



Developmental Estimates of Subnational Crime Rates Based on the National Crime Victimization Survey

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Research papers have been reviewed by the Bureau of Justice Statistics (BJS) to ensure the general accuracy of information presented and adherence to confidentiality and disclosure standards. This paper is released to inform interested parties of research and methodologies that will be implemented to analyze and report findings from the NCVS. Any opinions and conclusions expressed herein are those of the author(s) and do not necessarily represent the views of BJS and the U.S. Department of Justice.

Abstract

Developmental Estimates of Subnational Crime Rates Based on the National Crime Victimization Survey presents rates of violent and property crime victimization for the 50 states and select metropolitan statistical areas, generated using small-area estimation (SAE) methods. The report describes the statistical modeling approach used to produce state-level estimates from the National Crime Victimization Survey data and auxiliary data sources. It compares SAE victimization rates for the 50 states from 1999 to 2013 to FBI crime rates from the Uniform Crime Reporting Program. It shows trends in criminal victimization rates for each state from 1999 to 2013. State-level estimates of intimate partner violence are also presented.

Table of Contents

<u>Section</u>	<u>Page</u>
Forward	4
1 Introduction	6
1.1 Small Area Estimation with the NCVS.....	7
1.2 Comparing the NCVS to the UCR.....	9
2 NCVS (SAE) State Estimates	11
2.1 NCVS (SAE) Estimates for Violent and Property Crime	11
2.2 Assessing the NCVS (SAE) Estimates	15
2.3 Violent Crime by Type and by Relationship to Perpetrator	25
2.4 Property Crime by Type	35
2.5 Availability of State Estimates.....	42
3 Counties and Metropolitan Areas.....	43
4 Concluding Remarks	50
References	51
Appendix A Treatment of Year 2006 and Series Crimes.....	A1
Appendix B Trend Figures for the 50 States and Washington, D.C.....	B1
Appendix C Trend Figures for Select Counties	C1
Appendix D Trend Figures for Select CBSAs	D1

Forward

The National Crime Victimization Survey (NCVS) is the only source of annual national data on a number of policy relevant subjects related to criminal victimization, including intimate partner violence, injury from victimization, weapon use, the cost of crime, reporting to police, and crime against vulnerable populations, such as the elderly and persons with disabilities. It is one of the two main sources of data on crime in the United States and the only source that provides detailed information on the level, nature and consequences of crime (*The Nation's Two Crime Measures*). By capturing crimes not reported to police, known as the “dark figure of crime,” as well as those known to law enforcement, the NCVS serves as the primary, independent source of information on crime in the United States.

Though the NCVS was originally designed to provide national level estimates of criminal victimization, BJS has recognized an increasing need for victimization data at the state and local level. Three major reviews of the NCVS program (Penick and Owens, 1976; Biderman et al., 1986; Groves and Cork, 2008) all point to the demand that local criminal justice administrators have for empirical information to shape policy. Subnational estimates are of value to both federal and nonfederal data users and stakeholders. Federal stakeholders that currently allocate funding or resources for crime victims and crime prevention based on official police crime estimates, could use the victimization estimates to understand how the allocation of funding would change when unreported crime is taken into account. Policy makers could use these estimates to examine local variations in crime both reported and unreported to police and make comparisons among states, and law enforcement officials could use the findings to begin to understand differences in rates of crime and reporting to police across. The data can also be used in conjunction with official police statistics to begin to understand the correlation between the NCVS and official police reports of crime.

Research demonstrated that the NCVS could be enhanced to produce several types of subnational estimates. The small area estimates (SAE) presented in this current report by Fay and Diallo (2015) use statistical methods to generate model-based subnational estimates for all 50 states, DC and other large places. In addition to these model-based estimates, BJS is developing other approaches for generating subnational NCVS estimates. BJS is boosting the NCVS core sample in large states to obtain direct state-level estimates. Beginning in July of 2013, BJS initiated a pilot test boost of the NCVS sample in the 11 states with the largest population to assess the feasibility and cost of generating direct state-level estimates. Based on findings from the pilot test, BJS is boosting the NCVS core sample in 22 states and largest metropolitan areas.

Next, BJS has started developing generic area typologies based on various geographic, social, economic, or demographic characteristics. These generic areas represent all places that are similar to each other based on the characteristics of interest. Initially these subnational geographic identifiers include region, population size, and urbanicity. Finally, BJS is testing the feasibility of fielding a low-cost mailed, self-administered companion survey in specific cities. The American Crime Survey

research project is focused on developing and evaluating a cost effective supplement to the core NCVS that will help BJS and law enforcement better understand the counts and rates of crime at the local level.

Collectively, the BJS will assemble and evaluate the various approaches based on estimate quality, relevance, level of geography, timeliness, burden, and cost to develop a routine approach to generating annual subnational estimates. The SAE estimates presented in this report will be labeled as developmental until the BJS implements the methodologies that will allow it to produce these estimates on an annual basis in conjunction with estimates from the other components of the subnational estimation program.

Although the estimates in this report are labeled as “developmental” the methodology behind them has gone through rigorous review and verification.

Introduction

The Bureau of Justice Statistics' (BJS) National Crime Victimization Survey (NCVS) has provided annual estimates of crime at the national level since 1993. BJS publishes the survey results in the Criminal Victimization series and in other topical reports, which are used by policymakers, the media, researchers, academics, and the general public. The lowest level of geography typically examined in these reports is four geographic regions: Northeast, Midwest, South, and West.

While the NCVS can be used to examine a range of subgroup differences, BJS has not recently released information about crime at the level of states, counties, or metropolitan areas. One reason for not releasing geographically detailed estimates is sampling variability. The NCVS sample is designed to be nationally representative but is not necessarily representative for states, cities, or smaller geographic areas. Additionally, nearly all states lack the sample size needed to produce stable, reliable estimates on an annual basis.

Another challenge in releasing estimates at the subnational level is the need to protect the confidentiality of individual respondents. The identity of NCVS respondents is protected under the confidentiality provisions of the Census Bureau's Title 13 legislation. Detailed information about the characteristics of victims coupled with detailed geographic information could jeopardize this confidentiality.

Despite these challenges, in 2008 a panel of the National Research Council (NRC) recommended that BJS pursue a program to develop and disseminate small area estimation (SAE) estimates of major crime and victimization rates (Cork and Groves 2008, p. 8). In response, BJS awarded a series of grants to develop options and conduct research projects on the feasibility of implementing the NRC recommendation using SAE methods (Cantor et al., 2010). The SAE research identified a plausible methodological approach, produced preliminary estimates, and subsequently extended the methods to meet additional goals that BJS requested.

This report presents findings from that research. It provides SAE estimates of state-level crime rates for the period 1999–2013 derived from the NCVS data. The estimates cover 13 overlapping 3-year averages, starting with 1999–2001 and ending with 2011–2013. The report also describes estimates for the largest counties and metropolitan areas for the period 1998–2012. These estimates also cover 13 overlapping 3-year averages, starting with 1998–2000 and ending with 2010–2012. (These estimates lag the state estimates by one year because the necessary UCR county estimates for 2013 were unavailable in December 2014.)

The small area state estimates in this report are limited to categories of commonly occurring crimes, without linking them to any characteristics of the victims that could allow the possible identification of individual respondents. The complexity of the statistical methods used to produce the estimates

provides an additional layer of confidentiality protection. Technical details about the underlying statistical models are available in the report “Constructing and Disseminating Small Area Estimates for the National Crime Victimization Survey (NCVS): Continuation of Project 2008-BJ-CX-K067, Final Report.”

1.1 Small Area Estimation with the NCVS

SAE methods combine survey and auxiliary data through statistical models to produce estimates for areas where direct estimates from a survey are not very reliable. The NCVS SAE estimates, like other SAE estimates, are derived from three basic components:

1. A sample survey that measures the desired characteristics reliably at the national level.
2. Auxiliary information that provides geographically detailed data.
3. Models to relate the sample estimates to the auxiliary information.

The NCVS small area estimates are based on data from the survey and use statistics from the FBI’s Uniform Crime Reports (UCR) as auxiliary data. The UCR, which aggregates reports from law enforcement units, is an important source for crime rates at the state and local levels. The model attempts to predict where the NCVS estimated crime rates are high or low relative to other states from the UCR crime rates for particular types of crime. However, the NCVS SAE state estimates follow the same general trajectory of the national NCVS estimates over time, not the trajectory of the UCR national estimates.

The NCVS SAE models take advantage of the fact that the NCVS is a continuous survey that produces estimates of crime rates annually. Because true crime rates are fairly stable over time, the models can “borrow strength” from the NCVS direct estimates from other years. In other words, although some states can change relative to others over time, such change is typically slow. The true crime rate in one year, combined with the national trend, is a strong predictor of the following year’s rates. The SAE model identifies the extent to which individual NCVS state-level estimates can be averaged over time to improve the state-level predictions for individual years or for 3-year periods. The model does this by attempting to measure the relative stability in the geographic patterns of crime over time and then using this information to determine how much weight should be placed on past years. In predicting the true state-level crime rate for any one year, the model considers the available NCVS direct estimates of crime for the state for all of the years, but it gives more weight to recent years than distant ones. For example, the 2011–2013 SAE estimates for a state not only incorporate the available NCVS sample information from the survey in 2011, 2012, and 2013, but also use results for each of the years 1999–2010 to a lesser extent, with more weight placed on 2010 than 1999.

A number of SAE projects throughout the federal statistical system are similar to the NCVS SAE project, including the following:

- The Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program produces SAE estimates of poverty, including estimates for children ages 5–17 and median household income at the state and county levels. The SAIPE program also produces estimates of poverty for children ages 5–17 at the school district level. This program is based on survey data from the American Community Survey (ACS) and auxiliary data from anonymized Internal Revenue Service tax returns and food stamp participation in the Supplemental Nutrition Assistance Program (see <https://www.census.gov/did/www/saipe/>).
- The National Center for Health Statistics uses SAE methods to publish types of telephone usage (for example, landline vs. mobile phones) for states and selected substate areas (Blumberg et al., 2011). The estimates are based on survey data from the National Health Interview Survey. The auxiliary data are extracted from the ACS.
- The Bureau of Labor Statistics' Local Area Unemployment Statistics program issues SAE estimates of monthly employment and unemployment at the state and local labor market area levels (<http://www.bls.gov/lau/home.htm>) using survey data from the Current Population Survey combined with auxiliary data based on administrative sources, such as state employment agencies.

In each of these examples, the direct survey estimates are typically too unstable to be used at the small area level, even though each associated survey produces reliable national estimates. The three projects each yield plausible SAE estimates for their targeted small areas, but the projects are not intended to revise the national estimates directly available from the survey. Similarly, the NCVS small area estimates offer a statistical interpretation, based on NCVS data, of how crime is distributed across the states. They are not intended to improve or revise the national NCVS estimates of crime rates.

All of the NCVS (SAE) results presented in this report must be regarded as estimates rather than quantities known with certainty. For example, an estimate may show that a specific state has a crime rate higher than the national average during a specific period of time, but the interpretation of the observed difference must be tempered by the possibility that the difference may be mostly due to sampling variability rather than an underlying true difference.

This report uses the acronym “NCVS (SAE)” to distinguish the small area estimates from direct estimates based on a tabulation of the NCVS survey data. The NCVS (SAE) estimates are shown in the form of 3-year averages. The 3-year NCVS (SAE) averages smooth out some of the random variation in the annual estimates and shift the emphasis from detecting short-term change to identifying longer term trends in crime.

1.2 Comparing the NCVS to the UCR

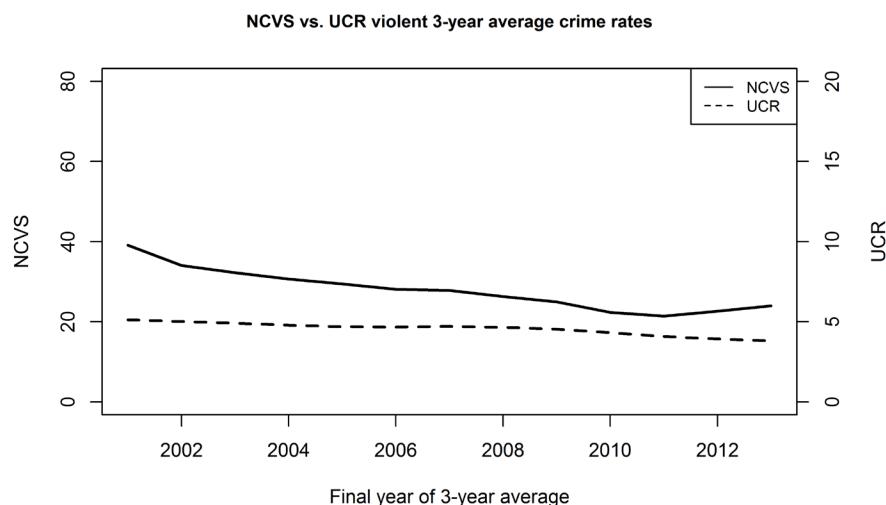
The FBI's UCR data have historically been the primary source for state- and substate-level crime statistics. The UCR estimates are based on crimes as reported by participating law enforcement agencies, although the FBI partially adjusts the state estimates for missing data from some jurisdictions. State-level UCR estimates are used in this report for purposes of comparison to the SAE estimates.

Differences between national estimates from the NCVS and the UCR have been noted for decades, and a substantial body of research has attempted to account for these differences (e.g., Lynch and Addington, 2007). At the national level, the NCVS and UCR trends in crime were not always consistent during the period 1999–2013, and the NCVS shows a larger decline in violent crime rates across the period compared to the UCR (figure 1-1). Several differences between the NCVS and the UCR could account for the discrepancies, including the following:

- The UCR is based on police reports, while the NCVS asks survey respondents about crimes regardless of whether they reported the crimes to police.
- The UCR covers crimes committed against all persons and businesses, while the NCVS covers persons age 12 and older and excludes crimes against the homeless, institutionalized populations, and businesses.
- The two collections differ in regard to the types of crimes included. In the UCR, violent crime includes murder and nonnegligent manslaughter, forcible rape, robbery, and aggravated assault. In the NCVS, violent crime includes rape and sexual assault, robbery, aggravated assault, and simple assault. Simple assault, which is not included in the UCR, is the largest component of the NCVS estimate of total violent crime.

- In both the UCR and the NCVS, property crime is divided into burglary, motor vehicle theft, and larceny (theft) other than motor vehicle theft. However, the NCVS denominator for property crime rates is the number of U.S. households, while the UCR denominator is the estimated population. Methodological differences and changes over time affect both collections to some degree.

Figure 1-1 NCVS vs. UCR violent crime rates in the form of 3-year averages, 1993–2013, adjusted to exclude data for 2006. Rates are shown as number per 1,000.



In addition to national differences between the NCVS and UCR crime rates, the relationship between the two collections could vary geographically. One reason for potential geographic differences is that crime statistics in the UCR are based on the location where the crime occurred, while NCVS data are based on the victim's location of residence. Other variations in population composition and patterns of reporting to the police could also further impact subnational differences between the two collections.

This report compares NCVS (SAE) and UCR estimates as an aid to interpreting the SAE results. Because the two series measure different (although related) concepts, the comparisons are of clear interest, but they are not intended to argue that the new NCVS (SAE) estimates displace the utility of the UCR statistics.

Appendix A of this report details two methodological issues in preparing the estimates. One issue is a modification of the analysis for unusual NCVS results for 2006. The other issue notes methodological changes in NCVS estimation over this period. Because BJS now publishes consistent estimates for the entire period using the current methods, the NCVS (SAE) estimates do so as well.

2.1 NCVS (SAE) Estimates for Violent and Property Crime

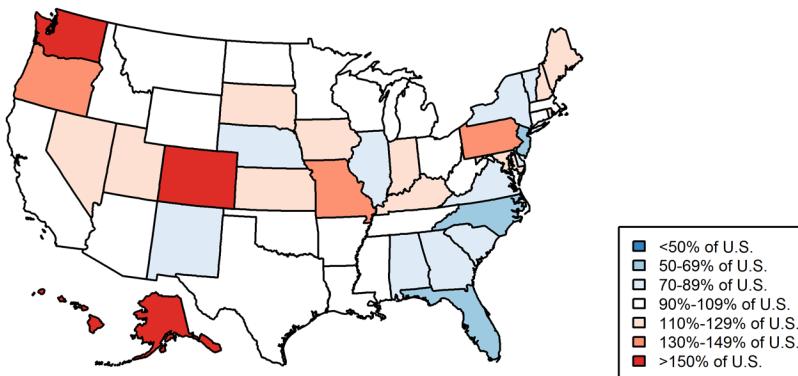
Although the NCVS and UCR estimates of violent crime for 2011–2013 share features in common (figure 2-1), there are many apparent differences between the geographic patterns of the two sets of state estimates. Washington and Oregon move from below the national average for violent crime in the UCR to above average in the NCVS (SAE). Florida shifts from above average in the UCR to below average in the NCVS (SAE). In general, the NCVS (SAE) estimates show comparatively lower crime rates in the Southeast than the UCR shows. A tier of states in the Northwest—Idaho, Montana, Wyoming, North Dakota, South Dakota, Minnesota, and some neighboring states—move from low violent crime rates in the UCR to rates closer to the national average in the NCVS (SAE). There are numerous other apparent differences between the NCVS (SAE) and the UCR.

There are also differences for estimates of property crime (figure 2-2). The UCR generally shows a distinct North/South divide, with higher property crime rates in southern states than in northern states. The UCR also shows that most states are relatively close to the national average for property crimes, compared to the wider differences shown for violent crime rates in the UCR. Compared to the UCR, the NCVS (SAE) estimates shift comparatively high property crime rates away from Southeastern states and generally toward the West, with California, Oregon, and Washington showing relatively high rates.

An examination of state average violent crime rates for the entire period 1999–2013 (figure 2-3) shows patterns similar to the estimated rates for 2011–2013. NCSV (SAE) estimates for 1999–2013 were based on averaging estimates for five of the 3-year periods (1999–2001, 2002–2004, 2005–2007, 2008–2010, and 2011–2013), thus including each year once. The NCVS (SAE) estimates for violent crime have a pattern similar to the estimated rates for 2011–2013, although the average national rate for 2011–2013 is lower than for 1999–2013. States that change color (figure 2-1 vs. figure 2-3) when additional years are added generally moved to an adjacent color range. This agreement is a partial consequence of the NCVS (SAE) model, which looks for stability across time. The UCR violent crime estimates also appear geographically stable across time.

Figure 2-1 Comparison of NCVS (SAE) and UCR violent crime rates to the national averages, 2011-2013

NCVS (SAE) violent crime rate, 2011-2013



UCR violent crime rate, 2011-2013

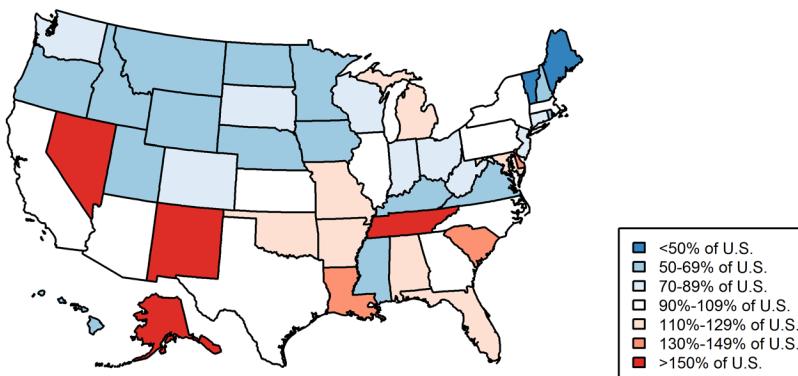
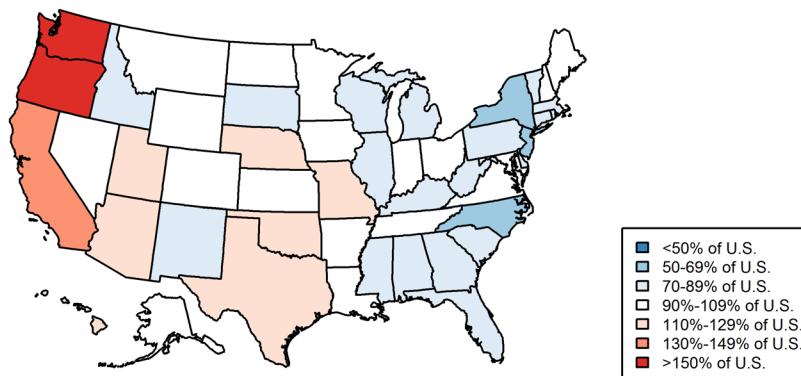


Figure 2-2 Comparison of NCVS (SAE) and UCR property crime rates to the national averages, 2011-2013

NCVS (SAE) property crime rate, 2011-2013



UCR property crime rate, 2011-2013

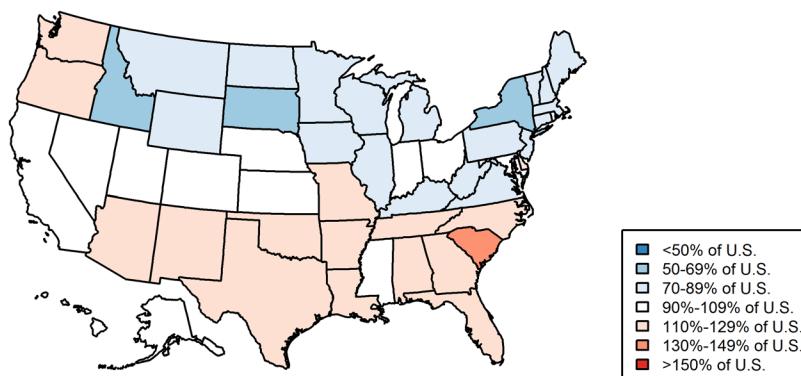
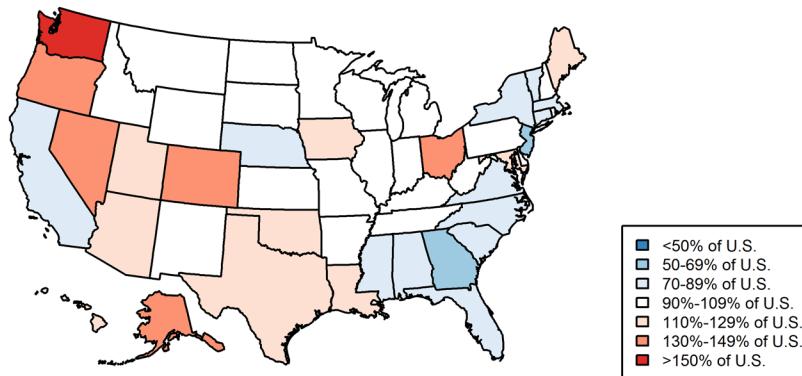
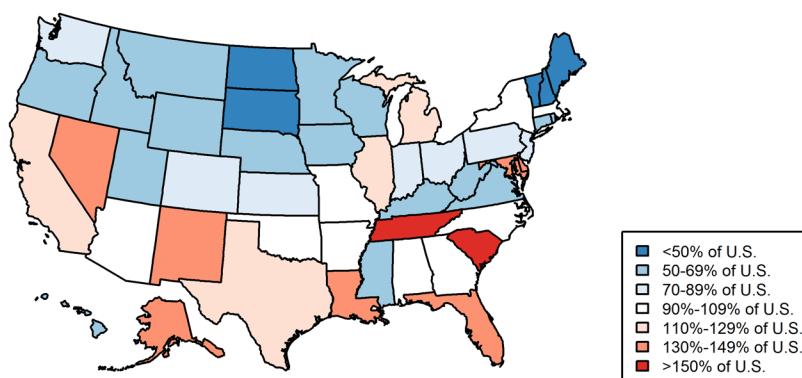


Figure 2-3 Comparison of NCVS (SAE) and UCR violent crime rates to the national averages, 1999–2013

NCVS (SAE) violent crime rate, 1999-2013



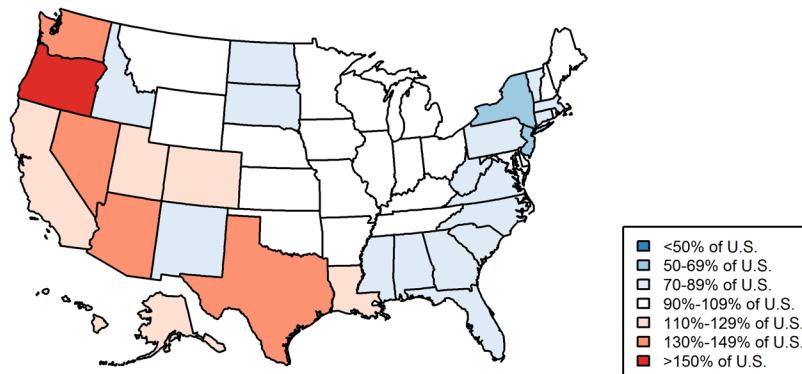
UCR violent crime rate, 1999-2013



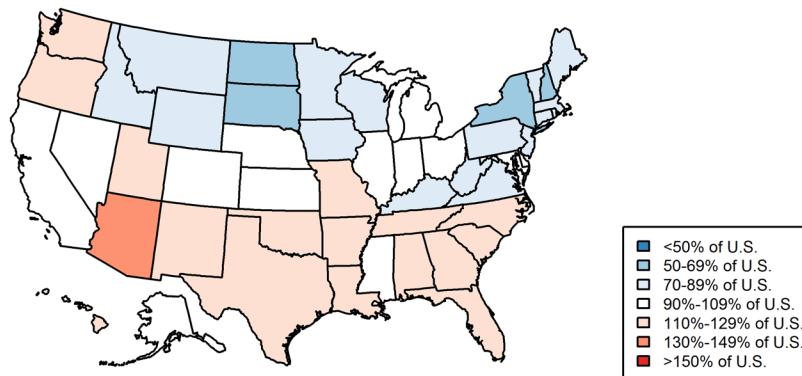
Similar geographic stability is apparent in the comparison of property crime, both for the NCVS (SAE) and the UCR (figure 2-2 vs. figure 2-4). Consequently, much of the difference between the NCVS (SAE) estimates and the UCR in 2011–2013 for violent and property crimes is largely present during the entire 1999–2013 period.

Figure 2-4 Comparison of NCVS (SAE) and UCR property crime rates to the national averages, 1999–2013

NCVS (SAE) property crime rate, 1999–2013



UCR property crime rate, 1999–2013



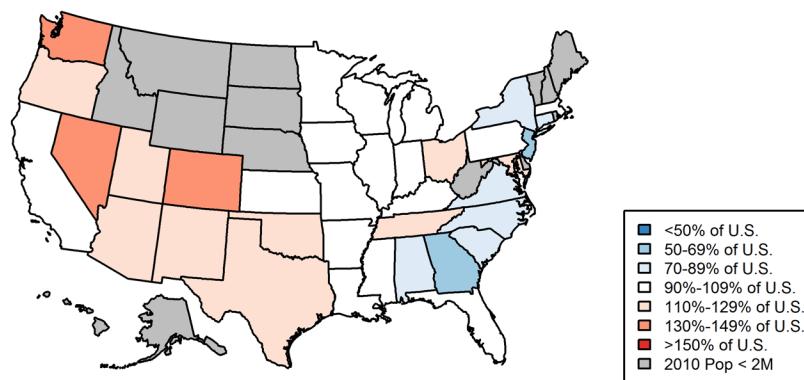
2.2 Assessing the NCVS (SAE) Estimates

Figures 2-1 to 2-4 demonstrate that the NCVS (SAE) estimates exhibit a geographic distribution of crime that is substantially different from the UCR. This leads to the question of whether the NCVS (SAE) estimates reflect state-to-state variation in the NCVS data. To explore this issue, 15-year averages of the NCVS crime rates were computed using the Census Bureau's internal files for the 36 states with a population of 2 million or more in the 2010 census. Averaging 15 years of data provides reasonable precision for the NCVS direct estimates in large states, and it is far more precise than 3-year averages of the direct estimates.

The 15-year averages of the direct NCVS estimates were compared to an earlier set of NCVS (SAE) estimates of violent and property crimes developed for the period 1997–2011 (figures 2-5 and 2-6). States below the population threshold are shaded in gray. The NCVS (SAE) and UCR estimates differ slightly from other estimates shown in the report because data for 2006 were included in this analysis. Overall, there is close agreement between the two sets of 15-year estimates of violent crime and even closer agreement for property crime.

Figure 2-5 Comparison of NCVS (SAE) and NCVS direct violent crime rates to the national averages, 1997–2011

NCVS (SAE) averages of violent crime rate, 1997-2011



NCVS direct averages of violent crime rate 1997-2011

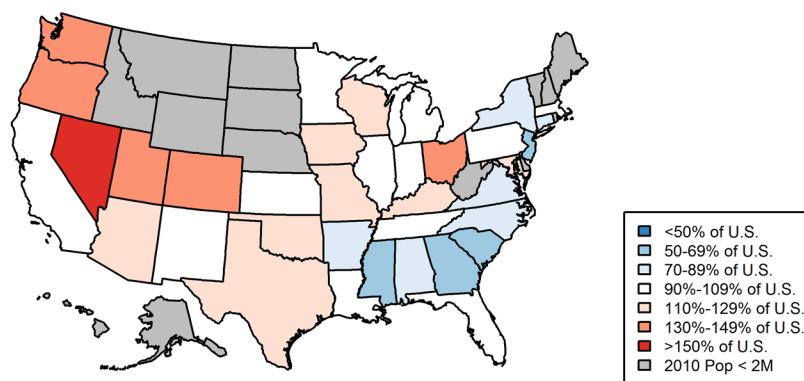
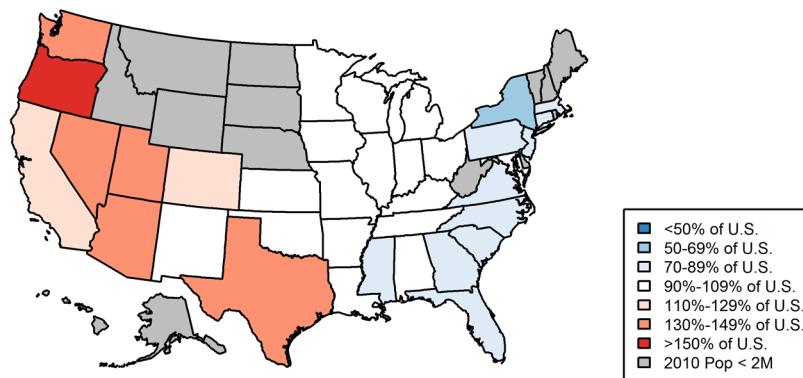
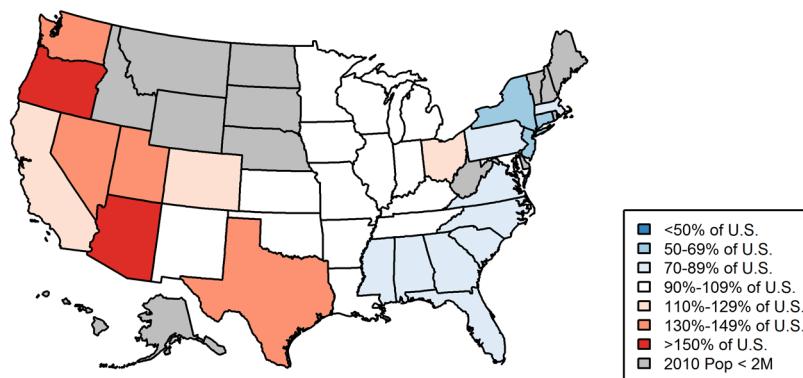


Figure 2-6 Comparison of NCVS (SAE) and NCVS direct property crime rates to the national averages, 1997–2011

NCVS (SAE) averages of property crime rate, 1997-2011



NCVS direct averages of property crime rate 1997-2011



For purposes of discussion, it is useful to consider a grouping of states sorted according to population. The grouping is illustrative only, and it is not part of the SAE model (table 2-1).

1. Group S1, the 4 largest states: California, Texas, New York, and Florida (in decreasing size according to the 2010 Census population), with about 33% of the U.S. population.
2. Group S2, the next 7 largest states: Illinois, Pennsylvania, Ohio, Michigan, Georgia, North Carolina, and New Jersey, with about 24% of the population.
3. Group S3, the next 11 states (populations between 5 and 8.5 million): Virginia, Washington, Massachusetts, Indiana, Arizona, Tennessee, Missouri, Maryland, Wisconsin, Minnesota, and Colorado, with about 22% of the population.
4. Group S4, the next 14 states (populations between 2 and 5 million): Alabama, South Carolina, Louisiana, Kentucky, Oregon, Oklahoma, Connecticut, Iowa, Mississippi, Arkansas, Kansas, Utah, Nevada, and New Mexico, with about 16% of the population.
5. Group S5, the next 7 states (populations between 1 and 2 million): West Virginia, Nebraska, Idaho, Hawaii, Maine, New Hampshire, and Rhode Island, with about 3.3% of the population.
6. Group S6, the next 7 states and the District of Columbia (populations less than 1 million): Montana, Delaware, South Dakota, Alaska, North Dakota, Vermont, Wyoming, and the District of Columbia, with about 1.9% of the population.

Because the allocation of the NCVS sample was approximately proportional to the population distribution throughout the period 1997–2013, the largest 11 states (groups S1 and S2) should have received more than half of the NCVS sample (figure 2-7 and table 2-1). At the other extreme, the smallest states divided a small share of the overall national sample (figure 2-7). Where there was more sample, the NCVS (SAE) 15-year violent crime estimates mirrored the corresponding direct estimates closely (figure 2-5 and table 2-2). For smaller sample sizes, the NCVS (SAE) estimates tended to pull the direct estimates of violent crime toward the mean, and the majority of states that changed color (figure 2-5) were in group S4, the states with population between 2 and 5 million. This is consistent with the notion that in general, small area models tend to pull less certain estimates toward the mean.

Figure 2-7 Population shares for a grouping of states by size, 2010 Census results

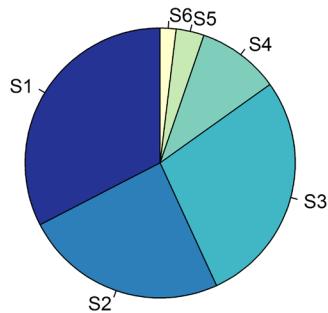
Population Shares for Groups of States

Table 2-1 State Population Groups

Group	2010 Population	Number of States
S1	More than 15 million	4
S2	8.5 to 15 million	7
S3	5 to 8.5 million	11
S4	2 to 5 million	14
S5	1 to 2 million	7
S6	Less than 1 million	8

For the period 1997–2011, there was very close agreement between the average NCVS (SAE) and NCVS rates for violent crime in the four largest states (California, Texas, New York, and Florida) (table 2-2). Most of the larger discrepancies between the average NCVS (SAE) and NCVS rates appear only in states in group S4.

Table 2-2 Total Violent Crime

State	2010 Population	Group	NCVS (SAE) Average ^a 1997–2011	NCVS Average ^b 1997–2011	RMSE of SAE Average	SE of NCVS Average
Alabama	4,779,736	S4	28.5	26.5	4.3	6.8
Arizona	6,392,017	S3	41.3	41.6	3.2	3.7
Arkansas	2,915,918	S4	33.2	27.0	5.0	9.8
California	37,253,956	S1	31.4	31.0	1.5	1.5
Colorado	5,029,196	S3	46.7	45.7	4.1	5.7
Connecticut	3,574,097	S4	27.1	23.9	4.3	6.4
Florida	18,801,310	S1	32.5	30.3	2.4	2.6
Georgia	9,687,653	S2	22.8	18.5	3.2	4.0
Illinois	12,830,632	S2	33.8	33.6	2.6	2.9
Indiana	6,483,802	S3	33.8	36.6	3.8	5.3
Iowa	3,046,355	S4	33.9	39.7	5.0	9.5
Kansas	2,853,118	S4	32.8	31.8	4.9	8.6
Kentucky	4,339,367	S4	33.5	37.6	4.4	6.8
Louisiana	4,533,372	S4	34.4	30.4	4.4	6.9
Maryland	5,773,552	S3	39.6	39.9	3.1	3.6
Massachusetts	6,547,629	S3	31.6	32.8	3.4	4.2
Michigan	9,883,640	S2	35.2	35.1	3.4	4.2
Minnesota	5,303,925	S3	36.0	36.3	3.9	5.1
Mississippi	2,967,297	S4	31.3	19.9	4.9	9.3
Missouri	5,988,927	S3	32.9	37.3	3.8	5.0
Nevada	2,700,551	S4	46.6	50.6	4.5	6.4
New Jersey	8,791,894	S2	23.5	23.2	2.6	2.9
New Mexico	2,059,179	S4	38.0	36.5	5.2	9.3
New York	19,378,102	S1	28.5	28.0	2.1	2.2
North Carolina	9,535,483	S2	27.0	25.9	3.5	4.7
Ohio	11,536,504	S2	43.4	46.5	3.0	3.6
Oklahoma	3,751,351	S4	37.2	37.7	4.3	6.2
Oregon	3,831,074	S4	39.3	47.3	4.4	6.6
Pennsylvania	12,702,379	S2	33.3	31.2	3.0	3.6
South Carolina	4,625,364	S4	29.5	18.5	4.5	7.6
Tennessee	6,346,105	S3	37.7	35.7	3.9	5.4
Texas	25,145,561	S1	39.7	40.1	2.1	2.3
Utah	2,763,885	S4	40.5	48.4	4.8	8.1
Virginia	8,001,024	S3	27.4	24.9	3.2	3.8
Washington	6,724,540	S3	45.0	48.8	3.6	4.6
Wisconsin	5,686,986	S3	33.6	41.1	4.2	6.1

Note: Comparison of averaged small area estimates, NCVS (SAE), with averaged direct estimates from the NCVS of total violent crime for 1997–2011 for states with populations of 2 million or more in the 2010 Census.

^aSAE average for 1997–2011 is based on the preliminary estimates for 1997–1999, 2000–2002, 2003–2005, 2006–2008, and 2009–2011.

^bData for 2006 are included in the NCVS average.

The standard errors (SE, or square roots of the sampling variances) shown in the last column in table 2-2 measure the reliability of the 15-year averages of the direct NCVS estimates of the violent crime rates for 1997–2011. The standard errors are estimates of the precision of the sample estimates when considered over possible samples of the same size. The sampling variance depends on the expected size of the NCVS sample in the state and the sample design. Estimates with small standard errors are less affected by sampling variability than estimates with large standard errors.

Another measure of reliability is the root mean square error (RMSE) of the estimate under the SAE model. The RMSE is analogous to the standard error, but its interpretation rests on the assumptions made by the SAE model. The RMSEs measure the accuracy averaged over both the sampling and the distribution of true values under the model.

In the four largest states—California, Texas, New York, and Florida—the RMSE of the NCVS (SAE) average and the SE of the NCVS are similar (table 2-2). These two reliability measures are aligned because the large sample sizes in these four states force the NCVS (SAE) average to agree closely with the NCVS average over the 15-year period.

In general, in the states where the NCVS (SAE) average disagrees with the NCVS average, the difference is usually one standard error or less. For example, in Florida the NCVS (SAE) average is 32.5 per 1,000 compared to 30.3 for the NCVS average, but the difference is less than the standard error of 2.6. In the other three states in group S1, the NCVS (SAE) and NCVS averages agree very closely. In group S2, the differences between the NCVS and NCVS (SAE) estimates are again within one standard error except for Georgia, which is just over one standard error.

In group S2, the RMSEs of the NCVS (SAE) estimates are typically 10%–30% less than the SEs of the corresponding NCVS averages. In other words, the comparison suggests that the SAE model moderately improves the estimate over the direct 15-year NCVS average. To improve on this, the NCVS (SAE) estimates must usually differ somewhat from the direct estimates—if they consistently agreed exactly with the direct estimates, they would have the same measures of error.

In group S3, the RMSEs of the model estimates are 20%–40% less than the SEs of the direct 15-year averages, suggesting that the model generally makes a larger improvement for group S3 than for group S2. In group S4, the RMSEs are 30%–50% less than the SEs. In general, as states decrease in population size, the RMSEs of the NCVS (SAE) averages tend to increase, but not as rapidly as the SEs of the direct NCVS averages.

Small states in groups S5 and S6 generally have even larger NCVS SEs than states in any of the other groups. Indeed, some of these states had no NCVS sample during part or all of the 15-year period. In the states with some NCVS data, the SAE estimates incorporate the direct NCVS state estimates but only to a limited extent, depending primarily on the modeled relationship with the auxiliary data instead. In states without any NCVS sample data, the SAE estimates depend entirely on the models. As shown previously, the 14 states and the District of Columbia in groups S5 and S6 share a very small portion of the overall NCVS sample.

As noted in section 2.1, figures 2-1 and 2-3 show below-average NCVS (SAE) estimates for violent crime in the Southeast, compared to the UCR. There is considerable NCVS sample information available to support this general finding: Florida is in group S1; Georgia and North Carolina are in group S2; Virginia and Tennessee are in group S3; and Alabama, South Carolina, Kentucky, and Mississippi are in group S4. In table 2-2 all of these states have average direct estimates below their average NCVS (SAE) estimates, except for Kentucky. Thus, it is unlikely that the lower NCVS (SAE) estimates for violent crime in the Southeast will understate crime (as measured by NCVS definitions) for this group of states; in fact, they are more likely to be slight overstatements according to the observed NCVS 15-year averages.

Another region of interest is the Northwest, which includes Idaho, Montana, Wyoming, North Dakota, South Dakota, and Minnesota. Exception for Minnesota, these states had populations below 2 million and were excluded from table 2-2. For these states, the average NCVS (SAE) violent crime rates are closer to the national average than are their corresponding UCR rates. There is very little direct evidence from the NCVS itself to confirm the apparent suggestion from the NCVS (SAE) estimates that the UCR is differentially understating crime in these states. A more likely explanation is that the SAE methods are pulling the NCVS (SAE) estimates toward the overall average because of the sparseness of the NCVS data in these states.

Findings for property crime (table 2-3) are similar to those for violent crime. Because the rates for property crime are higher than those for violent crime, the 15-year averages of the direct NCVS estimates for property crime have good precision in many states. In fact, most standard errors are small relative to the differences in property crime rates between states. The NCVS (SAE) averages differ from the direct averages by relatively small amounts. Given the relatively high precision levels of the direct estimates, the RMSEs for the NCVS (SAE) estimates are generally only slightly smaller than the standard errors of the NCVS averages, with reductions of generally less than 25%, even in states in group S4.

Table 2-3 Total Property Crime

State	2010 Population	Group	NCVS (SAE) Average ^a 1997–2011	NCVS Average ^b 1997–2011	RMSE of SAE Average	SE of NCVS Average
Alabama	4,779,736	S4	158	147	16	20
Arizona	6,392,017	S3	261	268	10	10
Arkansas	2,915,918	S4	163	186	21	28
California	37,253,956	S1	201	202	4	4
Colorado	5,029,196	S3	204	198	14	16
Connecticut	3,574,097	S4	128	118	15	18
Florida	18,801,310	S1	155	153	7	7
Georgia	9,687,653	S2	138	133	10	11
Illinois	12,830,632	S2	172	170	8	8
Indiana	6,483,802	S3	170	173	13	15
Iowa	3,046,355	S4	173	175	21	28
Kansas	2,853,118	S4	174	170	19	24
Kentucky	4,339,367	S4	185	187	16	19
Louisiana	4,533,372	S4	184	183	16	20
Maryland	5,773,552	S3	187	188	9	10
Massachusetts	6,547,629	S3	147	144	11	12
Michigan	9,883,640	S2	182	179	11	12
Minnesota	5,303,925	S3	181	184	13	14
Mississippi	2,967,297	S4	133	127	20	27
Missouri	5,988,927	S3	164	162	13	14
Nevada	2,700,551	S4	237	245	15	18
New Jersey	8,791,894	S2	124	121	7	8
New Mexico	2,059,179	S4	185	187	20	26
New York	19,378,102	S1	119	119	6	6
North Carolina	9,535,483	S2	147	132	12	14
Ohio	11,536,504	S2	190	192	9	10
Oklahoma	3,751,351	S4	184	186	15	17
Oregon	3,831,074	S4	268	287	16	19
Pennsylvania	12,702,379	S2	139	135	9	10
South Carolina	4,625,364	S4	149	126	18	22
Tennessee	6,346,105	S3	166	167	13	15
Texas	25,145,561	S1	245	246	6	6
Utah	2,763,885	S4	231	244	19	23
Virginia	8,001,024	S3	135	133	10	11
Washington	6,724,540	S3	252	253	12	13
Wisconsin	5,686,986	S3	158	163	15	18

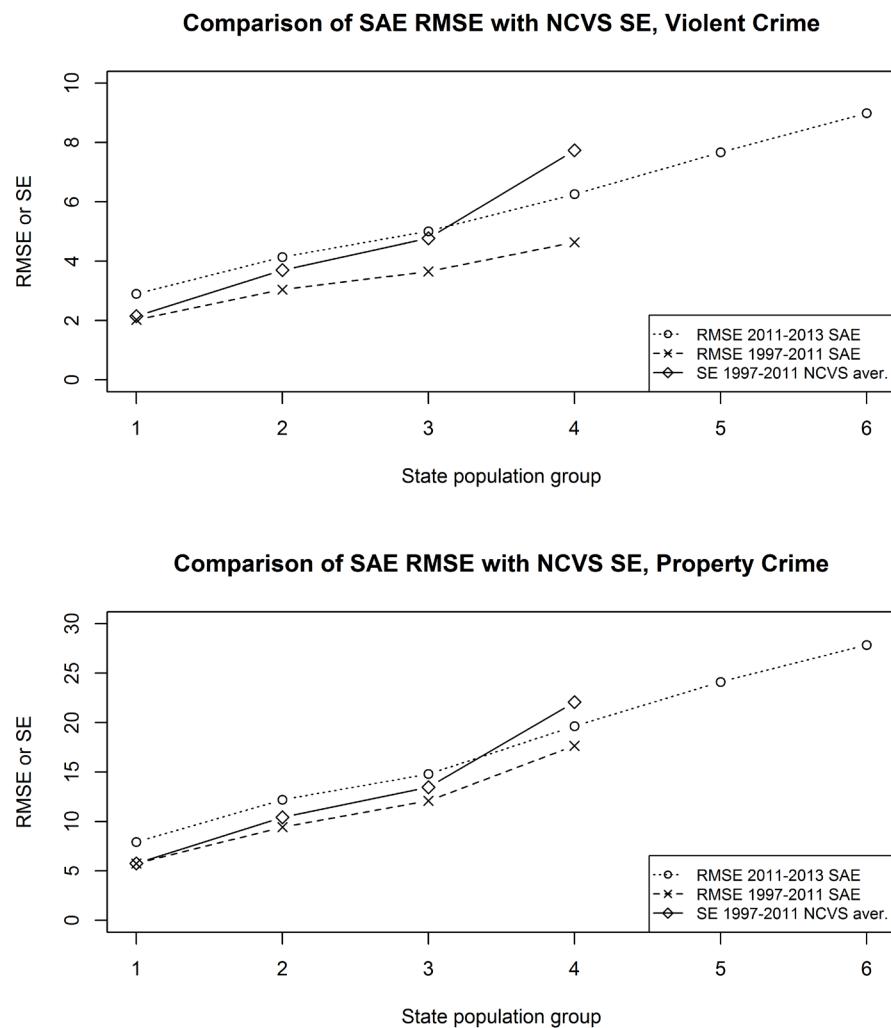
Note: Comparison of averaged small area estimates, NCVS (SAE), with averaged direct estimates from the NCVS of total property crime for 1997–2011 for states with populations of 2 million or more in the 2010 Census.

^aSAE average for 1997–2011 is based on the preliminary estimates for 1997–1999, 2000–2002, 2003–2005, 2006–2008, and 2009–2011.

^bData for 2006 are included in the NCVS average.

For violent crime in group S1, the average RMSEs for the 15-year estimates are essentially identical to the average standard errors (figure 2-8). However, the advantage to the NCVS (SAE) estimates over the direct estimates grows with the progression from group S2 to group S4. The same pattern also holds for property crime, but in this case the RMSEs only become appreciably smaller than the SEs for group S4.

Figure 2-8 Comparison of SE for NCVS 15-year averages with RMSE of SAE estimates for 15- and 3-year averages, by state population group



While the preceding discussion compared the measures of accuracy for the 15-year average SAE and direct estimates, the 3-year averages are of prime interest. The RMSEs for the 3-year SAE averages are larger than those for the 15-year averages, but not dramatically so (figure 2-8). However, because the NCVS direct estimates for 2011–2013 are based on about one-fifth of the sample observations for 1999–2013, the standard errors for the 3-year averages would be roughly twice as large as the standard errors for the 15-year averages. Thus, the NCVS (SAE) estimates for the 3-year averages are a substantial improvement in accuracy over the corresponding direct estimates, particularly for small states.

To summarize, the geographic distribution of the NCVS (SAE) estimates of violent crime for 2011–2013 closely resembles the geographic distribution of the NCVS (SAE) rates for the 15-year period 1999–2013. Similarly, the geographic distribution of the UCR violent crime rates for 2011–2013 closely resembles that of the UCR rates for 1999–2013. In both time periods, the NCVS (SAE) estimates and the UCR differ from each other far more. At least in larger states, the NCVS (SAE) violent crime estimates largely mirror the result of averaging the direct estimates over a 15-year period. Similarly, property crime shows even closer agreement. For states with populations below 2 million, however, and especially those with populations below 1 million, the NCVS (SAE) estimates are less accurate than for larger states because there are limited or no available NCVS data to inform them.

2.3 Violent Crime by Type and by Relationship to Perpetrator

In addition to total violent crime and total property crime, NCVS (SAE) estimates were obtained for major publication categories. As previously noted, the major components of NCVS violent crime are:

1. Rape and sexual assault.
2. Aggravated assault.
3. Simple assault.
4. Robbery.

Violent crime can also be disaggregated by victim relationship to the offender, including:

1. Intimates.
2. Other relatives.
3. Well-known/casual acquaintances.
4. Strangers.

It was necessary to collapse some of these categories because the statistical models do not support effective estimation of characteristics with a small number of occurrences. Because of the small number of reported cases of rape and sexual assault in the NCVS, this category was combined with aggravated assault for purposes of SAE estimation. To address an interest in violence by intimates and violence by strangers, these two classifications were retained as separate categories, with the remaining categories combined into an “other” relationship category.

For 2011–2013, there was little apparent agreement between the geographic distributions of the NCVS (SAE) and UCR rates for the combined variable of rape, sexual assault, and aggravated assault (figure 2-9). The model used both rape and robbery from the UCR, but aggravated assault from the UCR did not contribute appreciably to the prediction of combined assault in the NCVS.

Averaging over the 15-year period 1999–2013 appears to bring NCVS (SAE) state estimates closer to the national average than those seen for the 3-year period (figure 2-10). In comparison, the UCR estimates show about as many states at the extremes (less than 50% or more than 150% of the U.S. rate) for 1999–2013 as for 2011–2013.

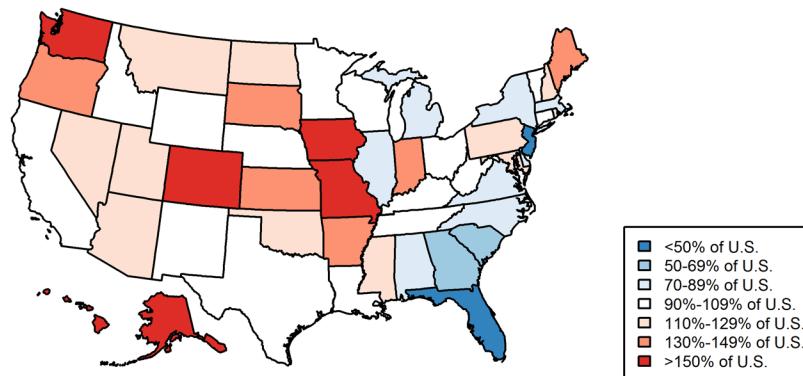
The SAE model for robbery successfully incorporated UCR robbery as a predictor. The NCVS (SAE) and UCR estimates for robbery during 2011–2013 agree more closely than for most other geographic comparisons between the NCVS (SAE) and UCR estimates (figure 2-11). Similar geographic patterns were evident over the 15-year period 1999–2013 (figure 2-12).

While the NCVS collects and includes simple assault in its violent crime rate, there is no comparable component in the published UCR violent crime rate. Because simple assault is the largest single component of the NCVS crime rate, the geographic distribution of the NCVS (SAE) estimates of simple assault largely resembles that for total violent crime for 2011–2013 and 1999–2013 (figure 2-13).

In addition to estimates of violent crime by type of crime, SAE estimates were produced by relationship of the victim to the perpetrator. Because the UCR does not provide information on the victim-offender relationship for nonfatal crimes, the SAE model incorporated statistical regression relationships based on the relative distribution of reported UCR crimes by type in addition to using direct estimates of violent crime by relationship from the NCVS. For example, robbery is more likely to be committed by strangers, so the small area models associate high UCR robbery rates with relatively high rates of crimes committed by strangers. Likewise, simple and aggravated assault are the most frequently reported forms of violence committed by intimate partners.

Figure 2-9 Comparison of NCVS (SAE) and UCR rates for rape, sexual assault, and aggravated assault, 2011–2013

NCVS (SAE) rape and aggravated assault, 2011-2013



UCR rape and aggravated assault, 2011-2013

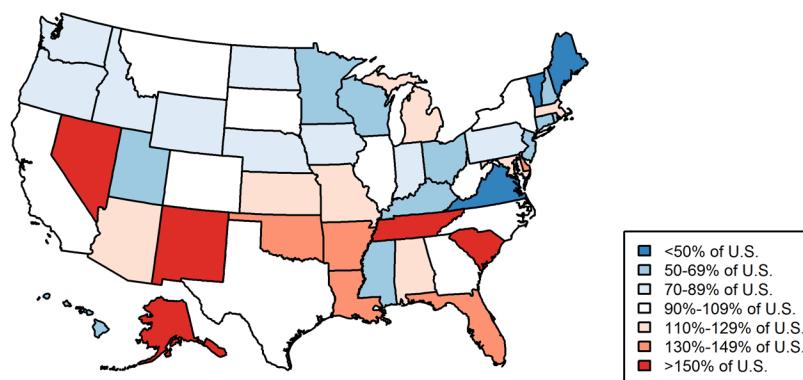
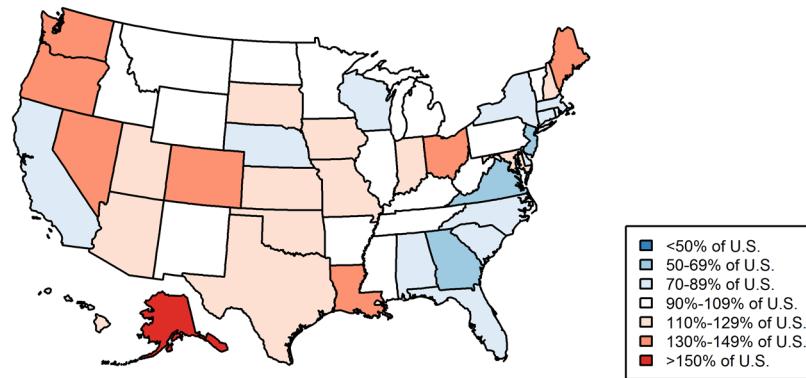


Figure 2-10 Comparison of NCVS (SAE) and UCR rates for rape, sexual assault, and aggravated assault, 1999–2013

NCVS (SAE) rape and aggravated assault, 1999-2013



UCR rape and aggravated assault, 1999-2013

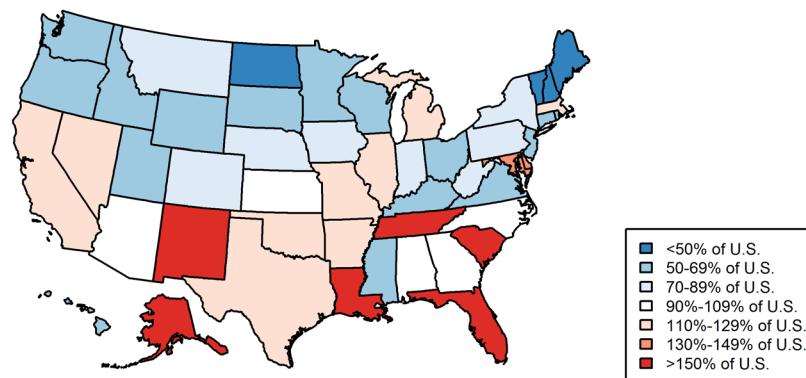
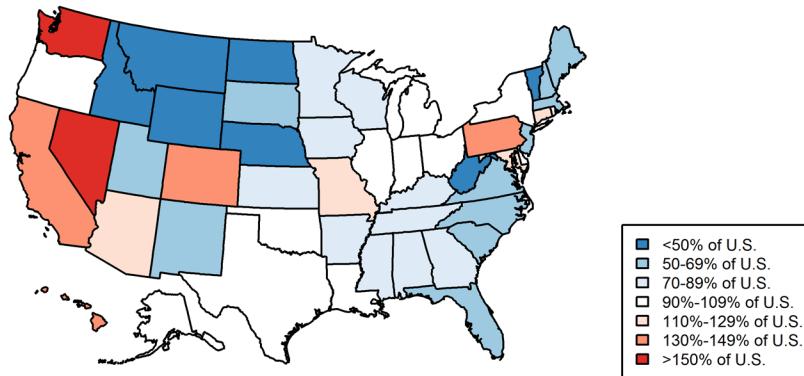


Figure 2-11 Comparison of NCVS (SAE) and UCR rates for robbery, 2011–2013

NCVS (SAE) robbery, 2011-2013



UCR robbery, 2011-2013

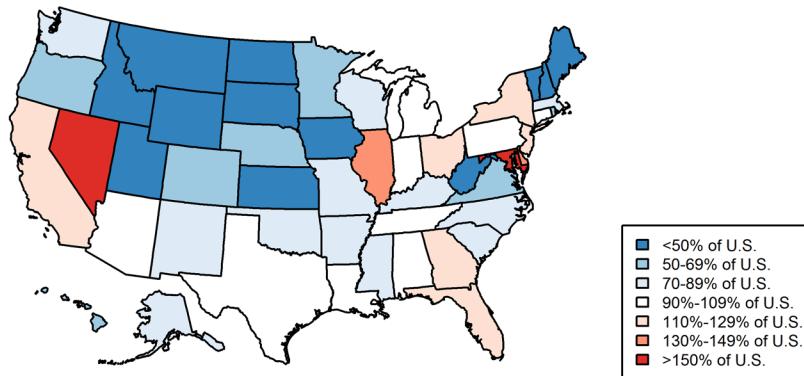


Figure 2-12 Comparison of NCVS (SAE) and UCR rates for robbery, 1999–2013

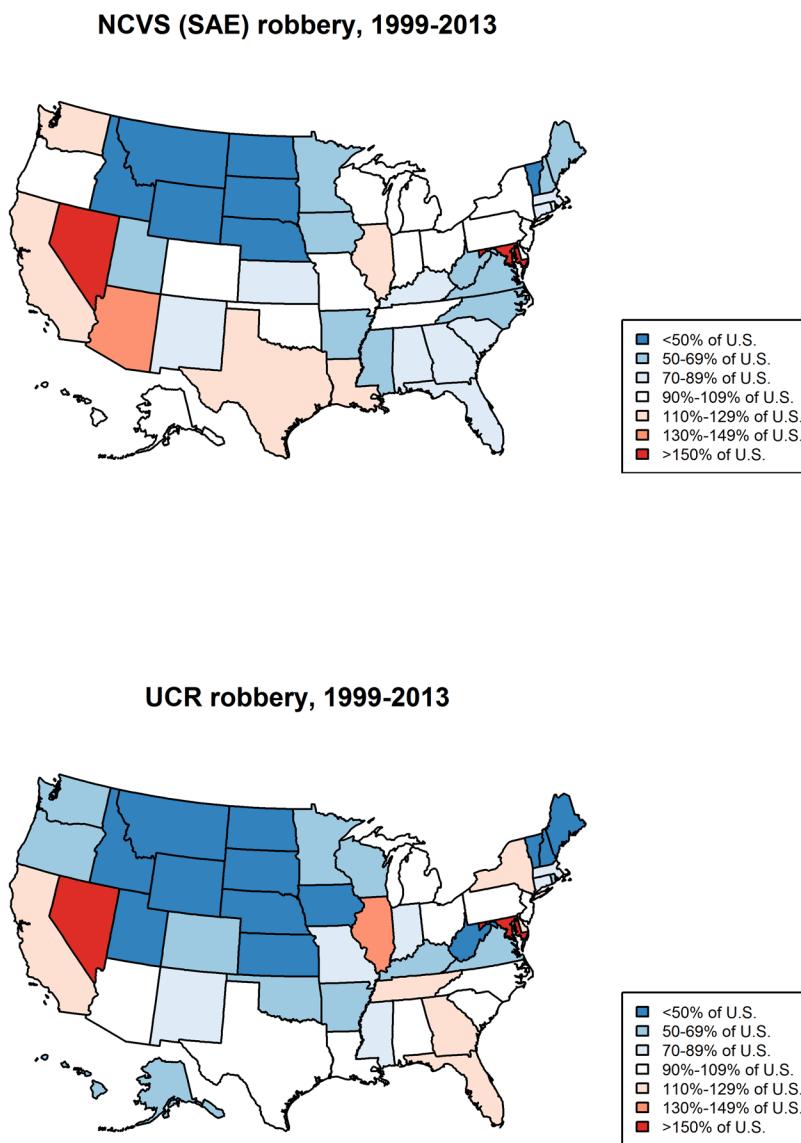
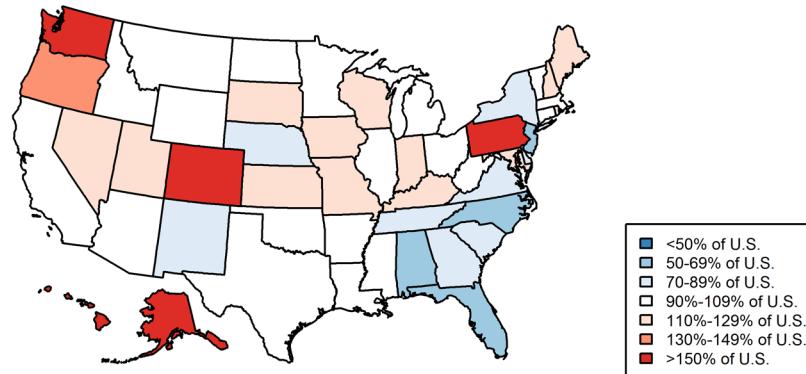
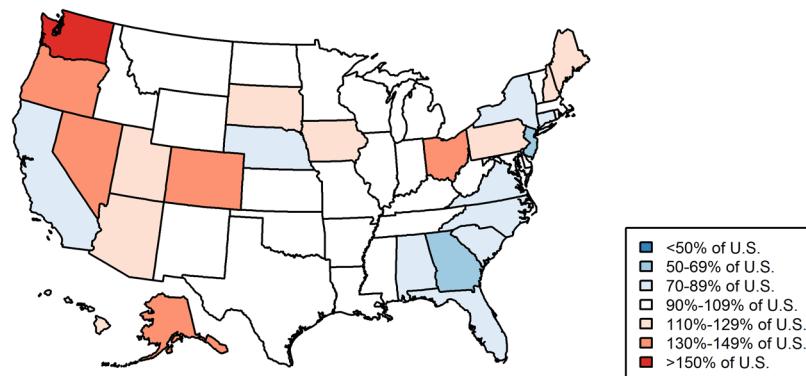


Figure 2-13 NCVS (SAE) rates for simple assault, 2011–2013 and 1999–2013

NCVS (SAE) Simple Assault, 2011-2013



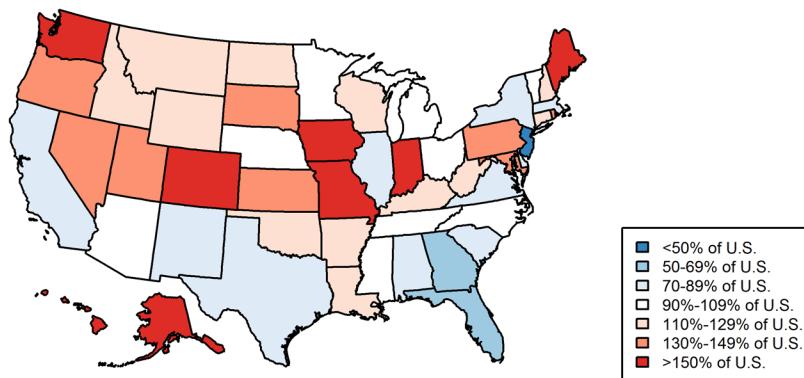
NCVS (SAE) Simple Assault, 1999-2013



The NCVS (SAE) estimates of the geographic distribution of intimate partner violence (figure 2-14) are in contrast with the NCVS (SAE) estimates of the geographic distribution of crimes committed by strangers (figure 2-15). Many of the relatively rural states had low to moderate levels of violent crime committed by strangers, while some of the more urban states had higher levels of crimes committed by strangers.

Figure 2-14 NCVS (SAE) rates for violence by intimate partners, 2011–2013 and 1999–2013

NCVS (SAE) intimate partner violence, 2011-2013



NCVS (SAE) intimate partner violence, 1999-2013

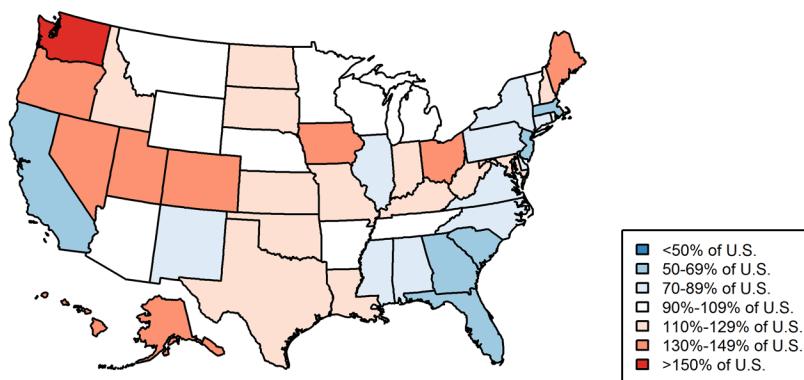
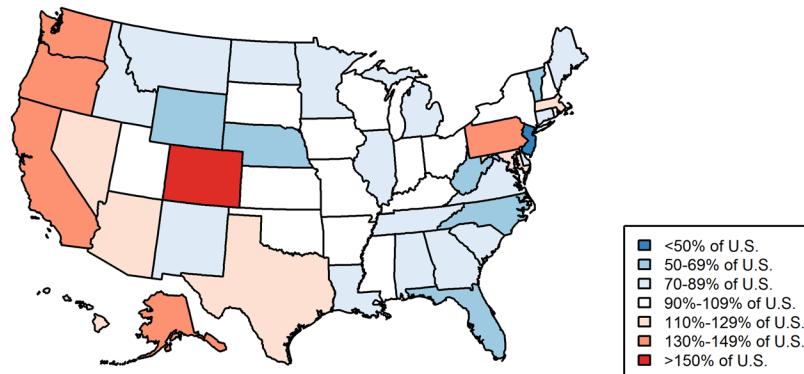
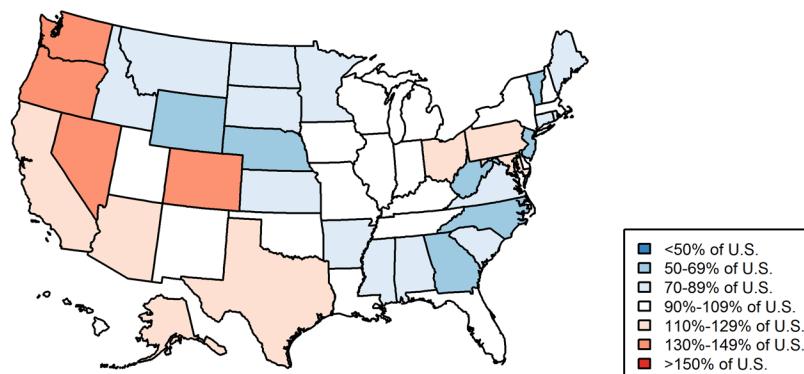


Figure 2-15 NCVS (SAE) rates for violence by strangers, 2011–2013 and 1999–2013

NCVS (SAE) stranger perpetrator(s), 2011-2013



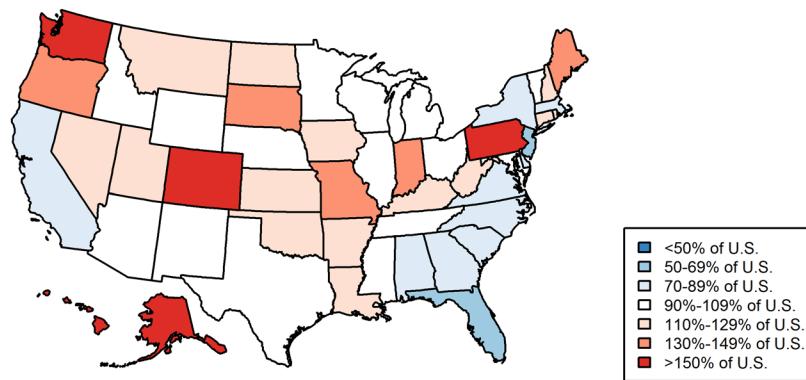
NCVS (SAE) stranger perpetrator(s), 1999-2013



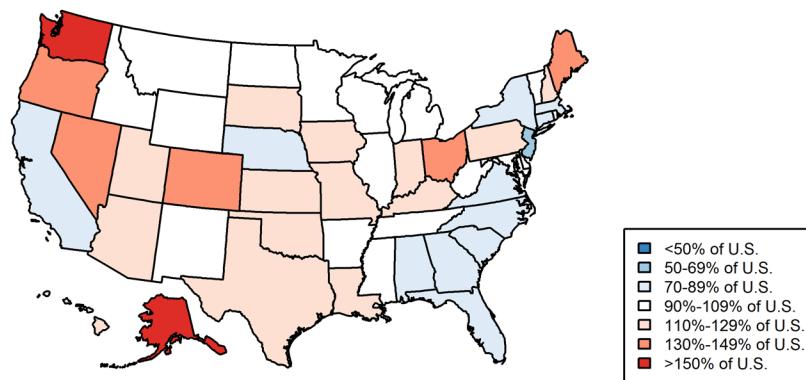
The residual category of other perpetrators includes the victim's nonintimate friends, family, and acquaintances as well as instances where the victim was unsure of the relationship (figure 2-16).

Figure 2-16 NCVS (SAE) rates for violence by others, 2011–2013 and 1999–2013

NCVS (SAE) crimes by all others, 2011-2013



NCVS (SAE) crimes by all others, 1999-2013



2.4 Property Crime by Type

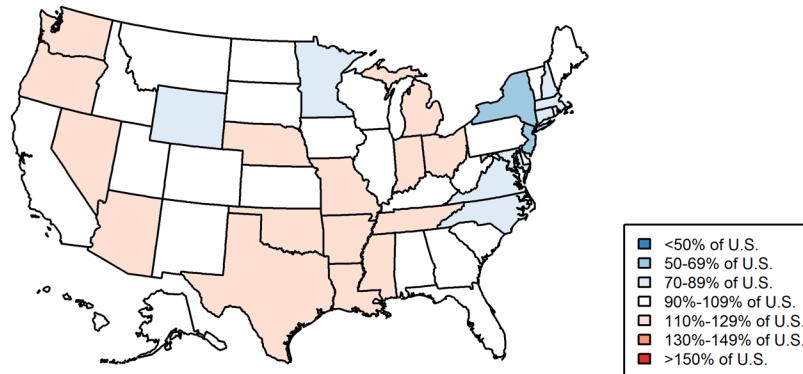
The three components of property crime are burglary, larceny (theft), and motor vehicle theft. The UCR indicates a general concentration of burglary in the South, but the NCVS (SAE) estimates distribute the incidence of burglary differently, even though UCR burglary is used as the auxiliary information in the small area model (figures 2-17 and 2-18). The NCVS (SAE) estimates show lower variability across the states, with all but two states within 70% to 130% of the national rate, while several states lie outside this range in the UCR.

Larceny (theft) is the largest component of property crime. The small area model uses UCR larceny as the auxiliary data. The comparison between the geographic patterns for the NCVS (SAE) and UCR estimates for larceny (figures 2-19 and 2-20) are similar to those seen previously for total property crime (figures 2-4 and 2-6). In the case of theft, the NCVS (SAE) estimates appear to show wider differences among the states than the UCR shows (figures 2-19 and 2-20).

Motor vehicle theft is the least common type of property crime measured by the NCVS. UCR motor vehicle theft serves as the auxiliary data for the small area model. A close agreement between the NCVS and UCR is expected here because the majority of NCVS victims of motor vehicle theft reported the crime to the police. For the most part, the geographic patterns are similar for the NCVS (SAE) and the UCR (figure 2-21). High rates in California, Nevada, and Washington are in line with UCR results. However, the NCVS (SAE) estimate for Texas is higher than in the UCR. This difference for Texas is also seen for the period 1999–2013 (figure 2-22).

Figure 2-17 Comparison of NCVS (SAE) and UCR rates for burglary, 2011–2013

NCVS (SAE) burglary, 2011-2013



UCR burglary, 2011-2013

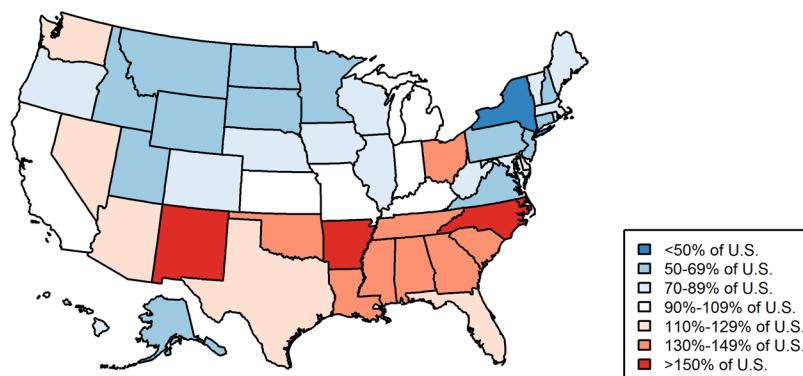


Figure 2-18 Comparison of NCVS (SAE) and UCR rates for burglary, 1999–2013

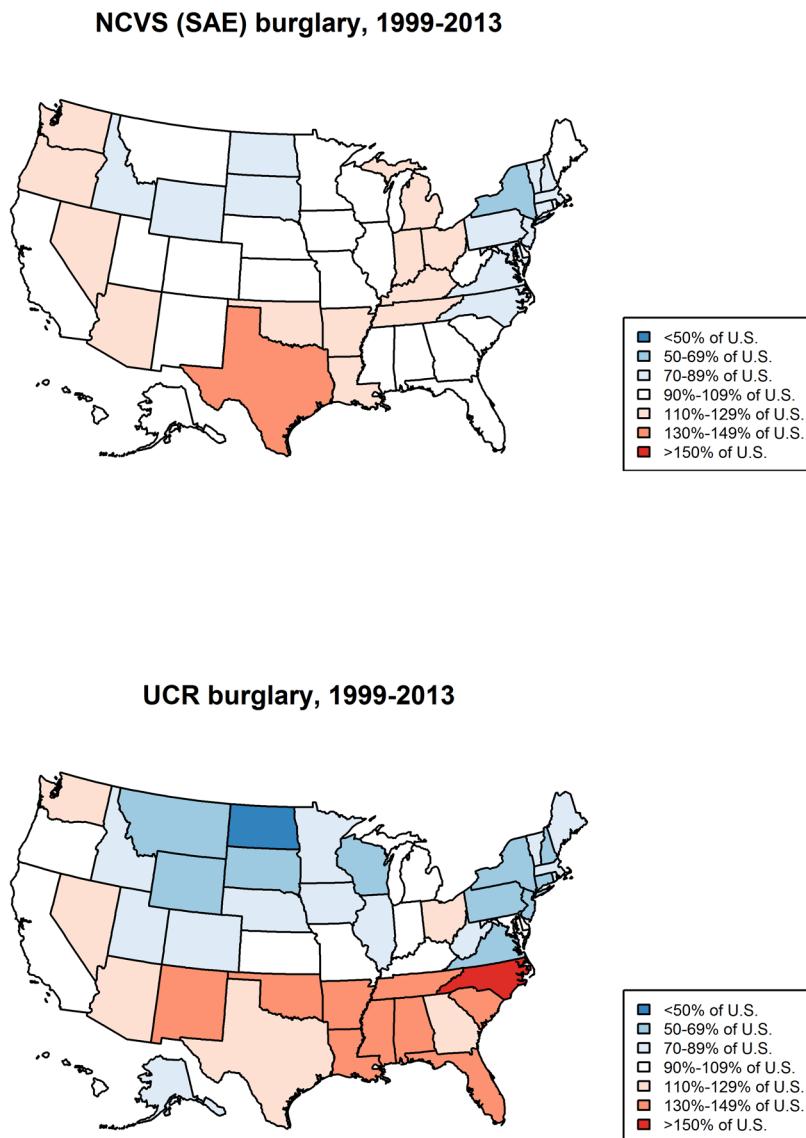


Figure 2-19 Comparison of NCVS (SAE) and UCR rates for larceny, 2011–2013

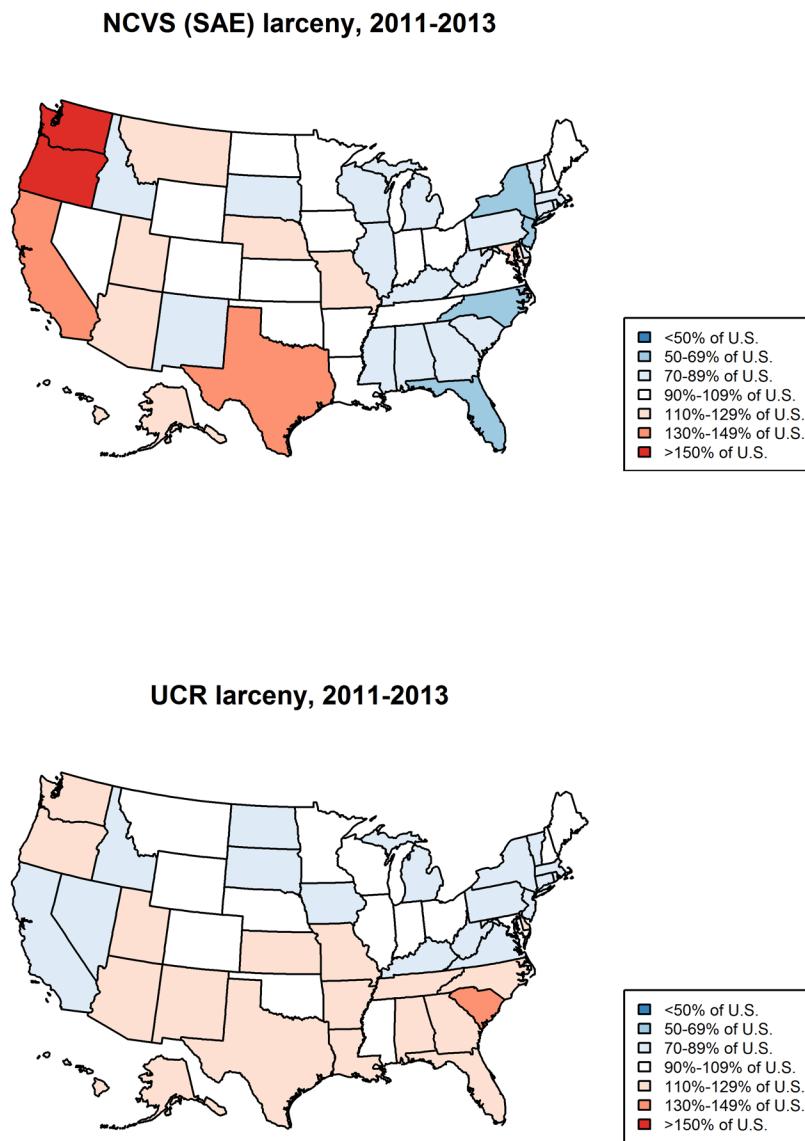


Figure 2-20 Comparison of NCVS (SAE) and UCR rates for larceny, 1999–2013

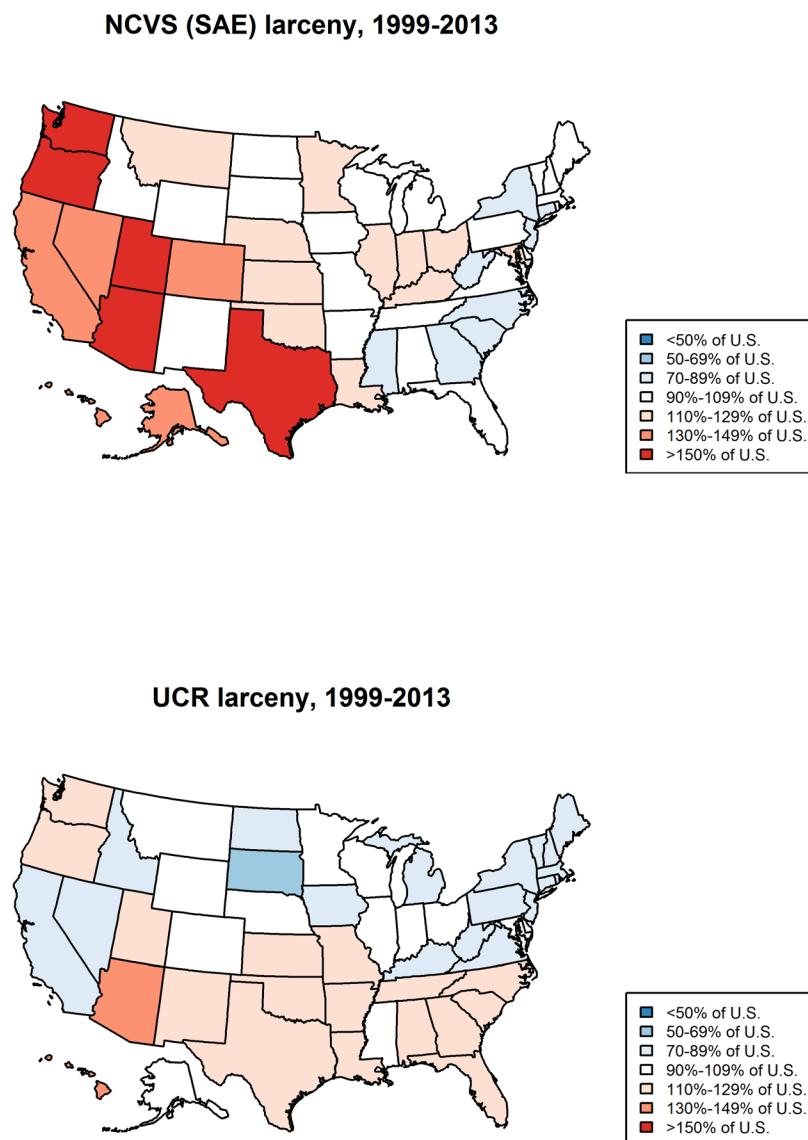


Figure 2-21 Comparison of NCVS (SAE) and UCR rates for motor vehicle theft, 2011–2013

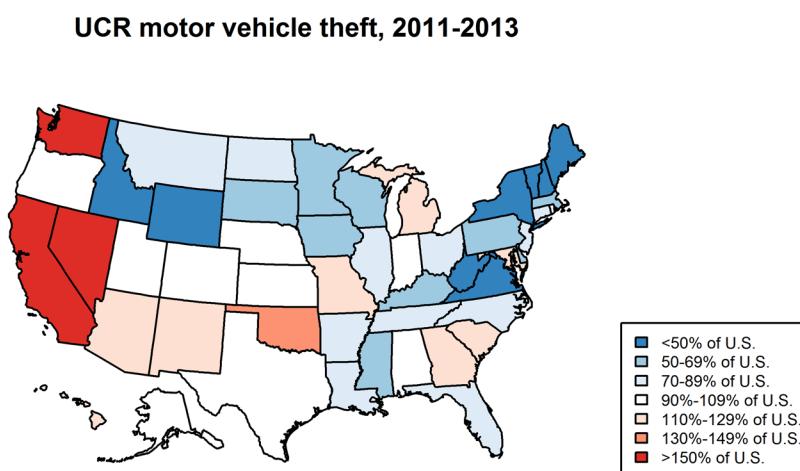
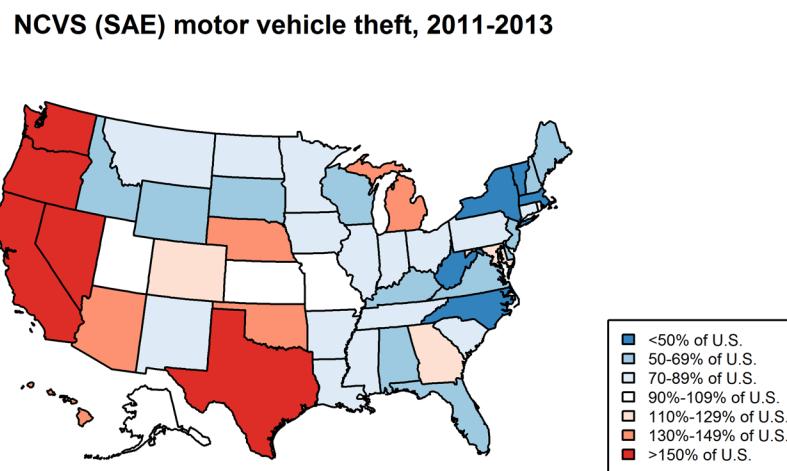
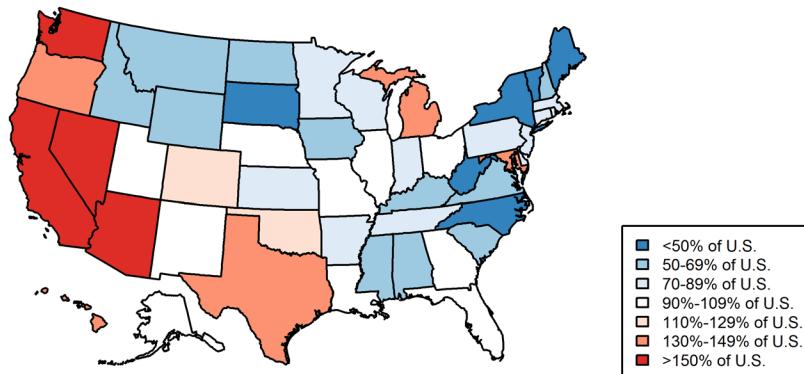
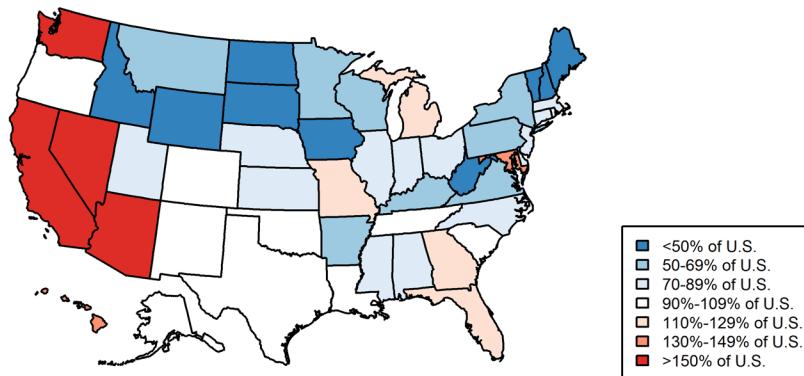


Figure 2-22 Comparison of NCVS (SAE) and UCR rates for motor vehicle theft, 1999–2013

NCVS (SAE) motor vehicle theft, 1999-2013



UCR motor vehicle theft, 1999-2013



2.5 Availability of State Estimates

For the most part, this report focuses on state estimates for the 2011–2013 or 2009–2013 average. However, estimates of rates and associated RMSEs were also produced for each 3-year period over the span 1999–2013. In addition, the American Community Survey was used to estimate the state populations in the NCVS universe, which included persons age 12 and over except for the institutionalized population. The estimates of the NCVS universe were then used to produce estimated counts of crimes for 3-year periods beginning with 2005–2007. Consequently, the project produced 3-year estimates of the following for each state:

1. Rates and RMSEs for violent crime by type of crime (toc) over time.
2. Rates and RMSEs for violent crime by victim-offender relationship (rel) over time.
3. Rates and RMSEs for property crime (prop) over time.
4. Violent and property crime counts (num) for the period 2005–2013.

The state estimates are available in two forms: (1) figures showing trend lines are available for all 50 states and the District of Columbia (see appendix B) and (2) two Excel files provide all of the rates, RMSEs, and estimated counts, respectively, sorted by period and alphabetically by state (see appendices E and F).

Counties and Metropolitan Areas

3

Using essentially the same SAE methods developed for states, 3-year estimates were produced for selected large counties and metropolitan areas. Estimation was limited to the 65 largest counties as determined by their 2010 Census populations. In 2010, each of these counties had a population of more than 800,000.

The metropolitan areas are specifically the Core Based Statistical Areas (CBSAs) used in publishing the 2010 Census. In general, CBSAs are composed of a set of counties. Although the Office of Management and Budget periodically updates the counties that make up the CBSAs, the NCVS (SAE) estimates use the 2010 Census definitions for the entire estimation period 1998–2012. Only the 51 CBSAs with populations of more than 1 million in 2010 were included.

In place of UCR crime statistics for states obtained directly from the FBI, the county and metropolitan area UCR data were based on UCR estimates for counties released by the Inter-university Consortium for Political and Social Research at the University of Michigan. Because these results appear later than the FBI's state UCR statistics, the reference period for the available 3-year estimates is 1998–2012 rather than 1999–2013. The five boroughs of New York City, each of which is a county, were combined into a single county for purposes of the NCVS (SAE) estimation because the UCR rates are based on citywide statistics.

Table 3-1 provides the NCVS (SAE) estimates of the violent crime rates for 2010–2012 for the 65 counties. Except for the offset by 1 year, the same full set of 3-year estimates of violent crime, by type of crime and relationship to the perpetrator, has been computed as for the state estimates. Similarly, 3-year estimates of property crime by type of crime are available.

Table 3-2 provides parallel results for the 51 CBSAs. In many cases, the modeled counties in table 3-1 were included within the modeled CBSAs in table 3-2, but the county and CBSA models were fitted separately.

Table 3-1 NCVS (SAE) estimates of violent crime rates for counties, 2010–2012

State	County	2010 Census Population	FIPS Code	Violent crime rate, 2010–2012	Root mean square error
Arizona	Maricopa County	3,817,117	04013	25.3	4.7
Arizona	Pima County	980,263	04019	36.1	7.2
California	Alameda County	1,510,271	06001	33.5	6.4
California	Contra Costa County	1,049,025	06013	22.4	7.1
California	Fresno County	930,450	06019	19.8	7.3
California	Kern County	839,631	06029	20.3	7.5
California	Los Angeles County	9,818,605	06037	20.4	3.2
California	Orange County	3,010,232	06059	11.1	5.1
California	Riverside County	2,189,641	06065	34.4	5.7
California	Sacramento County	1,418,788	06067	44.1	6.5
California	San Bernardino County	2,035,210	06071	20.3	5.8
California	San Diego County	3,095,313	06073	13.6	5.1
California	San Francisco County	805,235	06075	21.6	7.7
California	Santa Clara County	1,781,642	06085	21.5	6.1
California	Ventura County	823,318	06111	22.3	7.5
Connecticut	Fairfield County	916,829	09001	20.2	7.4
Connecticut	Hartford County	894,014	09003	15.9	7.4
Connecticut	New Haven County	862,477	09009	21.6	7.4
Florida	Broward County	1,748,066	12011	14.7	6.1
Florida	Duval County	864,263	12031	21.9	7.5
Florida	Hillsborough County	1,229,226	12057	23.4	6.8
Florida	Miami-Dade County	2,496,435	12086	10.5	5.5
Florida	Orange County	1,145,956	12095	10.5	6.9
Florida	Palm Beach County	1,320,134	12099	9.3	6.7
Florida	Pinellas County	916,542	12103	21.2	7.3
Georgia	Fulton County	920,581	13121	22.7	7.3
Georgia	Gwinnett County	805,321	13135	14.9	7.6
Hawaii	Honolulu County	953,207	15003	39.4	7.3
Illinois	Cook County	5,194,675	17031	20.3	4.2
Illinois	DuPage County	916,924	17043	12.1	7.3
Indiana	Marion County	903,393	18097	30.6	7.4
Maryland	Baltimore Countya	805,029	24005	18.9	7.6
Maryland	Montgomery County	971,777	24031	16.4	7.2

Maryland	Prince George's County	863,420	24033	17.4	7.4
Massachusetts	Middlesex County	1,503,085	25017	22.0	6.4
Michigan	Macomb County	840,978	26099	14.6	7.5
Michigan	Oakland County	1,202,362	26125	12.5	6.8
Michigan	Wayne County	1,820,584	26163	28.8	6.1
Minnesota	Hennepin County	1,152,425	27053	23.9	7.0
Missouri	St. Louis County ^a	998,954	29189	20.0	7.2
Nevada	Clark County	1,951,269	32003	21.2	5.9
New Jersey	Bergen County	905,116	34003	9.8	7.4
New Jersey	Middlesex County	809,858	34023	14.2	7.6
New York	Erie County	919,040	36029	16.8	7.3
New York	Nassau County	1,339,532	36059	21.1	6.6
New York	New York City	8,175,133	36061b	14.6	3.5
New York	Suffolk County	1,493,350	36103	11.9	6.4
New York	Westchester County	949,113	36119	19.1	7.3
North Carolina	Mecklenburg County	919,628	37119	15.1	7.3
North Carolina	Wake County	900,993	37183	13.2	7.4
Ohio	Cuyahoga County	1,280,122	39035	25.8	6.7
Ohio	Franklin County	1,163,414	39049	22.2	6.9
Ohio	Hamilton County	802,374	39061	28.6	7.6
Pennsylvania	Allegheny County	1,223,348	42003	42.4	6.8
Pennsylvania	Philadelphia County	1,526,006	42101	41.4	6.5
Tennessee	Shelby County	927,644	47157	24.1	7.4
Texas	Bexar County	1,714,773	48029	22.9	6.2
Texas	Dallas County	2,368,139	48113	35.9	5.6
Texas	Harris County	4,092,459	48201	18.6	4.6
Texas	Tarrant County	1,809,034	48439	23.1	6.1
Texas	Travis County	1,024,266	48453	24.3	7.1
Utah	Salt Lake County	1,029,655	49035	29.7	7.2
Virginia	Fairfax County	1,081,726	51059	16.4	7.0
Washington	King County	1,931,249	53033	29.0	5.9
Wisconsin	Milwaukee County	947,735	55079	29.7	7.3

^aBaltimore County, MD does not include the City of Baltimore, and St. Louis County, MO does not include the City of St. Louis.

^bArbitrarily, the FIPS code for New York County (Manhattan), 36061, was used to designate New York City.

Table 3-2 NCVS (SAE) estimates of violent crime rates for metropolitan areas (CBSAs), 2010–2012

CBSA Code	CBSA Name	2010 Census Population	Violent crime rate, 2010–2012	Root mean square error
12060	Atlanta-Sandy Springs-Marietta, GA	5,268,860	19.3	4.4
12420	Austin-Round Rock-San Marcos, TX	1,716,289	20.9	6.3
12580	Baltimore-Towson, MD	2,710,489	30.8	5.5
13820	Birmingham-Hoover, AL	1,128,047	24.3	6.9
14460	Boston-Cambridge-Quincy, MA-NH	4,552,402	22.6	4.7
15380	Buffalo-Niagara Falls, NY	1,135,509	19.1	6.9
16740	Charlotte-Gastonia-Rock Hill, NC-SC	1,758,038	18.9	6.2
16980	Chicago-Joliet-Naperville, IL-IN-WI	9,461,105	18.5	3.6
17140	Cincinnati-Middletown, OH-KY-IN	2,130,151	23.6	5.9
17460	Cleveland-Elyria-Mentor, OH	2,077,240	22.0	6.0
18140	Columbus, OH	1,836,536	19.0	6.2
19100	Dallas-Fort Worth-Arlington, TX	6,371,773	35.7	4.1
19740	Denver-Aurora-Broomfield, CO	2,543,482	40.2	5.7
19820	Detroit-Warren-Livonia, MI	4,296,250	19.1	4.8
25540	Hartford-West Hartford-East Hartford, CT	1,212,381	22.8	6.8
26420	Houston-Sugar Land-Baytown, TX	5,946,800	20.5	4.3
26900	Indianapolis-Carmel, IN	1,756,241	25.8	6.3
27260	Jacksonville, FL	1,345,596	21.2	6.7
28140	Kansas City, MO-KS	2,035,334	33.9	6.0
29820	Las Vegas-Paradise, NV	1,951,269	21.6	6.1
31100	Los Angeles-Long Beach-Santa Ana, CA	12,828,837	19.0	3.2
31140	Louisville/Jefferson County, KY-IN	1,283,566	29.1	6.8
32820	Memphis, TN-MS-AR	1,316,100	23.7	6.8
33100	Miami-Fort Lauderdale-Pompano Beach, FL	5,564,635	9.7	4.4
33340	Milwaukee-Waukesha-West Allis, WI	1,555,908	21.4	6.5

33460	Minneapolis-St. Paul-Bloomington, MN-WI	3,279,833	21.7	5.2
34980	Nashville-Davidson-Murfreesboro-Franklin, TN	1,589,934	17.1	6.4
35380	New Orleans-Metairie-Kenner, LA	1,167,764	21.4	6.9
35620	New York-Northern New Jersey-Long Island, NY-NJ-PA	18,897,109	13.4	2.7
36420	Oklahoma City, OK	1,252,987	30.7	6.8
36740	Orlando-Kissimmee-Sanford, FL	2,134,411	11.4	5.9
37980	Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	5,965,343	21.7	4.3
38060	Phoenix-Mesa-Glendale, AZ	4,192,887	22.9	4.8
38300	Pittsburgh, PA	2,356,285	37.5	5.8
38900	Portland-Vancouver-Hillsboro, OR-WA	2,226,009	34.9	5.9
39300	Providence-New Bedford-Fall River, RI-MA	1,600,852	30.2	6.4
39580	Raleigh-Cary, NC	1,130,490	14.5	7.0
40060	Richmond, VA	1,258,251	18.0	6.8
40140	Riverside-San Bernardino-Ontario, CA	4,224,851	27.6	4.8
40380	Rochester, NY	1,054,323	23.3	7.1
40900	Sacramento-Arden-Arcade-Roseville, CA	2,149,127	42.8	5.9
41180	St. Louis, MO-IL	2,812,896	33.5	5.5
41620	Salt Lake City, UT	1,124,197	28.9	7.0
41700	San Antonio-New Braunfels, TX	2,142,508	20.1	5.9
41740	San Diego-Carlsbad-San Marcos, CA	3,095,313	14.2	5.3
41860	San Francisco-Oakland-Fremont, CA	4,335,391	23.5	4.8
41940	San Jose-Sunnyvale-Santa Clara, CA	1,836,911	19.4	6.2
42660	Seattle-Tacoma-Bellevue, WA	3,439,809	36.2	5.1
45300	Tampa-St. Petersburg-Clearwater, FL	2,783,243	22.9	5.5
47260	Virginia Beach-Norfolk-Newport News, VA-NC	1,671,683	25.0	6.3
47900	Washington-Arlington-Alexandria, DC-VA-MD-WV	5,582,170	17.4	4.4

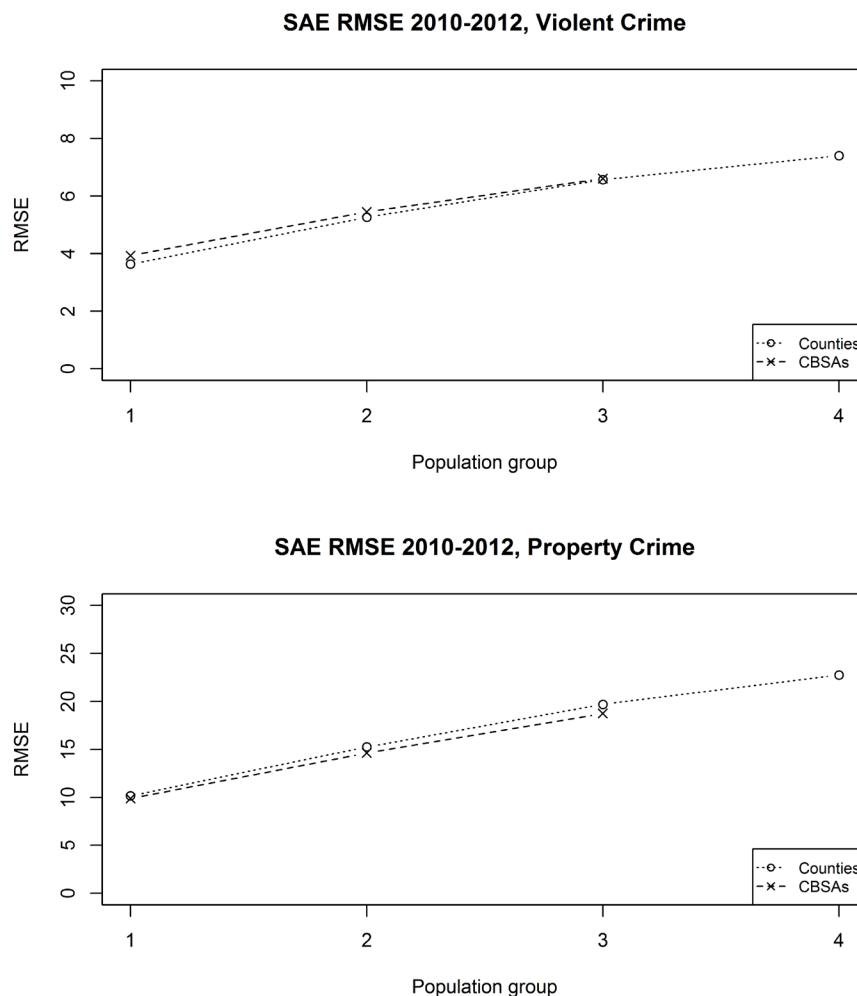
Similar to the analyses for states, counties and CBSAs were categorized into groups determined by the size of their 2010 populations (table 3-3). Group 2 covers the same population range as state group S4 and group 3 corresponds to state group S5 (table 2-1).

Table 3-3 Grouping of counties and CBSAs with NCVS (SAE) estimates

Group	2010 Population	Number of Counties	Number of CBSAs
1	More than 5 million	3	9
2	2 to 5 million	8	20
3	1 to 2 million	25	22
4	Less than 1 million	29	-
Total		65	51

Although the county and CBSA models for 2011–2013 were fitted separately, the average RMSEs by grouping are quite similar, suggesting that the relationship between the RMSE and population size is approximately the same for counties and CBSAs (figure 3-1).

