carolina	3.6	1.5	5.7
Ohio	3.4	2.0	4.7
Pennsylvania	4.8	2.0	7.7
Texas	3.8	2.9	4.6

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2013–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-13. Rates and SEs of Violent Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	28.9	1.0	24.9	0.9	22.3	0.9	21.4	0.9	22.7	0.9	24.0	0.8	23.1	0.9	20.6	0.9
California	22.0	1.9	17.3	1.3	17.4	1.9	20.3	2.5	25.8	2.2	26.2	1.8	22.6	1.3	18.4	2.0
Florida †	21.7	1.7	18.4	1.4	15.8	1.1	13.0	1.5	11.7	1.6	12.4	1.8	11.1	1.5	11.2	1.8
Georgia	15.6	3.9	18.6	3.7	18.8	2.9	17.5	2.2	16.3	1.8	16.6	2.2	15.8	2.1	11.8	2.7
Illinois †	34.9	5.8	32.9	6.2	26.0	5.5	22.6	4.0	21.0	4.9	20.1	4.6	16.1	1.9	14.6	1.7
Michigan †	29.6	5.0	26.5	4.6	27.4	7.2	24.6	5.3	22.4	5.3	19.6	2.5	16.3	3.9	16.8	5.0
New Jersey	13.9	2.8	12.4	3.2	9.7	2.3	8.2	2.0	8.0	1.7	9.6	2.7	10.4	2.5	8.8	2.1
New York †	22.1	1.8	19.5	2.0	17.5	2.1	18.3	2.4	19.8	1.1	21.0	2.2	22.1	3.4	21.6	5.1
North Carolina	35.4	8.6	25.7	5.7	17.6	2.8	13.5	3.1	12.6	2.7	16.1	3.5	21.8	4.1	17.4	2.6
Ohio †	35.5	3.2	30.6	4.0	23.4	4.4	22.3	5.3	20.1	3.4	20.5	2.4	22.5	2.4	21.1	3.1
Pennsylvania †	28.1	3.7	29.9	7.8	34.6	9.1	27.3	6.5	29.8	6.6	37.0	5.9	38.7	5.0	32.8	3.9
Texas †	37.5	4.4	33.1	3.5	29.1	4.5	24.7	3.0	22.5	3.3	23.6	1.9	21.1	1.6	19.8	1.6

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.  
Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-14 Rates and SEs of Serious Violent Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	9.9	0.5	8.2	0.4	7.4	0.4	7.2	0.4	7.3	0.4	7.5	0.4	7.6	0.4	7.3	0.3
California †	7.0	0.7	5.2	0.6	5.3	0.6	6.2	0.5	8.0	0.5	8.6	0.7	8.0	0.8	7.4	1.0
Florida †	7.6	1.2	6.3	1.3	5.3	1.0	4.6	0.9	3.6	0.5	3.4	0.3	3.1	0.3	4.1	0.4
Georgia	6.8	1.2	5.3	1.2	6.1	0.9	4.6	0.6	4.6	1.1	3.7	1.1	5.0	1.1	4.6	1.0
Illinois †	12.6	2.8	9.1	1.7	7.2	1.0	5.6	0.5	4.3	0.3	4.1	1.0	5.7	1.5	5.9	1.4
Michigan †	11.4	2.2	11.7	3.1	10.2	2.4	8.7	1.8	6.1	1.5	6.0	0.7	5.7	0.8	6.4	1.7
New Jersey †	4.7	1.2	3.2	0.8	2.1 !	0.4	2.4	1.0	3.5	1.1	3.9	1.1	4.5	1.2	3.2	0.8
New York †	6.7	0.8	5.5	0.8	6.3	0.7	7.2	0.8	7.2	0.3	7.0	0.5	7.4	1.4	6.9	1.3
North Carolina	12.4	2.1	7.4	0.6	6.3	1.1	4.8	0.8	4.1	0.6	5.5	2.6	7.1	2.2	6.3	1.9
Ohio	10.4	1.7	12.3	2.2	11.8	3.7	11.9	4.1	8.5	2.6	6.2	1.2	5.7	1.1	6.8	1.6
Pennsylvania	9.9	1.0	11.1	2.1	13.2	1.9	8.9	1.9	6.8	0.6	8.4	2.7	7.8	2.5	9.2	3.1
Texas †	13.4	2.2	12.9	1.6	11.0	1.6	10.6	1.1	7.5	0.6	7.6	0.8	7.2	0.8	6.2	0.6

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.  
Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-15. Rates and SEs of Robbery Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	3.2	0.3	2.8	0.2	2.5	0.2	2.3	0.2	2.4	0.2	2.5	0.2	2.6	0.2	2.4	0.2
California	2.4	0.4	1.9	0.4	2.1	0.4	2.7	0.3	3.7	0.4	3.8	0.4	3.0	0.5	2.6	0.6
Florida †	2.6	0.4	2.6	0.4	2.2	0.4	1.5	0.4	1.1	0.4	0.9 †	0.3	1.1	0.3	1.2	0.2
Georgia †	2.3	0.8	1.4 †	0.4	1.5 †	0.3	1.8 †	0.4	2.4 †	0.8	2.2 †	0.8	2.4 †	0.2	1.9 †	0.7
Illinois	2.3	0.2	2.5	0.3	2.4	0.5	2.1	0.4	1.8	0.4	1.3 †	0.4	2.6	1.0	2.8	1.0
Michigan	5.2	1.6	6.8	2.3	5.0	1.8	3.8	1.8	2.0	0.7	2.9	0.5	3.2	0.7	3.6	1.1
New Jersey	2.5	0.9	1.8 †	0.8	1.0 †	0.5	1.2 †	0.6	1.5 †	0.3	1.5 †	0.3	2.1 †	0.6	1.7 †	0.6
New York	2.6	0.5	2.5	0.7	2.9	0.6	3.0	0.7	3.0	0.5	2.7	0.4	3.1	1.0	2.7	1.0
North Carolina †	4.5 †	0.6	2.7 †	0.8	1.8 †	1.1	1.5 †	0.3	1.3 †	0.3	0.9 †	0.6	1.2 †	0.8	1.2 †	0.7
Ohio	3.5	0.7	2.9	0.6	2.2	0.5	2.1	0.6	2.8	0.8	2.0	0.6	2.1	0.5	2.0	0.4
Pennsylvania	2.7	1.0	3.1	1.3	3.3	1.4	2.1	0.5	1.9 †	0.1	3.6	1.7	3.6	1.7	4.0	1.8
Texas †	3.8	0.7	3.7	0.9	3.2	1.0	3.2	0.9	3.0	0.6	2.7	0.4	2.8	0.5	2.1	0.4

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-16. Rates and SEs of Assault Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	24.3	0.9	21.0	0.8	18.6	0.8	18.0	0.7	19.2	0.7	20.3	0.7	19.3	0.8	17.0	0.8
California	19.0	1.8	15.0	1.1	14.7	1.5	16.9	2.2	21.4	2.3	21.8	1.8	18.9	1.6	14.8	1.7
Florida †	18.2	1.8	15.0	1.3	13.3	1.2	11.1	1.3	9.9	1.5	10.6	1.7	9.5	1.4	9.3	1.6
Georgia	12.1	4.1	16.2	4.1	15.8	3.3	15.3	2.1	13.4	2.2	14.3	2.6	12.2	2.7	8.7	3.3
Illinois †	31.3	5.9	29.0	6.3	22.9	5.8	20.1	3.8	18.8	4.8	18.5	4.4	13.4	1.9	11.8	1.8
Michigan	21.5	4.5	17.6	3.5	20.4	5.2	19.2	4.1	19.9	4.8	16.0	2.3	12.4	3.2	12.9	4.1
New Jersey	10.8	2.2	10.1	2.7	8.4	2.2	6.7	1.5	6.4	1.6	8.0	2.6	8.1	2.3	6.8	1.8
New York †	18.8	1.6	16.4	1.8	13.7	2.0	14.3	2.3	15.7	1.1	17.6	2.2	18.2	3.3	18.1	4.9
North Carolina	27.7	7.2	22.4	6.4	15.3	2.6	11.8	3.1	11.0	2.9	12.8	2.3	18.1	3.8	13.7	1.9
Ohio	30.4	2.9	24.5	3.6	16.8	2.8	15.8	4.0	14.9	2.3	17.4	2.0	19.4	2.2	17.4	2.4
Pennsylvania †	23.8	3.9	23.5	7.3	28.0	8.1	22.7	5.3	26.6	6.6	30.6	7.8	32.3	6.4	26.4	3.7
Texas †	30.7	3.6	27.8	2.9	24.5	3.7	20.5	2.9	18.7	3.1	20.0	1.8	17.5	1.4	16.6	1.5

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Assault includes aggravated assault and simple assault.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-17. Rates and SEs of Aggravated Assault Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	5.3	0.4	4.3	0.3	3.7	0.2	3.8	0.2	3.7	0.2	3.9	0.2	3.9	0.3	3.6	0.2
California †	4.0	0.5	2.9	0.4	2.6	0.3	2.8	0.3	3.6	0.5	4.2	0.6	4.3	0.6	3.8	0.5
Florida	4.0	1.1	2.9	1.0	2.9	0.9	2.7	0.9	1.8	0.4	1.6	0.2	1.5	0.4	2.2	0.4
Georgia	3.3	1.1	2.8	1.3	3.1	1.1	2.3 !	0.7	1.7 !	0.5	1.4 !	0.4	1.4 !	0.5	1.5 !	0.4
Illinois †	9.0	2.6	5.2	1.4	4.1	0.7	3.1	0.4	2.1	0.5	2.5	1.2	3.0	1.1	3.1	1.1
Michigan	3.3	0.9	2.9	0.8	3.1	0.5	3.2	0.7	3.6	0.9	2.5	0.6	1.9	0.5	2.4	1.2
New Jersey †	1.6 !	0.6	1.0 !	0.4	0.8 !	0.3	0.9 !	0.5	1.9 !	0.9	2.3 !	0.9	2.2 !	0.8	1.1 !	0.3
New York †	3.4	0.6	2.4	0.6	2.5	0.6	3.2	0.4	3.1	0.4	3.5	0.6	3.5	0.5	3.4	0.5
North Carolina	4.7	0.8	4.2	1.0	3.9	0.6	3.0 !	0.7	2.5	0.7	2.1 !	0.6	3.3	1.0	2.7	0.9
Ohio	5.3	1.3	6.3	0.8	5.2	1.0	5.4	1.1	3.3	0.7	3.1	0.7	2.7	0.5	3.1	0.6
Pennsylvania	5.6	1.9	4.7	1.4	6.6	1.6	4.3	1.2	3.6	1.0	2.0	0.5	1.4	0.5	2.8	0.6
Texas †	6.7	1.3	7.5	1.0	6.5	0.9	6.4	1.1	3.7	0.5	4.1	0.5	3.6	0.5	3.0	0.3

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-18. Rates and SEs of Simple Assault Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	19.0	0.7	16.7	0.7	14.9	0.7	14.2	0.7	15.4	0.7	16.5	0.7	15.5	0.7	13.3	0.7
California	15.0	1.5	12.1	1.1	12.2	1.5	14.1	2.2	17.8	2.3	17.5	1.8	14.5	1.5	11.0	1.5
Florida †	14.2	1.2	12.1	1.2	10.5	1.2	8.4	1.3	8.1	1.3	9.0	1.7	7.9	1.4	7.1	1.5
Georgia	8.8	3.4	13.3	3.0	12.7	2.4	12.9	2.1	11.7	2.4	12.9	2.7	10.8	2.7	7.1	3.1
Illinois †	22.3	4.7	23.8	5.7	18.8	5.4	17.0	3.8	16.7	4.8	16.0	4.3	10.4	1.7	8.7	1.7
Michigan	18.2	4.0	14.8	3.0	17.2	5.2	15.9	4.2	16.3	4.5	13.5	2.4	10.5	3.4	10.4	4.0
New Jersey	9.2	1.7	9.2	2.6	7.6	2.3	5.9	1.2	4.5	0.9	5.6	1.7	5.9	1.7	5.7	1.5
New York †	15.4	1.6	14.0	1.7	11.1	1.9	11.1	2.1	12.5	1.0	14.0	2.2	14.7	3.2	14.7	4.7
North Carolina	23.0	6.7	18.2	5.8	11.4	2.4	8.7	2.5	8.4	2.3	10.6	2.2	14.7	2.9	11.0	1.4
Ohio	25.1	1.9	18.2	3.0	11.6	2.7	10.4	3.4	11.6	2.0	14.3	2.0	16.8	2.4	14.3	2.4
Pennsylvania †	18.2	3.4	18.8	6.8	21.5	7.9	18.4	5.0	23.0	6.2	28.6	7.5	30.9	6.0	23.6	3.9
Texas †	24.1	2.5	20.2	2.3	18.1	3.4	14.1	2.3	15.0	3.0	16.0	1.8	13.9	1.4	13.6	1.5

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-19. Rates and SEs of Domestic Violence Victimization, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	6.4	0.4	5.7	0.4	5.3	0.4	5.0	0.3	4.8	0.4	4.8	0.3	4.4	0.3	4.2	0.3
California	3.9	0.8	3.6	1.2	3.1	1.2	4.3	1.3	4.8	1.3	4.8	1.3	3.2	0.6	2.1	0.3
Florida	4.9	1.0	4.8	1.3	4.8	1.4	3.2	0.6	3.1	0.9	2.7	0.9	2.5	0.7	2.4	0.7
Georgia	4.0	0.6	4.6	1.1	5.6	1.1	3.8	1.6	3.0	1.3	2.0	0.6	2.9	1.0	2.2	1.0
Illinois	6.5	1.6	6.8	1.7	5.1	0.6	3.5	0.8	3.2	0.7	3.0	0.9	3.7	1.2	4.2	1.4
Michigan †	10.1	2.2	7.9	1.9	5.6	1.3	5.6	2.1	4.9	2.4	3.4 !	2.1	2.4	1.2	5.0 !	2.6
New Jersey	3.1	1.2	3.0	1.5	1.6 !	0.7	2.0 !	0.9	1.5 !	0.6	1.8 !	1.1	1.7 !	1.1	2.4	1.0
New York	4.4	0.8	4.1	0.9	4.7	1.0	4.5	1.0	3.5	1.0	2.6	0.6	2.3	0.2	2.8	0.6
North Carolina †	3.2 !	1.2	5.7	2.7	4.4 !	2.4	4.1 !	2.4	4.1	1.4	7.7	2.0	9.4	2.5	6.1	2.2
Ohio	7.2	1.7	8.0	1.9	6.9	2.5	6.0	2.5	4.2	1.9	3.8	1.3	5.6	1.5	5.6	1.2
Pennsylvania	7.5	1.0	8.6	2.4	9.4	2.3	5.8	1.9	5.9	1.6	6.7	2.0	6.8	2.3	5.2	2.0
Texas	7.5	1.7	5.7	1.1	4.7	1.2	3.2	0.6	3.0	0.3	3.4	0.5	3.8	0.8	4.0	0.7