Figure 3-1 Comparison of RMSEs of NCVS (SAE) estimates for counties and CBSAs, 2011–2013



The RMSE averages for groups 2 and 3 (figure 3-1) are less than the corresponding RMSE averages for states (groups S4 and S5 in figure 2-8). Because the small area estimation was restricted to the largest counties and CBSAs, most of the areas were covered by self-representing samples in the NCVS design. Therefore, estimation for these counties and metropolitan areas is more precise than estimation for small states of the same population size; the reliability of the NCVS for small states is reduced because of the first-stage selection of primary sampling units. Some small states may not have been allocated any NCVS sample or may have had a sample in a relatively unrepresentative set of counties within the state.

County and CBSA level appendix tables, which are similar to the state appendix tables, include:

1. Rates and RSMEs of violent crime by type of crime (toc) over time.
2. Rates and RSMEs of violent crime by relationship to the perpetrators (rel) over time.
3. Rates and RSMEs of property crime (prop) over time.

Similar to state estimates, county and CBSA estimates are available in two forms: (1) figures showing trend lines for the period 2000–2012 (see appendices C and D) and (2) two Excel files provide all of the rates and RMSEs (see appendices G and H).

Note that Baltimore County does not include the City of Baltimore, and St. Louis County does not include the City of St. Louis.

Concluding Remarks

4

The first section cautioned that the NCVS (SAE) estimates are affected by sampling variability. The relatively large RMSEs associated with these estimates suggest that care is required when interpreting the estimates. Nonetheless, the NCVS (SAE) estimates offer insight into how crime, as measured by the NCVS, is distributed geographically. For states, the report displays results both for the most current period, 2011–2013, and for the longer 15-year period 1999–2013. Often the two results are similar for the same area; when the estimate for 2011–2013 is different, there is the possibility that the effect is transient or that it signals a trend that may persist for some time.

In some small area applications, the model is able to use strong statistical relationships with the auxiliary data to produce credible estimates, even in the absence of any sample observations for some areas. In this application, the auxiliary data were moderately predictive, particularly for violent crime, and the estimates benefited more from the combination by the model of direct NCVS data over the 15-year period. Consequently, small states with a limited NCVS sample were at a disadvantage compared to larger states. Estimates of violent crime for states with populations of 1 to 2 million are marginal, at best, and those for states with populations of less than 1 million offer little information.

For the four largest states, the NCVS (SAE) estimates improve the NCVS direct estimates by only modest amounts. Similarly, once the supplemental sample for the seven next largest states has accumulated data to publish direct estimates for 2014–2016, those estimates will be more accurate than any currently offered by the NCVS (SAE) for 2011–2013. In the meantime, the NCVS (SAE) estimates offer a preview of what may be expected when the supplemental data become available in these states. The NCVS (SAE) estimates may continue to offer the best available information in the states that are not supplemented.

The NCVS (SAE) county and CBSA estimates, even though they have somewhat large RMSEs, offer geographically detailed information that direct estimates from the NCVS may not provide for several years into the future.

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R

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Treatment of Year 2006 and Series Crimes

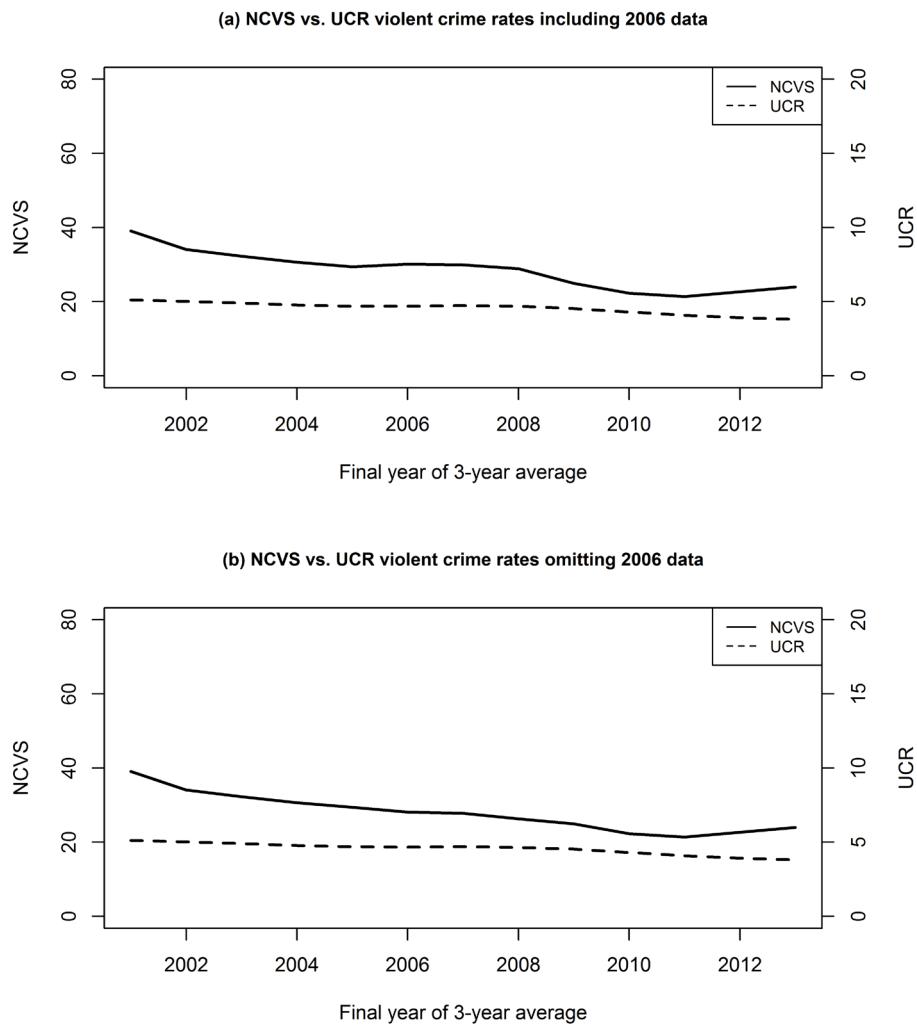
As noted in the introduction, this appendix covers two features of the estimates. The first feature is a special treatment of NCVS estimates for 2006. With the change to a new sample design in 2006, the national NCVS estimates increased in 2006 compared to 2005, only to return to approximately the 2005 level in 2007. In 2006, many new interviewers were introduced as part of the overall redesign, providing a possible explanation for the anomaly. After 2006, publications in BJS's Criminal Victimization series, including *Criminal Victimization, 2013*, call attention to the unusual 2006 NCVS results. Displaying 3-year averages partially smooths the anomaly, but it still distorts the general crime trends (figure A-1 (a)).

A preliminary SAE model for 1997–2011 was developed using all NCVS data for those years. Estimates from this model appear in figures 2-5 and 2-6 as well as tables 2-2 and 2-3.

A revised model was developed that excluded the 2006 data. This approach replaced the 3-year average for 2004–2006 with the average of 2004 and 2005; replaced the average for 2005–2007 with the average of 2005 and 2007; and replaced the average for 2006–2008 with the average of 2007 and 2008. Where NCVS (SAE) estimates are compared with UCR estimates, this redefinition of the 3-year averages is applied to both the NCVS and the UCR. The 2006 data were similarly excluded from the 1999–2013 model that produced most of the state results in this report. Similarly, 2006 was also excluded from the county and CBSA models. Figure A-1 compares national estimates of violent crime from the NCVS to the UCR, both for the original approach that included 2006 and the revised approach that omitted it. The effect of the 2006 NCVS data, producing a bump in the NCVS series, is evident in the upper graph (figure A-1 (a)). Both graphs show the substantial drop in the NCVS crime rate from 1999 to 2013, and a smaller relative drop in the UCR.

The second feature is to note the treatment of series crimes. With the release of the 2011 NCVS estimates, BJS introduced a new method for weighting series crimes, that is, crimes where the respondent could not distinctly recall separate incidents of the same type of crime but could usually provide a specific number or an estimate of the number of times the crime occurred. The new method uses the reported number of times the crime occurred, capping the number at 10 and using 6 when the respondent could not provide a specific number (Lauritsen et al., 2012). The SAE estimates described here implement this approach to weighting series crimes for all years. The NCVS Victimization Analysis Tool (<http://www.bjs.gov/index.cfm?ty=nvat>) also uses this approach for all estimates it provides, both for years before and after 2011, as does the most recent BJS publications.

Figure A-1 NCVS vs. UCR violent crime rate, both (a) with and (b) without data for year 2006



Appendix **B**

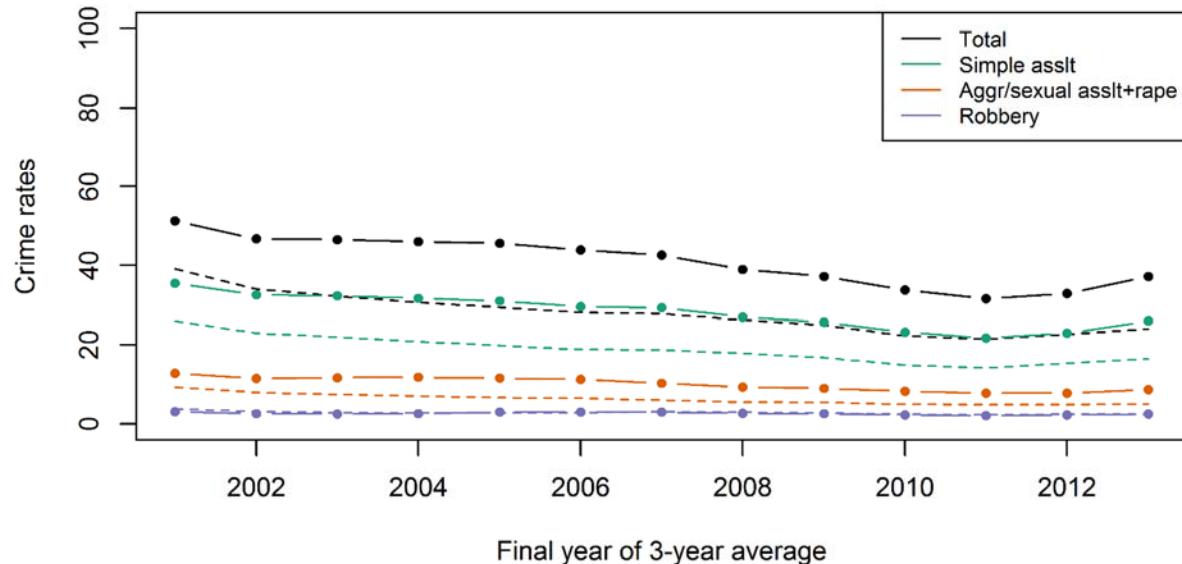
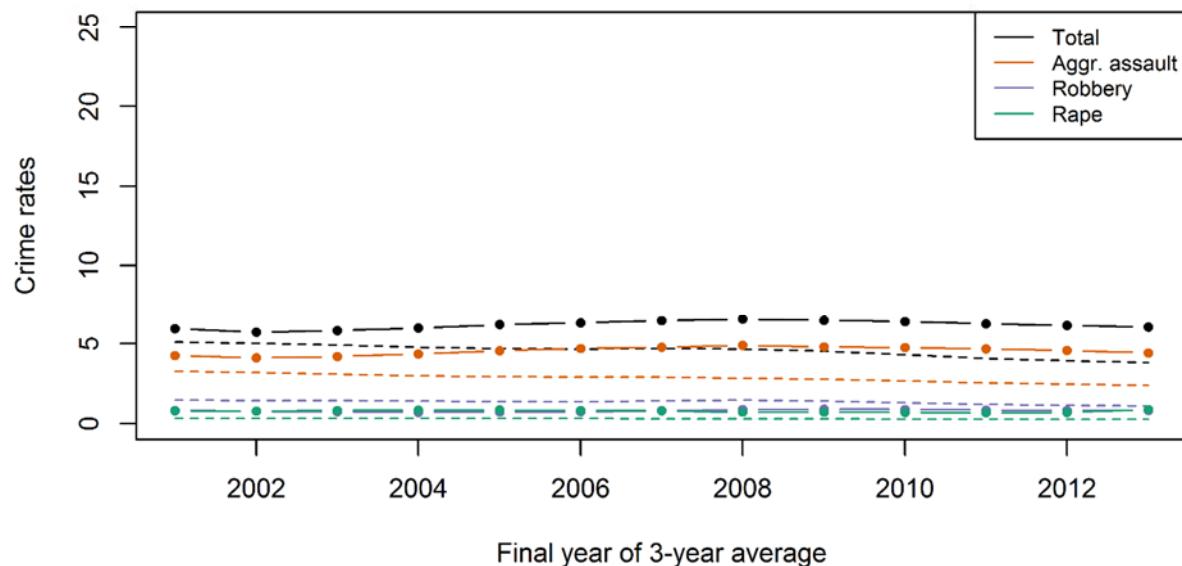
Trend Figures for 50 States and Washington, D.C.

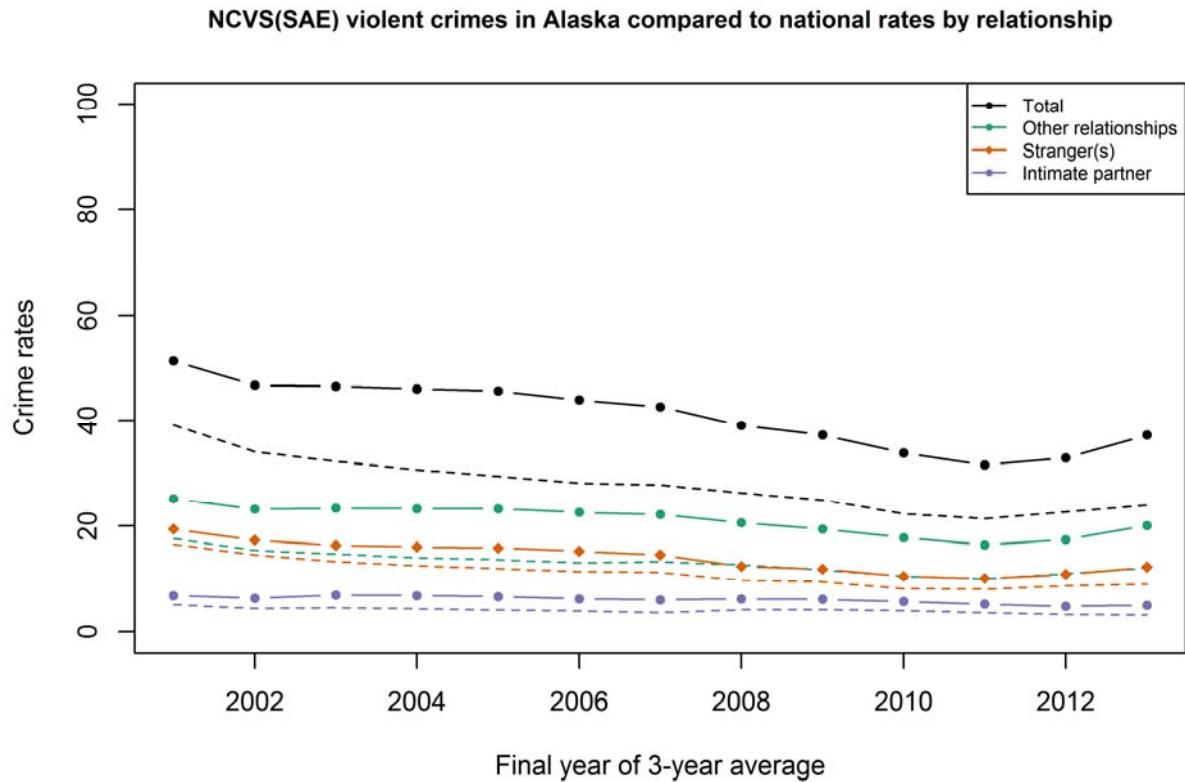
Table of Contents

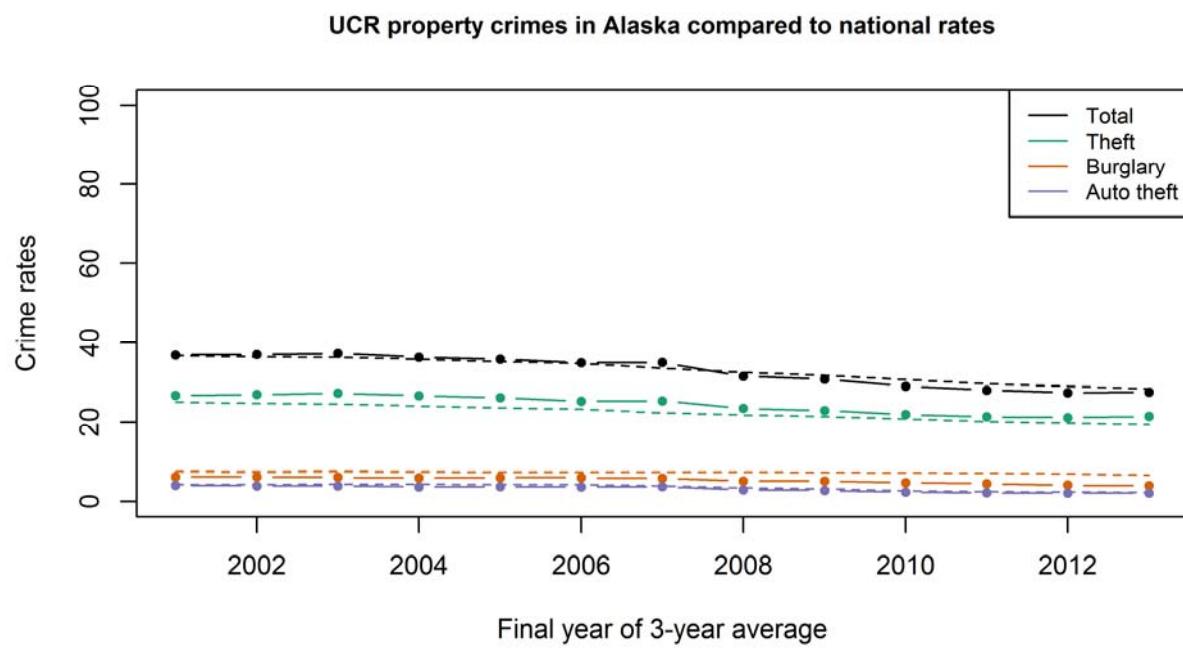
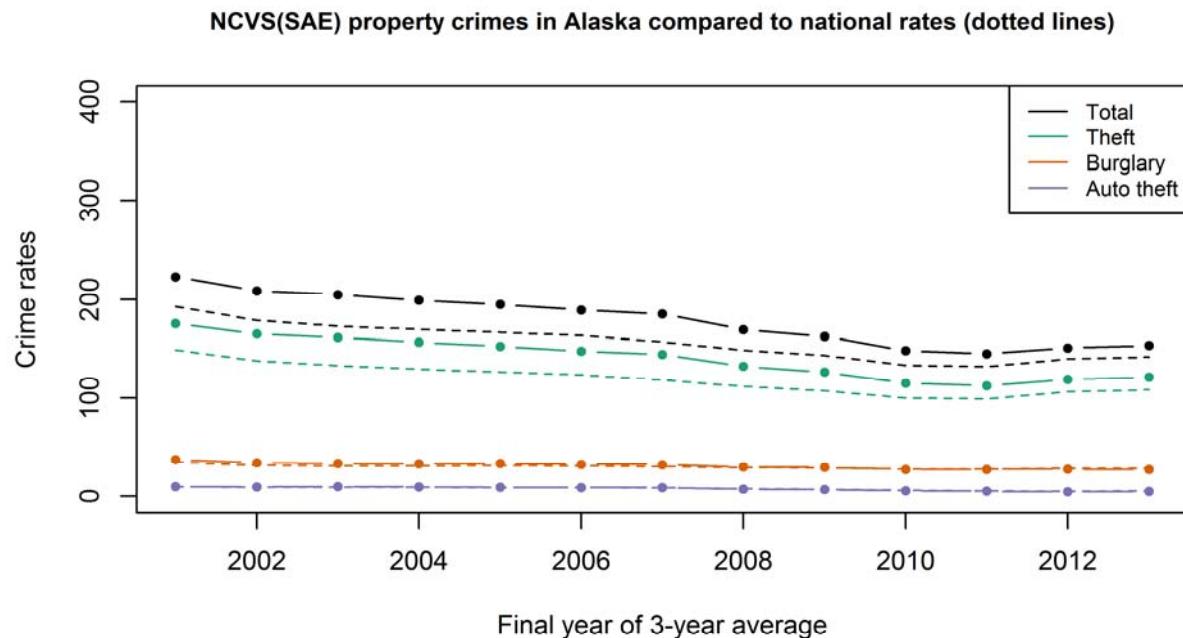
Alaska	4
Alabama	7
Arkansas.....	10
Arizona	13
California.....	16
Colorado.....	19
Connecticut.....	22
Washington DC	25
Delaware	29
Florida	32
Georgia.....	35
Hawaii	38
Iowa.....	41
Idaho	44
Illinois	47
Indiana	50
Kansas	53
Kentucky.....	56
Louisiana	59
Massachusetts	62
Maryland.....	65
Maine	68
Michigan.....	71
Minnesota.....	75
Missouri	78
Mississippi.....	81
Montana.....	84
North Carolina.....	87
North Dakota.....	90

Nebraska	93
New Hampshire.....	96
New Jersey	99
New Mexico	102
Nevada	105
New York.....	108
Ohio.....	111
Oklahoma.....	114
Oregon	117
Pennsylvania	120
Rhode Island.....	123
South Carolina.....	126
South Dakota.....	129
Tennessee	132
Texas	135
Utah.....	138
Virginia	141
Vermont	144
Washington.....	147
Wisconsin.....	149
West Virginia.....	153
Wyoming.....	156

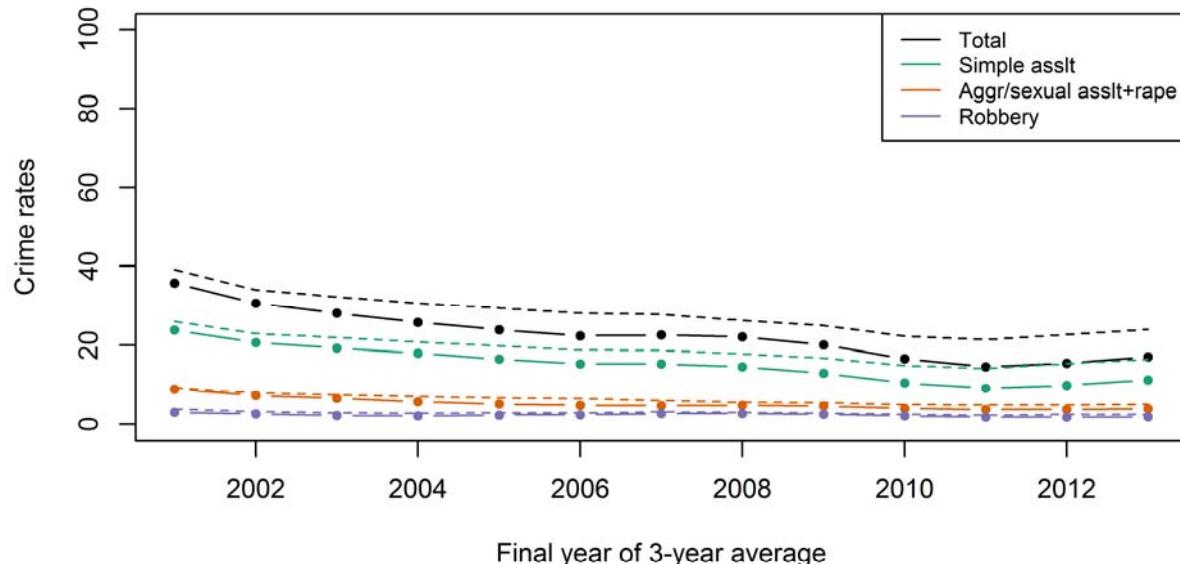
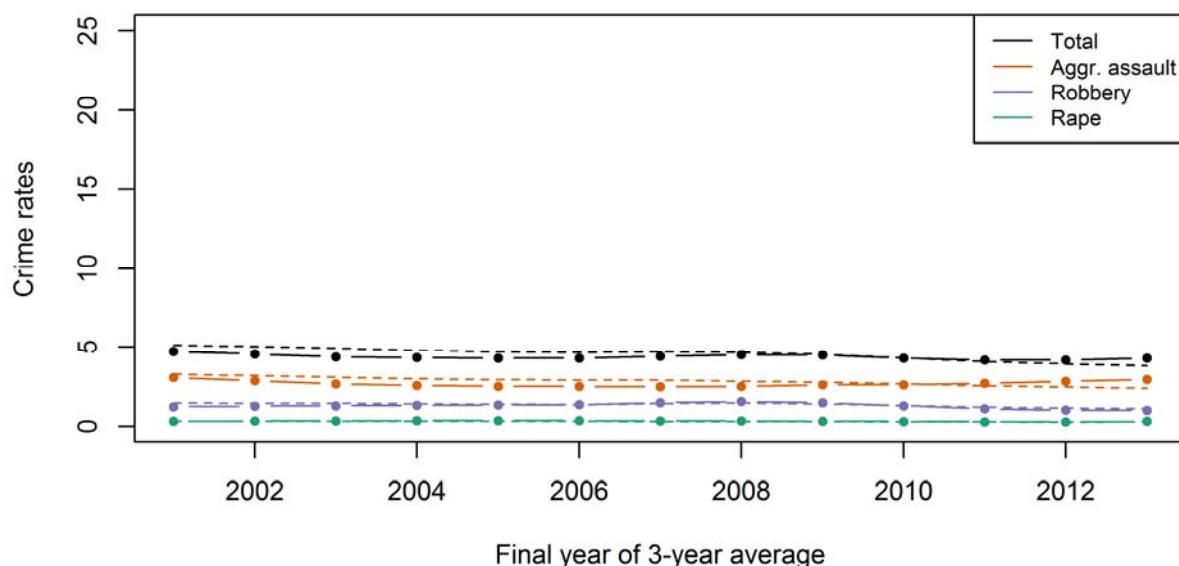
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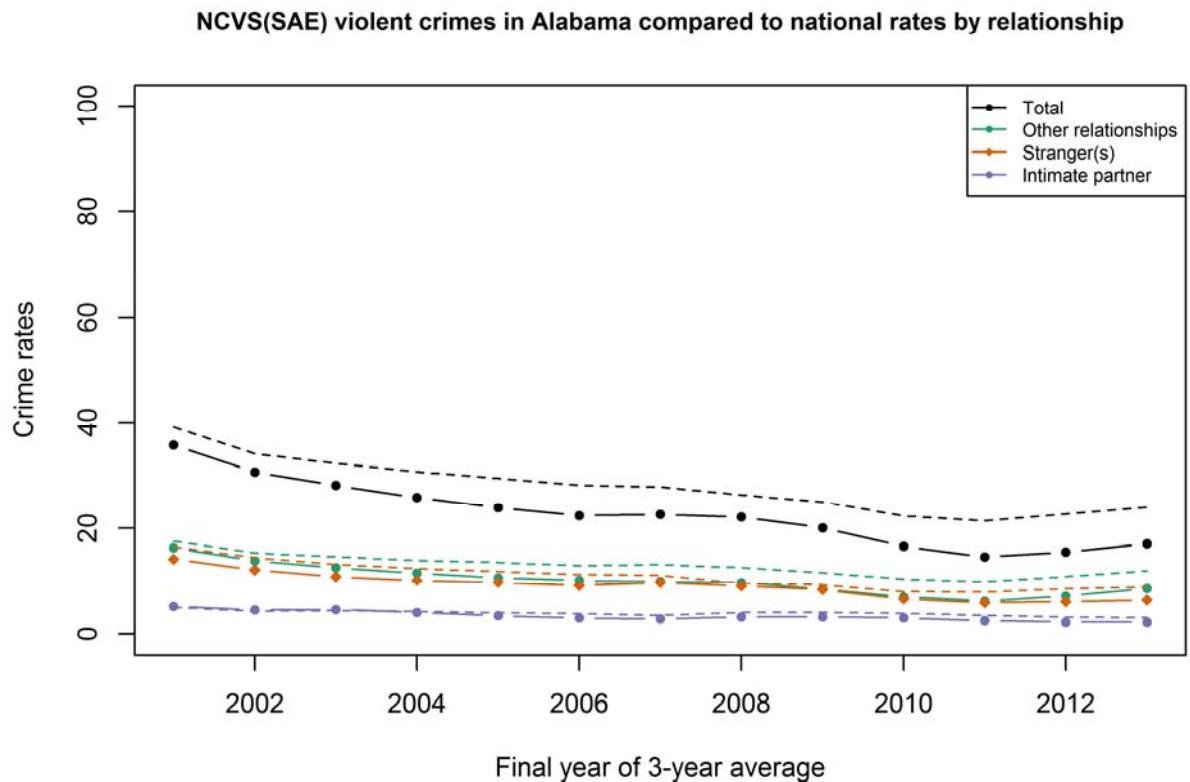
NCVS(SAE) violent crimes in Alaska compared to national rates by type of crime**UCR violent crimes in Alaska compared to national rates**



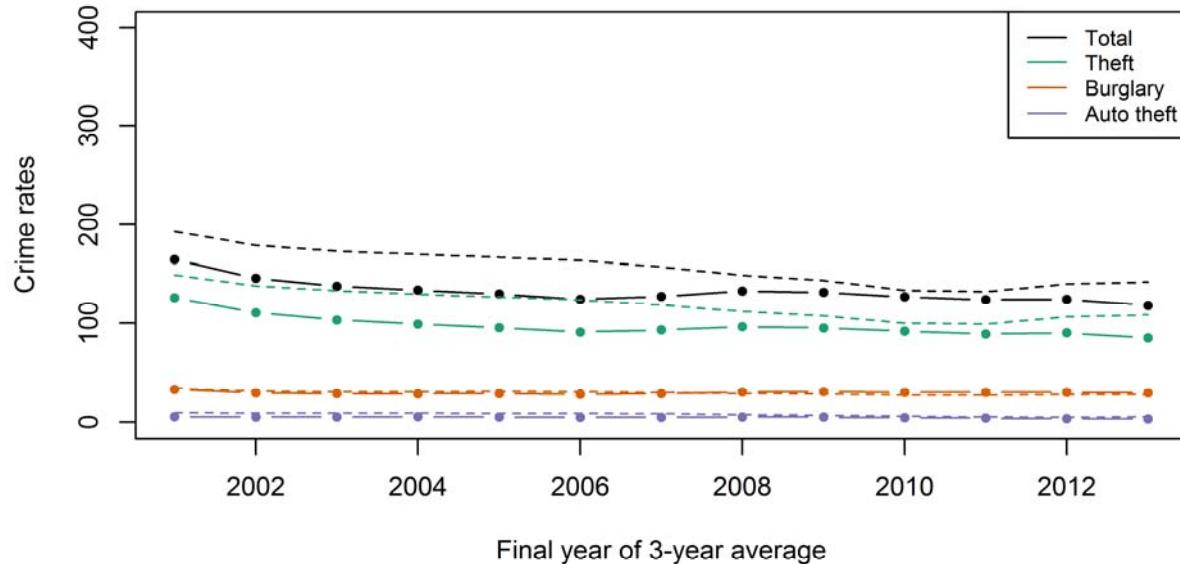


Alabama

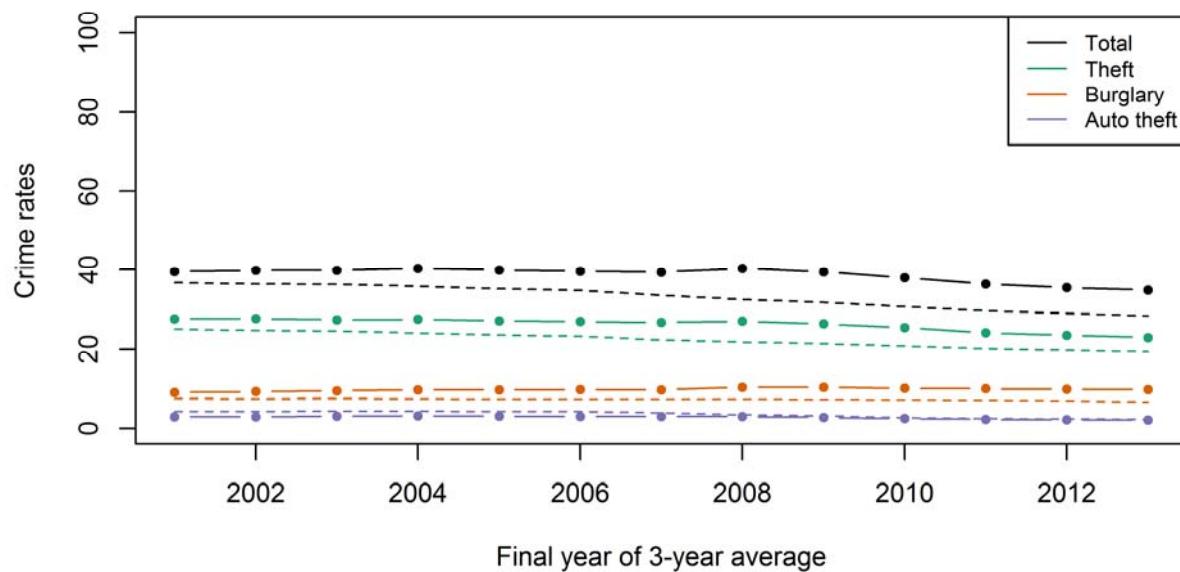
NCVS(SAE) violent crimes in Alabama compared to national rates by type of crime**UCR violent crimes in Alabama compared to national rates**



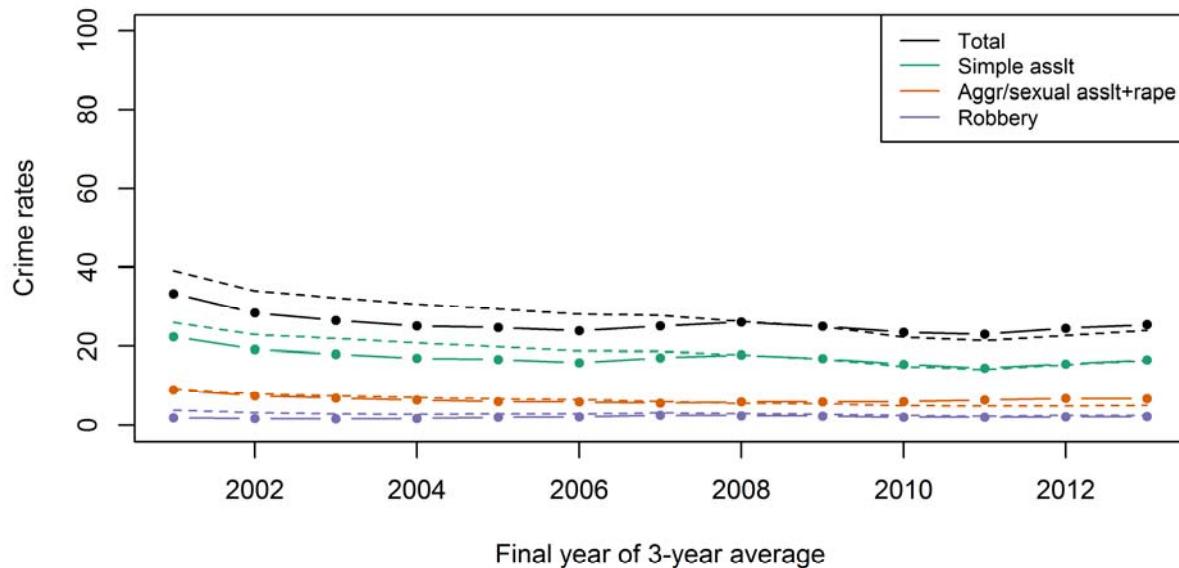
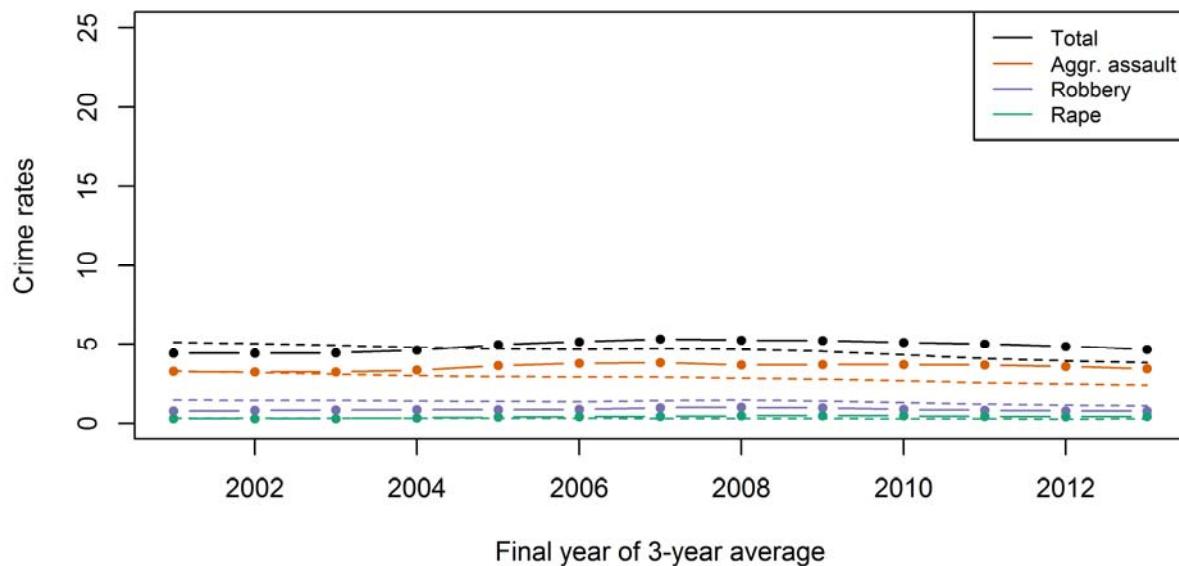
NCVS(SAE) property crimes in Alabama compared to national rates (dotted lines)

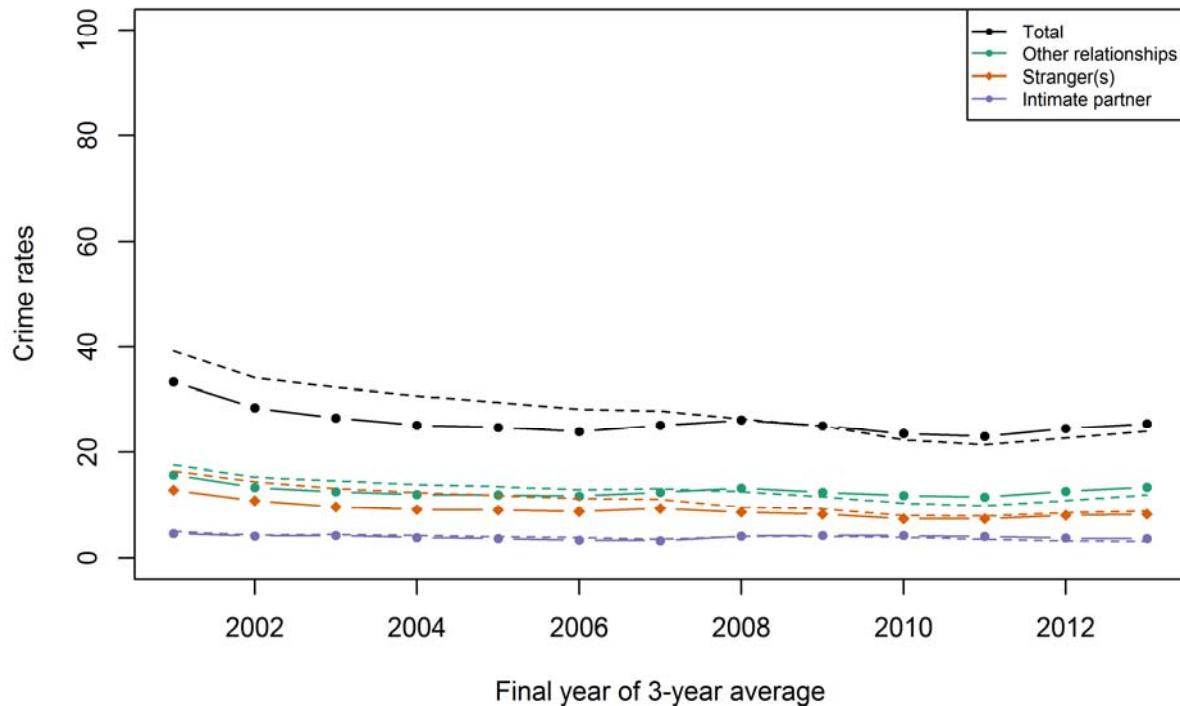


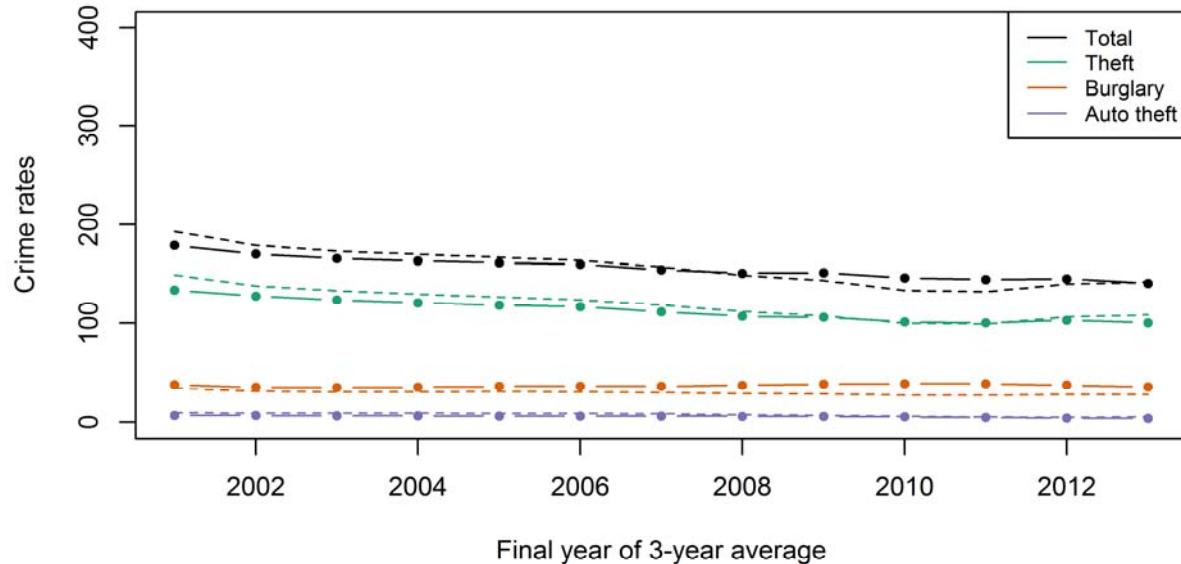
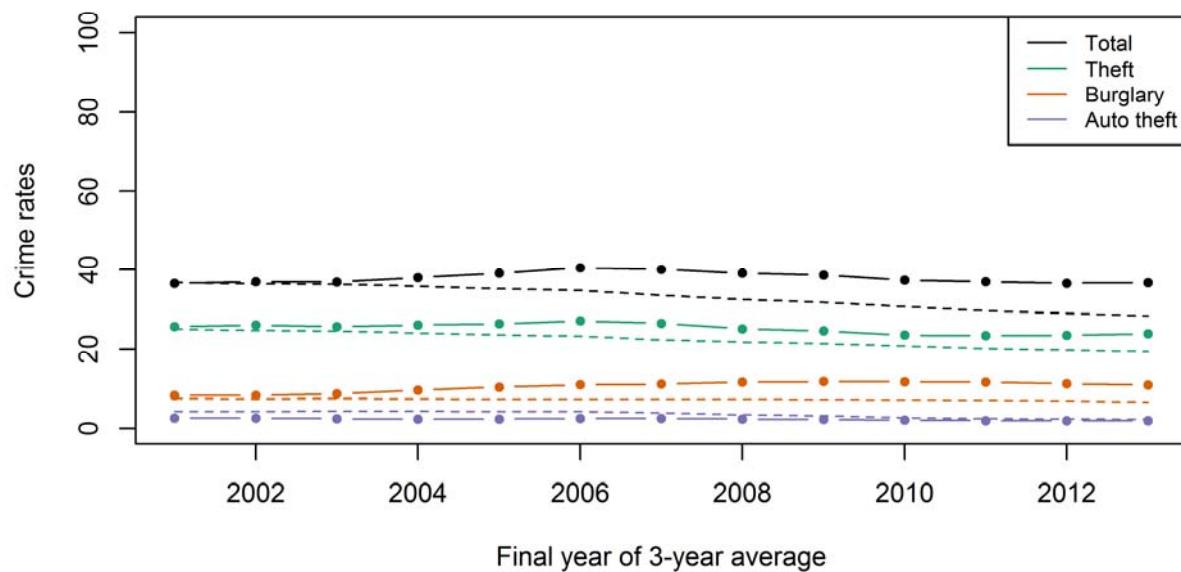
UCR property crimes in Alabama compared to national rates



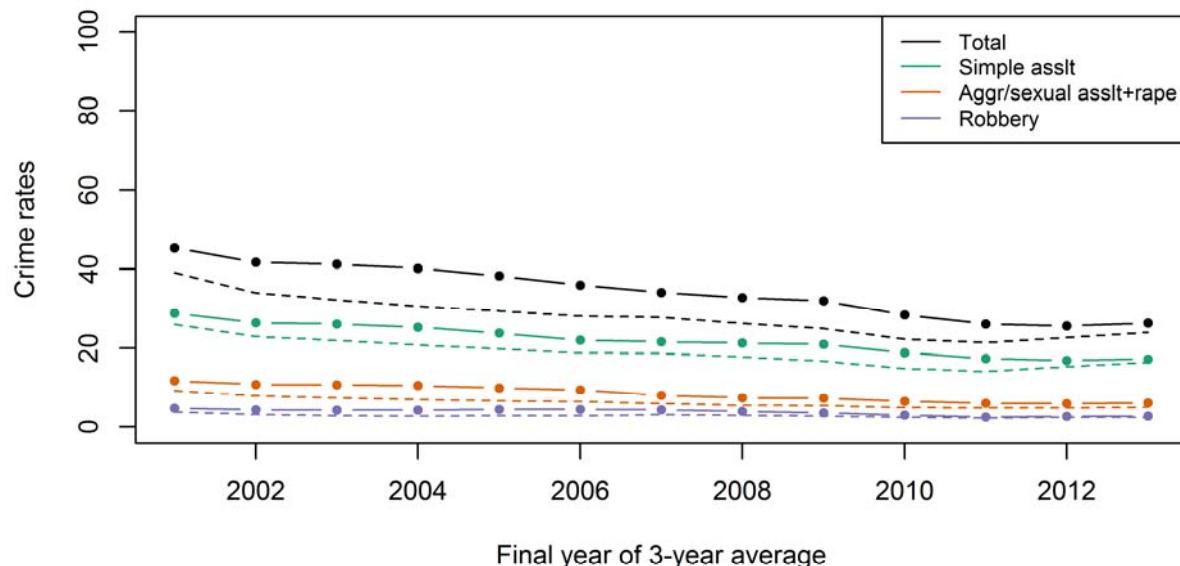
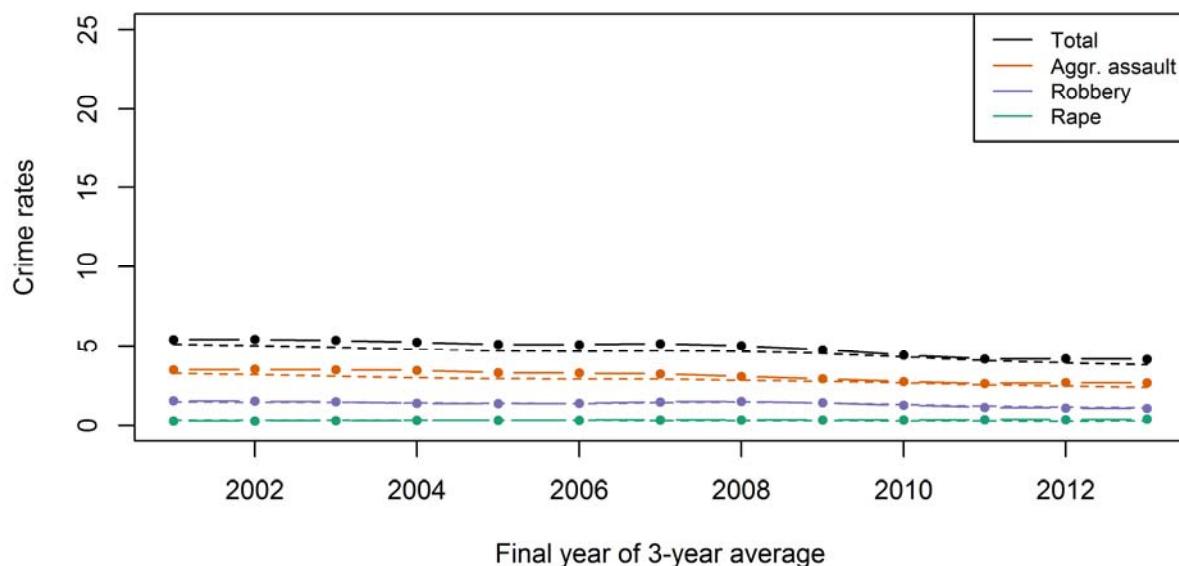
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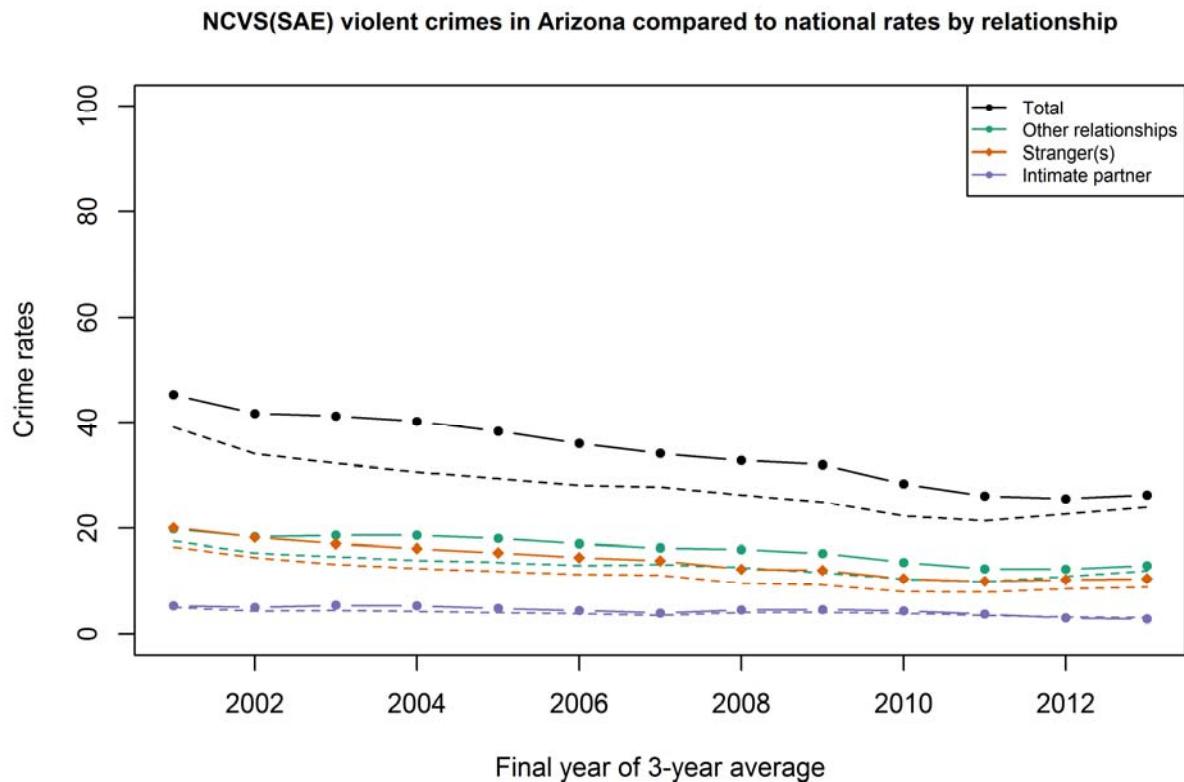
NCVS(SAE) violent crimes in Arkansas compared to national rates by type of crime**UCR violent crimes in Arkansas compared to national rates**

NCVS(SAE) violent crimes in Arkansas compared to national rates by relationship

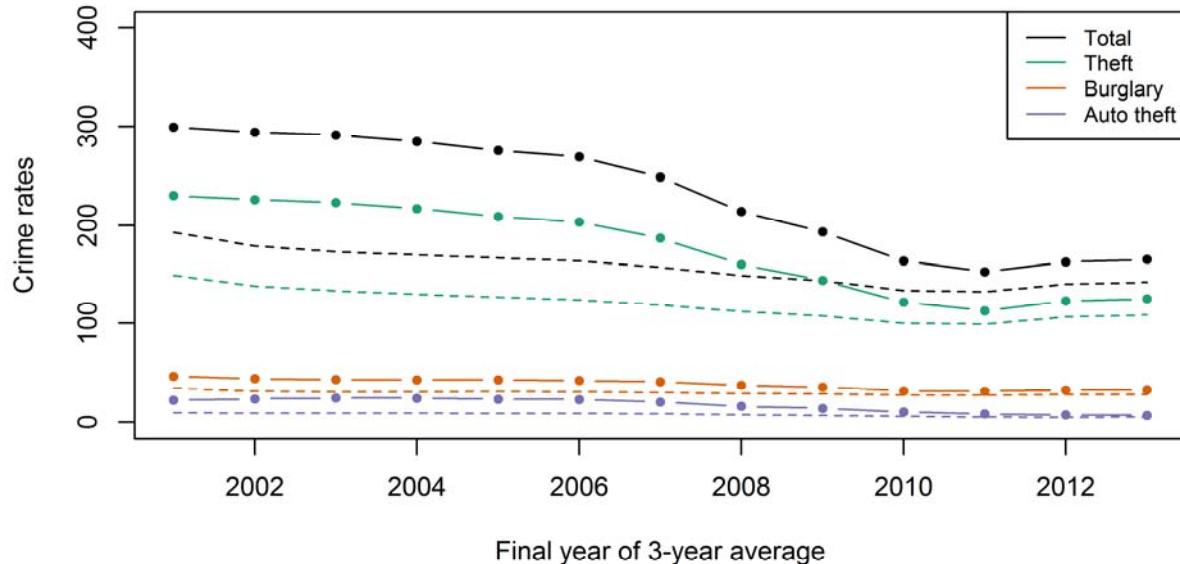
NCVS(SAE) property crimes in Arkansas compared to national rates (dotted lines)**UCR property crimes in Arkansas compared to national rates**

Arizona

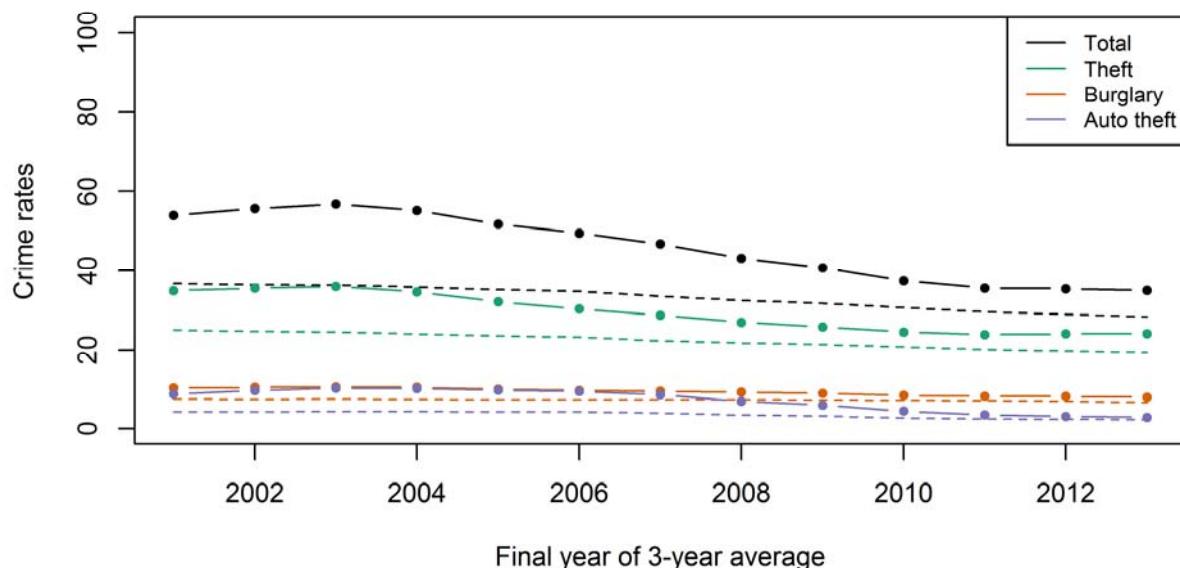
NCVS(SAE) violent crimes in Arizona compared to national rates by type of crime**UCR violent crimes in Arizona compared to national rates**



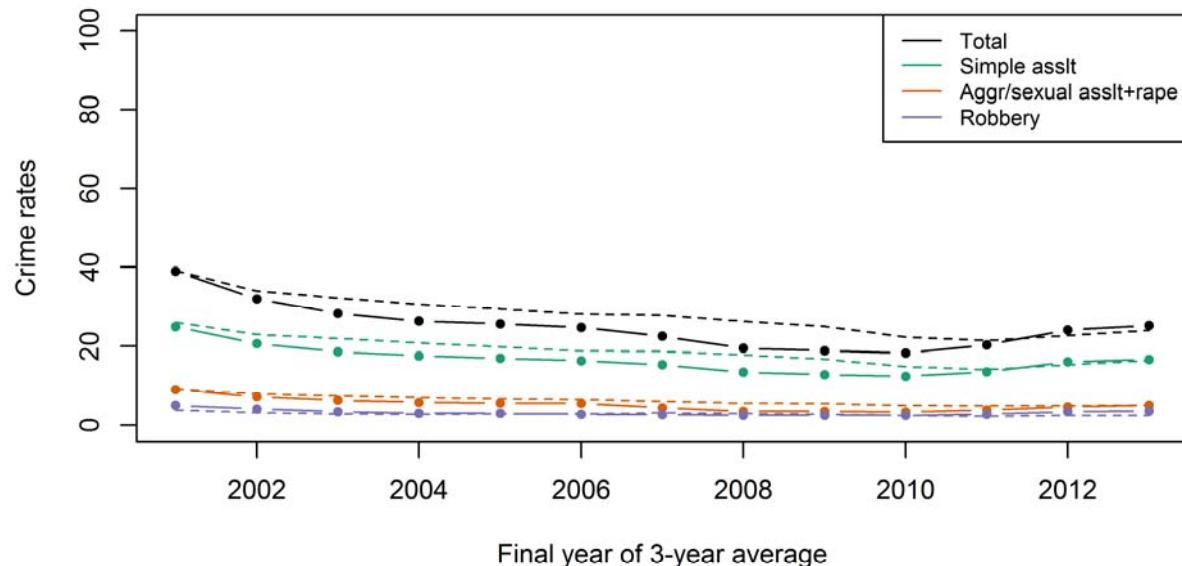
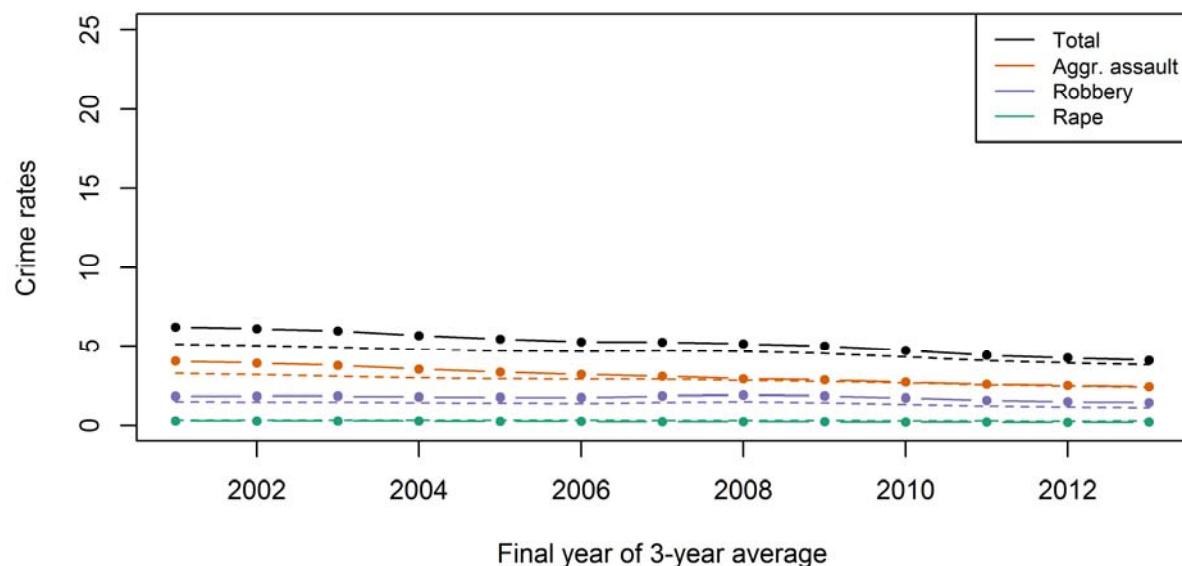
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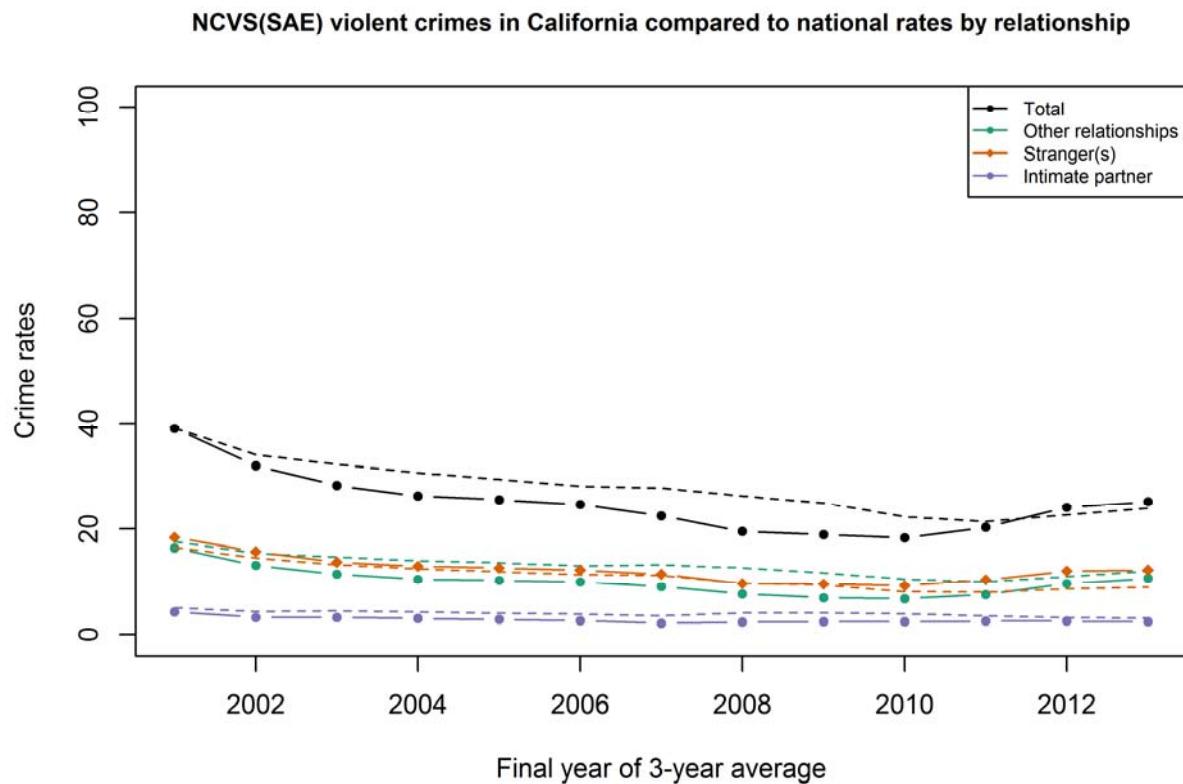


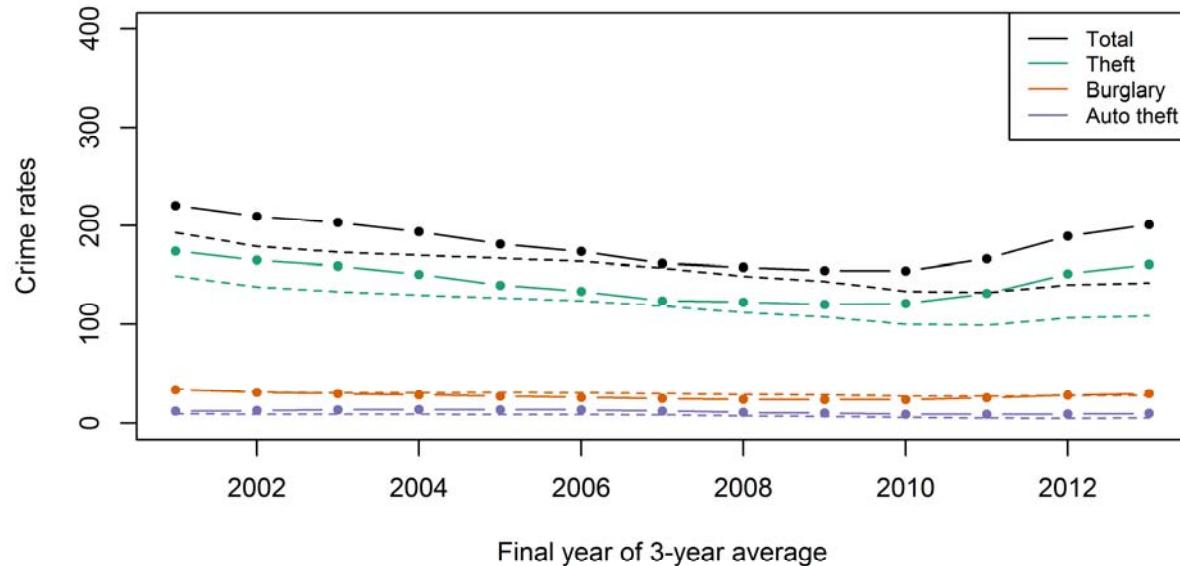
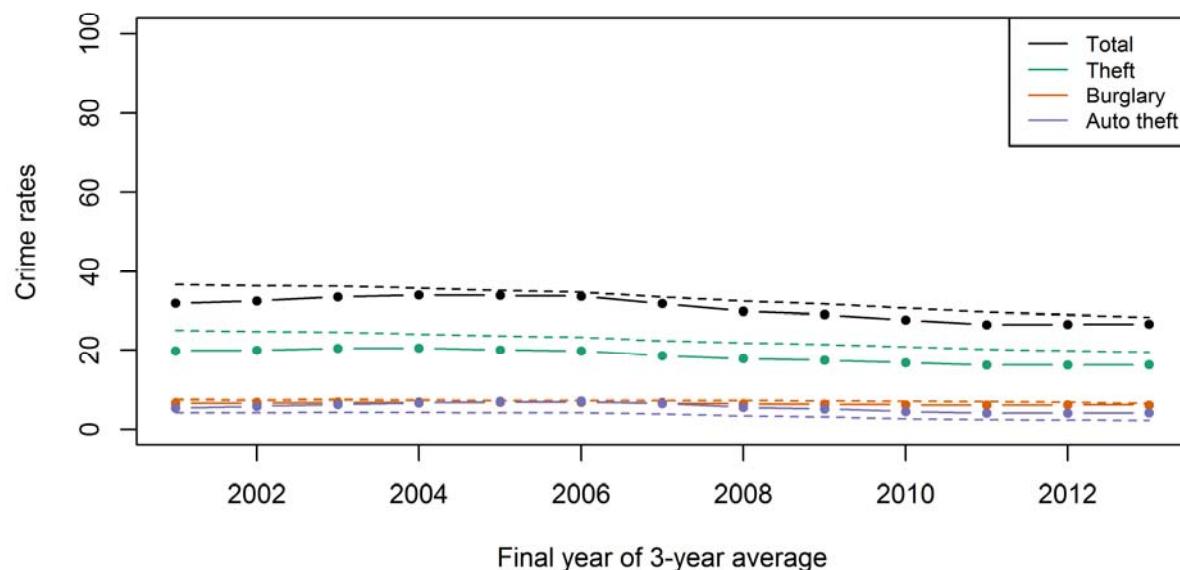
UCR property crimes in Arizona compared to national rates



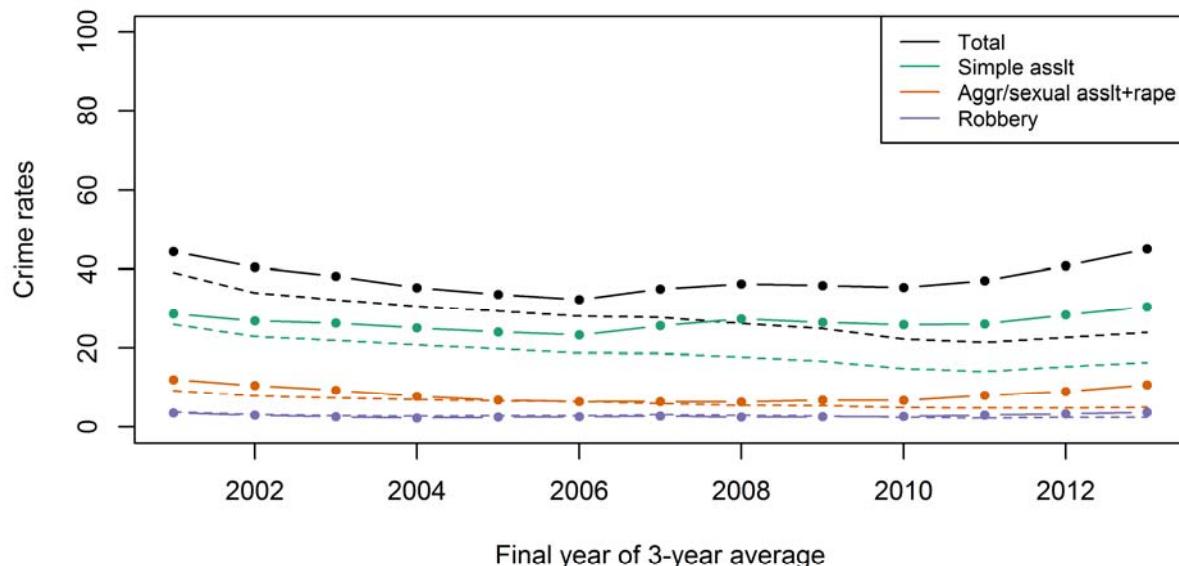
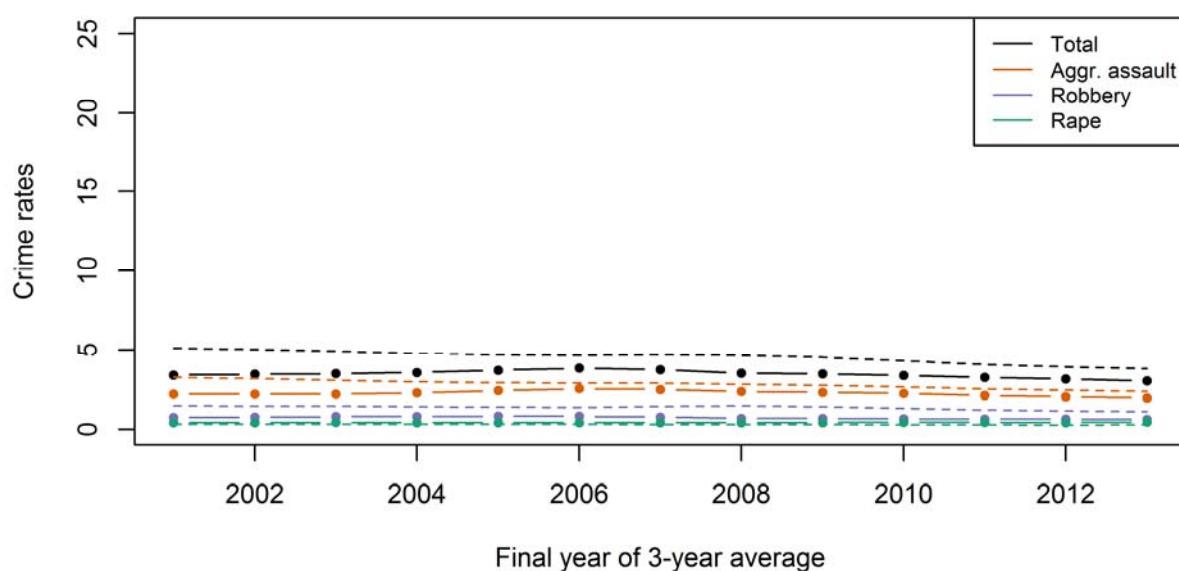
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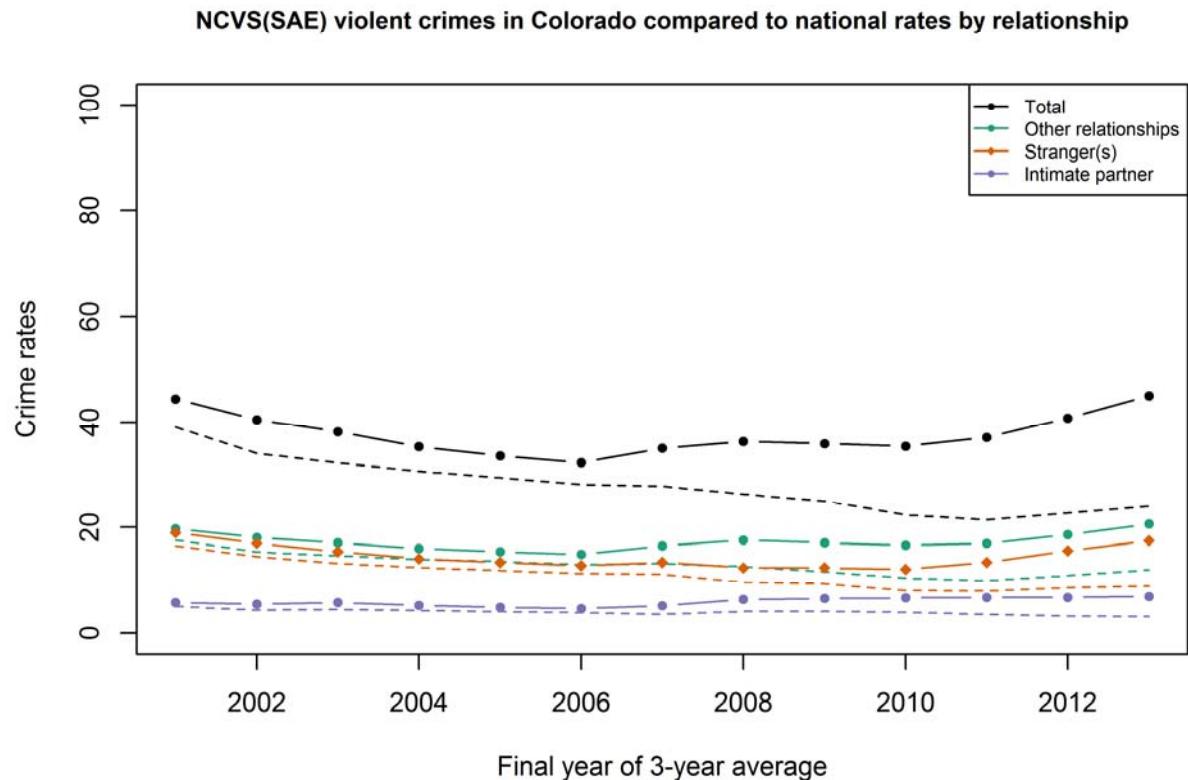
NCVS(SAE) violent crimes in California compared to national rates by type of crime**UCR violent crimes in California compared to national rates**

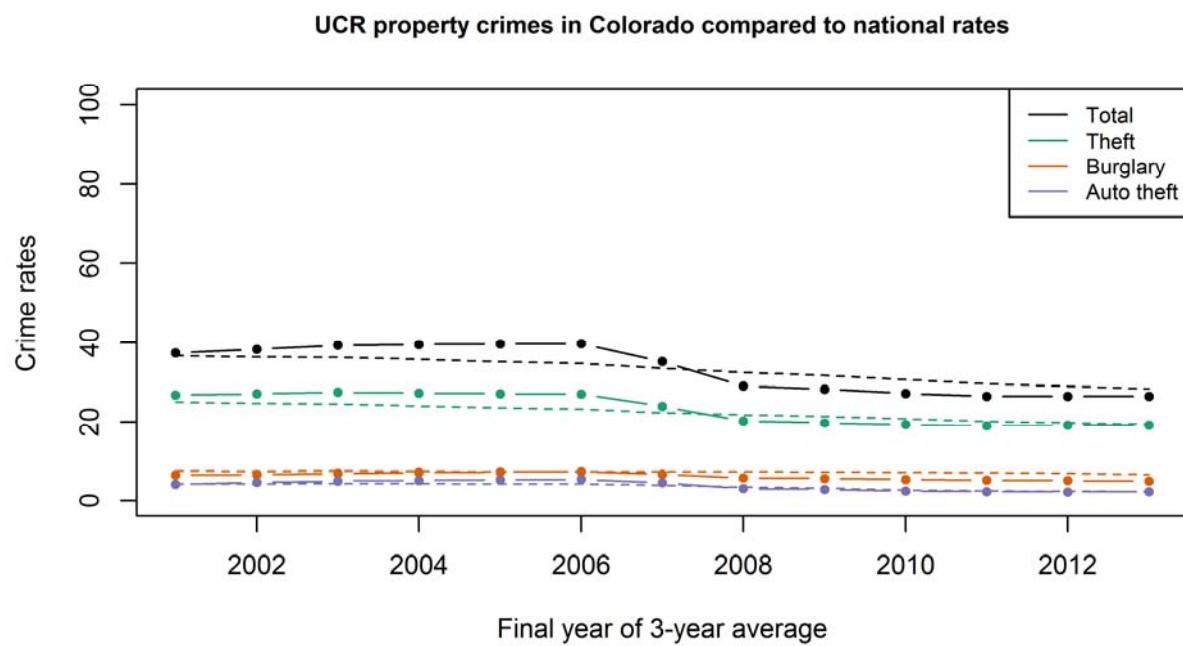
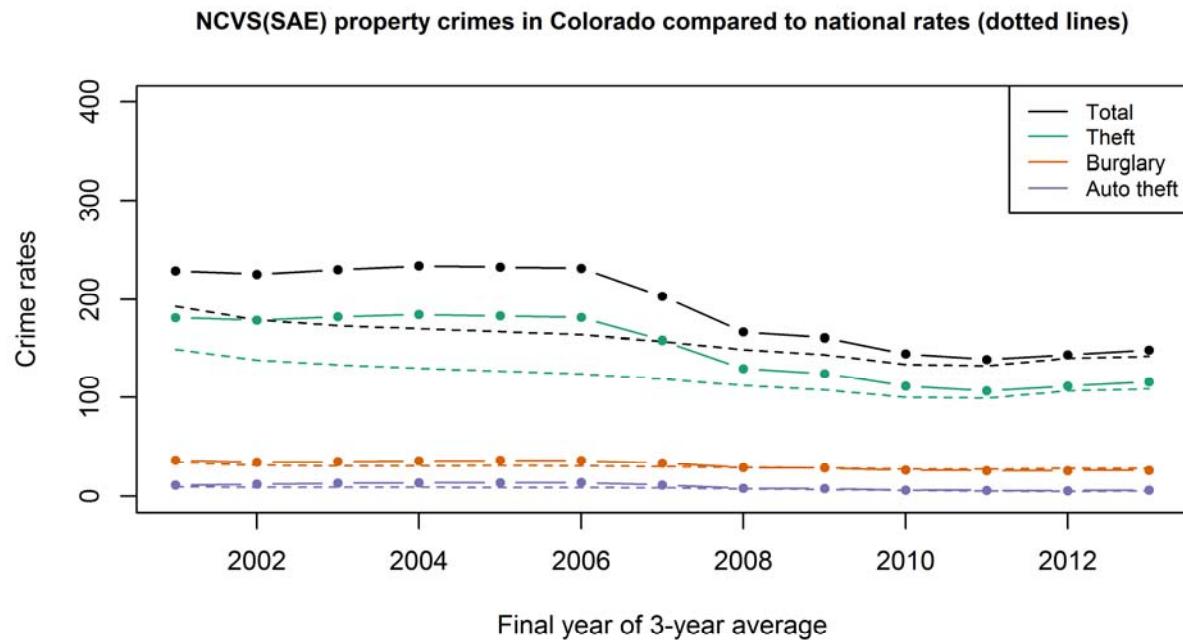


NCVS(SAE) property crimes in California compared to national rates (dotted lines)**UCR property crimes in California compared to national rates**

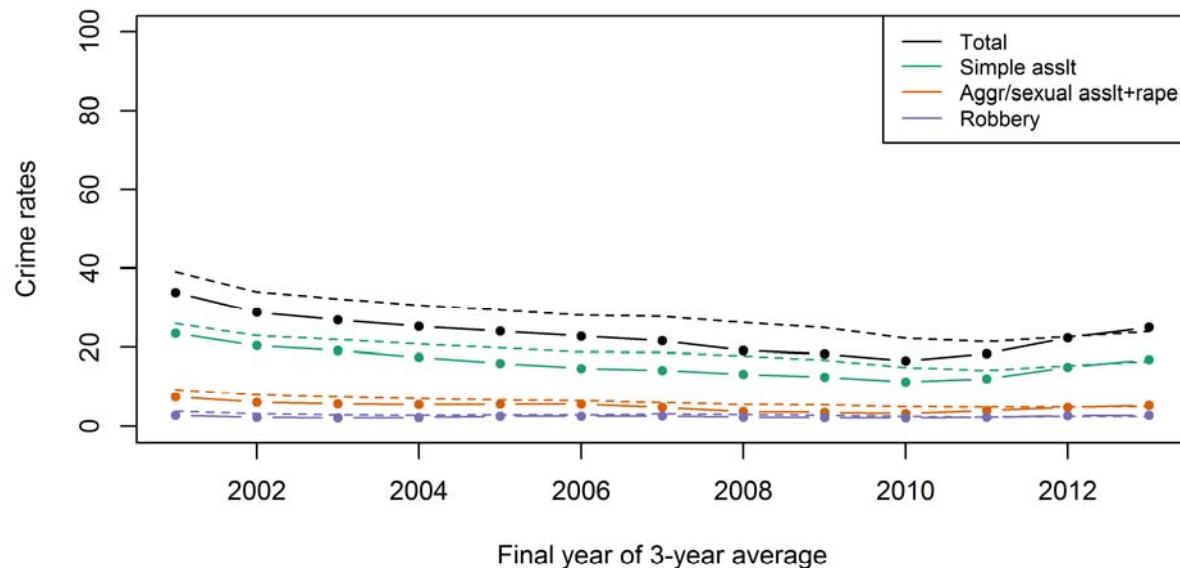
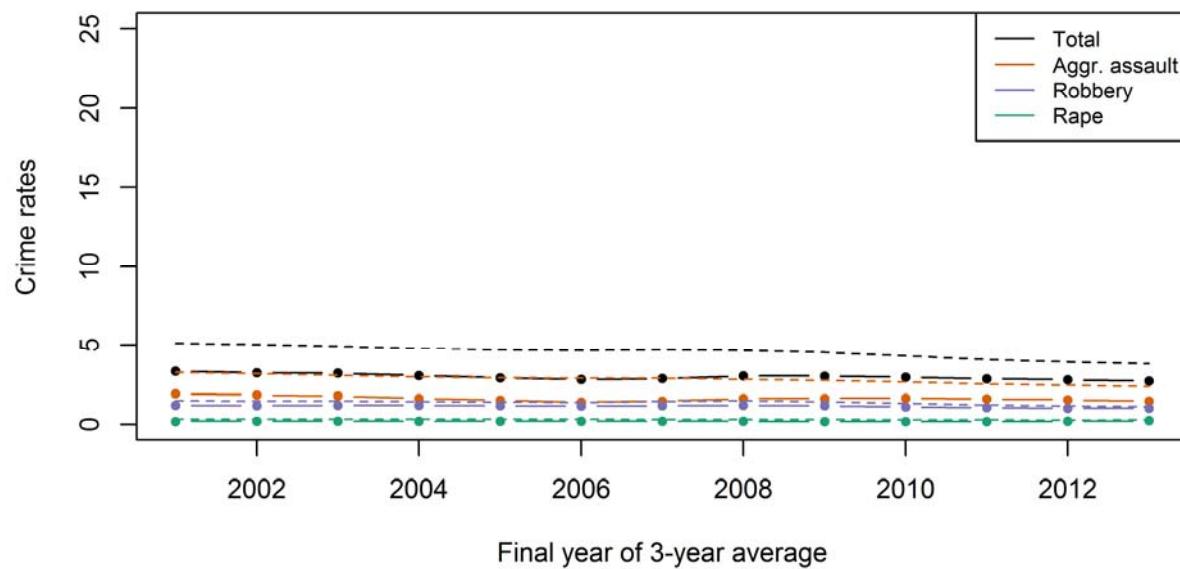
Colorado

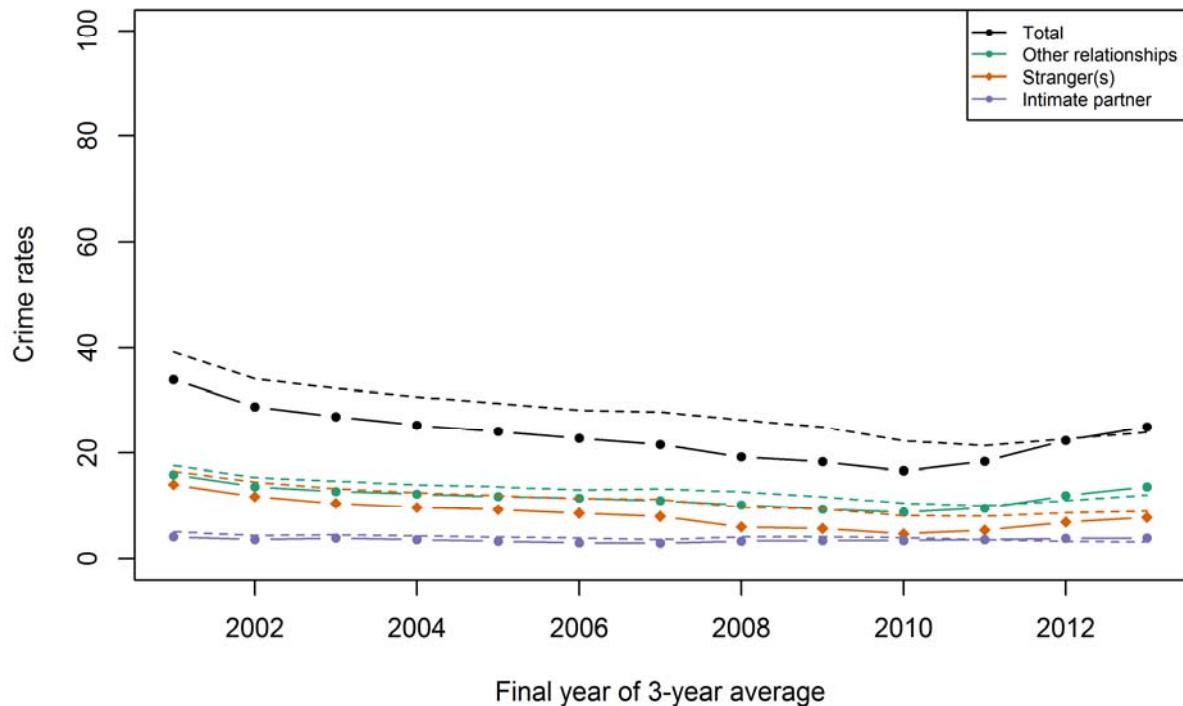
NCVS(SAE) violent crimes in Colorado compared to national rates by type of crime**UCR violent crimes in Colorado compared to national rates**

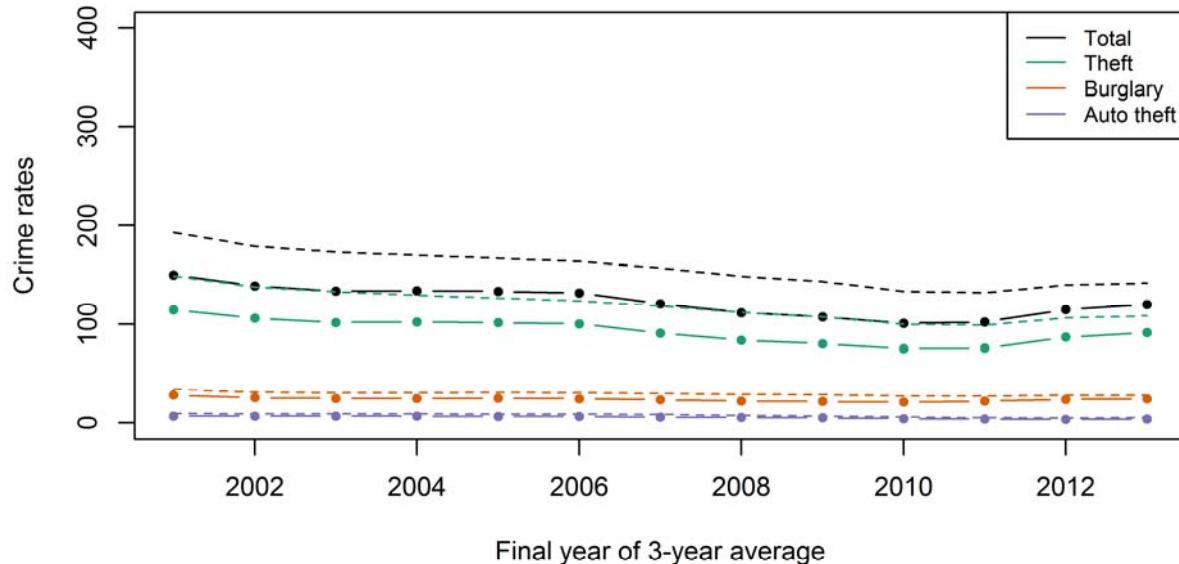
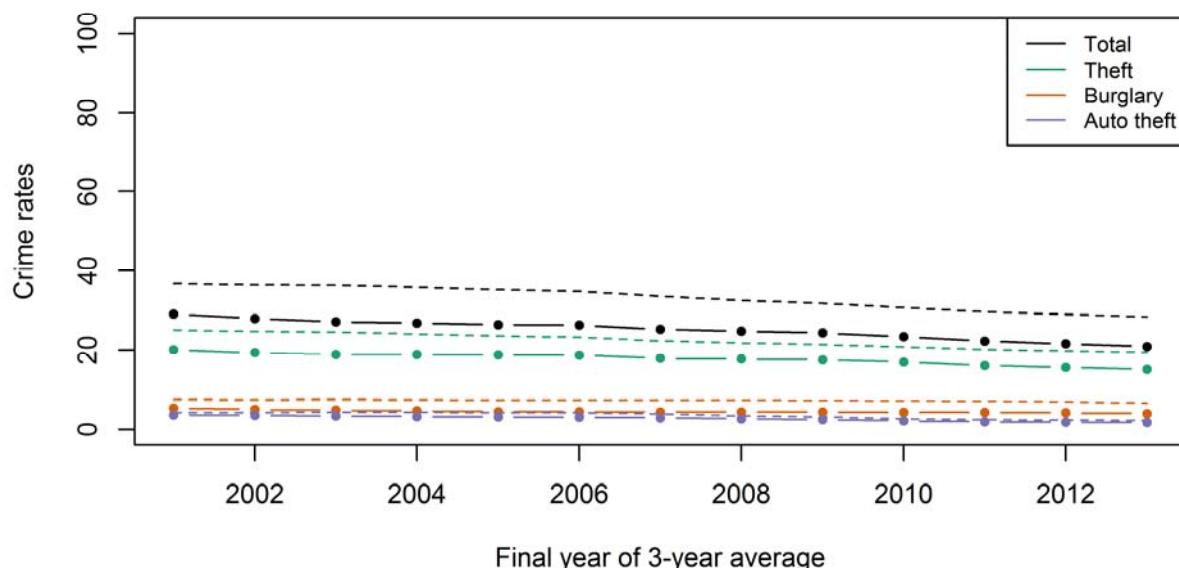




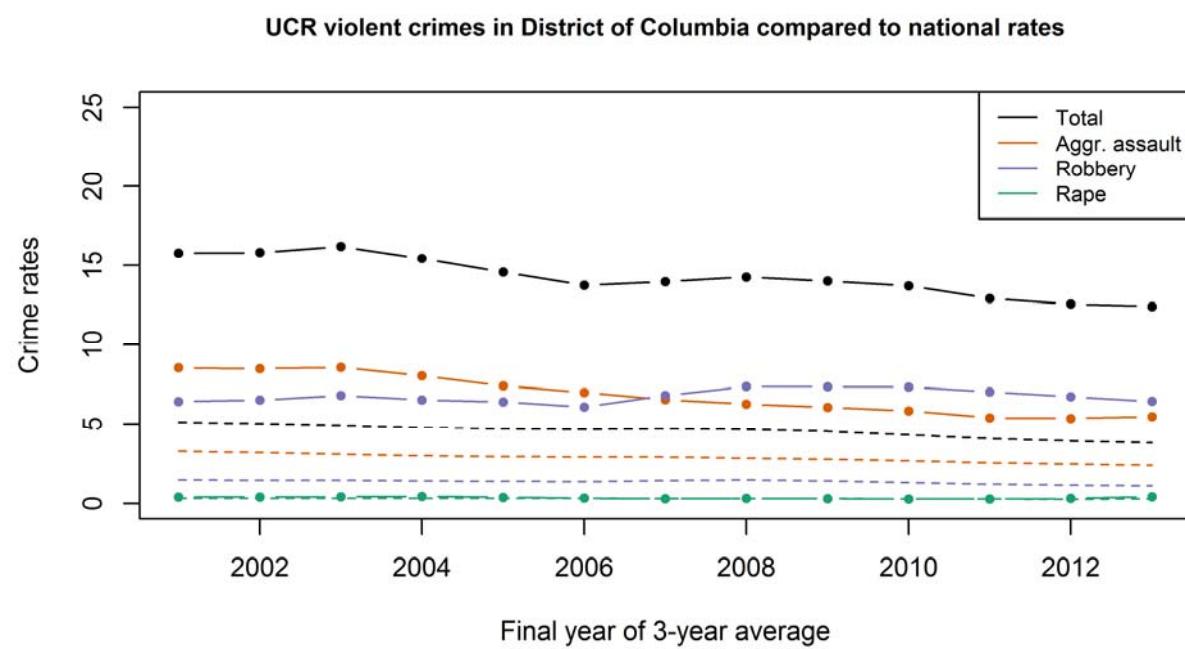
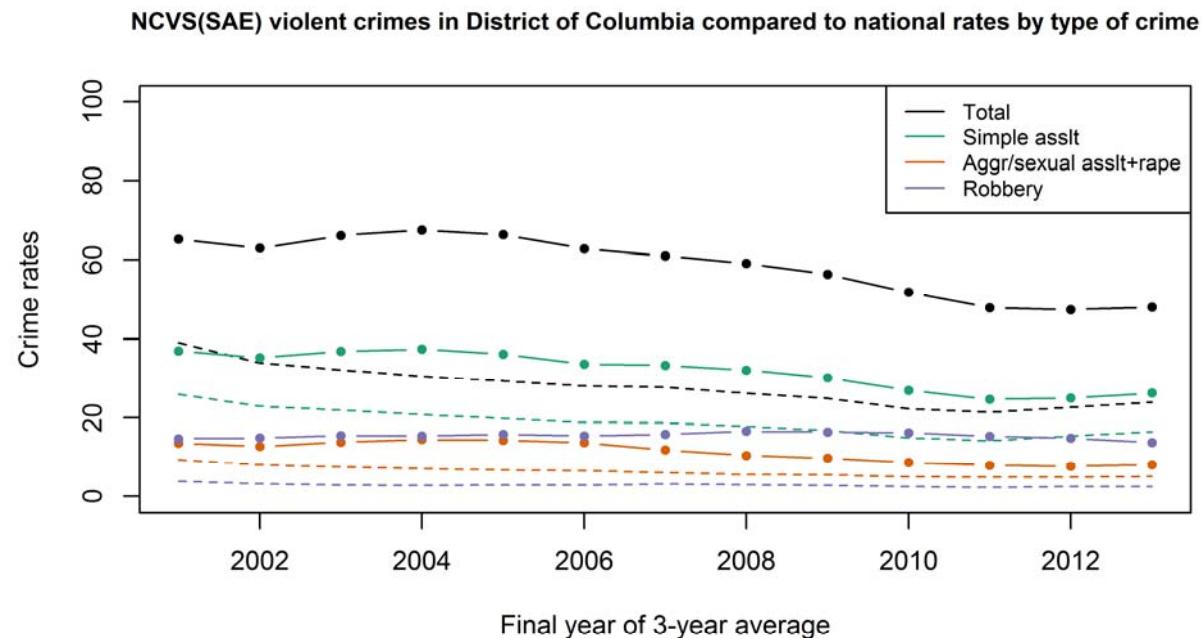
Connecticut

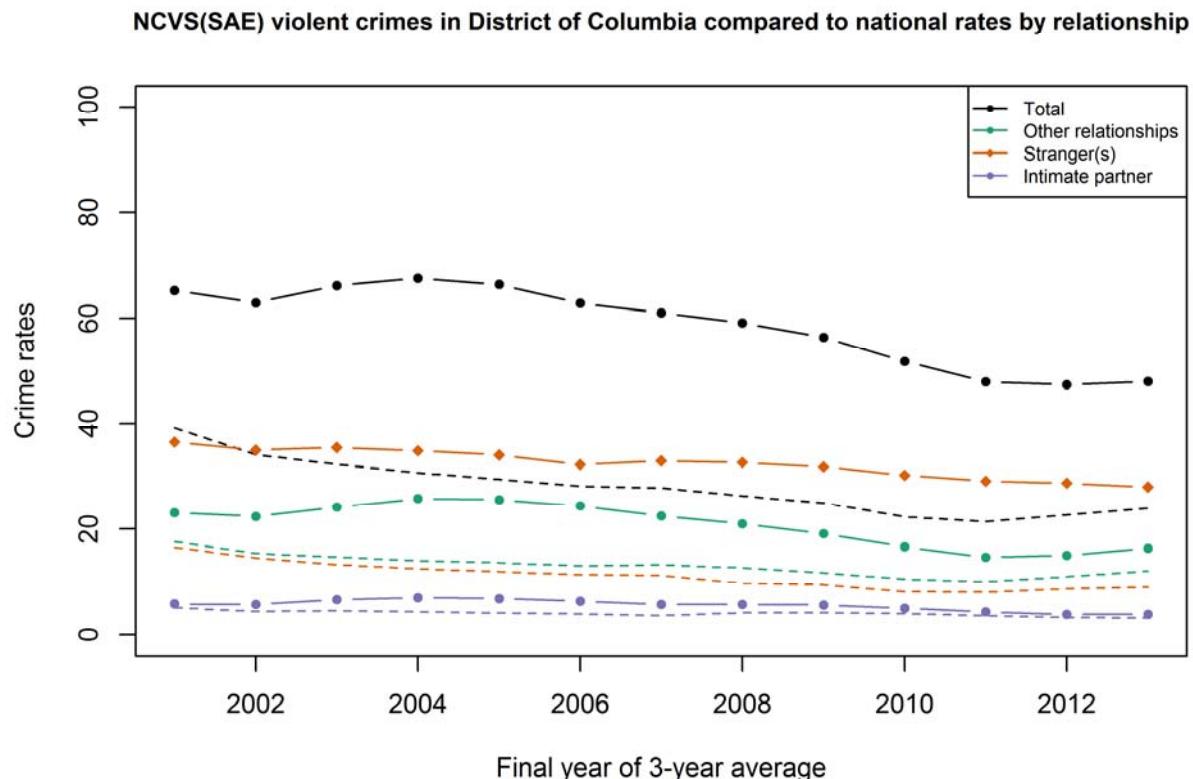
NCVS(SAE) violent crimes in Connecticut compared to national rates by type of crime**UCR violent crimes in Connecticut compared to national rates**

NCVS(SAE) violent crimes in Connecticut compared to national rates by relationship

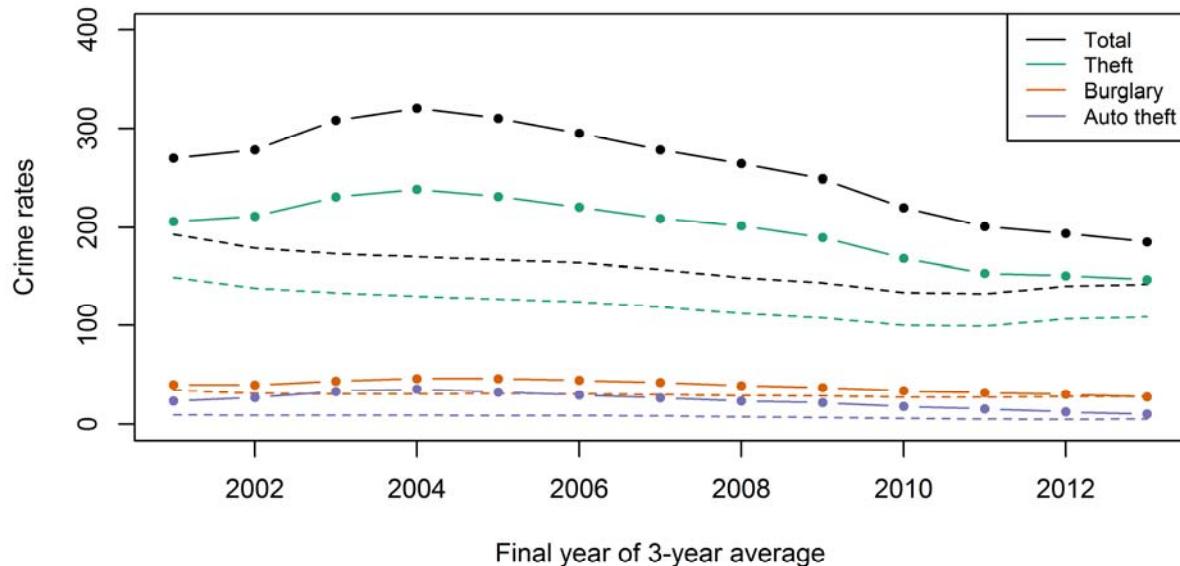
NCVS(SAE) property crimes in Connecticut compared to national rates (dotted lines)**UCR property crimes in Connecticut compared to national rates**