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year. Domestic violence includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by intimate partners (current or former spouses, boyfriends, or girlfriends) and family members.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-20. Rates and SEs of Violent Victimization Committed by Other Known Offenders, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	9.1	0.4	7.7	0.4	7.1	0.5	6.8	0.5	7.5	0.5	8.6	0.5	8.4	0.5	7.4	0.5
California †	5.4	0.7	4.0	0.6	3.8	0.6	3.9	0.6	5.0	0.5	6.3	0.8	5.8	0.9	5.0	0.9
Florida	5.9	1.4	4.6	0.6	3.9	0.8	3.6	0.8	3.4	0.8	4.1	1.1	3.6	1.0	3.9	1.1
Georgia	3.8	0.7	5.8	1.3	6.0	1.5	6.5	1.6	4.6	0.9	5.9	1.6	4.4	1.5	4.0	1.6
Illinois	9.9	2.7	7.4	1.6	6.7	1.9	9.6	3.4	10.2	4.1	10.3	3.4	5.5	0.8	3.8	1.1
Michigan	8.1	1.3	8.1	1.9	10.6	4.0	8.1	3.6	7.9	2.4	9.1 !	4.9	8.8 !	5.2	8.1 !	5.5
New Jersey	2.2 !	1.0	2.5 !	1.3	3.0	1.4	3.4	0.8	2.6 !	0.7	3.2	1.3	3.3	1.4	3.1	1.2
New York †	6.2	1.0	4.8	1.2	4.5	1.2	4.2	1.2	5.6	0.8	6.4	0.7	8.9	1.6	9.0	4.4
North Carolina †	14.6 !	7.6	10.4	3.9	8.1	1.7	5.6	0.9	3.3	0.9	3.3	1.4	4.7	2.3	4.9	1.9
Ohio †	13.9	1.5	11.2	2.4	7.1	2.1	7.5	2.6	6.5	1.9	7.5	1.6	7.1	1.4	6.9	1.8
Pennsylvania †	6.9	1.1	6.2	1.6	9.6	3.7	8.8	3.3	9.6	4.1	13.7	2.5	15.9	2.9	16.0	2.4
Texas †	11.3	2.0	10.5	2.0	8.2	1.8	6.8	1.3	5.7	1.3	7.7	1.0	6.3	0.7	7.8	1.4

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year. Victimization rates include violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by offenders that are known to the victim, excluding intimate partners (current or former spouses, boyfriends, or girlfriends) and family members.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-21. Rates and SEs of Violent Victimization Committed by Strangers, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	10.7	0.5	9.3	0.5	8.0	0.4	8.0	0.4	8.6	0.4	8.9	0.4	8.8	0.4	7.7	0.4
California	10.6	1.5	8.3	0.9	8.8	1.2	10.5	1.2	14.0	1.4	13.7	1.3	12.3	1.2	9.6	0.9
Florida †	8.9	1.9	7.6	1.8	5.7	1.0	5.1	0.6	4.4	0.6	4.6	0.3	4.2	0.6	4.1	0.6
Georgia †	4.4	2.1	5.5	2.5	5.0	0.7	5.8	0.9	6.9	1.3	7.1	1.3	7.7	1.8	4.8	1.1
Illinois †	13.6	2.4	13.7	3.2	11.6	2.6	7.6	0.9	5.9	0.8	4.7	0.5	5.0	0.4	4.7	0.7
Michigan †	9.6	3.0	8.4	2.4	8.7	2.3	9.2	1.7	8.1	2.1	6.1	2.0	4.3	1.4	3.3	1.1
New Jersey	4.6	1.2	2.9	0.8	1.8 !	0.7	0.9 !	0.4	2.0 !	0.5	2.7	0.3	3.6	0.6	2.7	0.9
New York †	9.6	1.2	8.7	1.0	6.9	0.8	7.7	1.0	8.8	1.4	9.6	1.7	9.1	1.9	8.6	1.2
North Carolina	12.3	4.6	7.5	3.1	3.8 !	2.1	3.4	1.6	4.7	1.8	4.4	1.4	5.9	1.9	4.7	2.1
Ohio	11.5	1.8	8.6	0.9	7.5	1.1	8.0	0.9	8.5	1.1	7.8	1.4	8.1	1.8	6.9	1.4
Pennsylvania	11.0	2.8	11.7	5.4	13.0	4.9	10.2	2.6	9.9	1.9	11.7	2.8	11.1	3.1	8.6	2.9
Texas †	14.5	1.4	14.3	1.4	14.2	2.2	13.3	1.8	11.0	1.6	9.8	0.7	8.1	1.0	6.6	1.0

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-22. Rates and SEs of Violent Victimization Occurring during the Day, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE														
United States Overall*	14.9	0.6	13.4	0.6	11.9	0.6	11.7	0.6	12.3	0.6	13.1	0.6	12.5	0.6	11.1	0.6
California †	10.4	1.1	8.9	1.0	8.6	0.9	11.3	1.6	15.2	1.3	15.9	1.1	13.8	1.1	10.9	1.1
Florida †	10.5	1.0	10.0	1.1	8.2	0.8	7.2	1.1	6.3	0.9	6.5	0.9	5.1	1.1	5.1	0.8
Georgia	7.4	1.0	11.8	1.1	12.4	1.4	12.2	1.5	10.2	0.8	11.3	1.7	10.9	2.3	8.3	2.5
Illinois †	20.7	3.6	19.8	3.8	17.0	4.3	14.5	3.2	13.8	4.0	12.9	3.4	8.8	1.0	7.6	1.4
Michigan	14.9	3.7	13.4	3.3	14.3	5.0	13.3	3.9	12.4	3.5	12.7	2.9	11.0	4.5	10.1	4.7
New Jersey	6.1	1.4	5.7	1.7	5.3	1.4	4.1	0.5	4.5	0.7	5.4	1.2	5.8	0.9	4.9	1.2
New York †	12.6	1.1	9.2	0.9	7.8	0.9	8.9	0.9	11.0	1.0	10.9	0.9	12.2	1.7	11.4	2.7
North Carolina	14.4	4.2	11.5	2.8	8.7	1.5	8.8	1.4	5.6	0.8	6.7	1.5	8.7	1.9	9.0	1.8
Ohio	17.3	2.1	13.8	2.8	12.6	3.9	12.3	4.5	11.0	2.9	9.9	1.7	11.4	2.2	11.3	2.6
Pennsylvania †	11.6	1.7	9.6	1.8	12.8	3.7	12.3	3.9	14.9	5.0	20.3	2.8	21.9	2.7	19.1	3.9
Texas	19.1	3.5	17.2	2.6	13.6	2.6	10.7	1.5	10.1	1.7	13.1	1.7	11.9	1.2	11.8	1.6

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 a.m. to 6 p.m.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-23. Rates and SEs of Violent Victimization Occurring at Night, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	12.9	0.6	10.6	0.5	9.4	0.5	8.8	0.4	9.4	0.4	9.8	0.4	9.8	0.4	8.8	0.4
California	10.5	1.3	7.4	0.8	7.8	1.3	7.7	1.2	9.4	1.1	9.2	0.8	8.2	0.7	7.2	1.3
Florida	10.7	1.2	8.0	1.0	7.3	1.0	5.7	0.6	5.4	0.8	5.8	1.2	5.9	1.1	6.0	1.3
Georgia	7.9	3.3	6.9 !	3.4	6.4	2.0	4.9	0.8	5.7	1.3	4.9	1.2	4.9	0.8	3.5	0.7
Illinois †	12.7	3.0	11.6	2.7	8.7	1.5	8.1	1.7	7.2	1.4	6.1	1.3	5.2	0.9	5.0	1.1
Michigan †	14.3	2.5	12.2	2.2	12.0	3.0	10.2	2.3	9.2	1.8	6.4	1.1	5.3	1.4	6.7	2.5
New Jersey	7.8	1.7	5.9	1.7	3.7	1.2	3.3	1.4	3.1	1.1	3.4	1.3	4.0	1.5	3.6	1.1
New York †	8.2	1.3	8.2	1.4	7.6	1.1	7.9	1.7	8.0	1.0	9.2	1.6	8.8	1.7	8.5	1.9
North Carolina	20.6	4.6	14.0	3.1	8.8	1.4	4.8	1.9	6.0	2.3	8.3	2.9	12.0	4.1	8.1	2.3
Ohio	17.0	2.7	13.5	2.9	8.4	1.3	7.6	0.9	8.8	1.0	9.8	1.3	10.0	1.3	8.9	1.1
Pennsylvania	14.2	3.2	15.2	4.8	16.4	4.3	11.6	1.5	12.9	2.8	15.2	4.5	15.4	3.9	13.3	2.5
Texas †	16.5	1.7	15.8	2.0	15.3	3.1	13.1	2.3	11.4	1.9	9.6	0.5	8.9	1.0	7.8	1.4

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 p.m. to 6 a.m.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-24. Rates and SEs of Violent Victimization Involving a Weapon, by State, 2008–15**

State	2008		2009		2010		2011		2012		2013		2014		2015	
	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE	Rate	SE
United States Overall*	6.2	0.4	5.1	0.3	4.5	0.3	4.5	0.2	4.7	0.3	4.8	0.3	4.9	0.3	4.3	0.2
California †	4.9	0.7	3.3	0.4	3.1	0.4	3.7	0.5	5.0	0.5	5.6	0.7	5.3	0.7	4.5	0.6
Florida	5.2	1.1	3.7	0.9	3.4	1.0	2.7	1.0	2.0	0.6	1.9	0.2	1.9	0.4	2.7	0.3
Georgia	4.2	1.1	3.5	1.5	3.3	1.1	2.6	0.8	1.8 !	0.7	1.6 !	0.5	1.9 !	0.4	2.3	0.5
Illinois †	9.5	2.8	5.8	1.5	5.3	0.9	4.1	0.4	3.0	0.4	2.8	1.2	3.7	0.9	3.8	0.7
Michigan †	7.4	2.2	6.5	2.2	4.2	1.0	3.7	0.9	4.3	1.2	3.2	0.9	2.6	0.7	2.8	1.2
New Jersey	2.7	1.0	2.1 !	0.3	2.0 !	0.4	2.1 !	0.9	2.3 !	0.6	2.7	0.6	2.4	0.6	1.6 !	0.4
New York †	3.9	0.6	3.3	0.6	3.4	0.7	4.7	0.5	4.6	0.4	4.8	0.6	5.1	1.4	4.6	1.3
North Carolina	6.4	0.9	4.7	0.8	4.5	0.6	3.0	0.5	2.8	0.6	2.2 !	0.9	4.0	1.2	3.6	1.1
Ohio	5.9	1.5	5.2	1.5	5.6	1.8	5.9	2.3	5.7	2.5	3.9	0.7	3.2	0.6	3.4	0.7
Pennsylvania	5.7	2.0	5.1	1.6	6.7	1.4	4.7	0.9	3.9	0.7	3.7	1.1	3.1	0.8	4.8	1.5
Texas †	7.9	1.6	8.8	1.2	7.3	1.0	7.6	0.9	4.8	0.6	5.5	0.6	4.8	0.7	3.8	0.4

Note: Victimization rates are per 1,000 persons age 12 or older. Estimates based on 3-year rolling averages, centered on the most recent year.

Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2006–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-25. Rates and 95% Confidence Intervals of Violent Victimization, by MSA,  
2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	22.1	20.7	23.4
Atlanta-Sandy Springs-Roswell, GA	19.0	13.8	24.3
Austin-Round Rock, TX	19.3	10.5	28.1
Baltimore-Columbia-Towson, MD	56.0 †	31.3	80.7
Birmingham-Hoover, AL	22.2!	-2.6	46.9
Boston-Cambridge-Newton, MA-NH	15.9 †	11.9	19.8
Buffalo-Cheektowaga-Niagara Falls, NY	8.5!†	6.6	10.4
Charlotte-Concord-Gastonia, NC-SC	11.0 †	6.8	15.1
Chicago-Naperville-Elgin, IL-IN-WI	13.9 †	11.2	16.7
Cincinnati, OH-KY-IN	23.4	12.9	34.0
Cleveland-Elyria, OH	26.0	18.7	33.3
Columbus, OH	13.9 †	9.3	18.5
Dallas-Fort Worth-Arlington, TX	27.0	19.1	34.9
Denver-Aurora-Lakewood, CO	44.2 †	35.5	52.8
Detroit-Warren-Dearborn, MI	24.5	15.1	33.9
Hartford-West Hartford-East Hartford, CT	24.9	5.8	44.0
Houston-The Woodlands-Sugar Land, TX	21.3	14.5	28.1
Indianapolis-Carmel-Anderson, IN	39.9	11.7	68.0
Jacksonville, FL	10.9 †	9.9	12.0
Kansas City, MO-KS	39.1	19.1	59.1
Las Vegas-Henderson-Paradise, NV	35.2 †	26.6	43.9
Los Angeles-Long Beach-Anaheim, CA	18.2 †	16.6	19.8
Louisville/Jefferson County, KY-IN	66.8	16.3	117.2
Memphis, TN-MS-AR	30.3	7.6	52.9
Miami-Fort Lauderdale-West Palm Beach, FL	5.8 †	4.7	6.9
Milwaukee-Waukesha-West Allis, WI	39.7	6.5	72.9
Minneapolis-St. Paul-Bloomington, MN-WI	25.5	16.7	34.2
Nashville-Davidson-Murfreesboro-Franklin, TN	13.0 †	6.9	19.1
New Orleans-Metairie, LA	13.7 †	9.9	17.5
New York-Newark-Jersey City, NY-NJ-PA	13.2 †	9.4	17.0
Oklahoma City, OK	26.4	21.7	31.1
Orlando-Kissimmee-Sanford, FL	9.8 †	0.6	19.0
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	21.8	5.7	37.9
Phoenix-Mesa-Scottsdale, AZ	25.0	13.0	37.0
Pittsburgh, PA	40.5 †	24.0	56.9
Portland-Vancouver-Hillsboro, OR-WA	29.3 †	24.7	33.9
Providence-Warwick, RI-MA	32.5	16.0	49.1
Raleigh, NC	34.9	12.7	57.1
Richmond, VA	16.8	9.5	24.1
Riverside-San Bernardino-Ontario, CA	21.8	16.0	27.5
Rochester, NY	26.6	8.2	44.9
Sacramento-Roseville-Arden-Arcade, CA	44.3 †	35.6	53.0
Salt Lake City, UT	22.5	13.5	31.5
San Antonio-New Braunfels, TX	17.4	2.2	32.6
San Diego-Carlsbad, CA	9.5 †	5.3	13.8
San Francisco-Oakland-Hayward, CA	26.0	7.9	44.2
San Jose-Sunnyvale-Santa Clara, CA	21.6!	-7.0	50.2
Seattle-Tacoma-Bellevue, WA	43.4 †	35.5	51.4