Washington DC

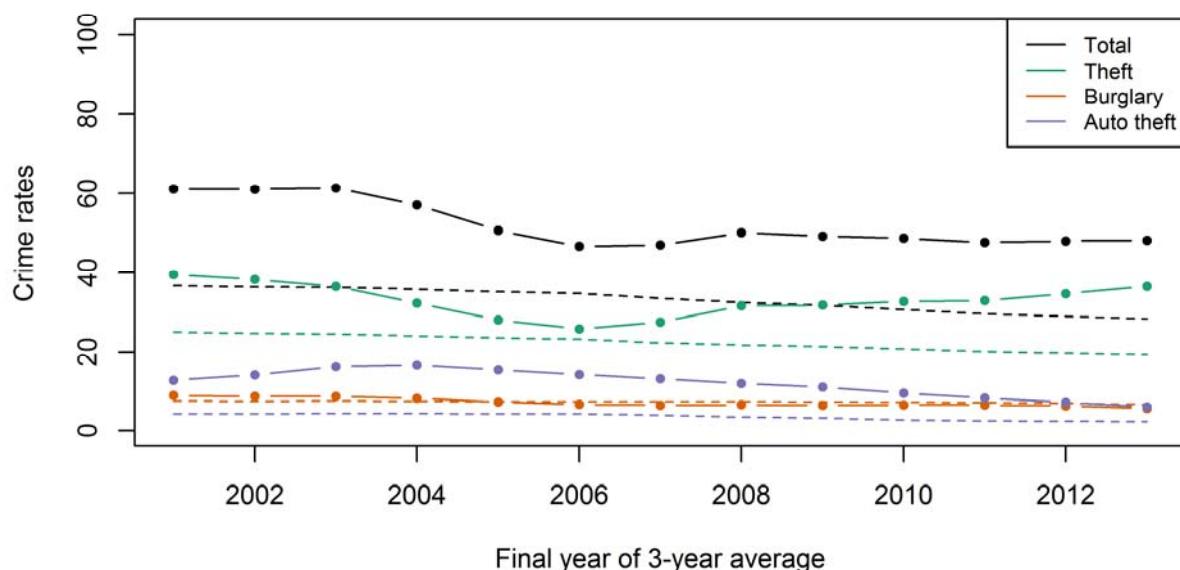


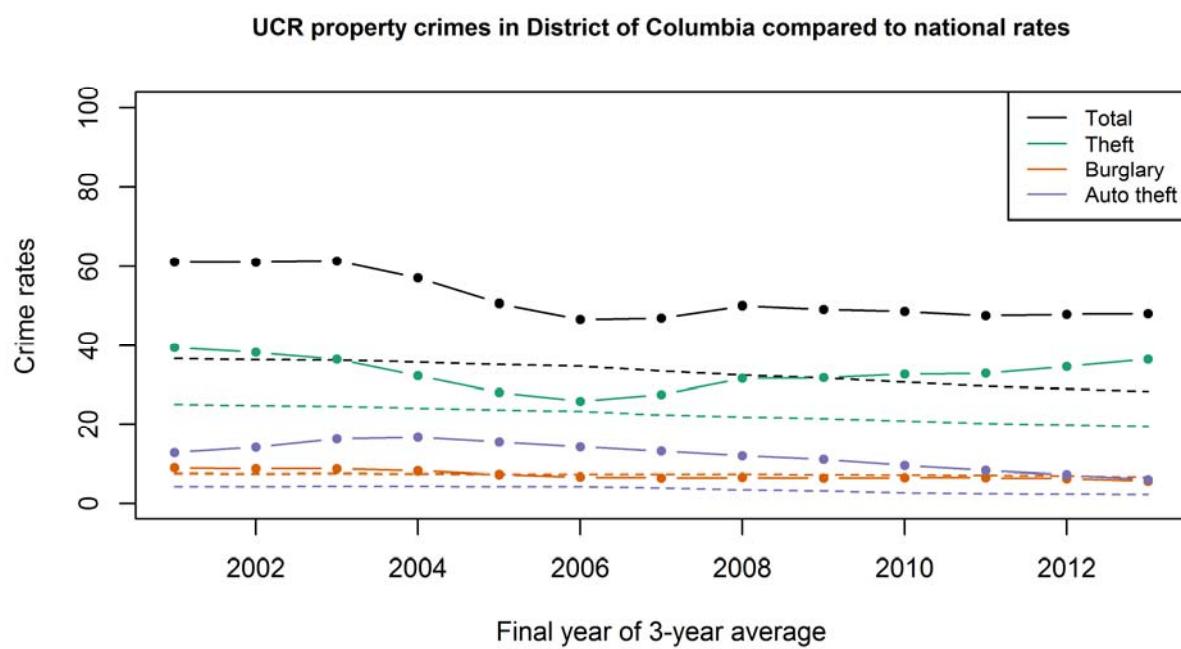
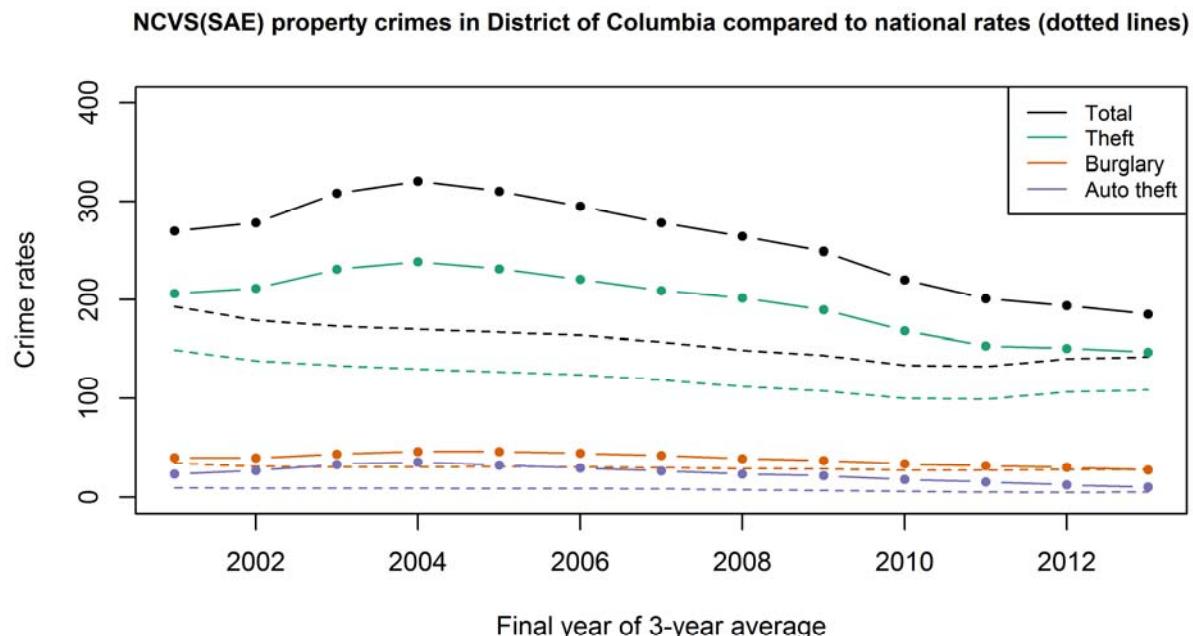


NCVS(SAE) property crimes in District of Columbia compared to national rates (dotted lines)

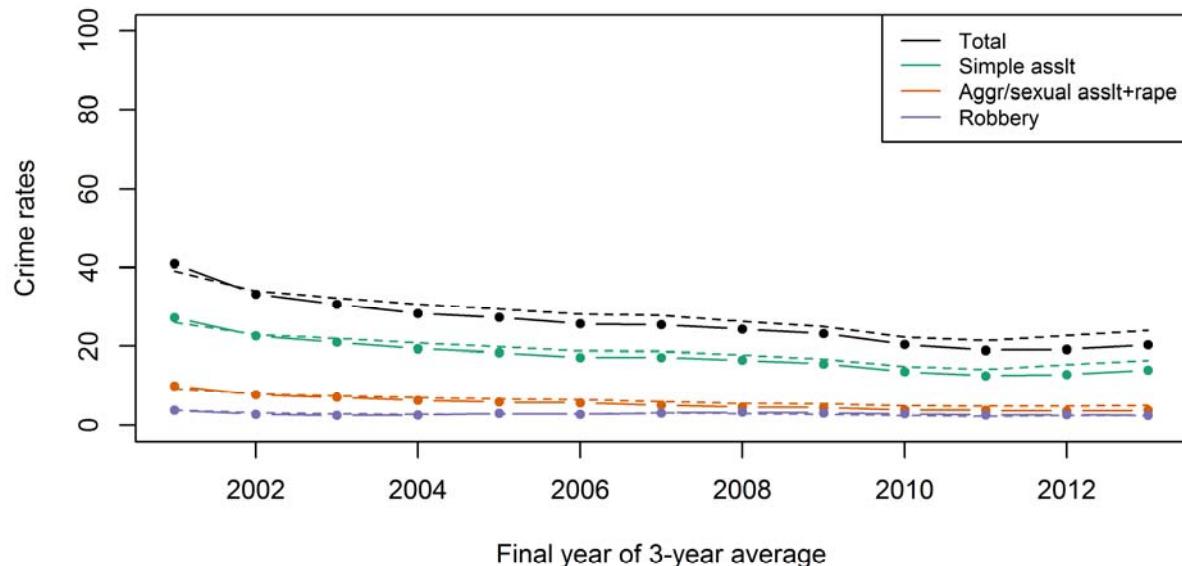
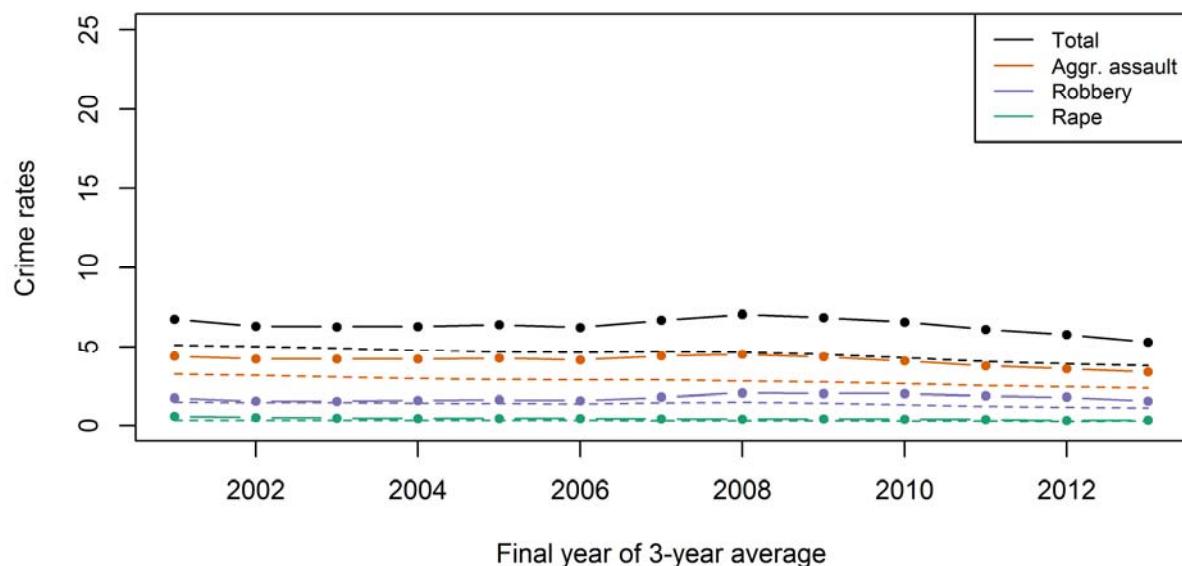


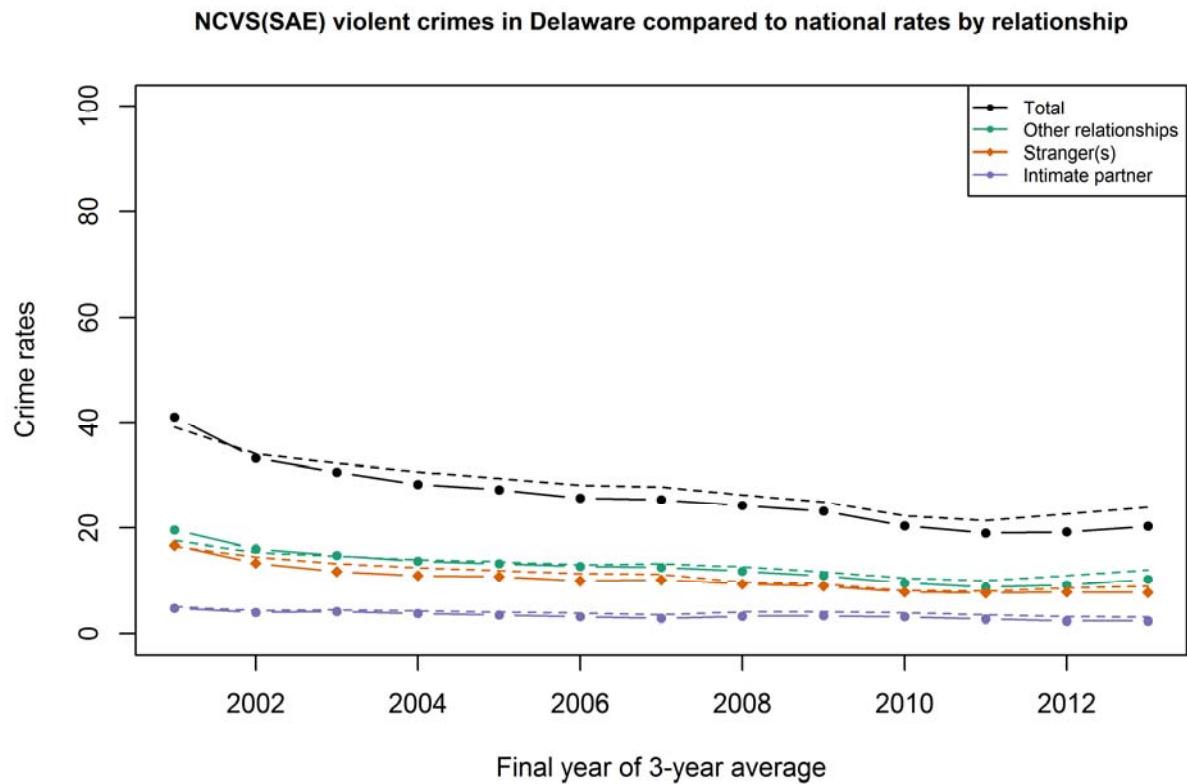
UCR property crimes in District of Columbia compared to national rates

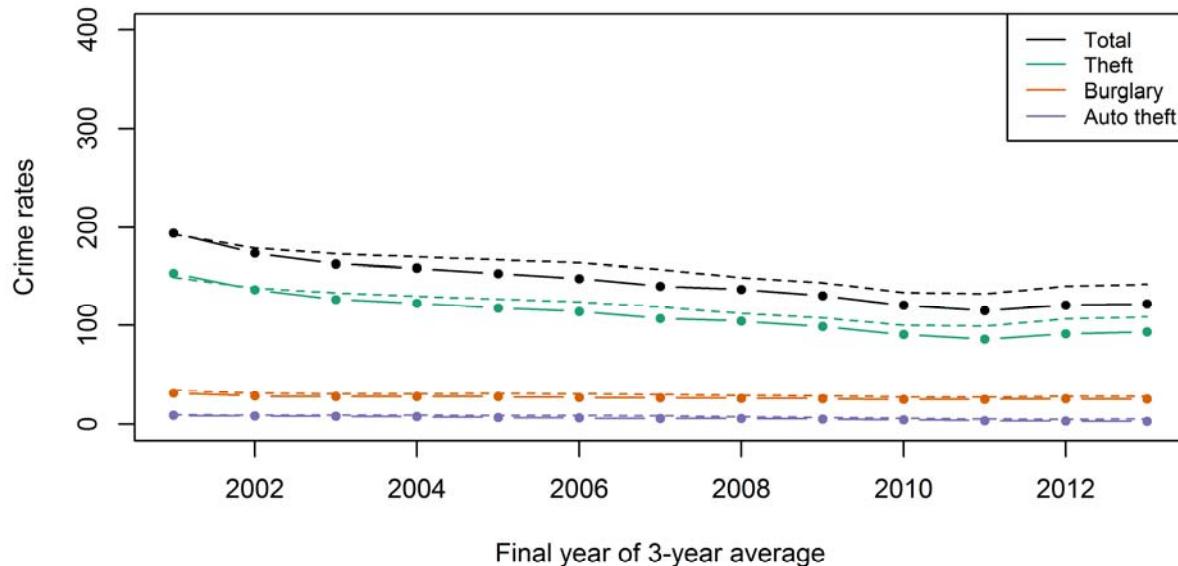
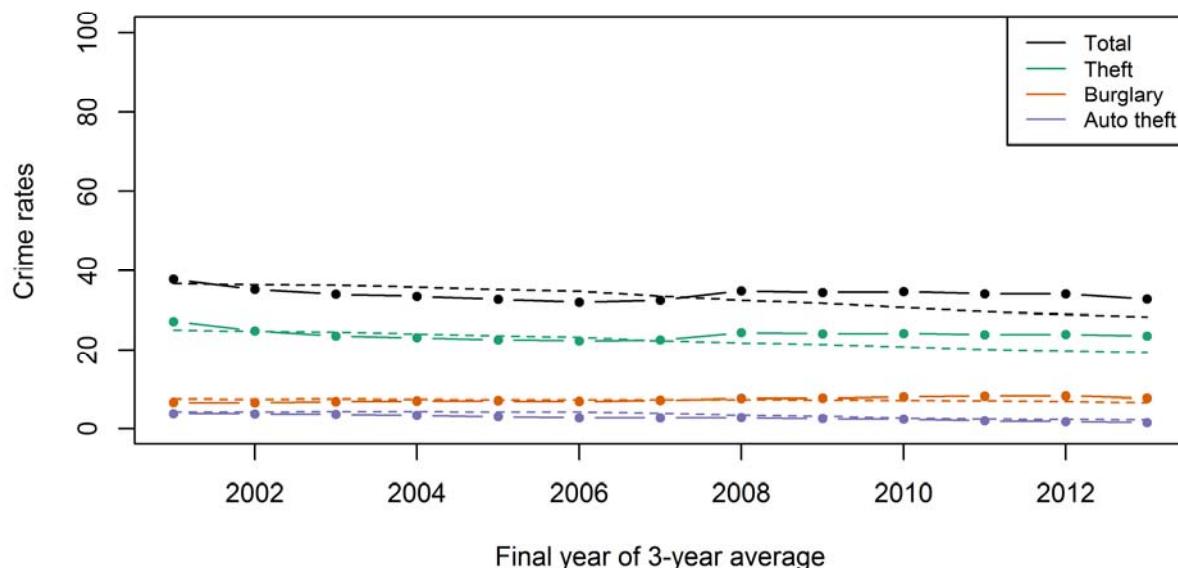




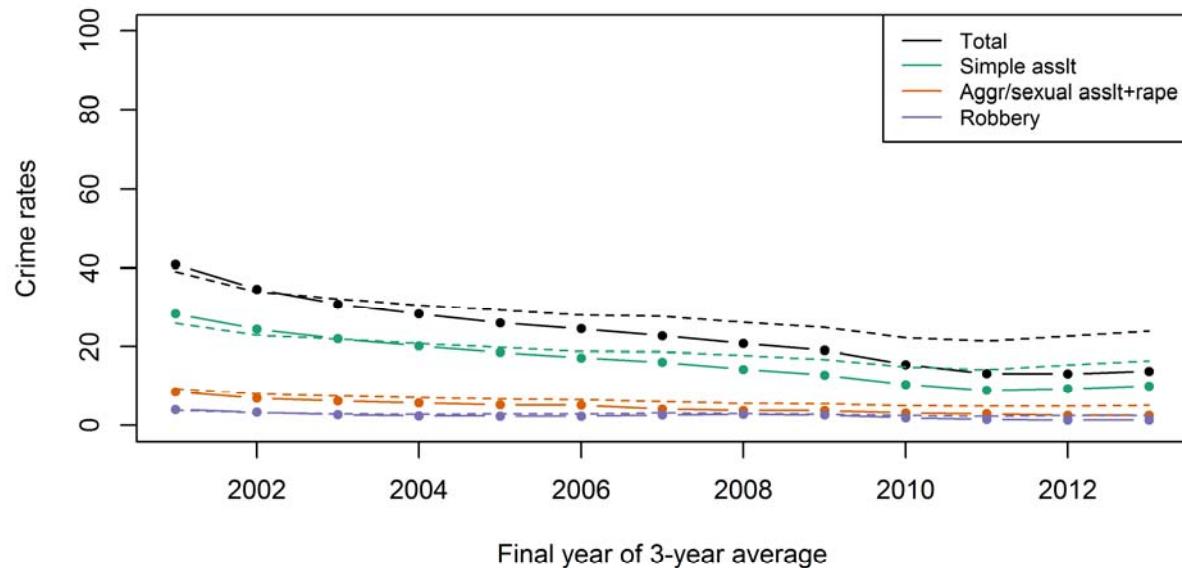
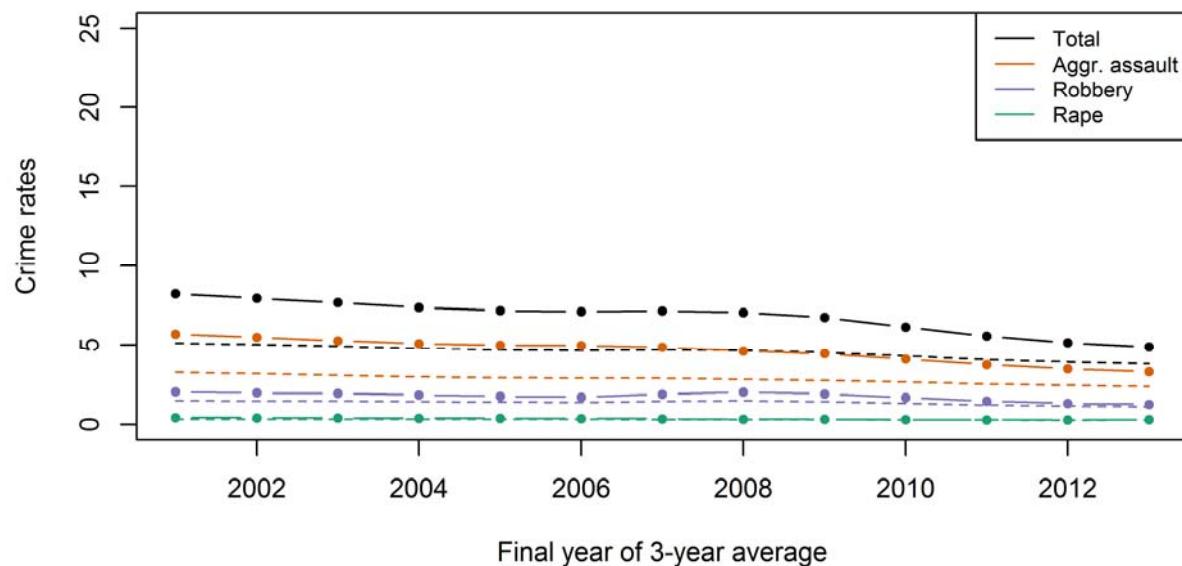
Delaware

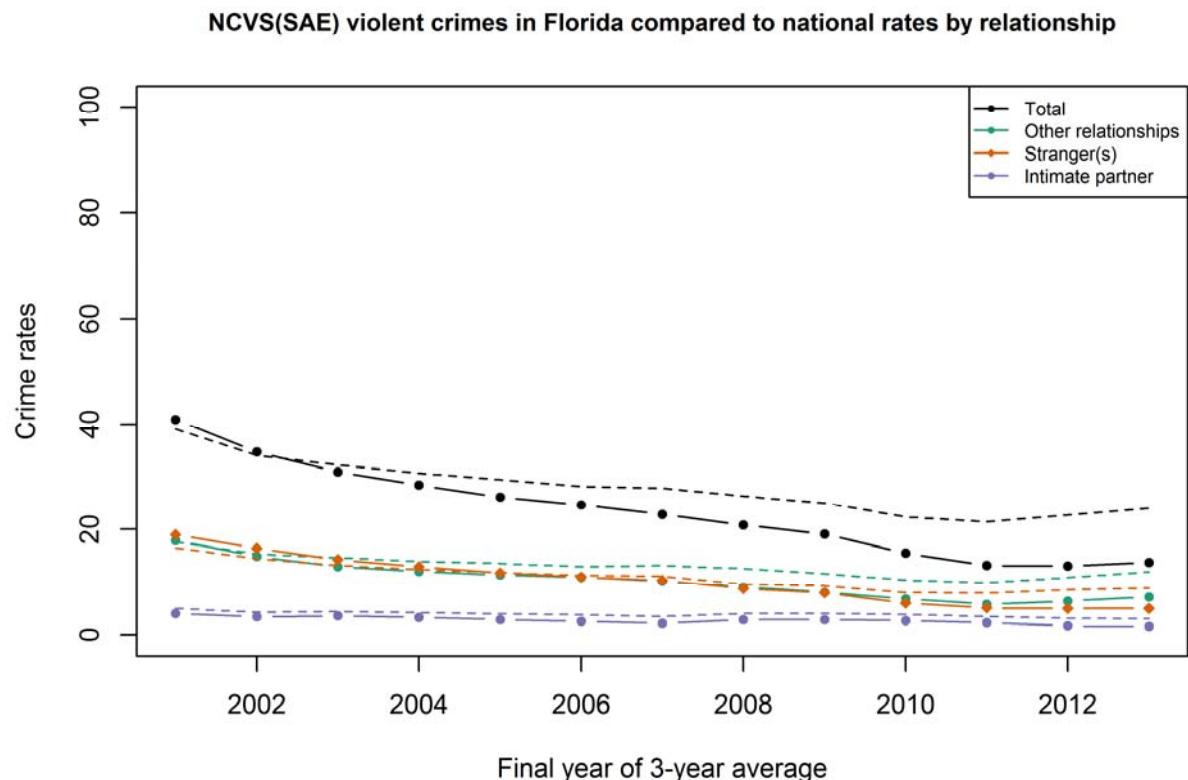
NCVS(SAE) violent crimes in Delaware compared to national rates by type of crime**UCR violent crimes in Delaware compared to national rates**

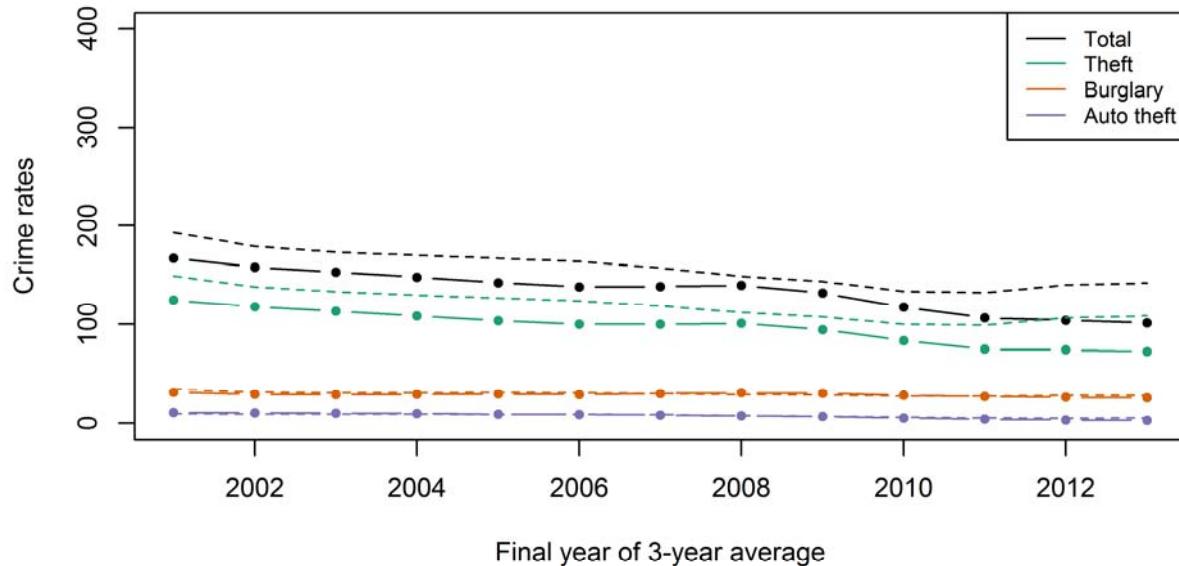
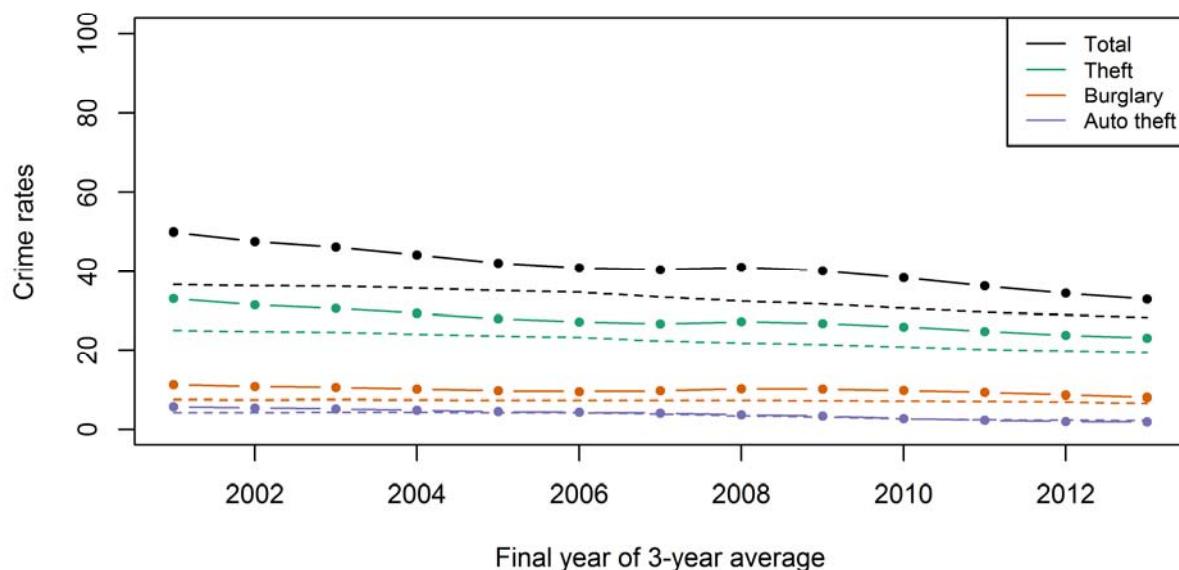


NCVS(SAE) property crimes in Delaware compared to national rates (dotted lines)**UCR property crimes in Delaware compared to national rates**

Florida

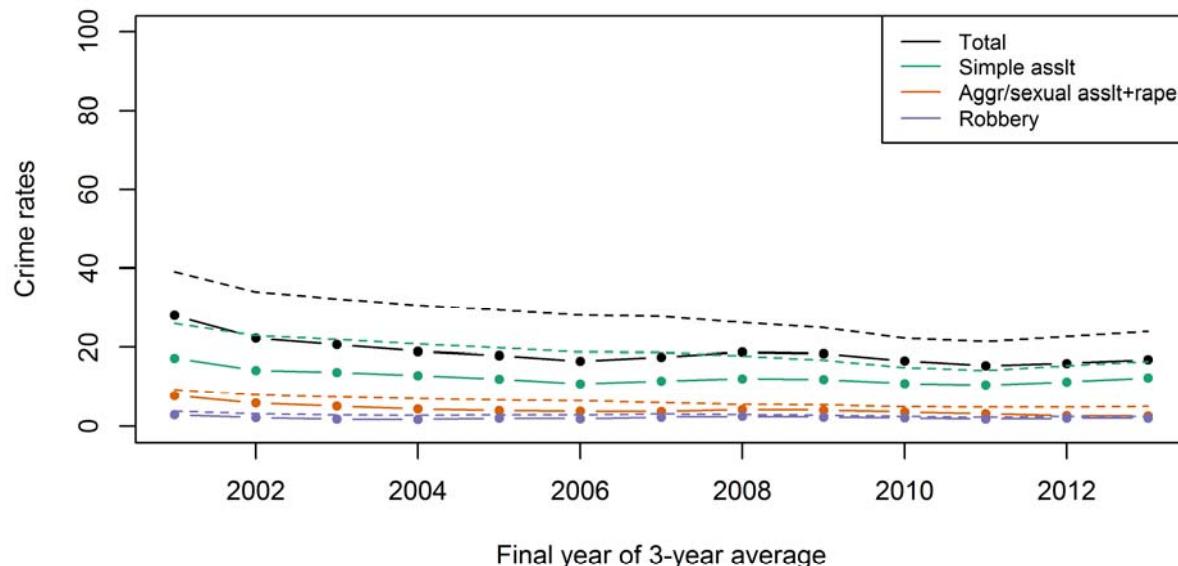
NCVS(SAE) violent crimes in Florida compared to national rates by type of crime**UCR violent crimes in Florida compared to national rates**



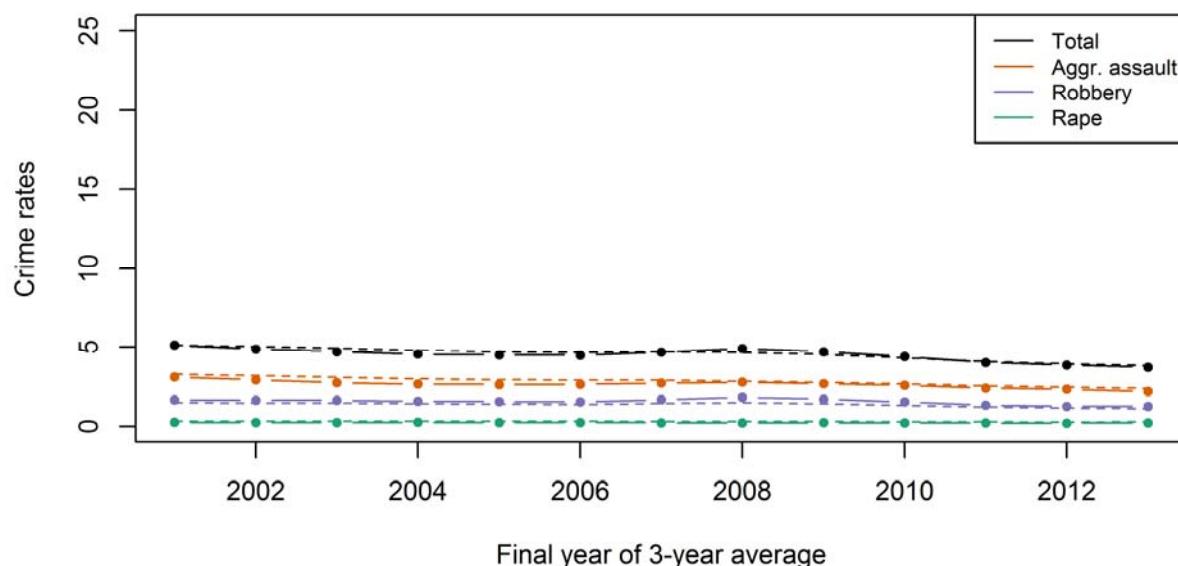
NCVS(SAE) property crimes in Florida compared to national rates (dotted lines)

UCR property crimes in Florida compared to national rates


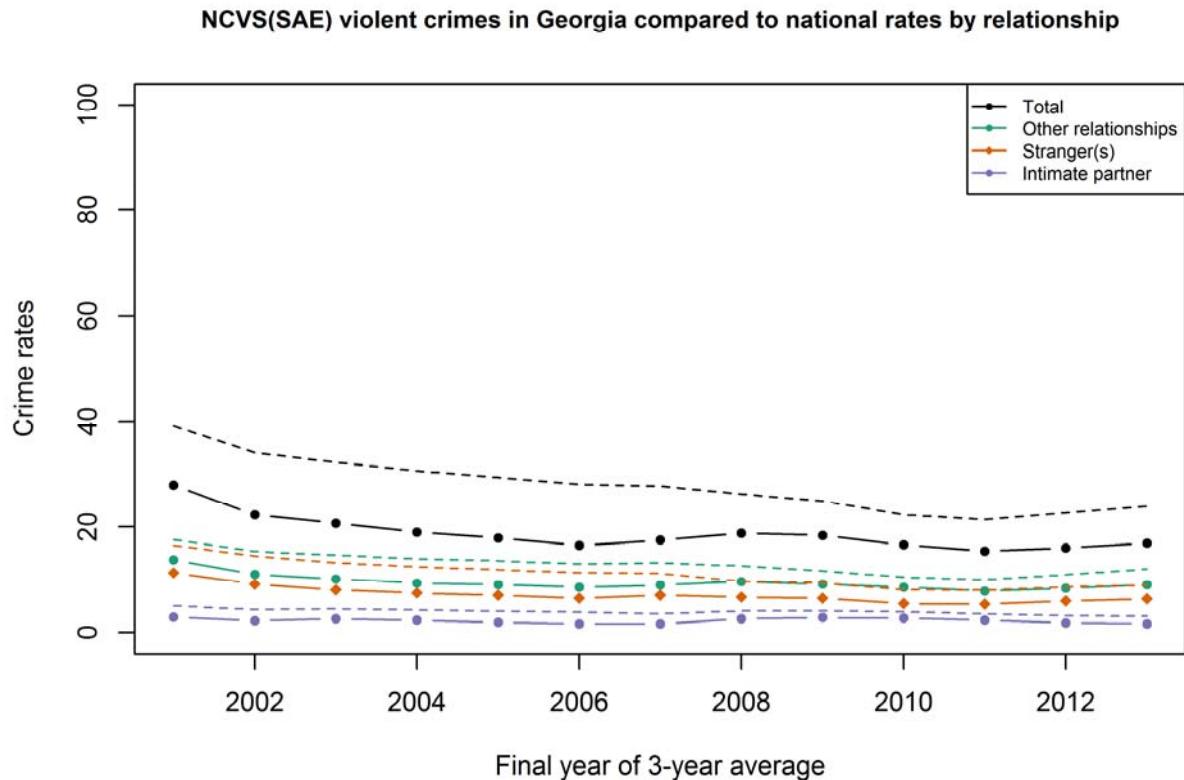
Georgia

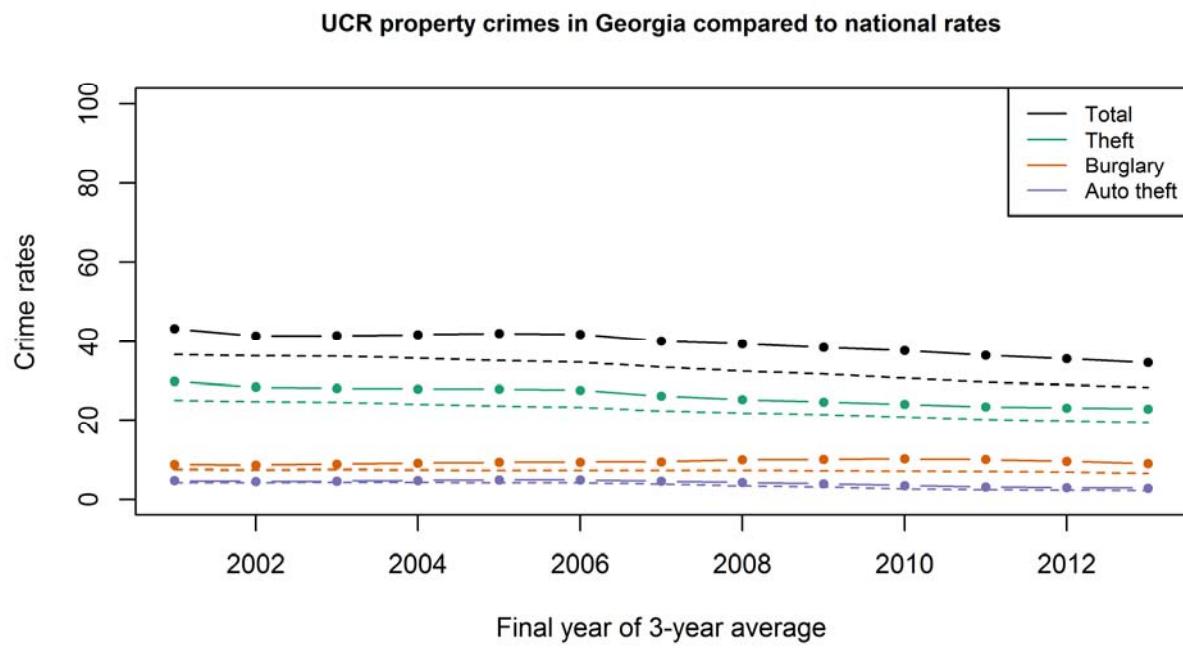
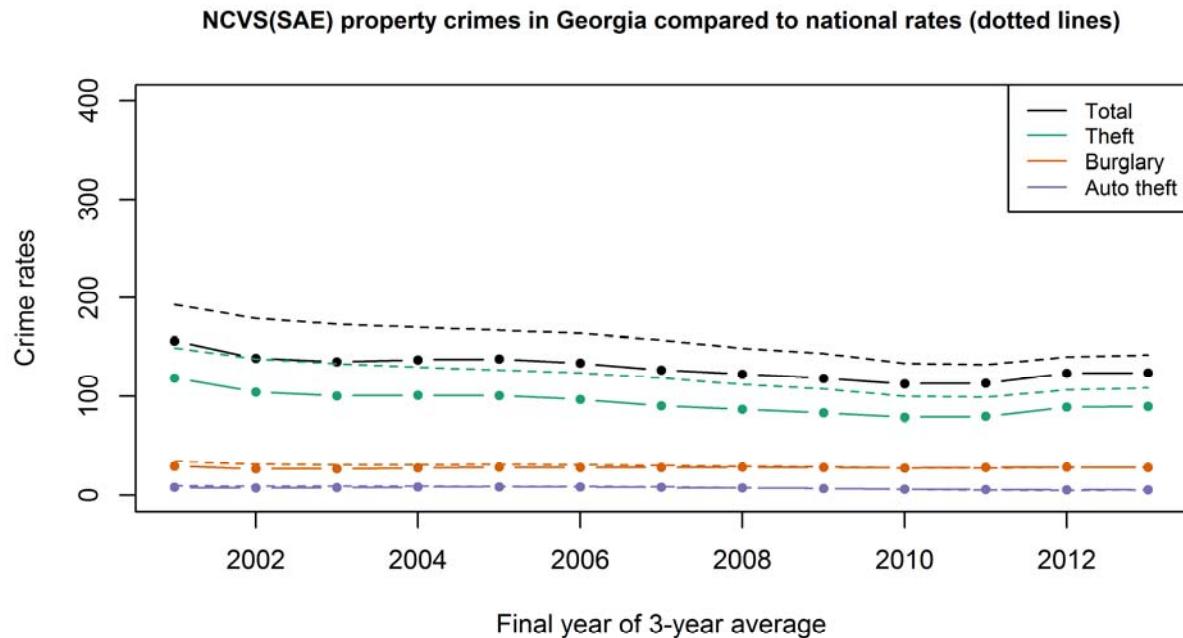
NCVS(SAE) violent crimes in Georgia compared to national rates by type of crime



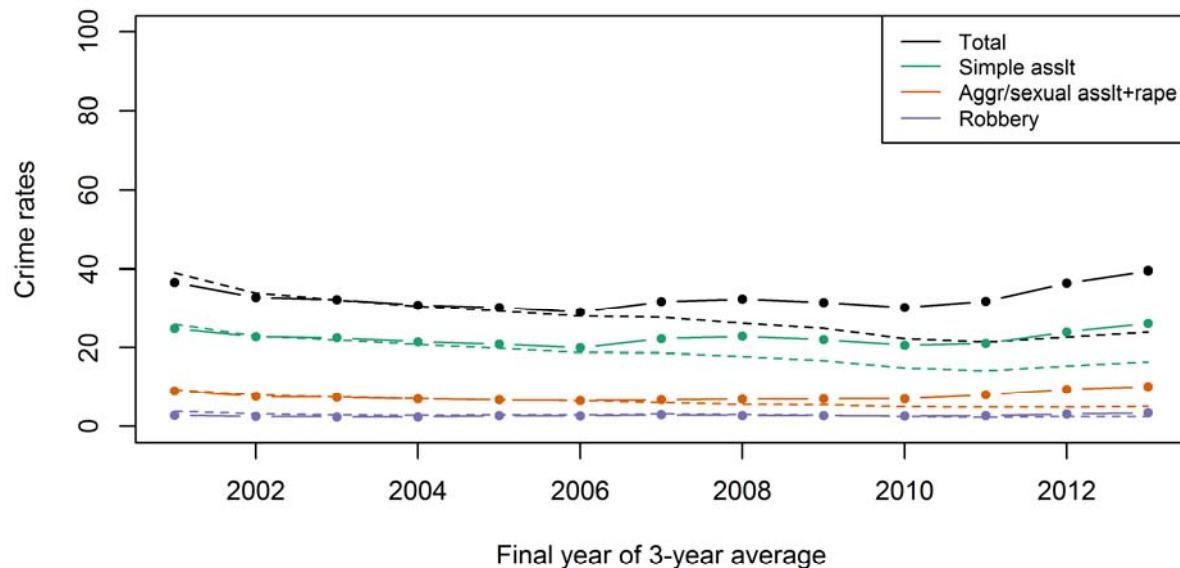
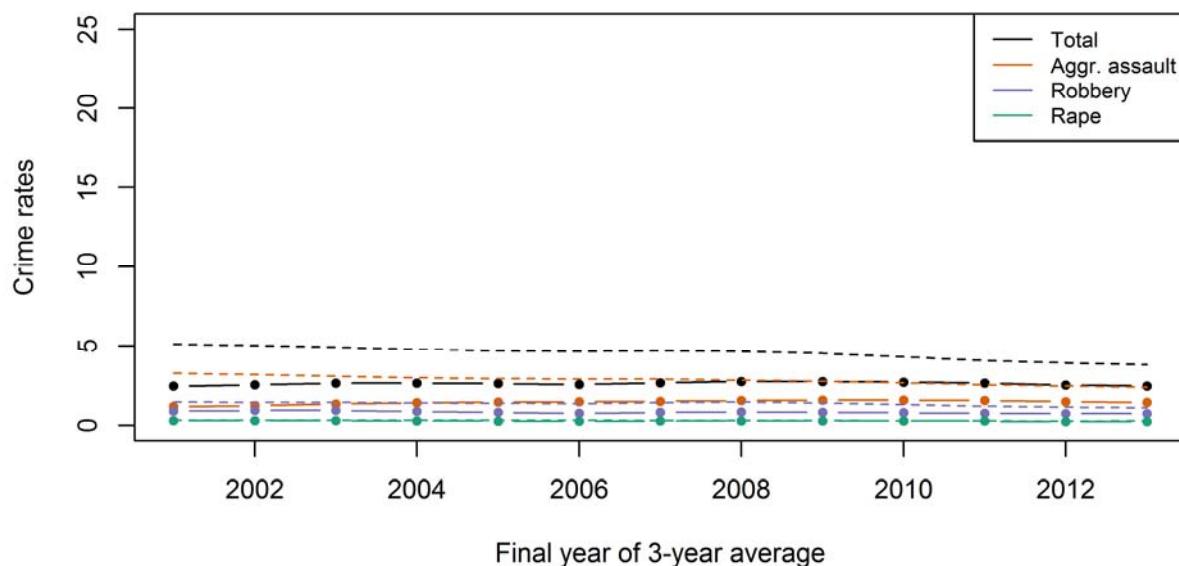
UCR violent crimes in Georgia compared to national rates

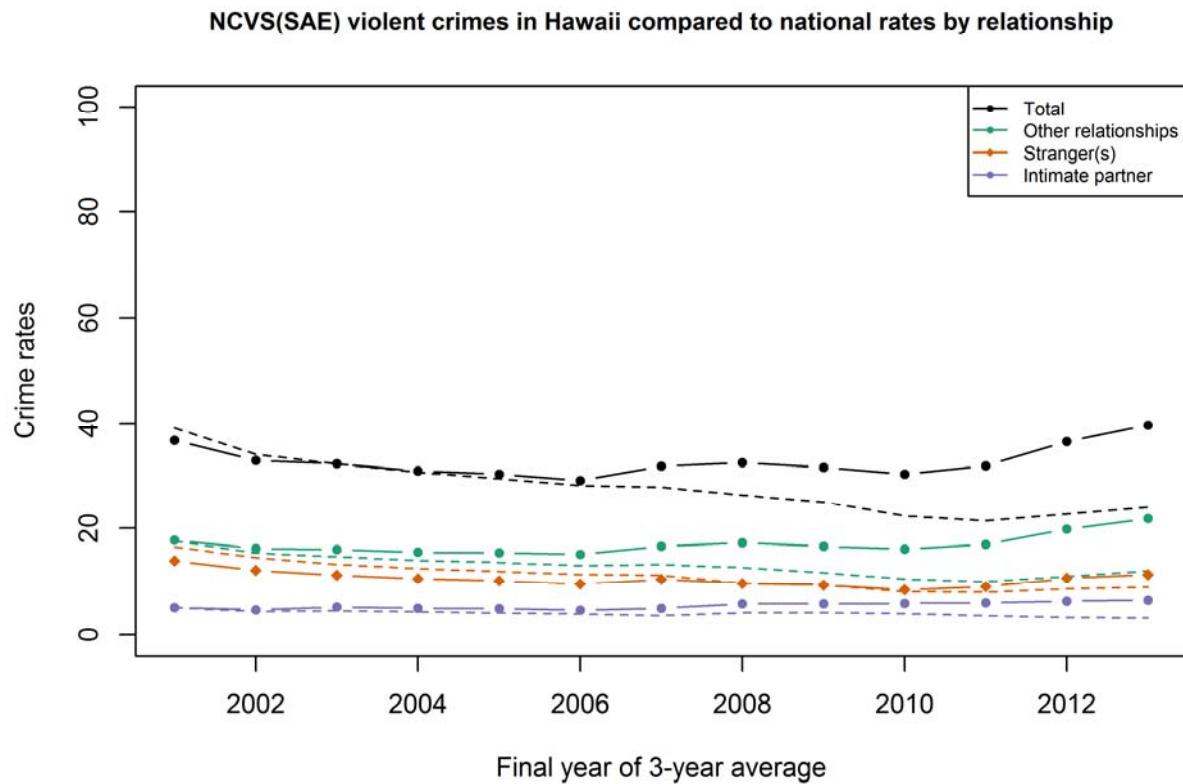


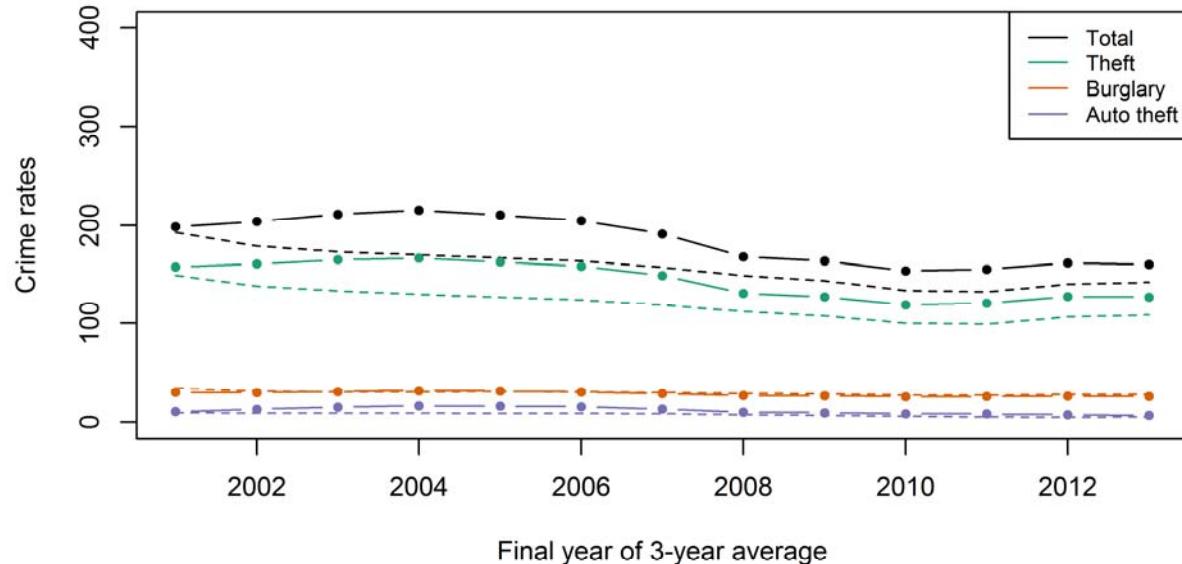
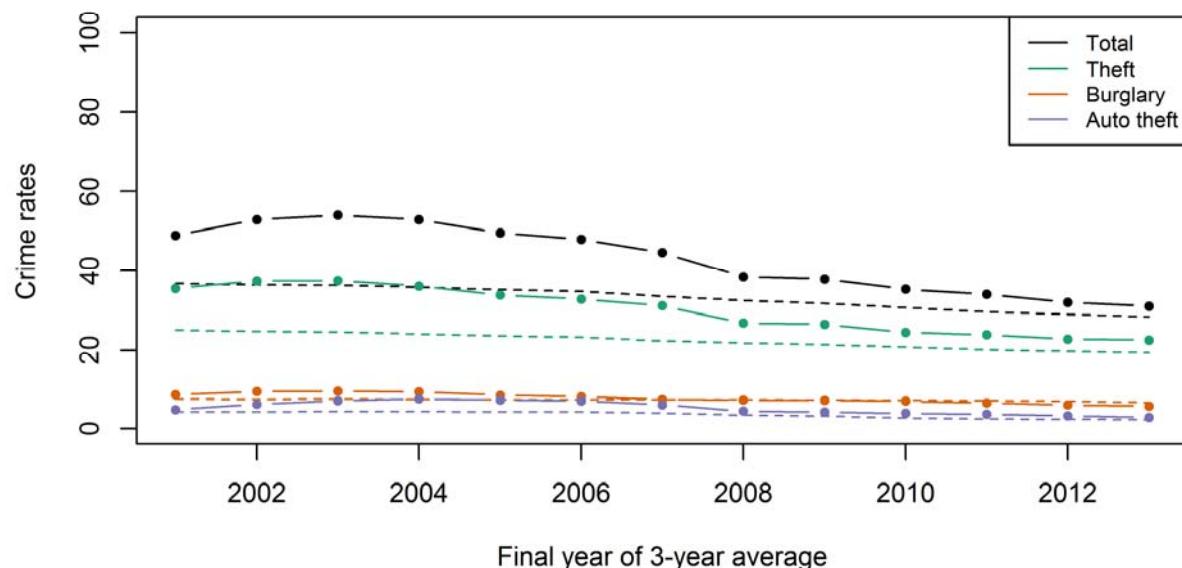




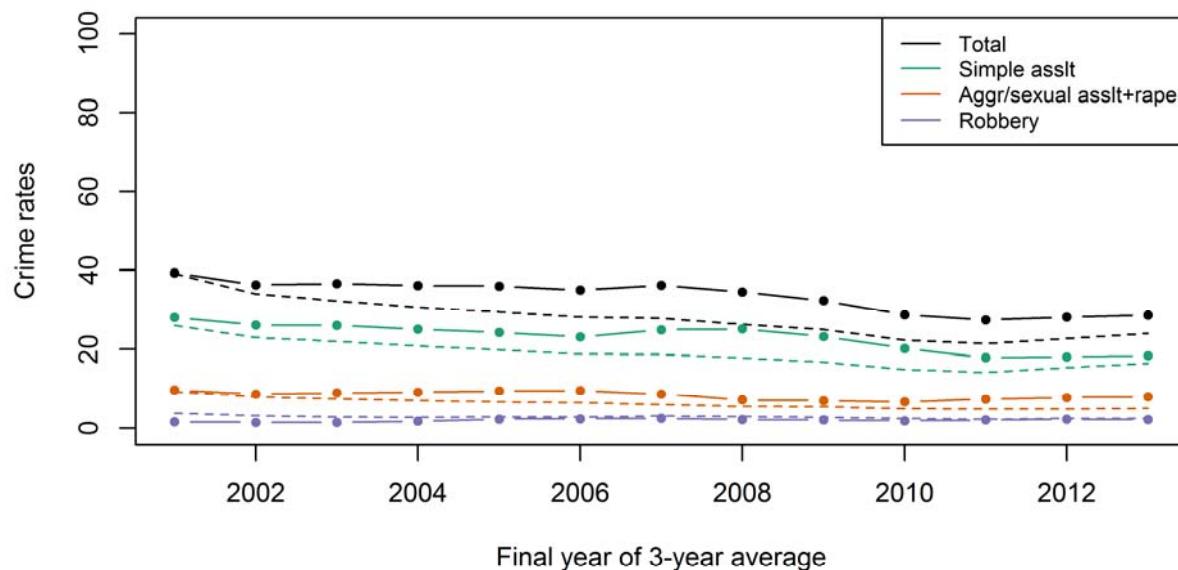
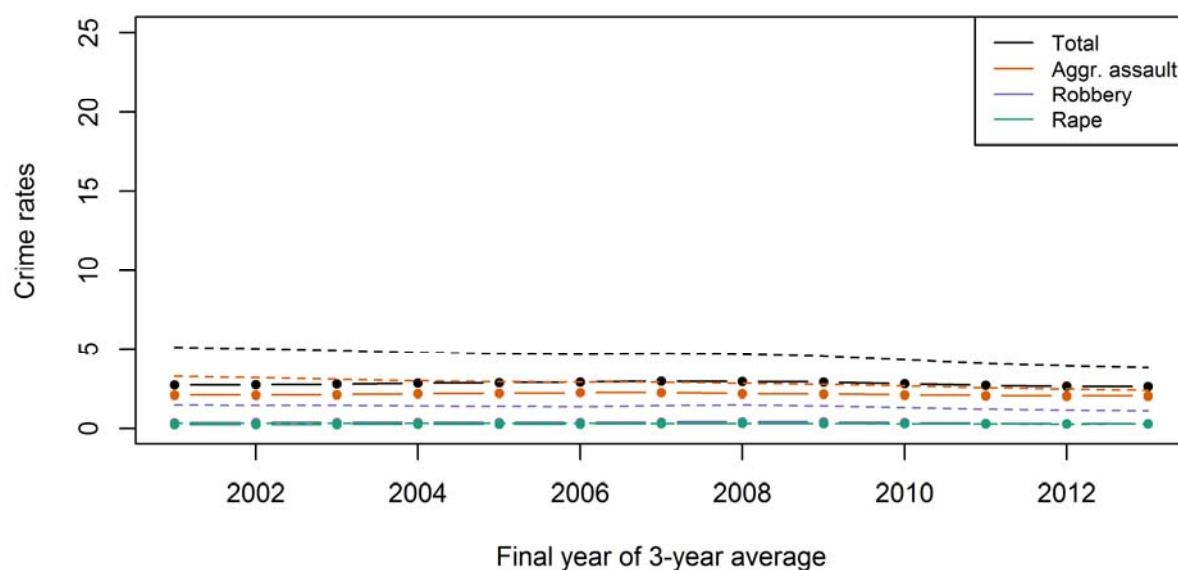
Hawaii

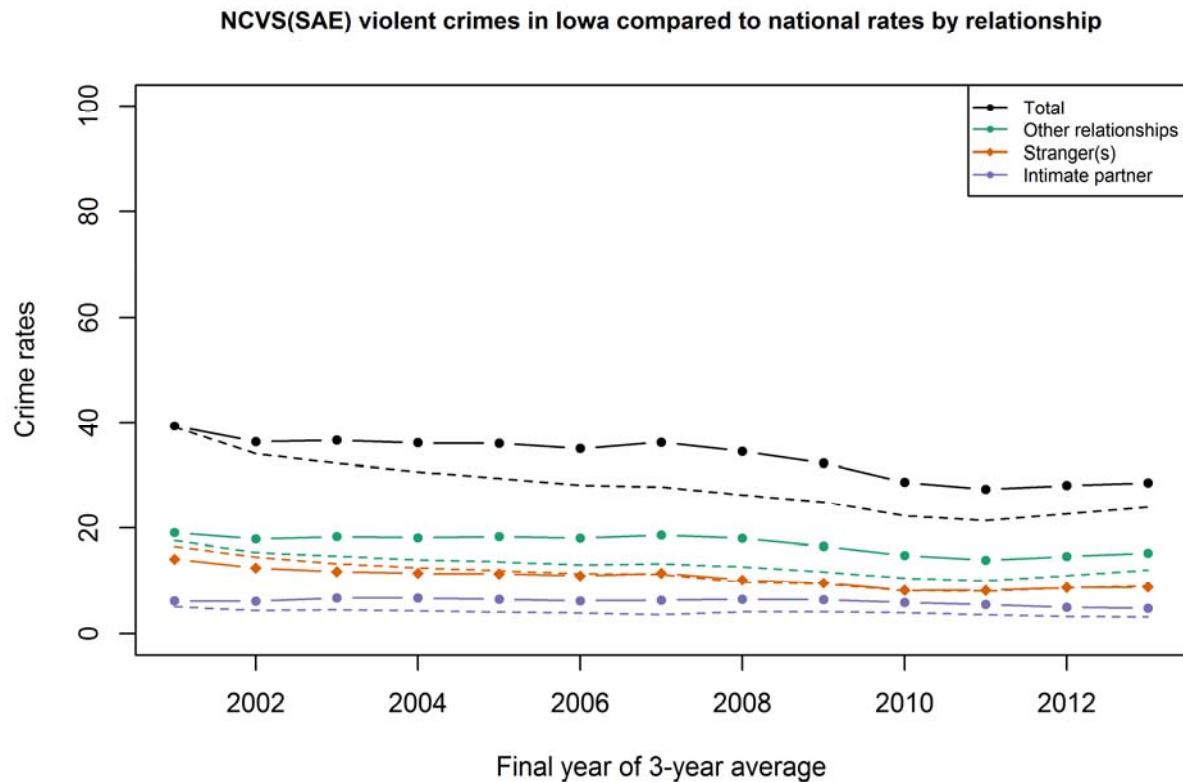
NCVS(SAE) violent crimes in Hawaii compared to national rates by type of crime**UCR violent crimes in Hawaii compared to national rates**

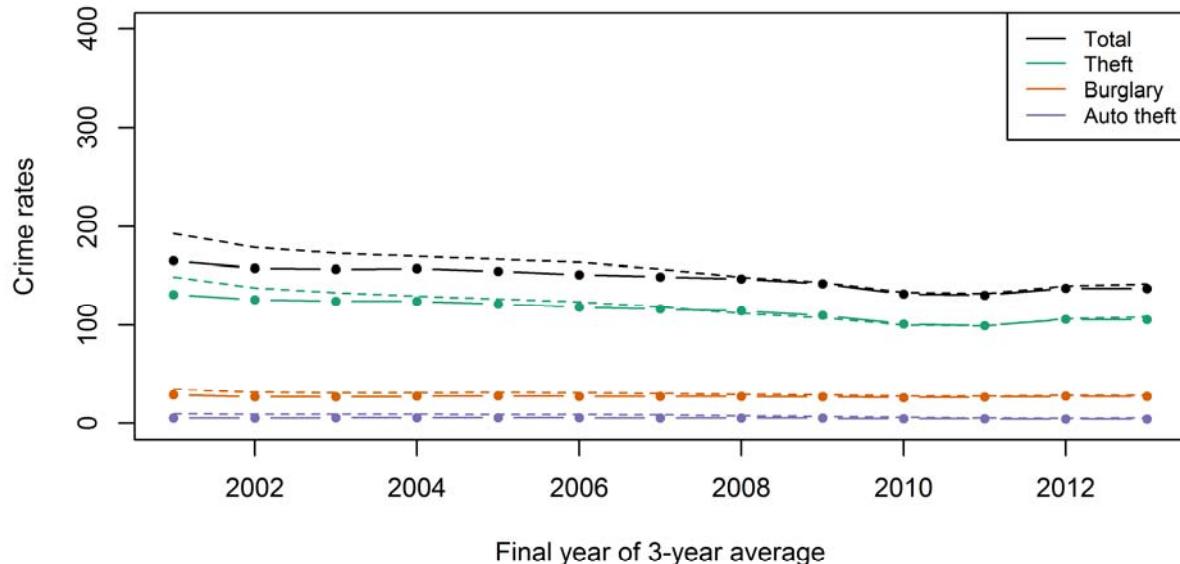
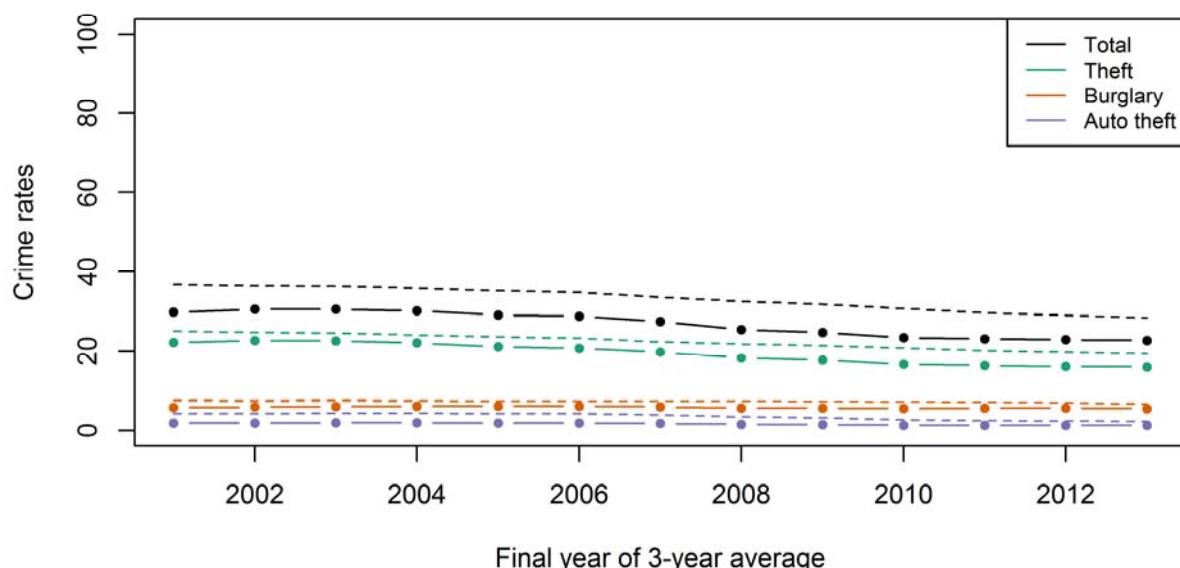


NCVS(SAE) property crimes in Hawaii compared to national rates (dotted lines)**UCR property crimes in Hawaii compared to national rates**

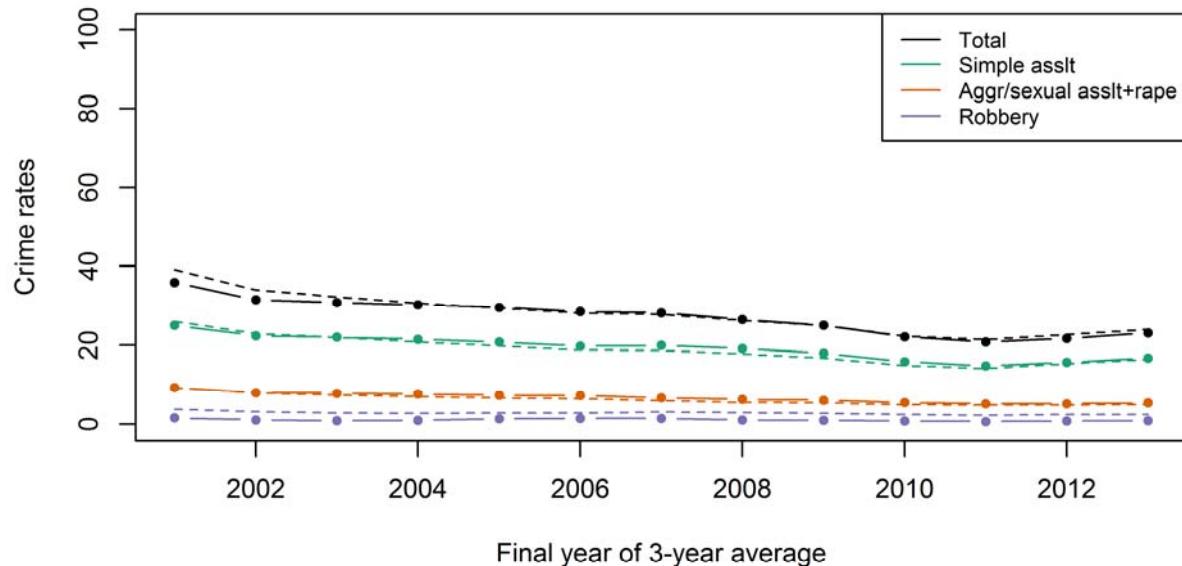
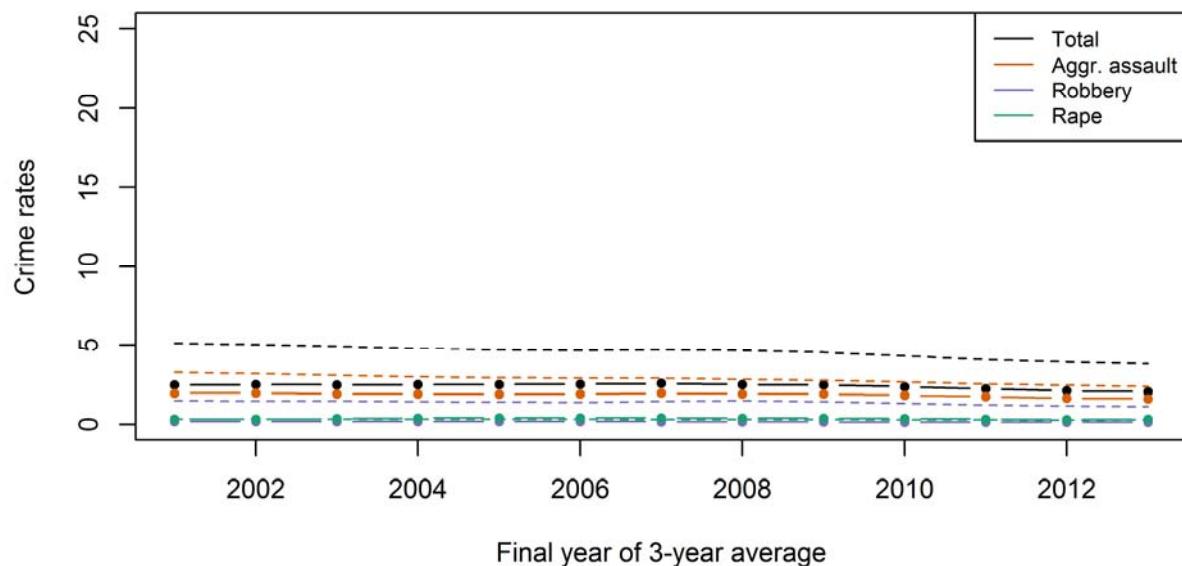
Iowa

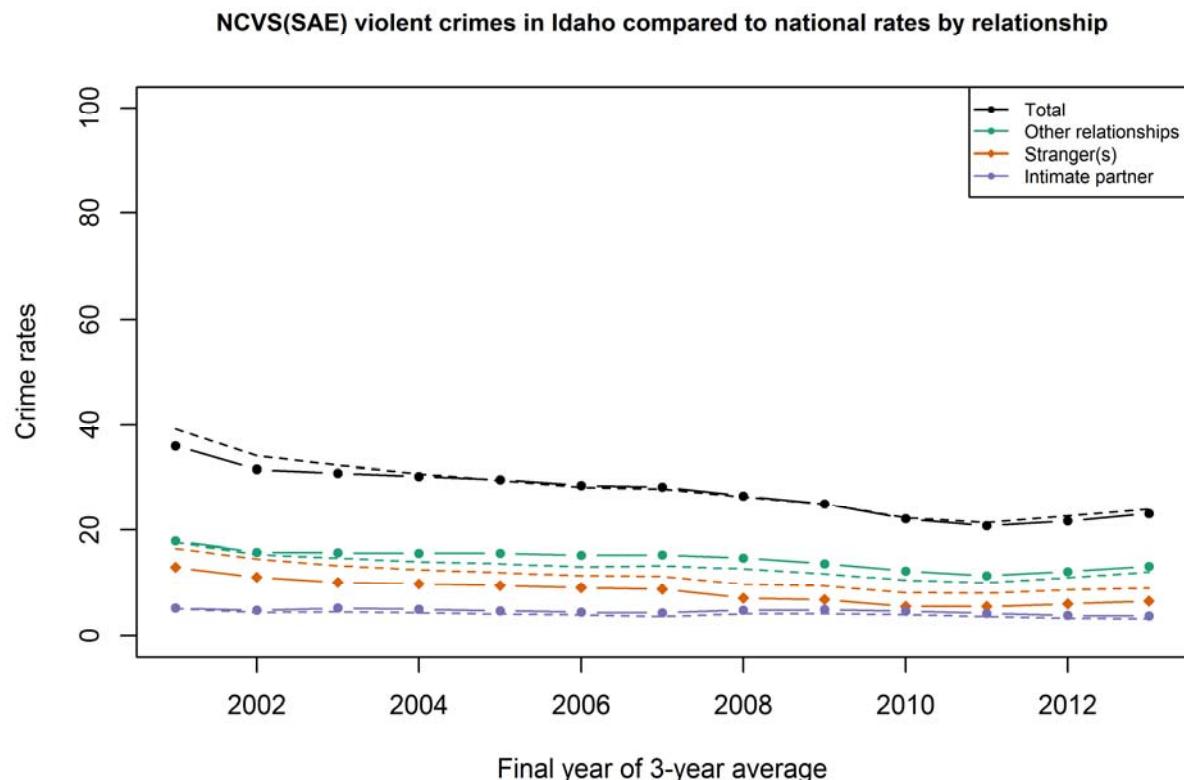
NCVS(SAE) violent crimes in Iowa compared to national rates by type of crime**UCR violent crimes in Iowa compared to national rates**



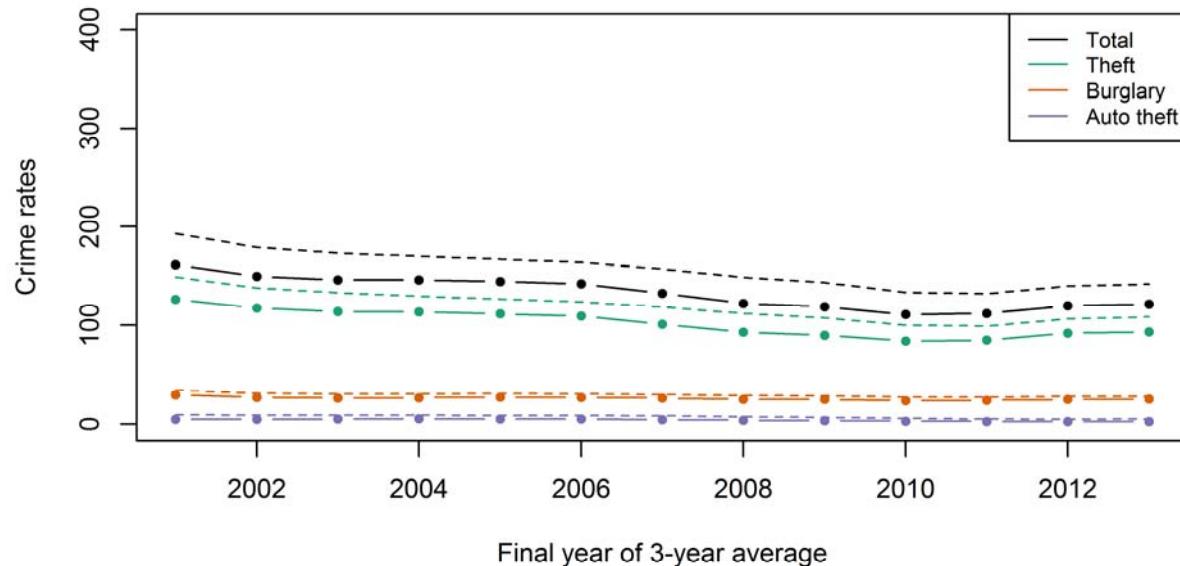
NCVS(SAE) property crimes in Iowa compared to national rates (dotted lines)**UCR property crimes in Iowa compared to national rates**

Idaho

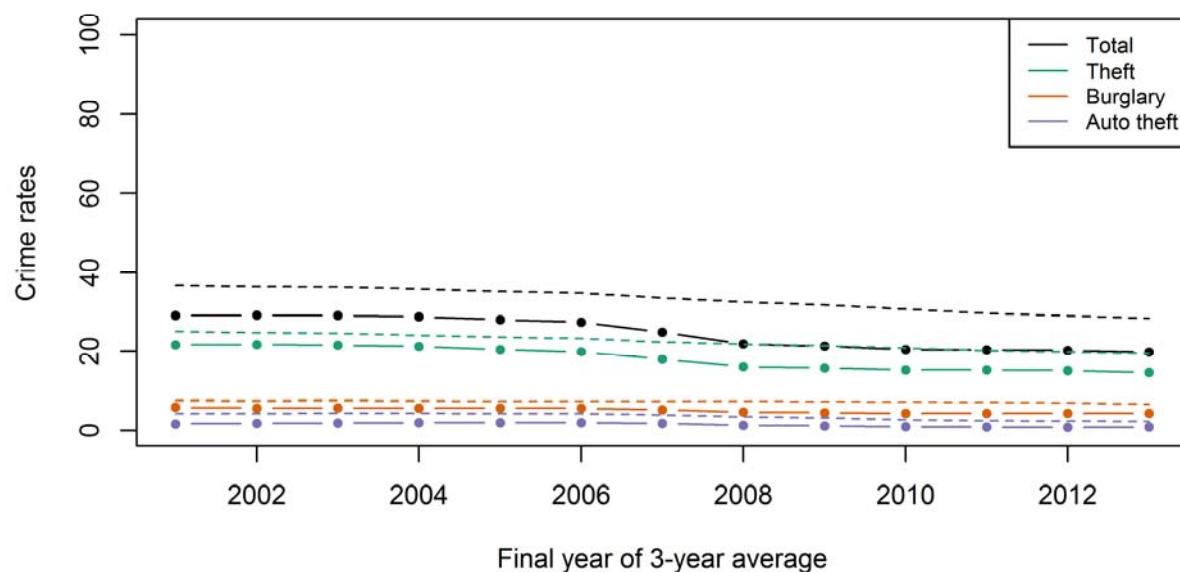
NCVS(SAE) violent crimes in Idaho compared to national rates by type of crime**UCR violent crimes in Idaho compared to national rates**



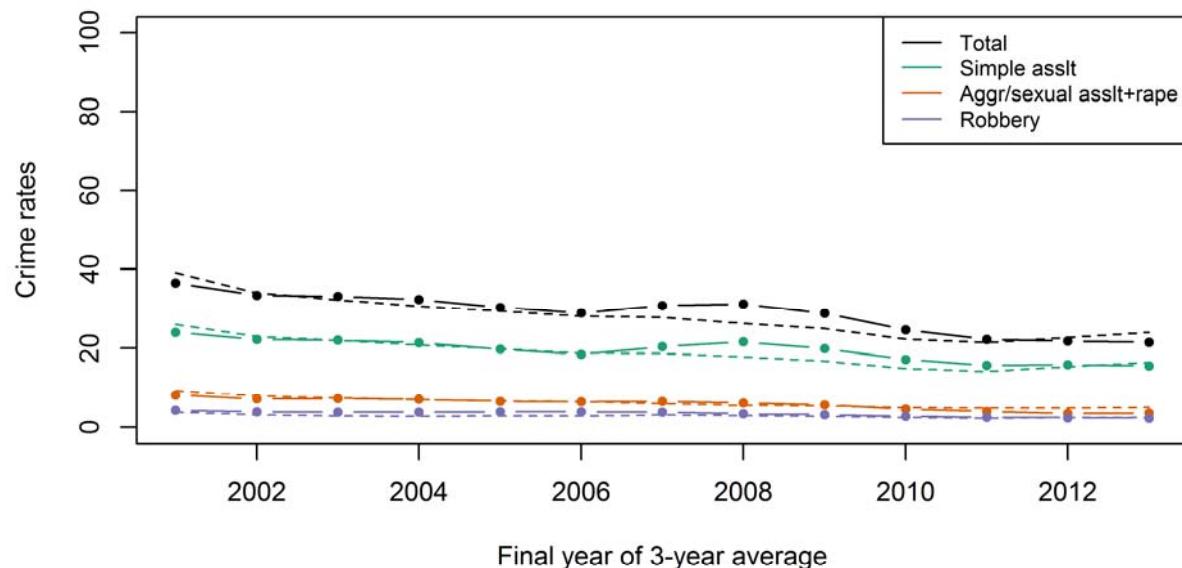
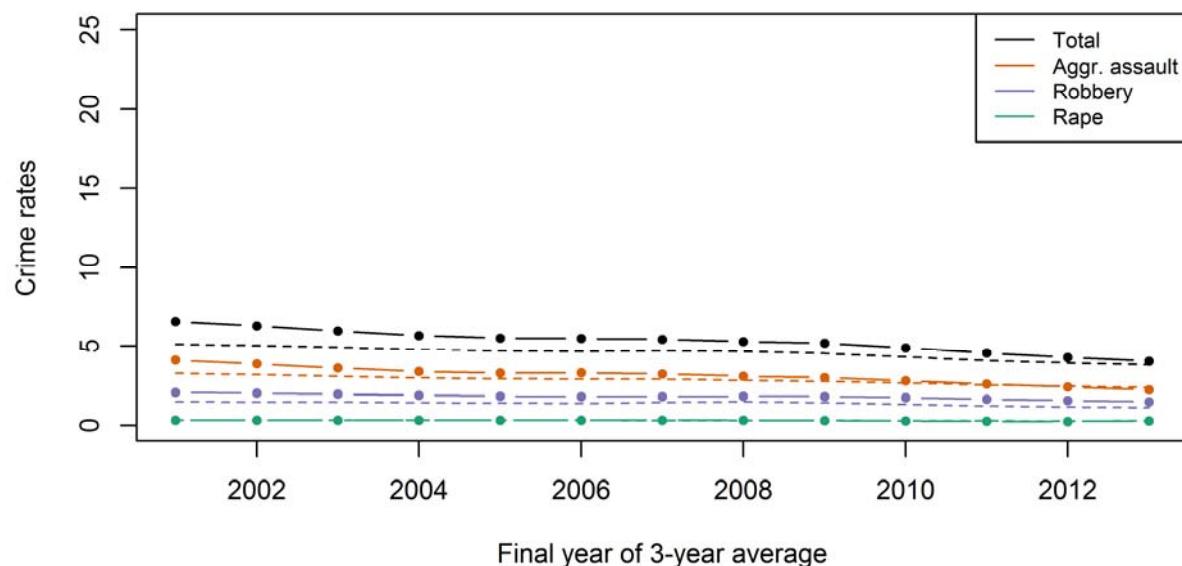
NCVS(SAE) property crimes in Idaho compared to national rates (dotted lines)

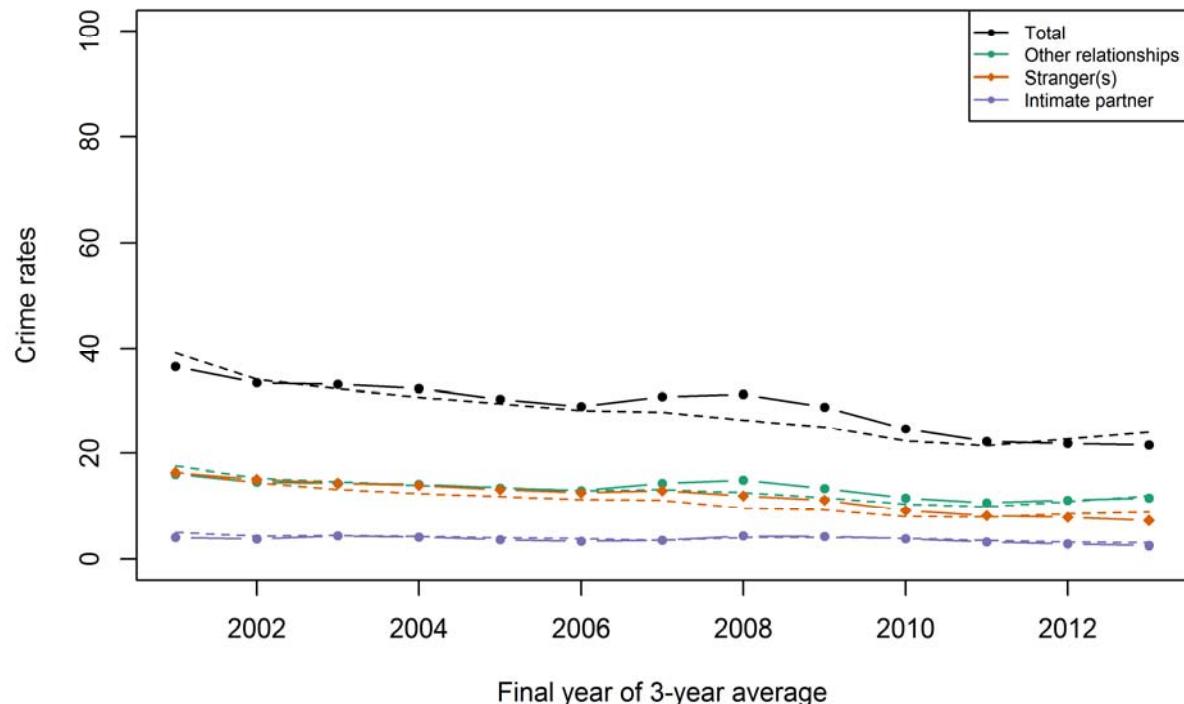


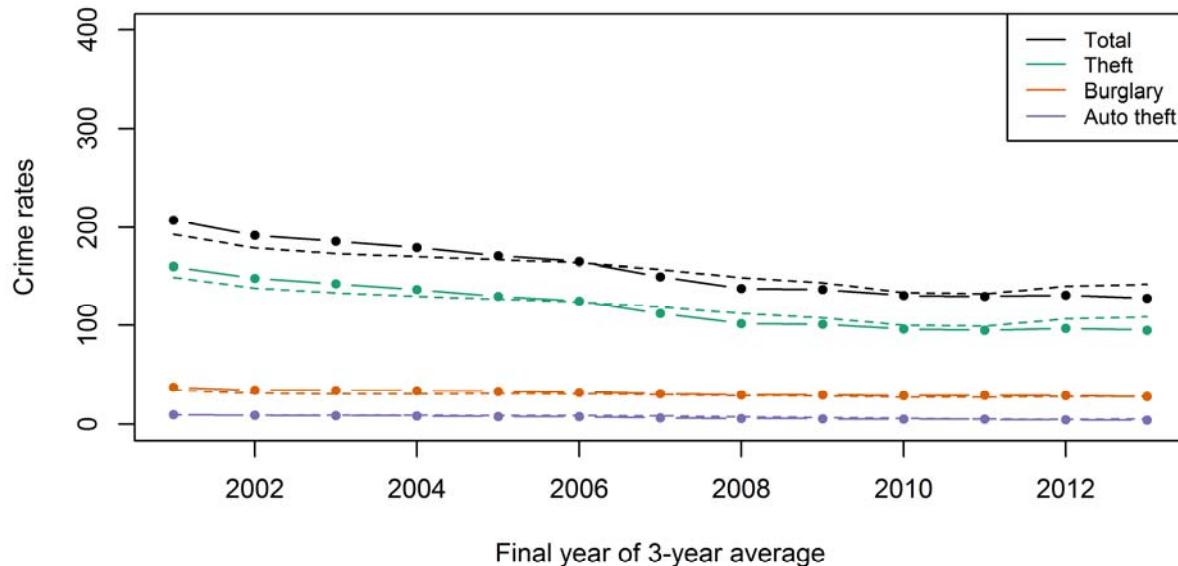
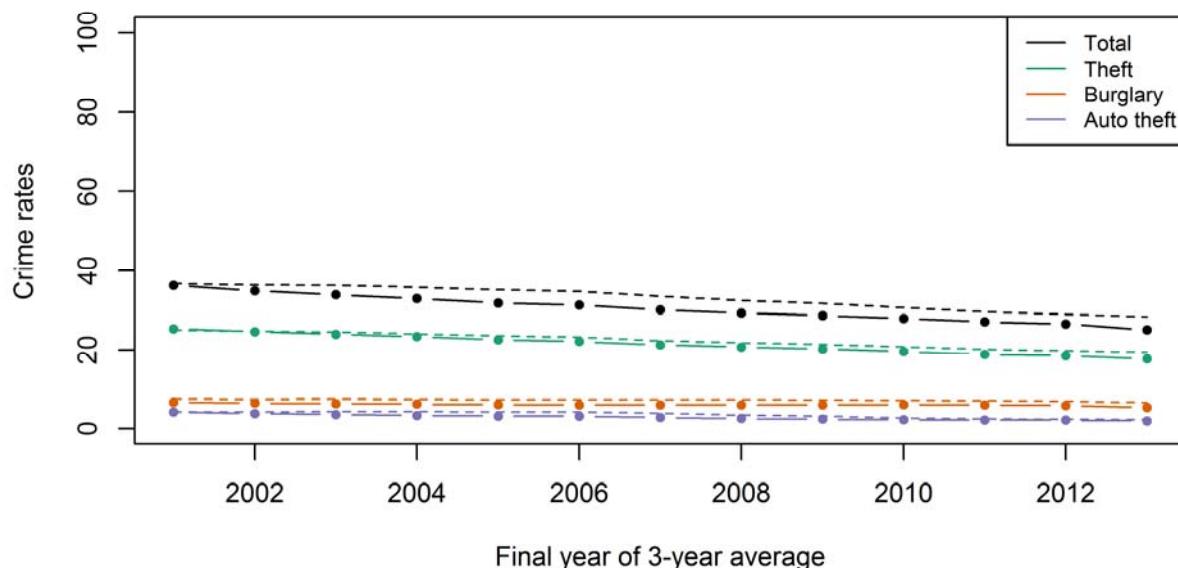
UCR property crimes in Idaho compared to national rates



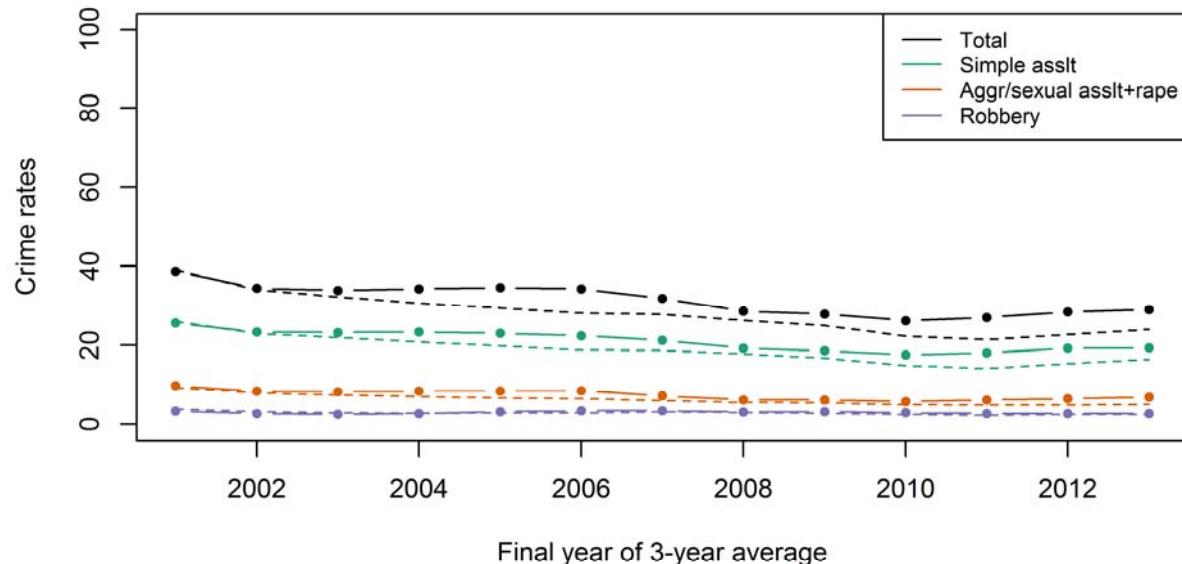
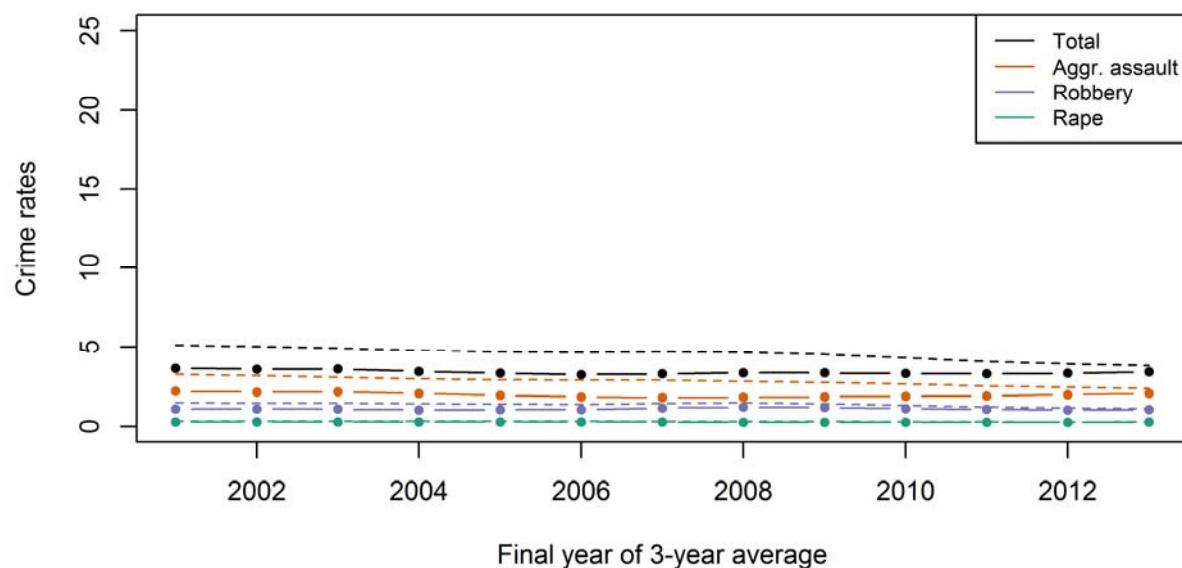
Illinois

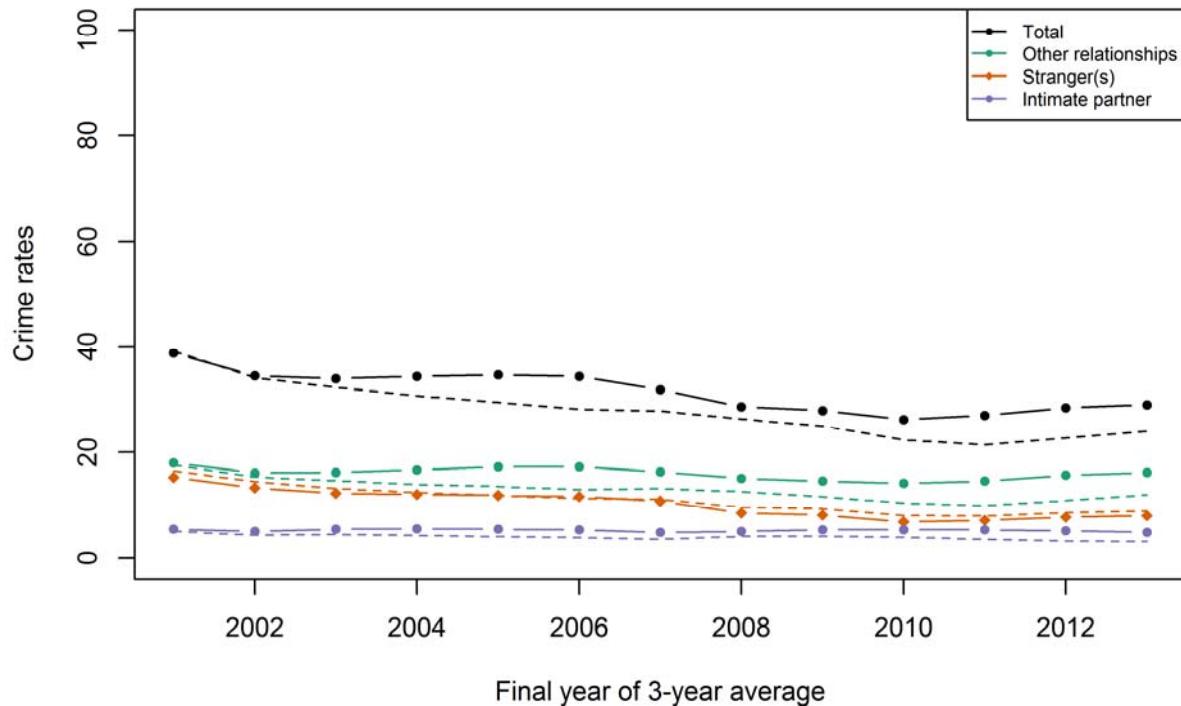
NCVS(SAE) violent crimes in Illinois compared to national rates by type of crime**UCR violent crimes in Illinois compared to national rates**

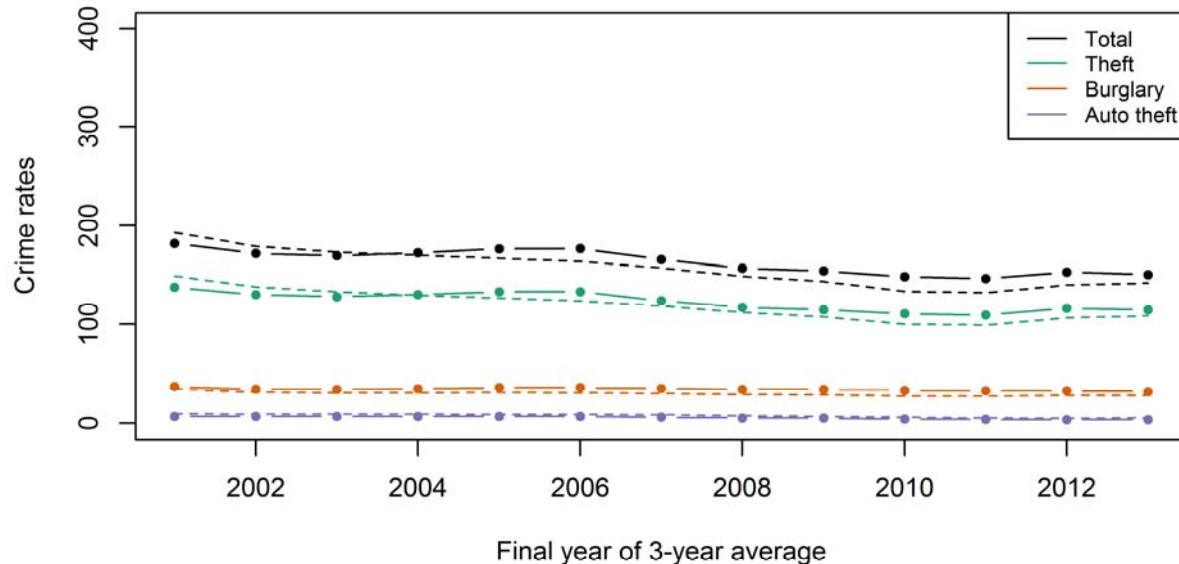
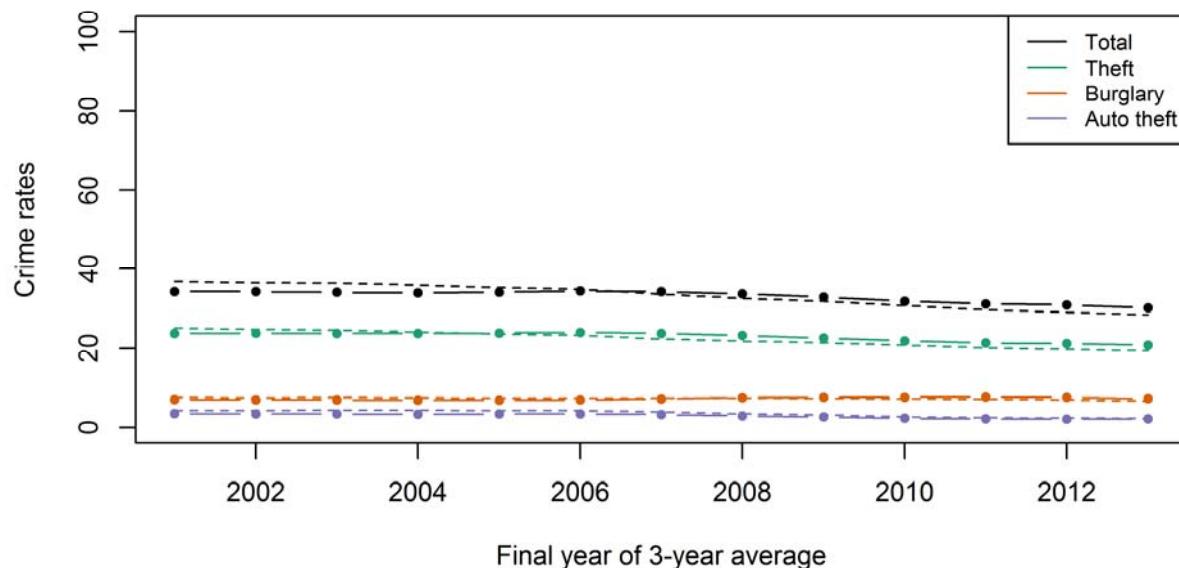
NCVS(SAE) violent crimes in Illinois compared to national rates by relationship

NCVS(SAE) property crimes in Illinois compared to national rates (dotted lines)**UCR property crimes in Illinois compared to national rates**