(Continued)

**Table C-25. Rates and 95% Confidence Intervals of Violent Victimization, by MSA, 2011–15 (Continued)**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
St. Louis, MO-IL	33.6	20.9	46.3
Tampa-St. Petersburg-Clearwater, FL	15.1	5.6	24.5
Virginia Beach-Norfolk-Newport News, VA-NC	35.3 †	29.5	41.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	17.0	9.7	24.4

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-26. Rates and 95% Confidence Intervals of Serious Violent Victimization, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	7.4	6.8	7.9
Atlanta-Sandy Springs-Roswell, GA	6.4	4.5	8.2
Boston-Cambridge-Newton, MA-NH	7.1	2.8	11.4
Charlotte-Concord-Gastonia, NC-SC	5.1	2.9	7.4
Chicago-Naperville-Elgin, IL-IN-WI	5.0 †	3.8	6.1
Cincinnati, OH-KY-IN	6.4	0.6	12.2
Dallas-Fort Worth-Arlington, TX	8.3	6.9	9.8
Denver-Aurora-Lakewood, CO	17.5 !	-0.4	35.3
Detroit-Warren-Dearborn, MI	8.6	6.7	10.6
Houston-The Woodlands-Sugar Land, TX	7.9	4.1	11.8
Los Angeles-Long Beach-Anaheim, CA	6.1	4.7	7.4
Miami-Fort Lauderdale-West Palm Beach, FL	2.8 †	1.0	4.6
Minneapolis-St. Paul-Bloomington, MN-WI	9.2	4.2	14.3
New York-Newark-Jersey City, NY-NJ-PA	5.5	3.5	7.4
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	4.5 †	2.6	6.4
Phoenix-Mesa-Scottsdale, AZ	13.7	1.1	26.4
Pittsburgh, PA	6.9 !	-0.7	14.5
Riverside-San Bernardino-Ontario, CA	9.2	5.1	13.3
San Diego-Carlsbad, CA	4.4 †	3.6	5.3
San Francisco-Oakland-Hayward, CA	10.1	3.1	17.2
Seattle-Tacoma-Bellevue, WA	14.7	4.5	24.9
St. Louis, MO-IL	10.6 !	-0.4	21.7
Tampa-St. Petersburg-Clearwater, FL	4.6	1.7	7.5
Washington-Arlington-Alexandria, DC-VA-MD-WV	7.9	3.9	12.0

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Serious violent victimization is a subset of violent victimization and includes rape or sexual assault, robbery, and aggravated assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-27. Rates and 95% Confidence Intervals of Robbery Victimization, by MSA,  
2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	2.4	2.2	2.7
Atlanta-Sandy Springs-Roswell, GA	3.6 †	2.8	4.3
Chicago-Naperville-Elgin, IL-IN-WI	2.2	0.8	3.6
Dallas-Fort Worth-Arlington, TX	3.0	1.9	4.2
Detroit-Warren-Dearborn, MI	5.1 †	2.8	7.3
Houston-The Woodlands-Sugar Land, TX	3.3	0.9	5.8
Los Angeles-Long Beach-Anaheim, CA	2.5	1.1	3.8
Miami-Fort Lauderdale-West Palm Beach, FL	1.0!†	0.0	2.1
Minneapolis-St. Paul-Bloomington, MN-WI	2.8	1.8	3.9
New York-Newark-Jersey City, NY-NJ-PA	2.7	1.3	4.1
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	1.7!	0.3	3.2
Phoenix-Mesa-Scottsdale, AZ	3.2!	-1.0	7.3
San Francisco-Oakland-Hayward, CA	4.6	0.5	8.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	4.7	2.2	7.1

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-28. Rates and 95% Confidence Intervals of Assault Victimization, by MSA,  
2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	18.4	17.2	19.7
Atlanta-Sandy Springs-Roswell, GA	14.5	7.7	21.3
Austin-Round Rock, TX	14.2	5.0	23.5
Baltimore-Columbia-Towson, MD	53.0 †	29.0	76.9
Birmingham-Hoover, AL	18.1!	-1.1	37.3
Boston-Cambridge-Newton, MA-NH	11.8 †	8.3	15.3
Buffalo-Cheektowaga-Niagara Falls, NY	8.5!†	6.6	10.4
Charlotte-Concord-Gastonia, NC-SC	8.2 †	6.5	9.9
Chicago-Naperville-Elgin, IL-IN-WI	11.7 †	8.5	14.9
Cincinnati, OH-KY-IN	19.0	9.9	28.0
Cleveland-Elyria, OH	23.0	16.5	29.5
Columbus, OH	10.8 †	7.8	13.7
Dallas-Fort Worth-Arlington, TX	23.1	15.1	31.1
Denver-Aurora-Lakewood, CO	35.4 †	29.0	41.9
Detroit-Warren-Dearborn, MI	19.2	11.7	26.7
Houston-The Woodlands-Sugar Land, TX	16.8	11.4	22.1
Indianapolis-Carmel-Anderson, IN	37.0	10.2	63.8
Jacksonville, FL	10.3 †	7.9	12.6
Kansas City, MO-KS	34.5	15.0	54.1
Las Vegas-Henderson-Paradise, NV	27.6	16.8	38.4
Los Angeles-Long Beach-Anaheim, CA	15.1 †	13.7	16.5
Louisville/Jefferson County, KY-IN	52.9	2.1	103.7
Memphis, TN-MS-AR	27.7	6.4	49.0
Miami-Fort Lauderdale-West Palm Beach, FL	4.4 †	3.2	5.6
Milwaukee-Waukesha-West Allis, WI	35.0	1.8	68.2
Minneapolis-St. Paul-Bloomington, MN-WI	20.3	14.0	26.5
Nashville-Davidson-Murfreesboro-Franklin, TN	8.9 †	3.4	14.3
New York-Newark-Jersey City, NY-NJ-PA	10.0 †	6.5	13.4
Oklahoma City, OK	21.6 †	19.7	23.5
Orlando-Kissimmee-Sanford, FL	6.0 †	3.5	8.5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	19.6	3.6	35.6
Phoenix-Mesa-Scottsdale, AZ	19.3	10.9	27.7
Pittsburgh, PA	36.2 †	23.2	49.1
Portland-Vancouver-Hillsboro, OR-WA	22.7 †	19.3	26.2
Providence-Warwick, RI-MA	31.3	13.7	48.8
Raleigh, NC	22.3	6.9	37.6
Riverside-San Bernardino-Ontario, CA	19.3	13.7	24.9
Sacramento-Roseville-Arden-Arcade, CA	35.2 †	22.5	47.9
San Antonio-New Braunfels, TX	14.8	0.7	28.9
San Diego-Carlsbad, CA	6.9 †	3.0	10.8
San Francisco-Oakland-Hayward, CA	20.5	5.2	35.8
San Jose-Sunnyvale-Santa Clara, CA	17.1!	-9.4	43.5
Seattle-Tacoma-Bellevue, WA	35.0 †	25.7	44.4