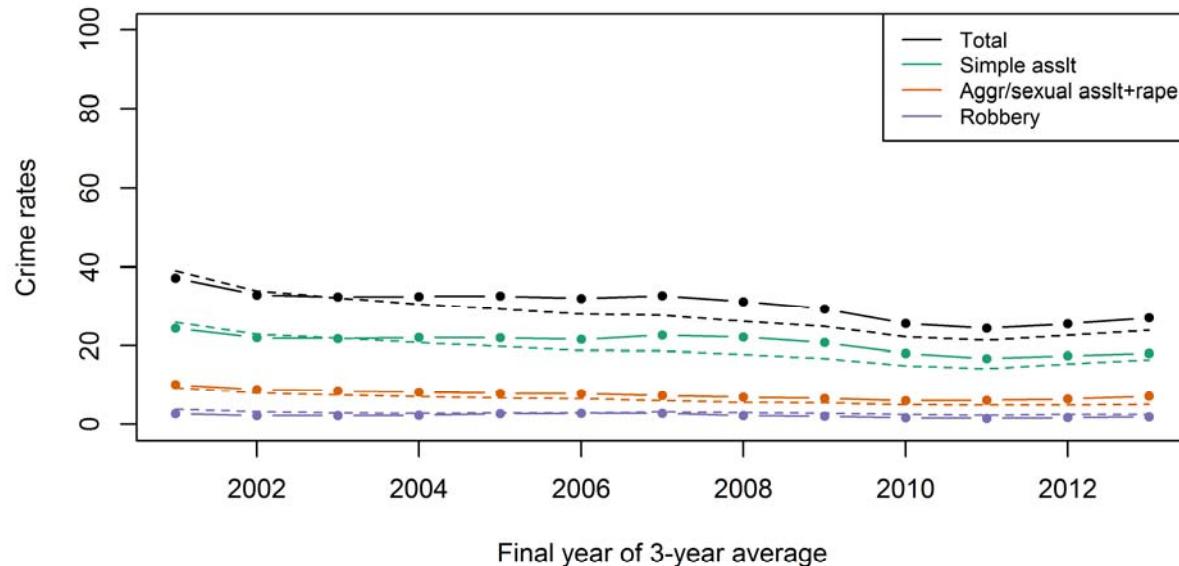
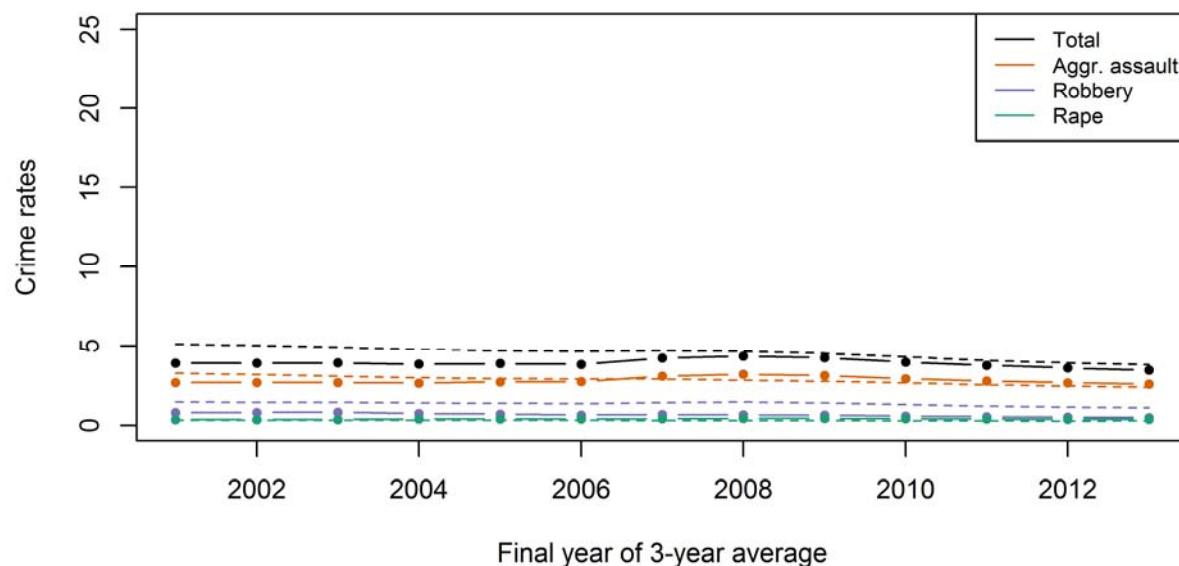
Indiana

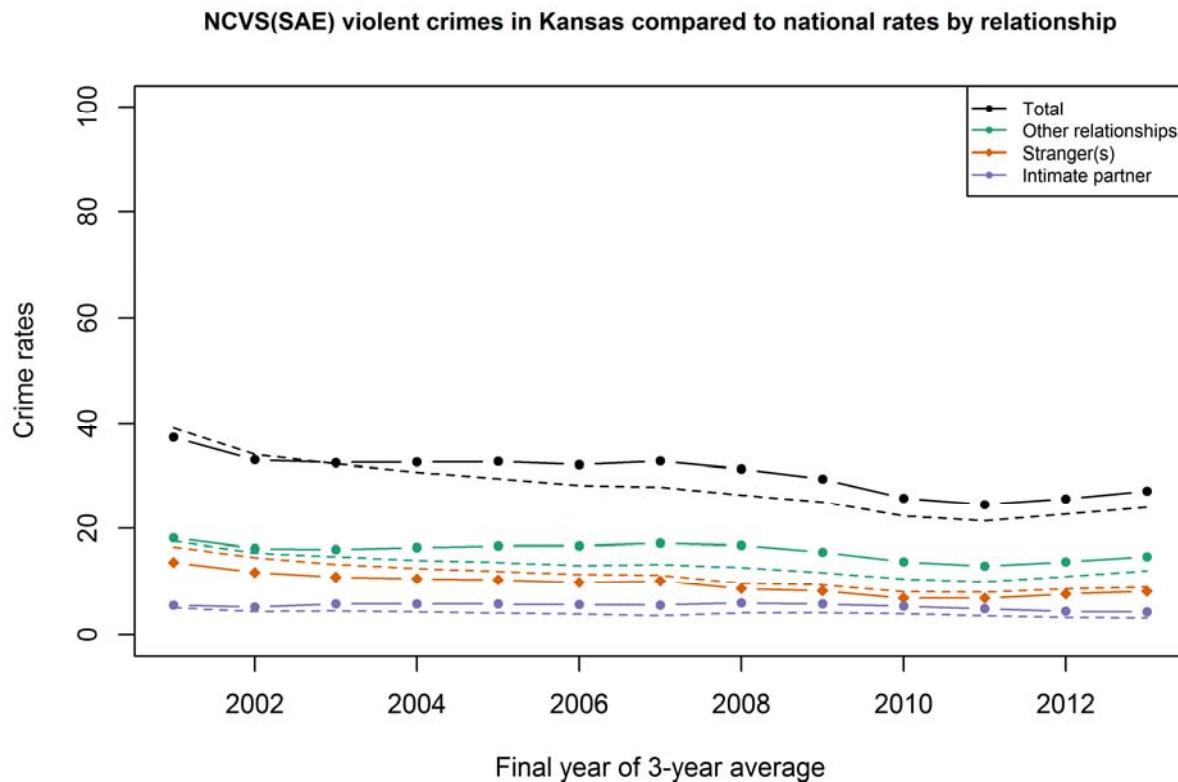
NCVS(SAE) violent crimes in Indiana compared to national rates by type of crime**UCR violent crimes in Indiana compared to national rates**

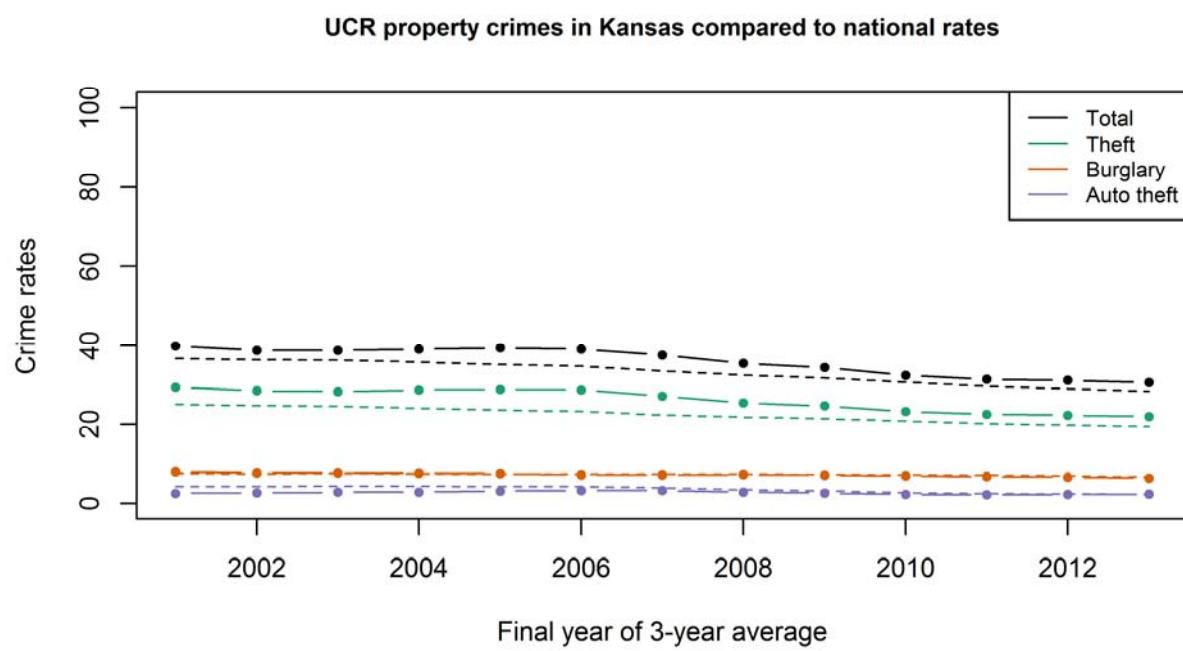
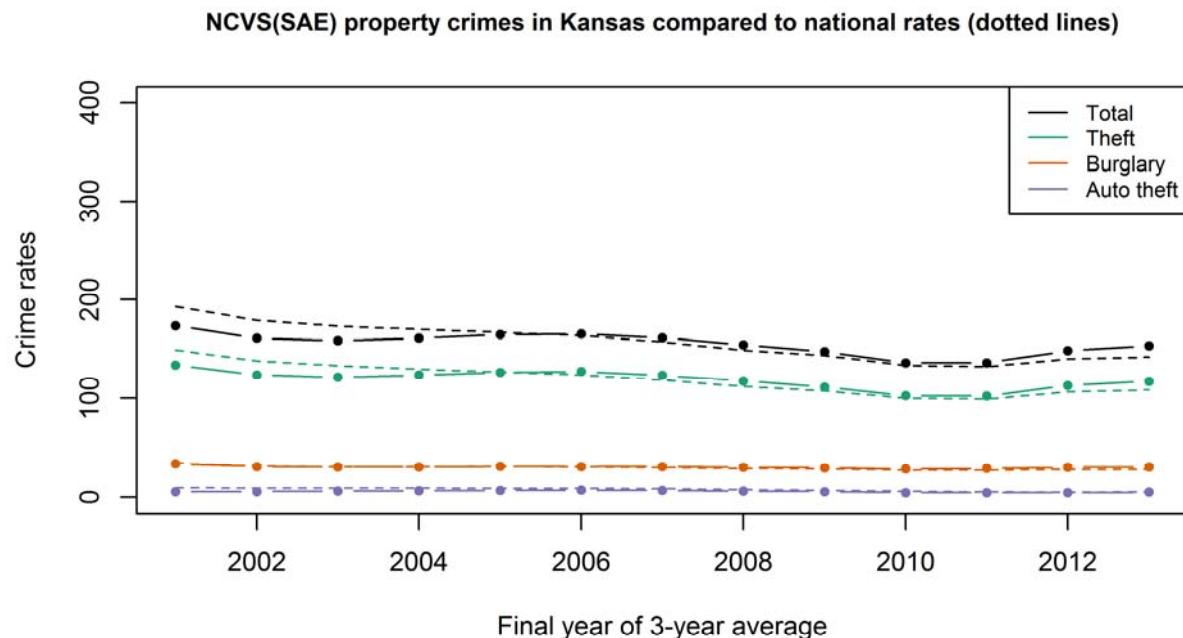
NCVS(SAE) violent crimes in Indiana compared to national rates by relationship

NCVS(SAE) property crimes in Indiana compared to national rates (dotted lines)**UCR property crimes in Indiana compared to national rates**

Kansas

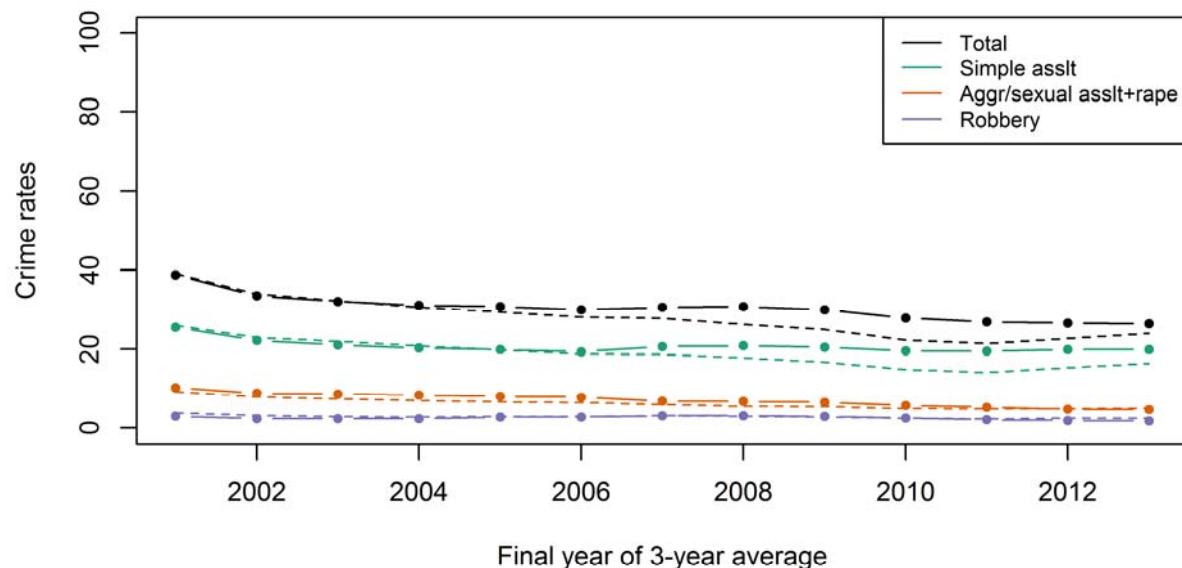
NCVS(SAE) violent crimes in Kansas compared to national rates by type of crime**UCR violent crimes in Kansas compared to national rates**



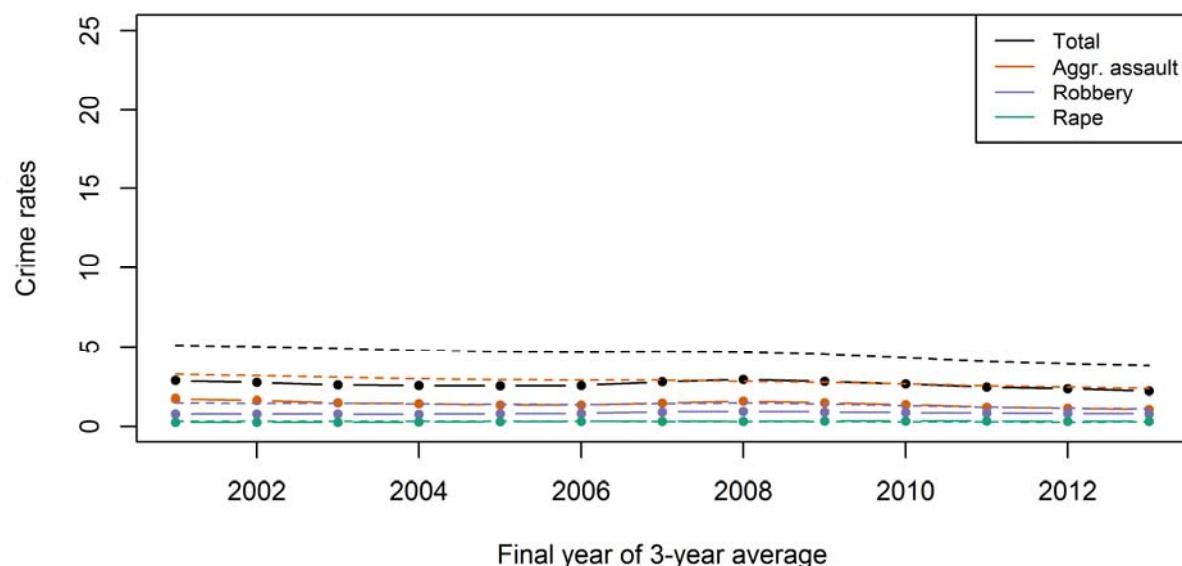


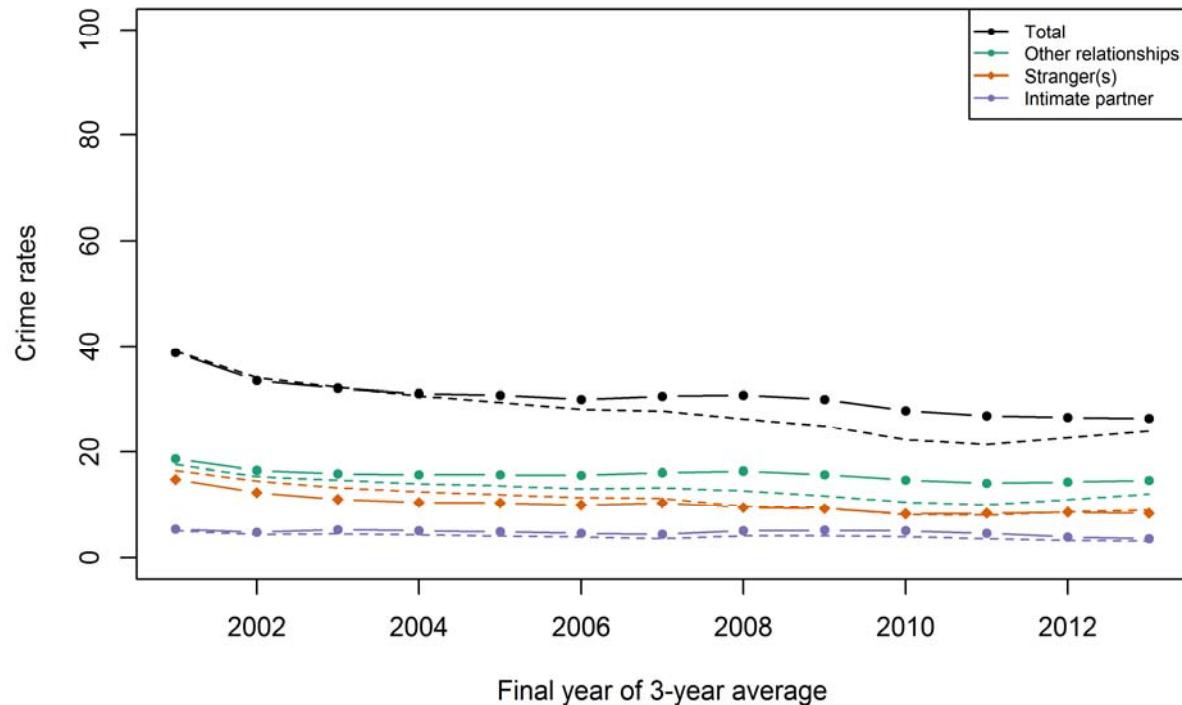
Kentucky

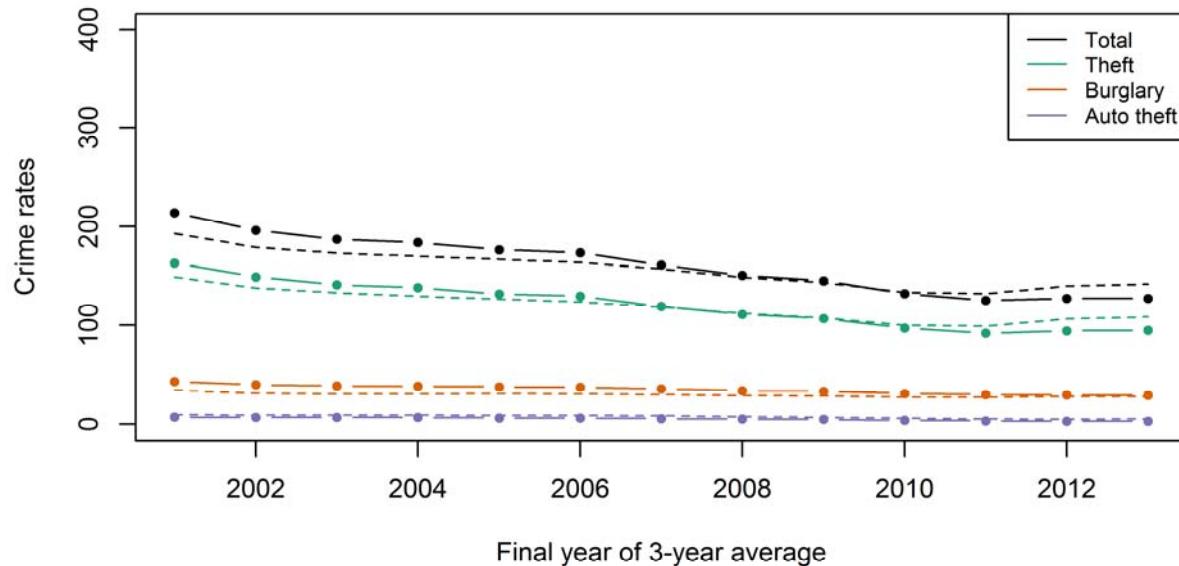
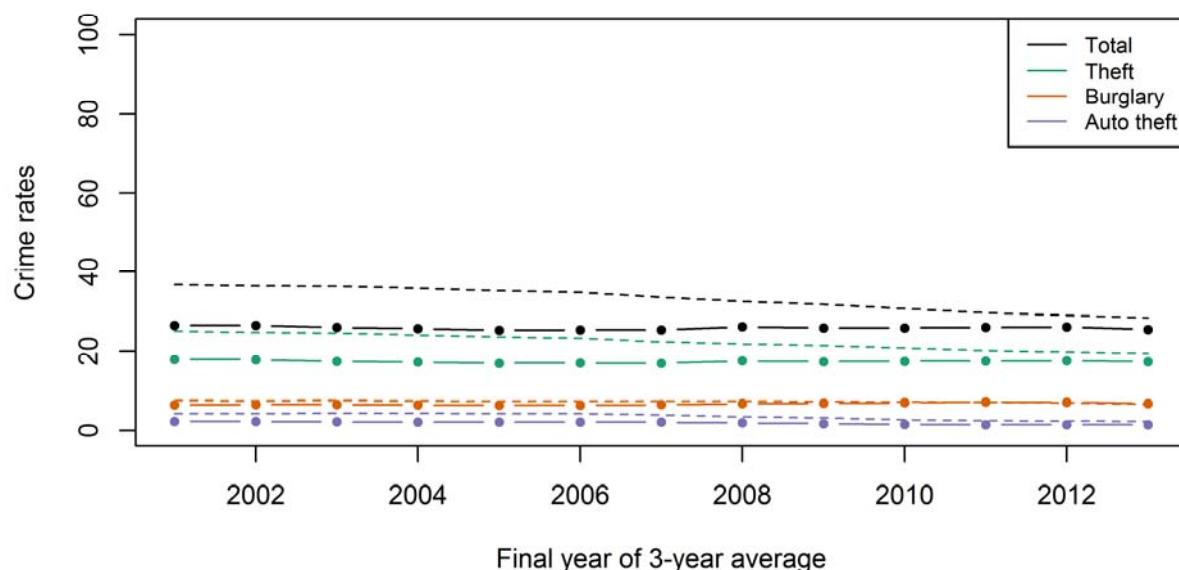
NCVS(SAE) violent crimes in Kentucky compared to national rates by type of crime



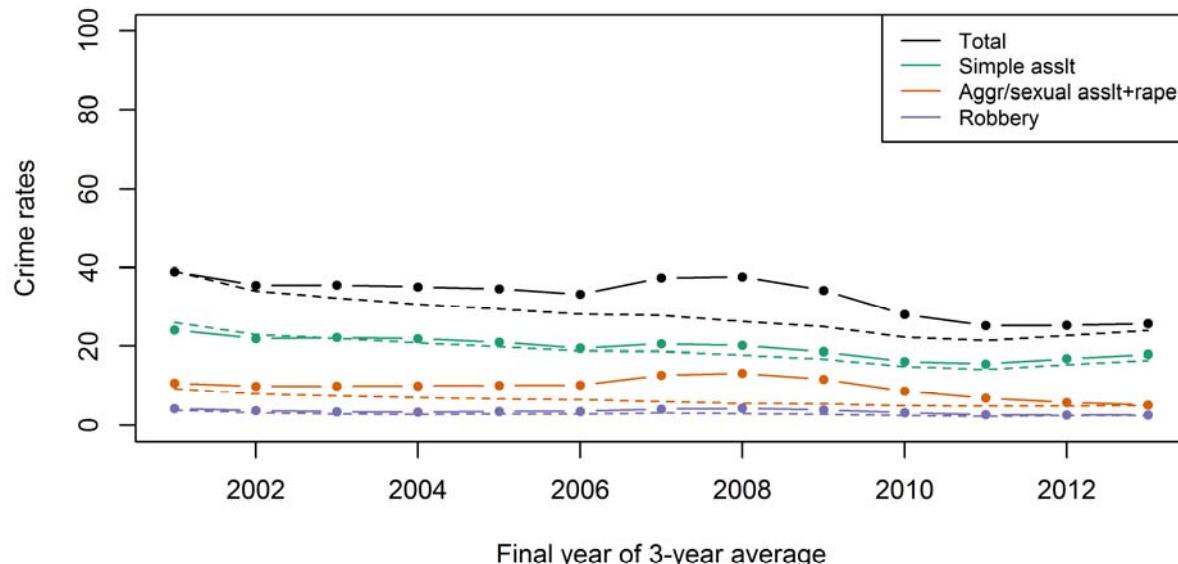
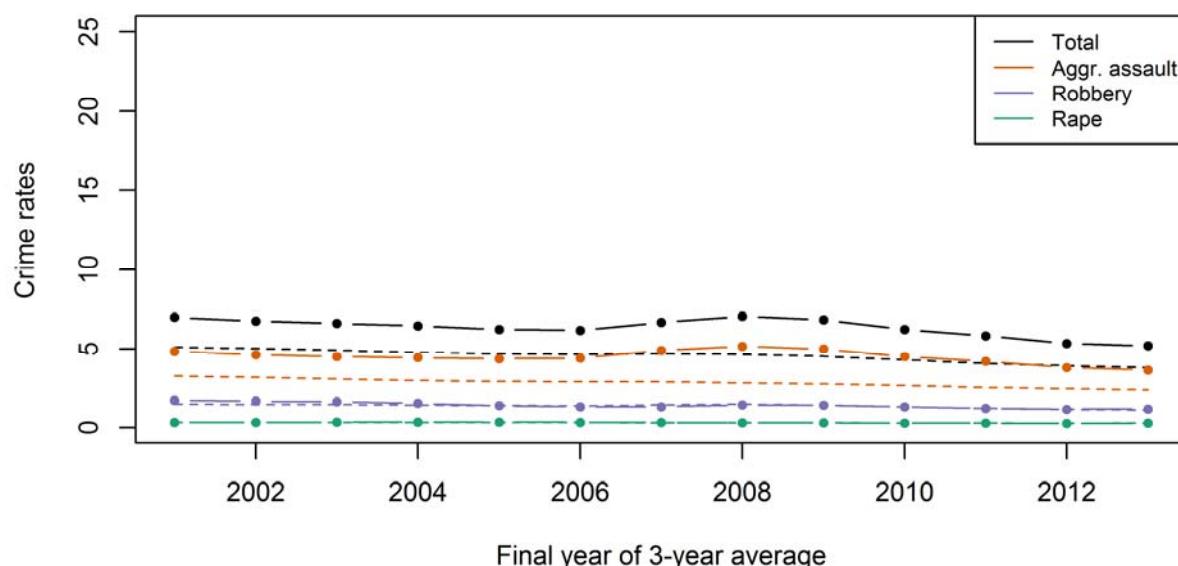
UCR violent crimes in Kentucky compared to national rates

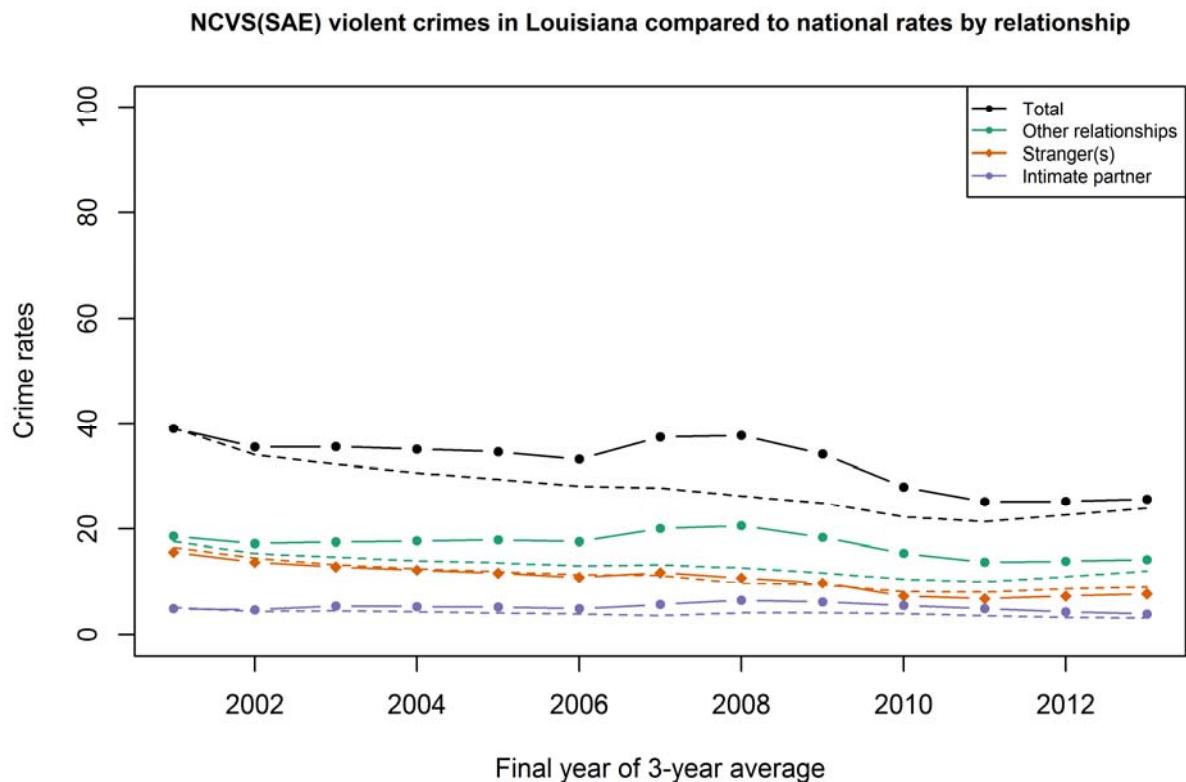


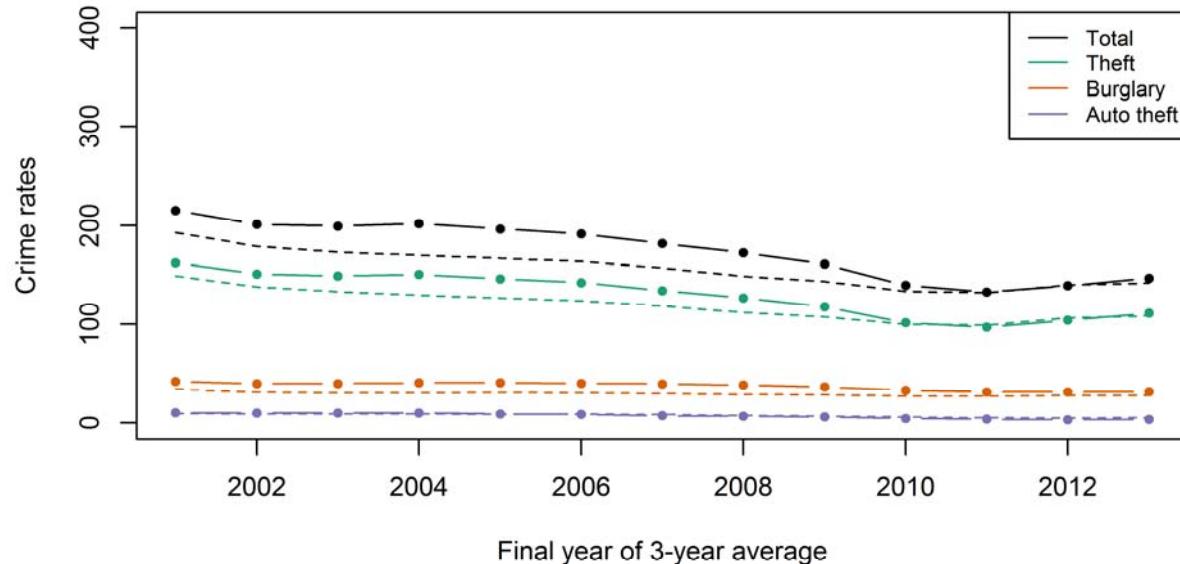
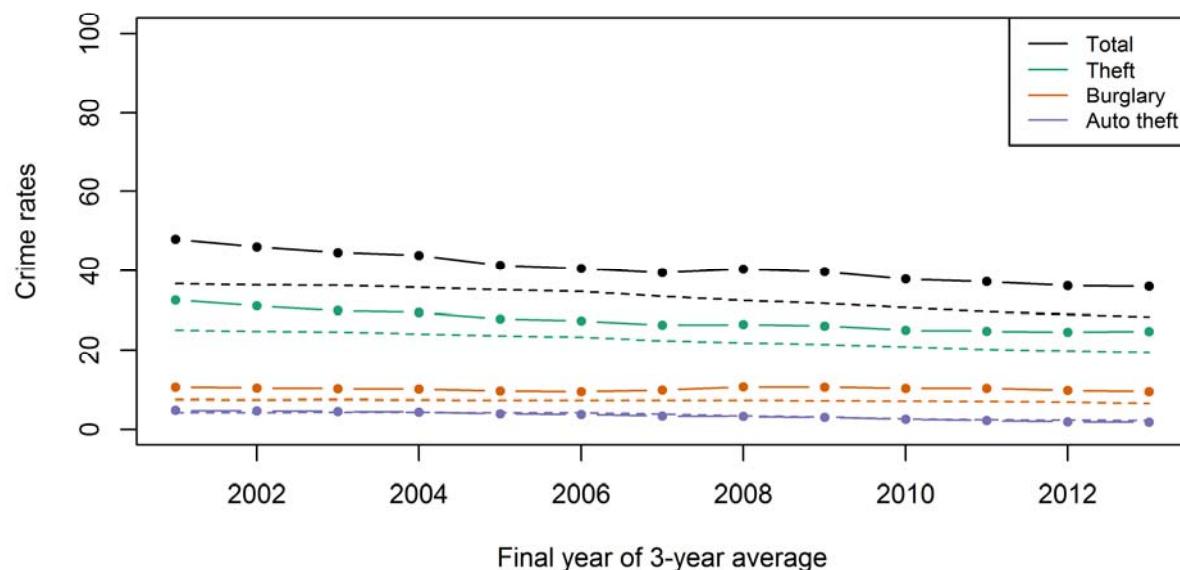
NCVS(SAE) violent crimes in Kentucky compared to national rates by relationship

NCVS(SAE) property crimes in Kentucky compared to national rates (dotted lines)**UCR property crimes in Kentucky compared to national rates**

Louisiana

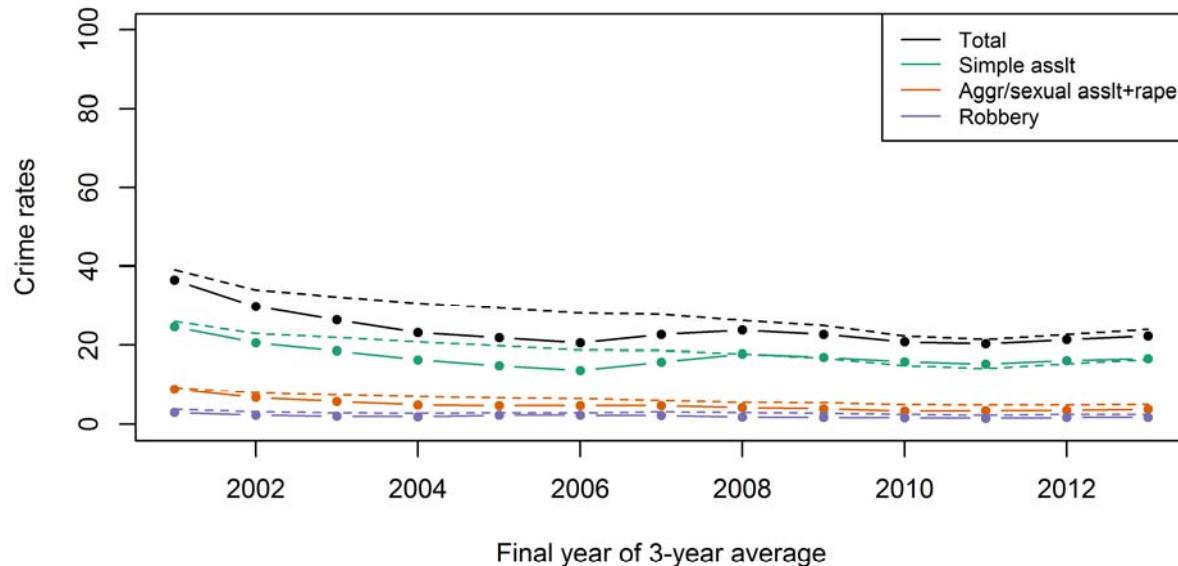
NCVS(SAE) violent crimes in Louisiana compared to national rates by type of crime**UCR violent crimes in Louisiana compared to national rates**



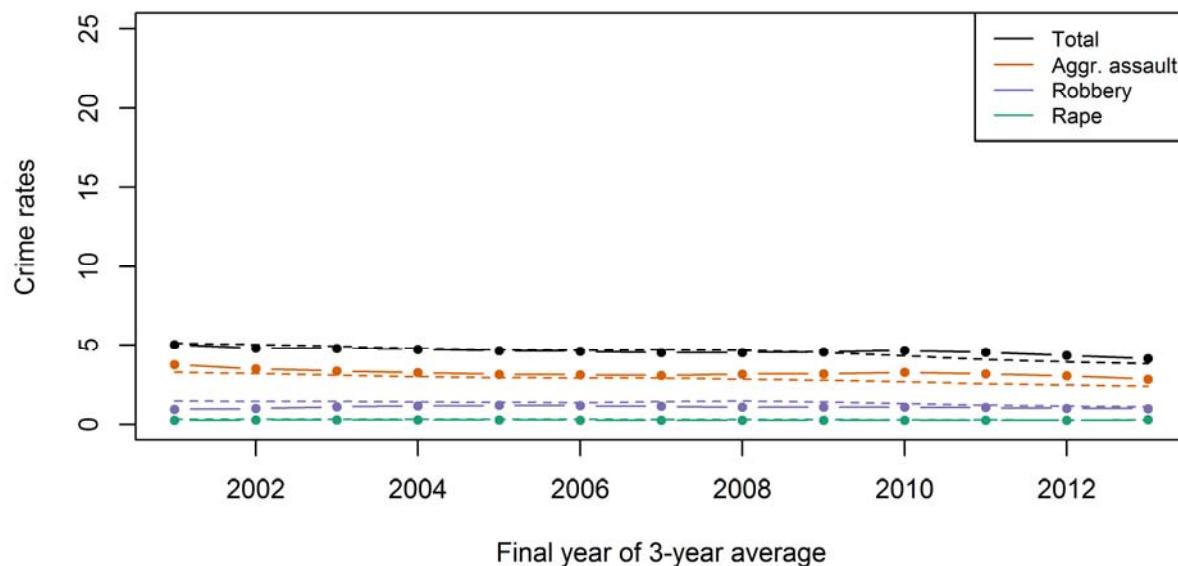
NCVS(SAE) property crimes in Louisiana compared to national rates (dotted lines)

UCR property crimes in Louisiana compared to national rates


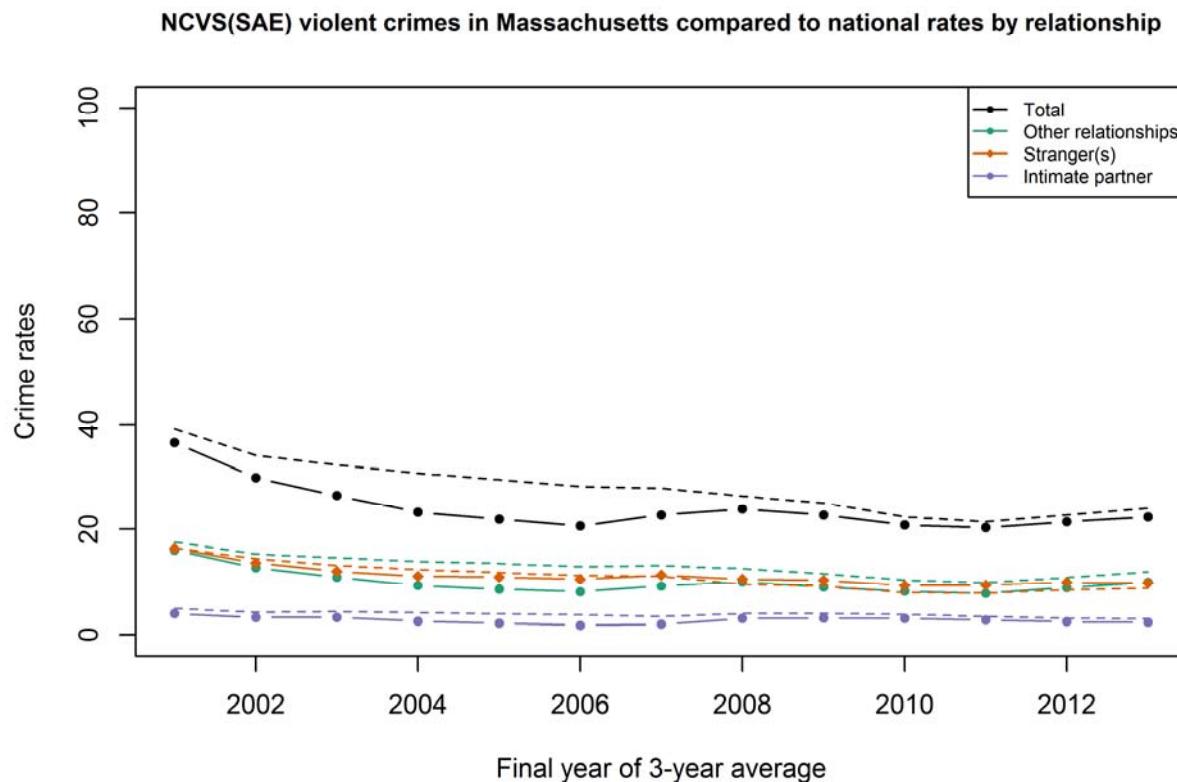
Massachusetts

NCVS(SAE) violent crimes in Massachusetts compared to national rates by type of crime

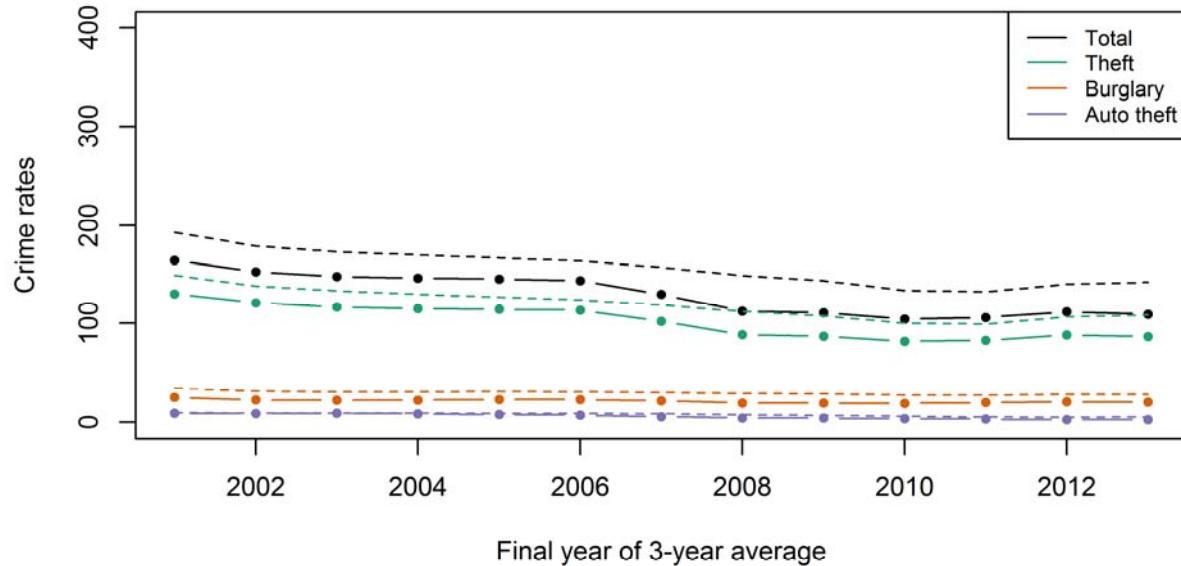


UCR violent crimes in Massachusetts compared to national rates

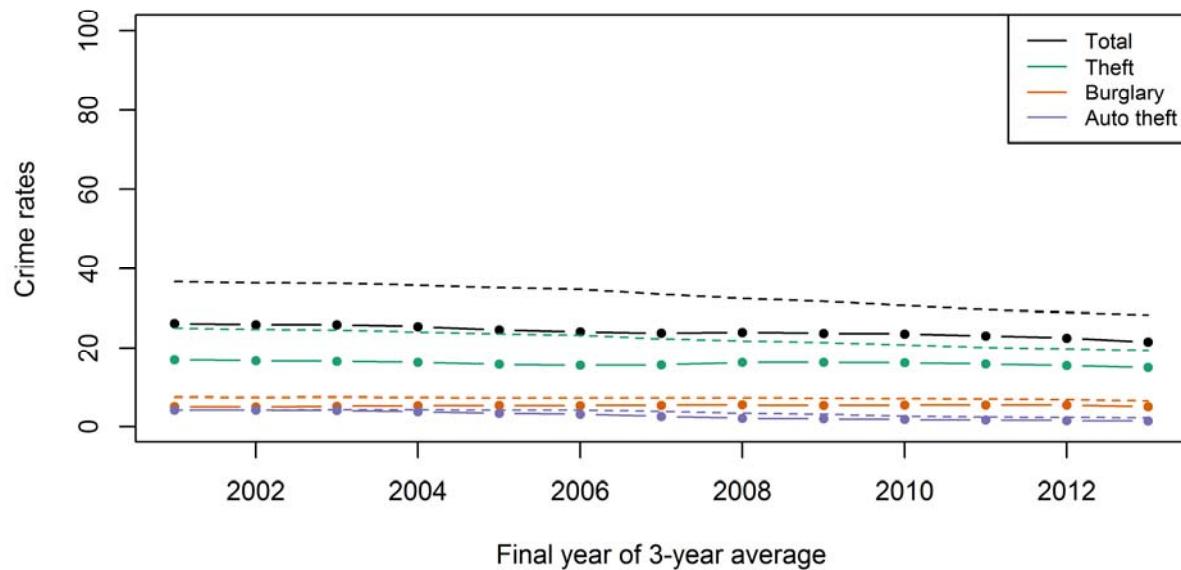




NCVS(SAE) property crimes in Massachusetts compared to national rates (dotted lines)

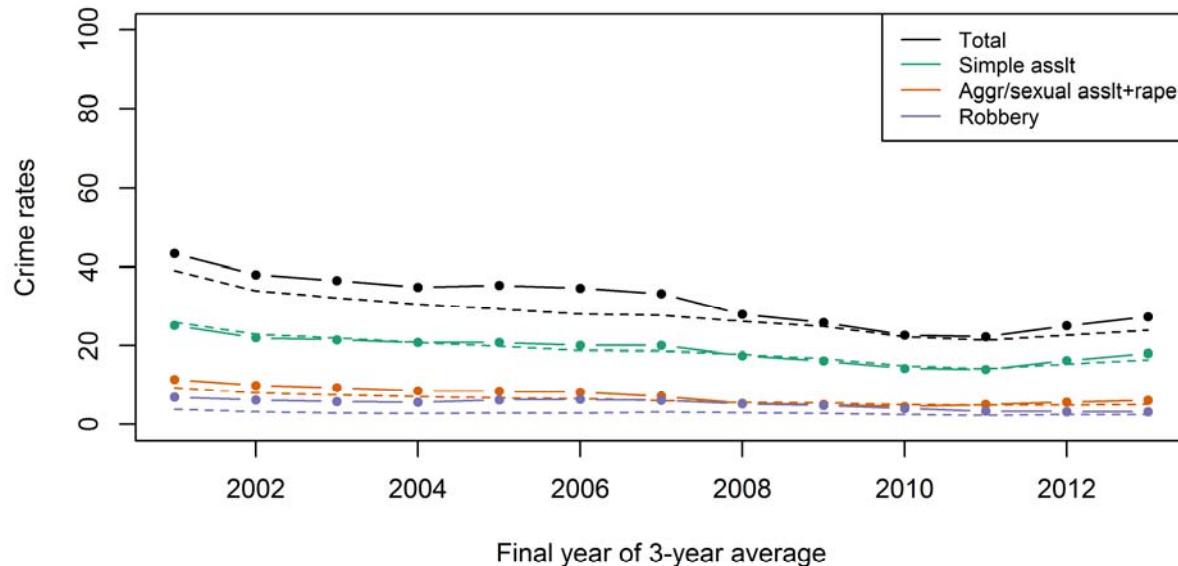


UCR property crimes in Massachusetts compared to national rates

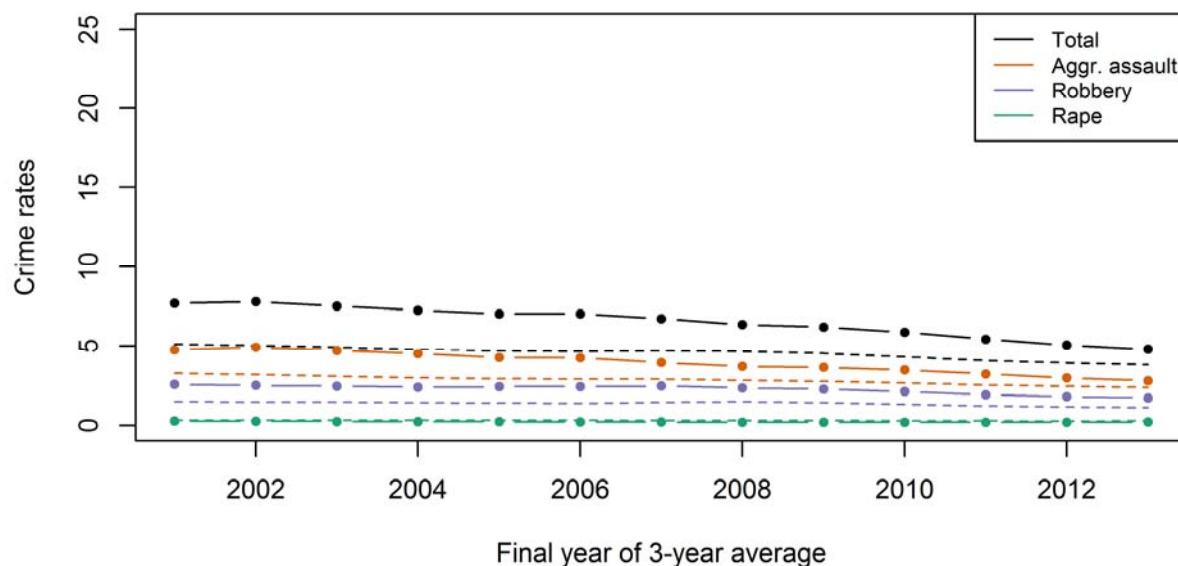


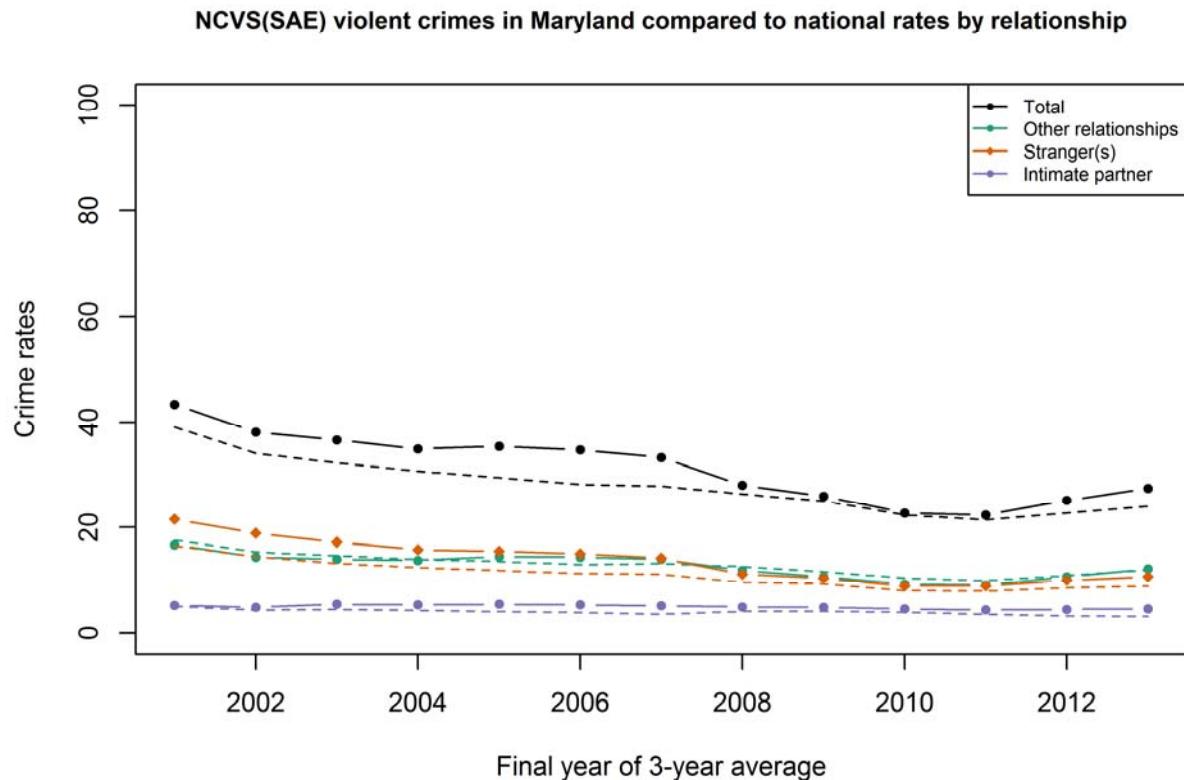
Maryland

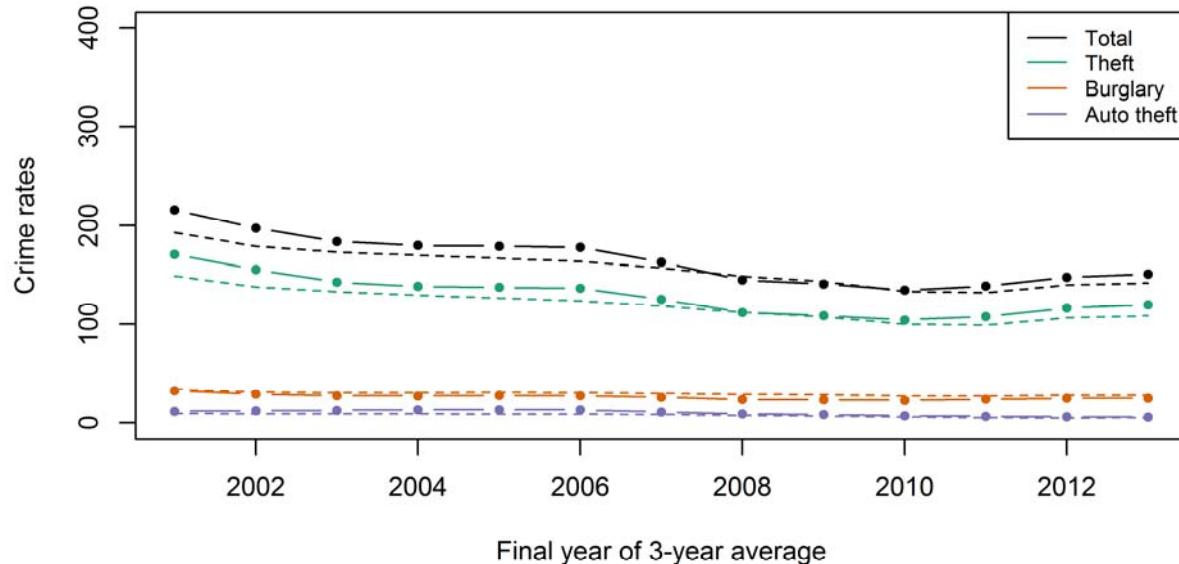
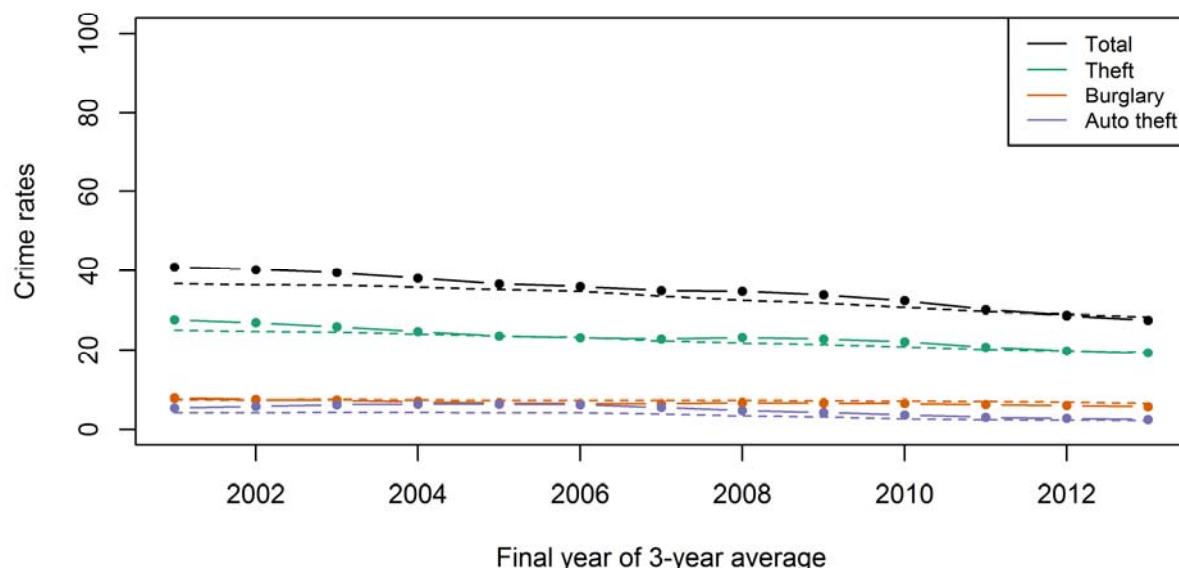
NCVS(SAE) violent crimes in Maryland compared to national rates by type of crime



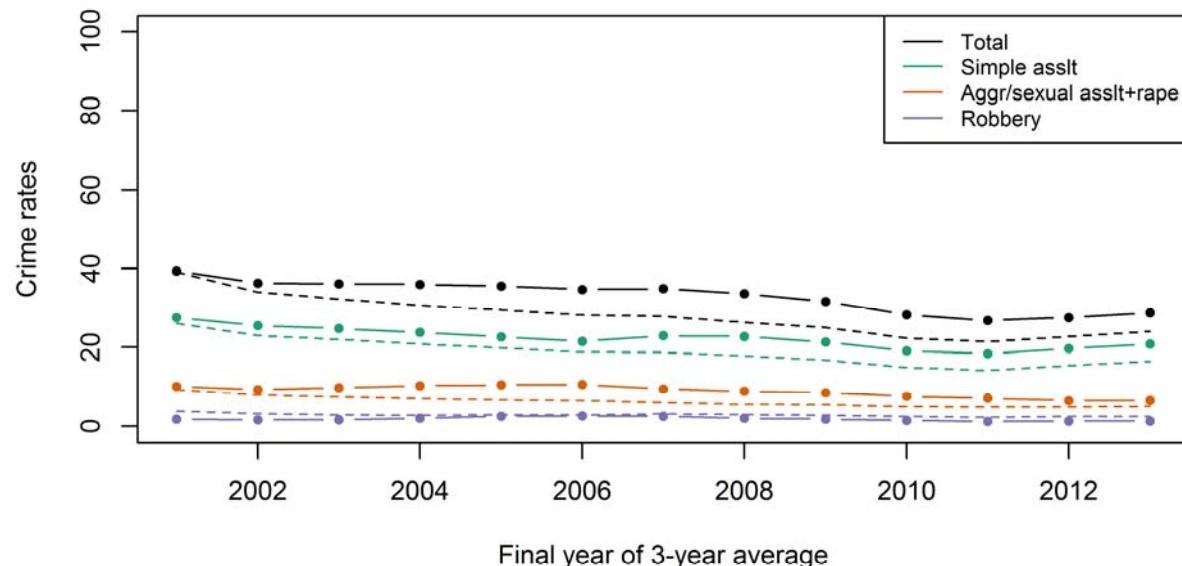
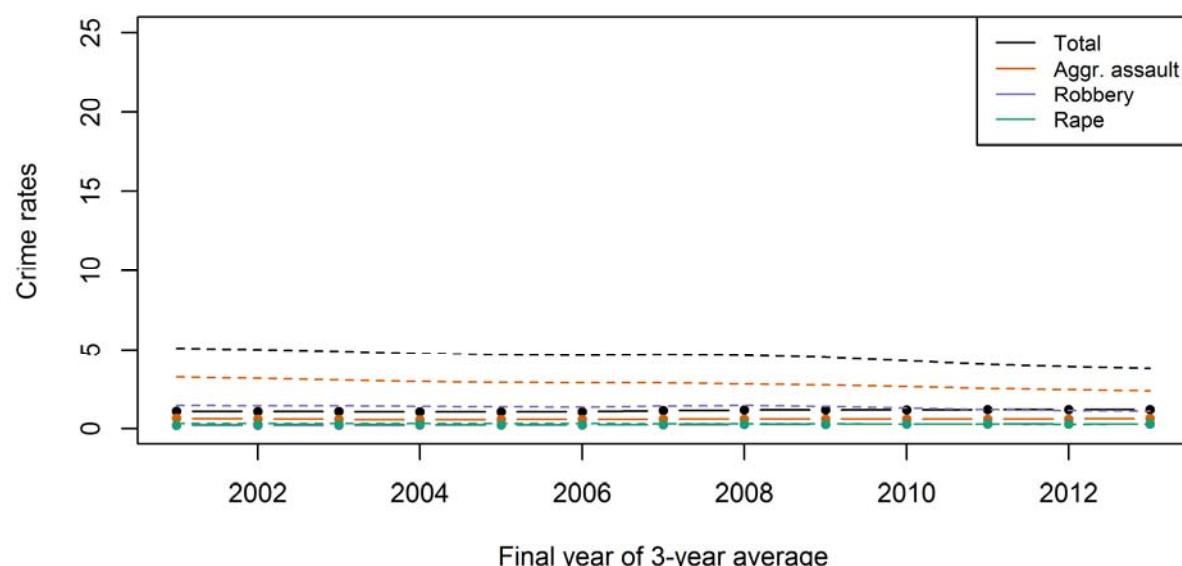
UCR violent crimes in Maryland compared to national rates

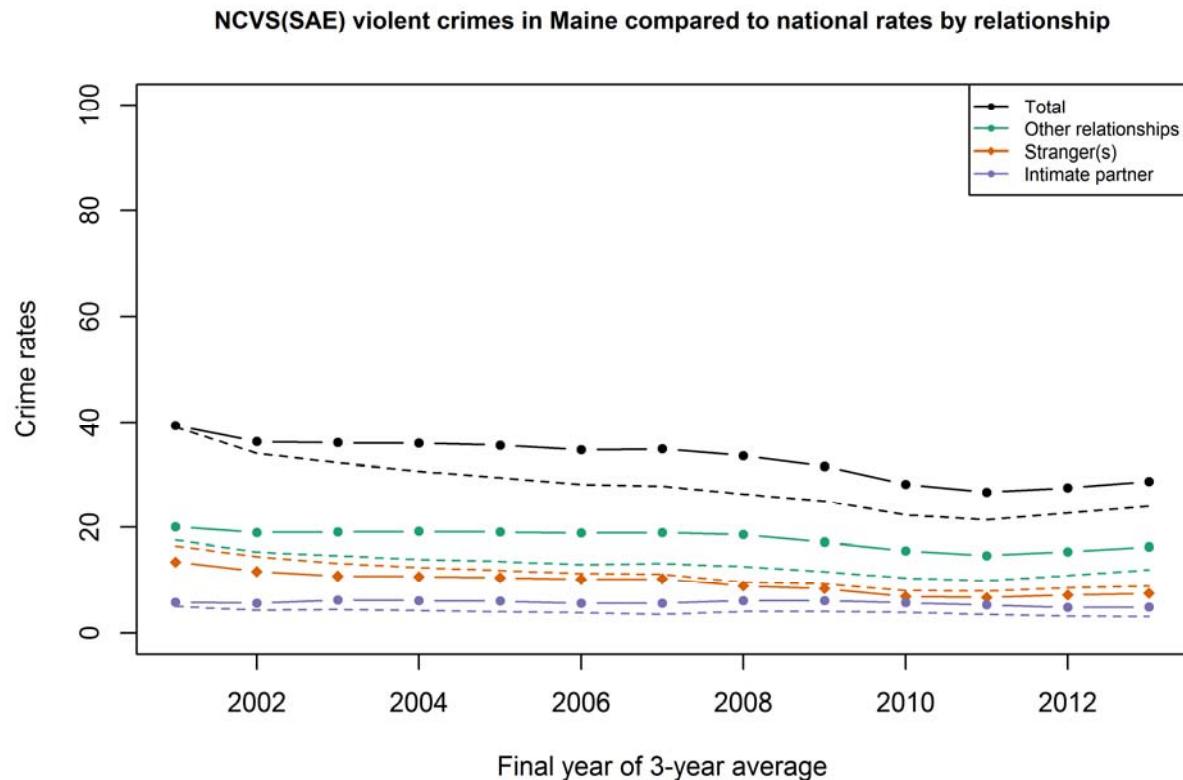




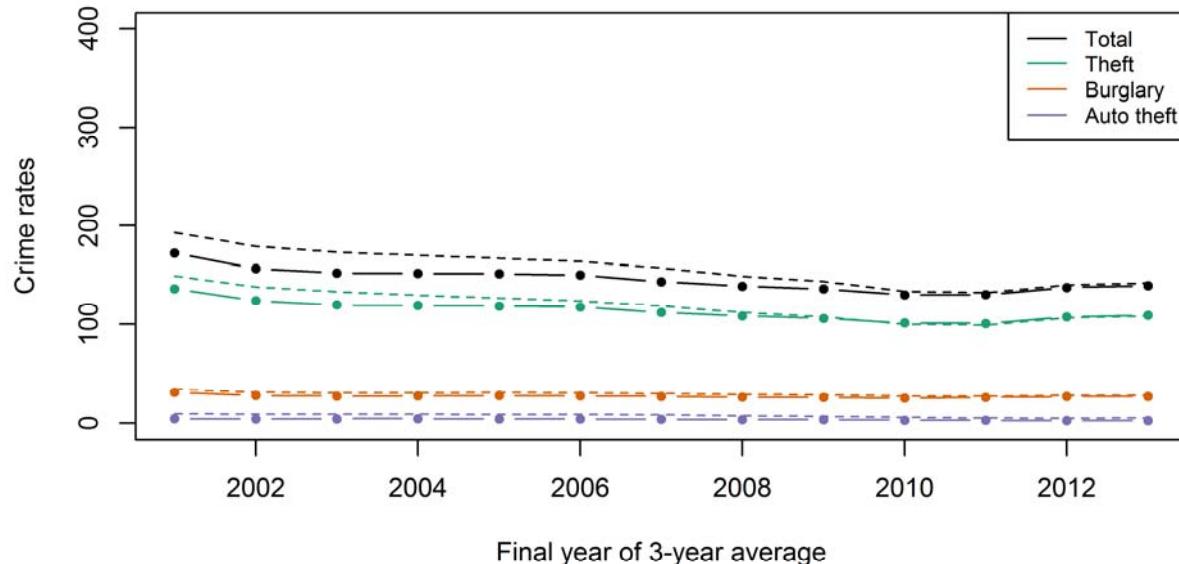
NCVS(SAE) property crimes in Maryland compared to national rates (dotted lines)**UCR property crimes in Maryland compared to national rates**

Maine

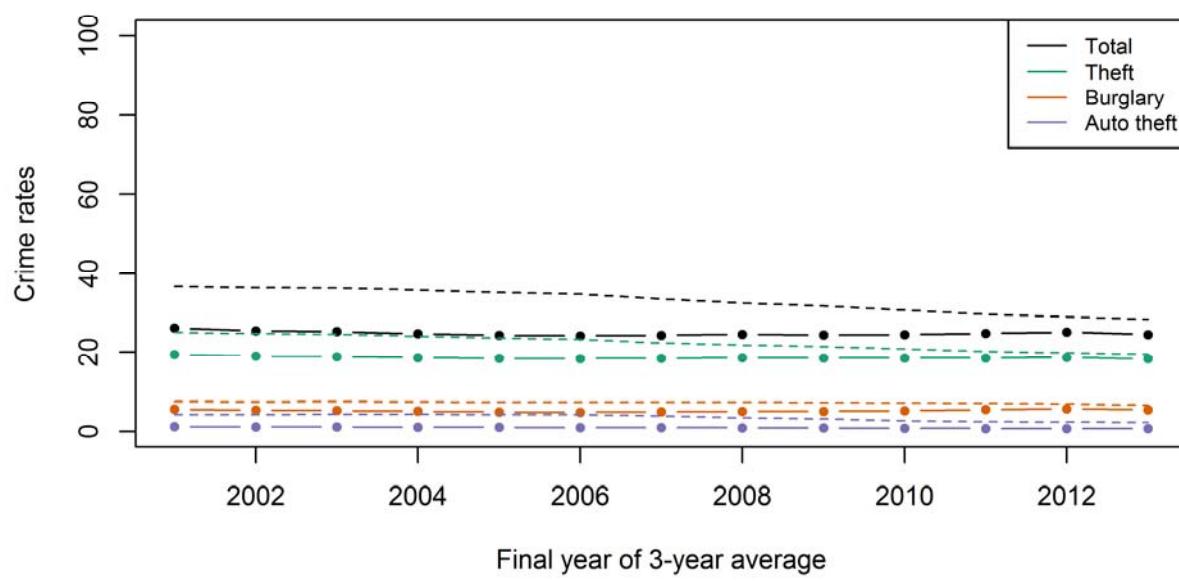
NCVS(SAE) violent crimes in Maine compared to national rates by type of crime**UCR violent crimes in Maine compared to national rates**



NCVS(SAE) property crimes in Maine compared to national rates (dotted lines)

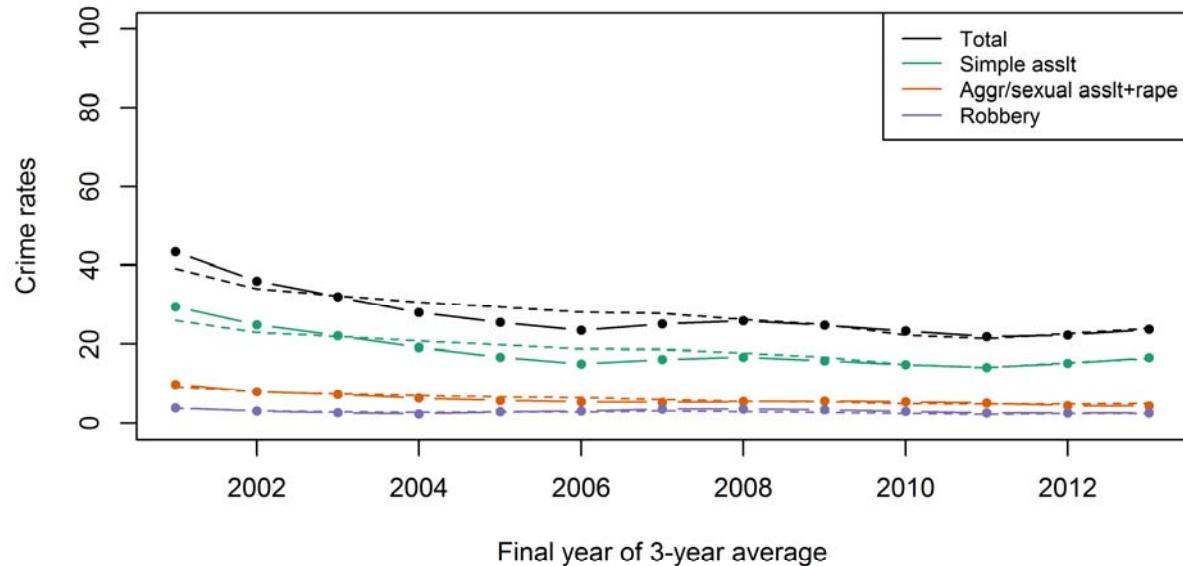


UCR property crimes in Maine compared to national rates

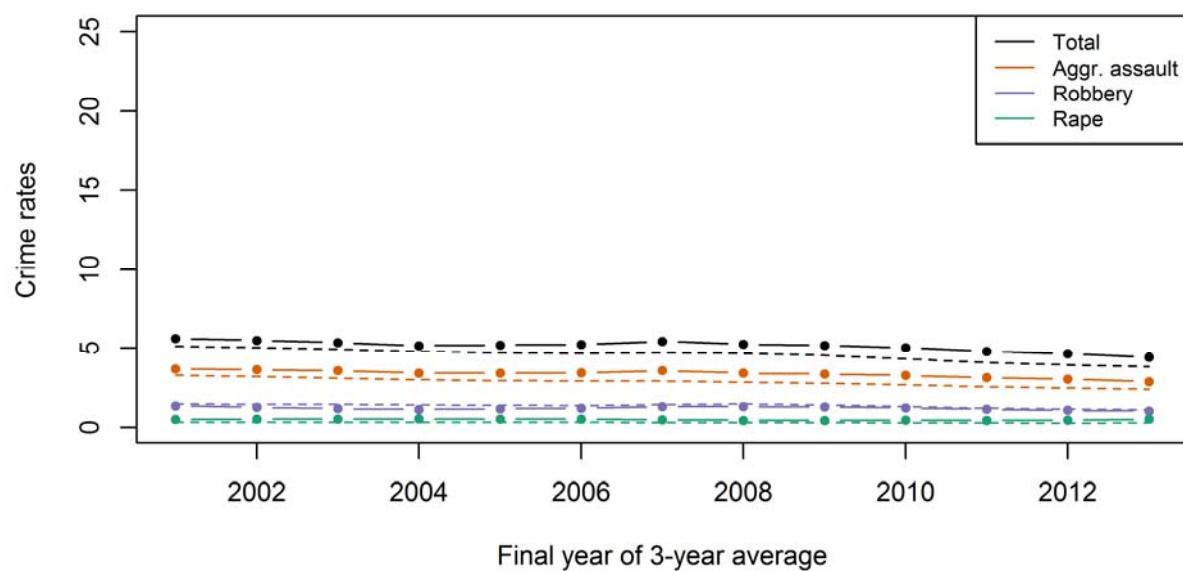


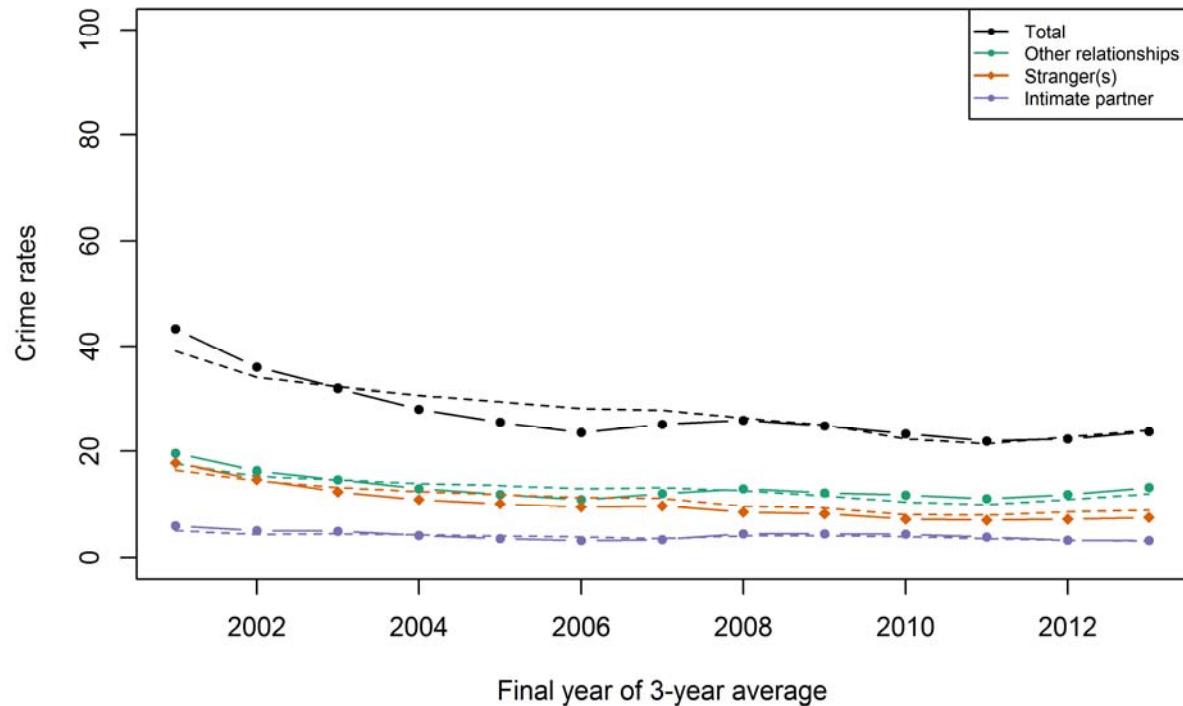
Michigan

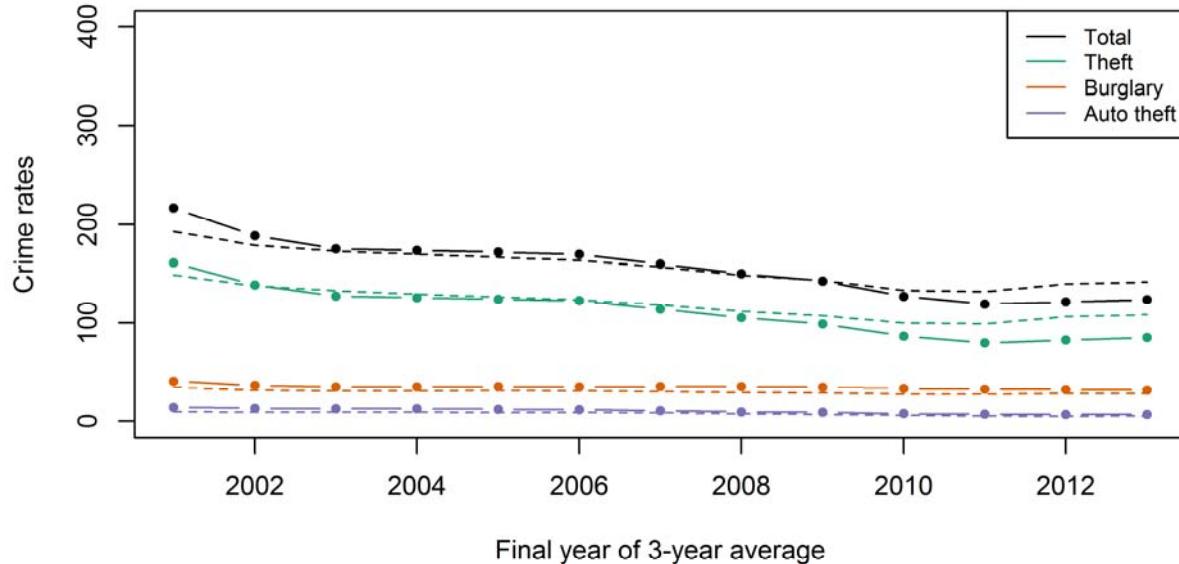
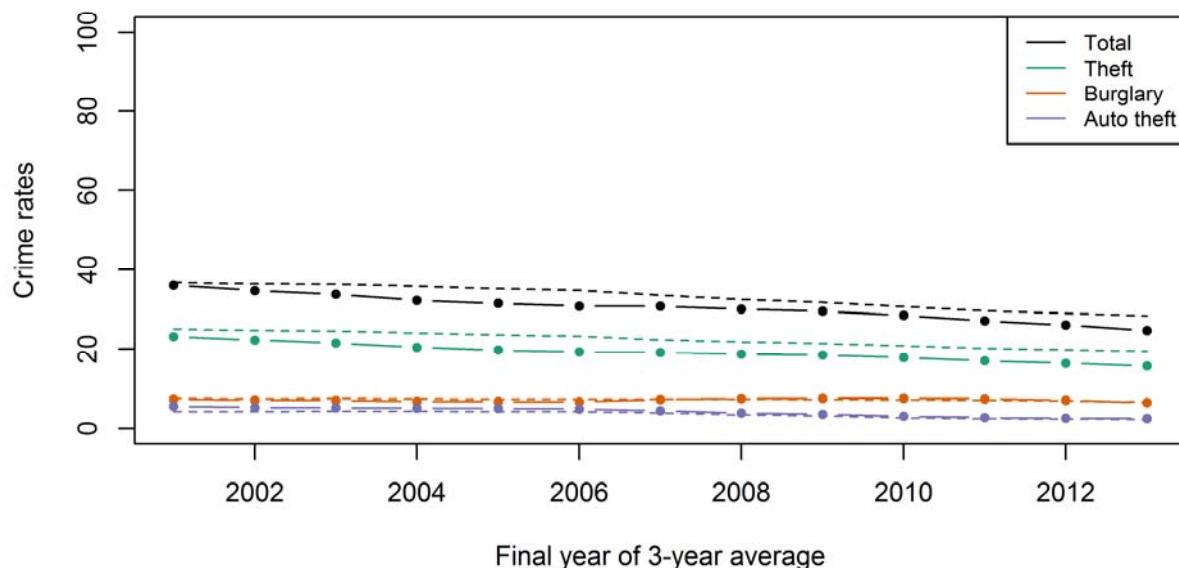
NCVS(SAE) violent crimes in Michigan compared to national rates by type of crime



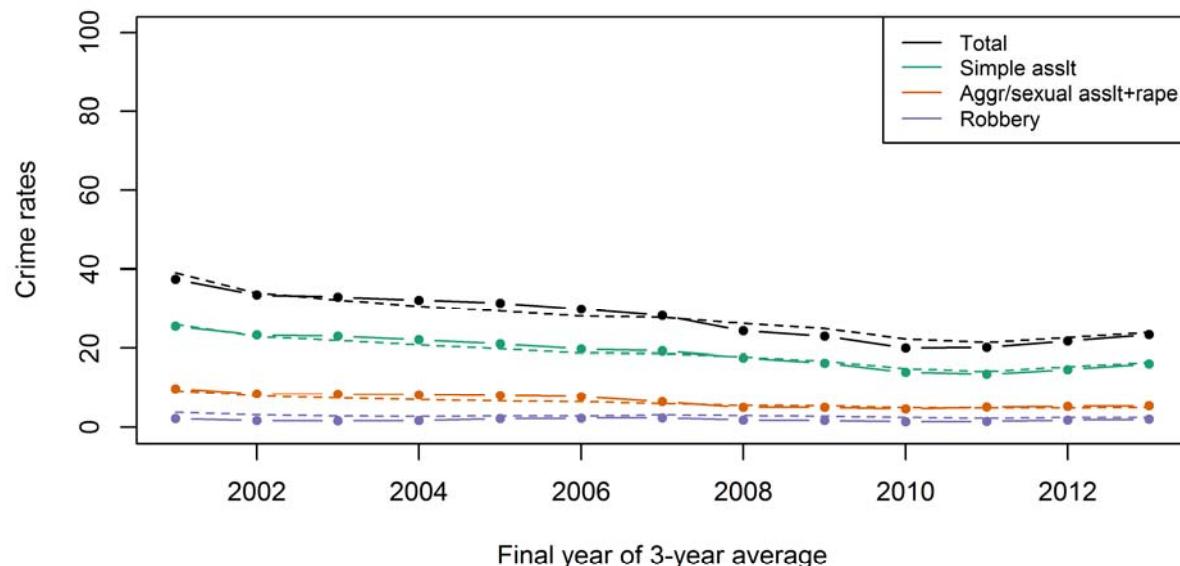
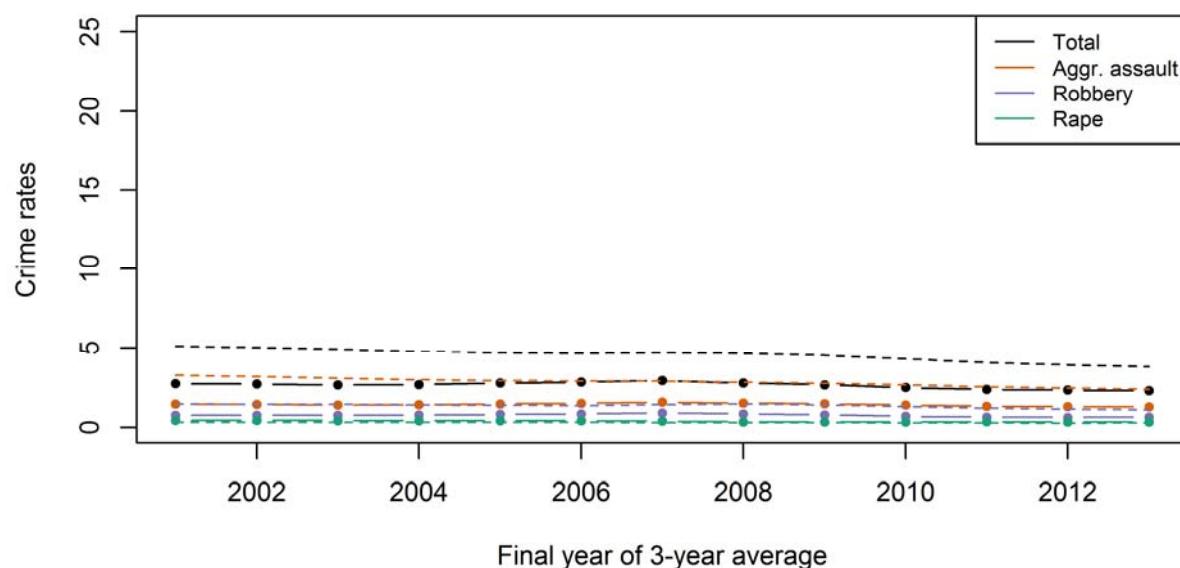
UCR violent crimes in Michigan compared to national rates

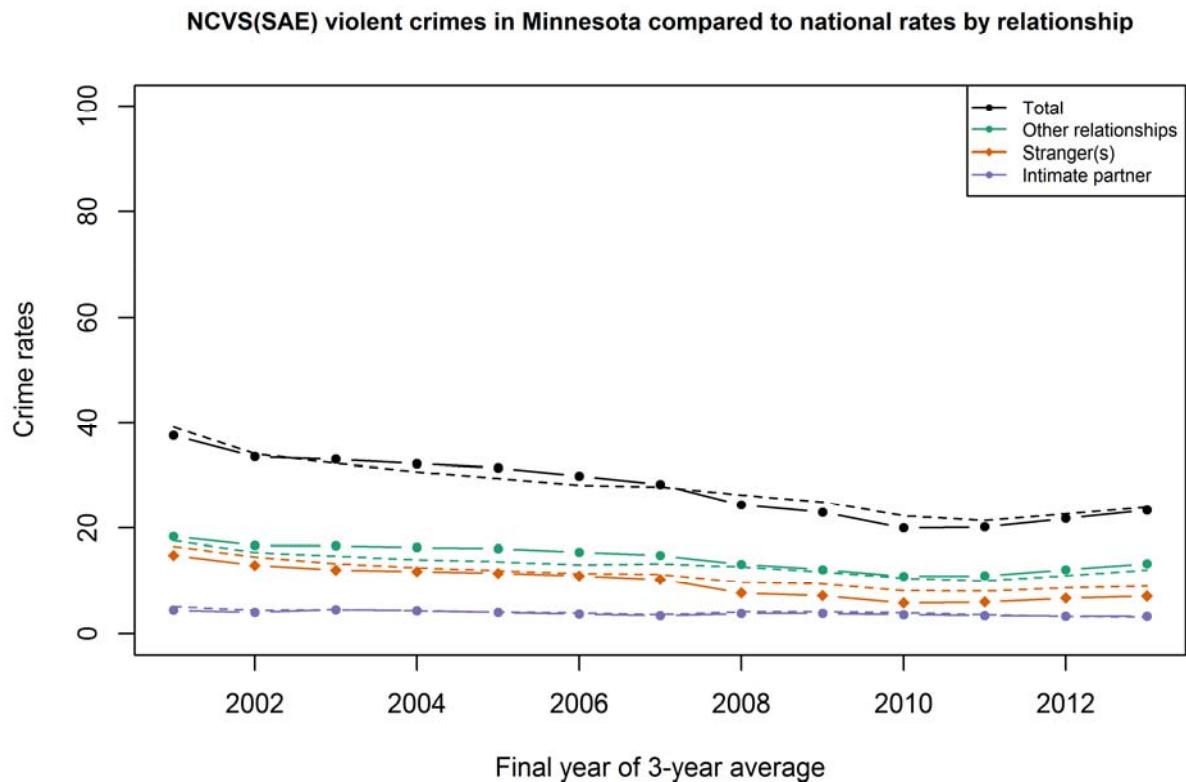


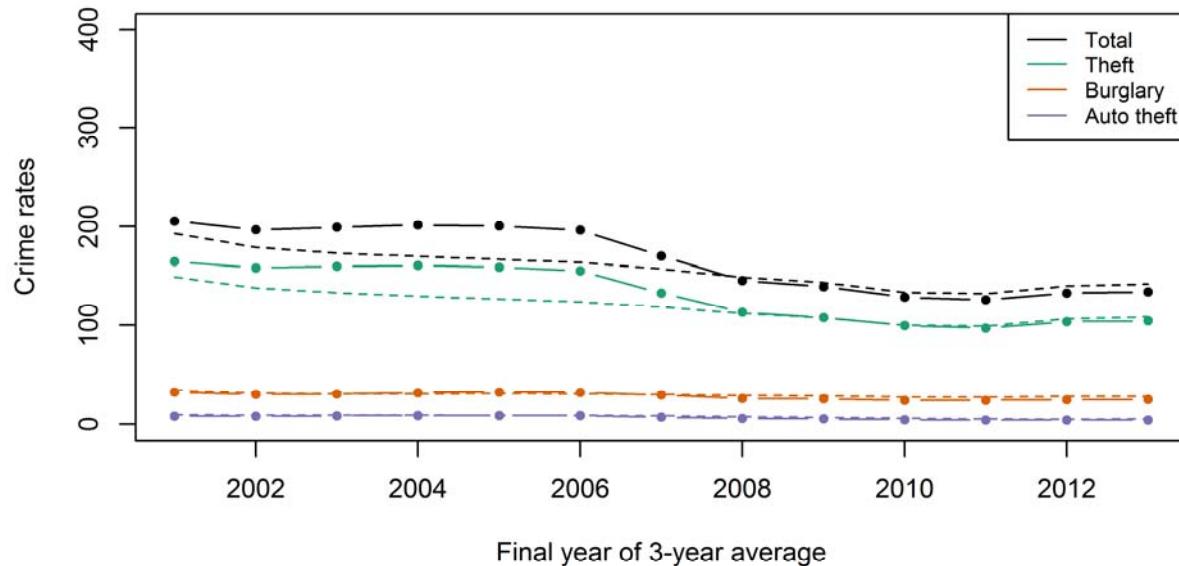
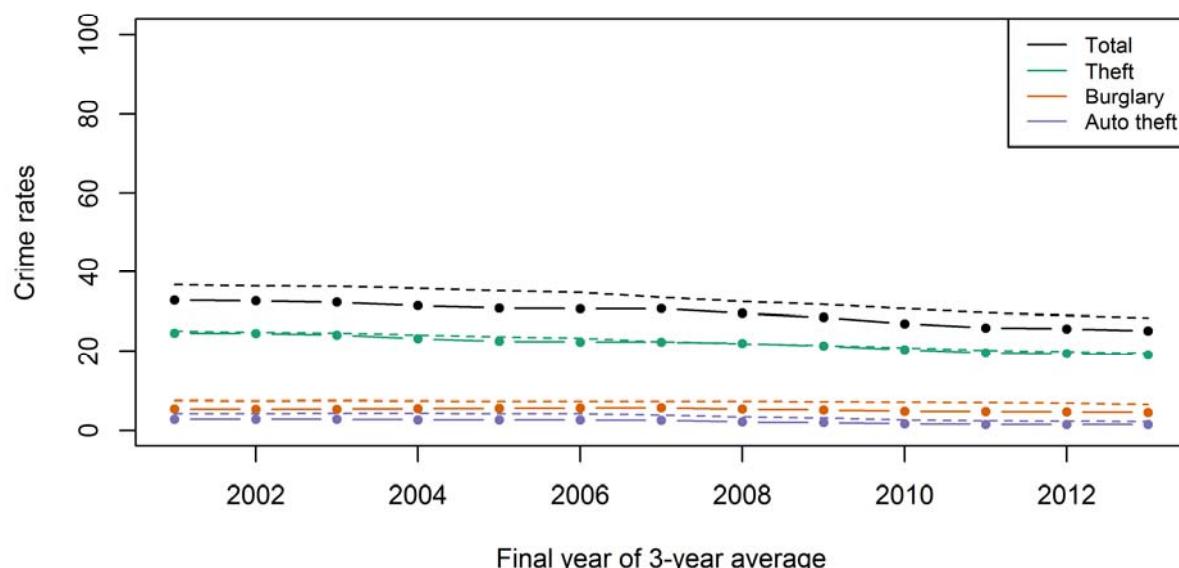
NCVS(SAE) violent crimes in Michigan compared to national rates by relationship

NCVS(SAE) property crimes in Michigan compared to national rates (dotted lines)**UCR property crimes in Michigan compared to national rates**

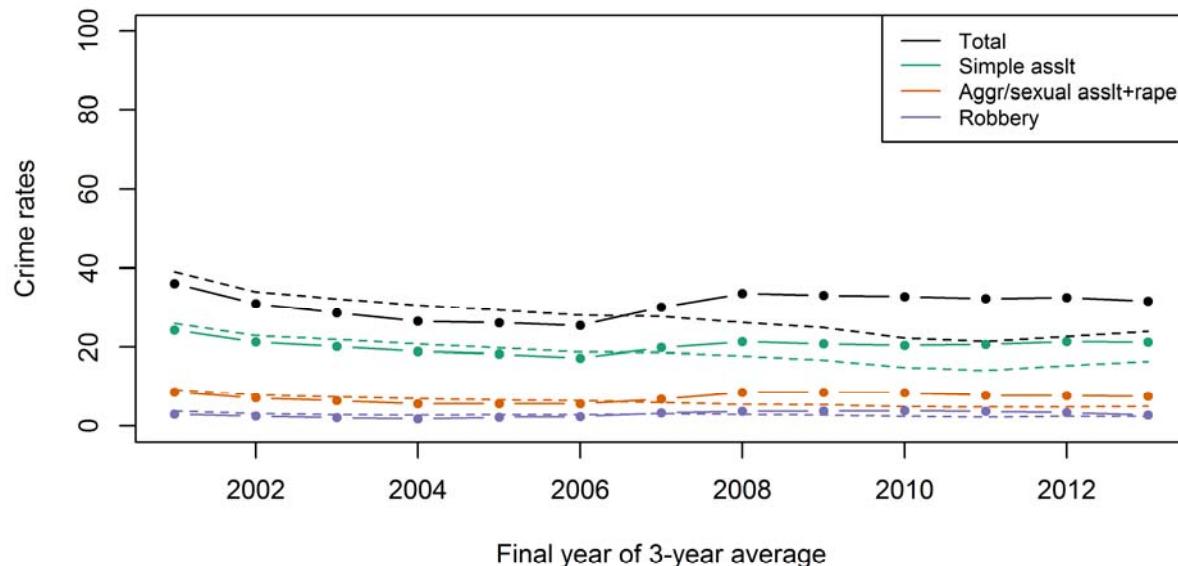
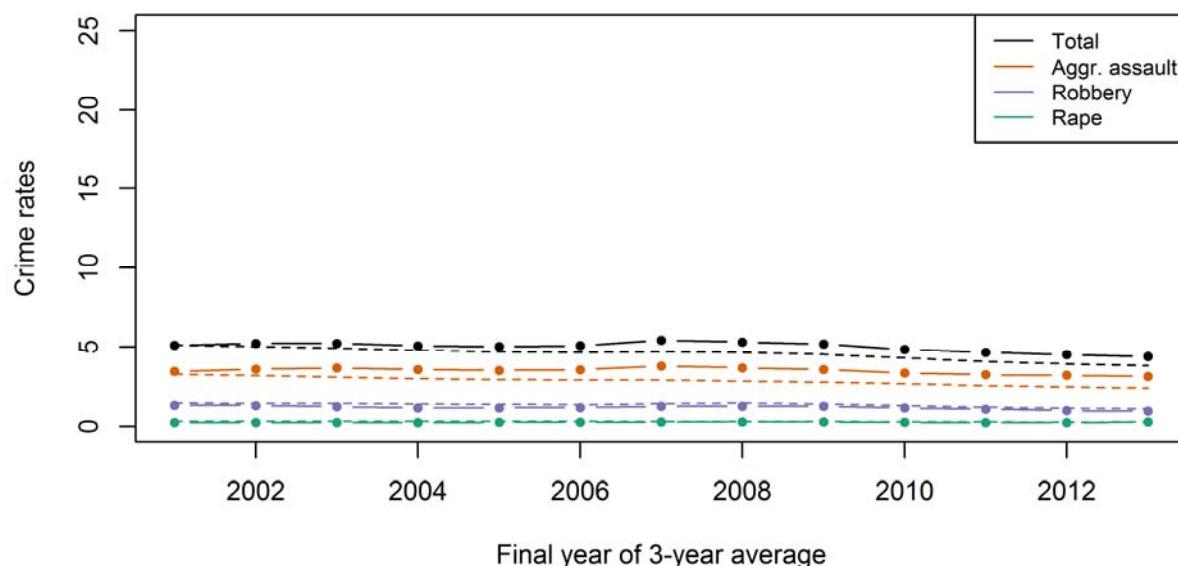
Minnesota

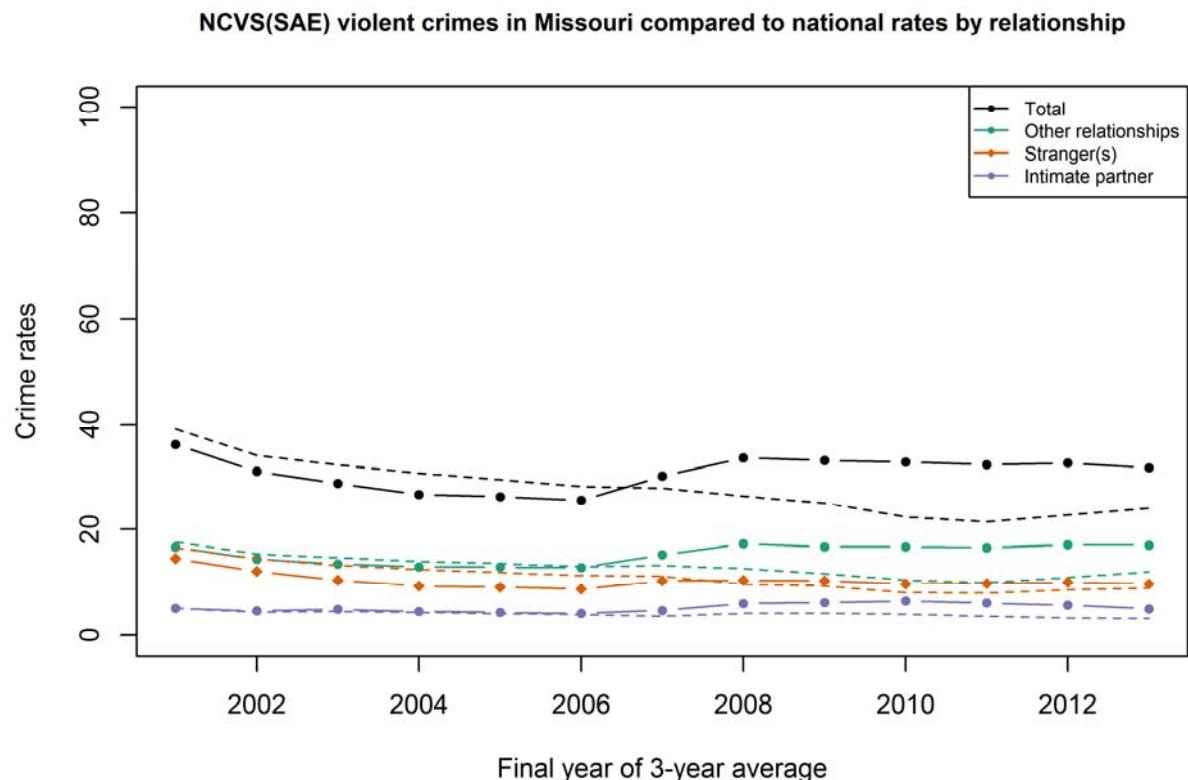
NCVS(SAE) violent crimes in Minnesota compared to national rates by type of crime**UCR violent crimes in Minnesota compared to national rates**

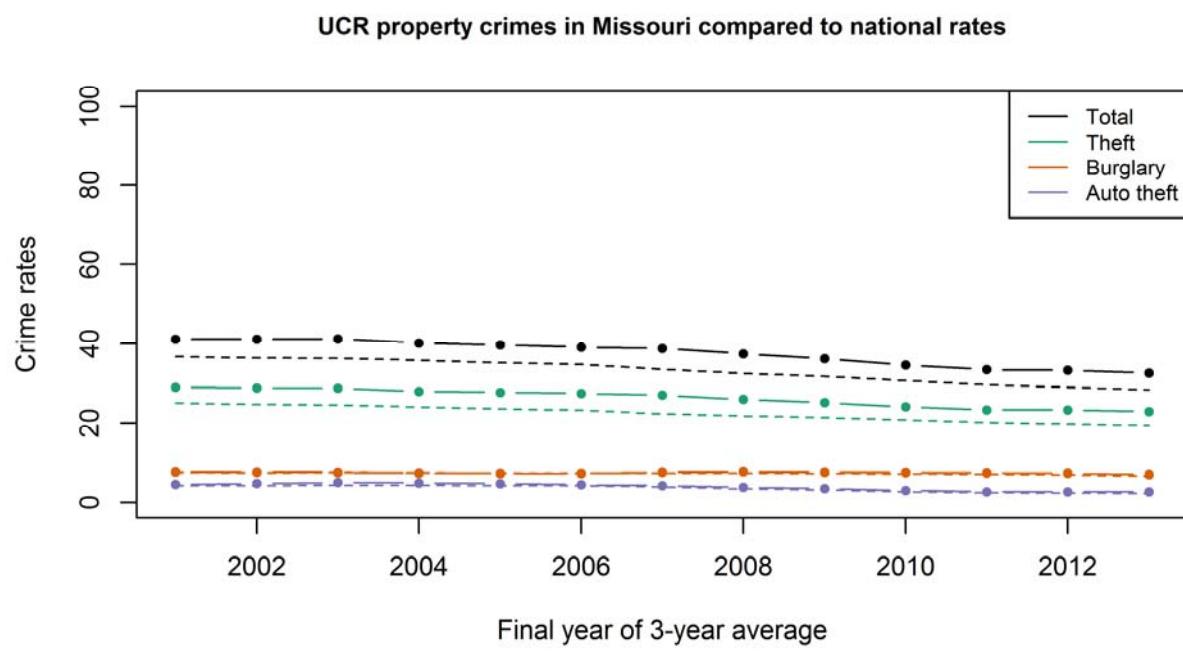
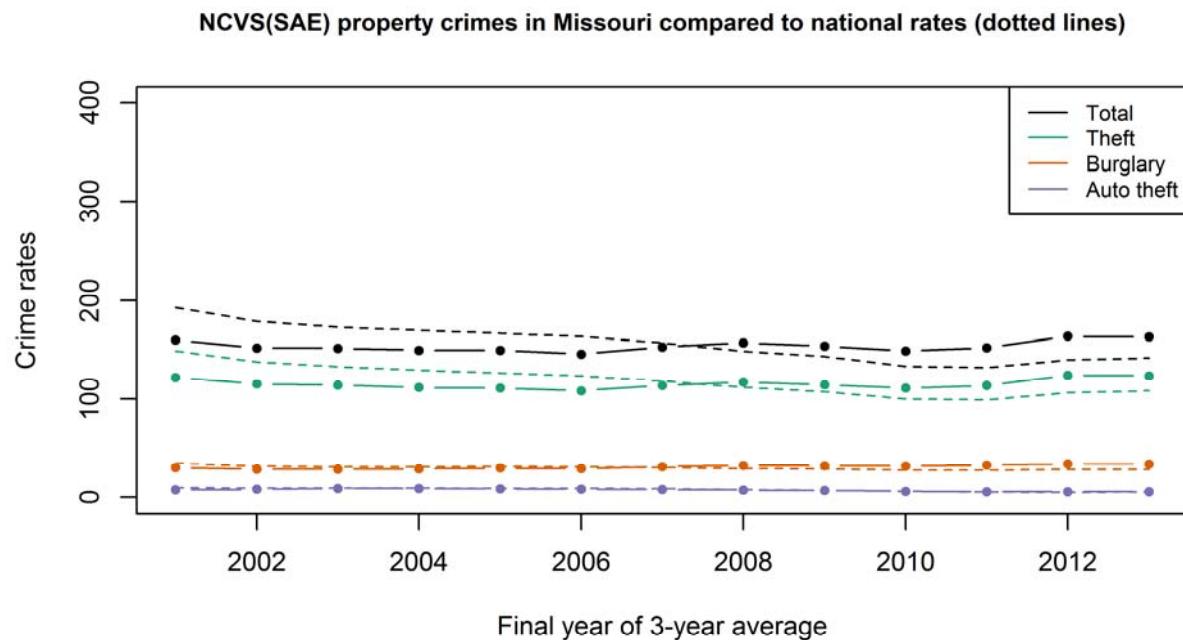


NCVS(SAE) property crimes in Minnesota compared to national rates (dotted lines)**UCR property crimes in Minnesota compared to national rates**

Missouri

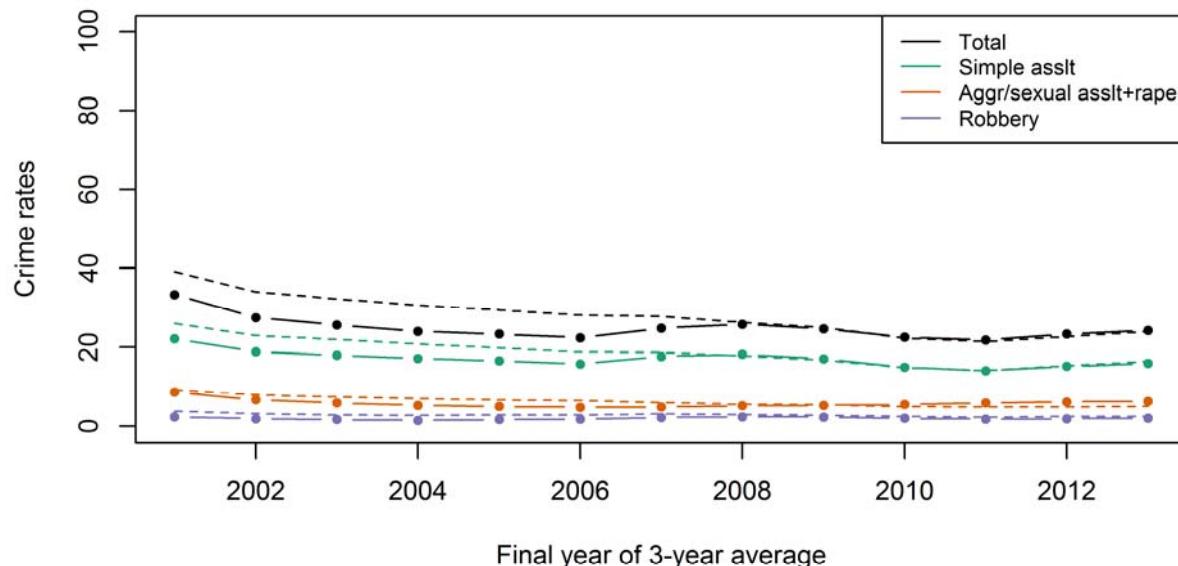
NCVS(SAE) violent crimes in Missouri compared to national rates by type of crime**UCR violent crimes in Missouri compared to national rates**



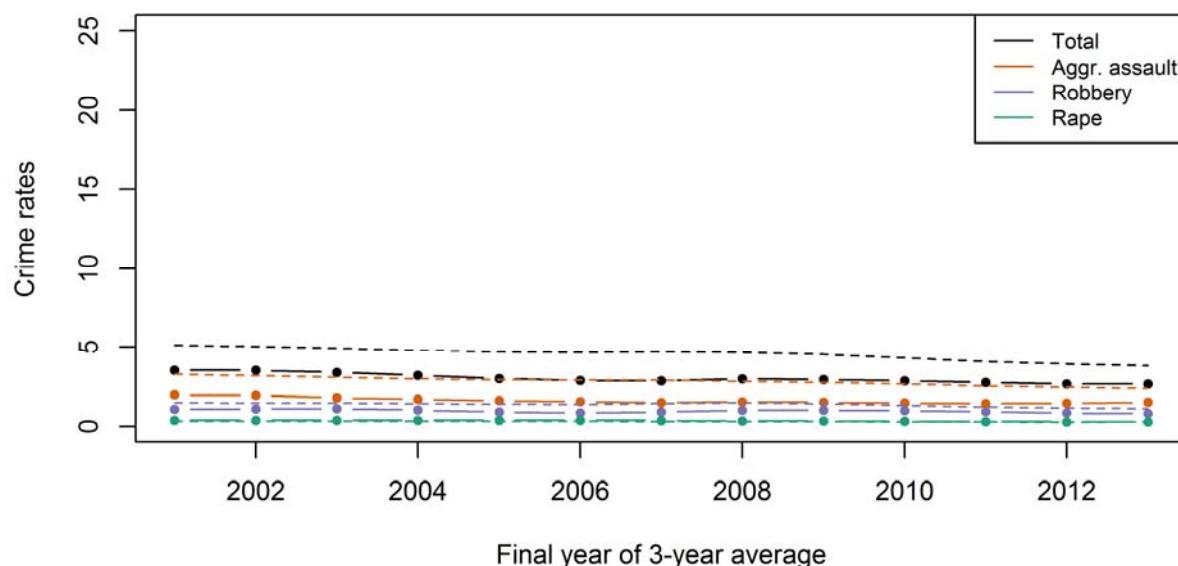


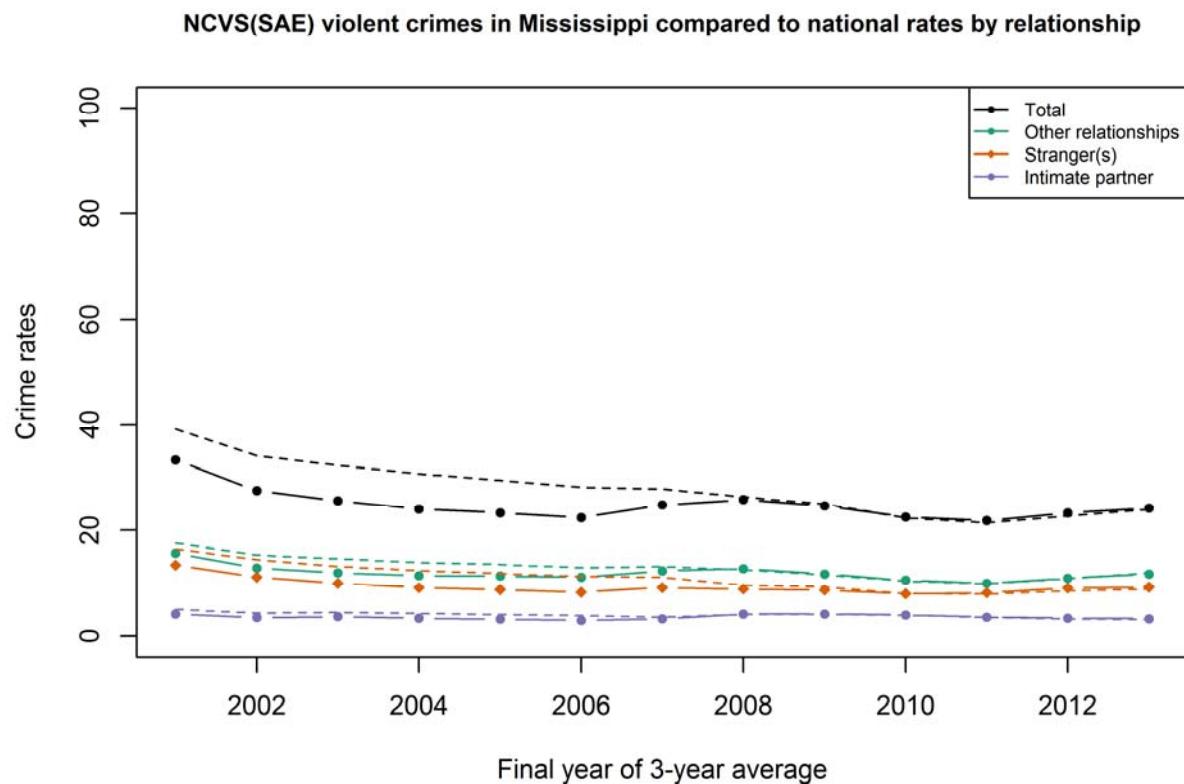
Mississippi

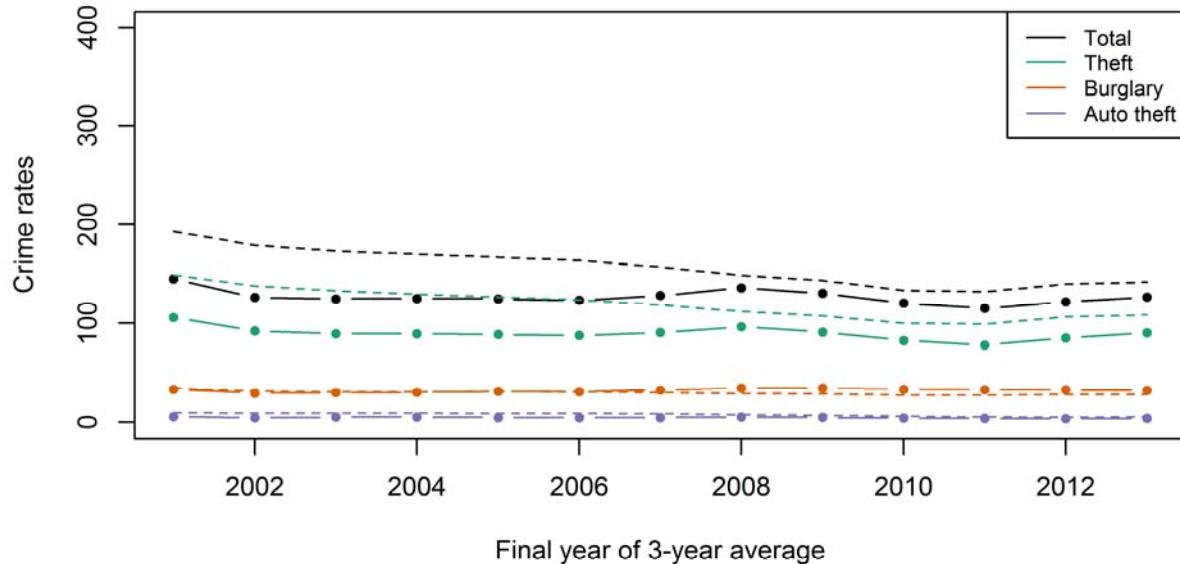
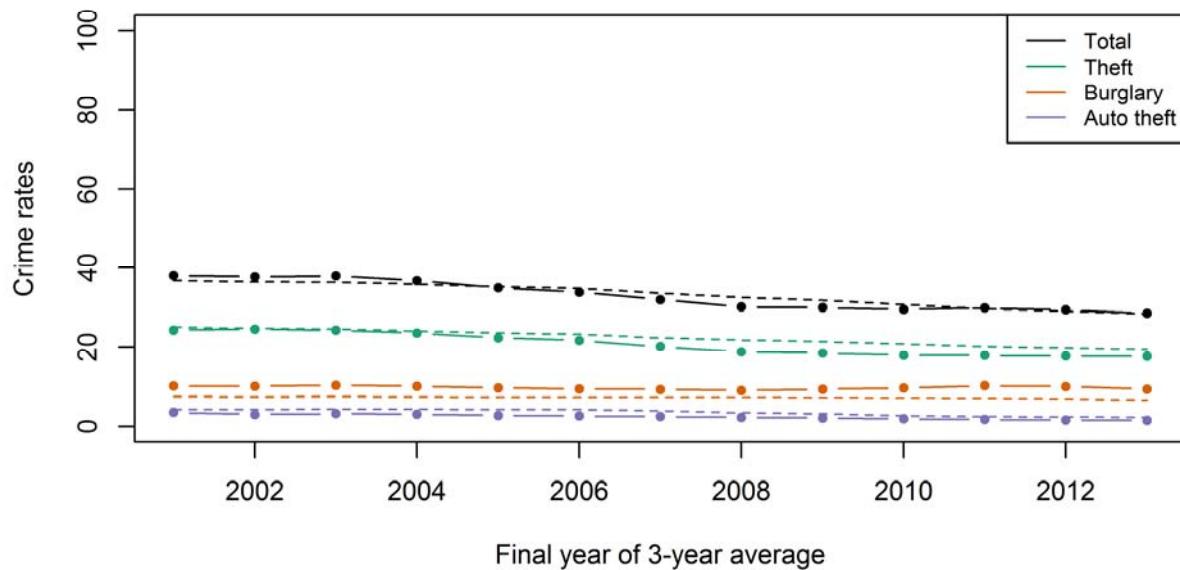
NCVS(SAE) violent crimes in Mississippi compared to national rates by type of crime



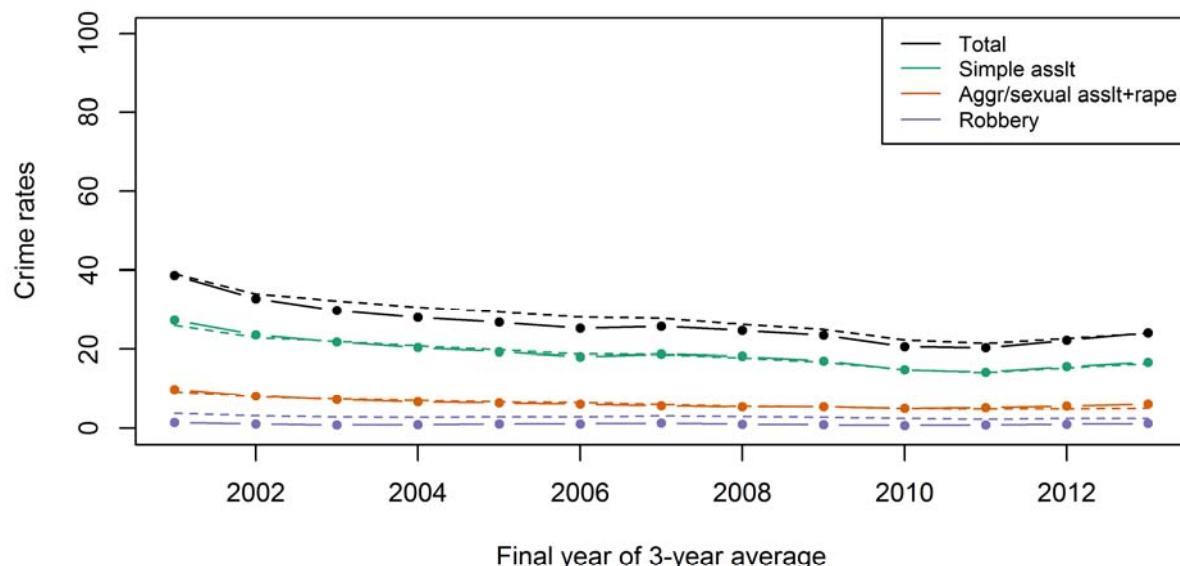
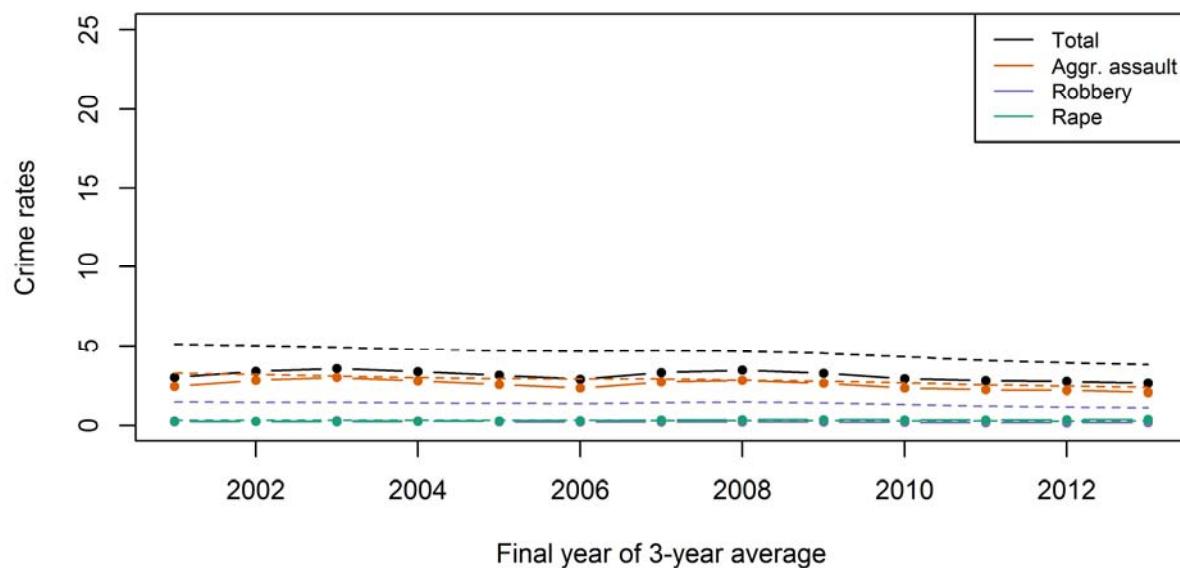
UCR violent crimes in Mississippi compared to national rates

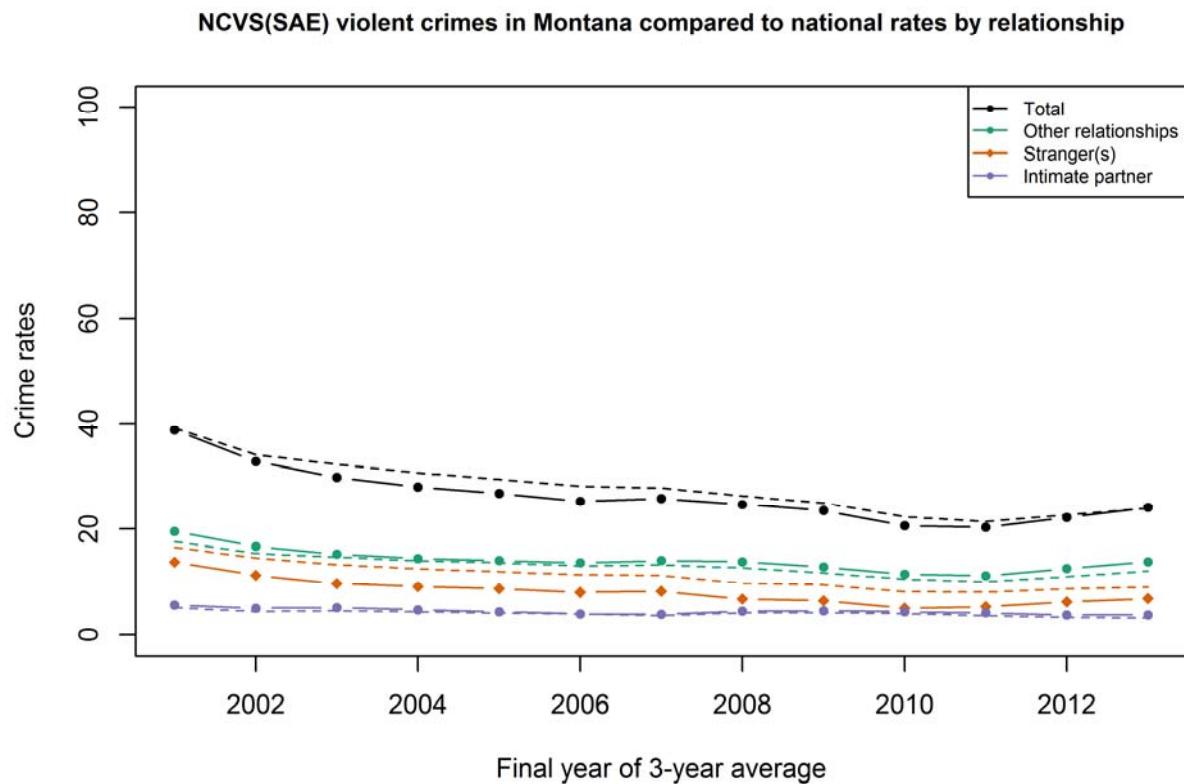


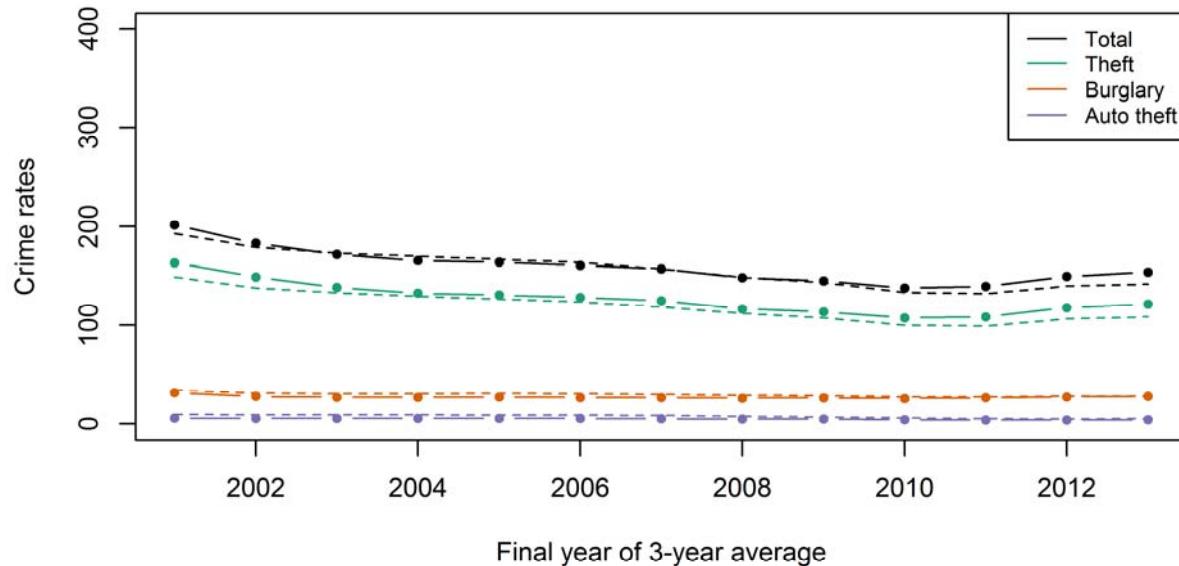
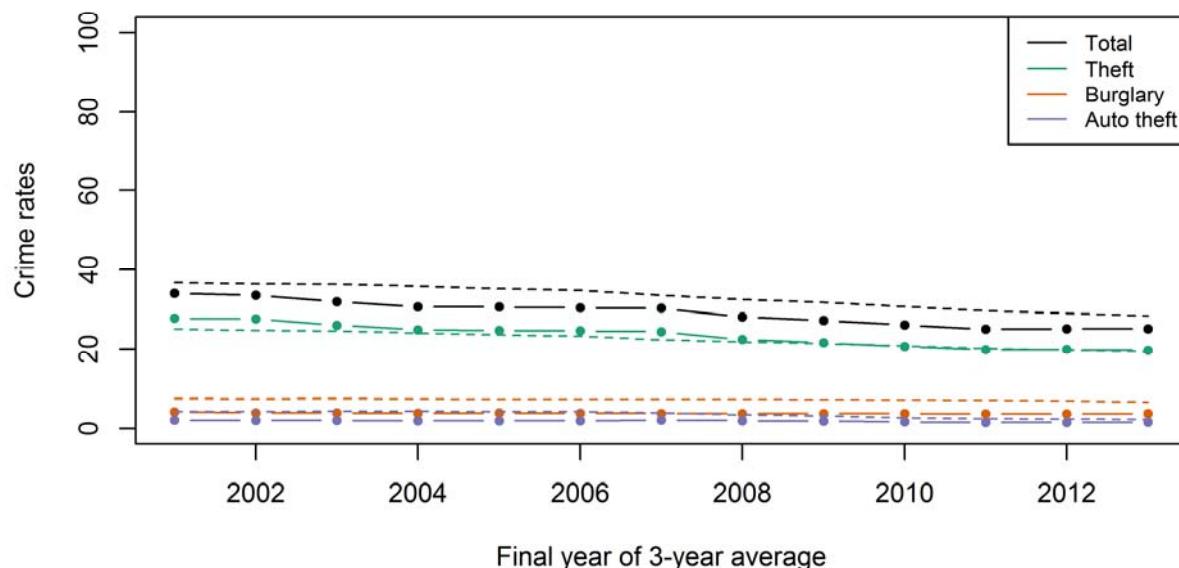


NCVS(SAE) property crimes in Mississippi compared to national rates (dotted lines)**UCR property crimes in Mississippi compared to national rates**

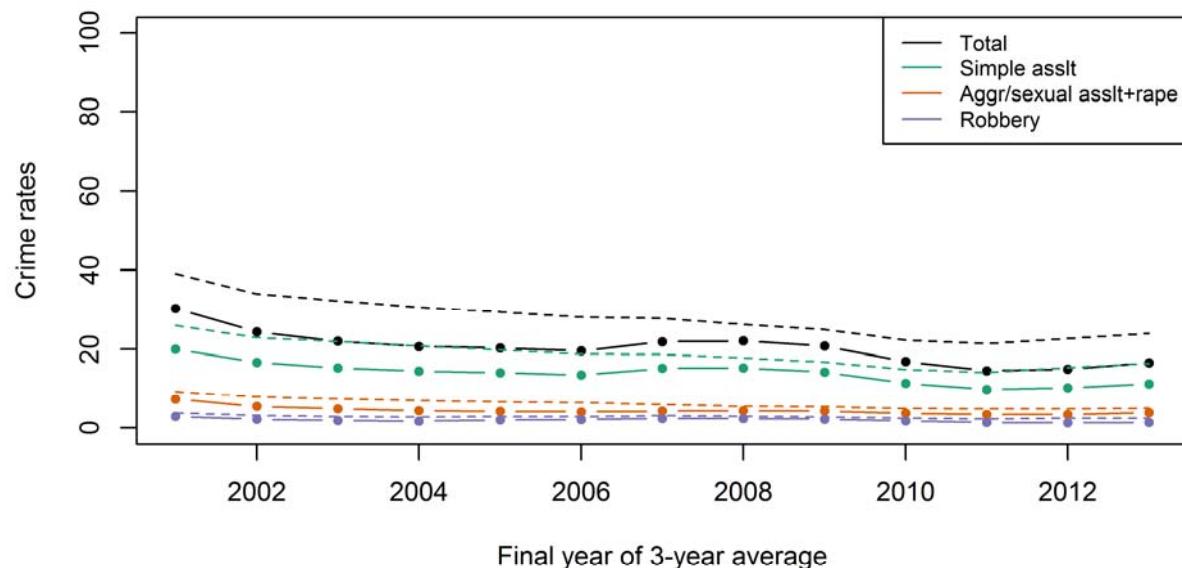
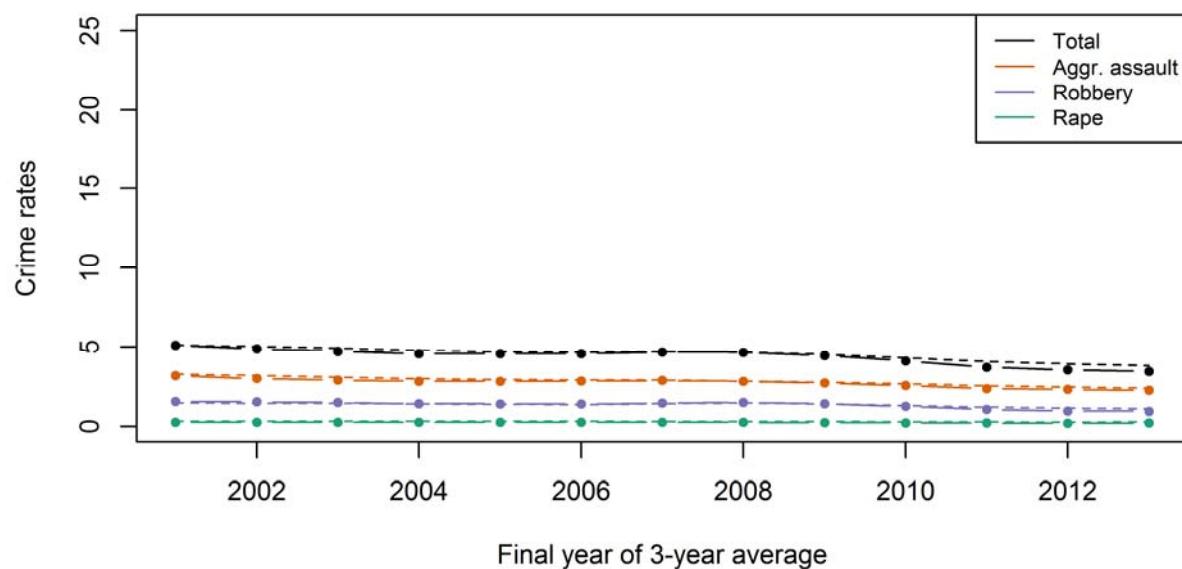
Montana

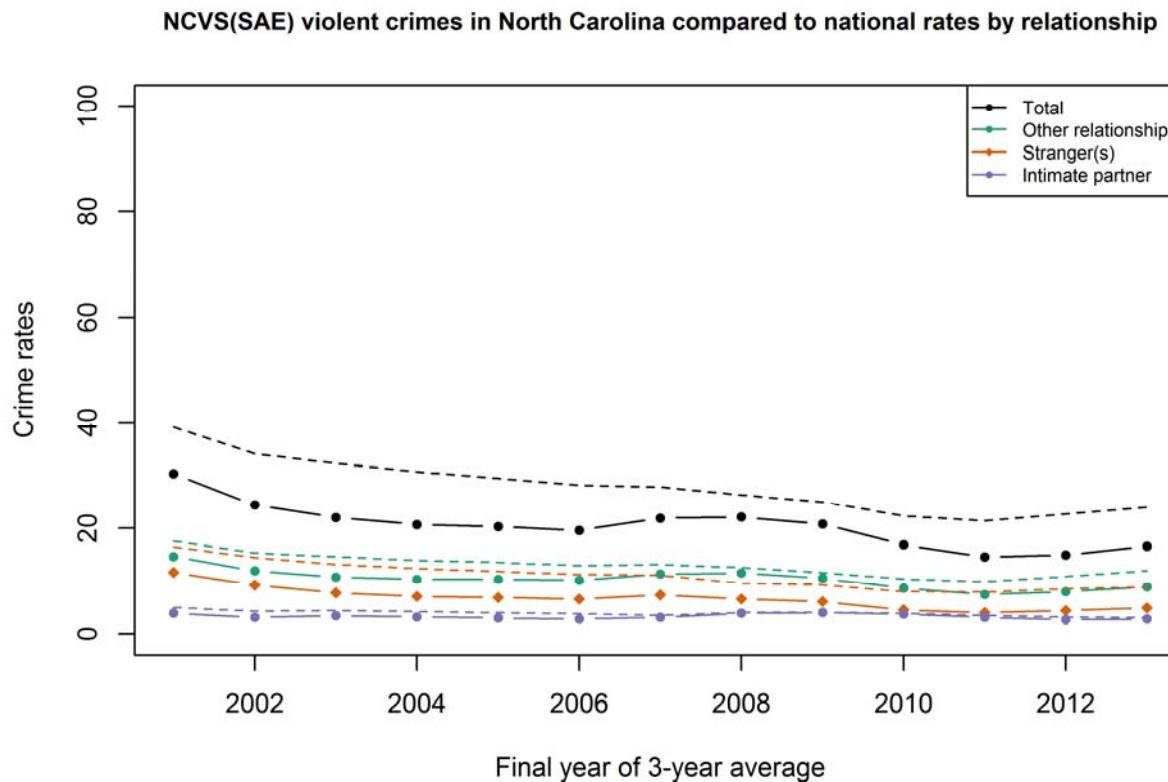
NCVS(SAE) violent crimes in Montana compared to national rates by type of crime**UCR violent crimes in Montana compared to national rates**



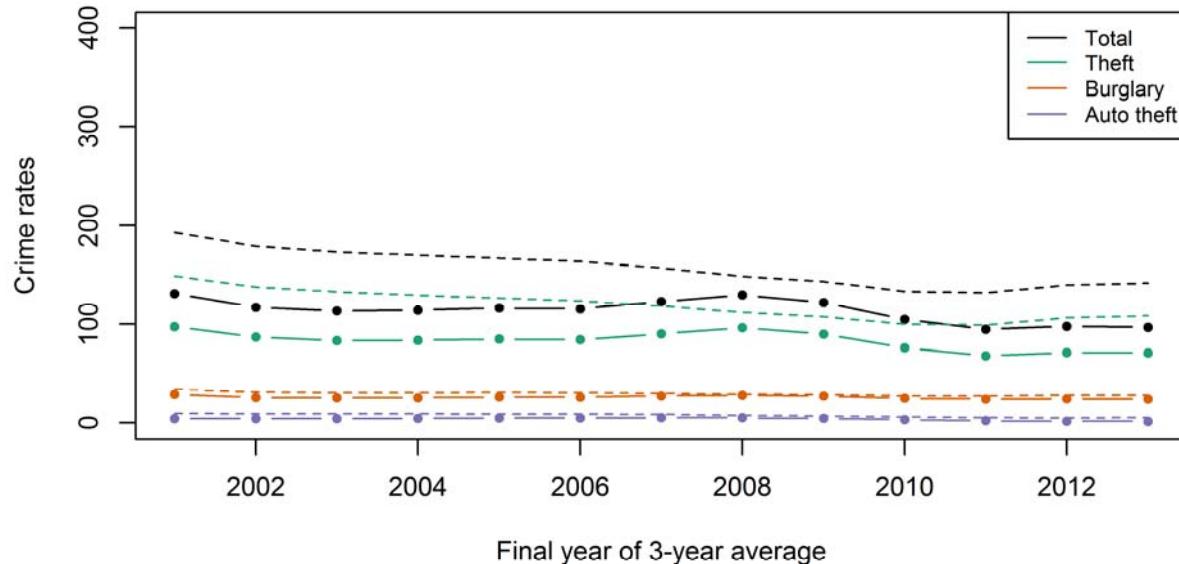
NCVS(SAE) property crimes in Montana compared to national rates (dotted lines)**UCR property crimes in Montana compared to national rates**

North Carolina

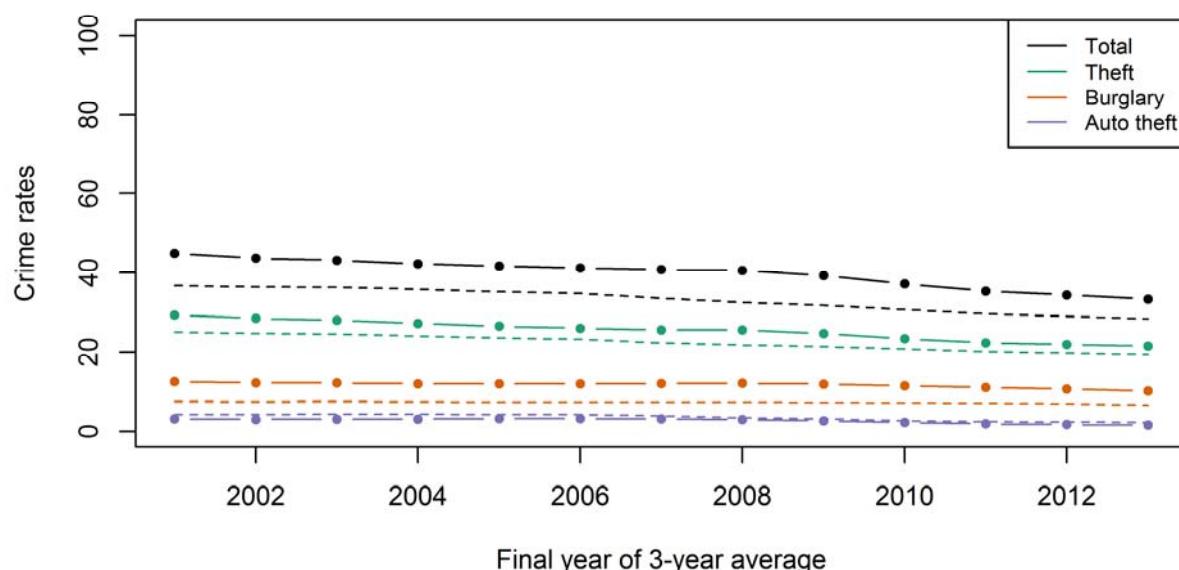
NCVS(SAE) violent crimes in North Carolina compared to national rates by type of crime**UCR violent crimes in North Carolina compared to national rates**



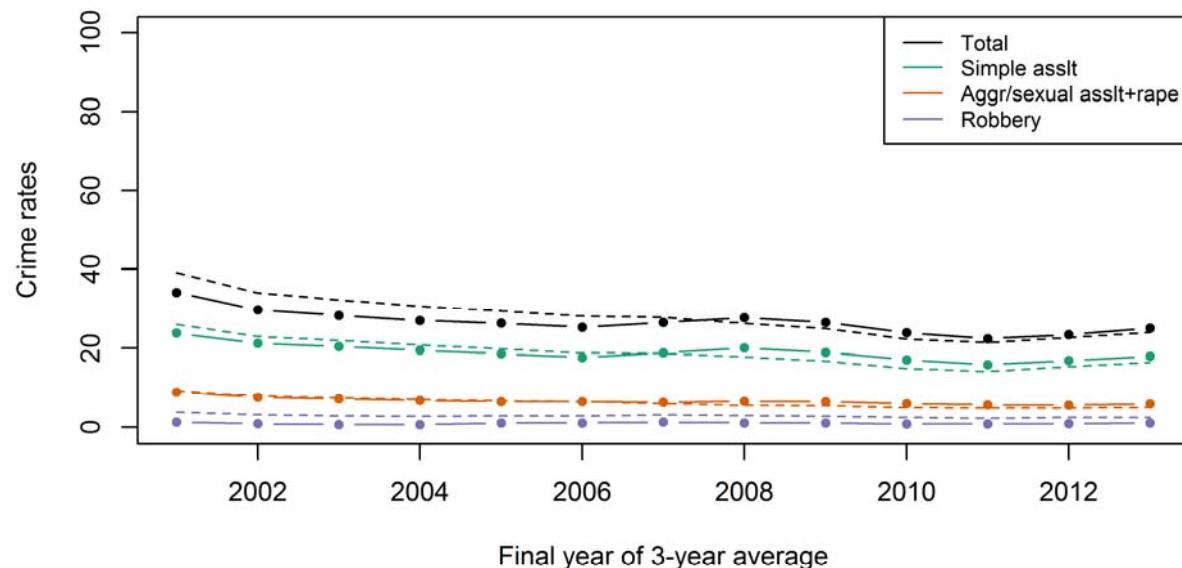
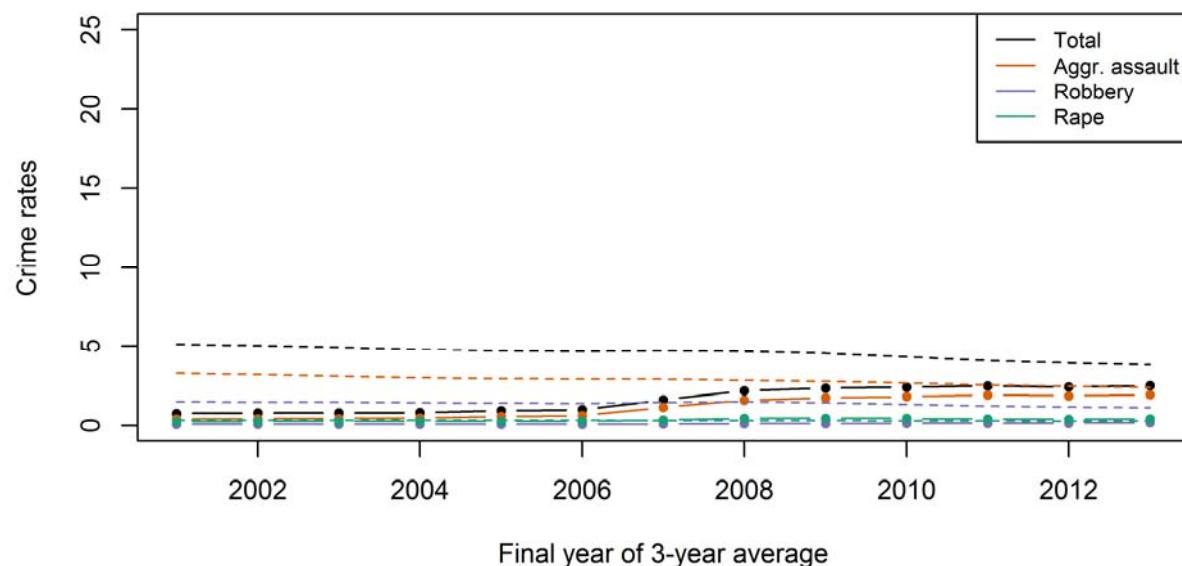
NCVS(SAE) property crimes in North Carolina compared to national rates (dotted lines)

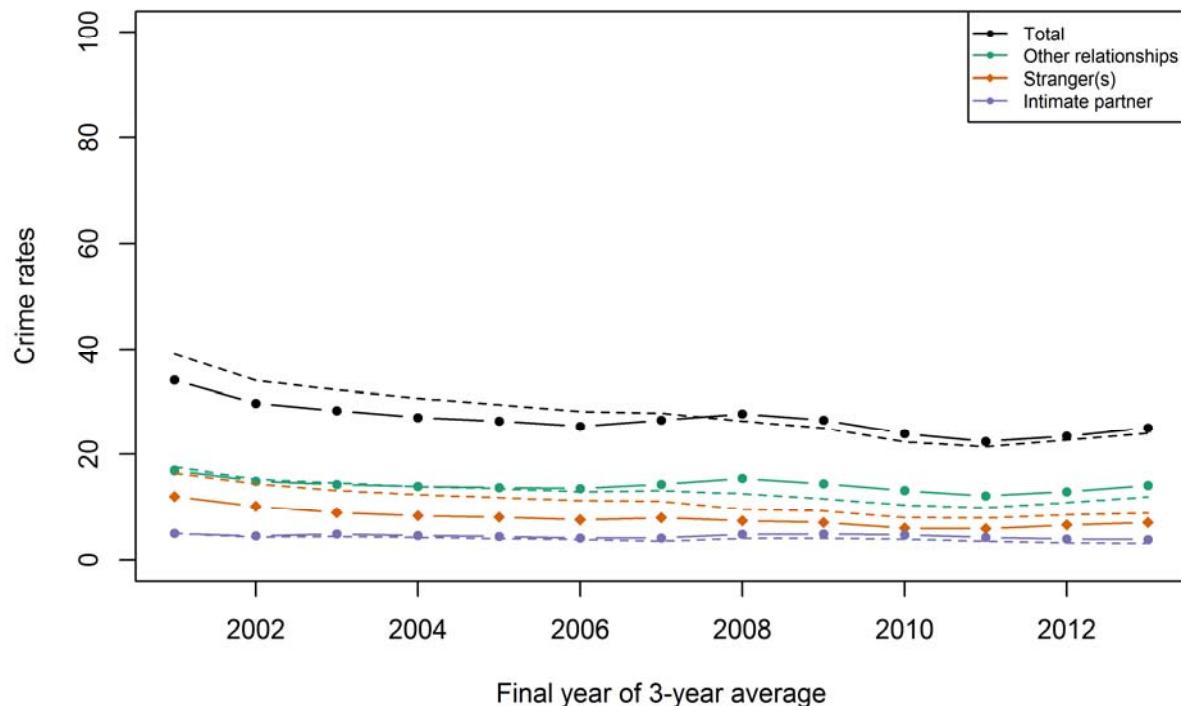


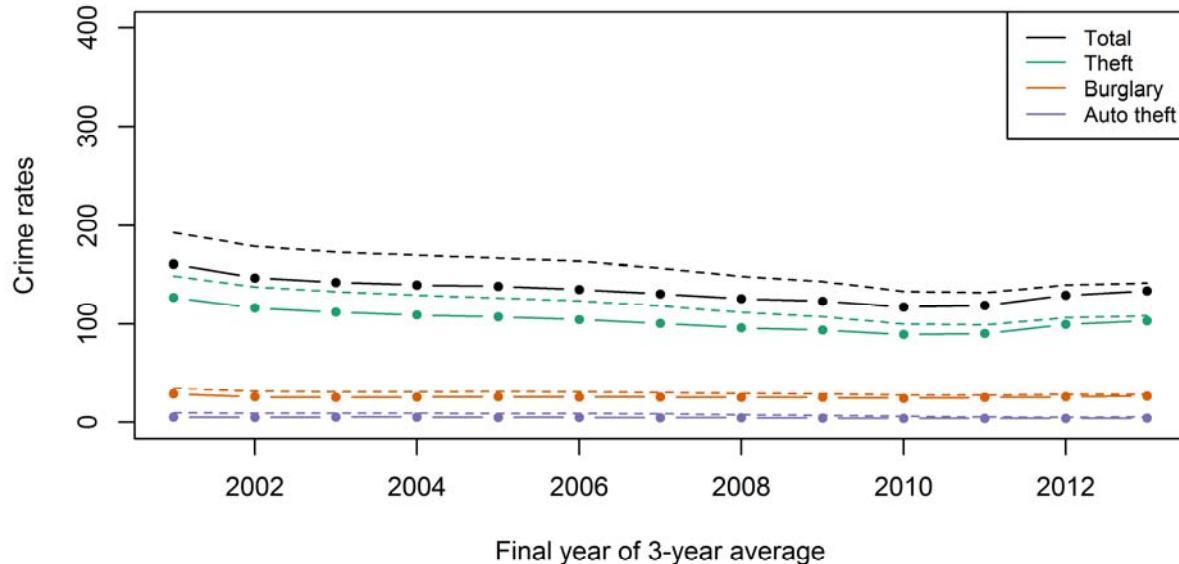
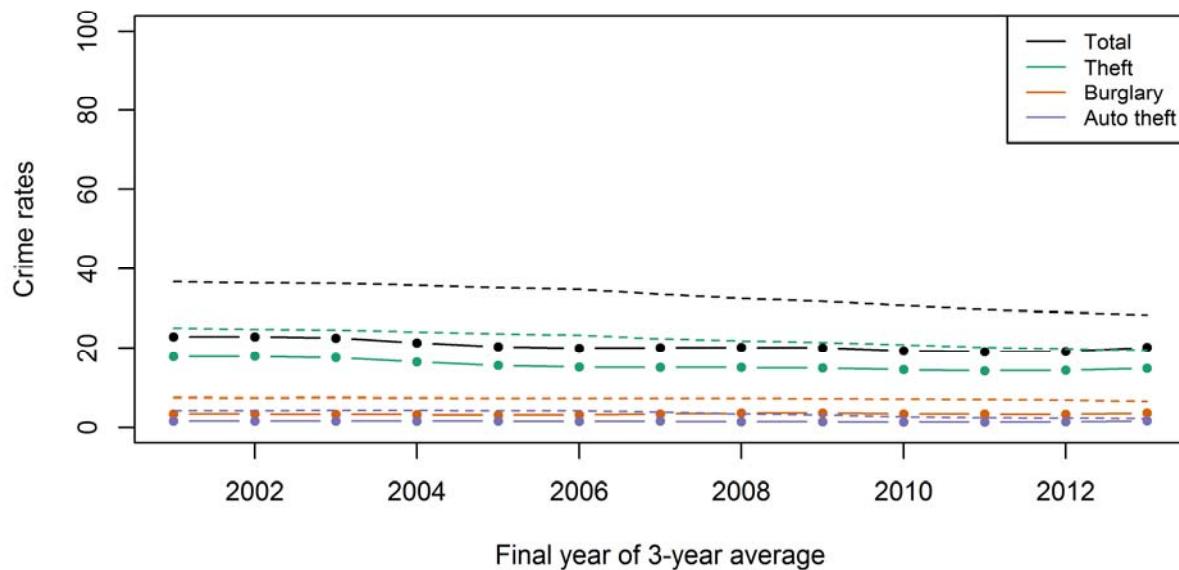
UCR property crimes in North Carolina compared to national rates



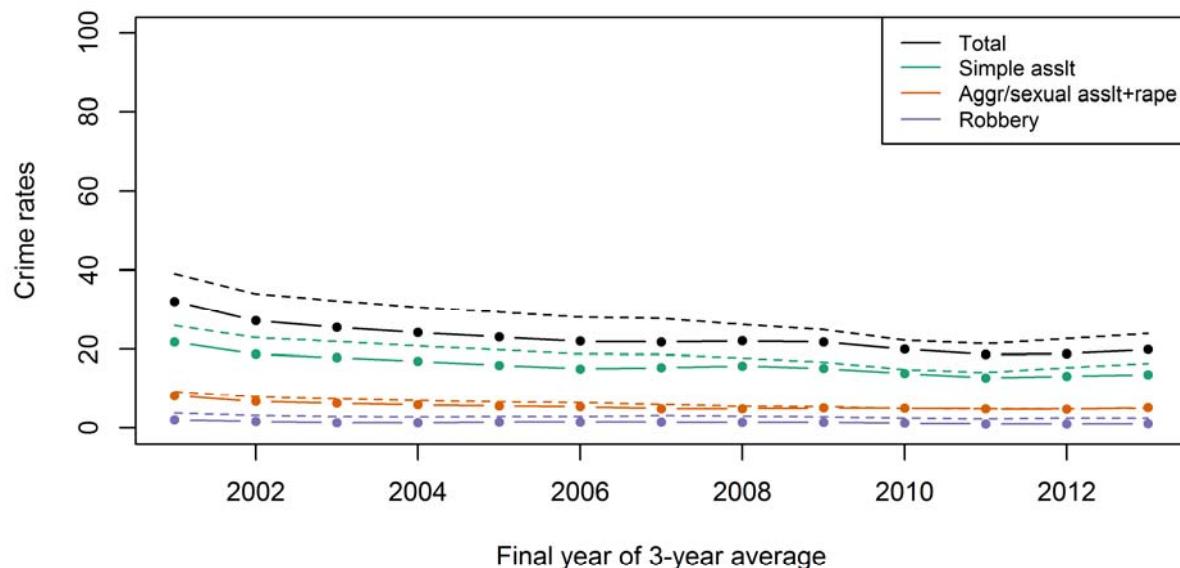
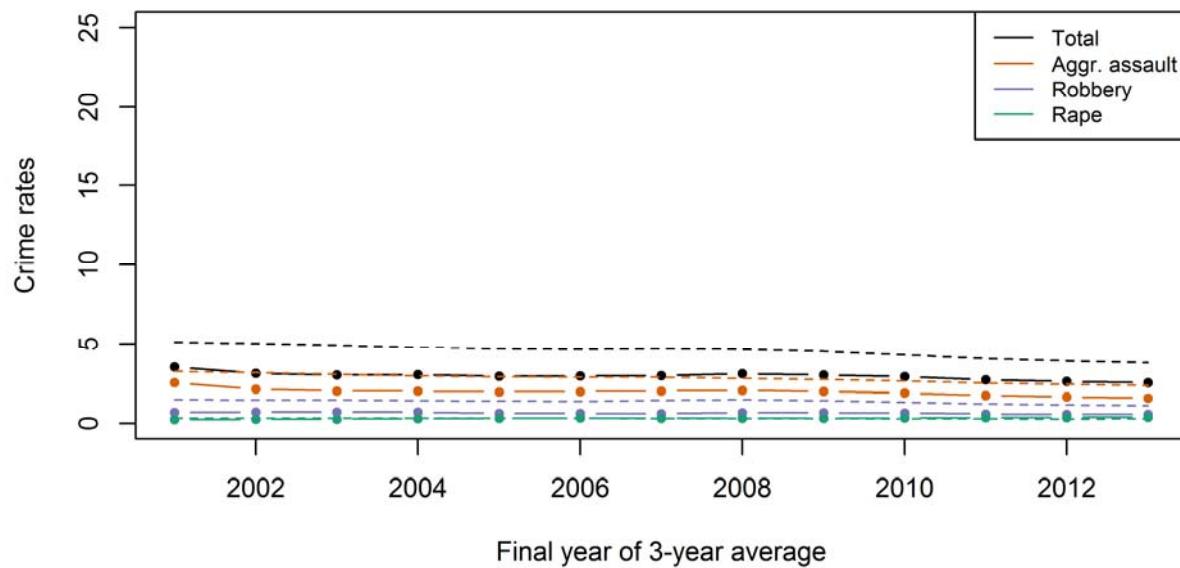
North Dakota

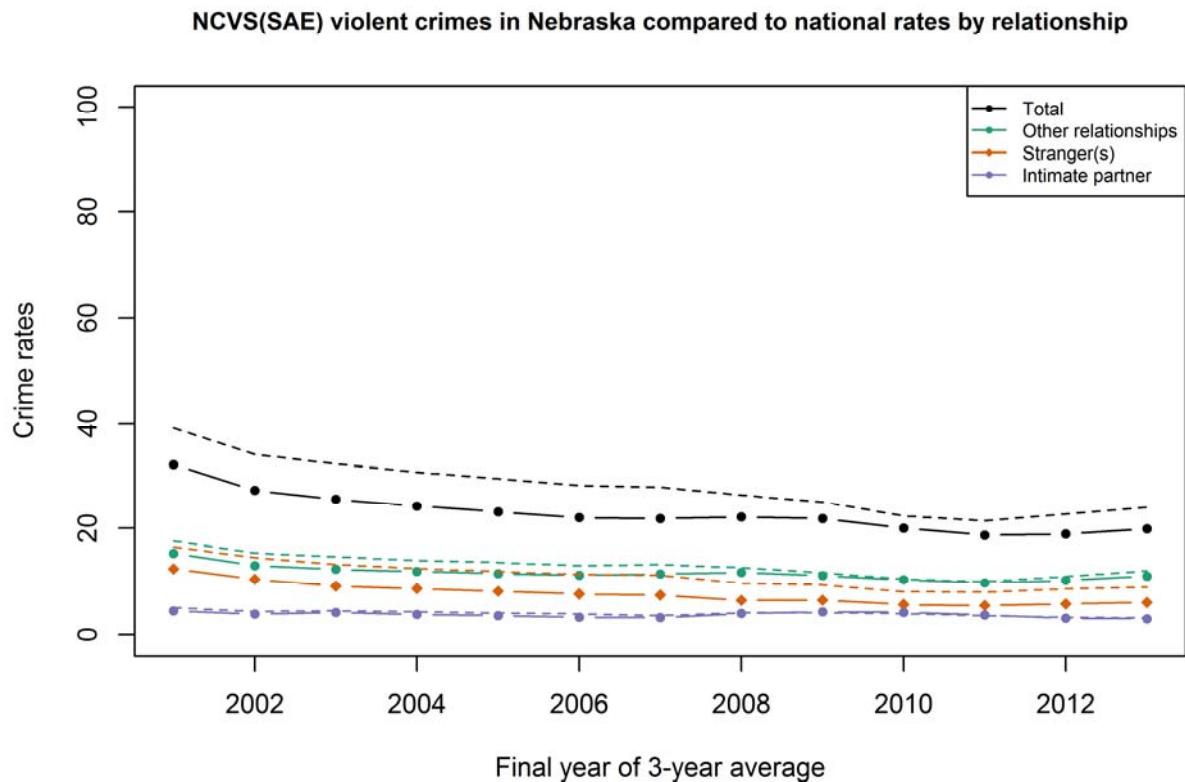
NCVS(SAE) violent crimes in North Dakota compared to national rates by type of crime**UCR violent crimes in North Dakota compared to national rates**

NCVS(SAE) violent crimes in North Dakota compared to national rates by relationship

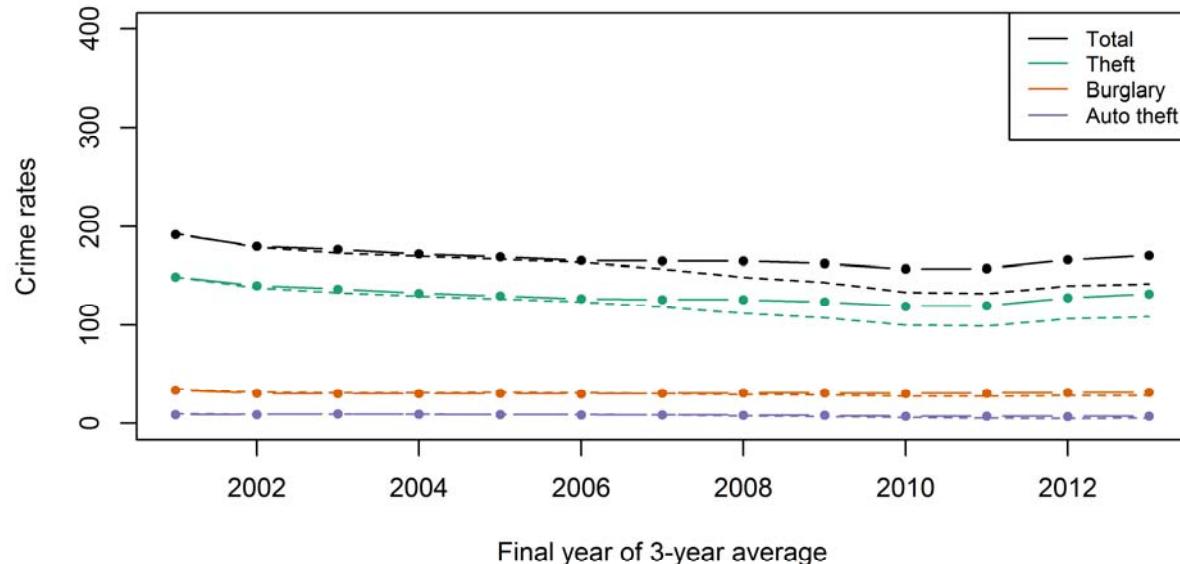
NCVS(SAE) property crimes in North Dakota compared to national rates (dotted lines)**UCR property crimes in North Dakota compared to national rates**

Nebraska

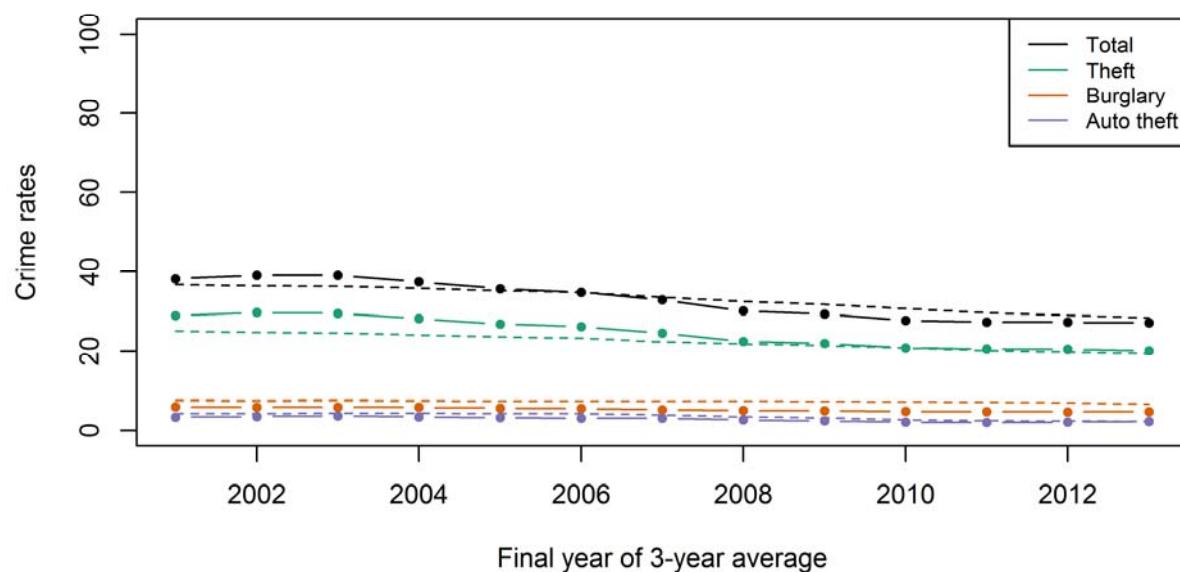
NCVS(SAE) violent crimes in Nebraska compared to national rates by type of crime**UCR violent crimes in Nebraska compared to national rates**



NCVS(SAE) property crimes in Nebraska compared to national rates (dotted lines)

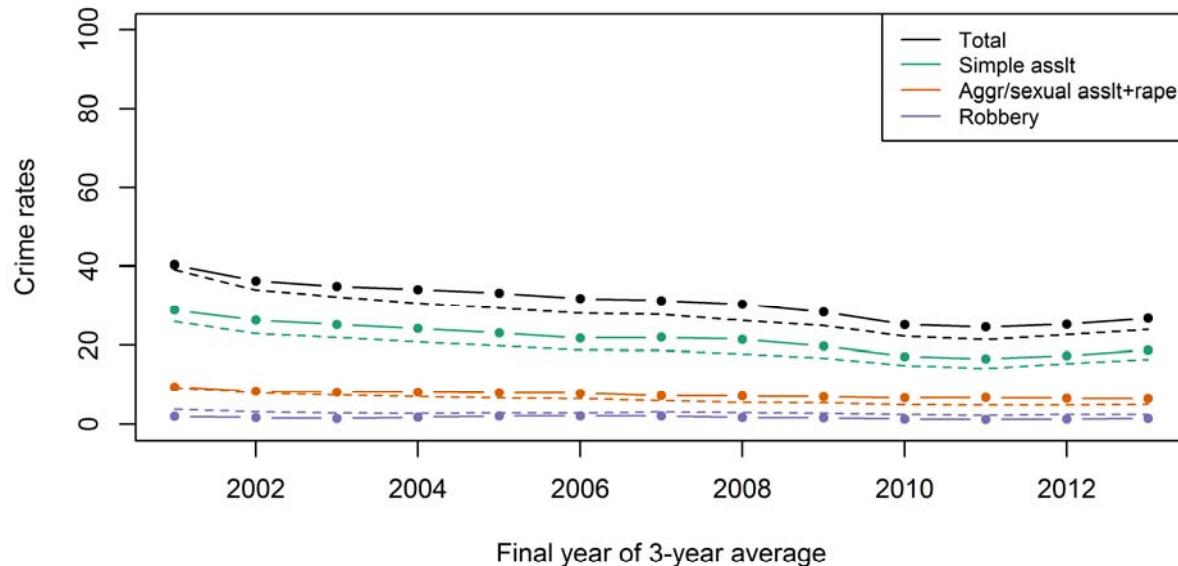


UCR property crimes in Nebraska compared to national rates

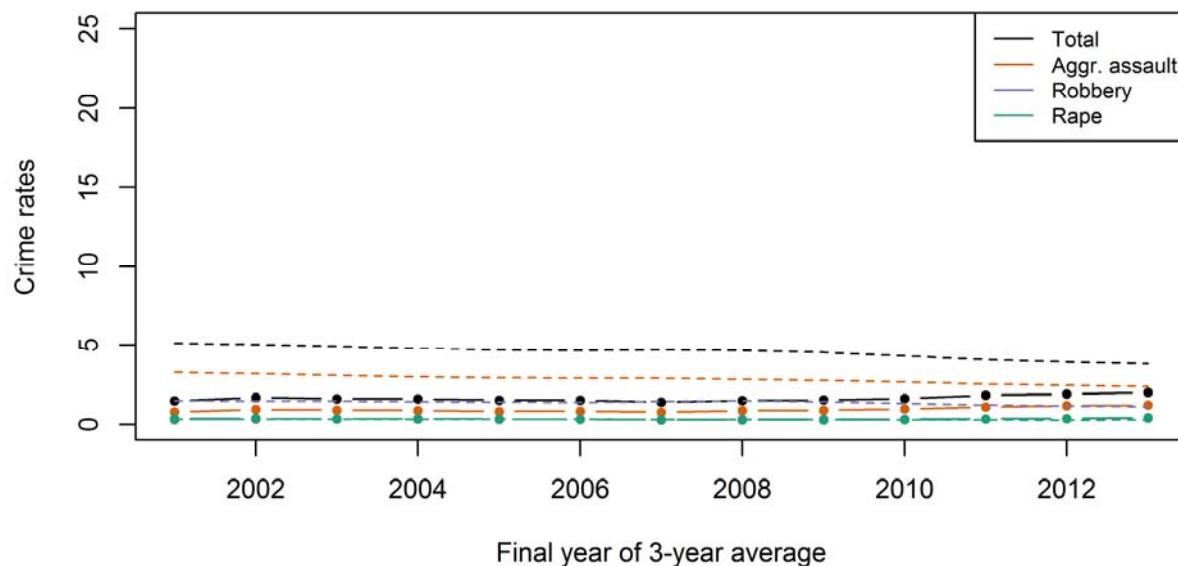


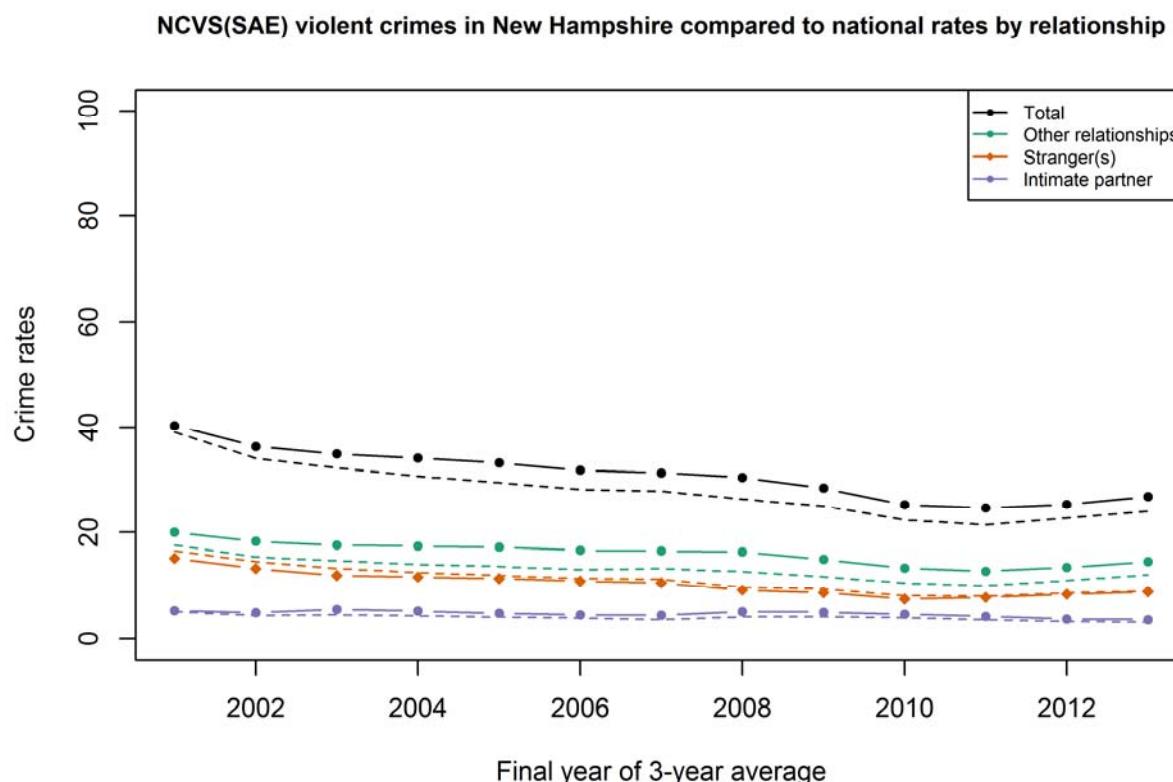
New Hampshire

NCVS(SAE) violent crimes in New Hampshire compared to national rates by type of crime

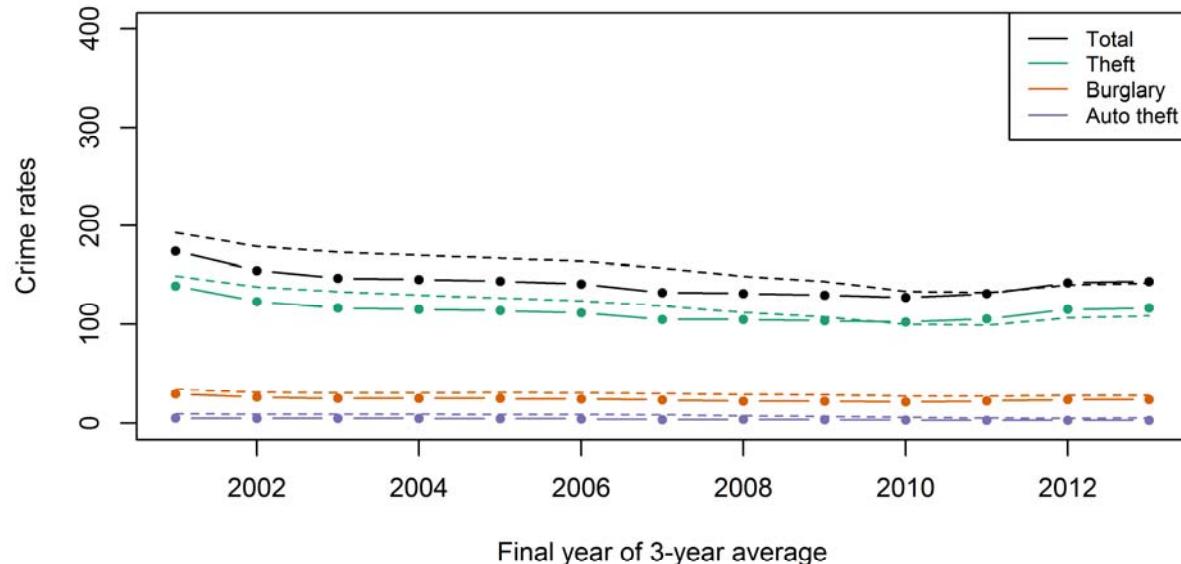


UCR violent crimes in New Hampshire compared to national rates

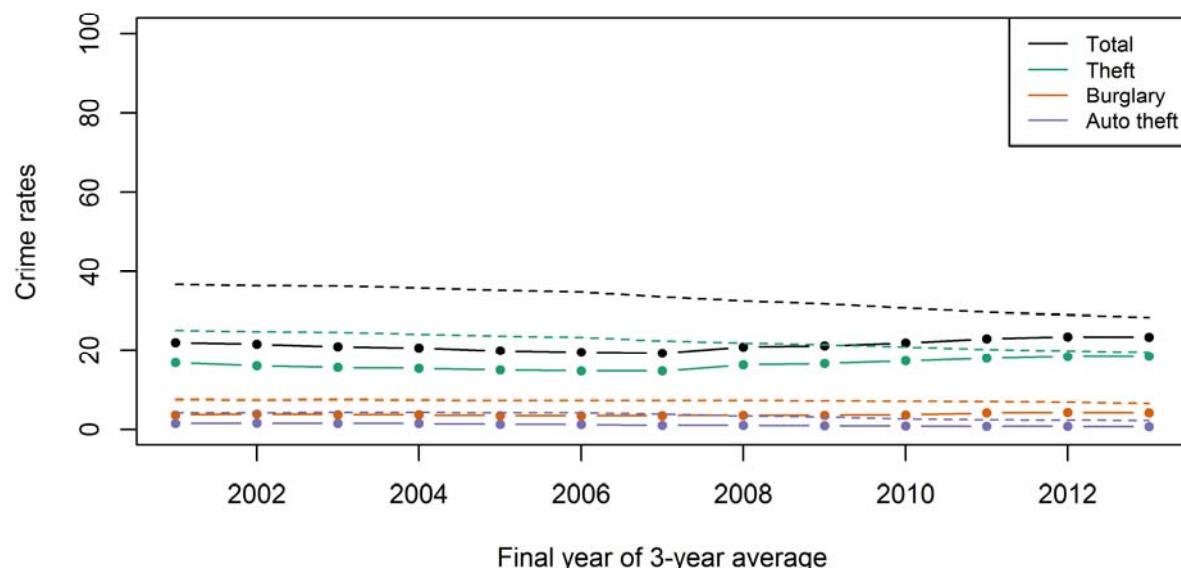




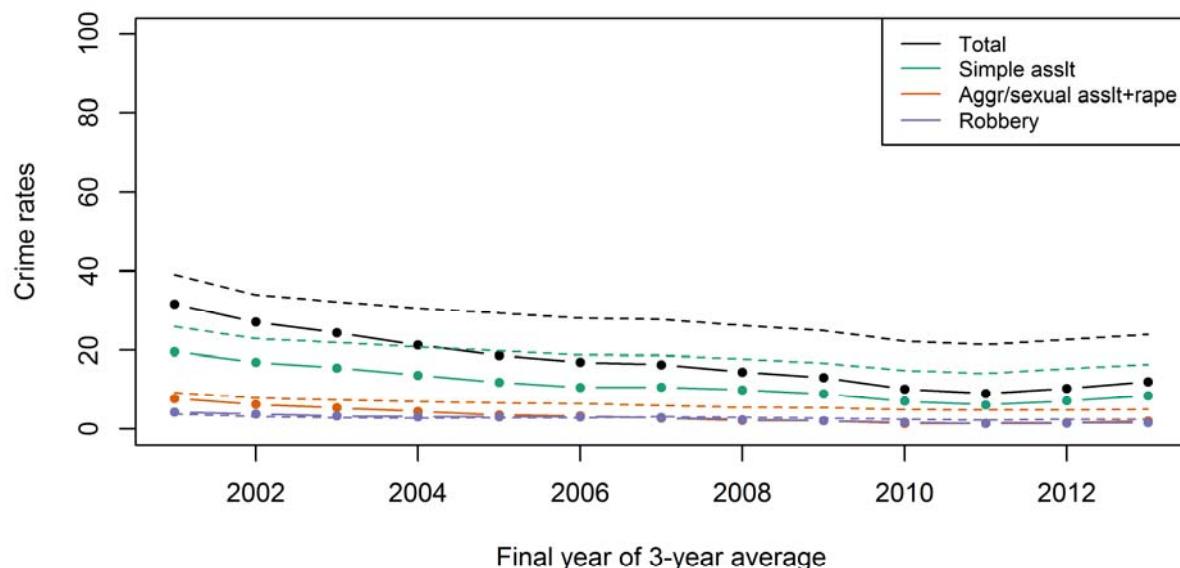
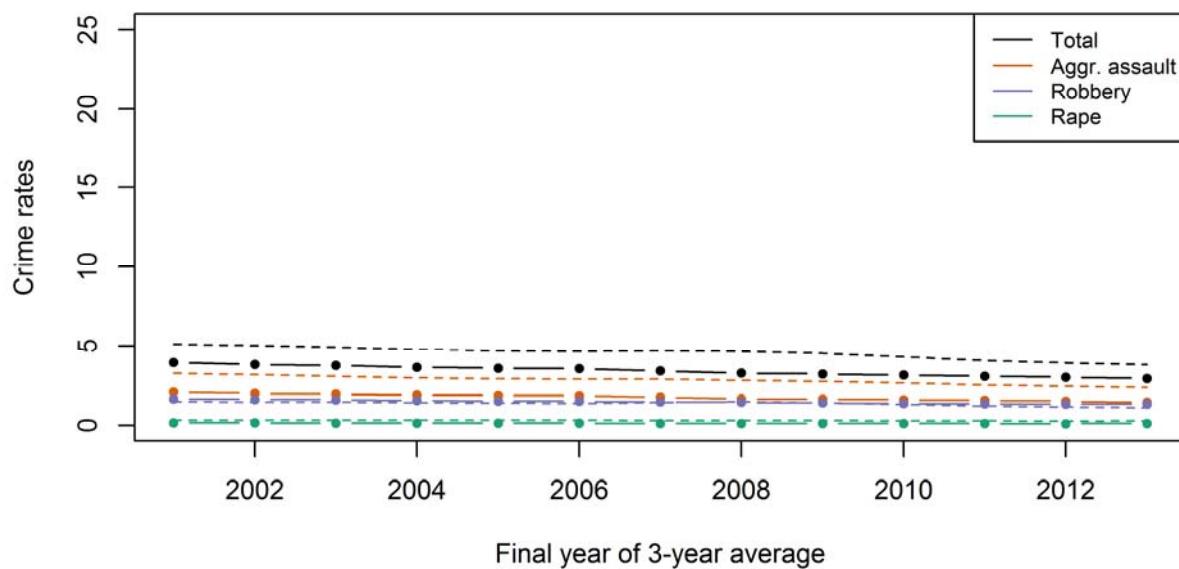
NCVS(SAE) property crimes in New Hampshire compared to national rates (dotted lines)

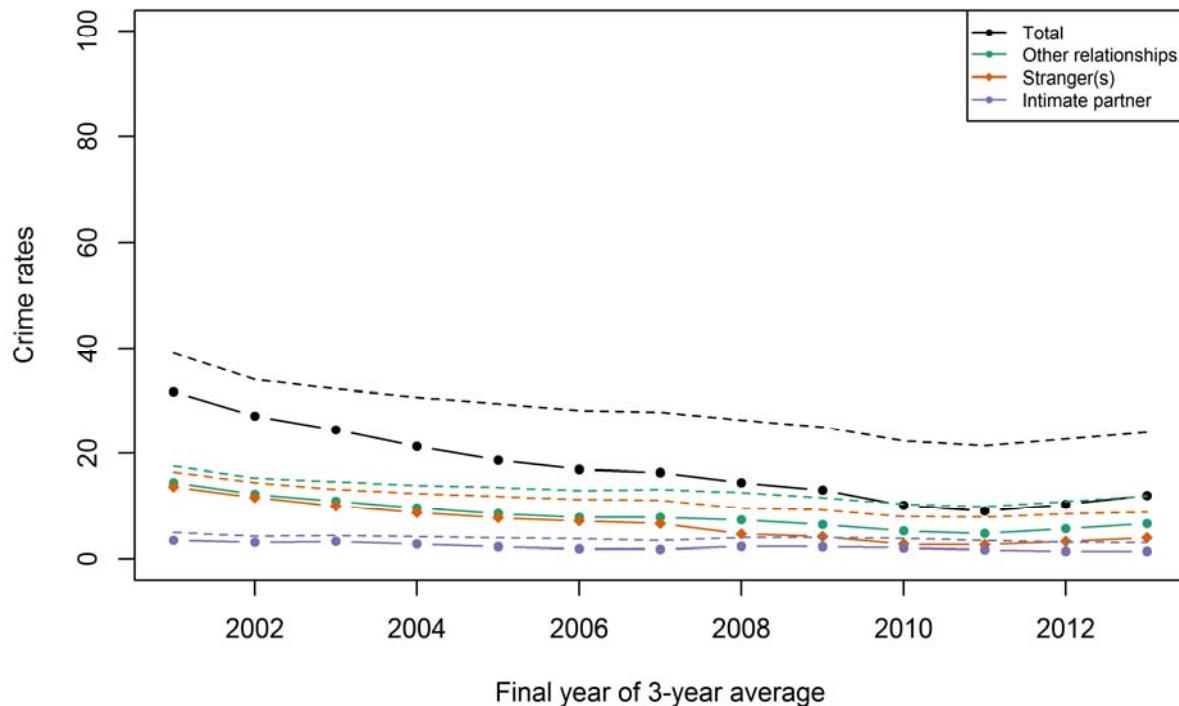


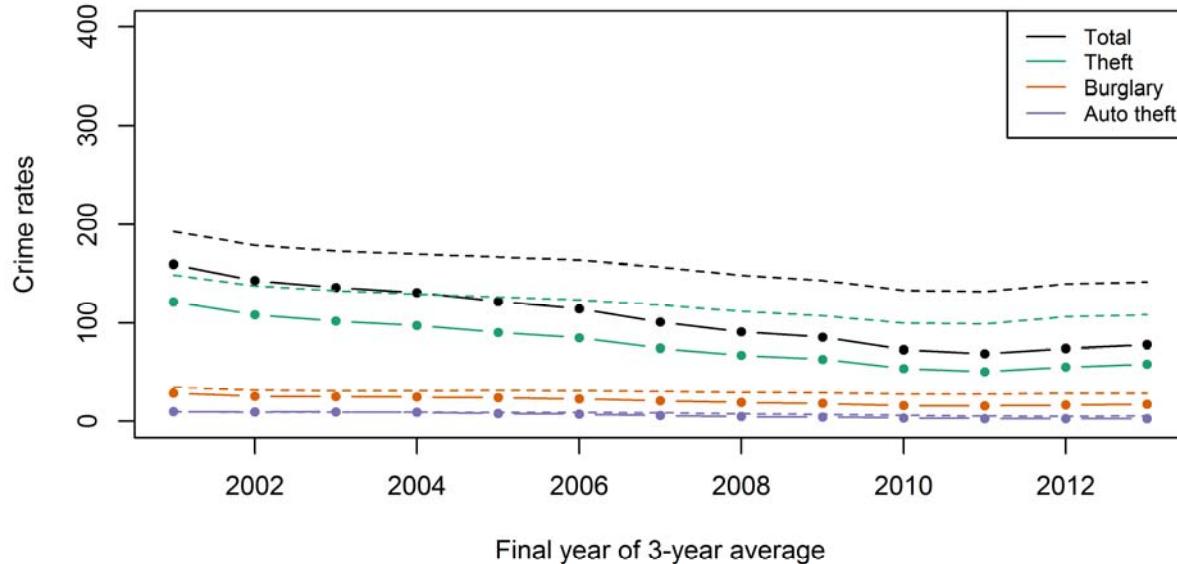
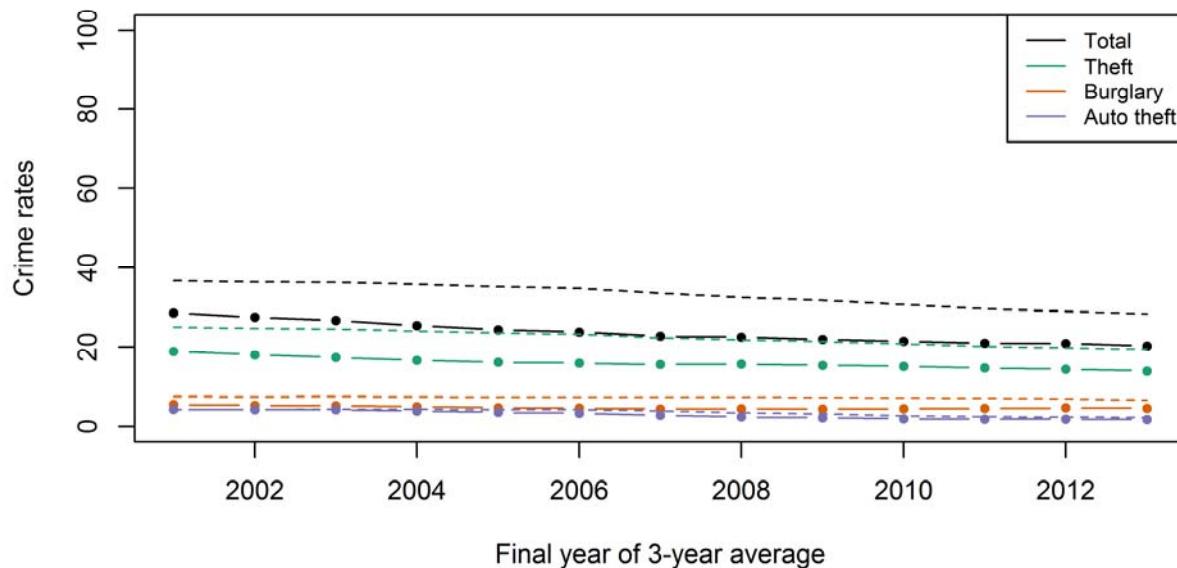
UCR property crimes in New Hampshire compared to national rates



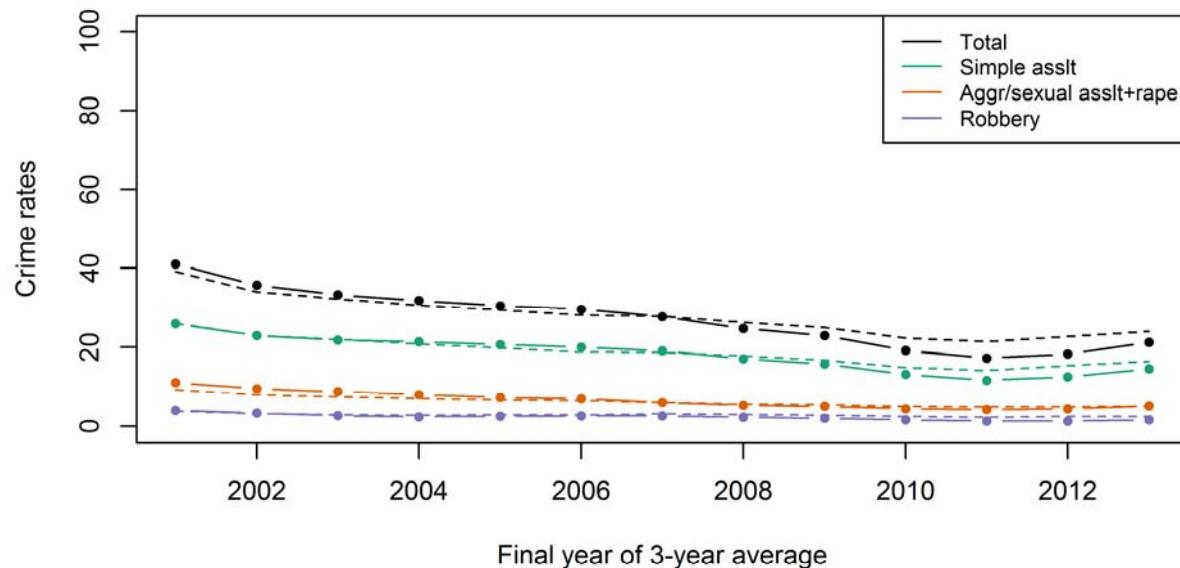
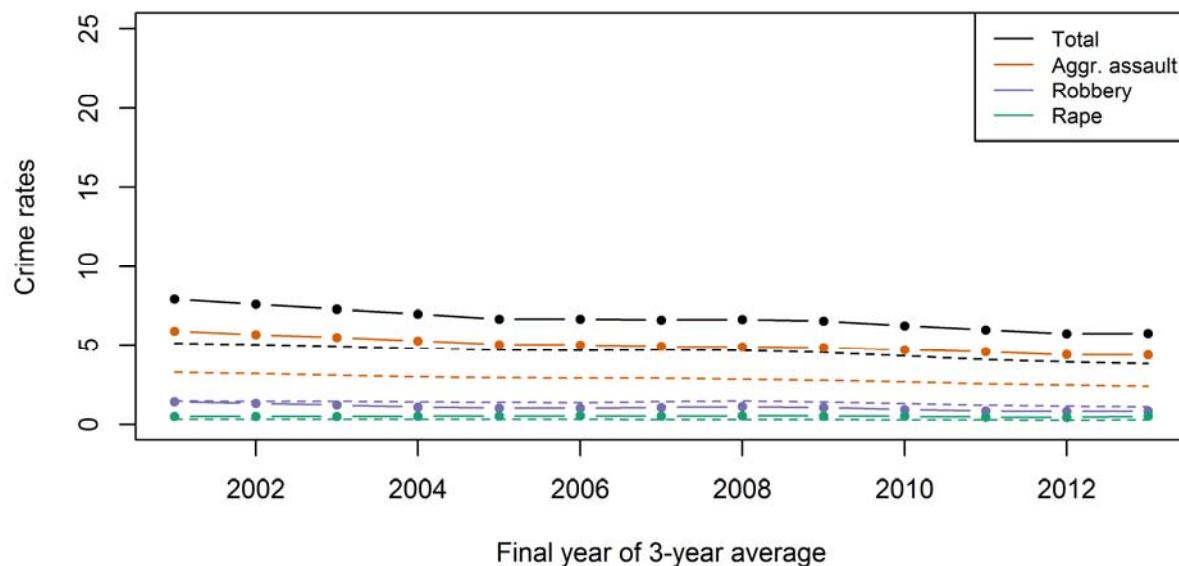
New Jersey

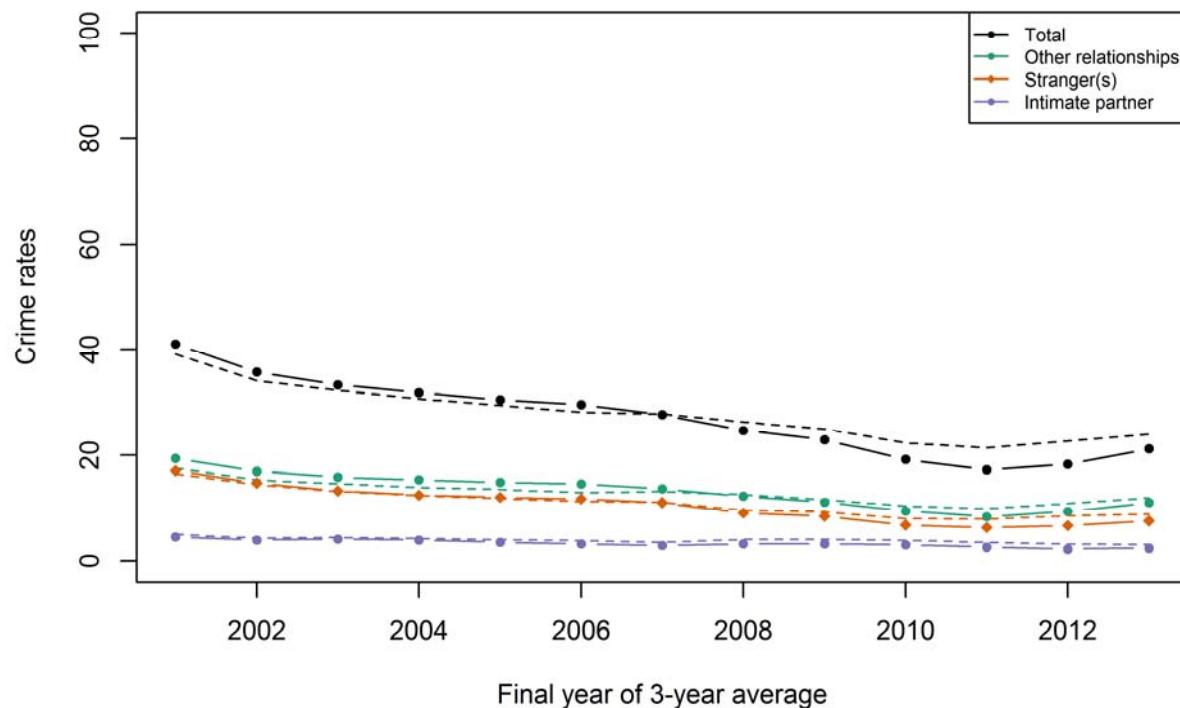
NCVS(SAE) violent crimes in New Jersey compared to national rates by type of crime**UCR violent crimes in New Jersey compared to national rates**

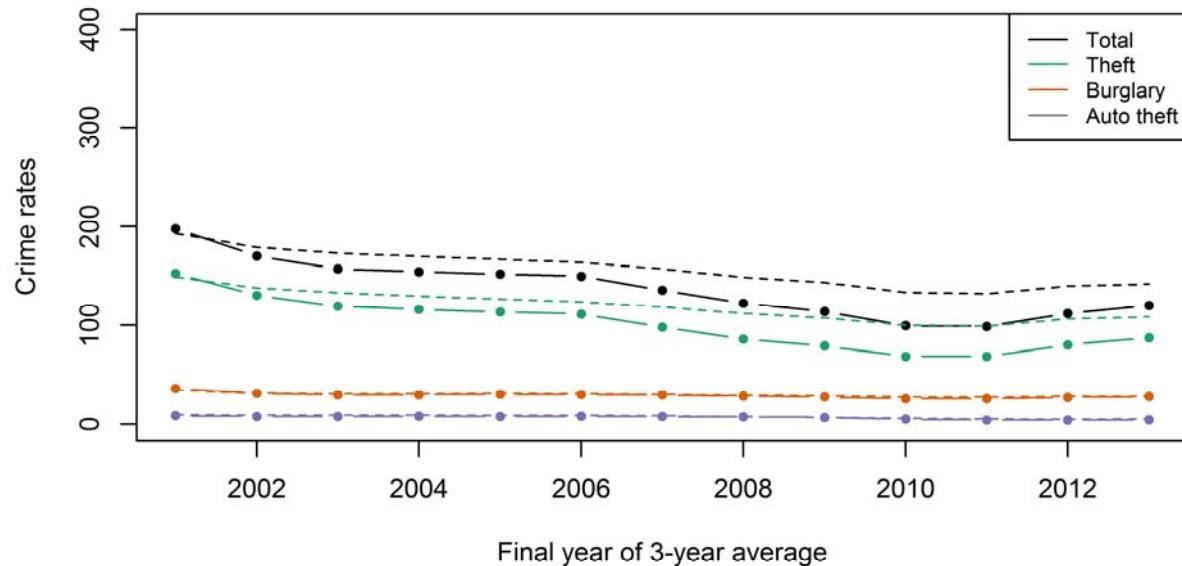
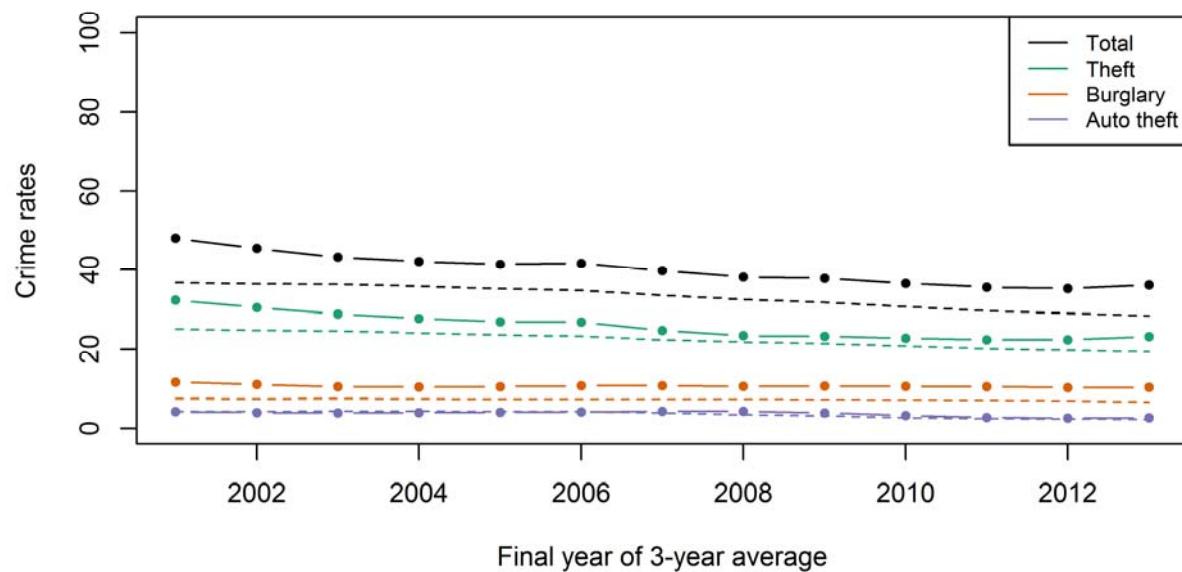
NCVS(SAE) violent crimes in New Jersey compared to national rates by relationship

NCVS(SAE) property crimes in New Jersey compared to national rates (dotted lines)**UCR property crimes in New Jersey compared to national rates**

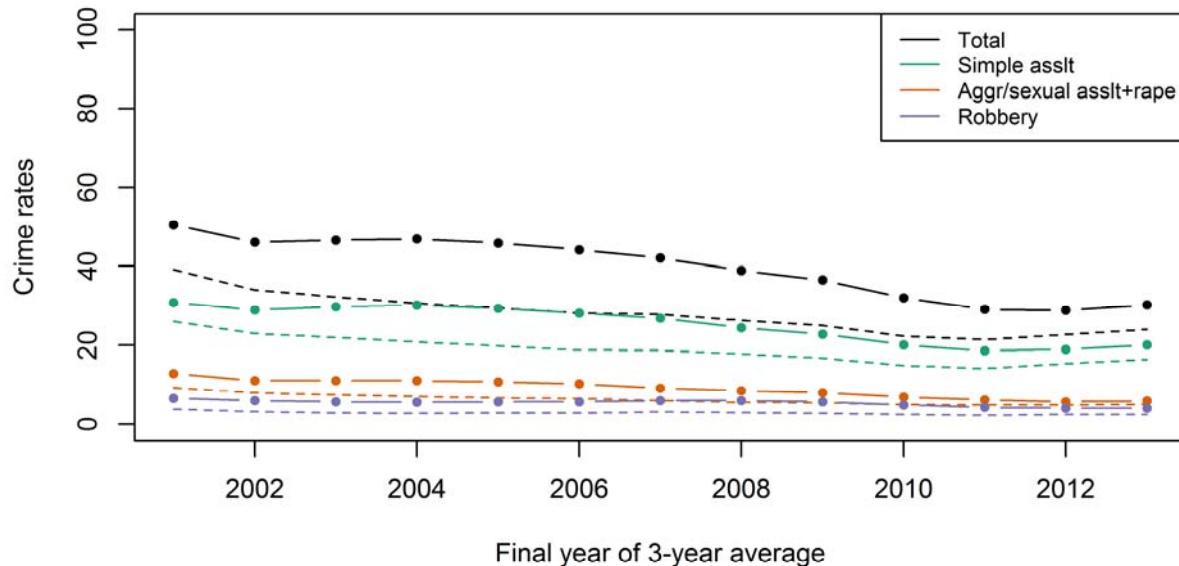
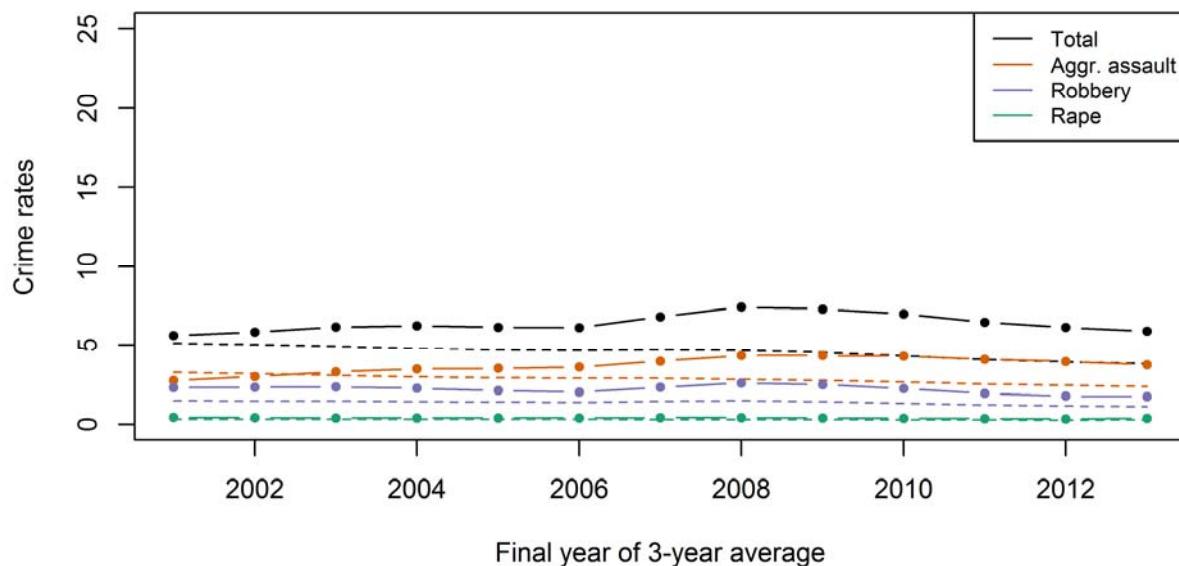
New Mexico

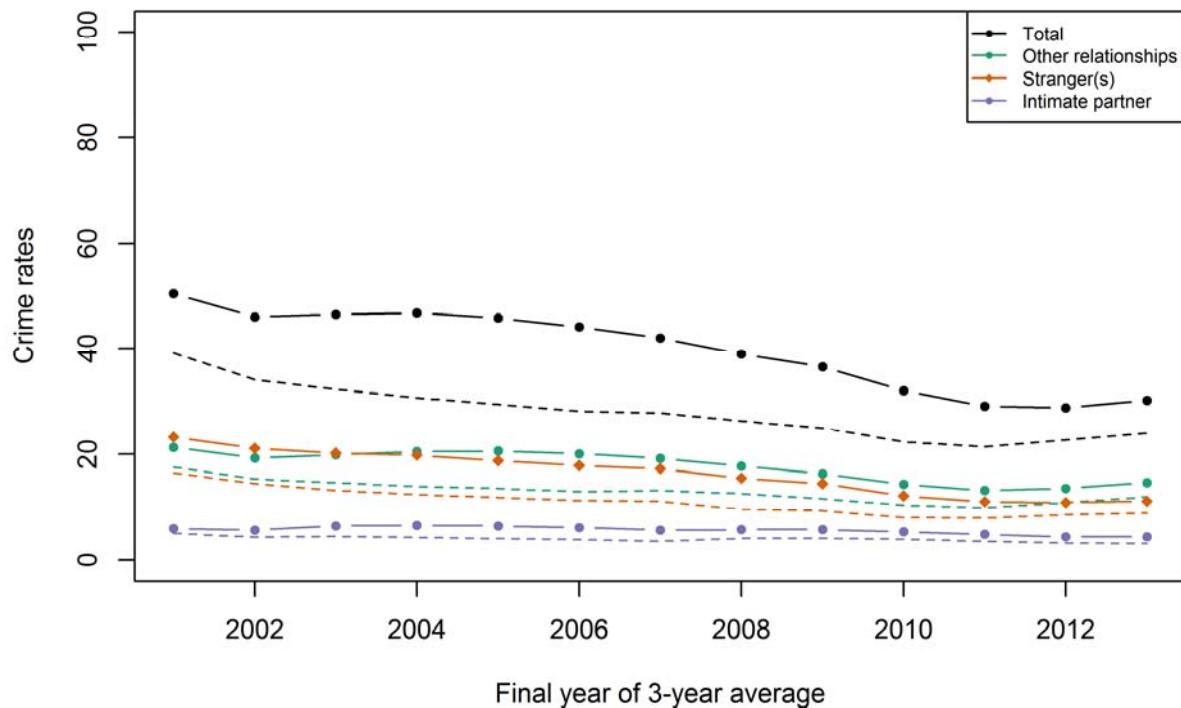
NCVS(SAE) violent crimes in New Mexico compared to national rates by type of crime**UCR violent crimes in New Mexico compared to national rates**