(Continued)

**Table C-28. Rates and 95% Confidence Intervals of Assault Victimization, by MSA, 2011–15 (Continued)**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
St. Louis, MO-IL	26.0	18.2	33.8
Tampa-St. Petersburg-Clearwater, FL	12.2	4.6	19.7
Virginia Beach-Norfolk-Newport News, VA-NC	31.8 †	22.9	40.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	11.9 †	6.5	17.3

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Assault includes aggravated assault and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-29. Rates and 95% Confidence Intervals of Aggravated Assault Victimization, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	3.8	3.4	4.1
Atlanta-Sandy Springs-Roswell, GA	1.8 ! †	0.7	2.9
Boston-Cambridge-Newton, MA-NH	3.1	1.8	4.4
Chicago-Naperville-Elgin, IL-IN-WI	2.7	0.9	4.5
Dallas-Fort Worth-Arlington, TX	4.4	3.7	5.1
Detroit-Warren-Dearborn, MI	3.3	2.5	4.1
Houston-The Woodlands-Sugar Land, TX	3.4	1.4	5.4
Los Angeles-Long Beach-Anaheim, CA	3.0	2.2	3.9
Miami-Fort Lauderdale-West Palm Beach, FL	1.4 ! †	0.4	2.5
Minneapolis-St. Paul-Bloomington, MN-WI	4.0	1.7	6.4
New York-Newark-Jersey City, NY-NJ-PA	2.2 †	1.2	3.3
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2.3	0.7	3.9
Phoenix-Mesa-Scottsdale, AZ	8.0 !	0.1	16.0
Riverside-San Bernardino-Ontario, CA	6.8	3.0	10.5
San Francisco-Oakland-Hayward, CA	4.6	0.9	8.3
Seattle-Tacoma-Bellevue, WA	6.3 !	-2.4	15.0
Washington-Arlington-Alexandria, DC-VA-MD-WV	2.8	1.0	4.7

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-30. Rates and 95% Confidence Intervals of Simple Assault Victimization, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	14.7	13.6	15.8
Atlanta-Sandy Springs-Roswell, GA	12.7	5.8	19.5
Austin-Round Rock, TX	12.5	2.2	22.8
Baltimore-Columbia-Towson, MD	43.3 †	19.9	66.7
Boston-Cambridge-Newton, MA-NH	8.7 †	5.8	11.6
Charlotte-Concord-Gastonia, NC-SC	5.8 †	3.9	7.8
Chicago-Naperville-Elgin, IL-IN-WI	9.0 †	6.0	12.0
Cincinnati, OH-KY-IN	17.0	7.4	26.6
Cleveland-Elyria, OH	18.2	9.5	26.9
Columbus, OH	6.3 †	3.8	8.8
Dallas-Fort Worth-Arlington, TX	18.7	10.6	26.7
Denver-Aurora-Lakewood, CO	26.7	14.4	39.0
Detroit-Warren-Dearborn, MI	15.9	7.8	23.9
Houston-The Woodlands-Sugar Land, TX	13.4	9.9	16.8
Indianapolis-Carmel-Anderson, IN	31.9	3.9	59.8
Kansas City, MO-KS	27.3	13.5	41.1
Las Vegas-Henderson-Paradise, NV	23.6	9.5	37.6
Los Angeles-Long Beach-Anaheim, CA	12.1 †	10.8	13.4
Miami-Fort Lauderdale-West Palm Beach, FL	3.0 †	1.4	4.6
Milwaukee-Waukesha-West Allis, WI	25.5	5.4	45.6
Minneapolis-St. Paul-Bloomington, MN-WI	16.2	12.0	20.5
New York-Newark-Jersey City, NY-NJ-PA	7.7 †	5.1	10.3
Orlando-Kissimmee-Sanford, FL	3.7! †	-0.2	7.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	17.3	2.4	32.2
Phoenix-Mesa-Scottsdale, AZ	11.2	7.5	15.0
Pittsburgh, PA	33.6 †	21.3	45.9
Portland-Vancouver-Hillsboro, OR-WA	20.5 †	17.5	23.5
Providence-Warwick, RI-MA	26.9	10.9	42.9
Riverside-San Bernardino-Ontario, CA	12.6	3.3	21.8
Sacramento-Roseville-Arden-Arcade, CA	30.9 †	18.1	43.6
San Antonio-New Braunfels, TX	13.9!	0.1	27.6
San Diego-Carlsbad, CA	5.1 †	0.5	9.7
San Francisco-Oakland-Hayward, CA	15.9	4.3	27.5
San Jose-Sunnyvale-Santa Clara, CA	13.4!	-8.8	35.7
Seattle-Tacoma-Bellevue, WA	28.7	14.5	43.0
St. Louis, MO-IL	23.0 †	15.2	30.8
Tampa-St. Petersburg-Clearwater, FL	10.4	2.3	18.5
Virginia Beach-Norfolk-Newport News, VA-NC	16.7	8.3	25.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	9.1 †	5.4	12.7

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-31. Rates and 95% Confidence Intervals of Domestic Violence Victimization, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	4.5	4.0	5.0
Atlanta-Sandy Springs-Roswell, GA	3.4	1.6	5.3
Boston-Cambridge-Newton, MA-NH	3.3! <sup>†</sup>	-0.1	6.6
Chicago-Naperville-Elgin, IL-IN-WI	2.7 <sup>†</sup>	1.3	4.1
Dallas-Fort Worth-Arlington, TX	3.5	1.9	5.1
Detroit-Warren-Dearborn, MI	6.3	0.3	12.3
Houston-The Woodlands-Sugar Land, TX	5.7	3.8	7.6
Los Angeles-Long Beach-Anaheim, CA	1.5 <sup>†</sup>	0.4	2.6
Miami-Fort Lauderdale-West Palm Beach, FL	0.7! <sup>†</sup>	0.1	1.4
Minneapolis-St. Paul-Bloomington, MN-WI	6.1	1.2	11.0
New York-Newark-Jersey City, NY-NJ-PA	1.5 <sup>†</sup>	0.6	2.3
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	3.8	2.1	5.5
Phoenix-Mesa-Scottsdale, AZ	4.8!	-0.7	10.3
Riverside-San Bernardino-Ontario, CA	6.3	0.3	12.3
San Francisco-Oakland-Hayward, CA	2.1! <sup>†</sup>	1.5	2.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	4.4	1.5	7.2

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Domestic violence includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by intimate partners (current or former spouses, boyfriends, or girlfriends) and family members.

\* Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-32. Rates and 95% Confidence Intervals of Violent Victimization Committed by Other Known Offenders, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	7.6	6.9	8.4
Atlanta-Sandy Springs-Roswell, GA	6.2	3.4	8.9
Boston-Cambridge-Newton, MA-NH	5.8	4.1	7.5
Charlotte-Concord-Gastonia, NC-SC	2.9! †	1.2	4.7
Chicago-Naperville-Elgin, IL-IN-WI	3.3 †	2.3	4.4
Dallas-Fort Worth-Arlington, TX	12.9	6.3	19.5
Detroit-Warren-Dearborn, MI	10.9!	-6.9	28.6
Houston-The Woodlands-Sugar Land, TX	4.8	1.7	8.0
Los Angeles-Long Beach-Anaheim, CA	3.5 †	2.3	4.7
Miami-Fort Lauderdale-West Palm Beach, FL	1.5! †	-0.3	3.3
Minneapolis-St. Paul-Bloomington, MN-WI	7.0	4.2	9.7
New York-Newark-Jersey City, NY-NJ-PA	4.3 †	2.1	6.4
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	3.9 †	1.8	6.1
Phoenix-Mesa-Scottsdale, AZ	4.7 †	2.7	6.8
c-1Riverside-San Bernardino-Ontario, CA	5.0 †	2.6	7.4
San Diego-Carlsbad, CA	2.7! †	1.2	4.1
San Francisco-Oakland-Hayward, CA	5.8!	0.1	11.6
Seattle-Tacoma-Bellevue, WA	8.6	7.0	10.2
St. Louis, MO-IL	20.3 †	10.7	30.0
Tampa-St. Petersburg-Clearwater, FL	2.7! †	-1.5	6.8
Washington-Arlington-Alexandria, DC-VA-MD-WV	3.0! †	-0.1	6.1

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Victimization rates include violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed by offenders that are known to the victim, excluding intimate partners (current or former spouses, boyfriends, or girlfriends) and family members.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-33. Rates and 95% Confidence Intervals of Violent Victimization Committed by Strangers, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	8.3	7.8	8.9
Atlanta-Sandy Springs-Roswell, GA	7.2	5.1	9.2
Baltimore-Columbia-Towson, MD	23.8 †	19.3	28.3
Boston-Cambridge-Newton, MA-NH	6.5	2.0	11.1
Charlotte-Concord-Gastonia, NC-SC	4.5 †	2.5	6.6
Chicago-Naperville-Elgin, IL-IN-WI	6.0 †	4.5	7.5
Cincinnati, OH-KY-IN	12.7	7.7	17.7
Cleveland-Elyria, OH	7.6	0.7	14.6
Columbus, OH	5.0! †	2.7	7.4
Dallas-Fort Worth-Arlington, TX	7.5	6.0	9.1
Denver-Aurora-Lakewood, CO	27.2 †	25.1	29.4
Detroit-Warren-Dearborn, MI	6.3	2.0	10.6
Houston-The Woodlands-Sugar Land, TX	8.8	6.1	11.5
Indianapolis-Carmel-Anderson, IN	18.6!	-2.2	39.4
Kansas City, MO-KS	7.5	5.2	9.9
Las Vegas-Henderson-Paradise, NV	15.3	7.5	23.0
Los Angeles-Long Beach-Anaheim, CA	12.0 †	9.7	14.3
Miami-Fort Lauderdale-West Palm Beach, FL	2.9 †	2.1	3.6
Milwaukee-Waukesha-West Allis, WI	20.0!	-3.9	43.9
Minneapolis-St. Paul-Bloomington, MN-WI	10.3	5.9	14.7
New York-Newark-Jersey City, NY-NJ-PA	5.6 †	4.3	6.8
Orlando-Kissimmee-Sanford, FL	4.3! †	1.4	7.2
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	7.4	2.8	12.0
Phoenix-Mesa-Scottsdale, AZ	13.5	0.9	26.1
Pittsburgh, PA	13.8	4.6	23.0
Portland-Vancouver-Hillsboro, OR-WA	14.7 †	10.8	18.6
Providence-Warwick, RI-MA	17.9 †	12.7	23.0
Riverside-San Bernardino-Ontario, CA	10.3	8.3	12.2
Sacramento-Roseville-Arden-Arcade, CA	20.4	7.2	33.6
San Antonio-New Braunfels, TX	9.9	0.6	19.2
San Diego-Carlsbad, CA	5.1 †	3.0	7.2
San Francisco-Oakland-Hayward, CA	12.9	6.4	19.3
Seattle-Tacoma-Bellevue, WA	21.3 †	16.3	26.4
St. Louis, MO-IL	4.8 †	3.1	6.5
Tampa-St. Petersburg-Clearwater, FL	7.9	1.8	14.1
Washington-Arlington-Alexandria, DC-VA-MD-WV	7.6	1.7	13.6

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

\* Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

† Comparison group.