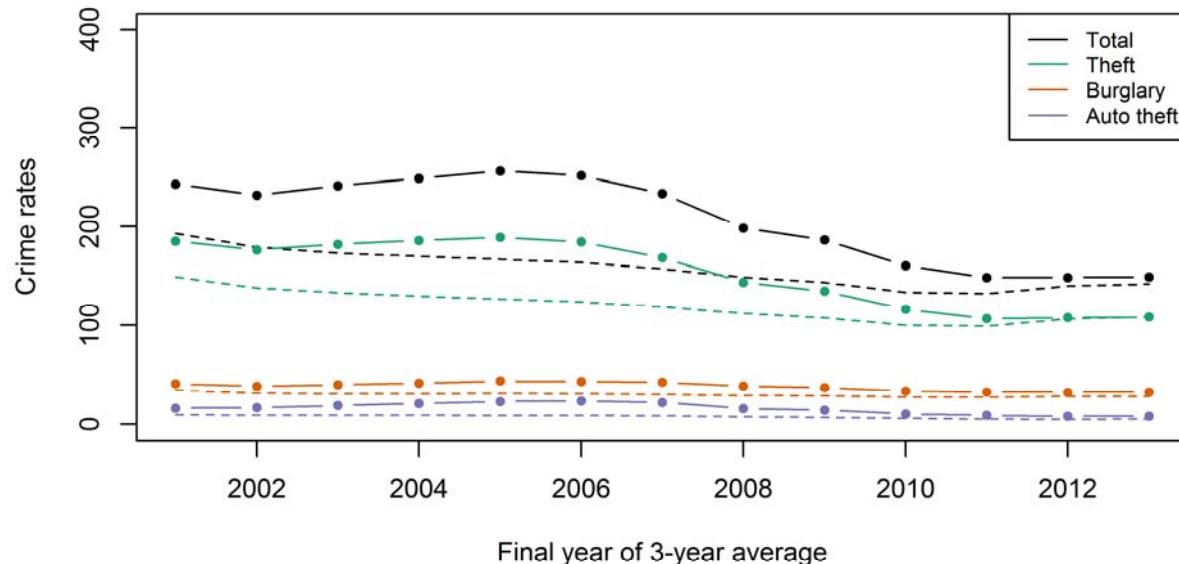
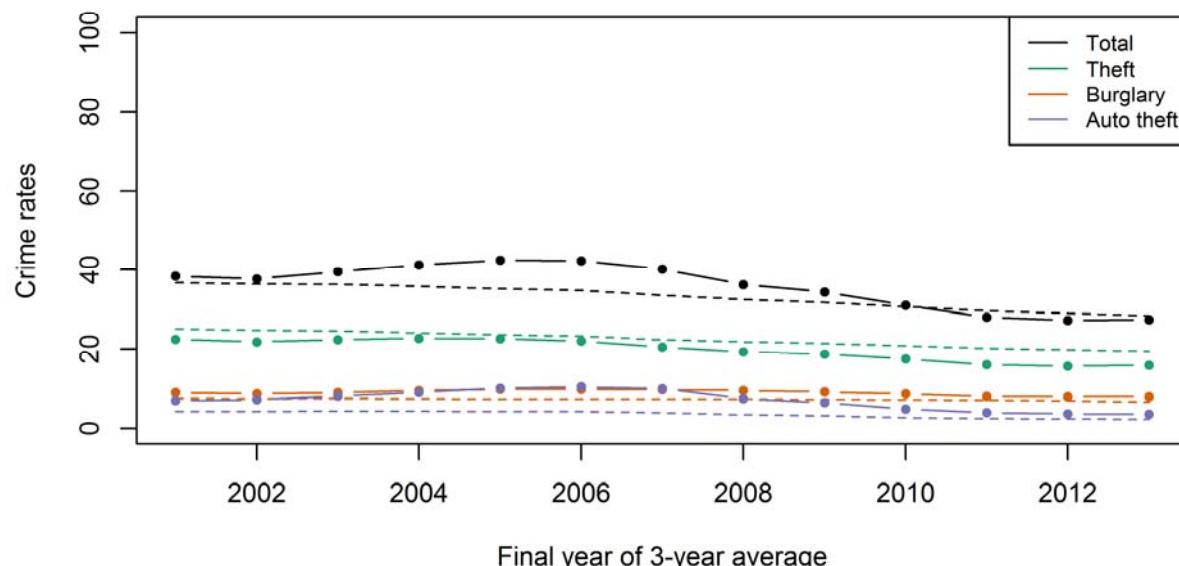
NCVS(SAE) violent crimes in New Mexico compared to national rates by relationship

NCVS(SAE) property crimes in New Mexico compared to national rates (dotted lines)**UCR property crimes in New Mexico compared to national rates**

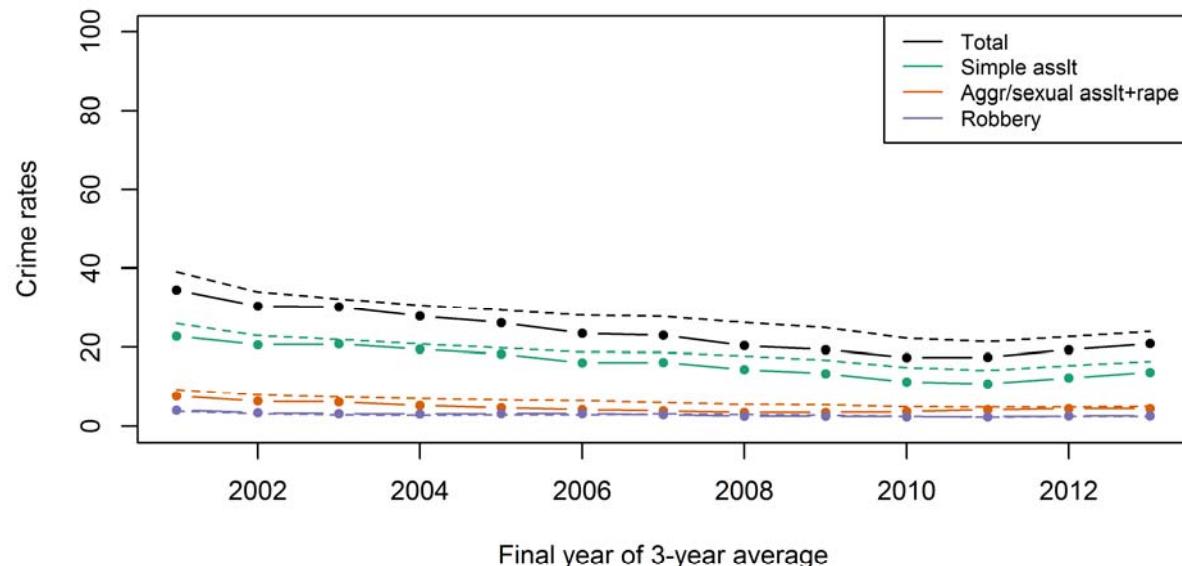
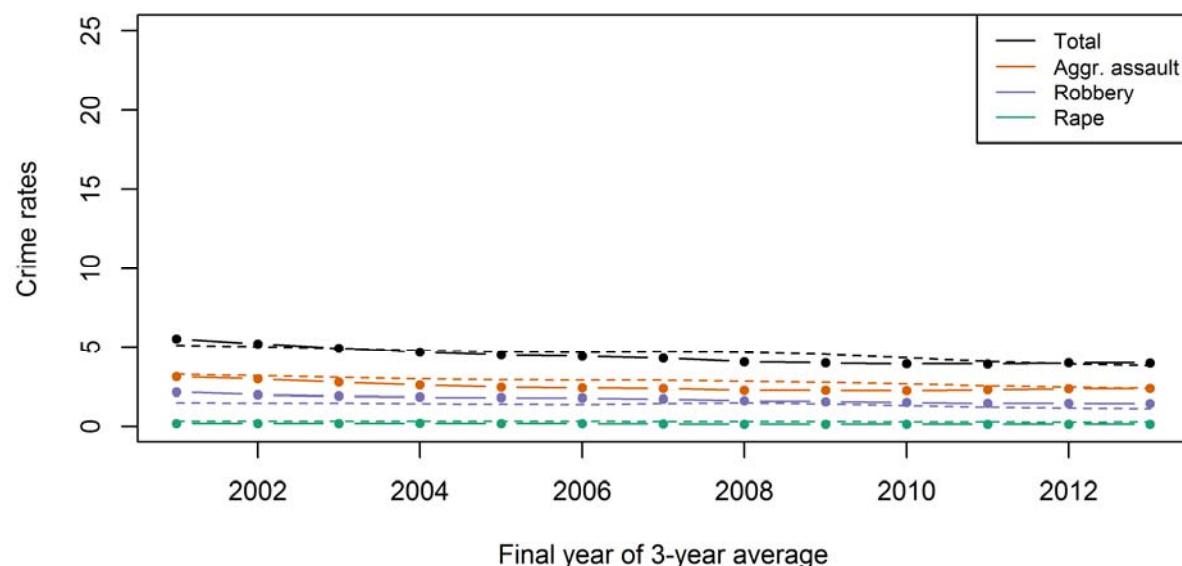
Nevada

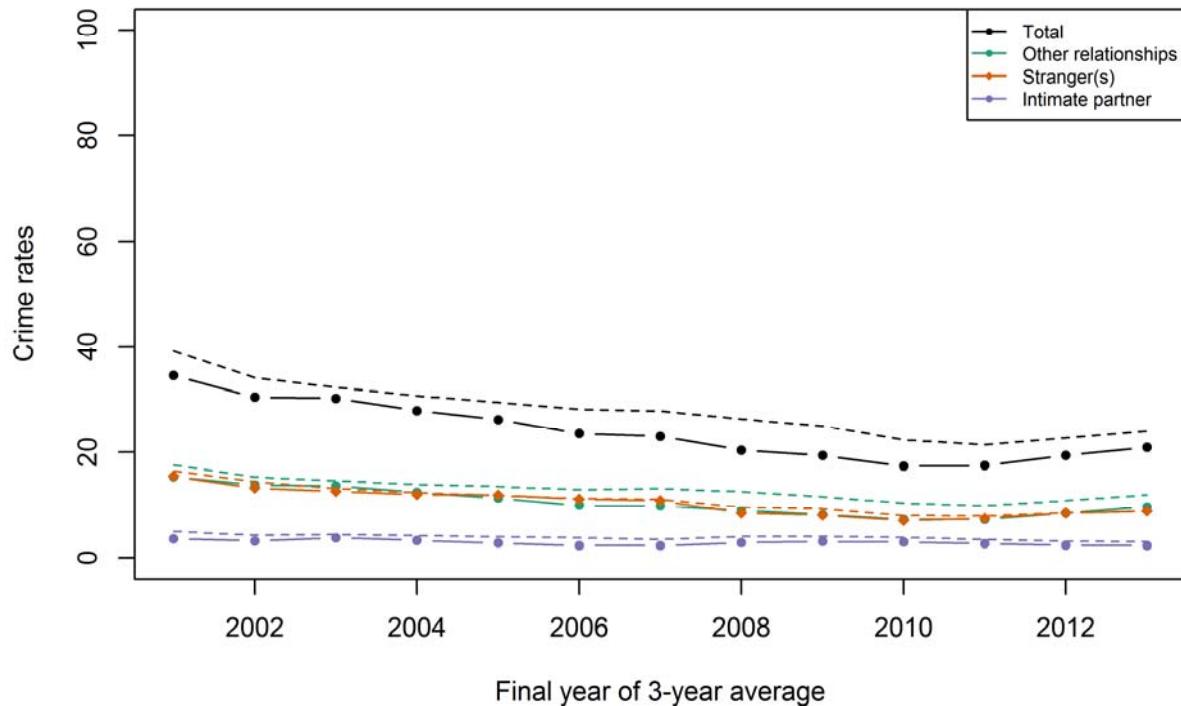
NCVS(SAE) violent crimes in Nevada compared to national rates by type of crime**UCR violent crimes in Nevada compared to national rates**

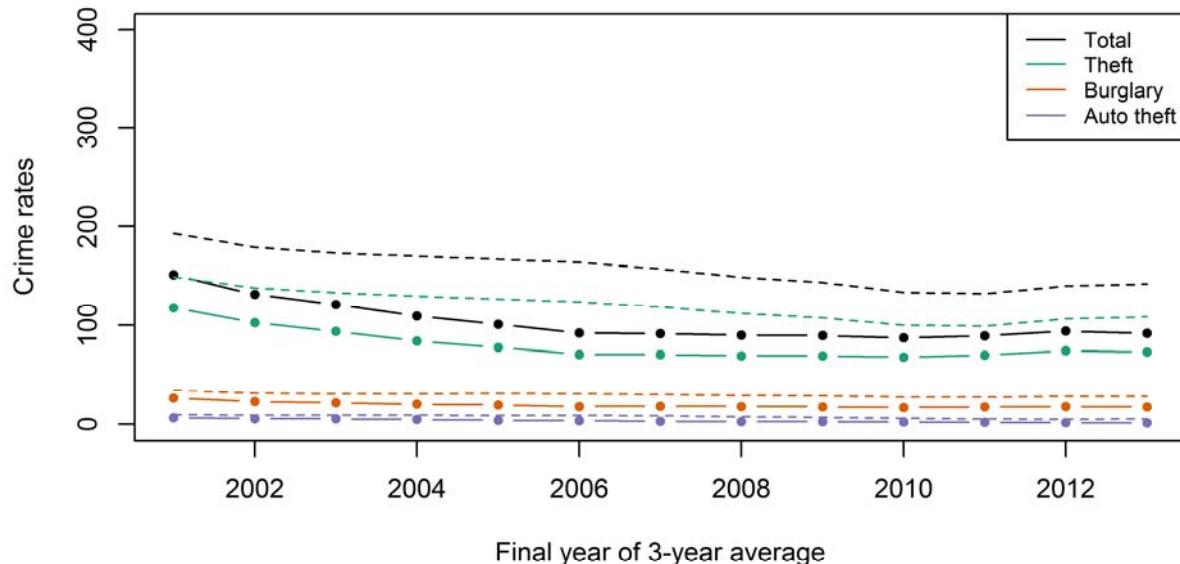
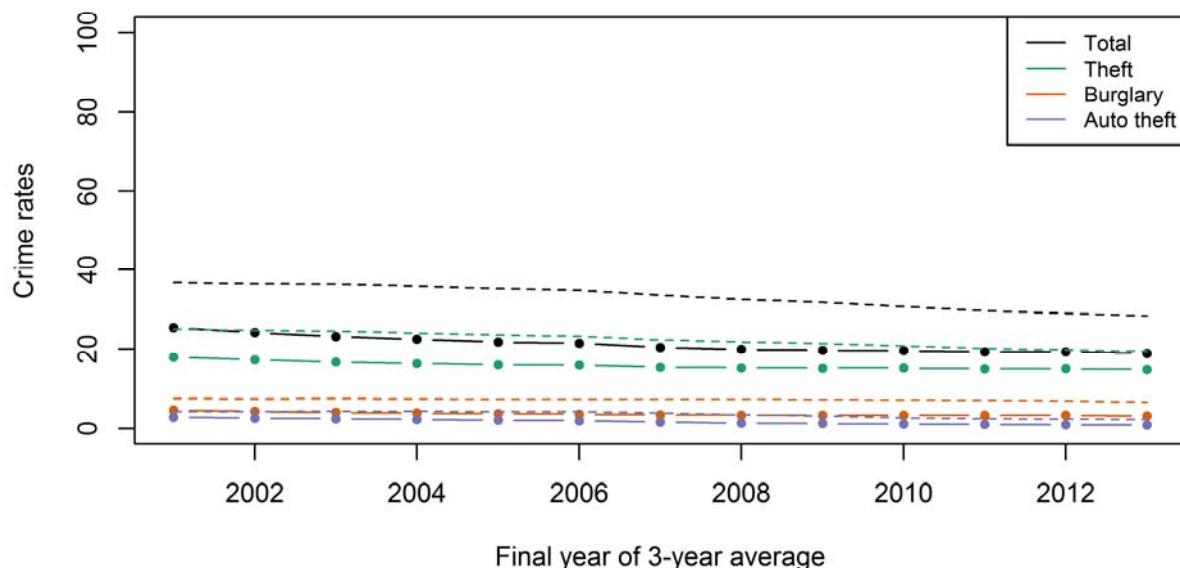
NCVS(SAE) violent crimes in Nevada compared to national rates by relationship

NCVS(SAE) property crimes in Nevada compared to national rates (dotted lines)**UCR property crimes in Nevada compared to national rates**

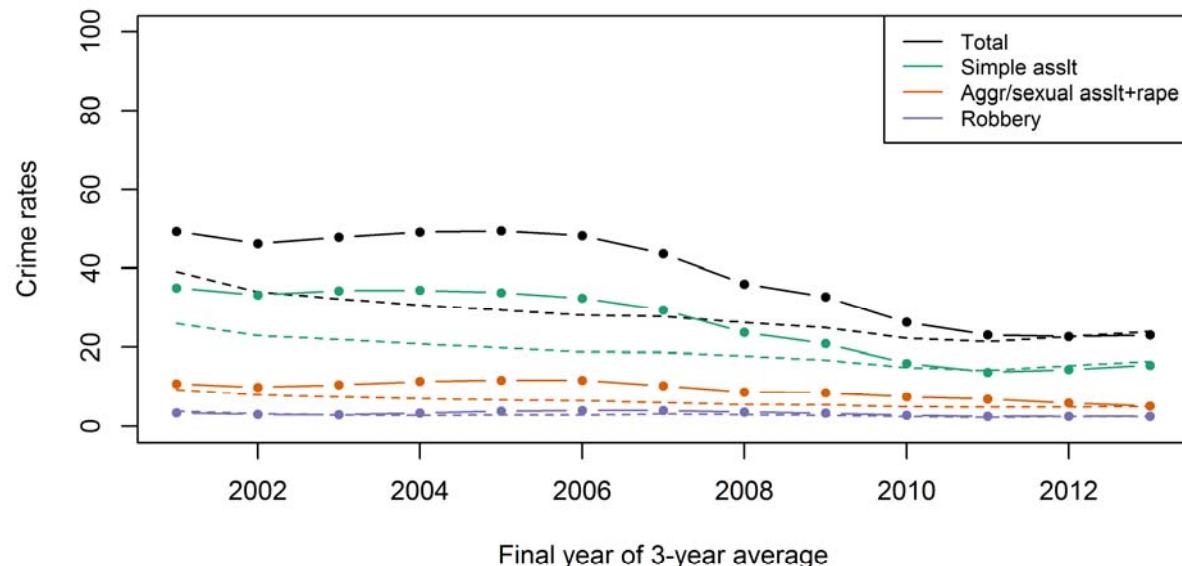
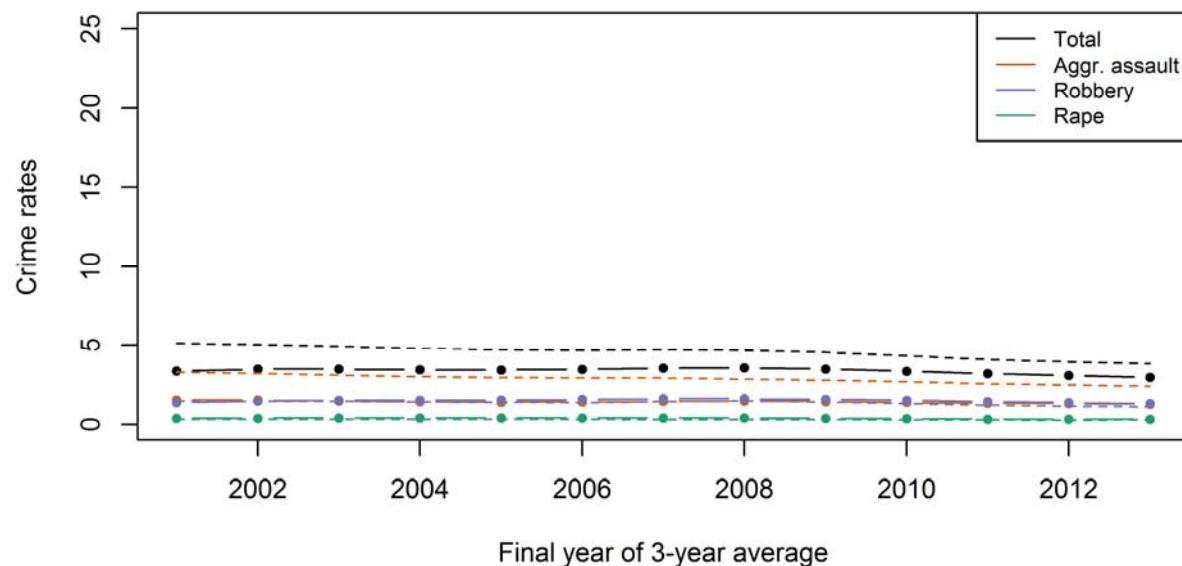
New York

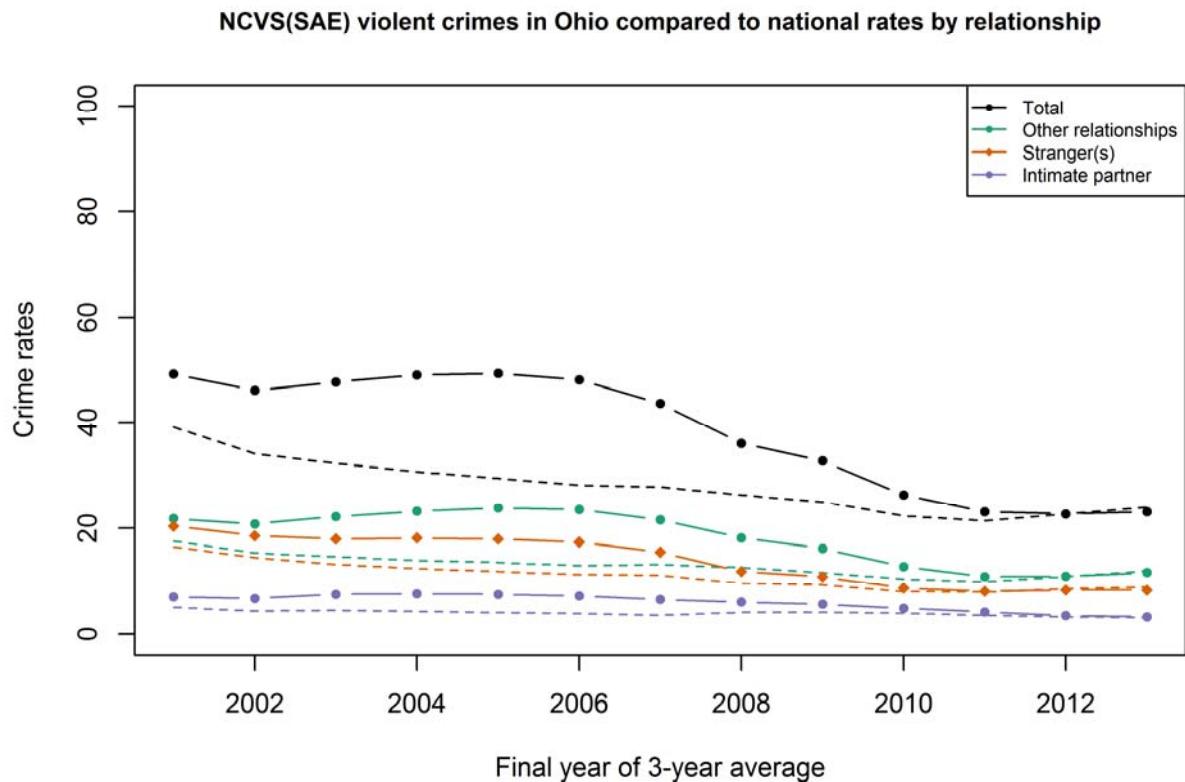
NCVS(SAE) violent crimes in New York compared to national rates by type of crime**UCR violent crimes in New York compared to national rates**

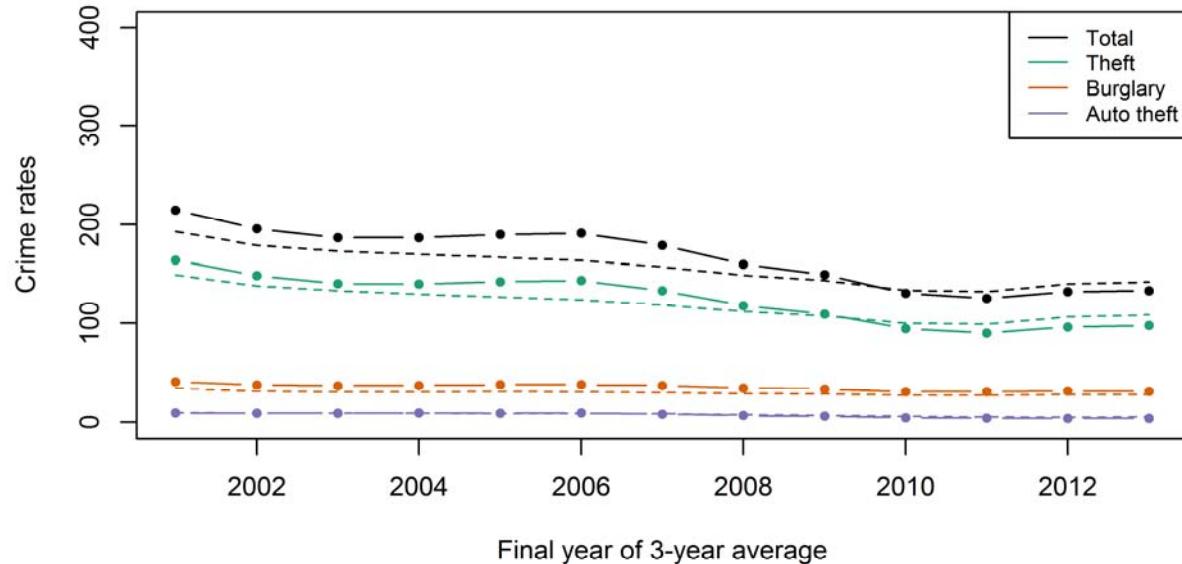
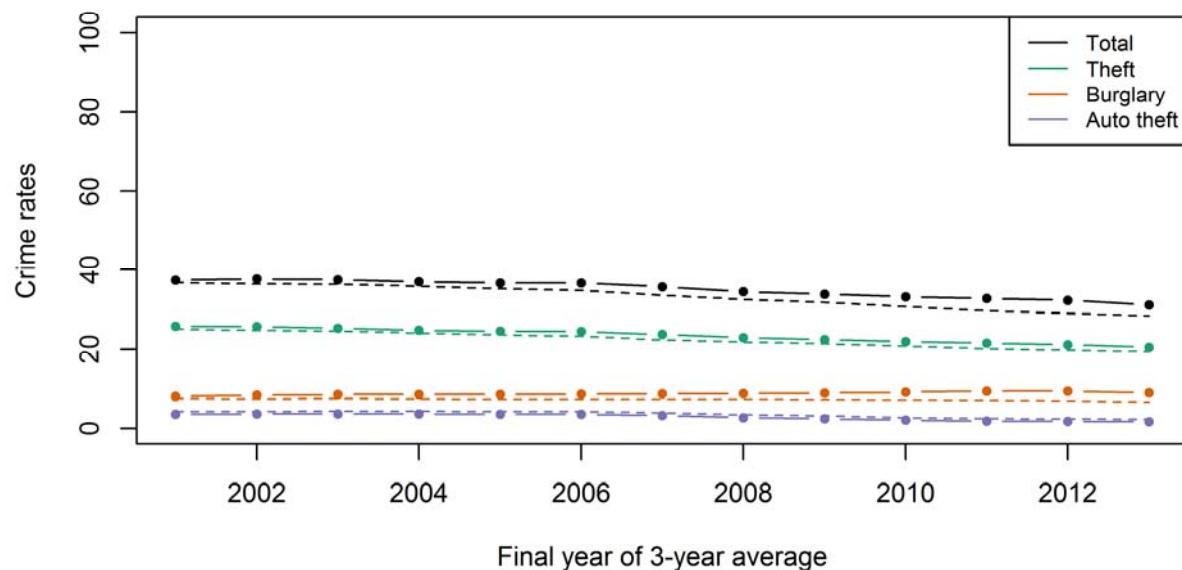
NCVS(SAE) violent crimes in New York compared to national rates by relationship

NCVS(SAE) property crimes in New York compared to national rates (dotted lines)**UCR property crimes in New York compared to national rates**

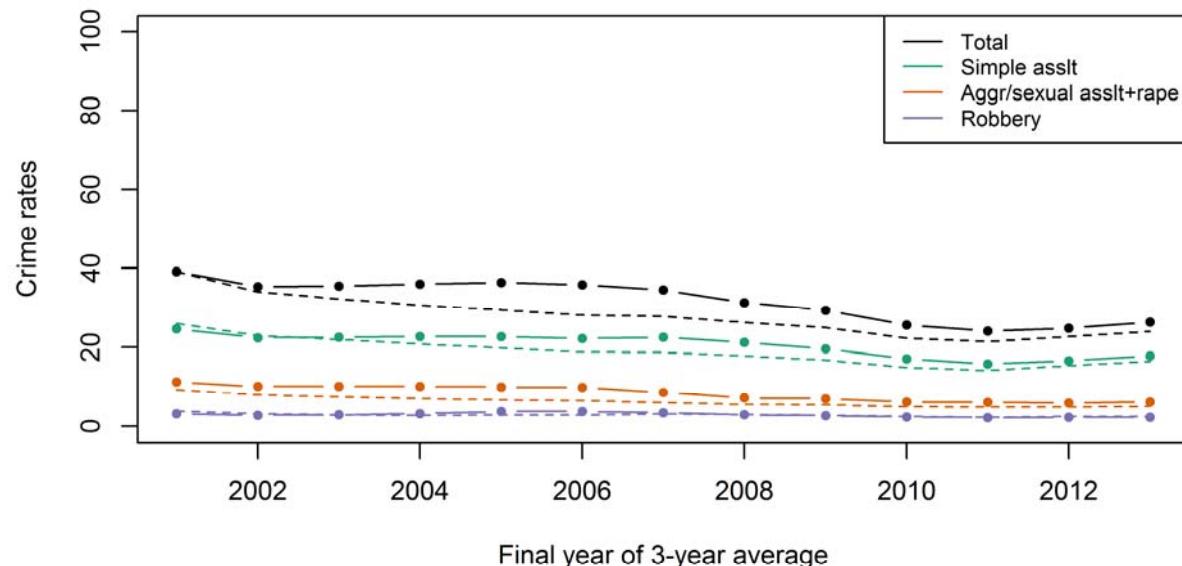
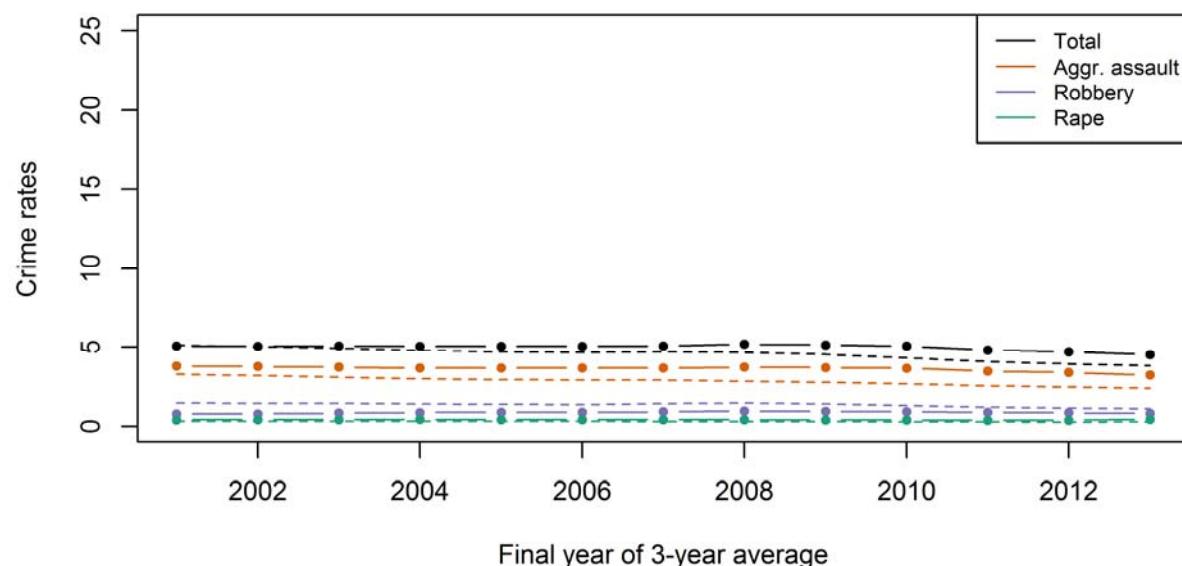
Ohio

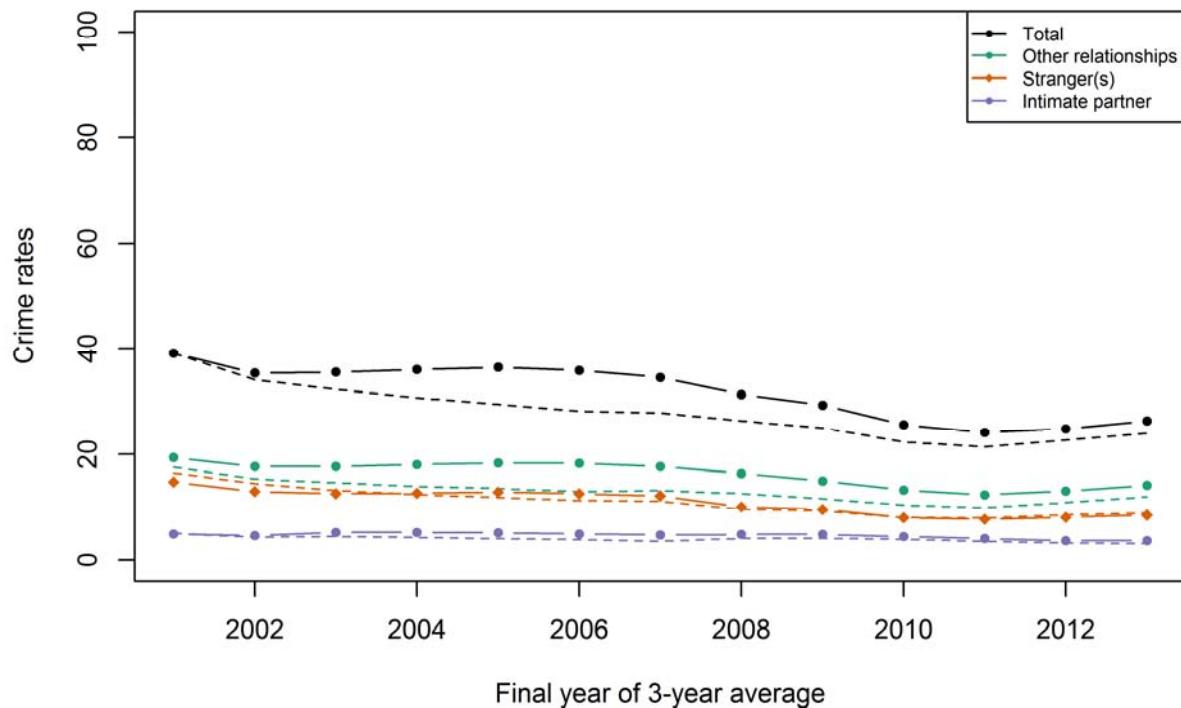
NCVS(SAE) violent crimes in Ohio compared to national rates by type of crime**UCR violent crimes in Ohio compared to national rates**

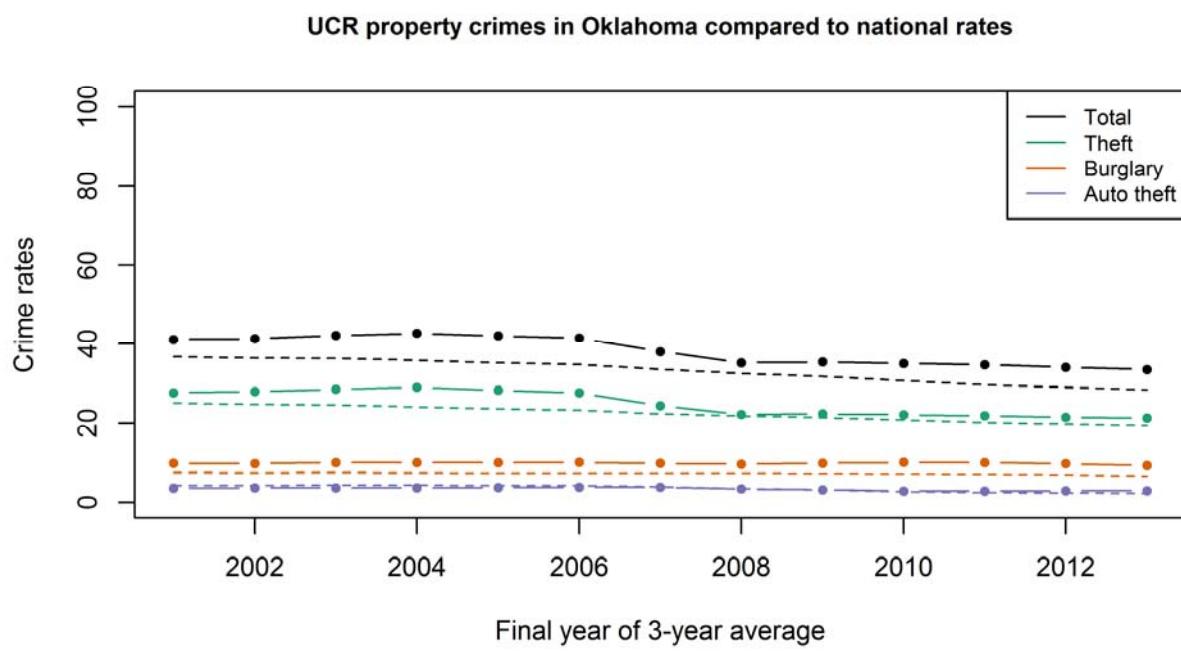
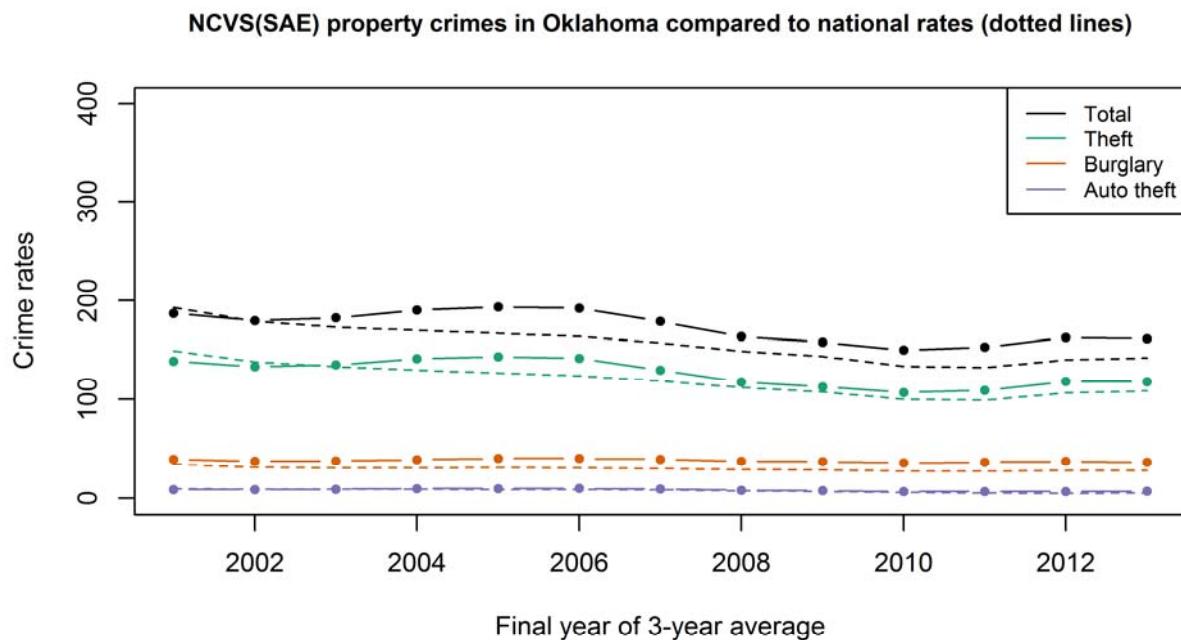


NCVS(SAE) property crimes in Ohio compared to national rates (dotted lines)**UCR property crimes in Ohio compared to national rates**

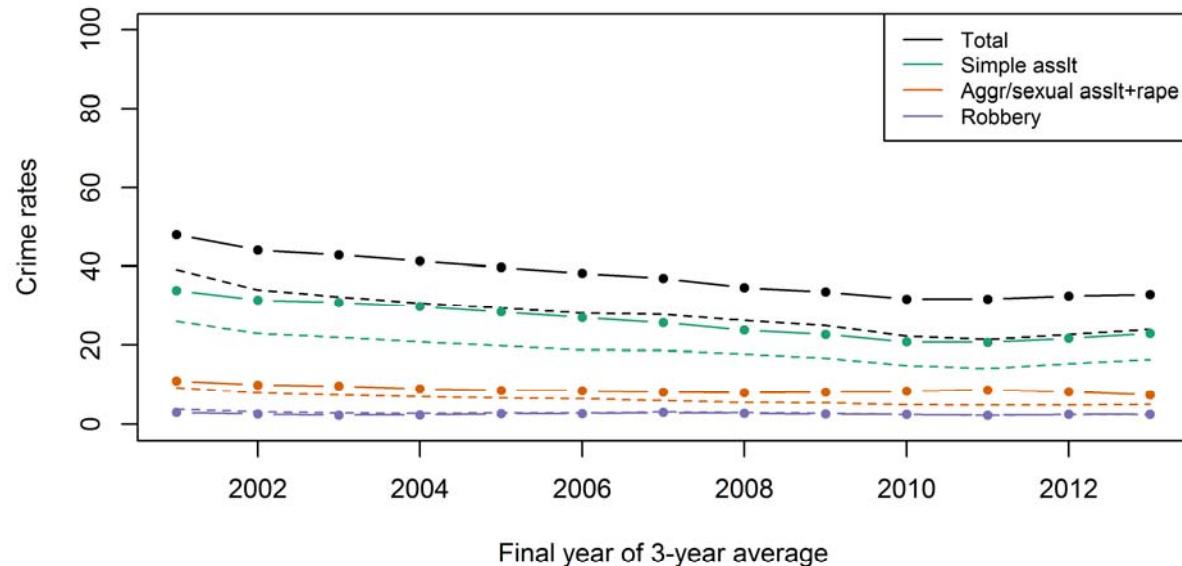
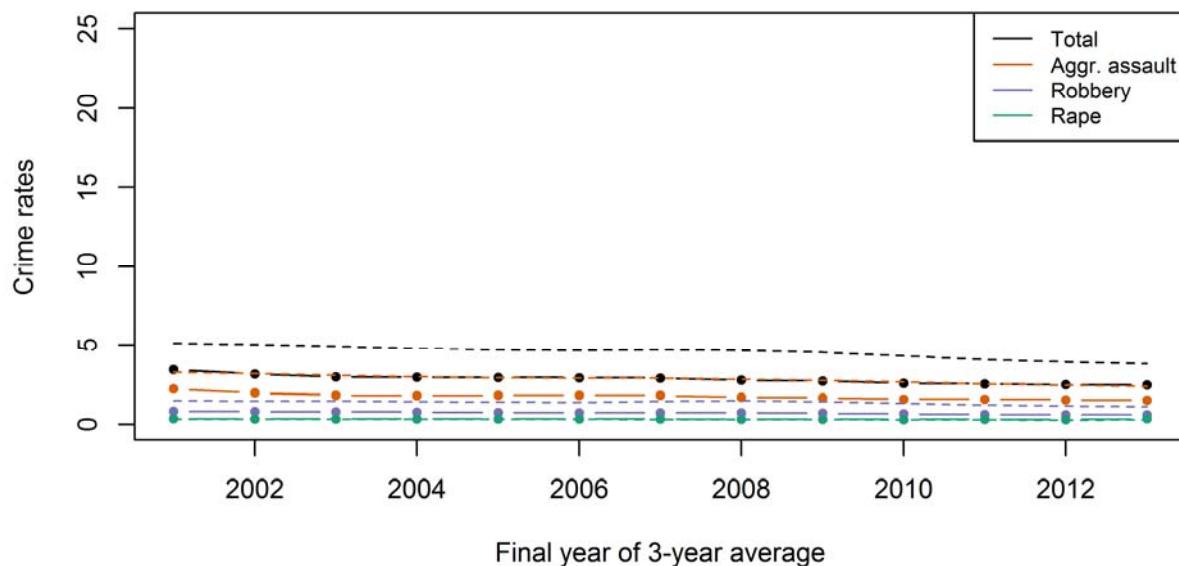
Oklahoma

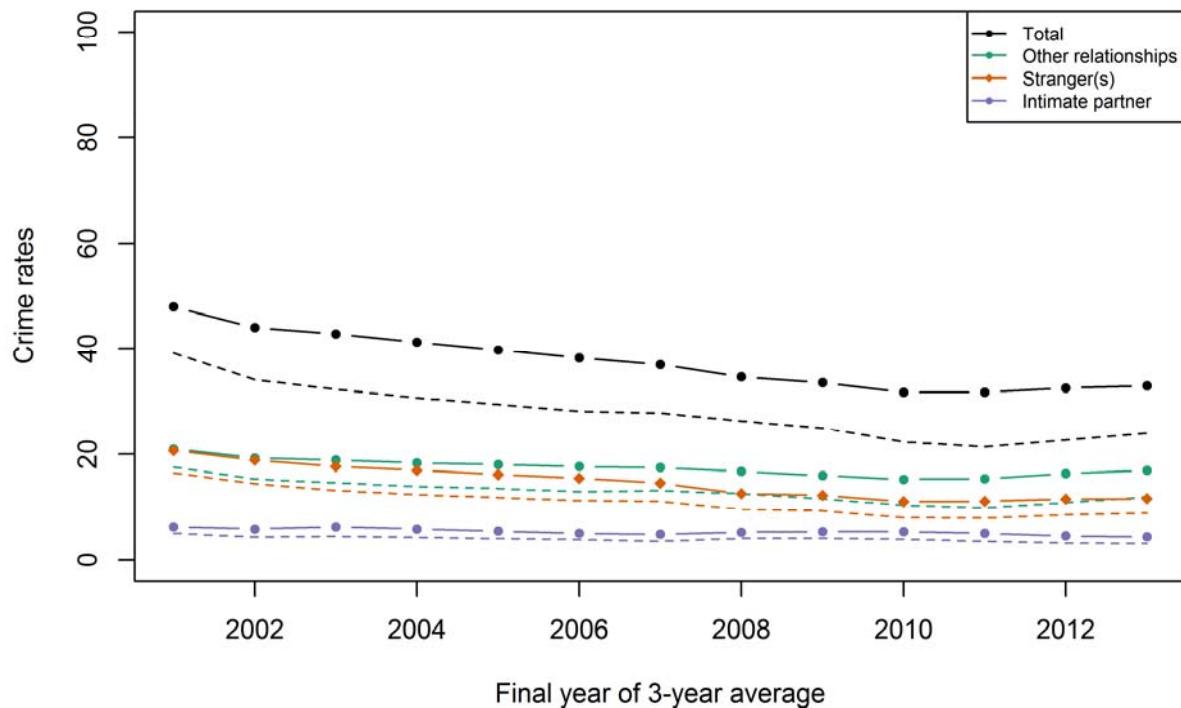
NCVS(SAE) violent crimes in Oklahoma compared to national rates by type of crime**UCR violent crimes in Oklahoma compared to national rates**

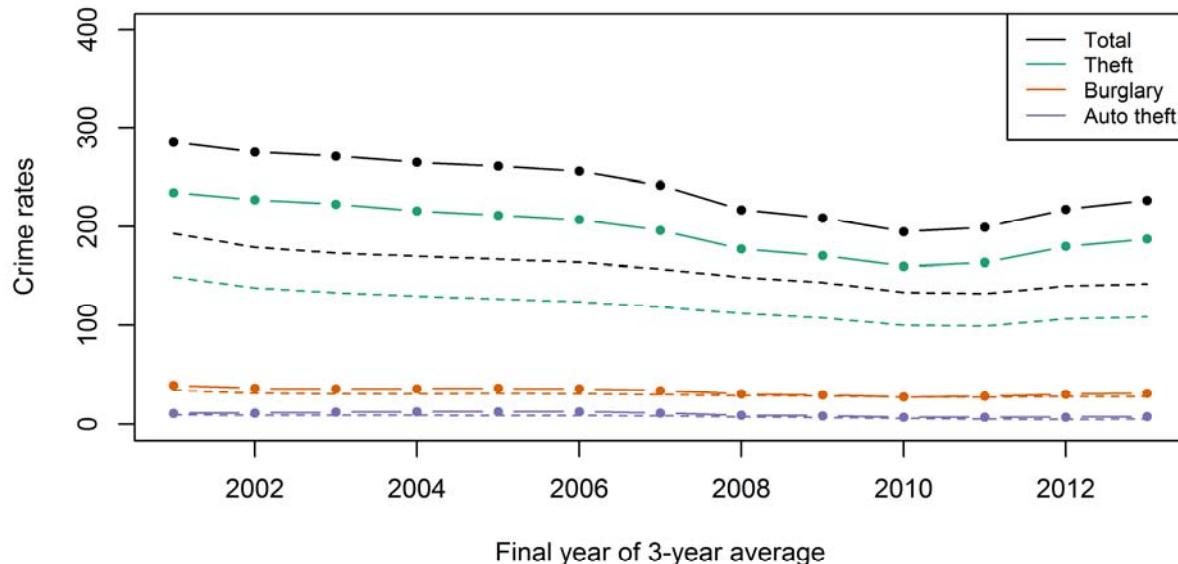
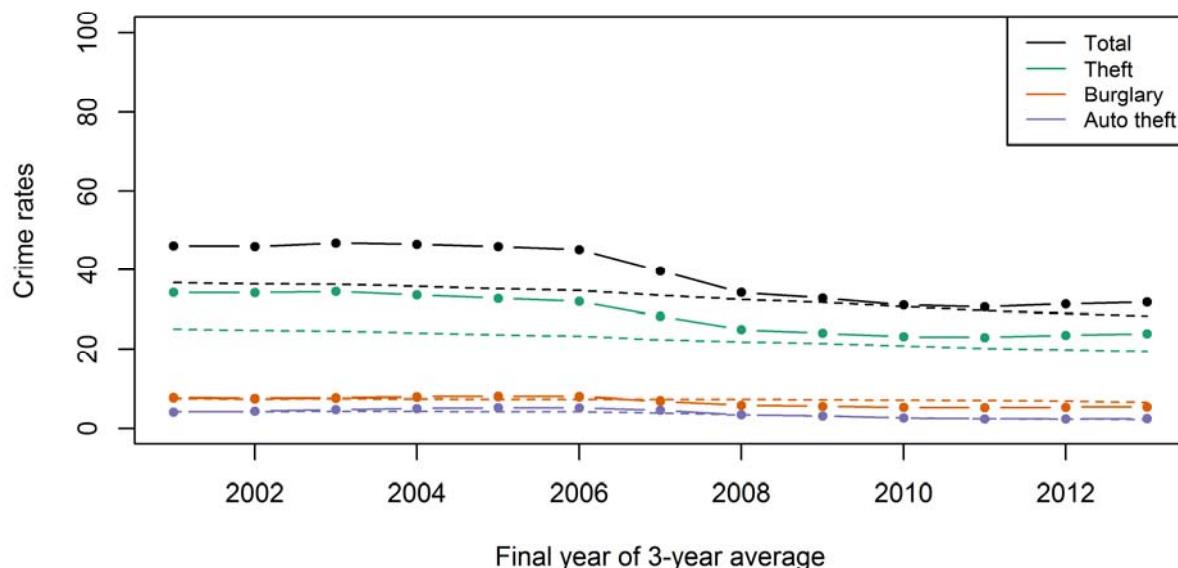
NCVS(SAE) violent crimes in Oklahoma compared to national rates by relationship



Oregon

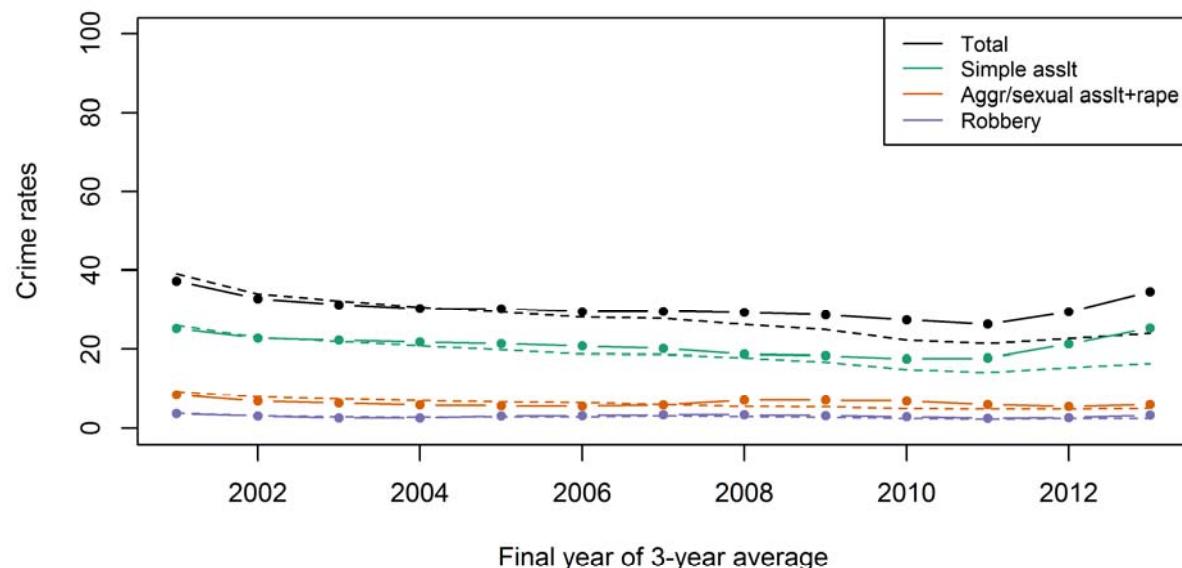
NCVS(SAE) violent crimes in Oregon compared to national rates by type of crime**UCR violent crimes in Oregon compared to national rates**

NCVS(SAE) violent crimes in Oregon compared to national rates by relationship

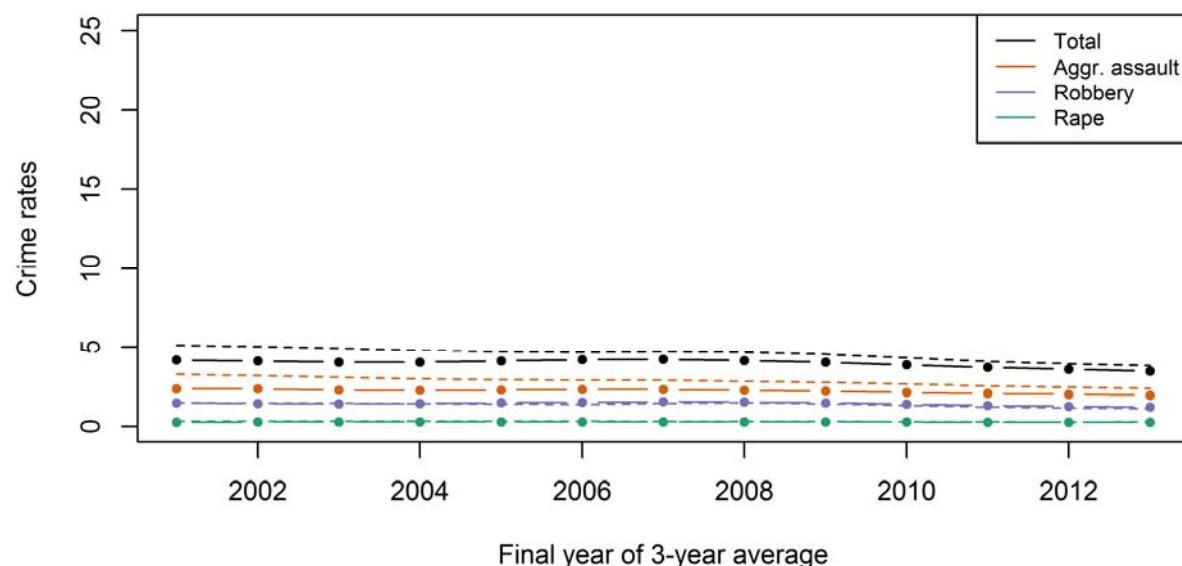
NCVS(SAE) property crimes in Oregon compared to national rates (dotted lines)**UCR property crimes in Oregon compared to national rates**

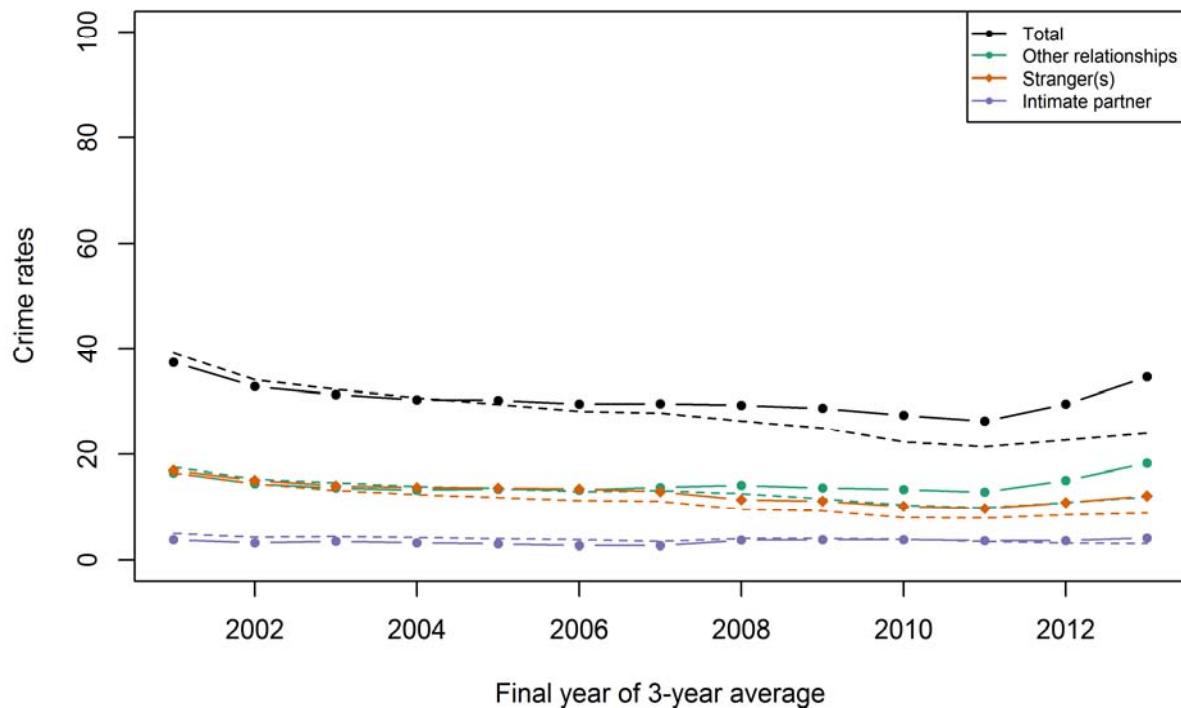
Pennsylvania

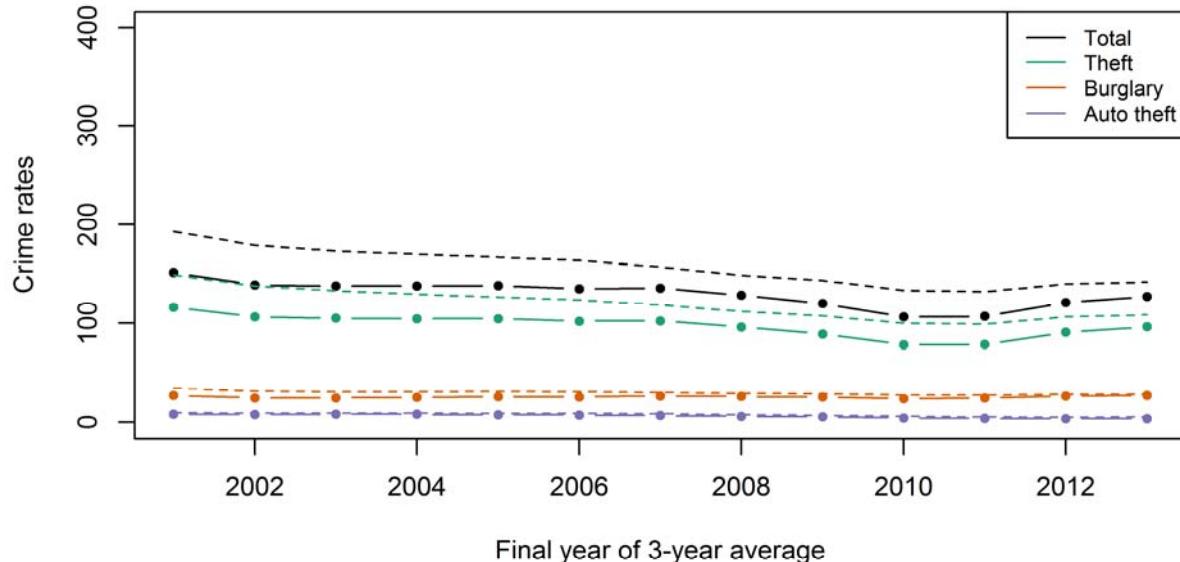
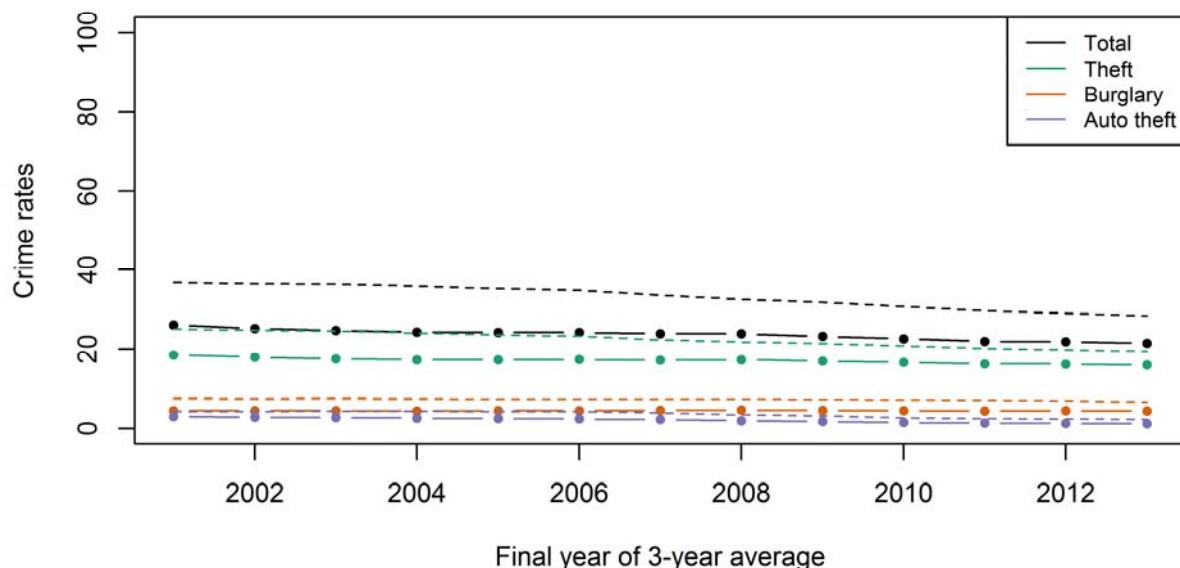
NCVS(SAE) violent crimes in Pennsylvania compared to national rates by type of crime



UCR violent crimes in Pennsylvania compared to national rates

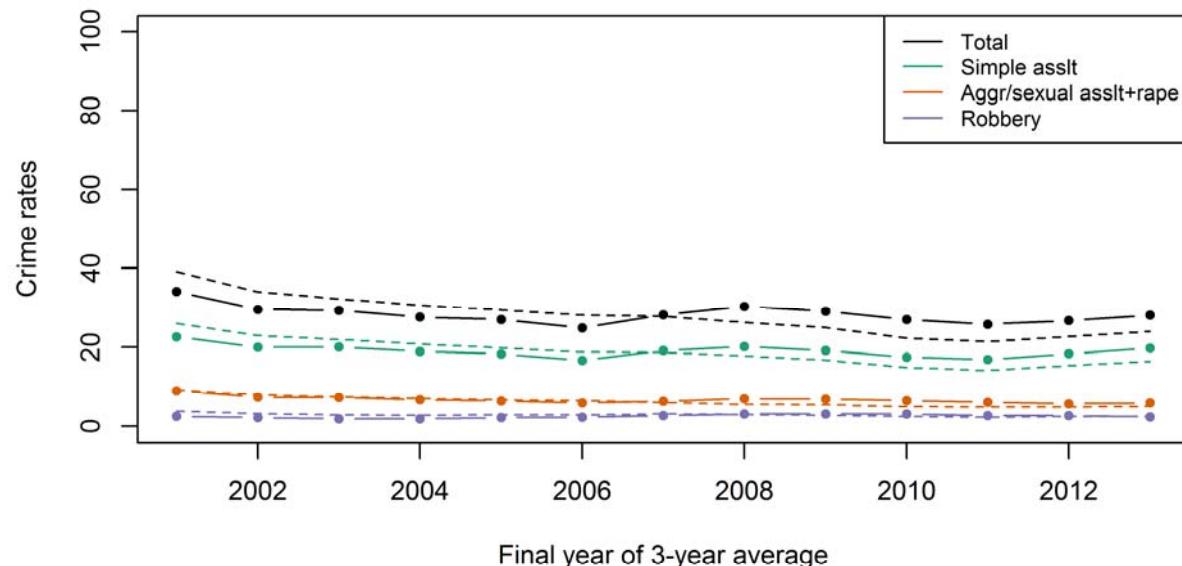


NCVS(SAE) violent crimes in Pennsylvania compared to national rates by relationship

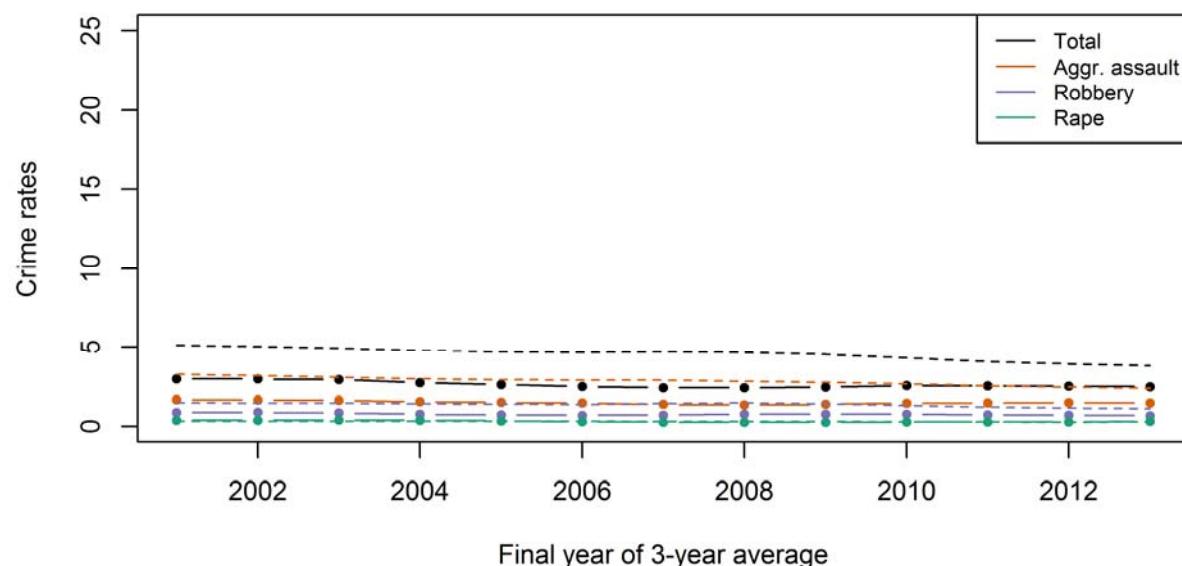
NCVS(SAE) property crimes in Pennsylvania compared to national rates (dotted lines)**UCR property crimes in Pennsylvania compared to national rates**

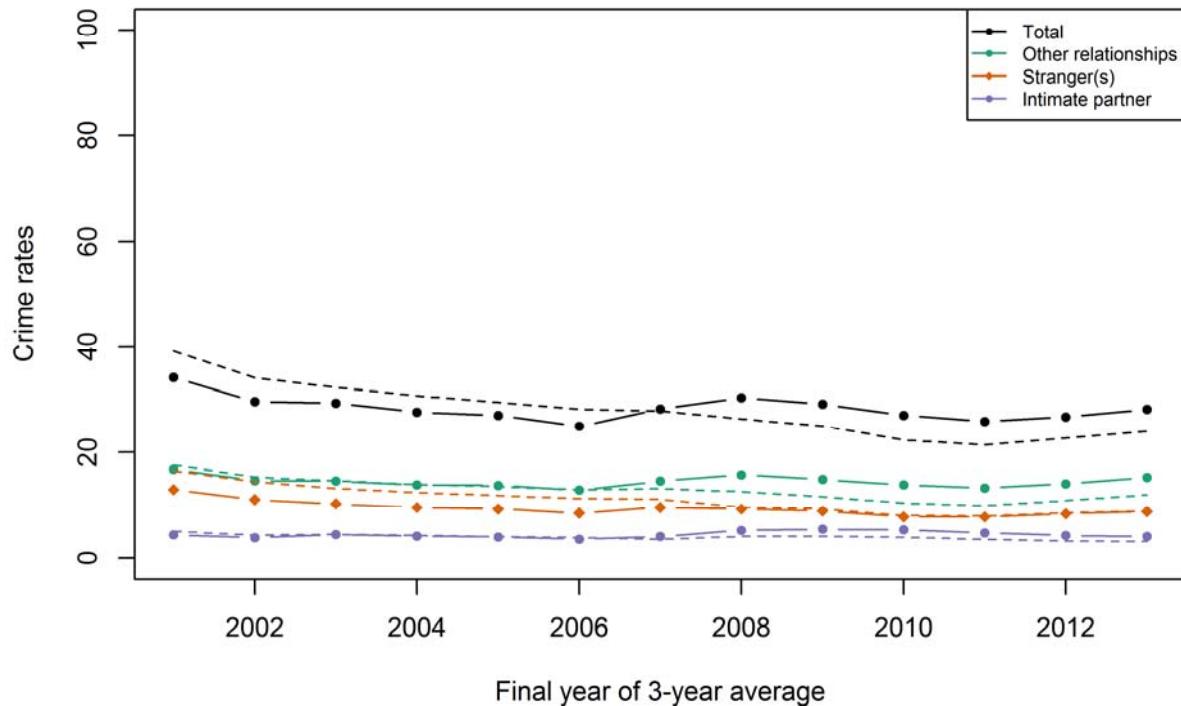
Rhode Island

NCVS(SAE) violent crimes in Rhode Island compared to national rates by type of crime

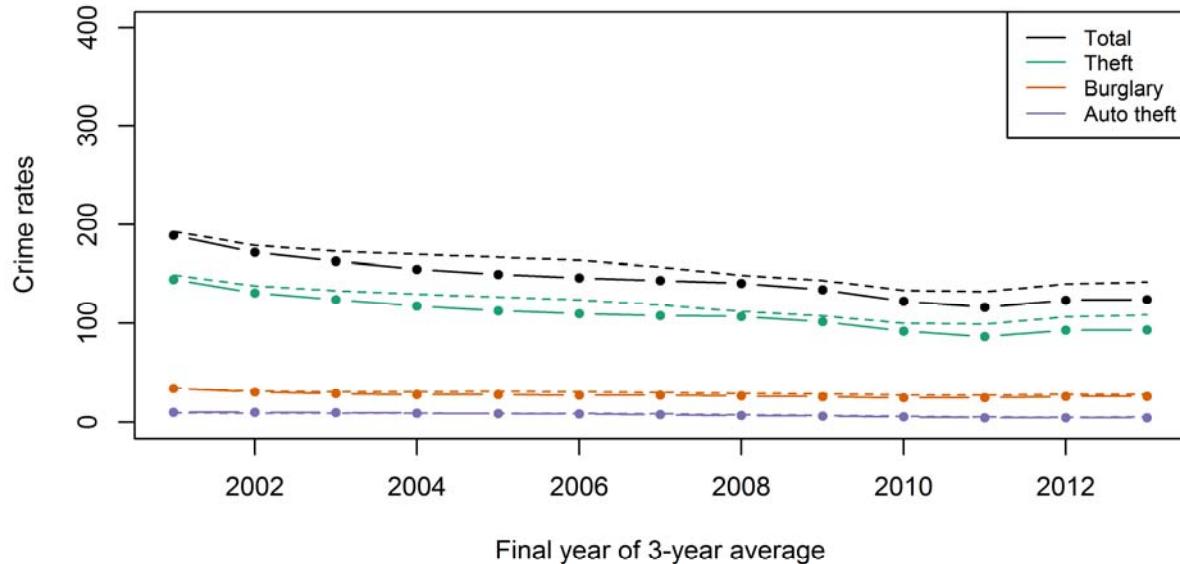


UCR violent crimes in Rhode Island compared to national rates

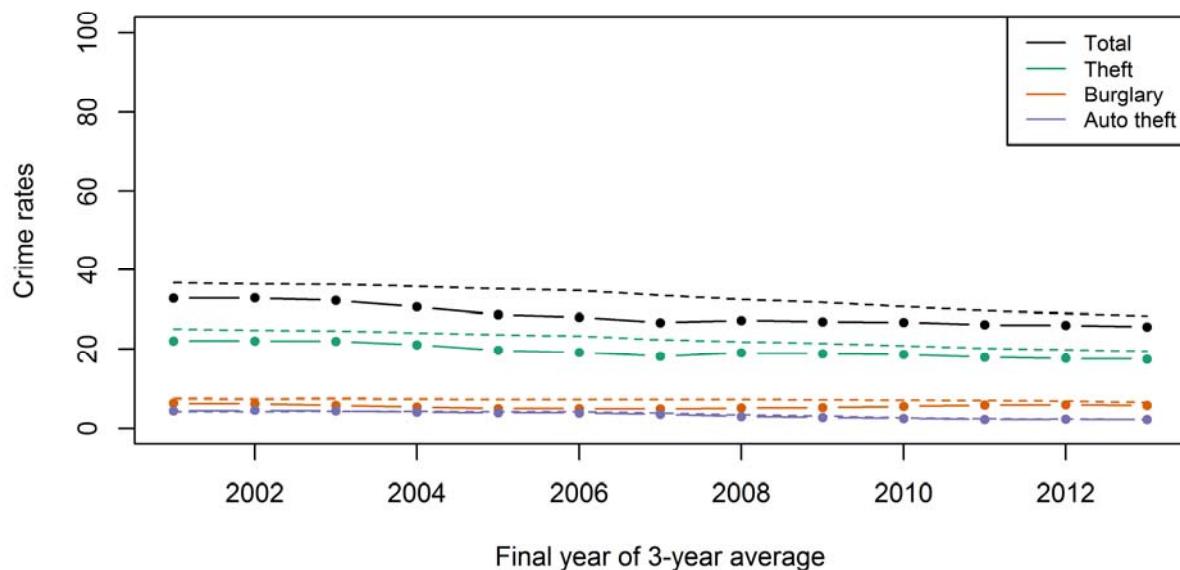


NCVS(SAE) violent crimes in Rhode Island compared to national rates by relationship

NCVS(SAE) property crimes in Rhode Island compared to national rates (dotted lines)

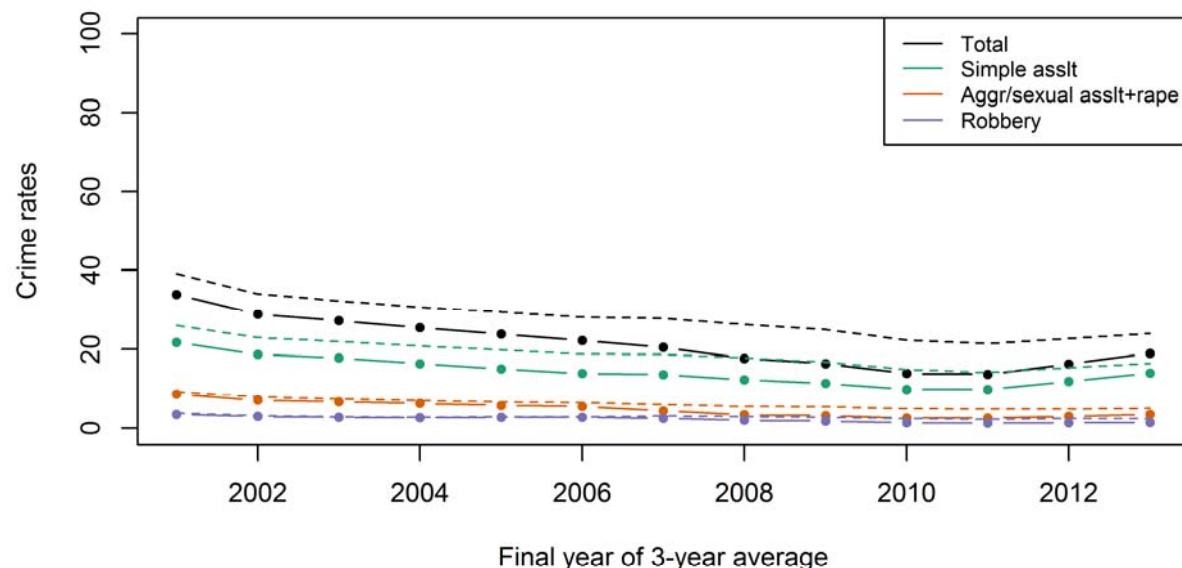


UCR property crimes in Rhode Island compared to national rates

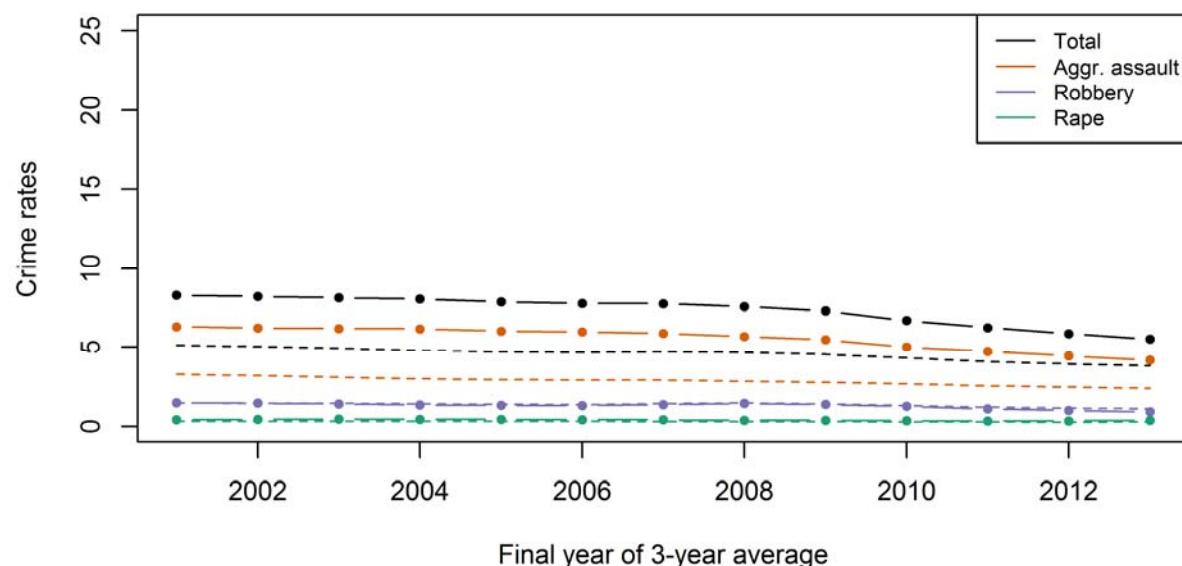


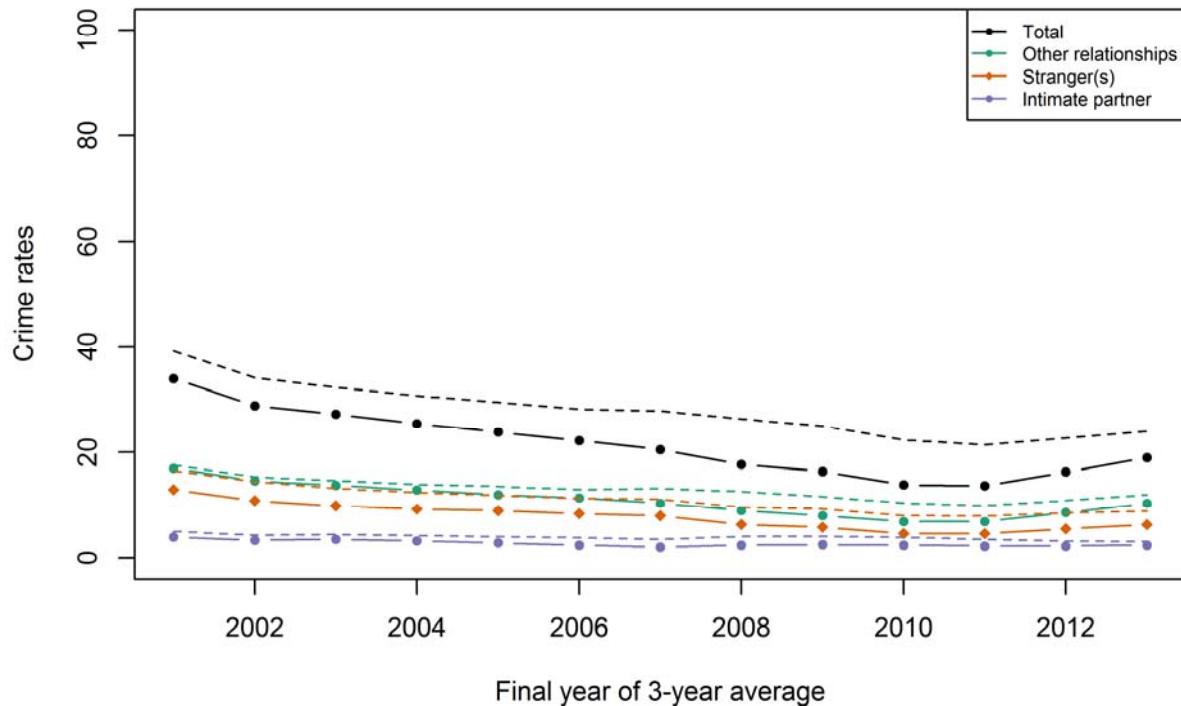
South Carolina

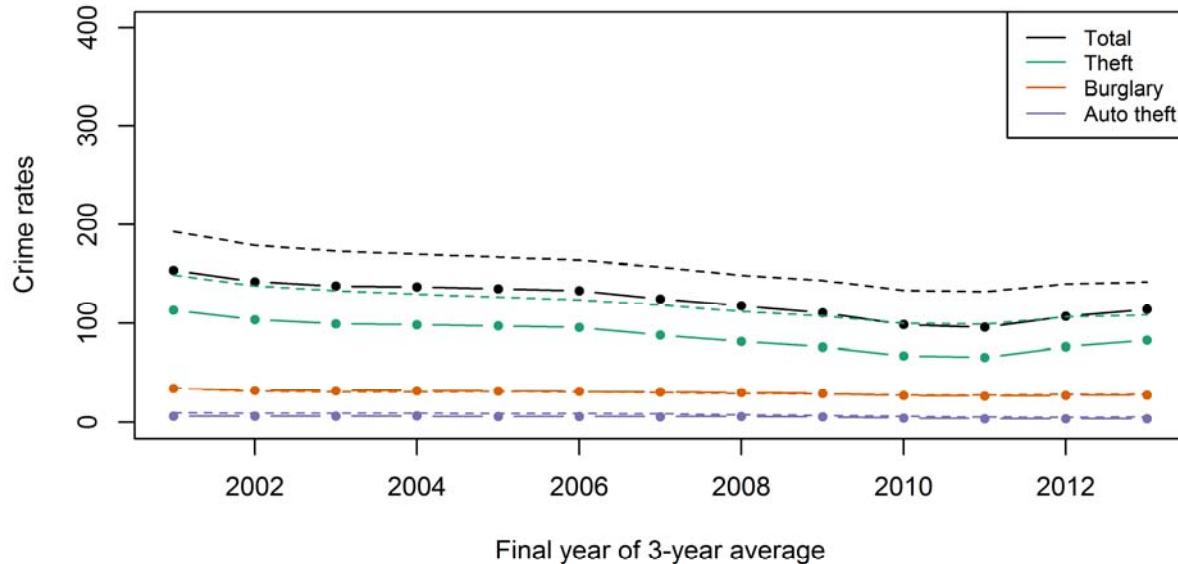
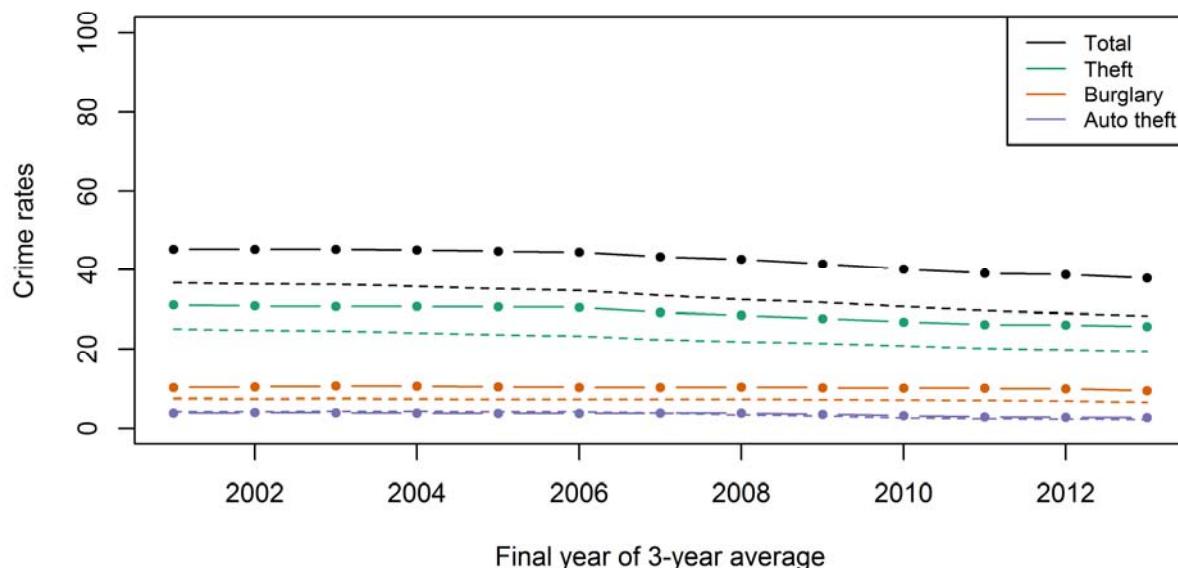
NCVS(SAE) violent crimes in South Carolina compared to national rates by type of crime



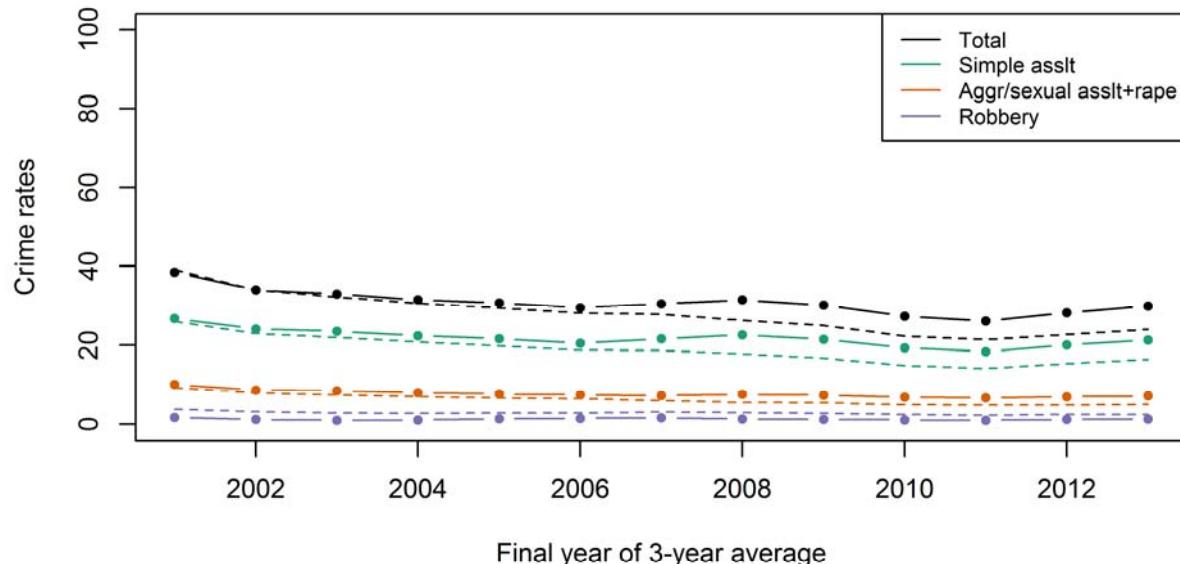
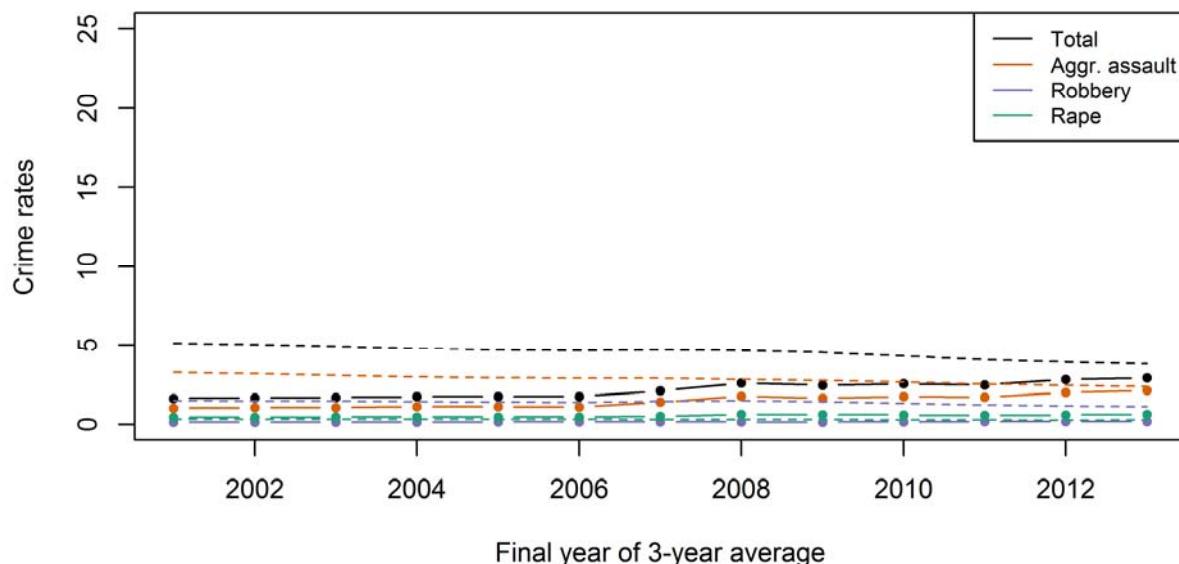
UCR violent crimes in South Carolina compared to national rates

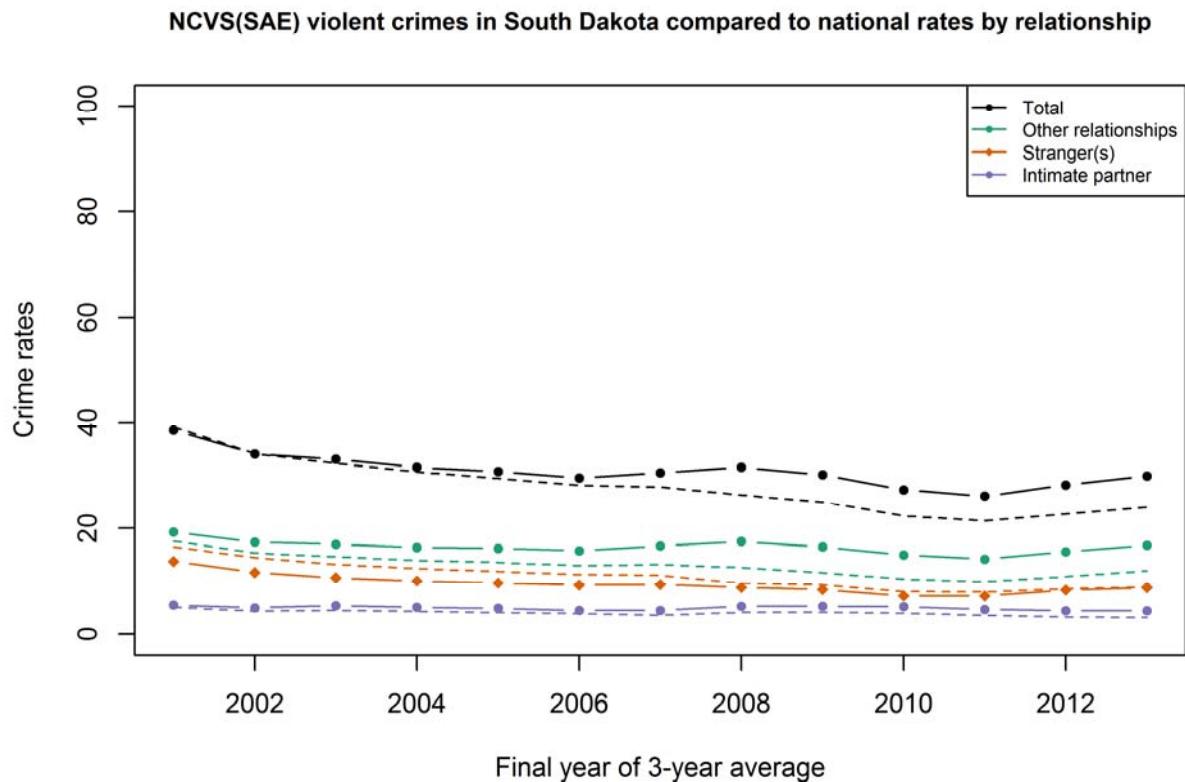


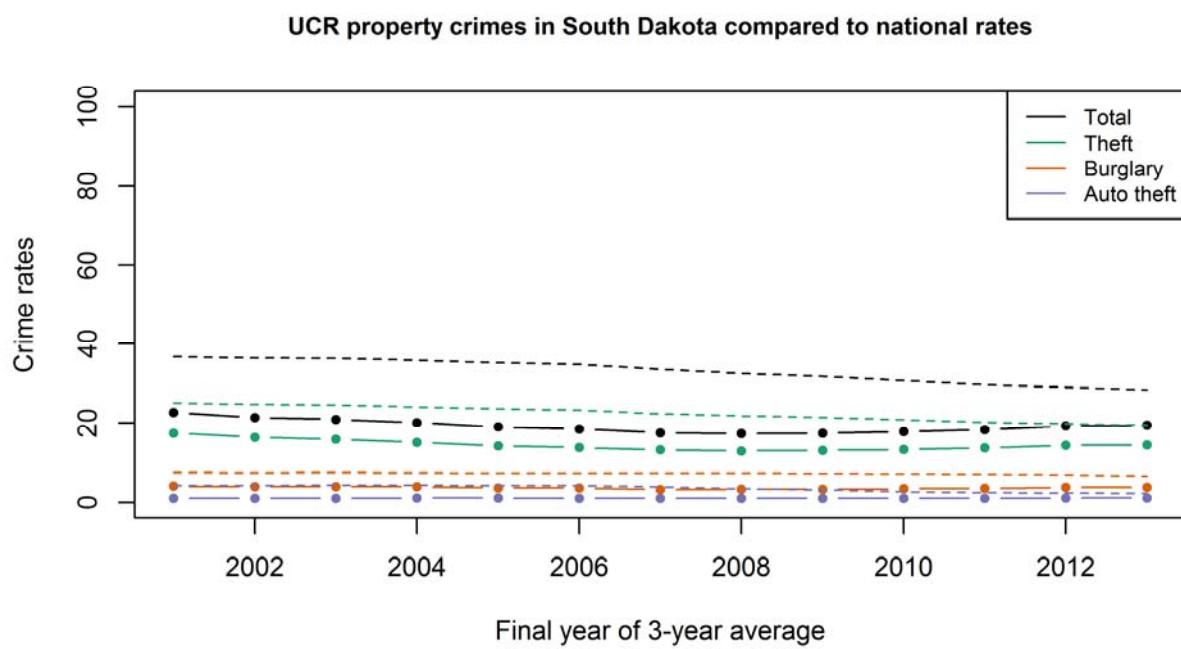
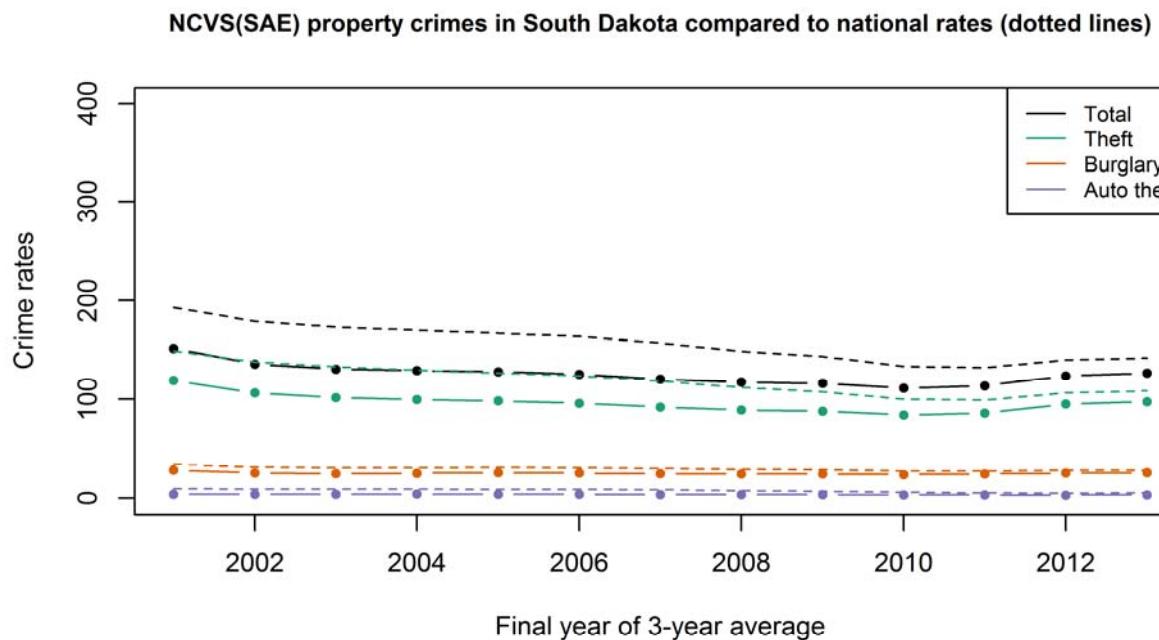
NCVS(SAE) violent crimes in South Carolina compared to national rates by relationship

NCVS(SAE) property crimes in South Carolina compared to national rates (dotted lines)**UCR property crimes in South Carolina compared to national rates**

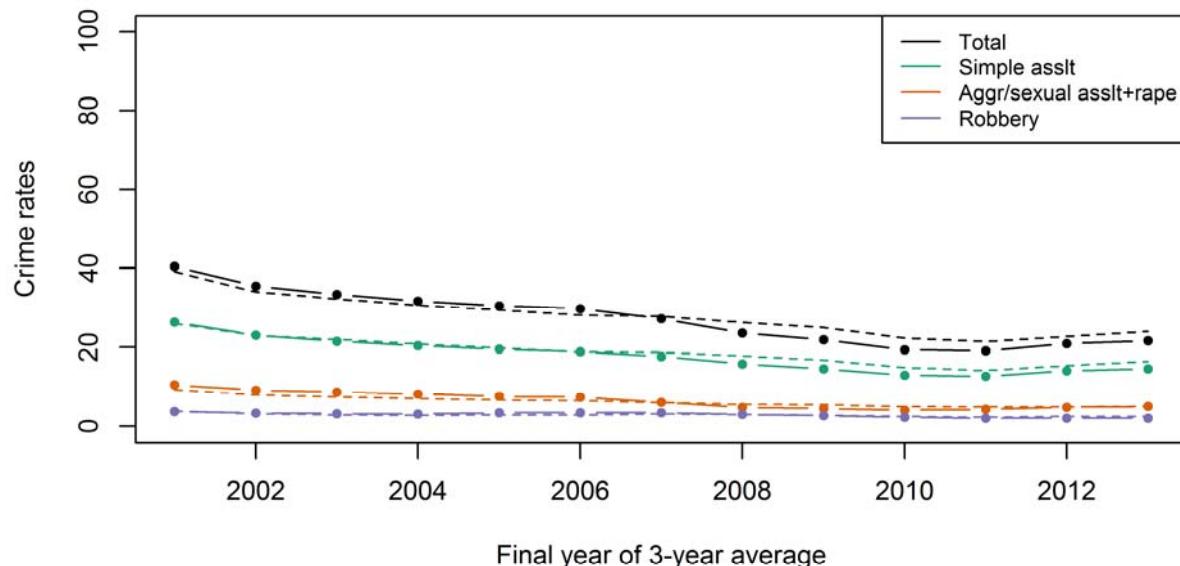
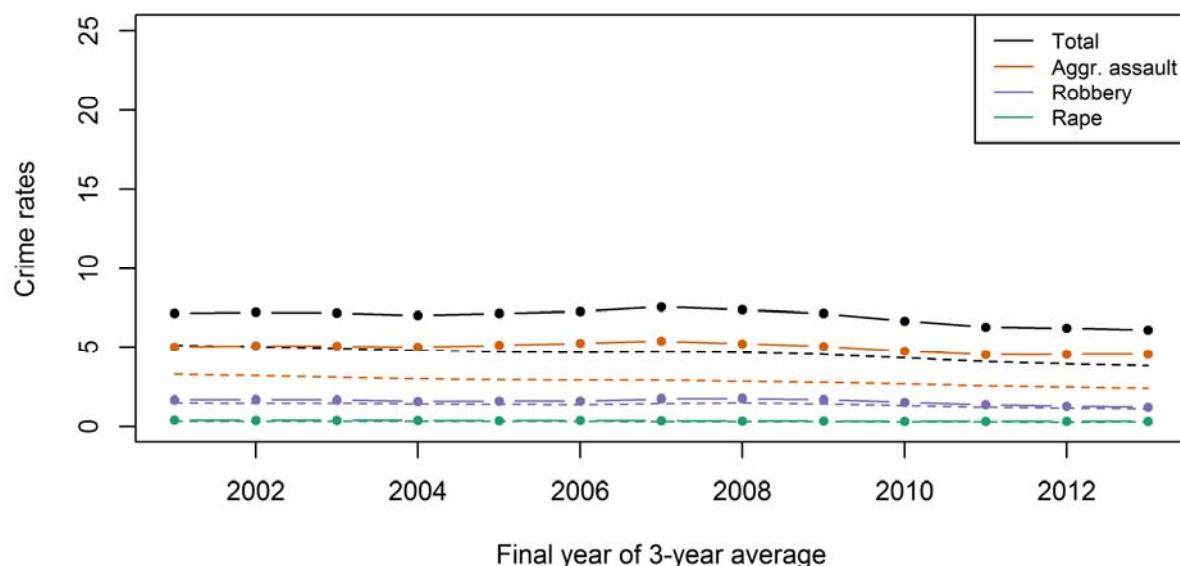
South Dakota

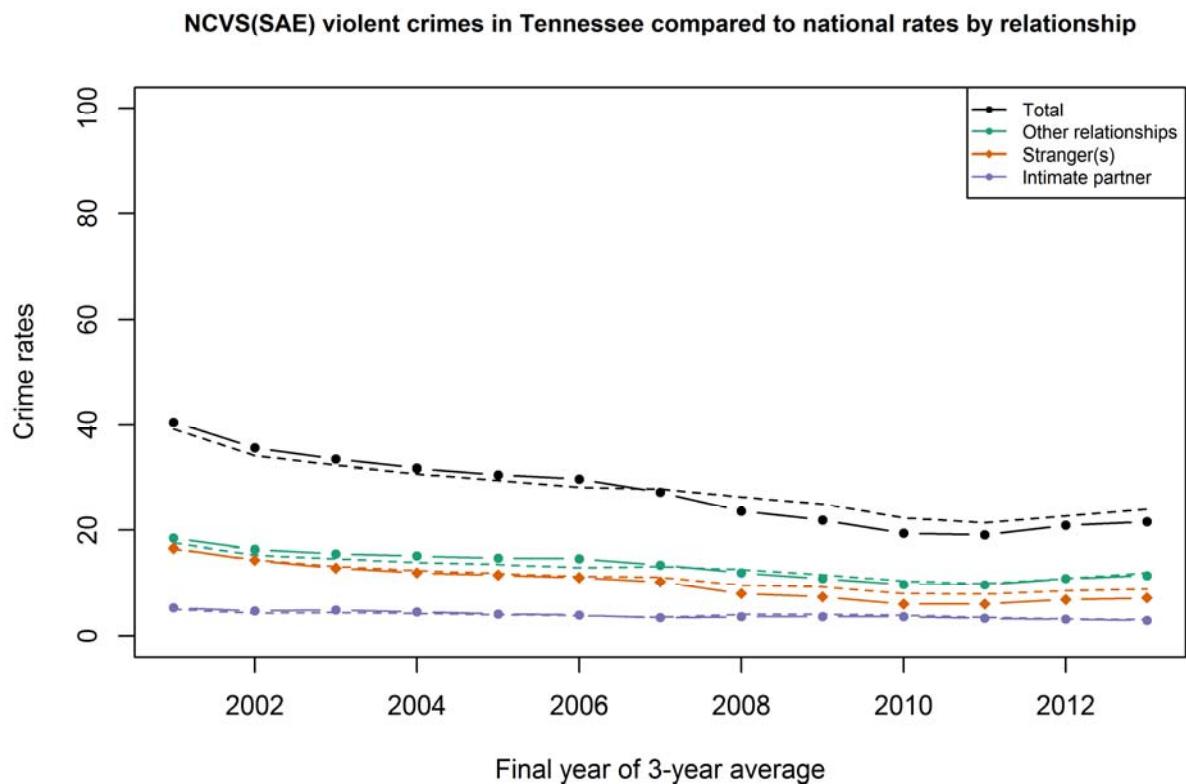
NCVS(SAE) violent crimes in South Dakota compared to national rates by type of crime**UCR violent crimes in South Dakota compared to national rates**

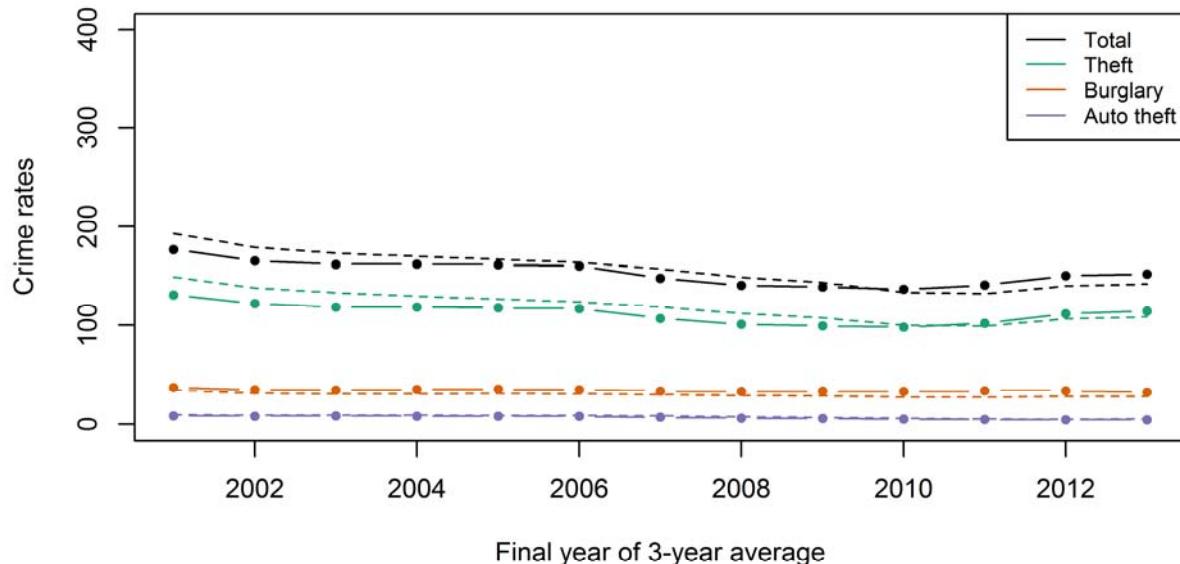
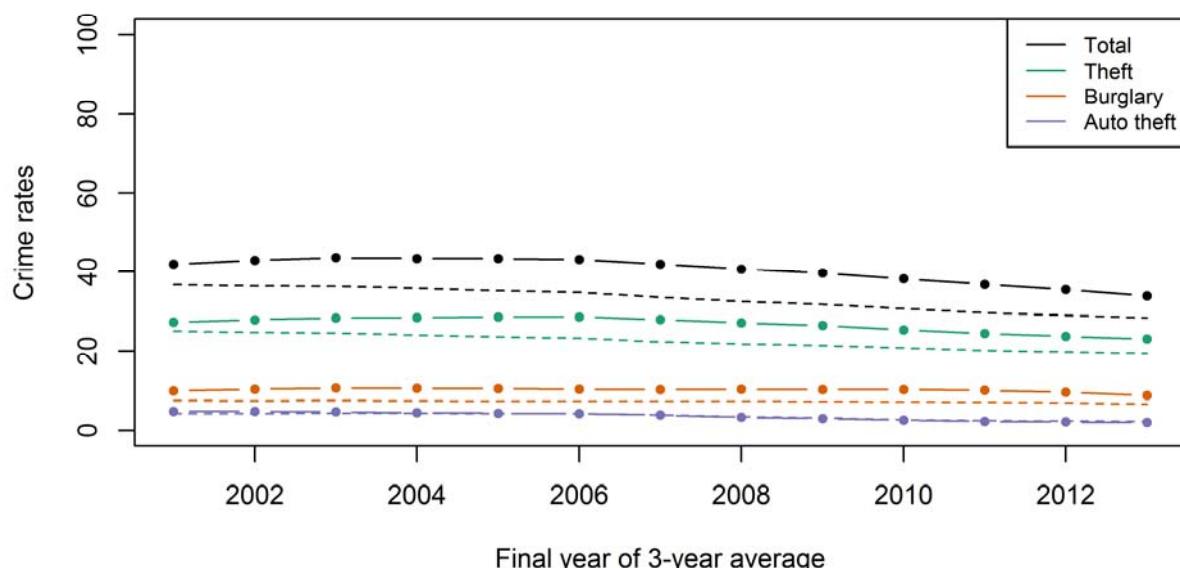




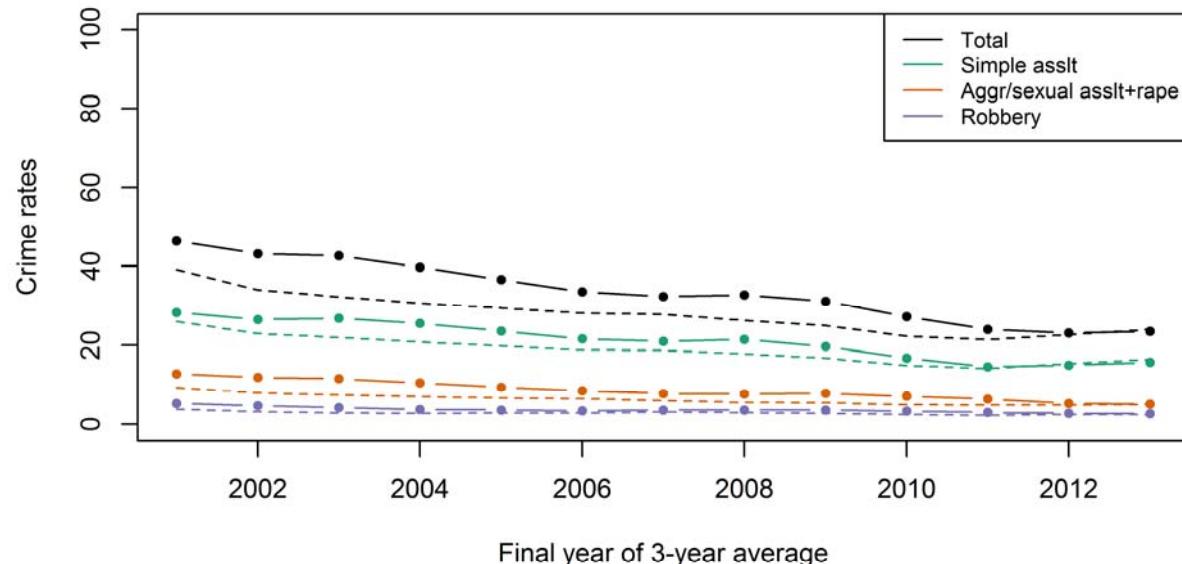
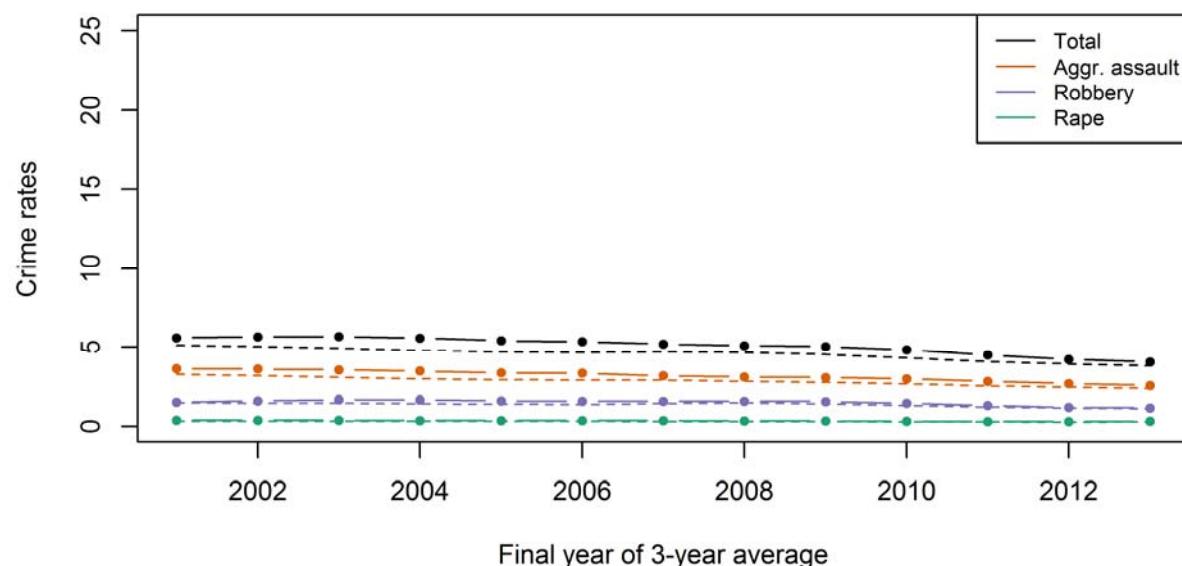
Tennessee

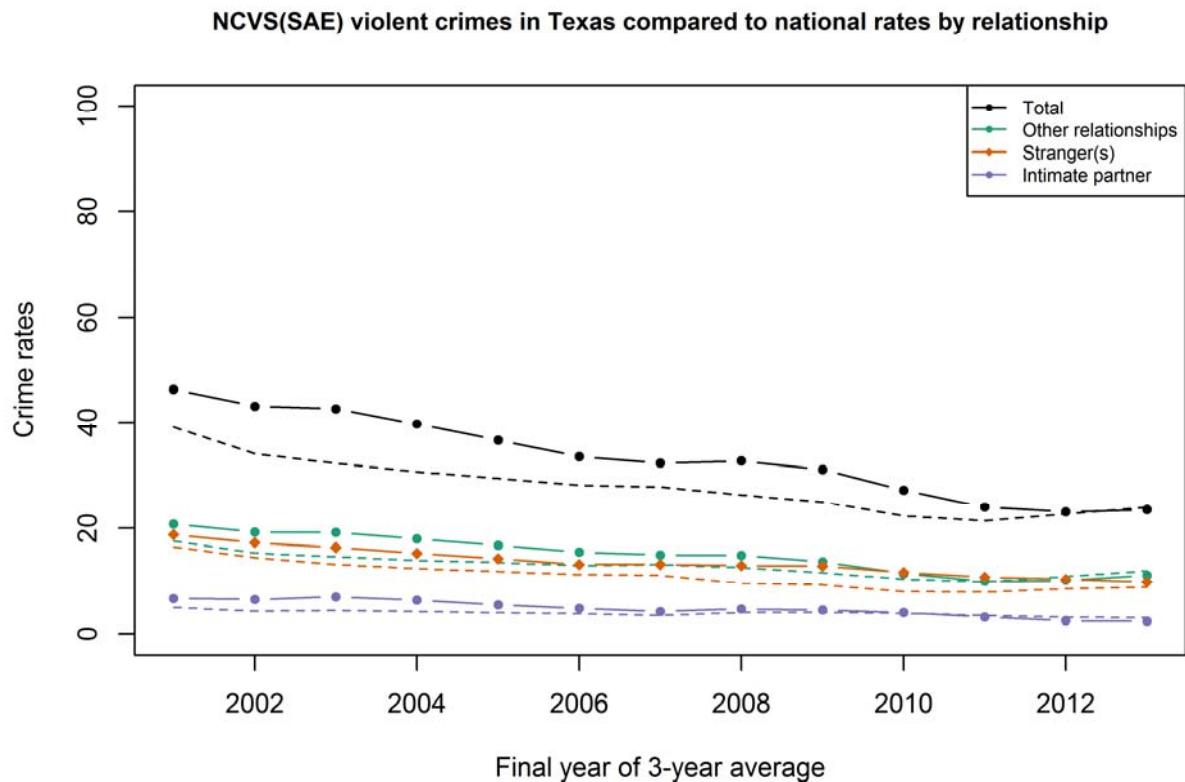
NCVS(SAE) violent crimes in Tennessee compared to national rates by type of crime**UCR violent crimes in Tennessee compared to national rates**



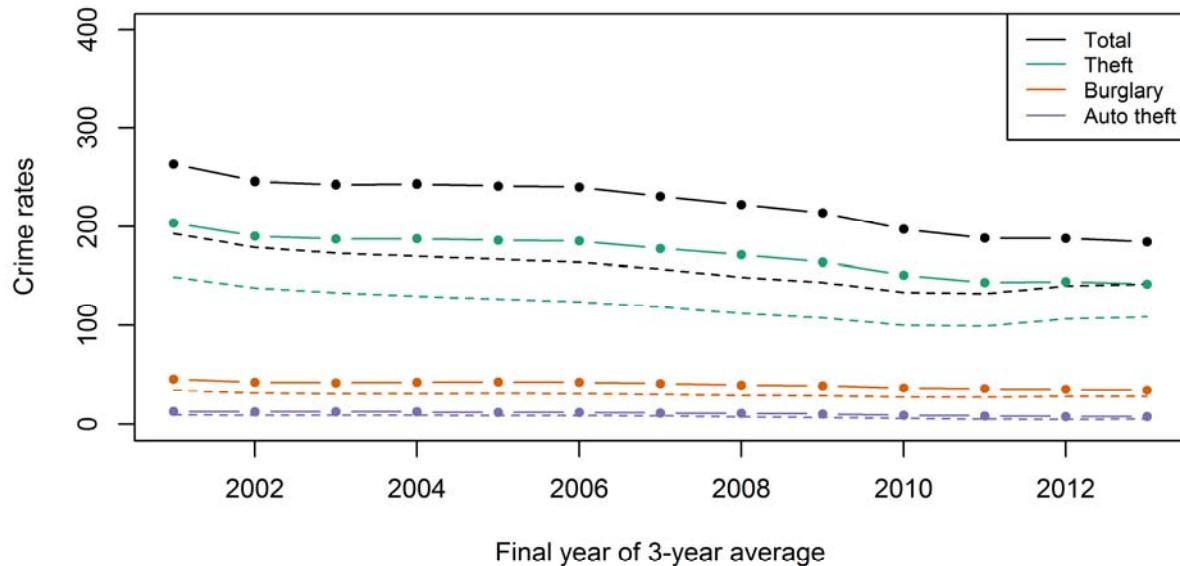
NCVS(SAE) property crimes in Tennessee compared to national rates (dotted lines)**UCR property crimes in Tennessee compared to national rates**

Texas

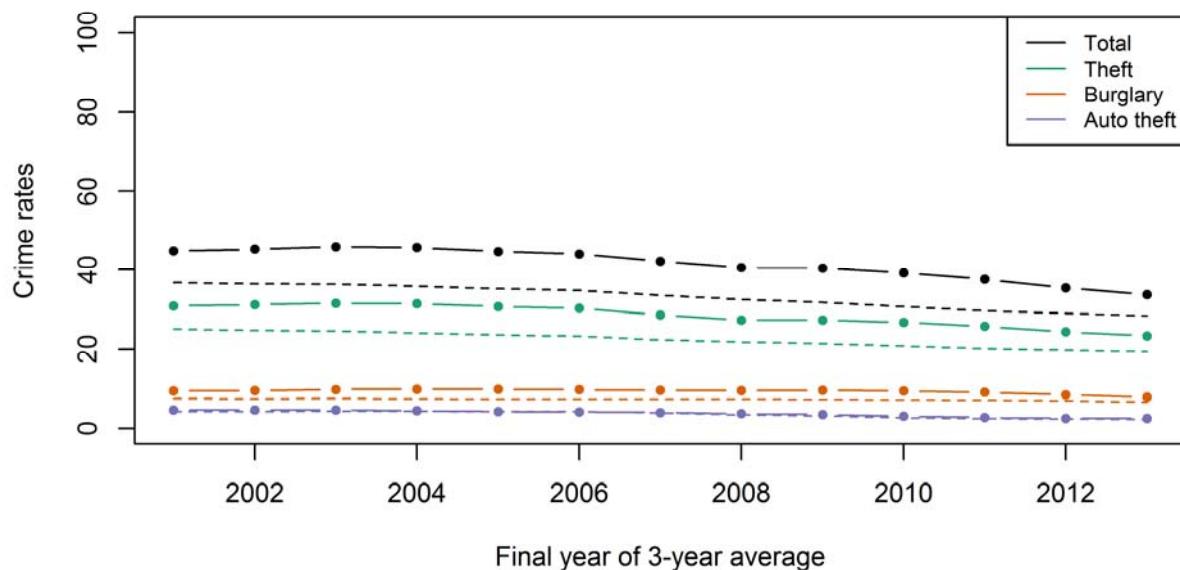
NCVS(SAE) violent crimes in Texas compared to national rates by type of crime**UCR violent crimes in Texas compared to national rates**



NCVS(SAE) property crimes in Texas compared to national rates (dotted lines)

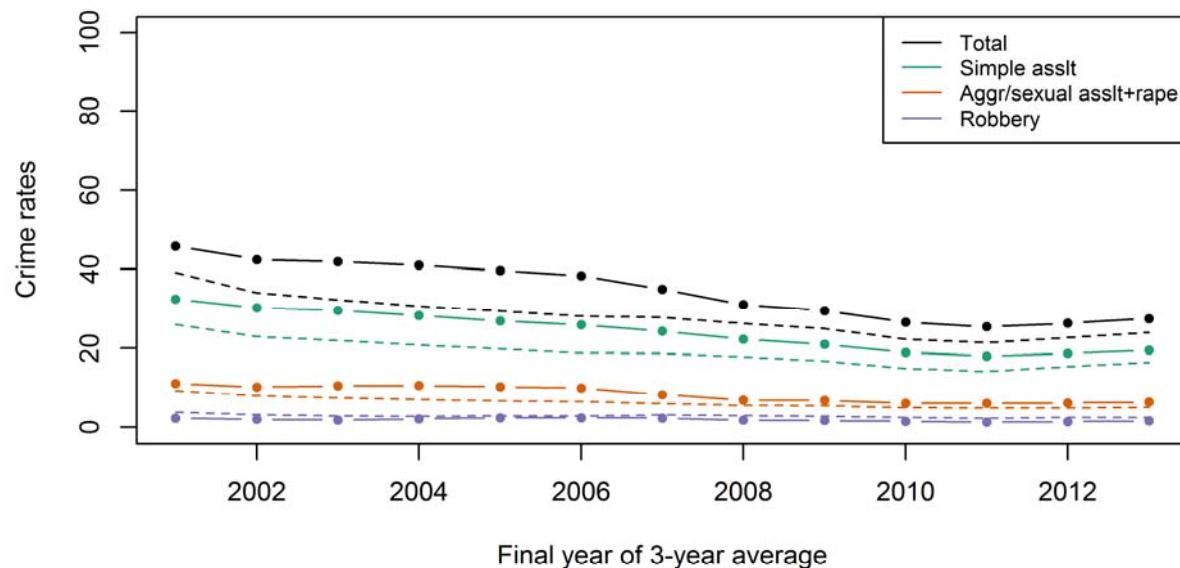


UCR property crimes in Texas compared to national rates

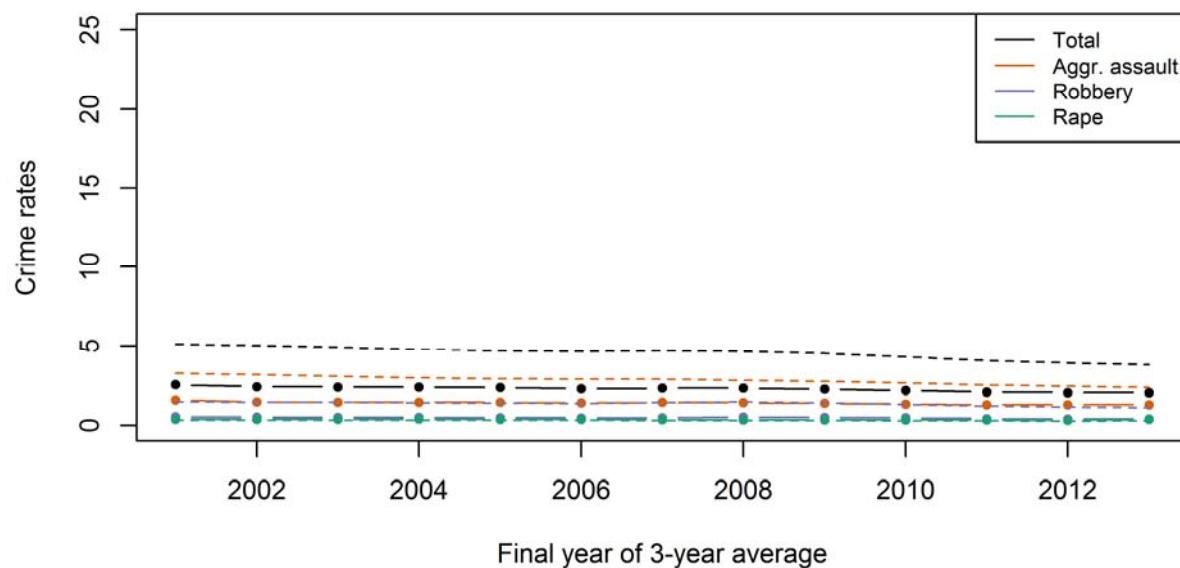


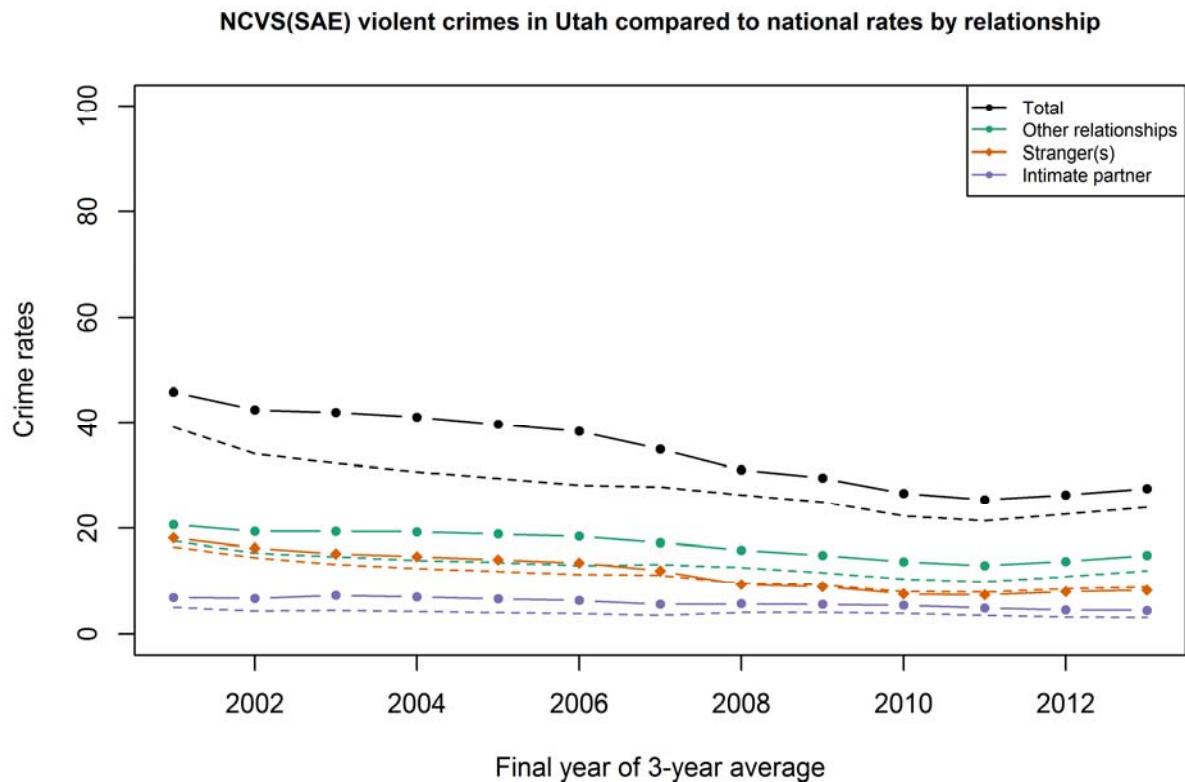
Utah

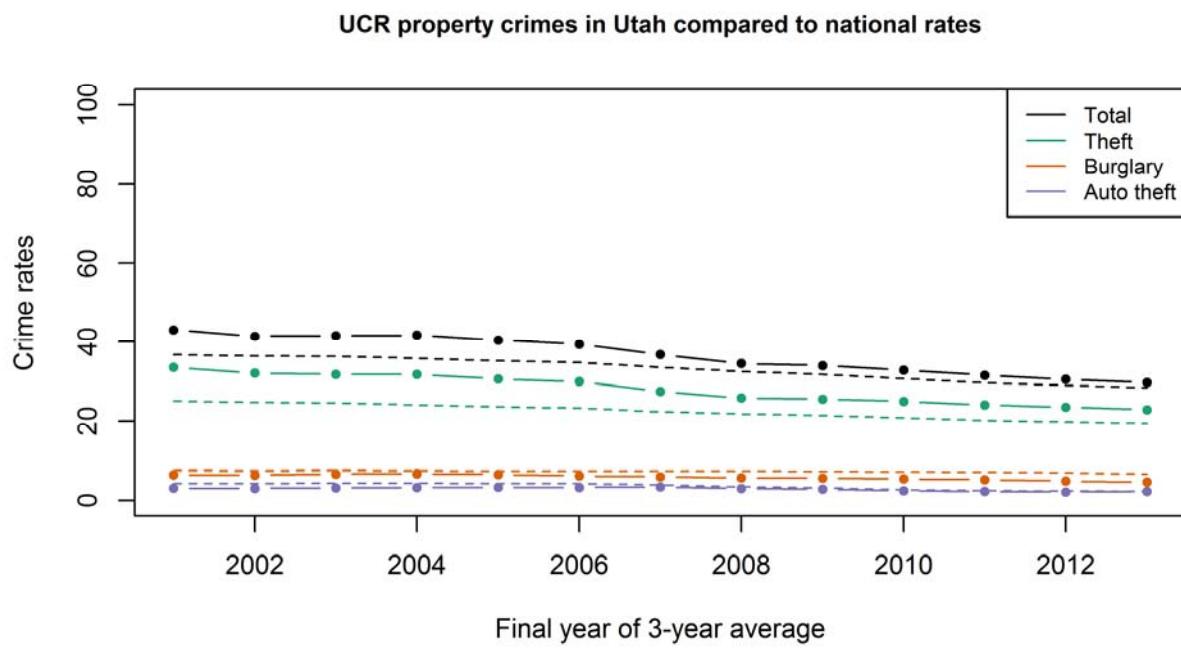
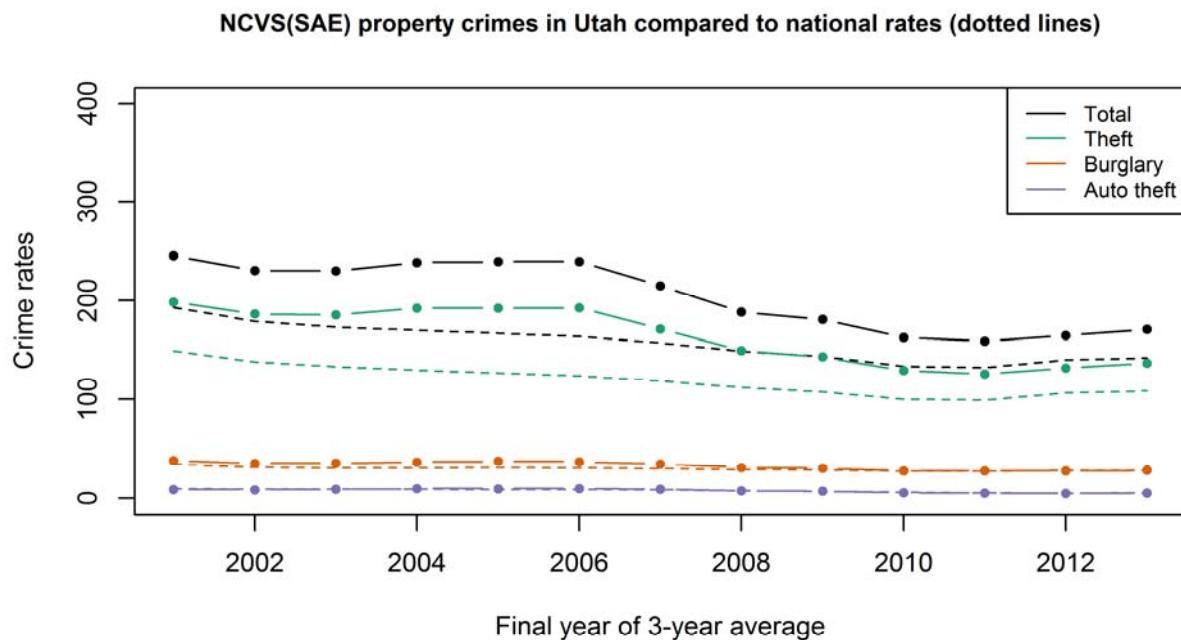
NCVS(SAE) violent crimes in Utah compared to national rates by type of crime



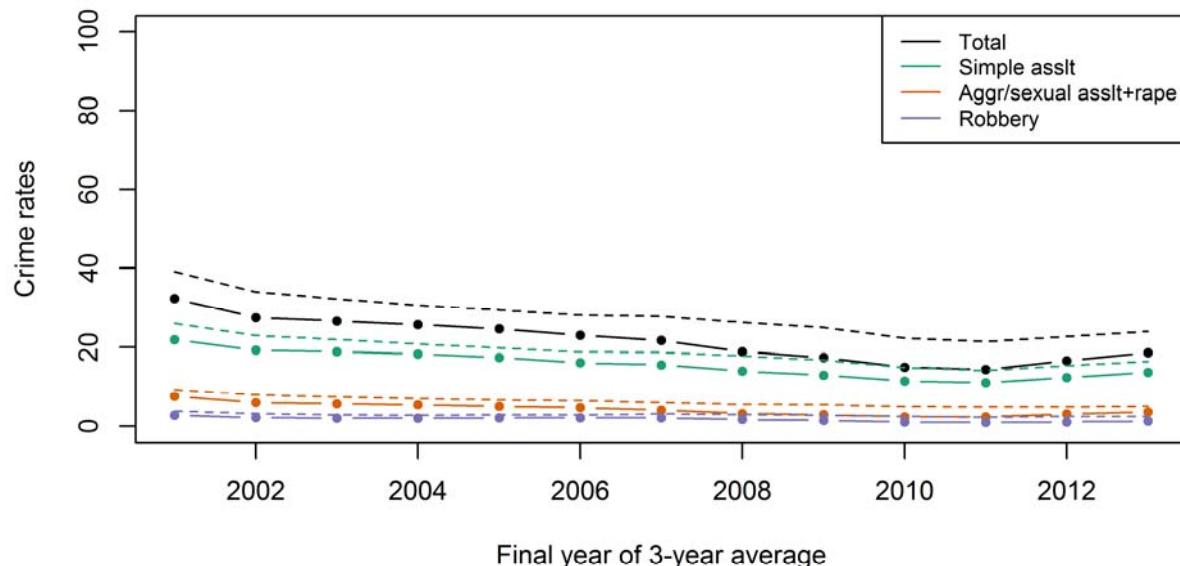
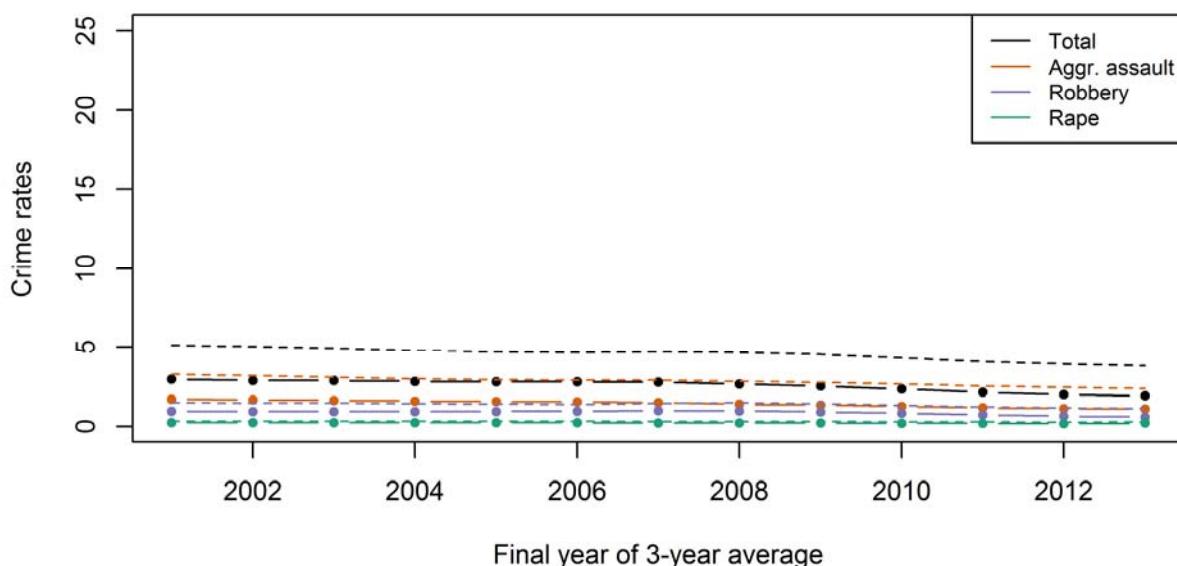
UCR violent crimes in Utah compared to national rates

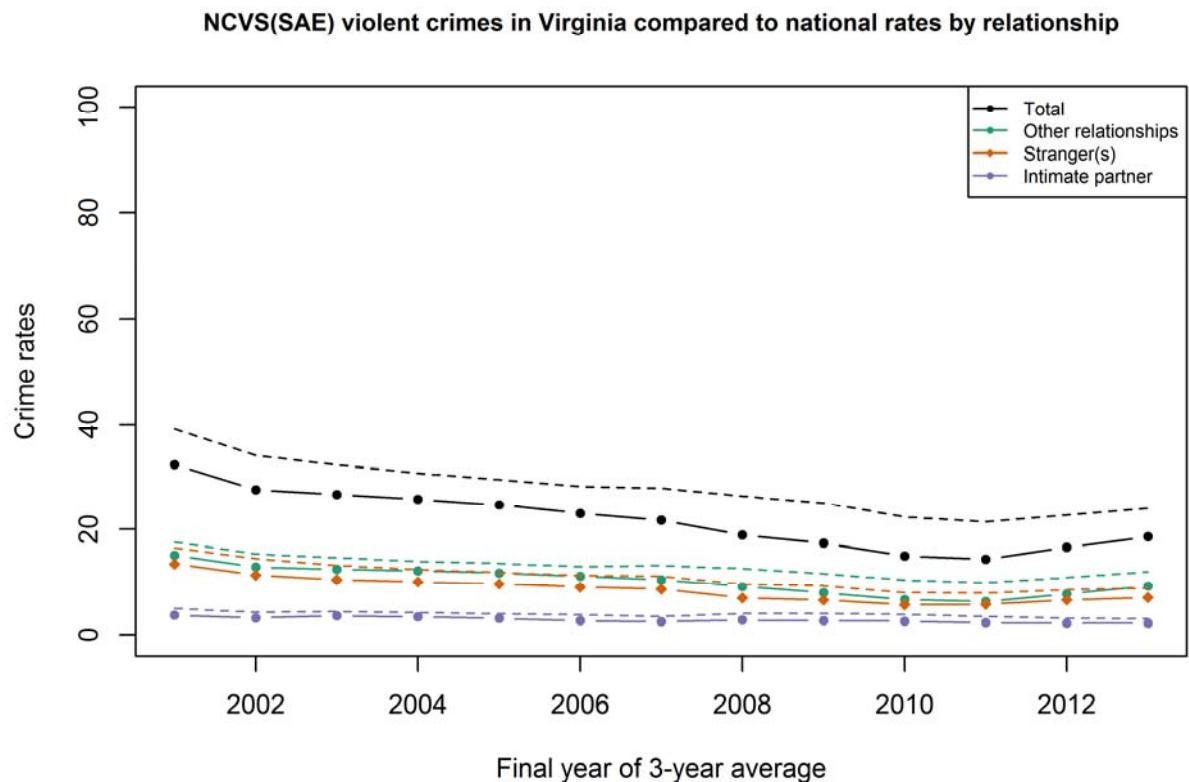


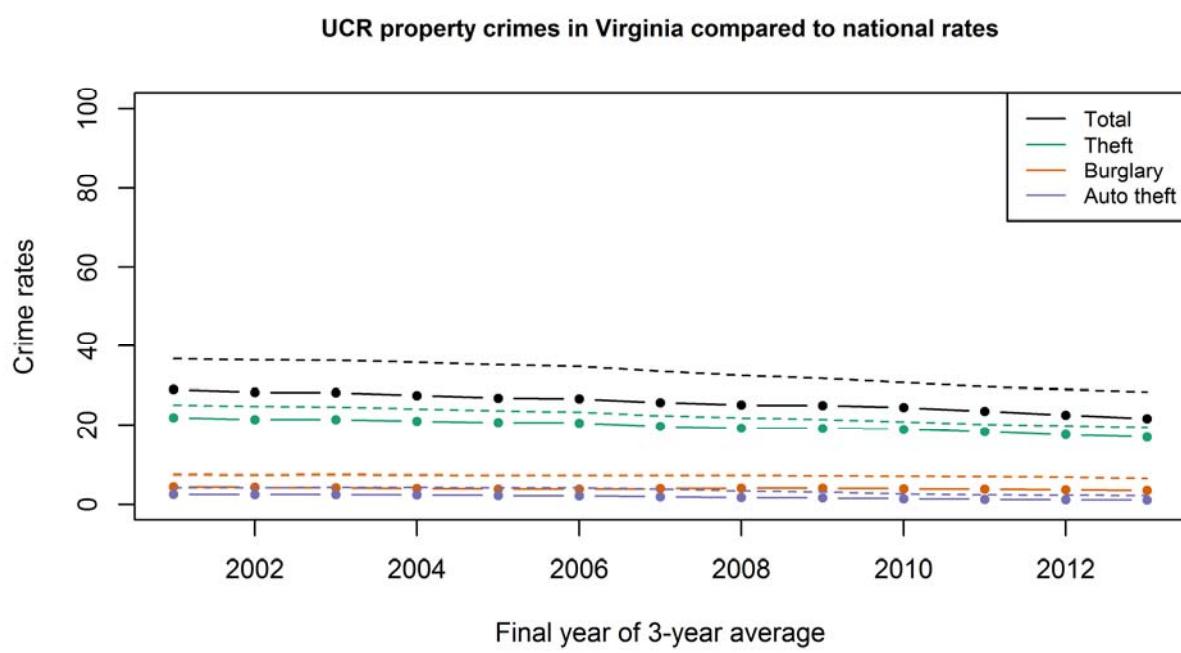
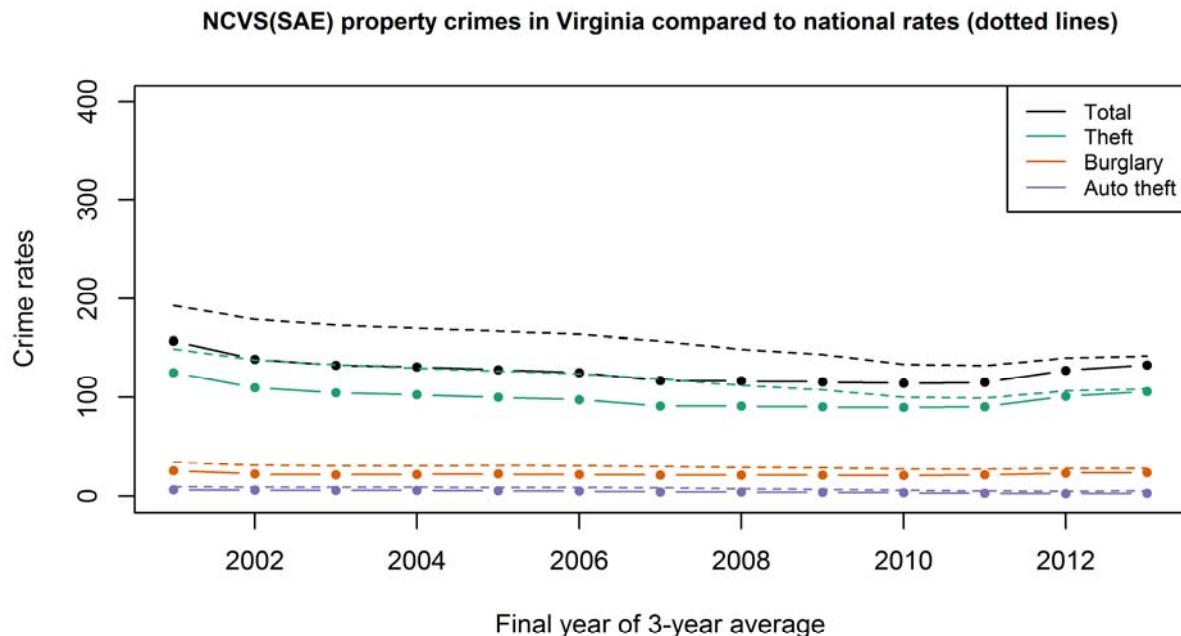




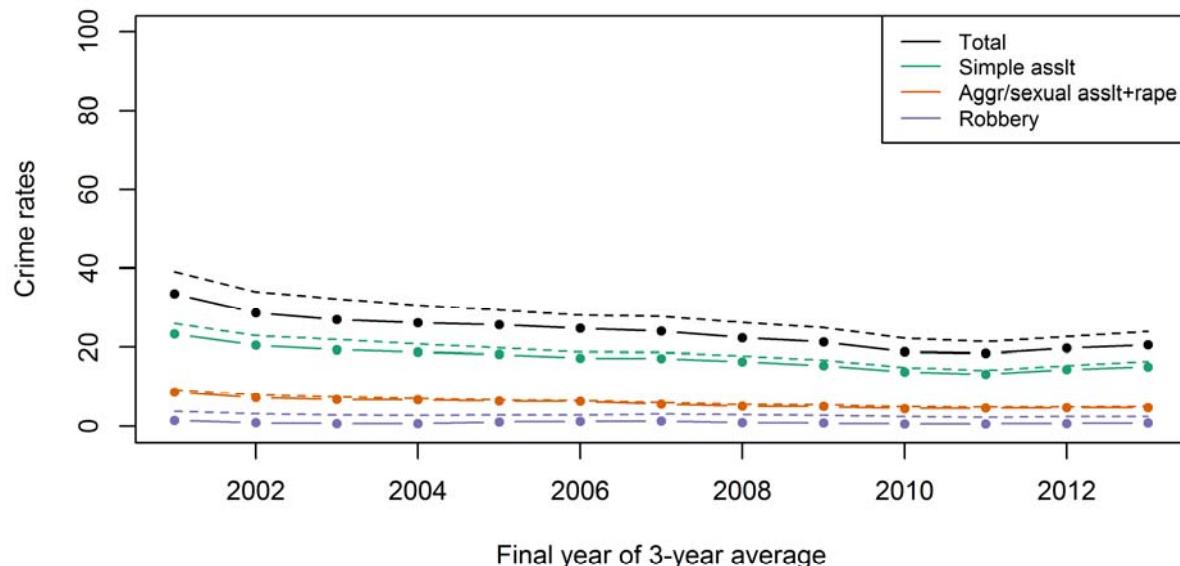
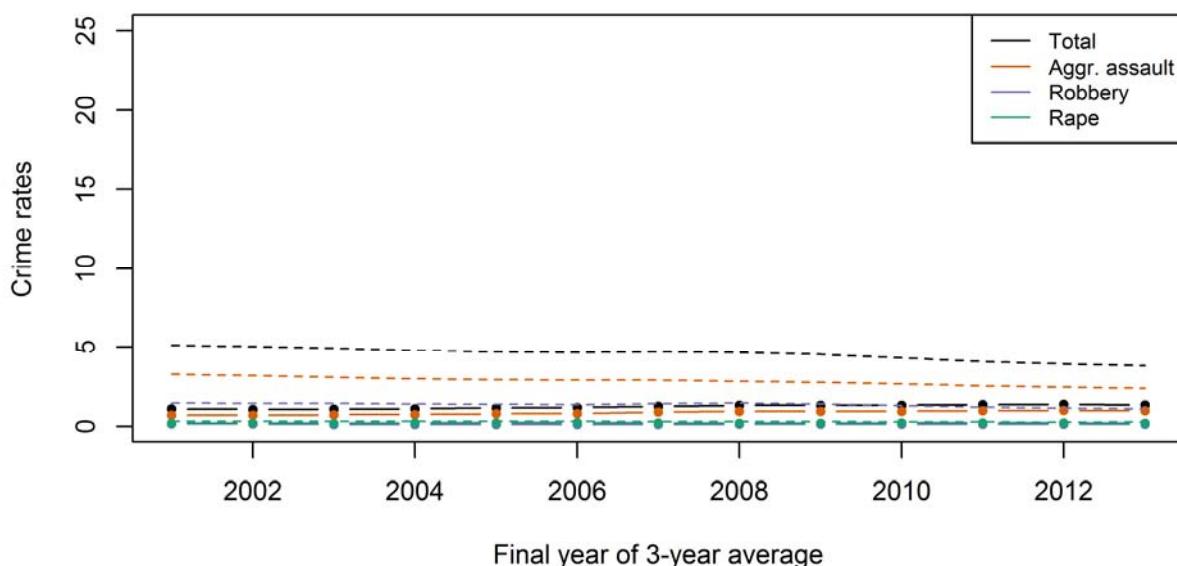
Virginia

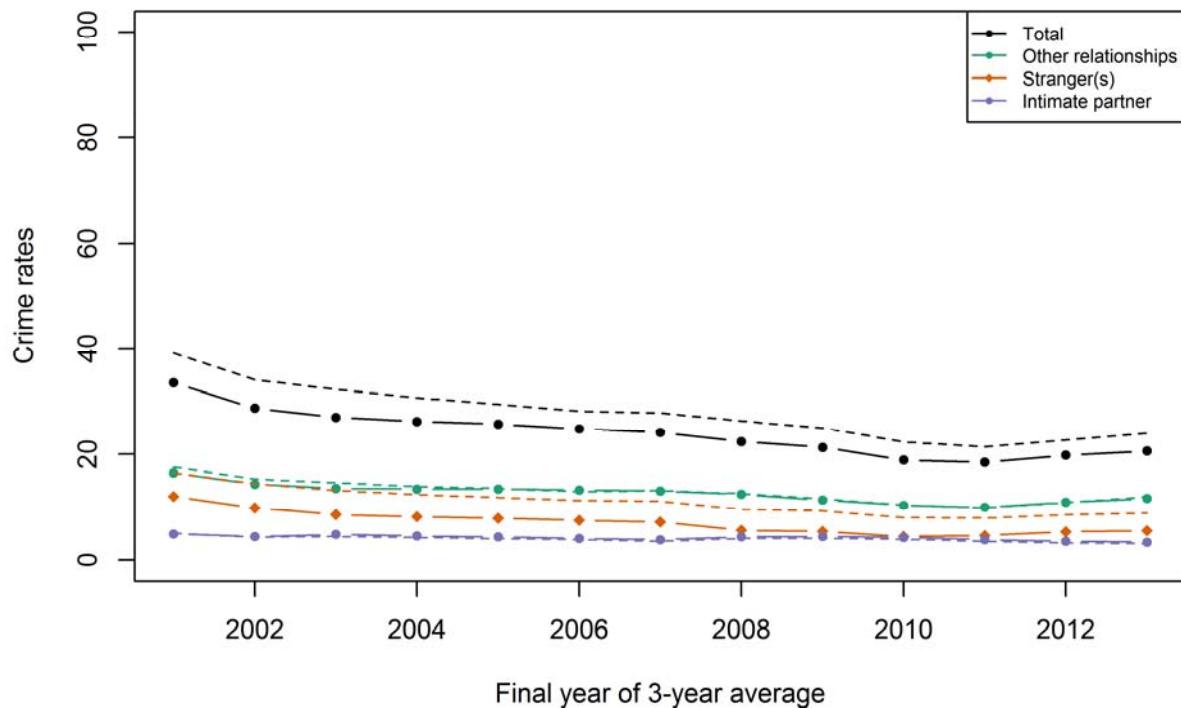
NCVS(SAE) violent crimes in Virginia compared to national rates by type of crime**UCR violent crimes in Virginia compared to national rates**

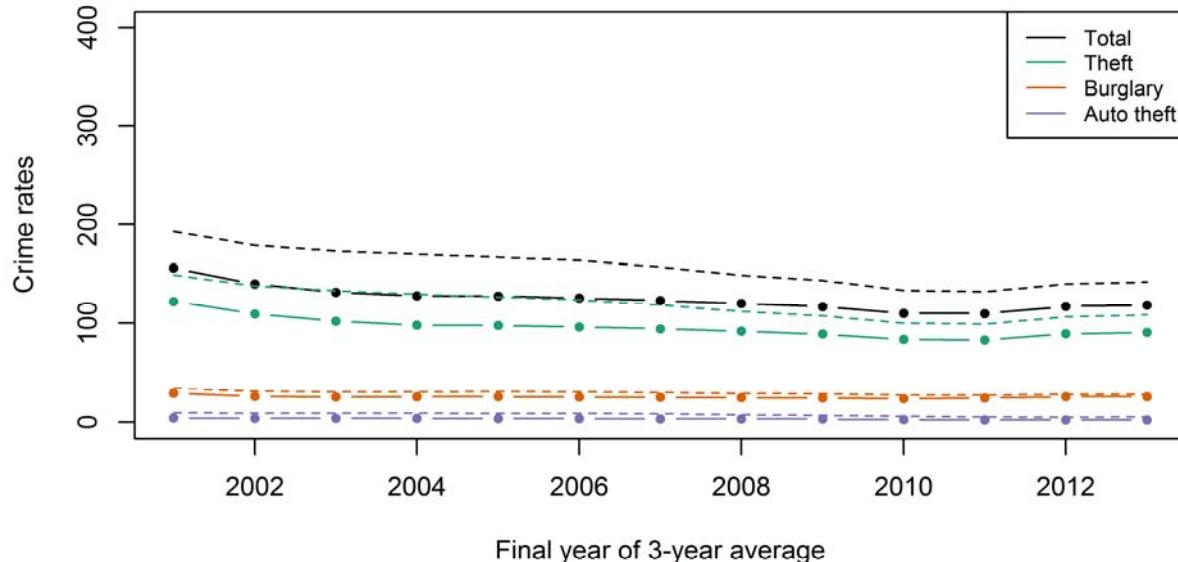
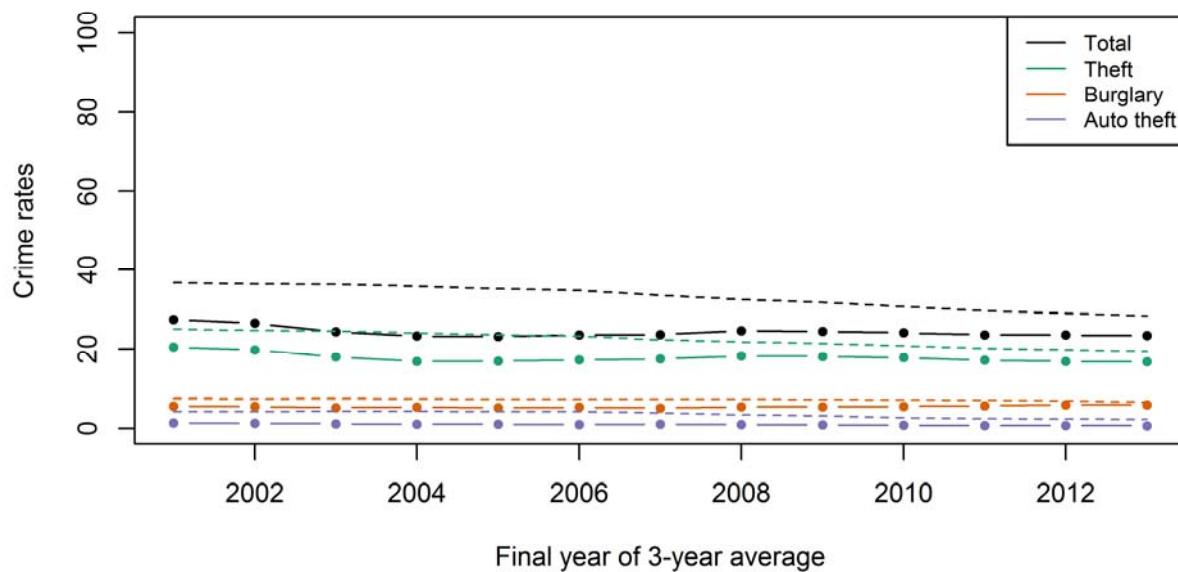




Vermont

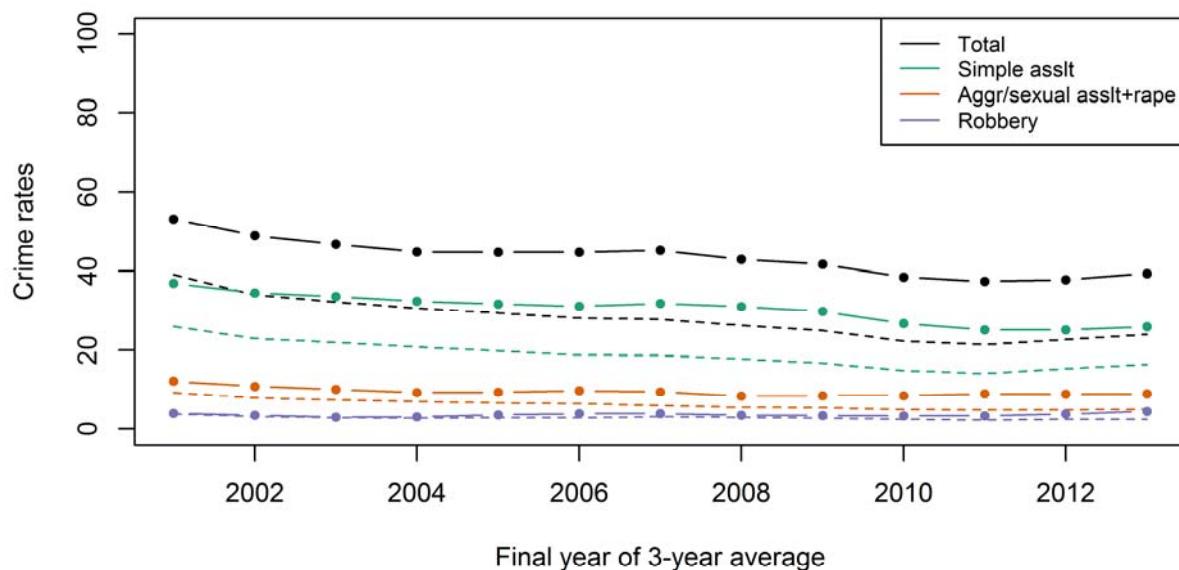
NCVS(SAE) violent crimes in Vermont compared to national rates by type of crime**UCR violent crimes in Vermont compared to national rates**

NCVS(SAE) violent crimes in Vermont compared to national rates by relationship

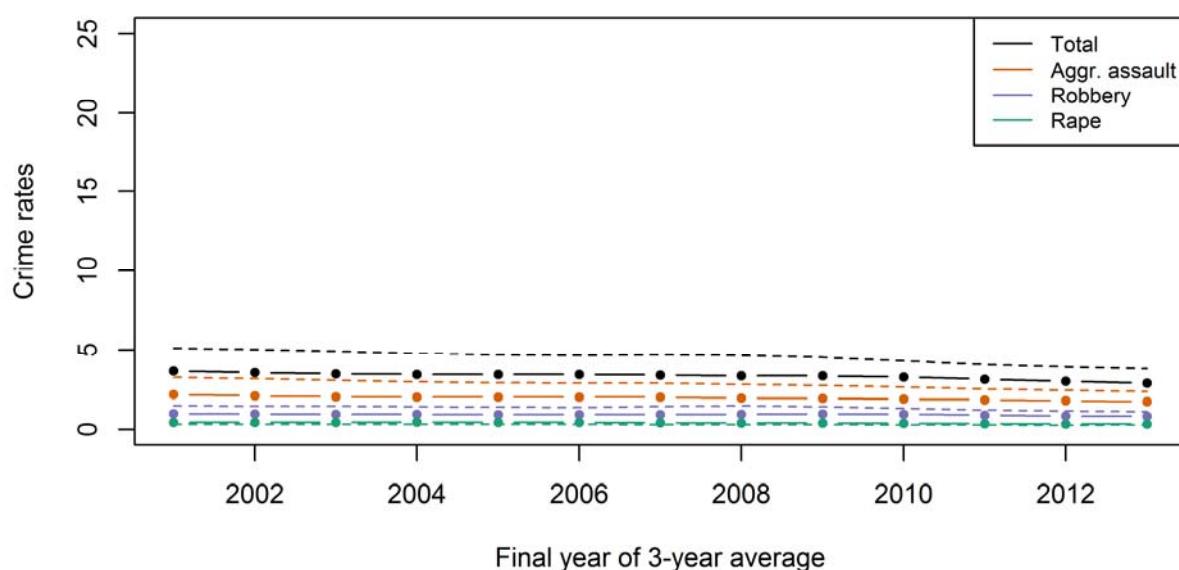
NCVS(SAE) property crimes in Vermont compared to national rates (dotted lines)**UCR property crimes in Vermont compared to national rates**

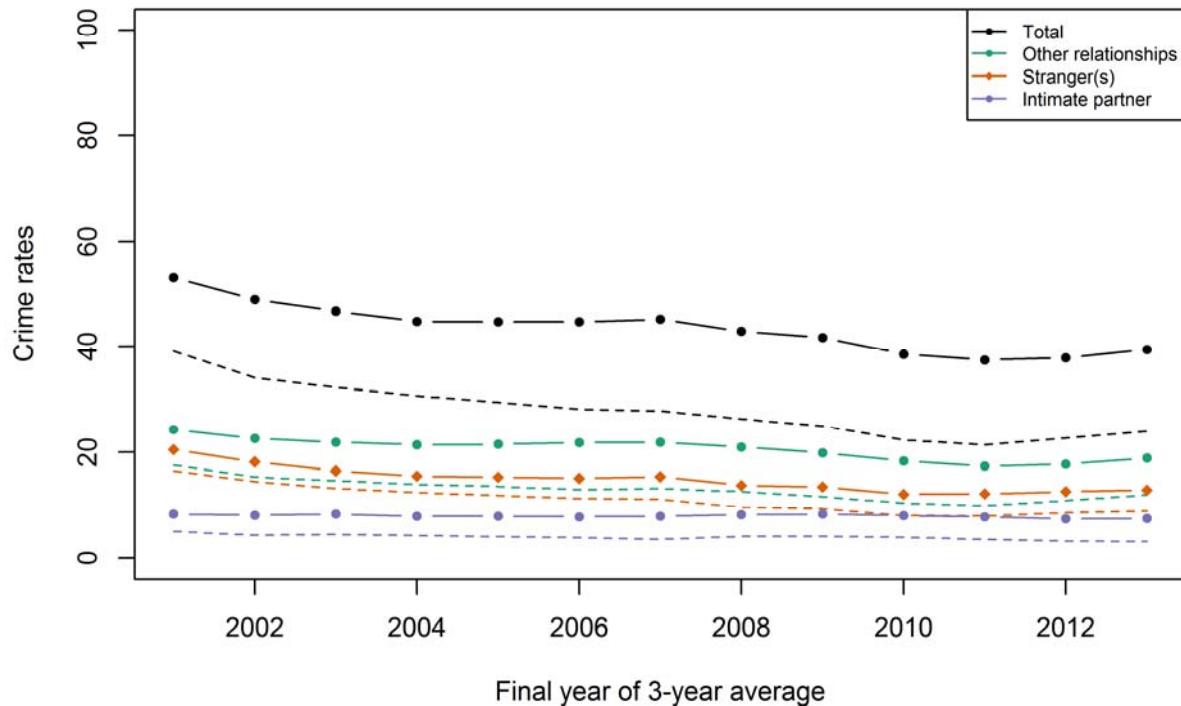
Washington

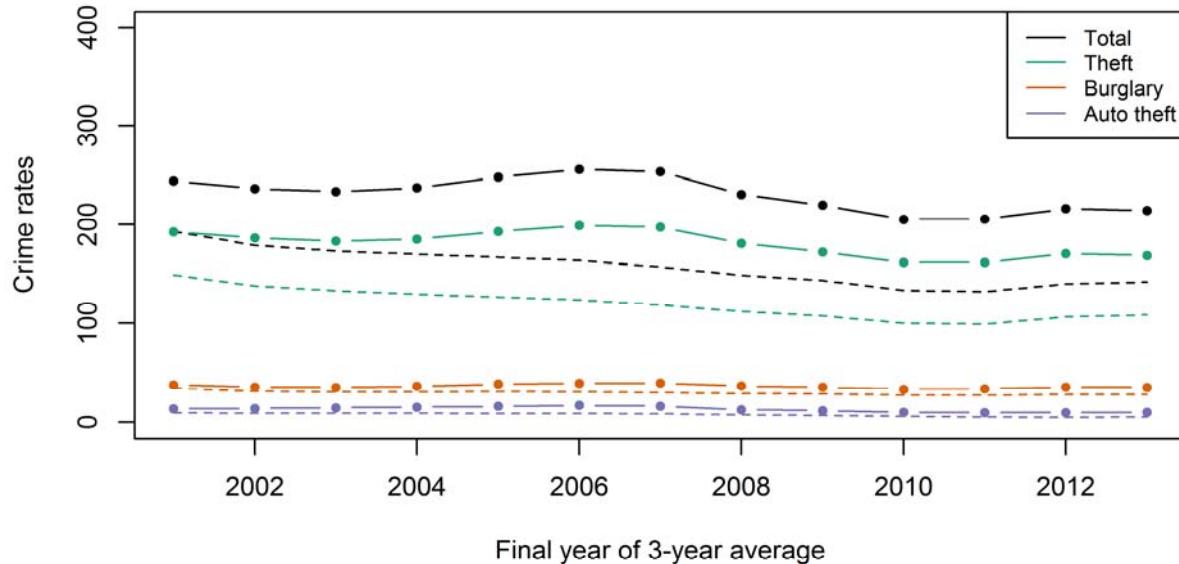
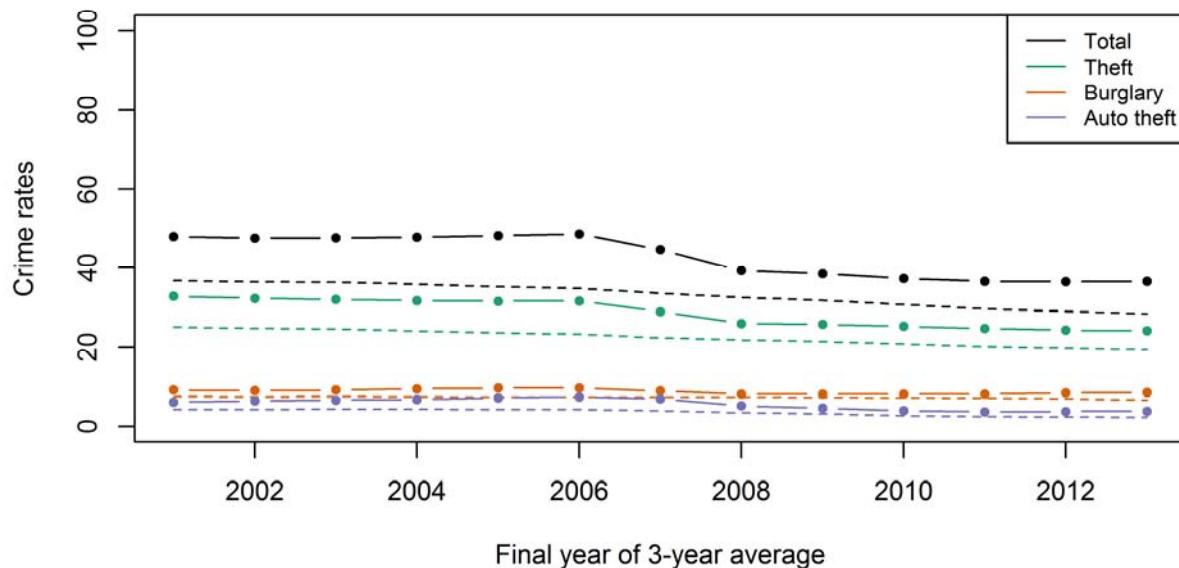
NCVS(SAE) violent crimes in Washington compared to national rates by type of crime



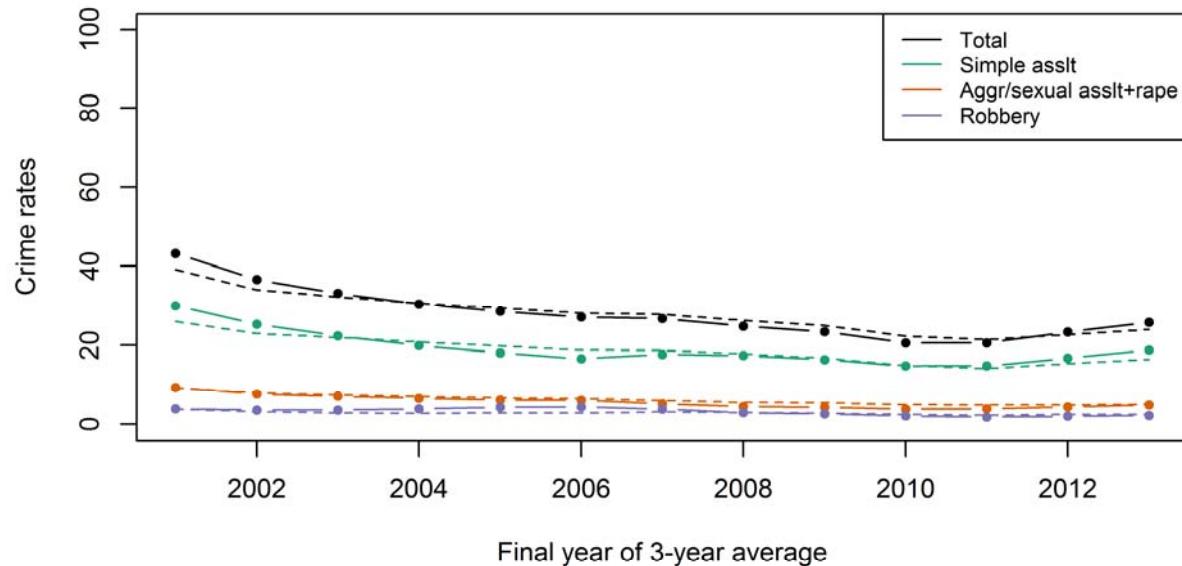
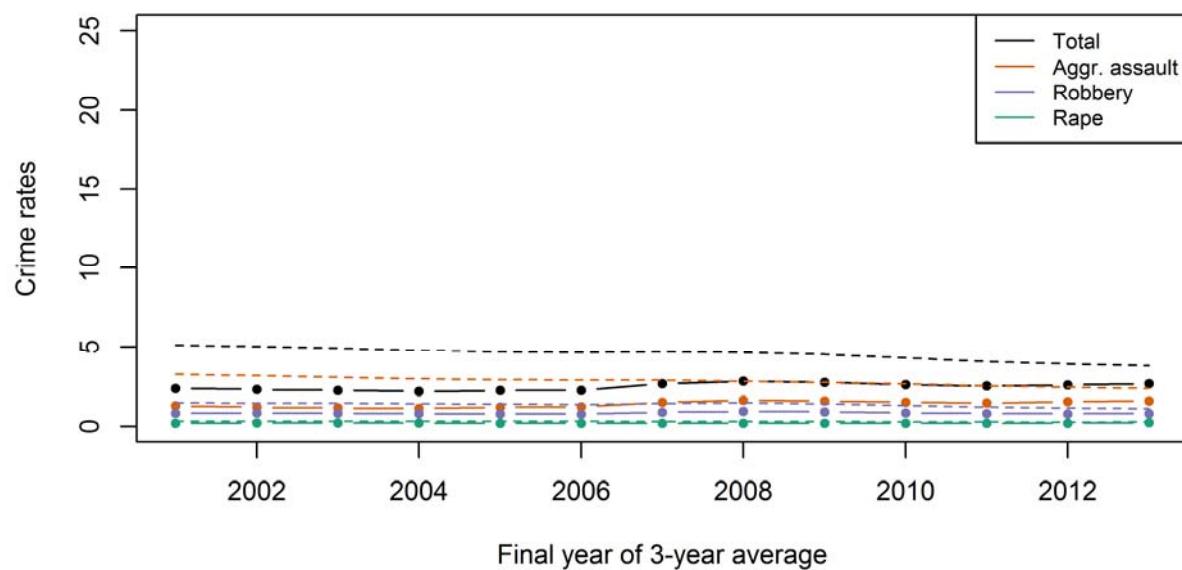
UCR violent crimes in Washington compared to national rates

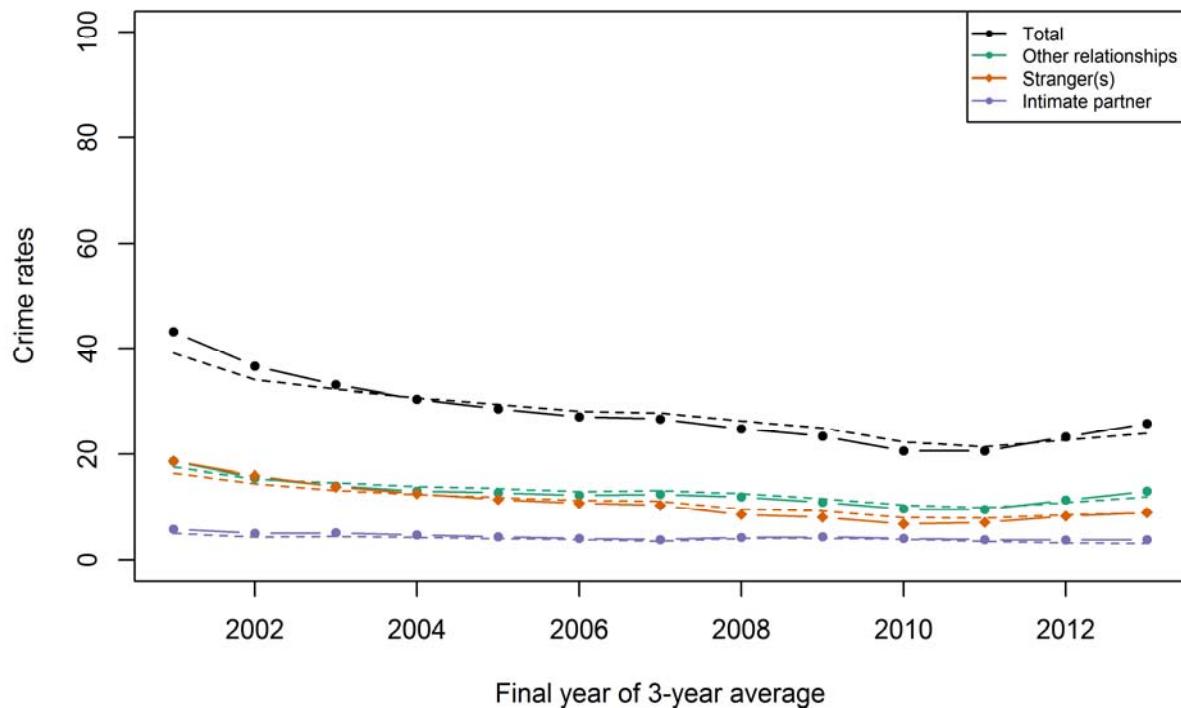


NCVS(SAE) violent crimes in Washington compared to national rates by relationship

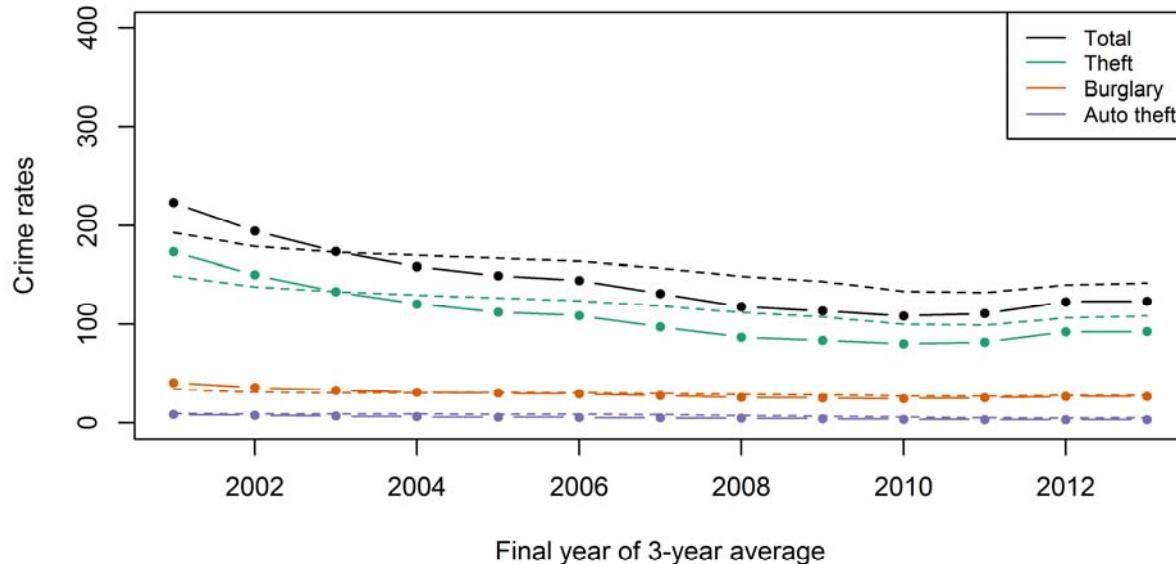
NCVS(SAE) property crimes in Washington compared to national rates (dotted lines)**UCR property crimes in Washington compared to national rates**

Wisconsin

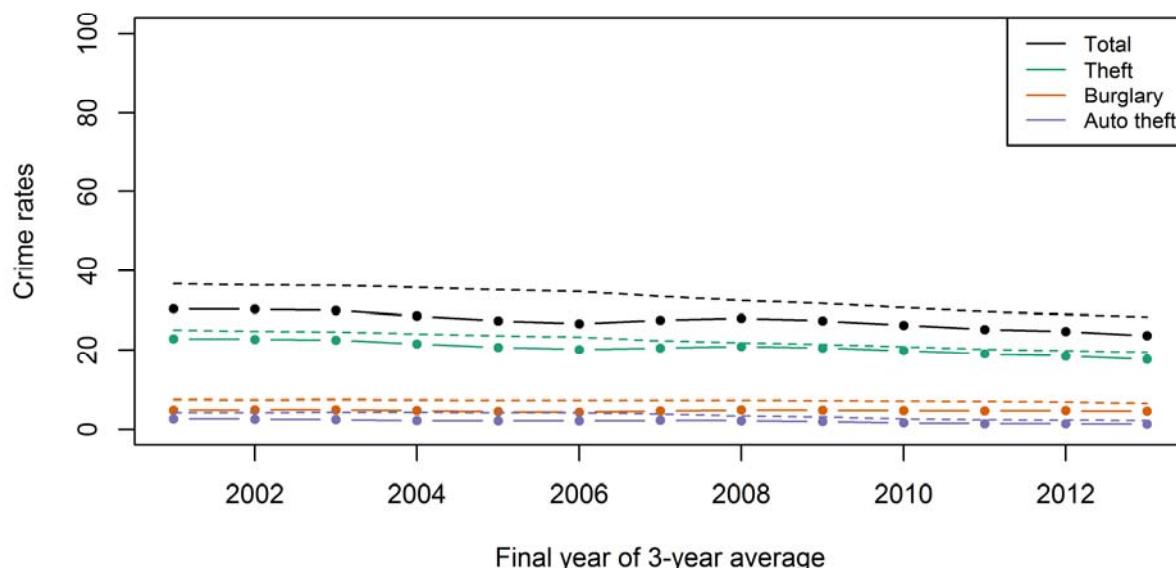
NCVS(SAE) violent crimes in Wisconsin compared to national rates by type of crime**UCR violent crimes in Wisconsin compared to national rates**

NCVS(SAE) violent crimes in Wisconsin compared to national rates by relationship

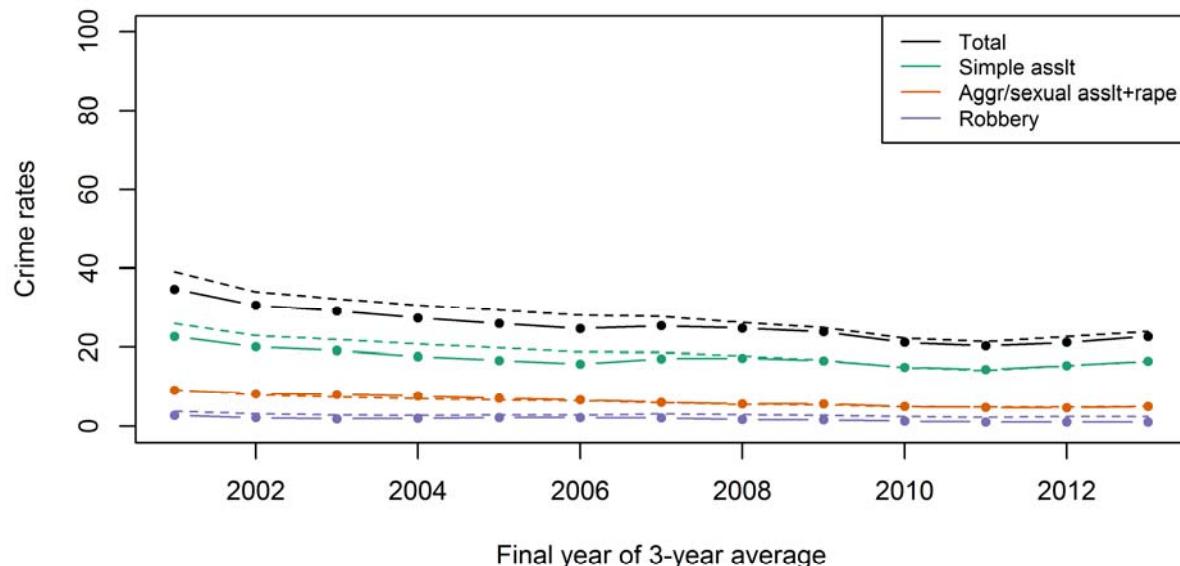
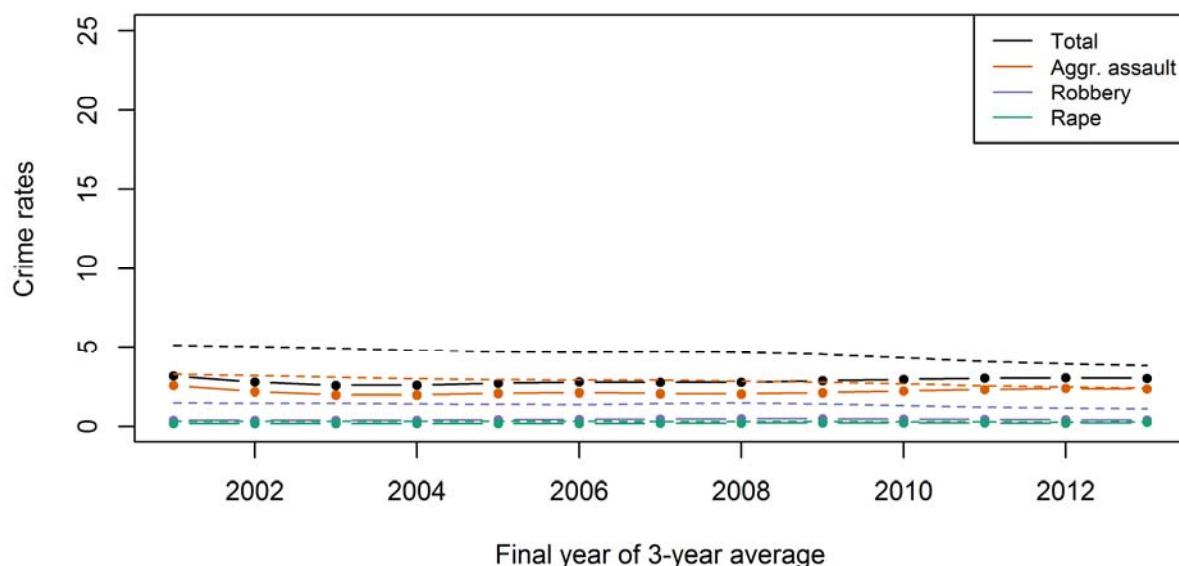
NCVS(SAE) property crimes in Wisconsin compared to national rates (dotted lines)

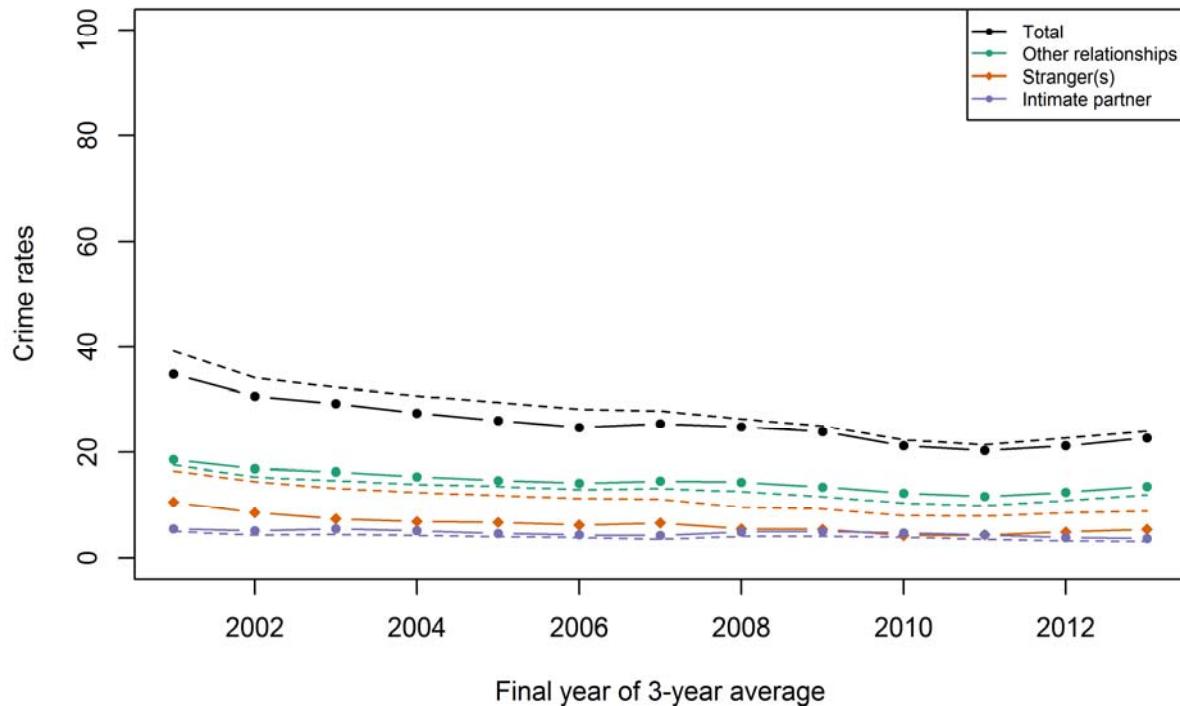


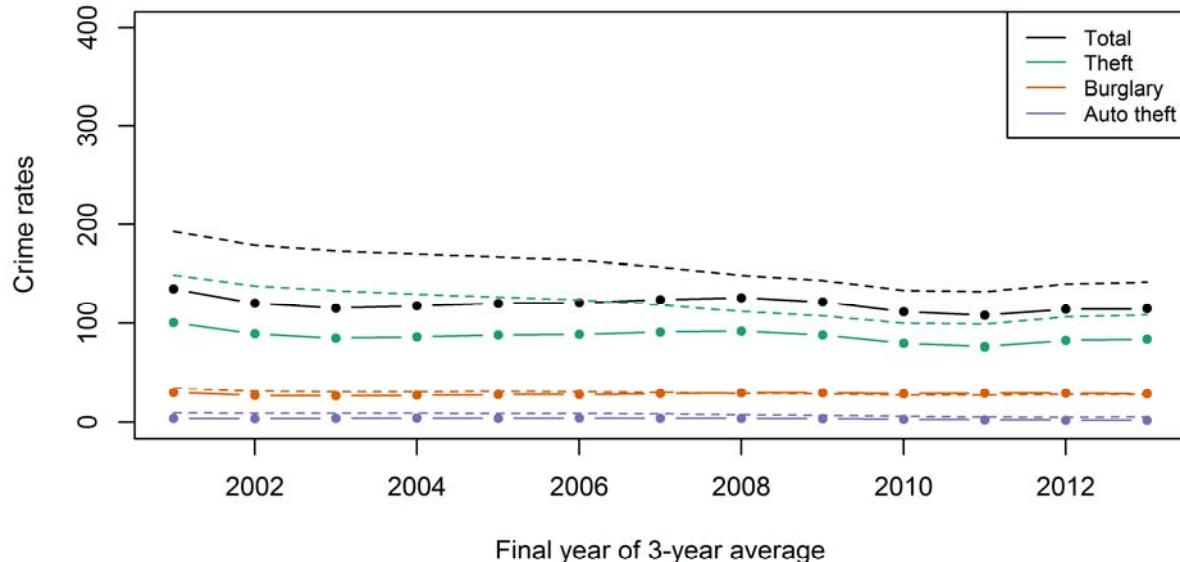
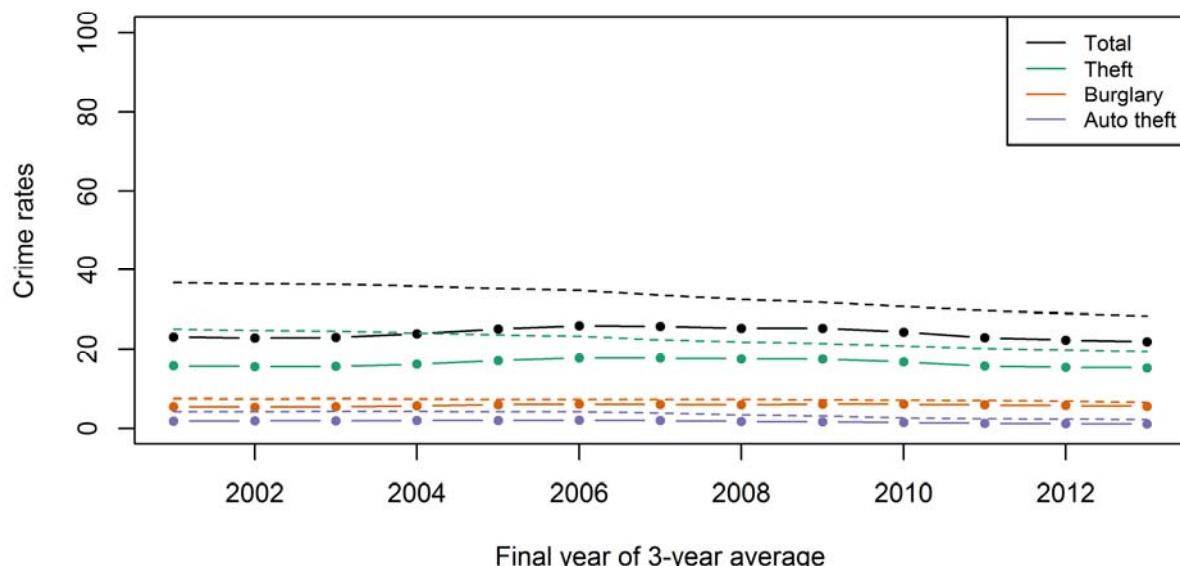
UCR property crimes in Wisconsin compared to national rates



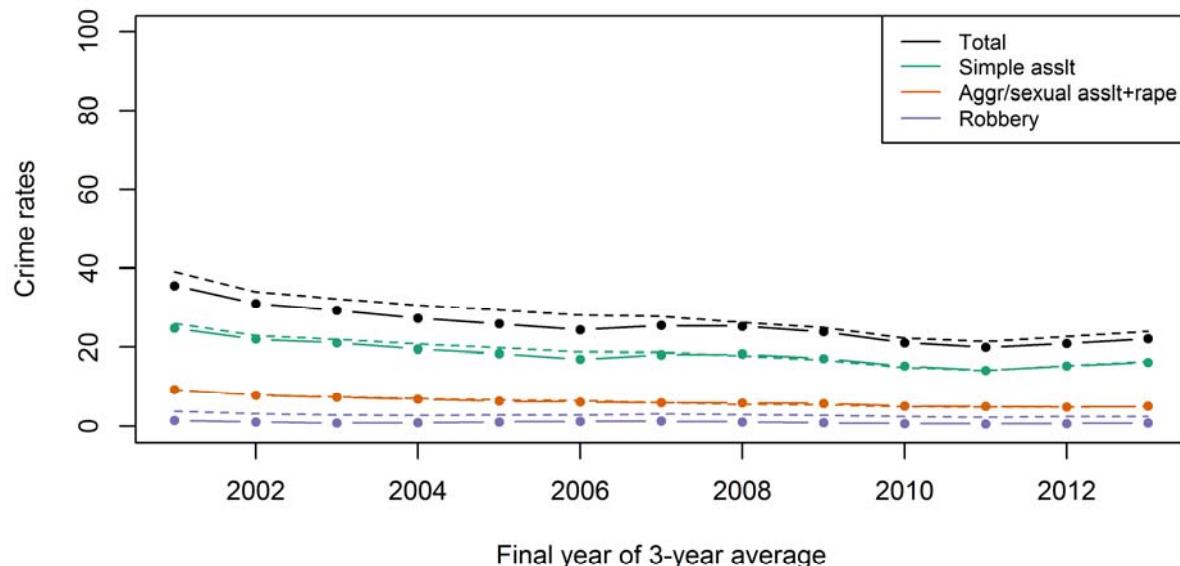
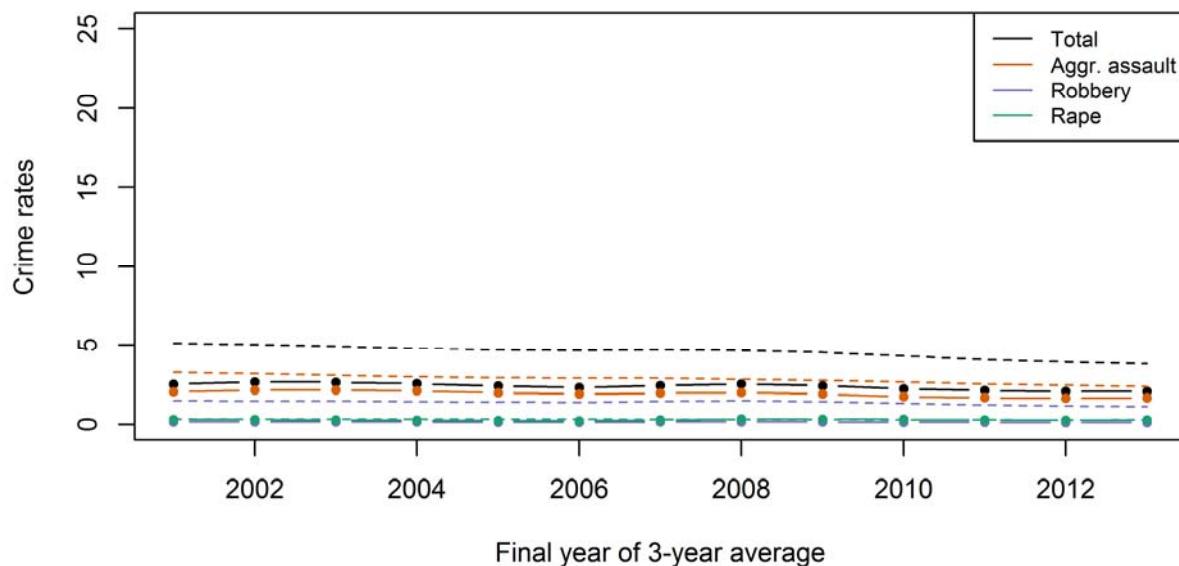
West Virginia

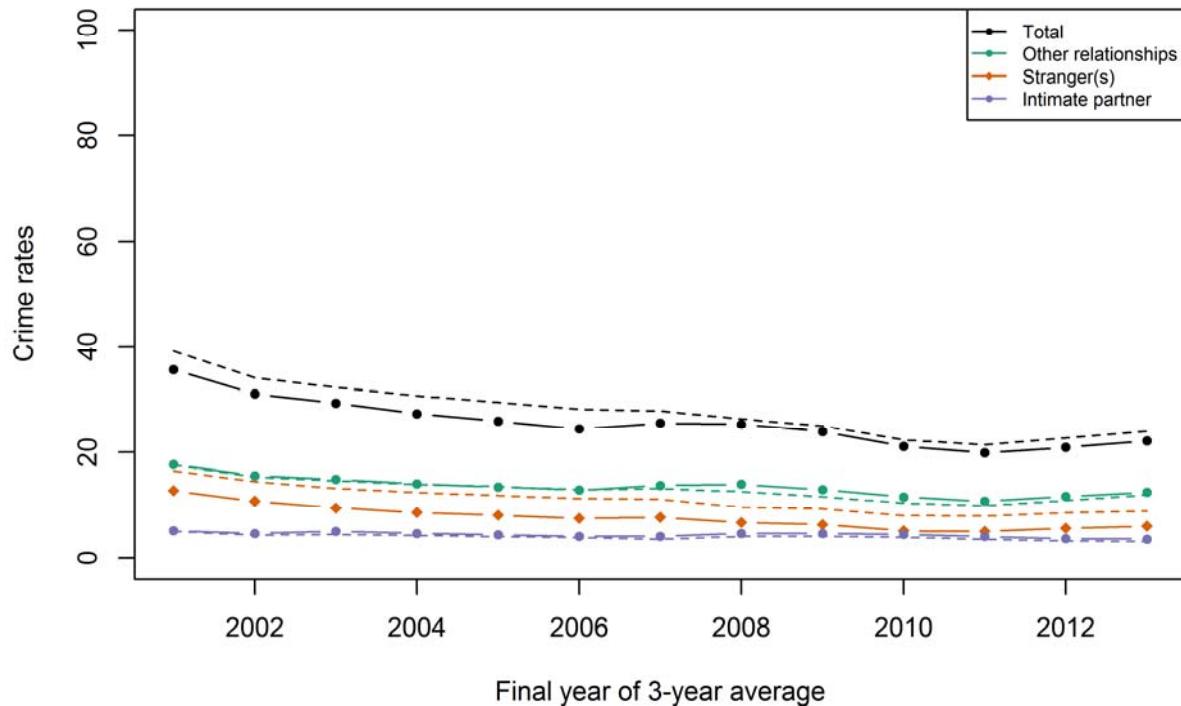
NCVS(SAE) violent crimes in West Virginia compared to national rates by type of crime**UCR violent crimes in West Virginia compared to national rates**

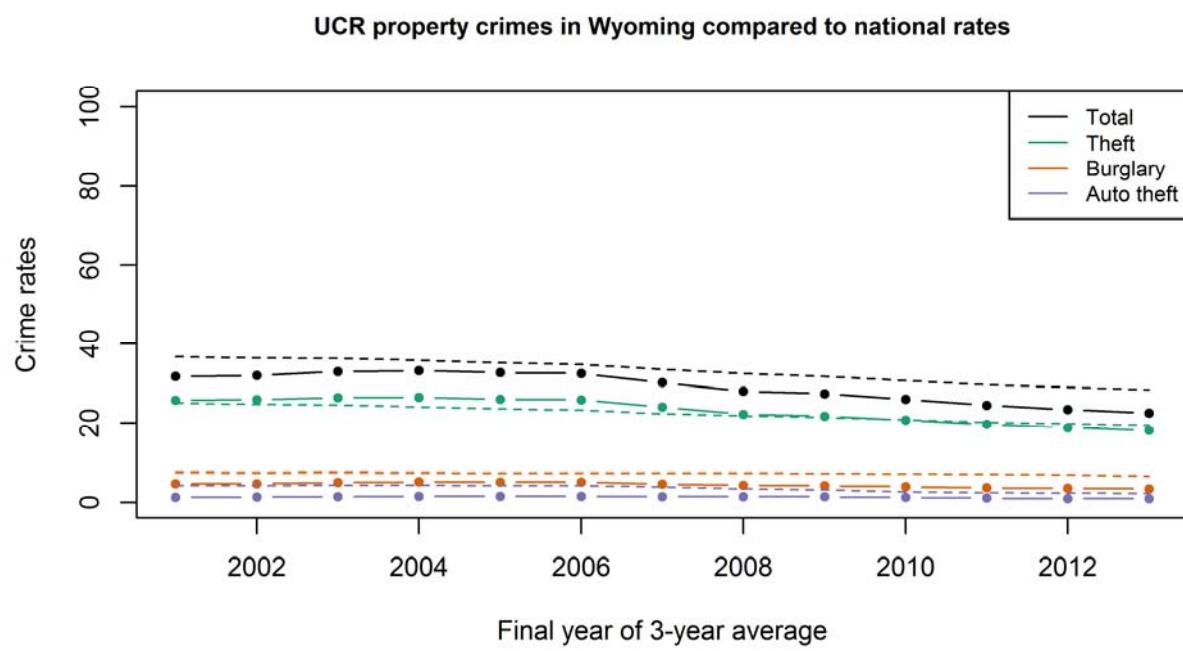
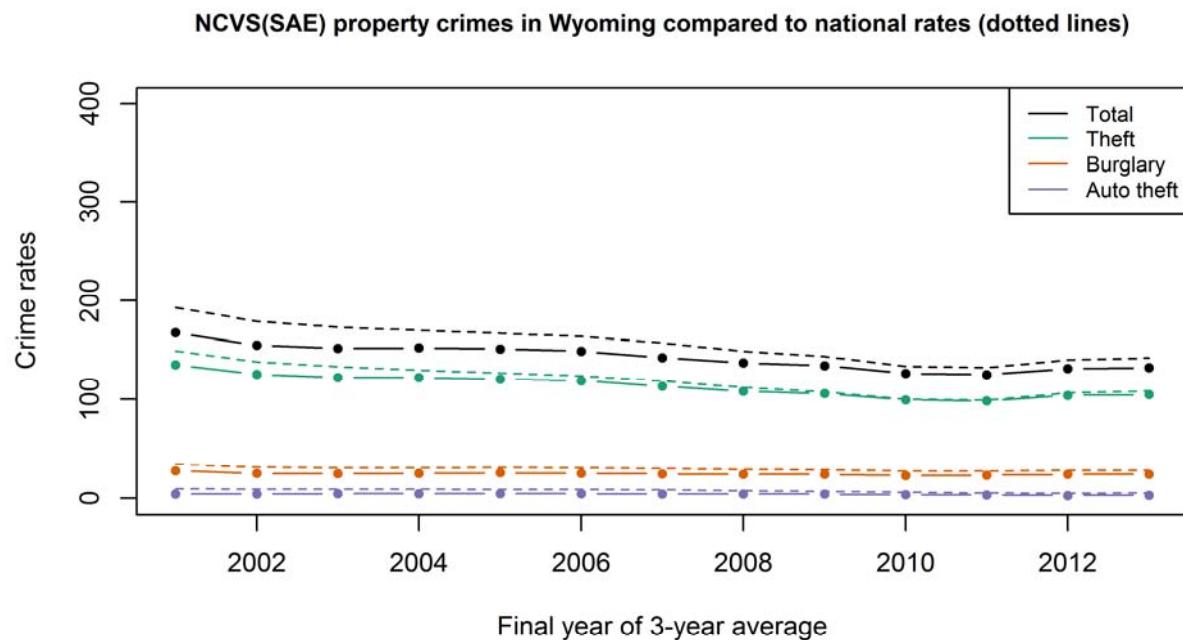
NCVS(SAE) violent crimes in West Virginia compared to national rates by relationship