‡ Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-34. Rates and 95% Confidence Intervals of Violent Victimization Occurring during the Day, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	12.0	11.1	12.9
Atlanta-Sandy Springs-Roswell, GA	12.3	8.1	16.6
Austin-Round Rock, TX	7.3 †	3.5	11.1
Baltimore-Columbia-Towson, MD	25.1 †	15.6	34.7
Boston-Cambridge-Newton, MA-NH	6.3 †	5.0	7.5
Charlotte-Concord-Gastonia, NC-SC	6.1 †	1.8	10.3
Chicago-Naperville-Elgin, IL-IN-WI	7.8 †	5.8	9.7
Cincinnati, OH-KY-IN	11.6 !	0.2	23.1
Cleveland-Elyria, OH	11.9	10.6	13.2
Columbus, OH	7.9	3.5	12.3
Dallas-Fort Worth-Arlington, TX	18.4	11.6	25.3
Denver-Aurora-Lakewood, CO	21.2	9.9	32.5
Detroit-Warren-Dearborn, MI	17.2	6.6	27.8
Houston-The Woodlands-Sugar Land, TX	9.3 †	7.2	11.3
Indianapolis-Carmel-Anderson, IN	28.7 !	-7.5	64.8
Jacksonville, FL	3.1 ! †	2.6	3.5
Kansas City, MO-KS	22.3 †	14.9	29.7
Las Vegas-Henderson-Paradise, NV	17.2	11.6	22.9
Los Angeles-Long Beach-Anaheim, CA	11.7	10.3	13.1
Memphis, TN-MS-AR	16.9 !	-10.8	44.6
Miami-Fort Lauderdale-West Palm Beach, FL	3.8 †	2.8	4.8
Milwaukee-Waukesha-West Allis, WI	22.0	8.9	35.0
Minneapolis-St. Paul-Bloomington, MN-WI	12.8	9.7	15.9
New York-Newark-Jersey City, NY-NJ-PA	7.5 †	4.1	11.0
Orlando-Kissimmee-Sanford, FL	6.5 †	1.5	11.6
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	11.4	1.0	21.7
Phoenix-Mesa-Scottsdale, AZ	11.6	4.2	18.9
Pittsburgh, PA	18.5	5.4	31.6
Portland-Vancouver-Hillsboro, OR-WA	12.6	7.5	17.7
Providence-Warwick, RI-MA	7.2 †	4.5	9.9
Riverside-San Bernardino-Ontario, CA	16.6 †	12.7	20.4
Sacramento-Roseville-Arden-Arcade, CA	29.3 †	27.5	31.0
San Antonio-New Braunfels, TX	10.0 !	0.1	19.8
San Diego-Carlsbad, CA	6.2 †	3.0	9.4
San Francisco-Oakland-Hayward, CA	13.4	4.4	22.5
San Jose-Sunnyvale-Santa Clara, CA	6.6 †	5.0	8.2
Seattle-Tacoma-Bellevue, WA	22.4	6.9	37.9
St. Louis, MO-IL	21.8	11.1	32.4
Tampa-St. Petersburg-Clearwater, FL	5.5 †	1.4	9.5
Virginia Beach-Norfolk-Newport News, VA-NC	17.5	5.2	29.7
Washington-Arlington-Alexandria, DC-VA-MD-WV	7.9	3.6	12.3

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 a.m. to 6 p.m.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-35. Rates and 95% Confidence Intervals of Violent Victimization Occurring at Night, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	9.2	8.5	9.9
Atlanta-Sandy Springs-Roswell, GA	6.3 †	4.6	8.0
Baltimore-Columbia-Towson, MD	21.6 †	14.4	28.8
Boston-Cambridge-Newton, MA-NH	9.6	6.6	12.6
Charlotte-Concord-Gastonia, NC-SC	4.9 †	4.5	5.3
Chicago-Naperville-Elgin, IL-IN-WI	5.2 †	3.2	7.3
Cincinnati, OH-KY-IN	10.8	5.4	16.2
Cleveland-Elyria, OH	11.1	5.6	16.5
Columbus, OH	5.8	1.0	10.6
Dallas-Fort Worth-Arlington, TX	8.3	6.3	10.2
Denver-Aurora-Lakewood, CO	19.2 †	13.6	24.9
Detroit-Warren-Dearborn, MI	6.7	3.7	9.6
Houston-The Woodlands-Sugar Land, TX	11.9	6.8	16.9
Indianapolis-Carmel-Anderson, IN	10.0	1.4	18.7
Kansas City, MO-KS	16.7	3.3	30.2
Las Vegas-Henderson-Paradise, NV	17.5 †	10.5	24.5
Los Angeles-Long Beach-Anaheim, CA	6.3 †	4.6	8.1
Miami-Fort Lauderdale-West Palm Beach, FL	2.0 †	1.3	2.7
Milwaukee-Waukesha-West Allis, WI	15.0 !	-3.8	33.7
Minneapolis-St. Paul-Bloomington, MN-WI	12.2	5.4	19.1
New York-Newark-Jersey City, NY-NJ-PA	5.4 †	4.2	6.5
Orlando-Kissimmee-Sanford, FL	3.3 ! †	-1.0	7.5
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	10.0	3.7	16.3
Phoenix-Mesa-Scottsdale, AZ	11.3	7.1	15.5
Pittsburgh, PA	16.1 †	14.1	18.2
Portland-Vancouver-Hillsboro, OR-WA	14.7 †	9.9	19.5
Providence-Warwick, RI-MA	25.0 †	9.7	40.3
Riverside-San Bernardino-Ontario, CA	4.8 †	2.9	6.8
Sacramento-Roseville-Arden-Arcade, CA	14.2	7.2	21.2
San Antonio-New Braunfels, TX	6.5	2.9	10.2
San Diego-Carlsbad, CA	2.8 ! †	2.5	3.2
San Francisco-Oakland-Hayward, CA	12.4	2.5	22.3
Seattle-Tacoma-Bellevue, WA	16.6	8.6	24.6
St. Louis, MO-IL	10.1	3.7	16.5
Tampa-St. Petersburg-Clearwater, FL	9.3	2.6	16.0
Washington-Arlington-Alexandria, DC-VA-MD-WV	7.9	4.0	11.7

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Includes violent victimizations (i.e., rape or sexual assault, robbery, aggravated assault, and simple assault) committed from 6 p.m. to 6 a.m.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.

**Table C-36. Rates and 95% Confidence Intervals of Violent Victimization Involving a Weapon, by MSA, 2011–15**

MSA	Rate	Lower 95% Confidence Interval	Upper 95% Confidence Interval
United States Overall*	4.6	4.2	5.0
Atlanta-Sandy Springs-Roswell, GA	2.6 †	1.2	4.0
Boston-Cambridge-Newton, MA-NH	3.5	2.5	4.6
Chicago-Naperville-Elgin, IL-IN-WI	3.4	2.3	4.5
Dallas-Fort Worth-Arlington, TX	5.8 †	4.7	6.9
Detroit-Warren-Dearborn, MI	4.8	2.7	6.8
Houston-The Woodlands-Sugar Land, TX	5.0	1.8	8.2
Los Angeles-Long Beach-Anaheim, CA	4.1	3.1	5.1
Miami-Fort Lauderdale-West Palm Beach, FL	1.7! †	0.6	2.7
Minneapolis-St. Paul-Bloomington, MN-WI	4.9	1.9	7.8
New York-Newark-Jersey City, NY-NJ-PA	3.5	1.6	5.3
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	2.5 †	0.8	4.1
Phoenix-Mesa-Scottsdale, AZ	12.7	0.4	24.9
Riverside-San Bernardino-Ontario, CA	7.2	3.2	11.2
San Diego-Carlsbad, CA	2.6!	0.5	4.6
San Francisco-Oakland-Hayward, CA	6.3	1.8	10.9
Seattle-Tacoma-Bellevue, WA	5.4!	-0.9	11.7
St. Louis, MO-IL	4.4!	0.3	8.5
Tampa-St. Petersburg-Clearwater, FL	2.4! †	0.4	4.5
Washington-Arlington-Alexandria, DC-VA-MD-WV	4.8	1.6	8.1

MSA=metropolitan statistical area.

Note: Victimization rates are per 1,000 persons age 12 or older. Violent victimization includes rape or sexual assault, robbery, aggravated assault, and simple assault.

! Interpret with caution. Estimate based on fewer than 15 sample cases, or coefficient of variation is greater than 50%.

\* Comparison group.

† Significant difference from comparison group at 95% confidence level.

Source: Bureau of Justice Statistics, National Crime Victimization Survey, 2011–15, restricted-use data accessed through a U.S. Census Bureau Federal Statistical Research Data Center.