NCVS(SAE) property crimes in West Virginia compared to national rates (dotted lines)**UCR property crimes in West Virginia compared to national rates**

Wyoming

NCVS(SAE) violent crimes in Wyoming compared to national rates by type of crime**UCR violent crimes in Wyoming compared to national rates**

NCVS(SAE) violent crimes in Wyoming compared to national rates by relationship



Appendix C

Trend Figures for Selected Counties

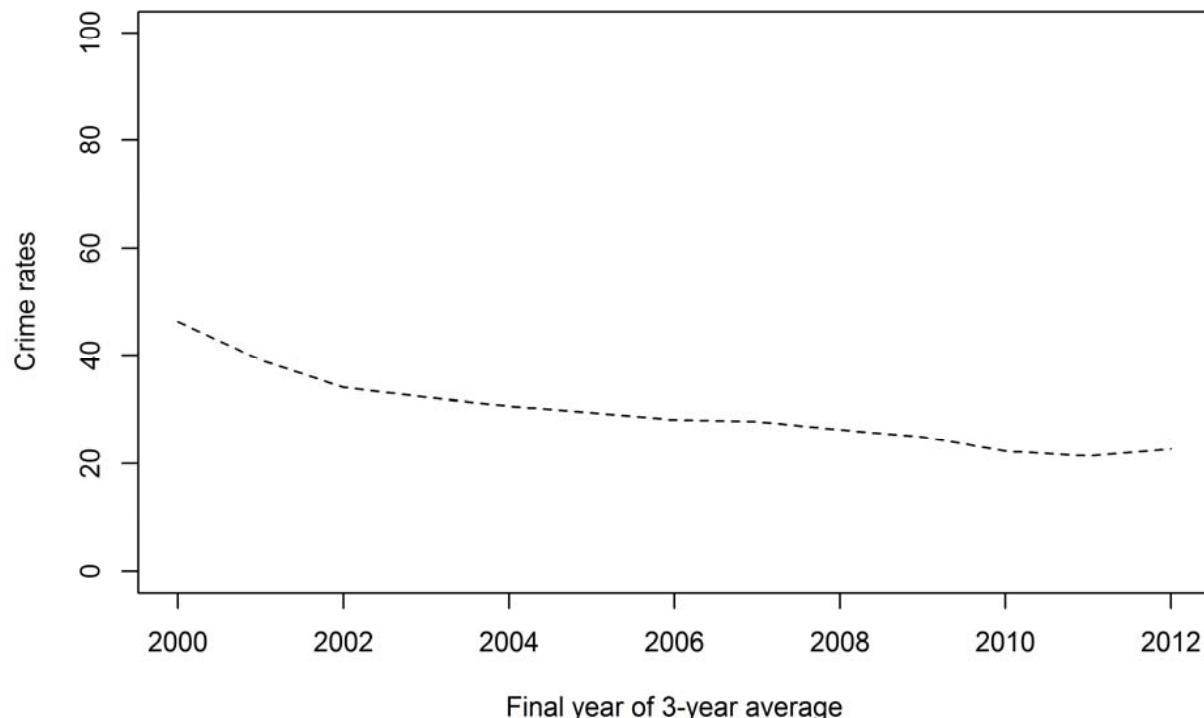
Table of Contents

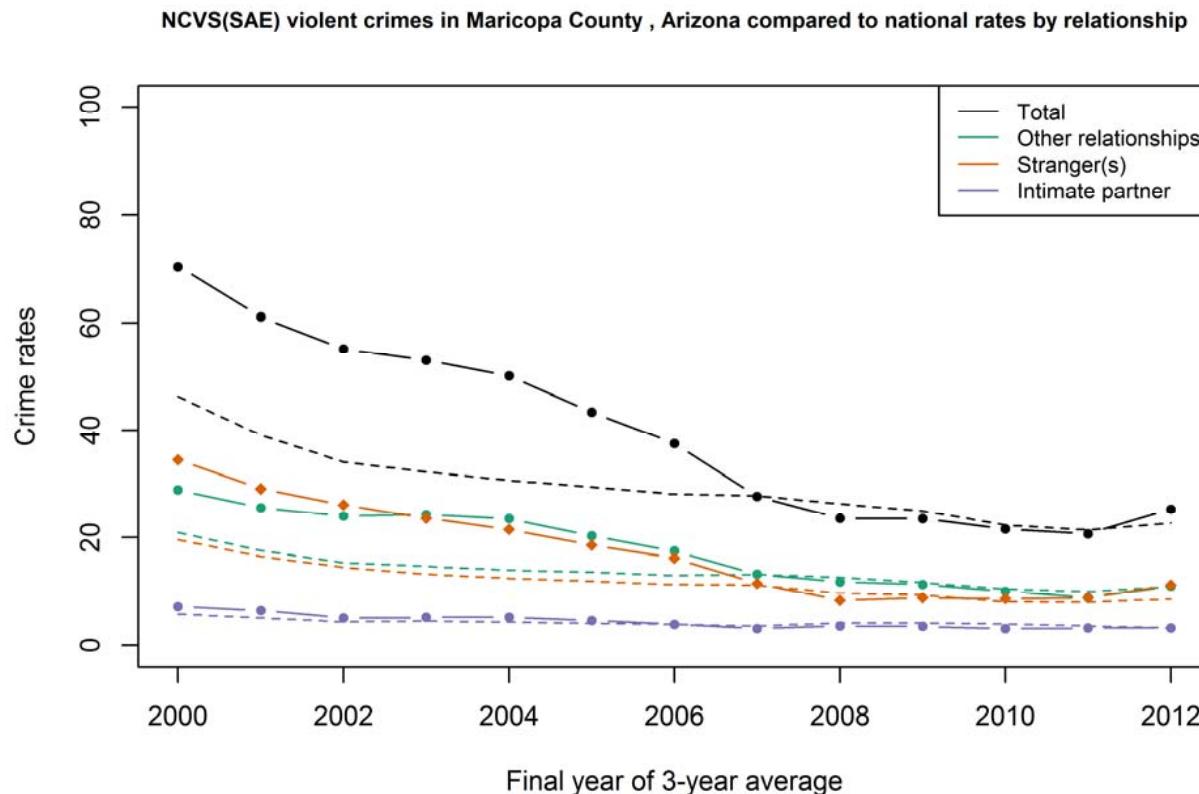
Maricopa County, AZ	4
Pima County, AZ	7
Alameda County, CA.....	10
Contra Costa County, CA.....	13
Fresno County, CA.....	16
Kern County, CA.....	19
Los Angeles County, CA	22
Orange County, CA.....	25
Riverside County, CA.....	28
Sacramento County, CA	31
San Bernardino County, CA.....	34
San Diego County, CA.....	37
San Francisco County, CA.....	40
Santa Clara County, CA	43
Ventura County, CA.....	46
Fairfield County, CT.....	49
Hartford County, CT.....	52
New Haven County, CT	55
Broward County, FL.....	58
Duval County, FL.....	61
Hillsborough County, FL.....	64
Miami-Dade County, FL.....	67
Orange County, FL.....	70
Palm Beach County, FL.....	73
Pinellas County, FL	76
Fulton County, GA.....	79
Gwinnett County, GA.....	82
Honolulu County, HI	85
Cook County, IL	88
DuPage County, IL.....	91
Marion County, IN	94
Baltimore County, MD	97
Montgomery County, MD	100
Prince George's County, MD.....	103

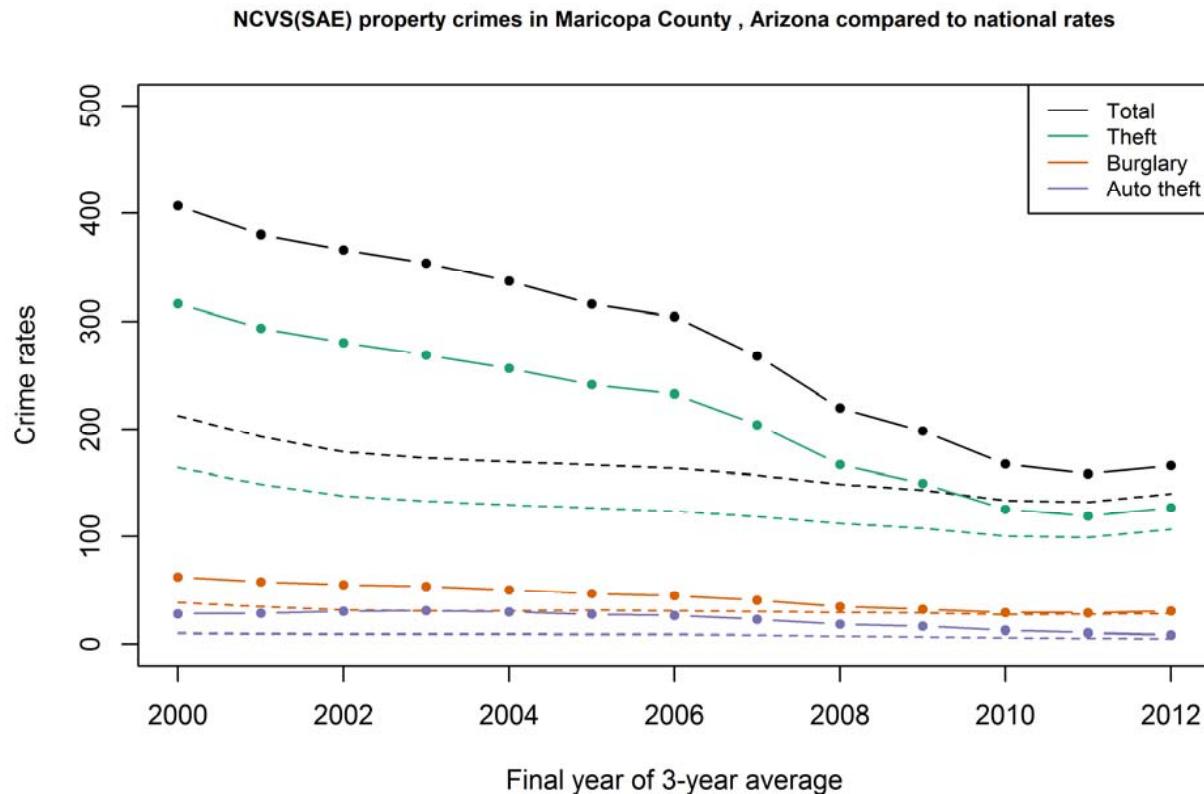
Middlesex County, MA	106
Macomb County, MI.....	109
Oakland County, MI.....	112
Wayne County, MI.....	115
Hennepin County, MN	118
St. Louis County, MO	121
Clark County, NV.....	124
Bergen County, NJ.....	127
Middlesex, NJ	130
Erie County, NY	133
Nassau County, NY.....	136
New York City, NY.....	139
Suffolk County, NY.....	142
Westchester County, NY	145
Mecklenburg County, NC.....	148
Wake County, NC.....	151
Cuyahoga County, OH.....	154
Franklin County, OH	157
Hamilton County, OH	160
Allegheny County, PA	163
Philadelphia County, PA.....	166
Shelby County, TN	169
Bexar County, TX.....	172
Dallas County, TX	175
Harris County, TX.....	178
Tarrant, TX.....	181
Travis County, TX.....	184
Salt Lake County, UT	187
Fairfax County, VA	190
King County, WA	193
Milwaukee County, WI	196

Maricopa County, AZ

NCVS(SAE) violent crimes in Maricopa County , Arizona compared to national rates by type of crime

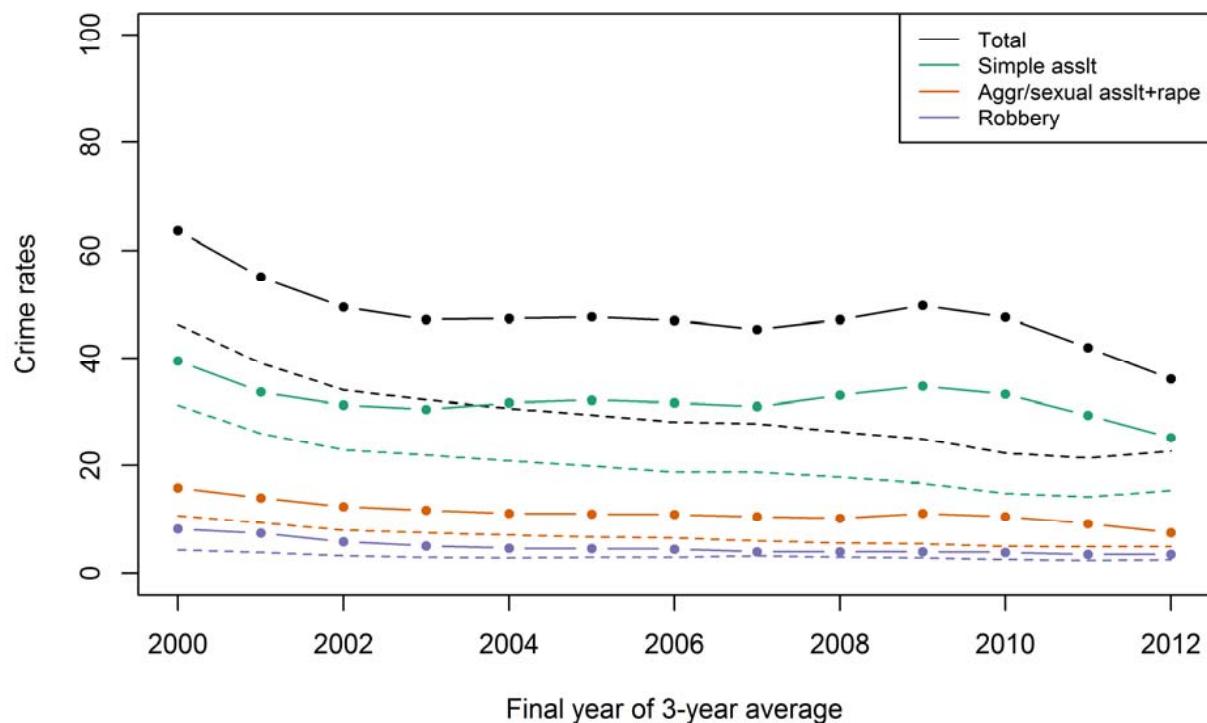




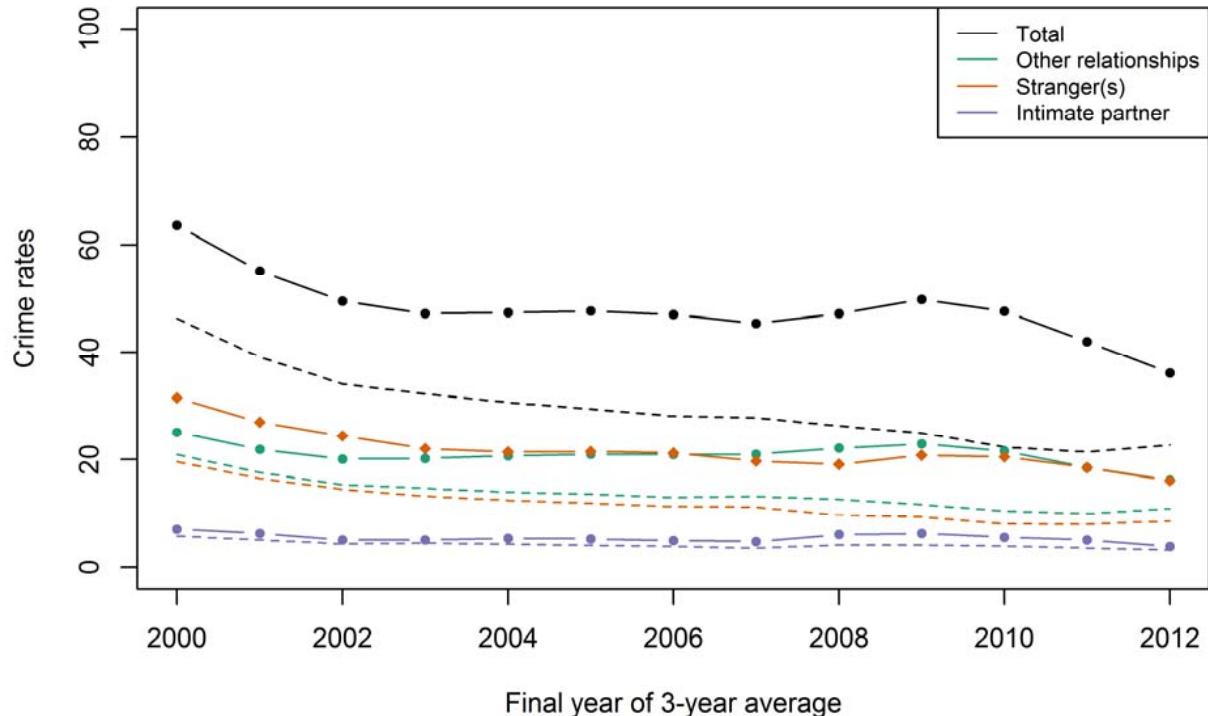


Pima County, AZ

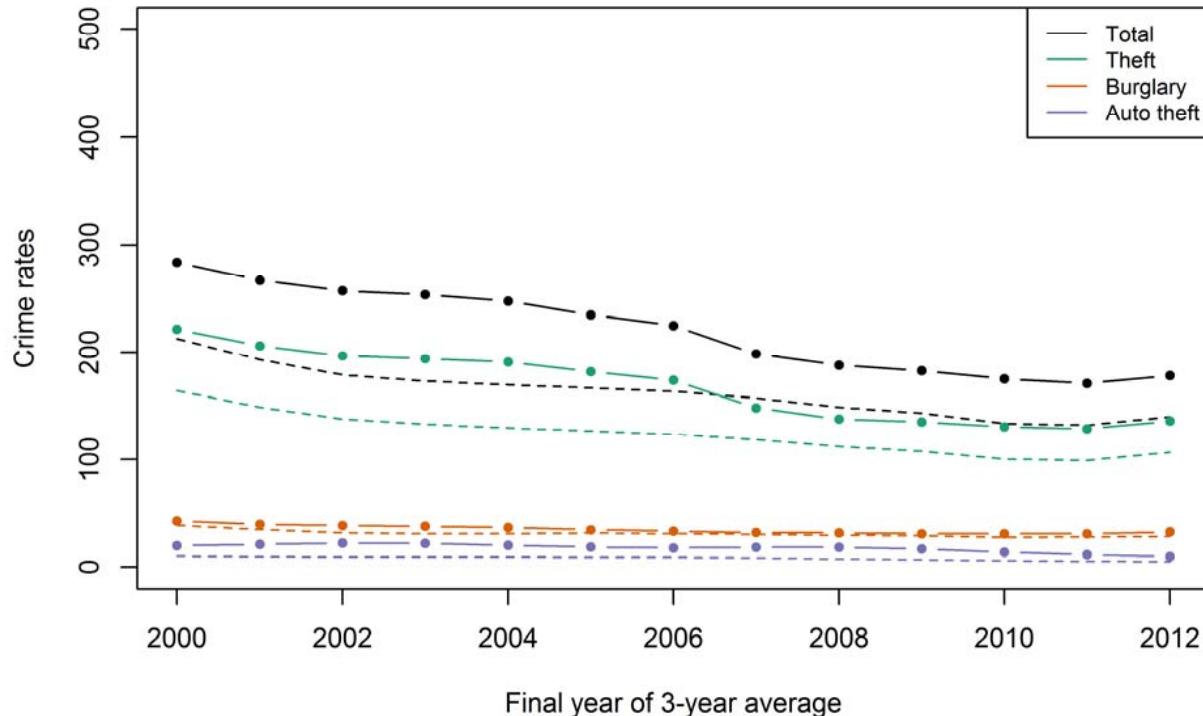
NCVS(SAE) violent crimes in Pima County , Arizona compared to national rates by type of crime



NCVS(SAE) violent crimes in Pima County , Arizona compared to national rates by relationship

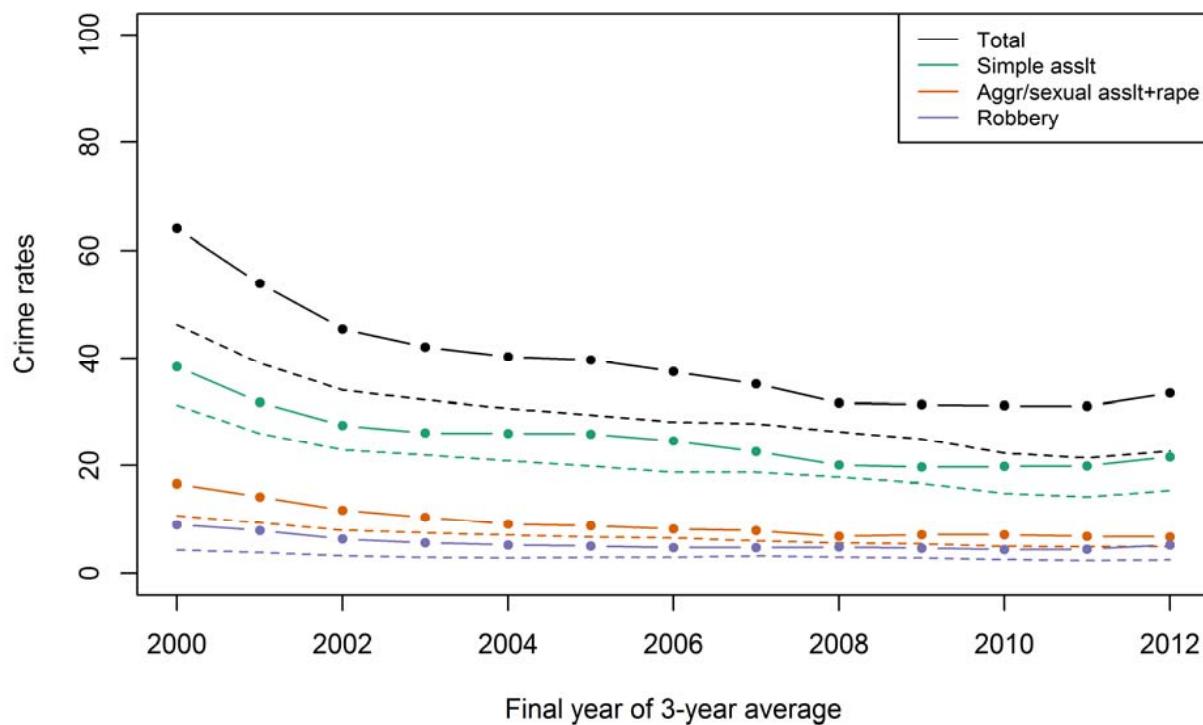


NCVS(SAE) property crimes in Pima County , Arizona compared to national rates

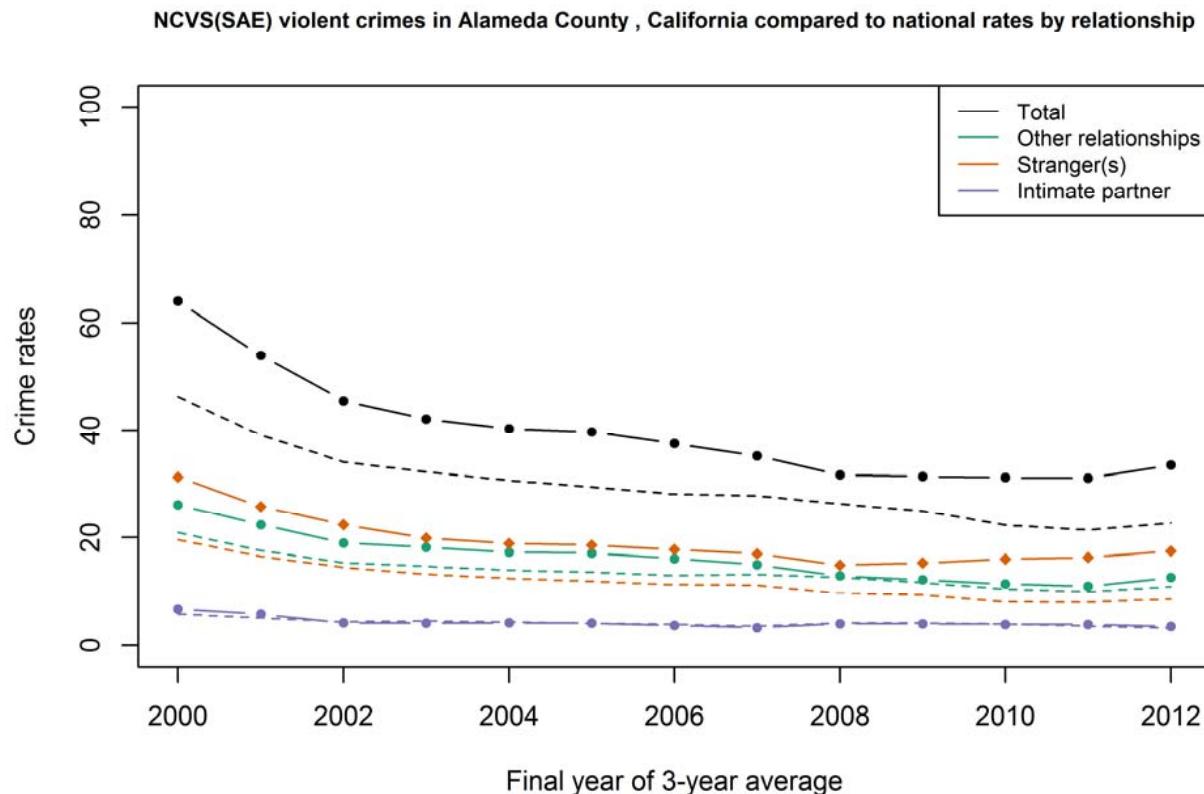


Alameda County, CA

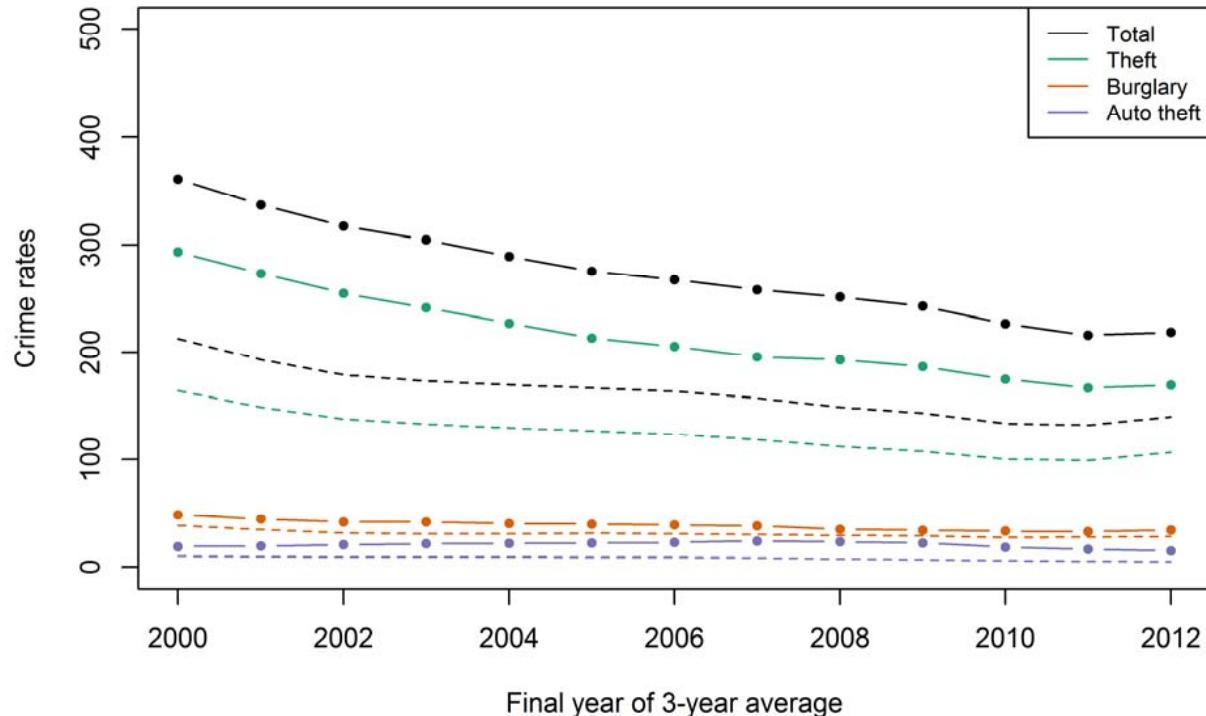
NCVS(SAE) violent crimes in Alameda County , California compared to national rates by type of crime



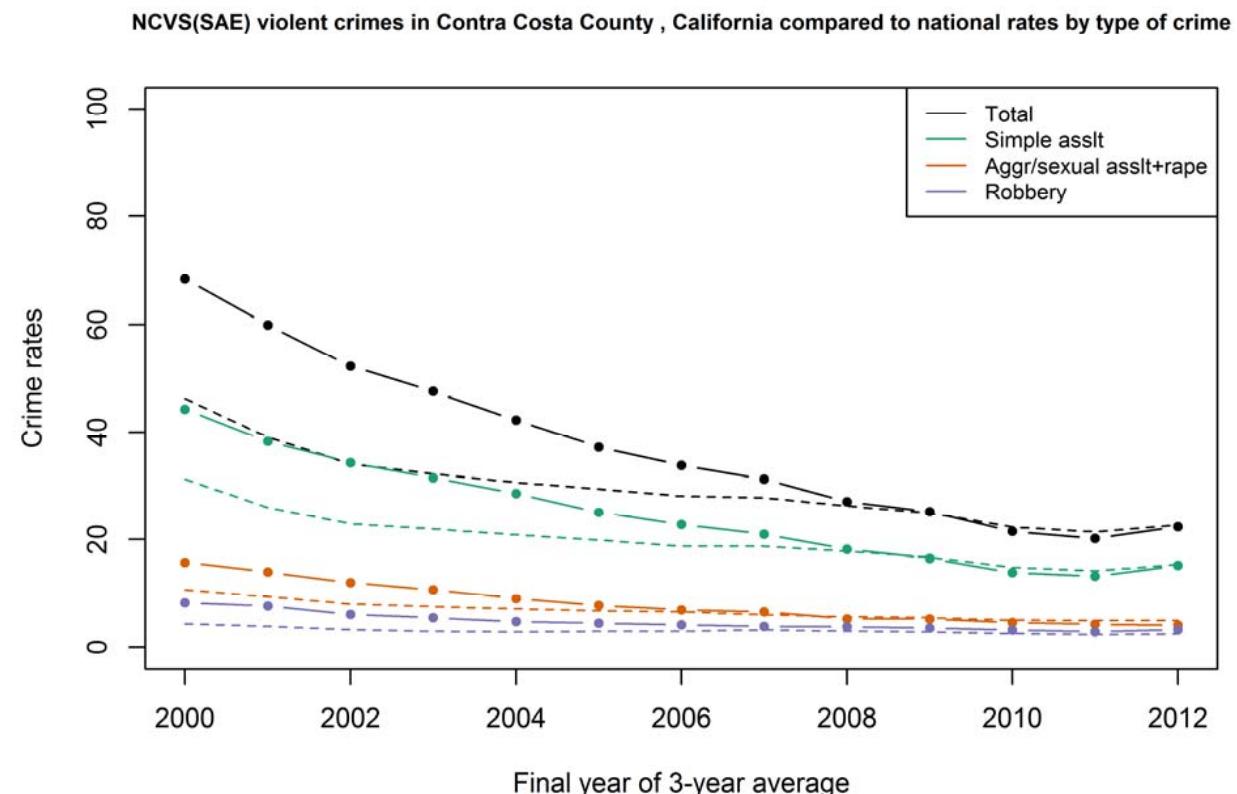
Final year of 3-year average

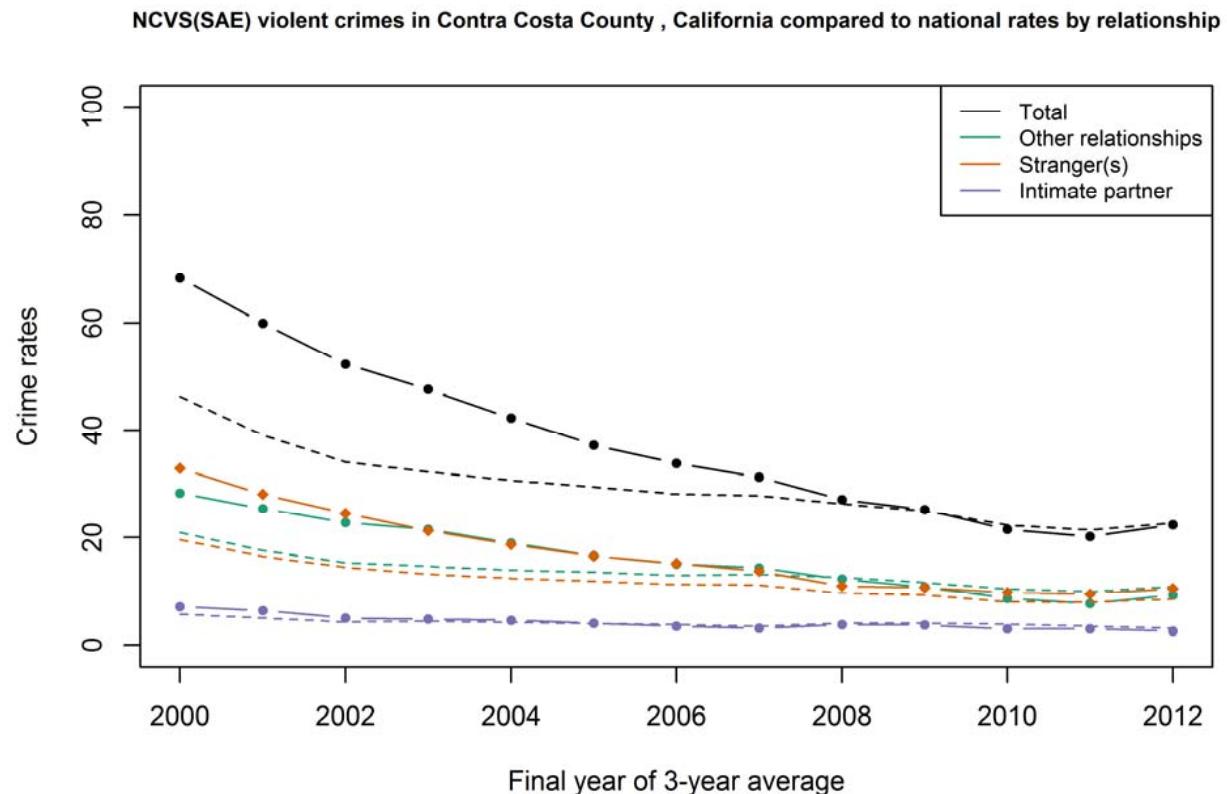


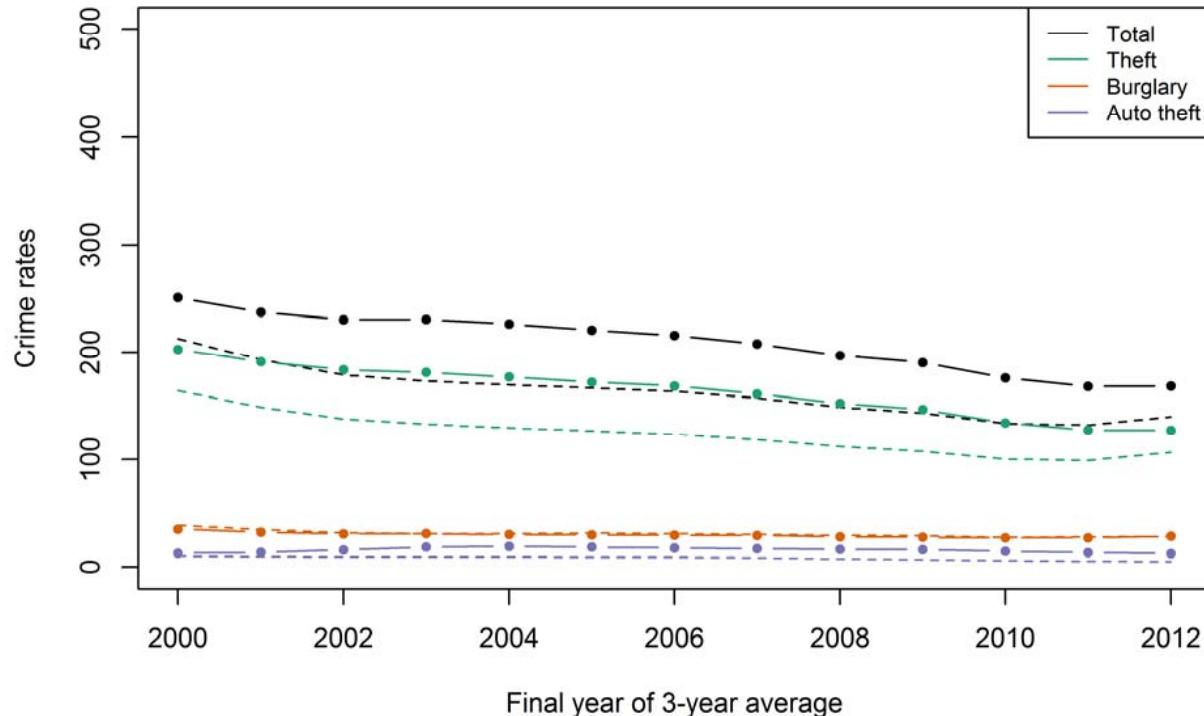
NCVS(SAE) property crimes in Alameda County , California compared to national rates



Contra Costa County, CA

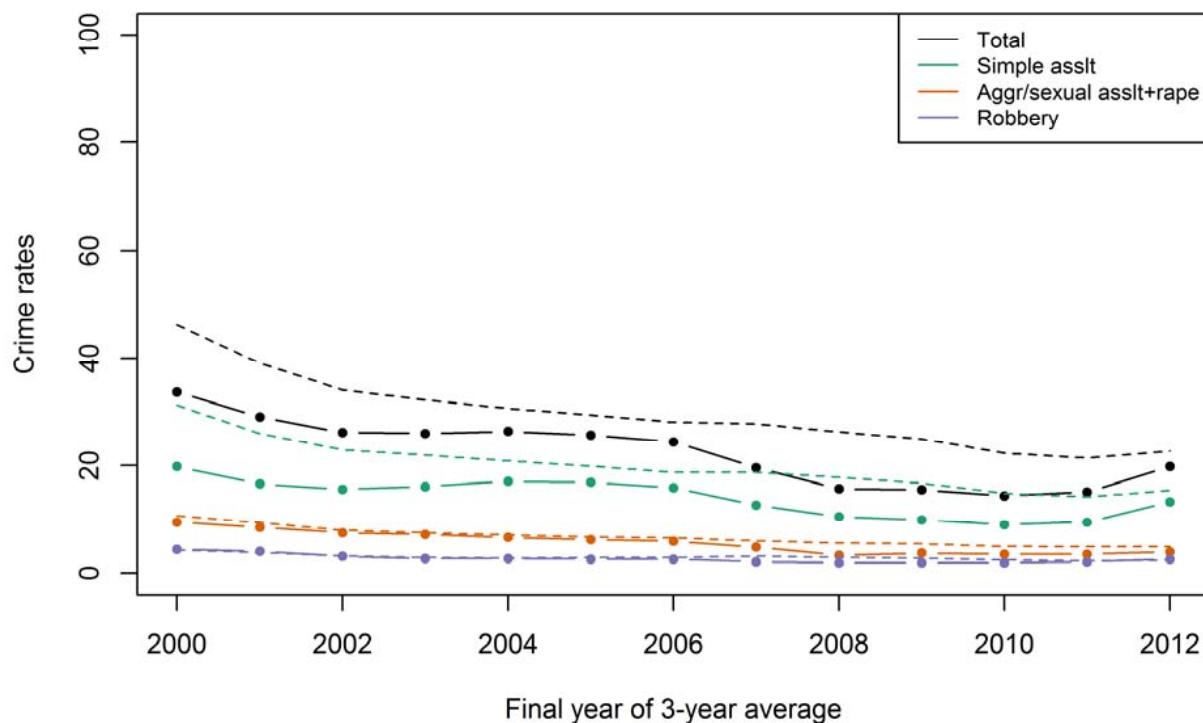


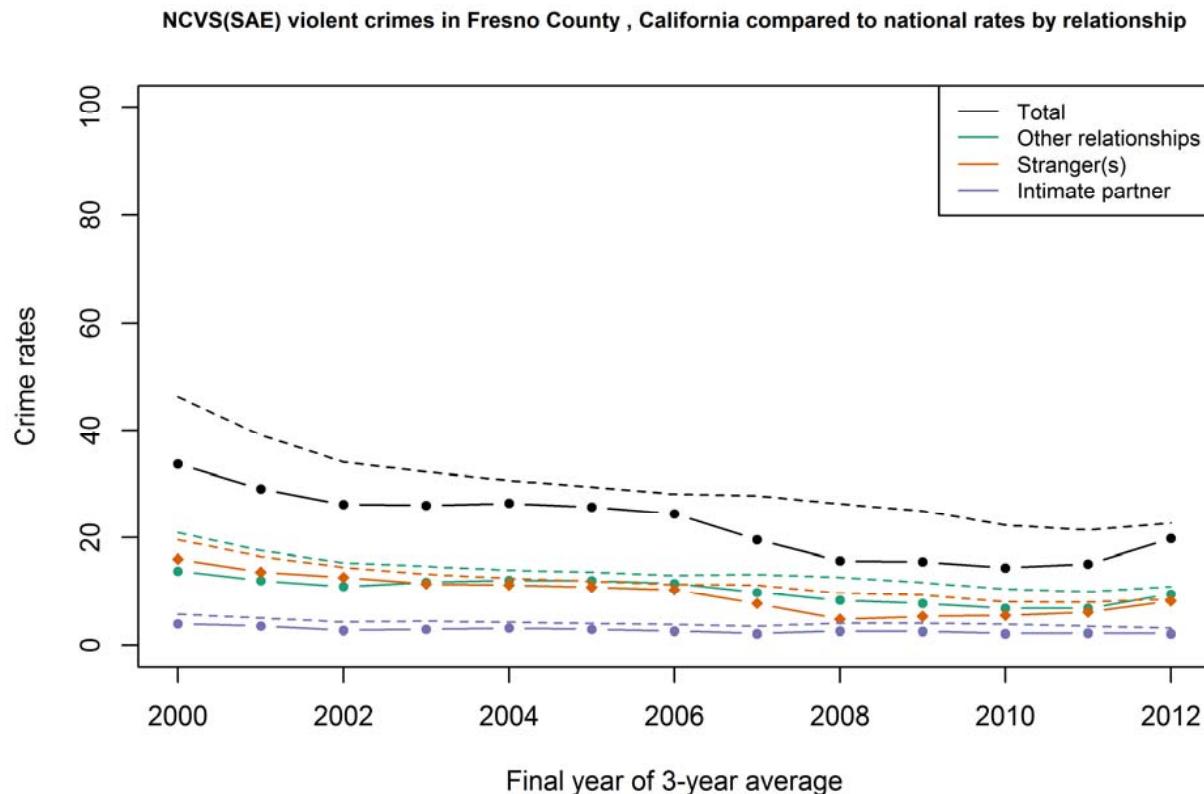


NCVS(SAE) property crimes in Contra Costa County , California compared to national rates

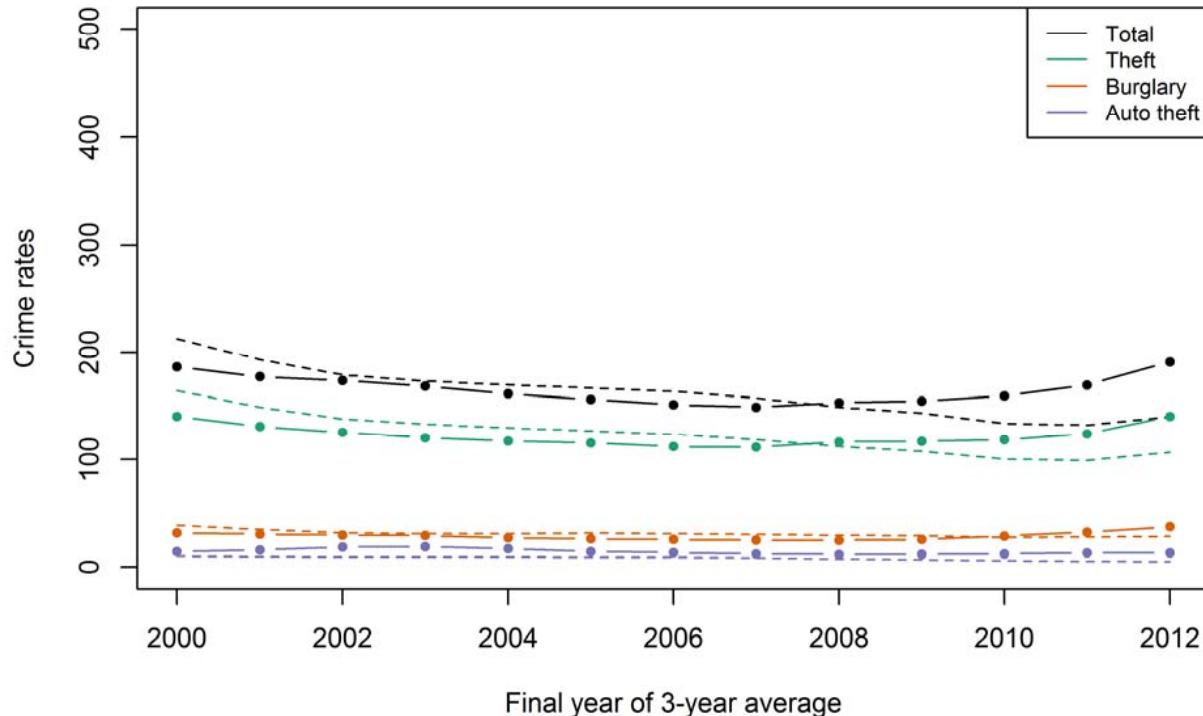
Fresno County, CA

NCVS(SAE) violent crimes in Fresno County , California compared to national rates by type of crime

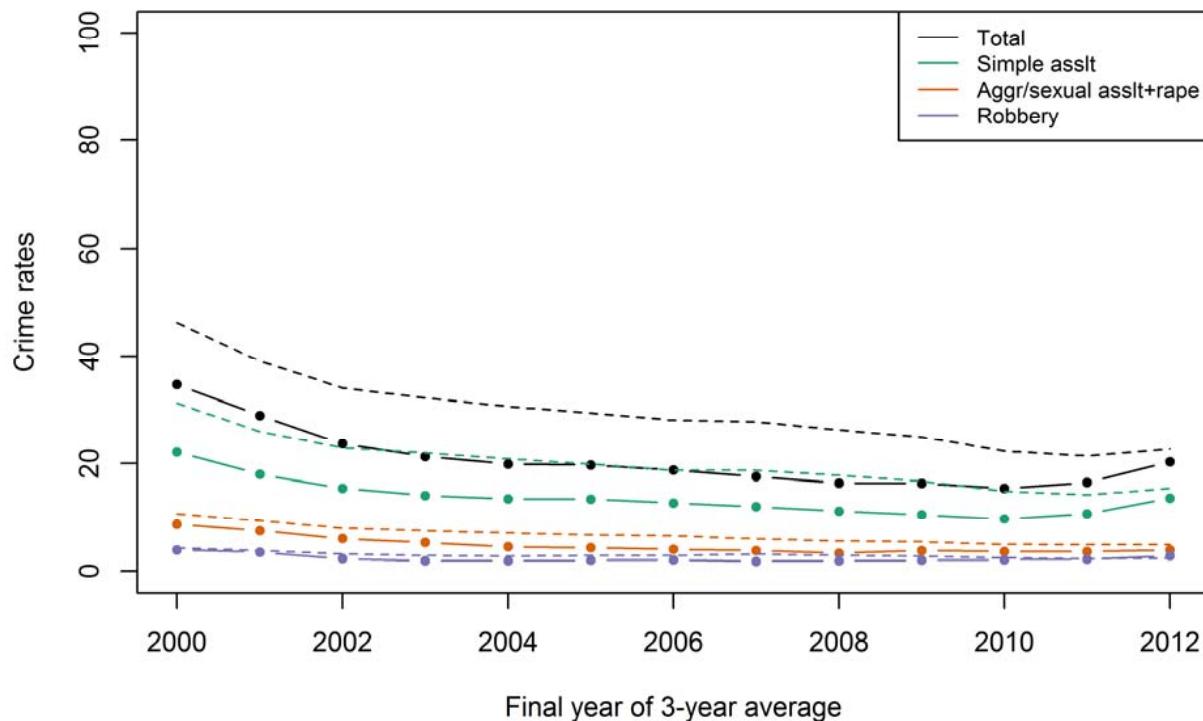


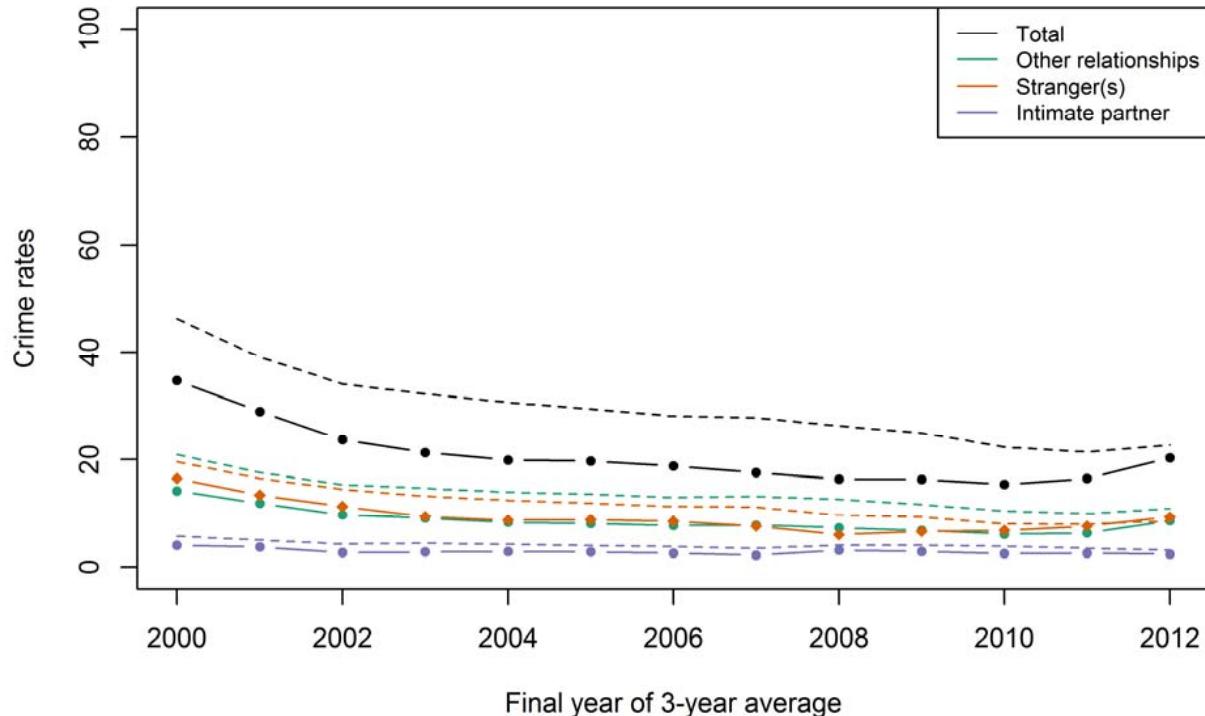


NCVS(SAE) property crimes in Fresno County , California compared to national rates

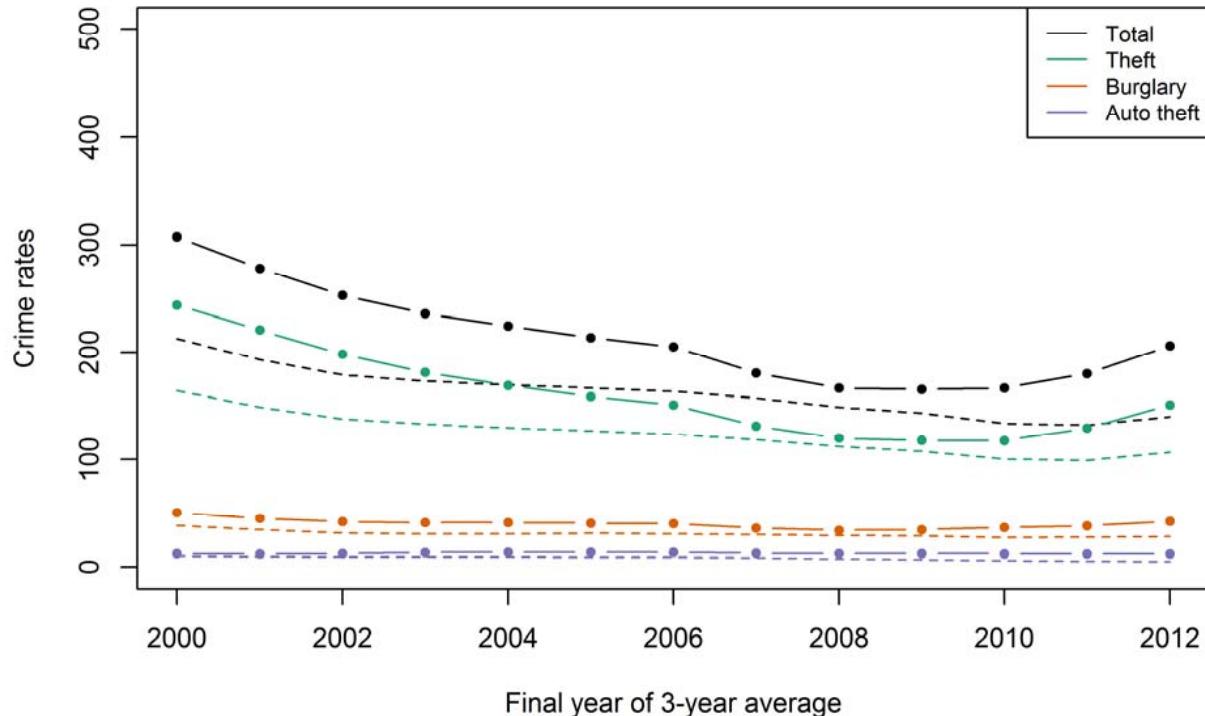


Kern County, CA

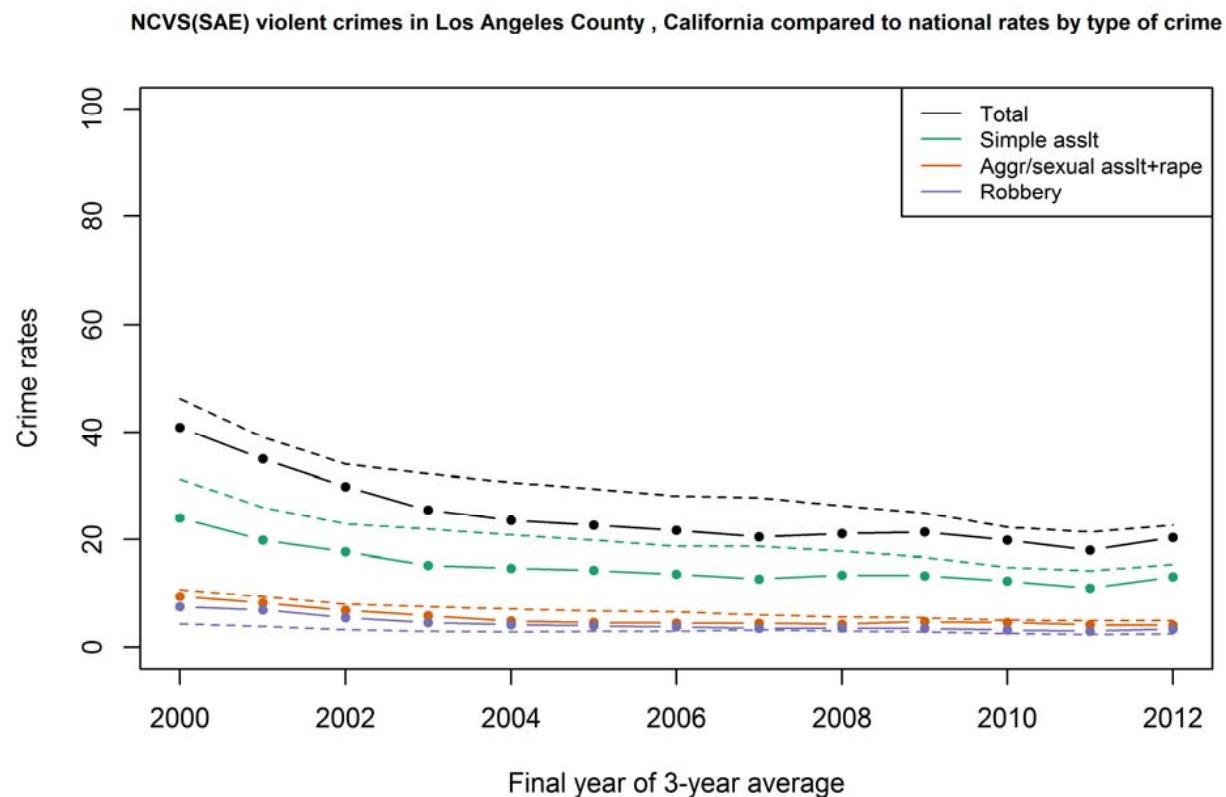
NCVS(SAE) violent crimes in Kern County , California compared to national rates by type of crime

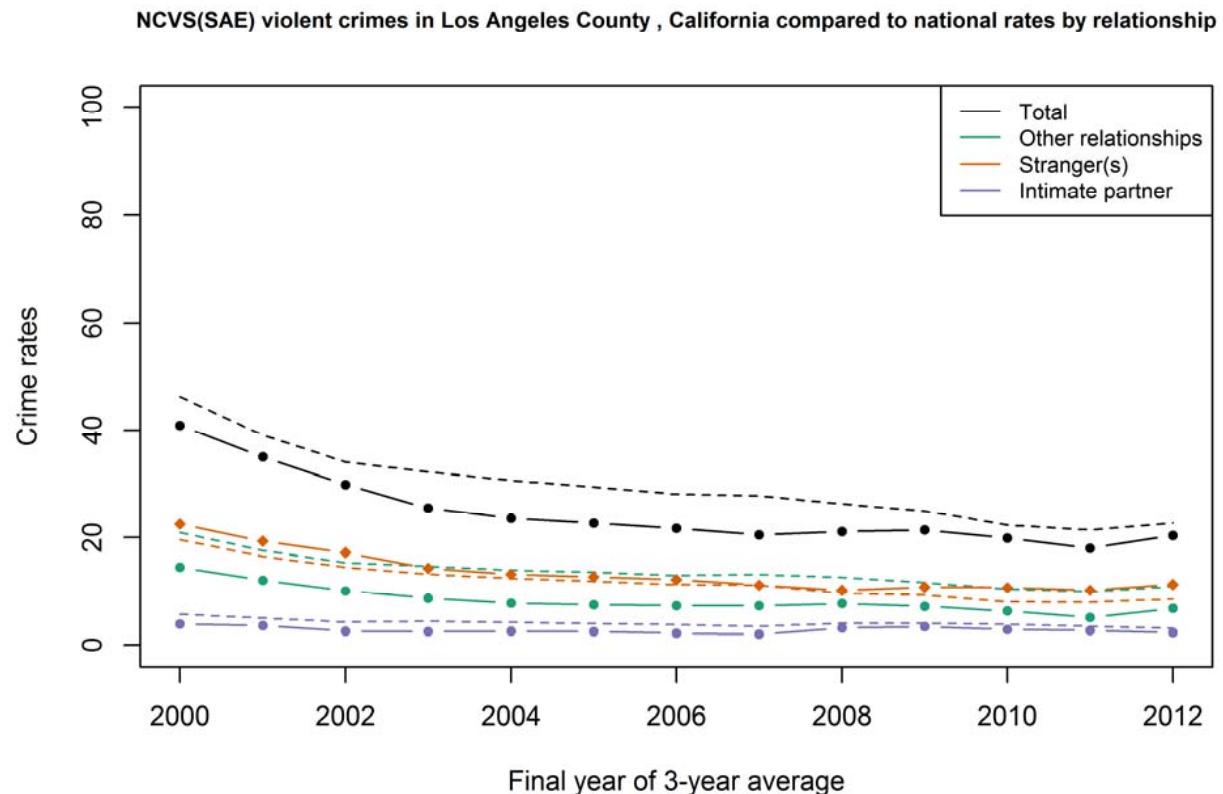
NCVS(SAE) violent crimes in Kern County , California compared to national rates by relationship

NCVS(SAE) property crimes in Kern County , California compared to national rates

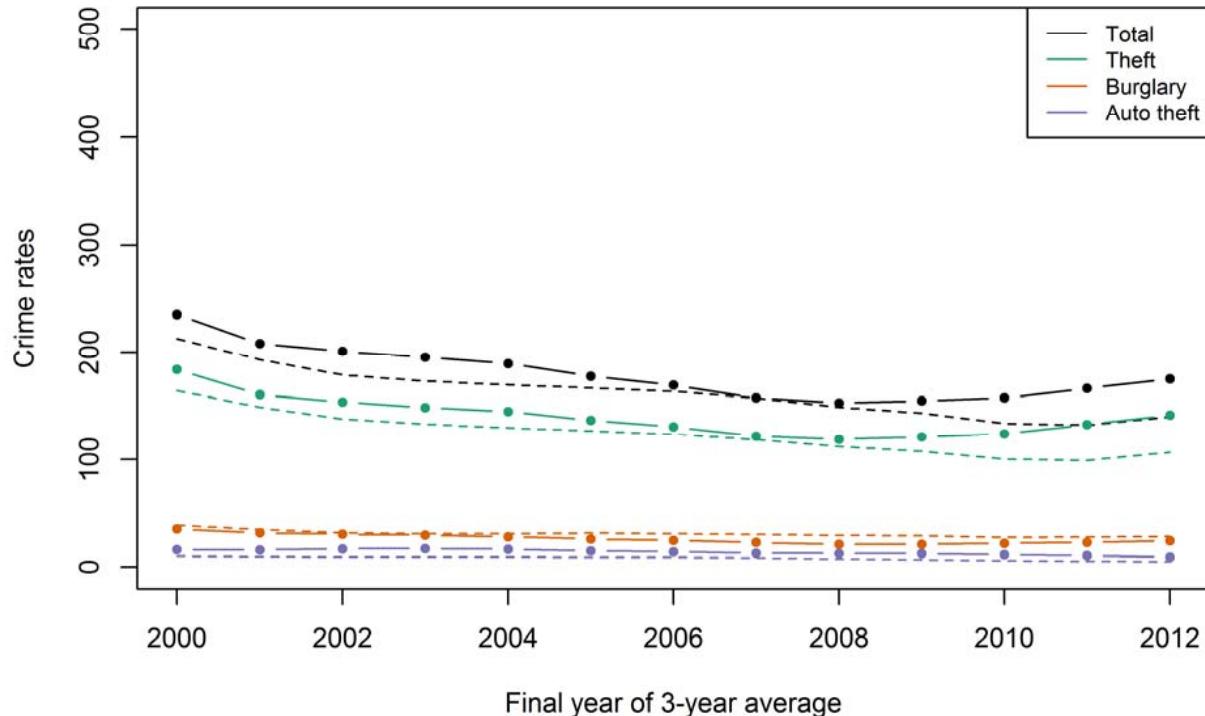


Los Angeles County, CA



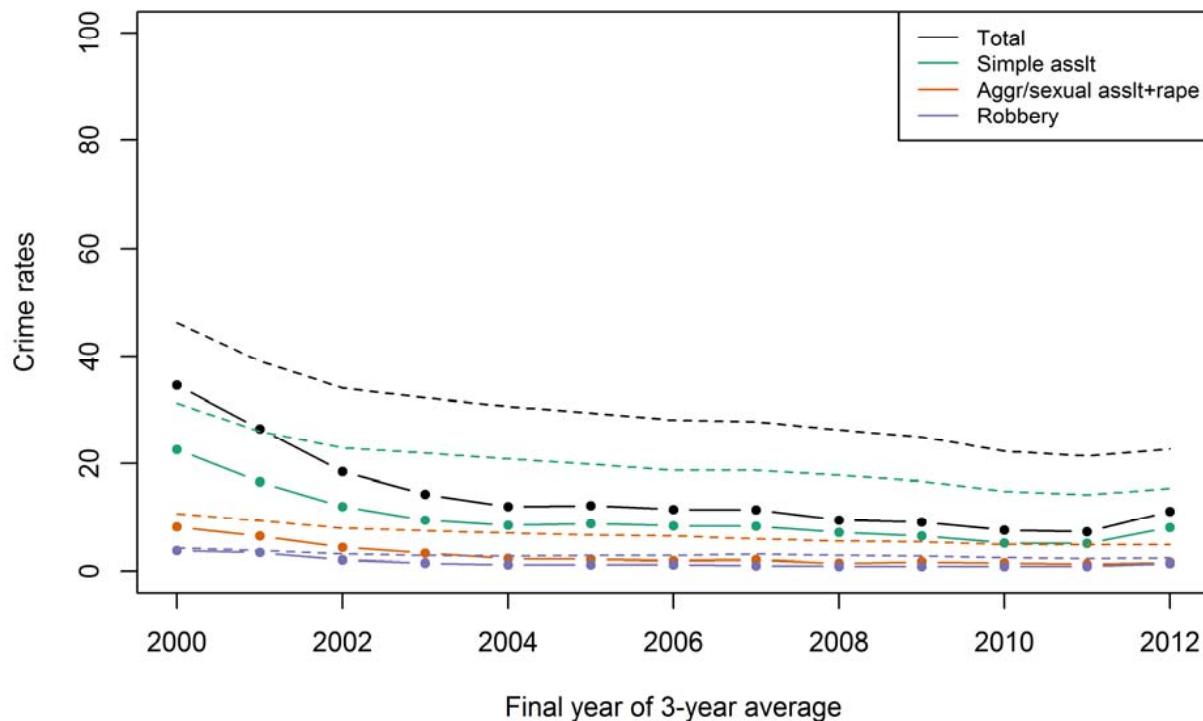


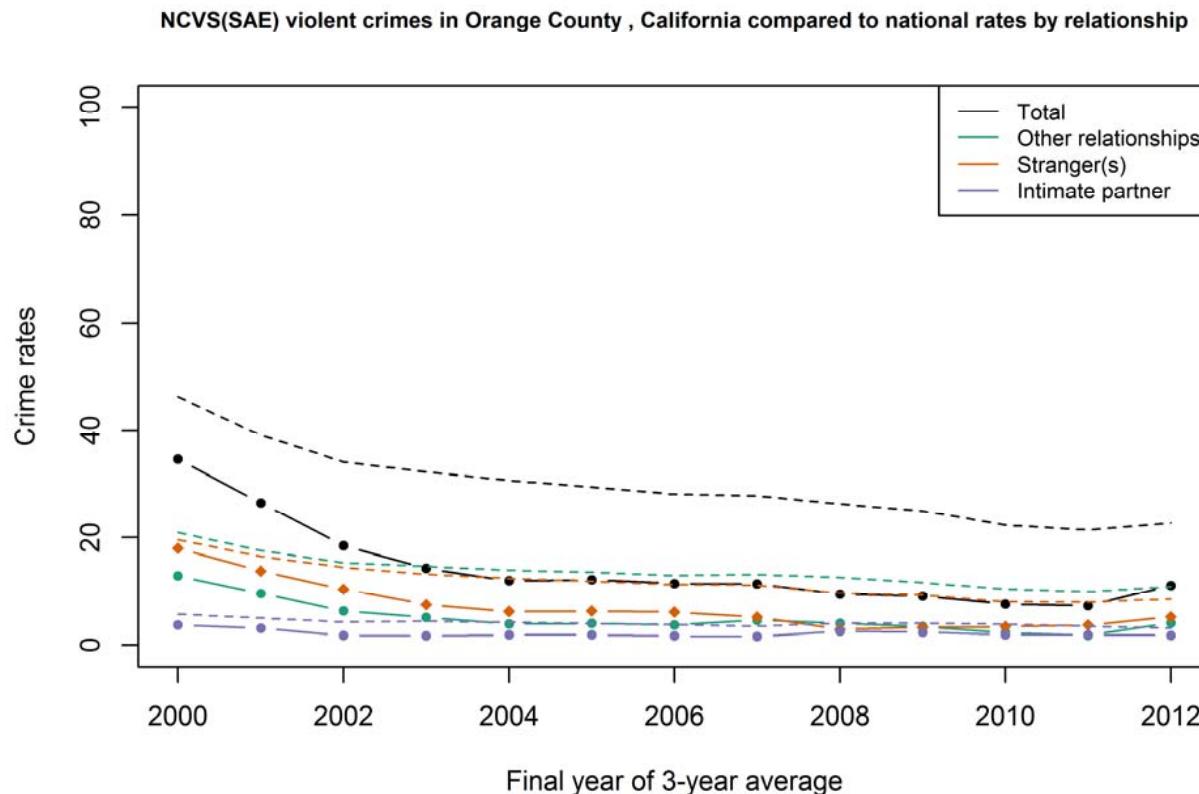
NCVS(SAE) property crimes in Los Angeles County , California compared to national rates



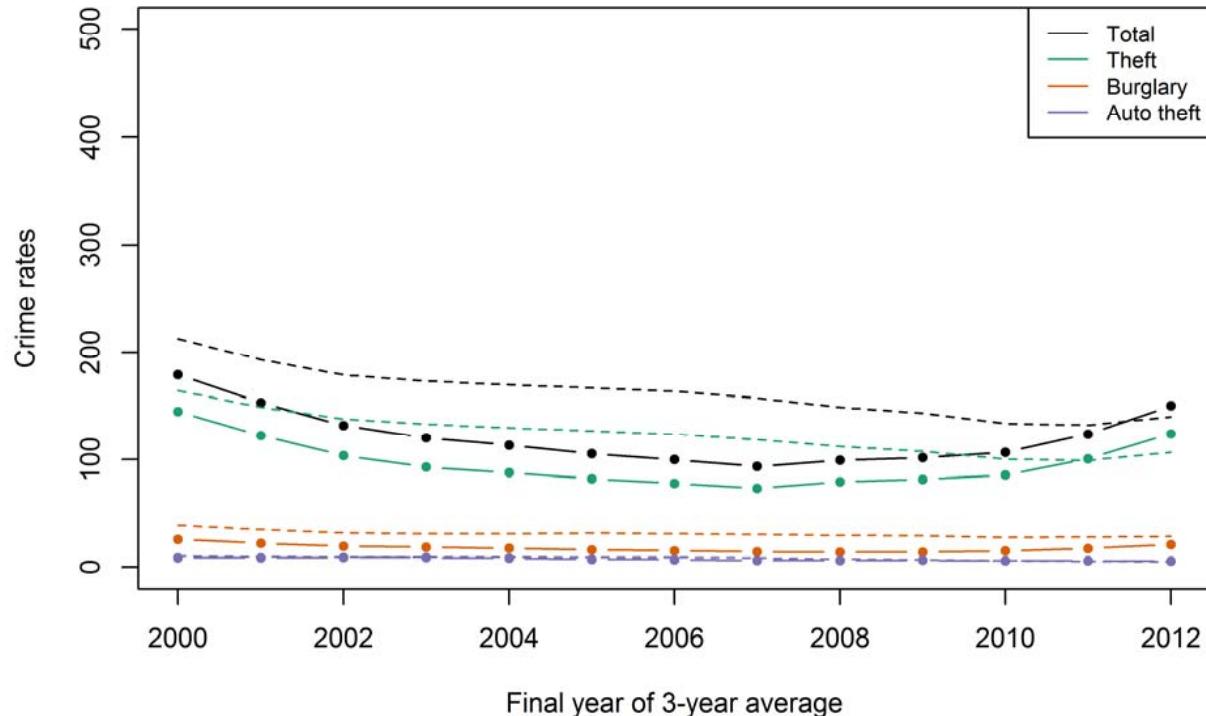
Orange County, CA

NCVS(SAE) violent crimes in Orange County , California compared to national rates by type of crime

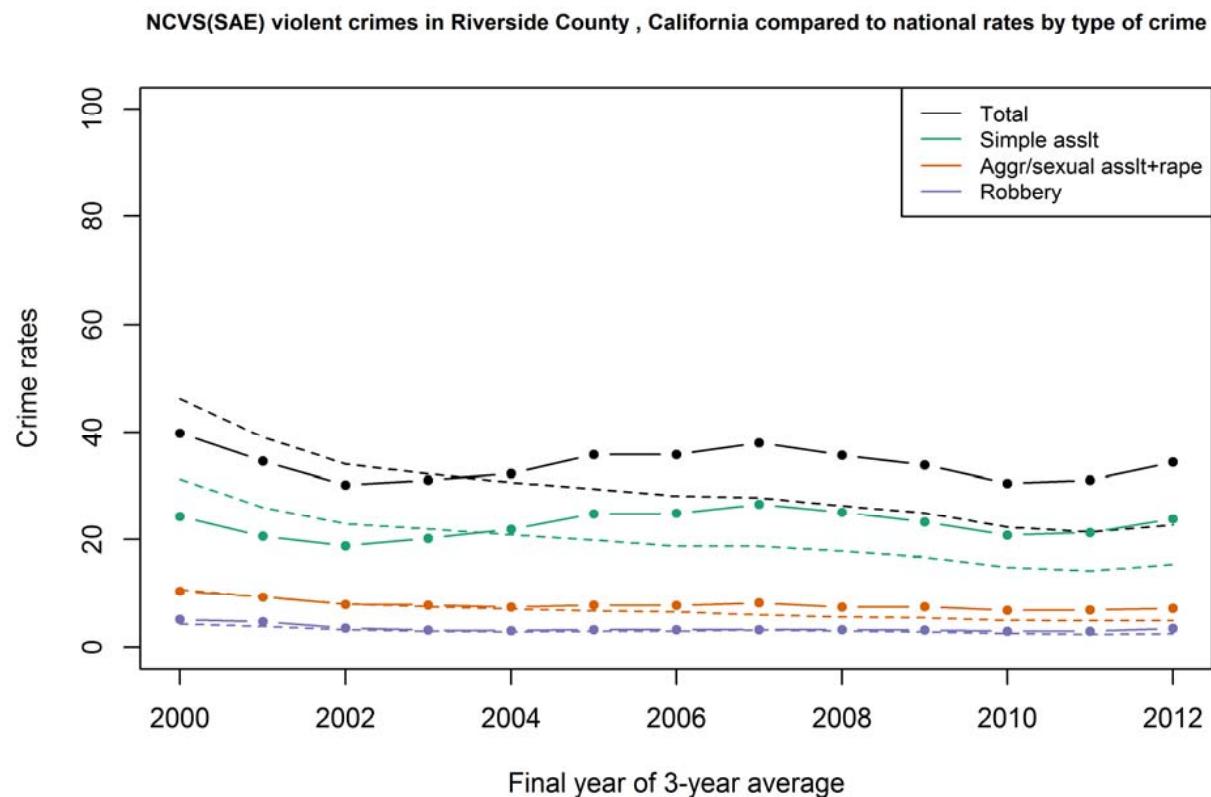


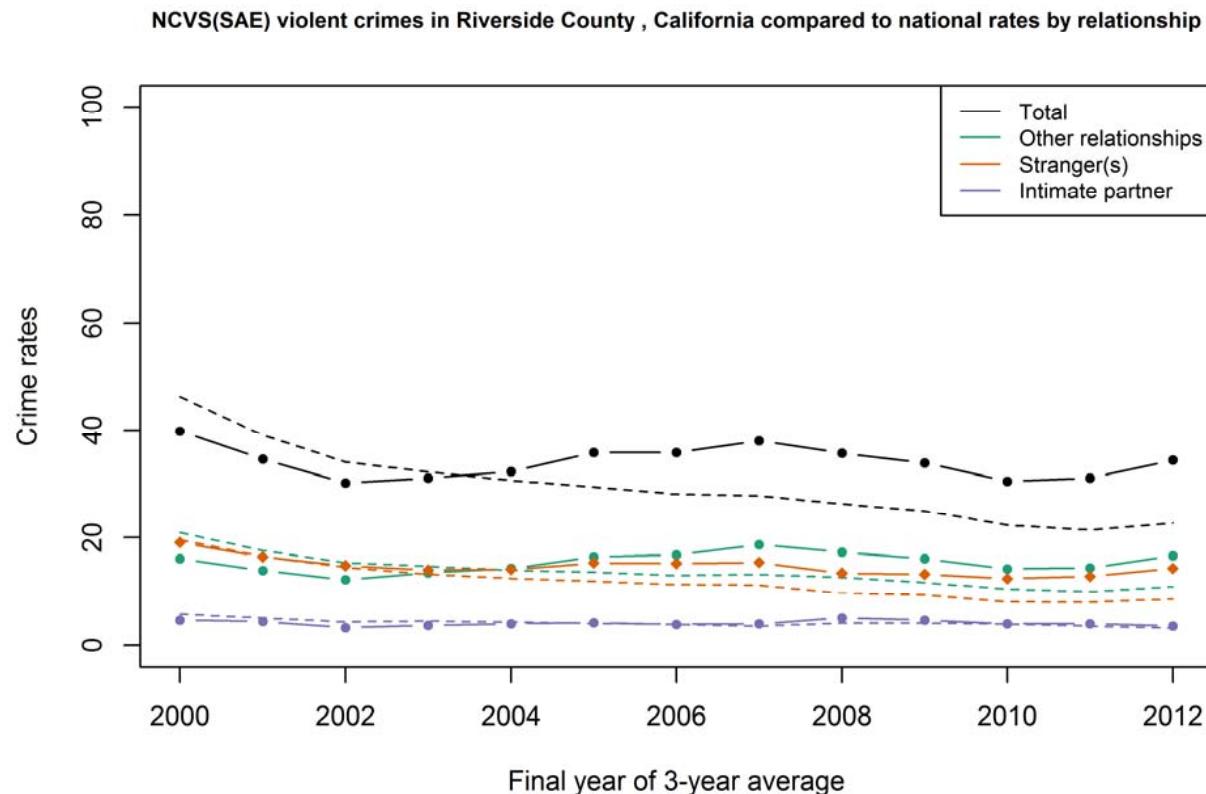


NCVS(SAE) property crimes in Orange County , California compared to national rates

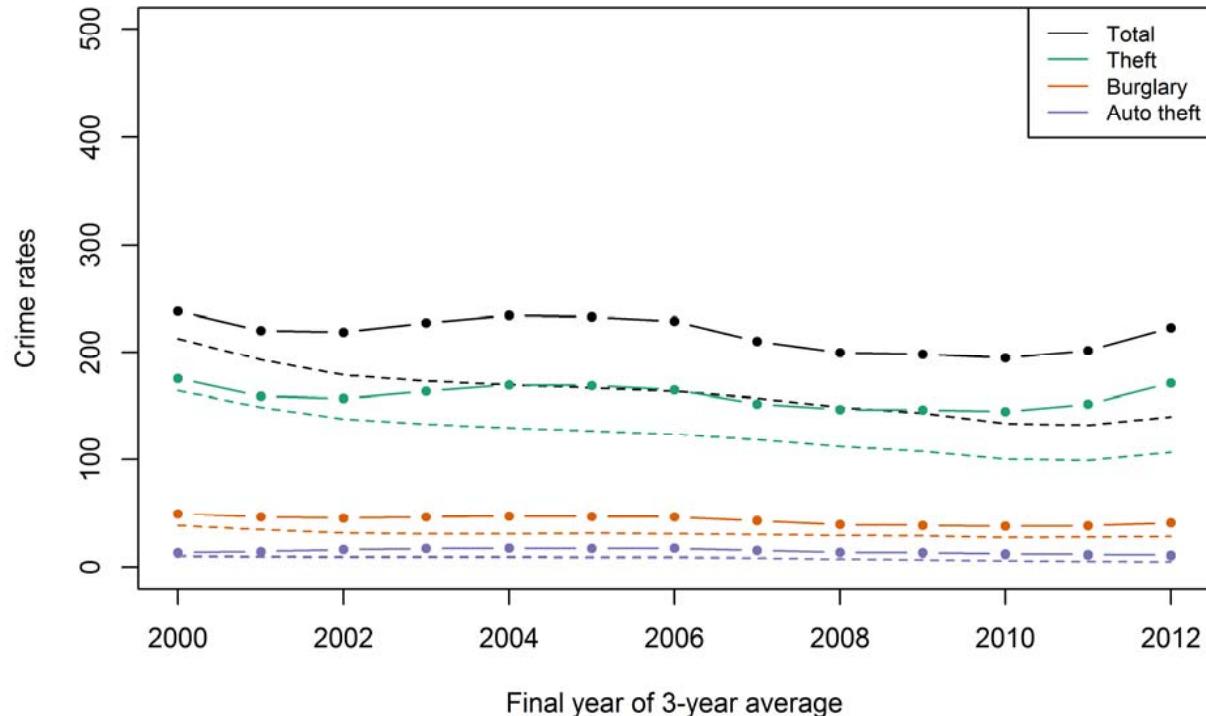


Riverside County, CA

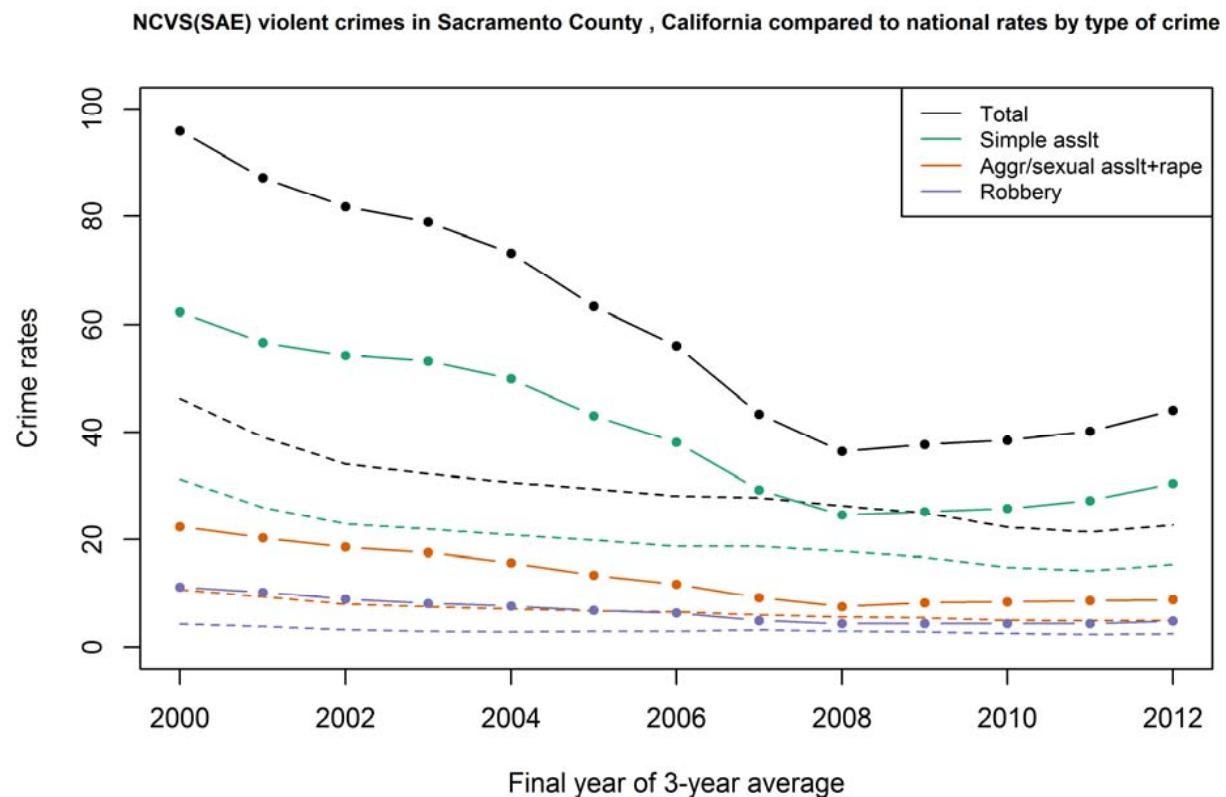


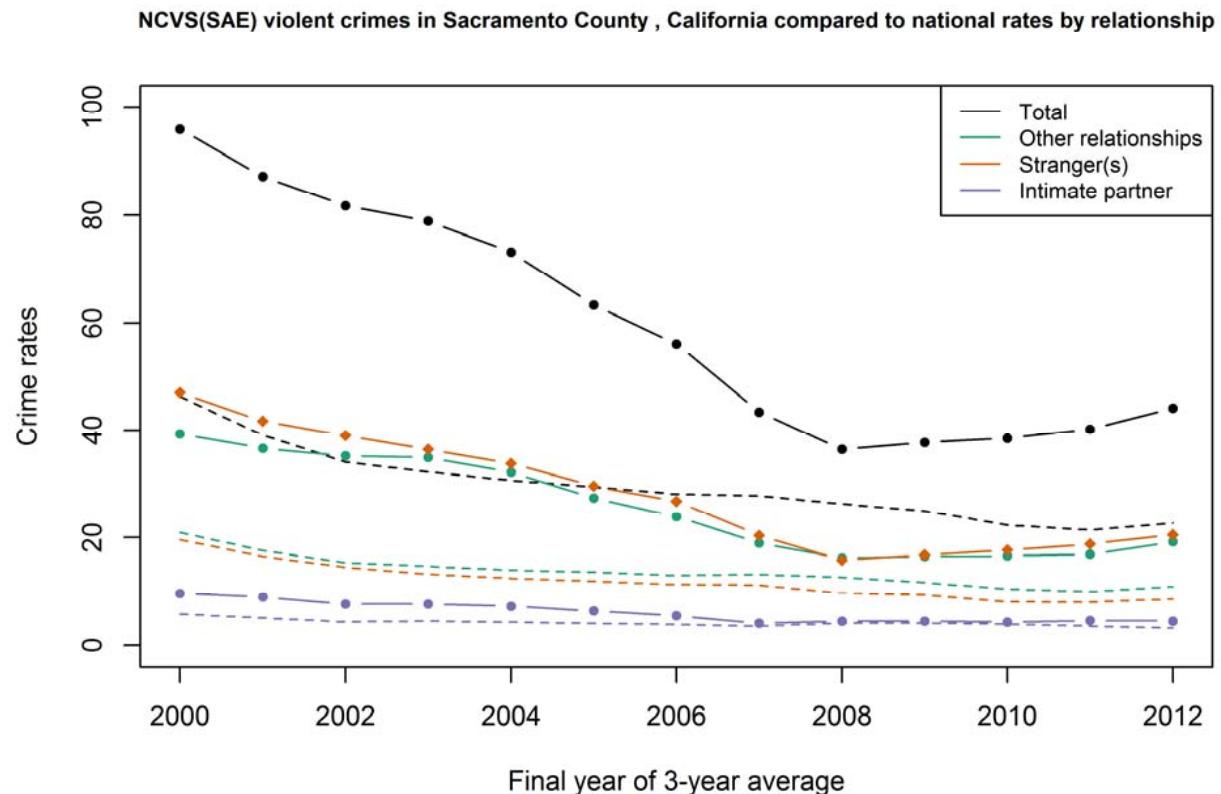


NCVS(SAE) property crimes in Riverside County , California compared to national rates

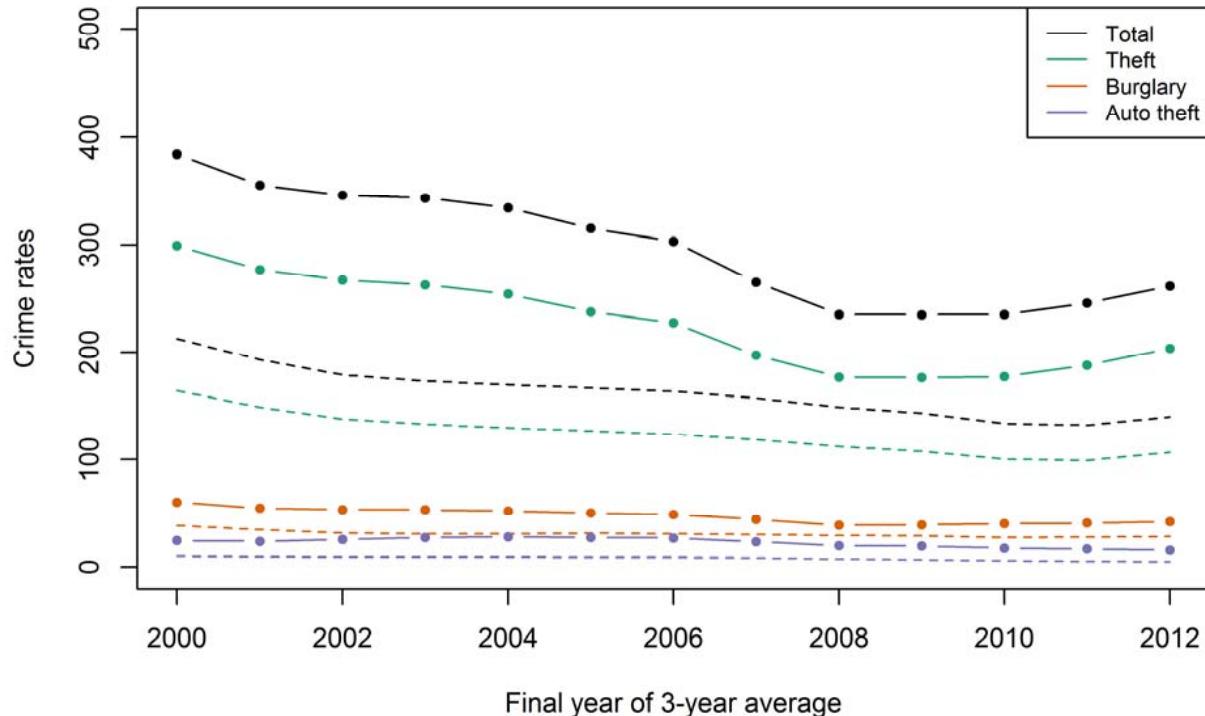


Sacramento County, CA



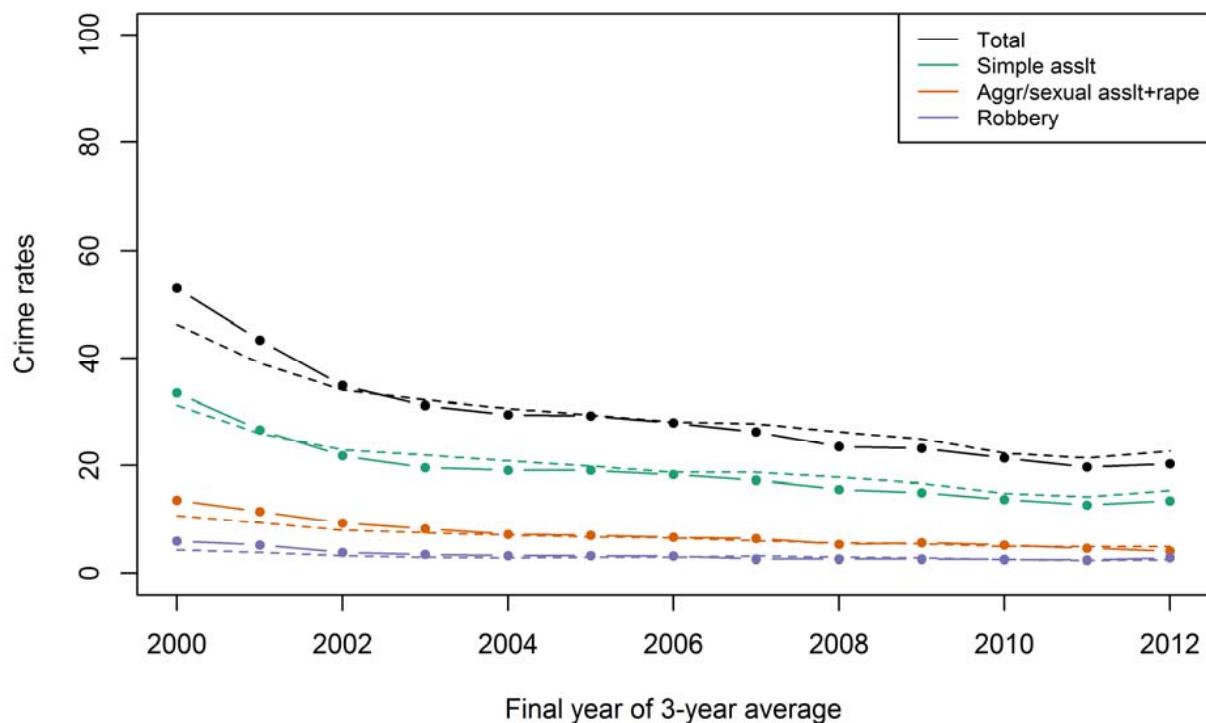


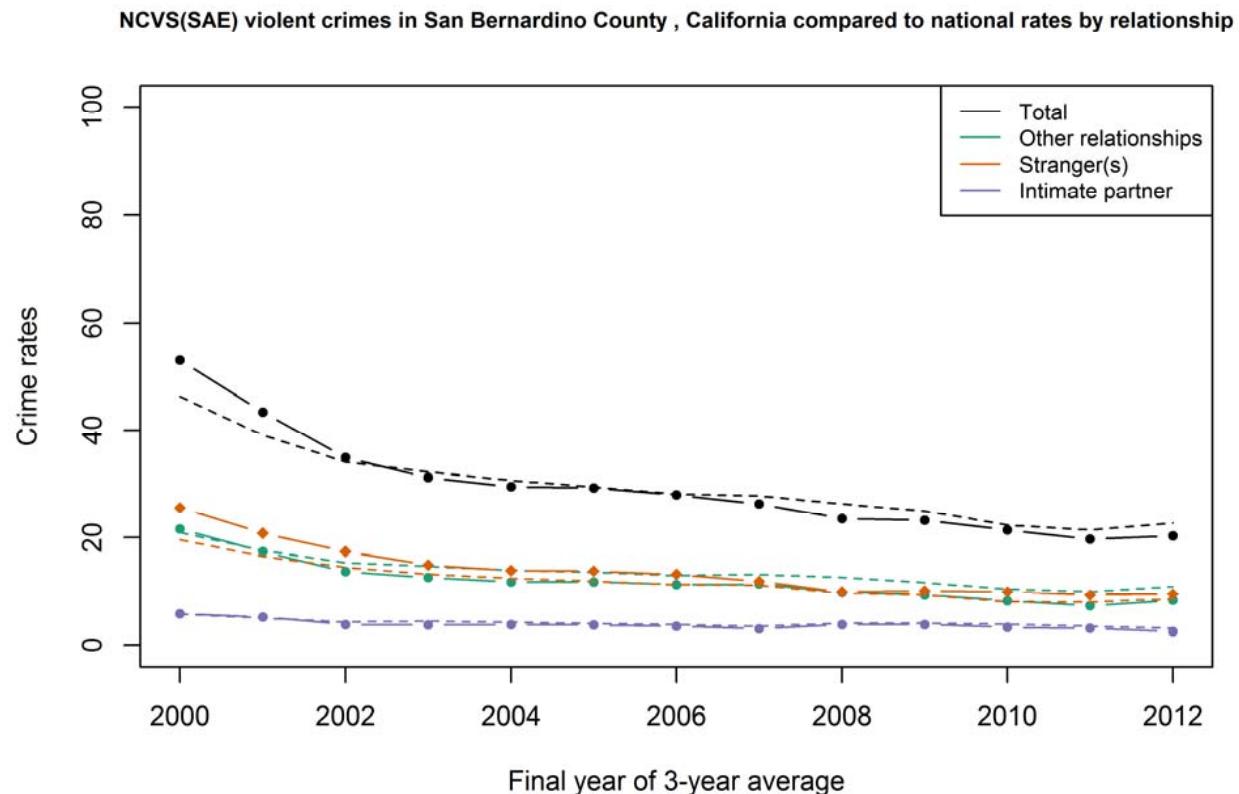
NCVS(SAE) property crimes in Sacramento County , California compared to national rates

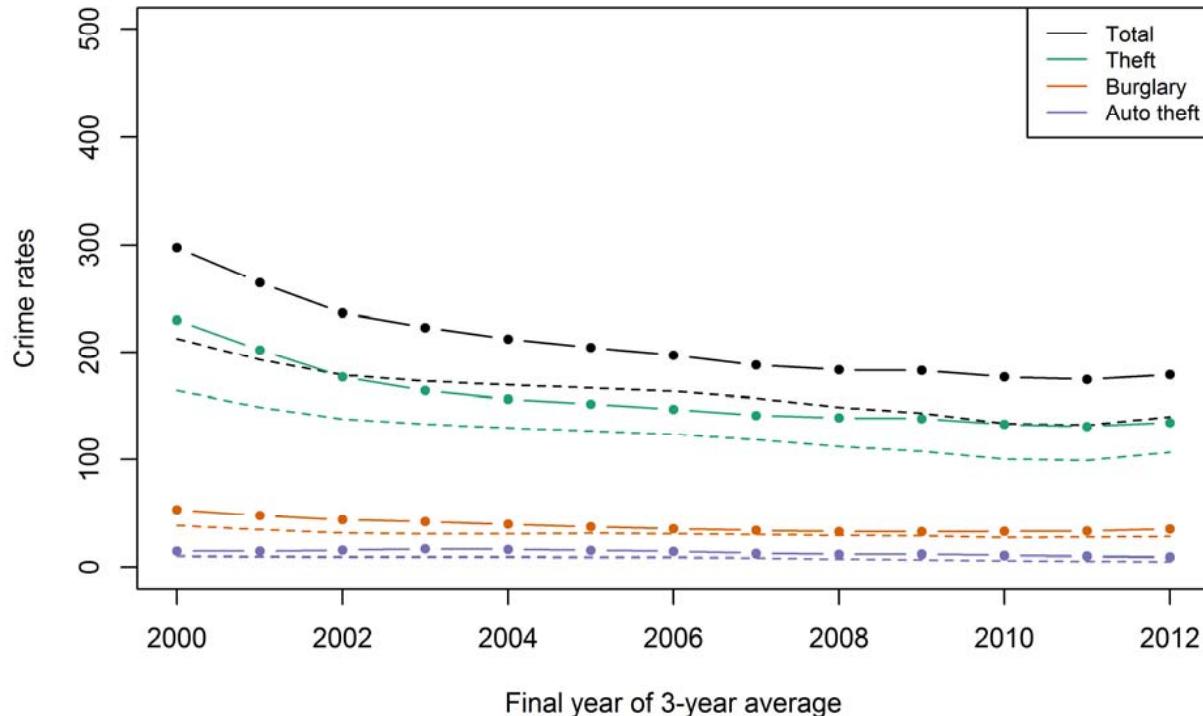


San Bernardino County, CA

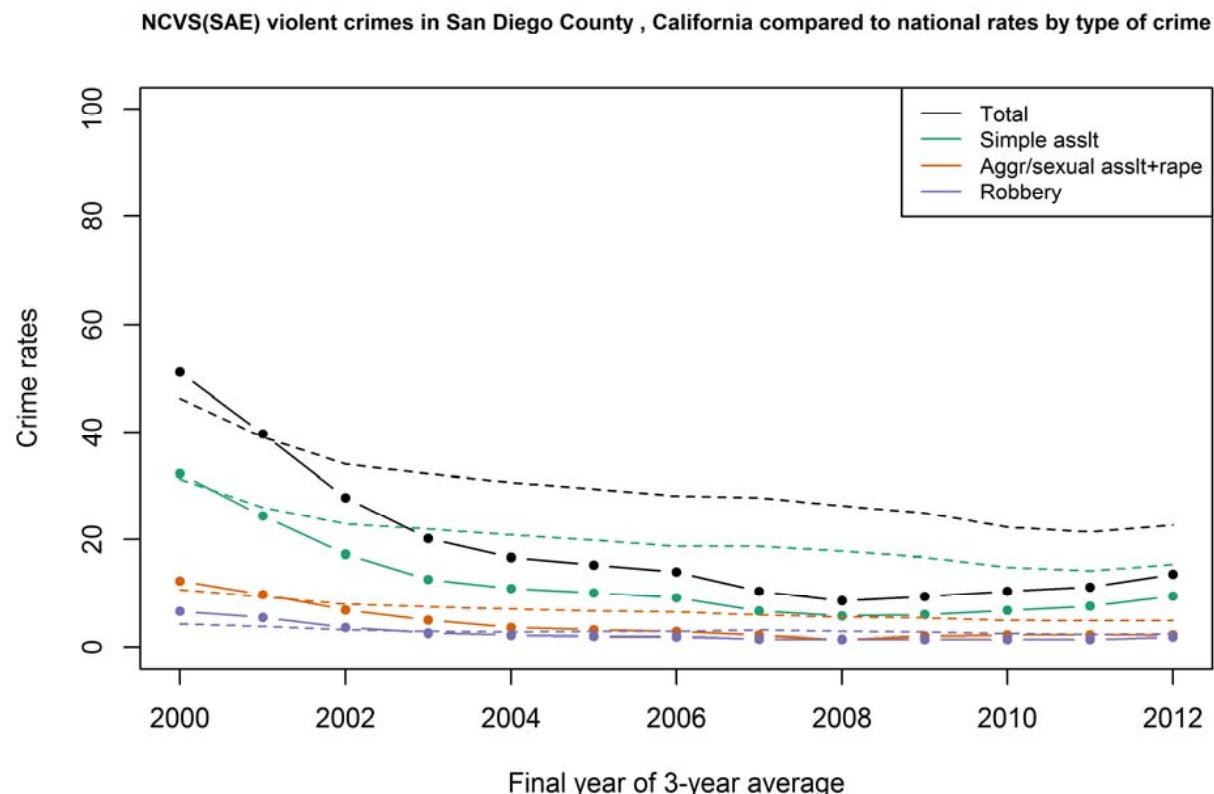
NCVS(SAE) violent crimes in San Bernardino County , California compared to national rates by type of crime

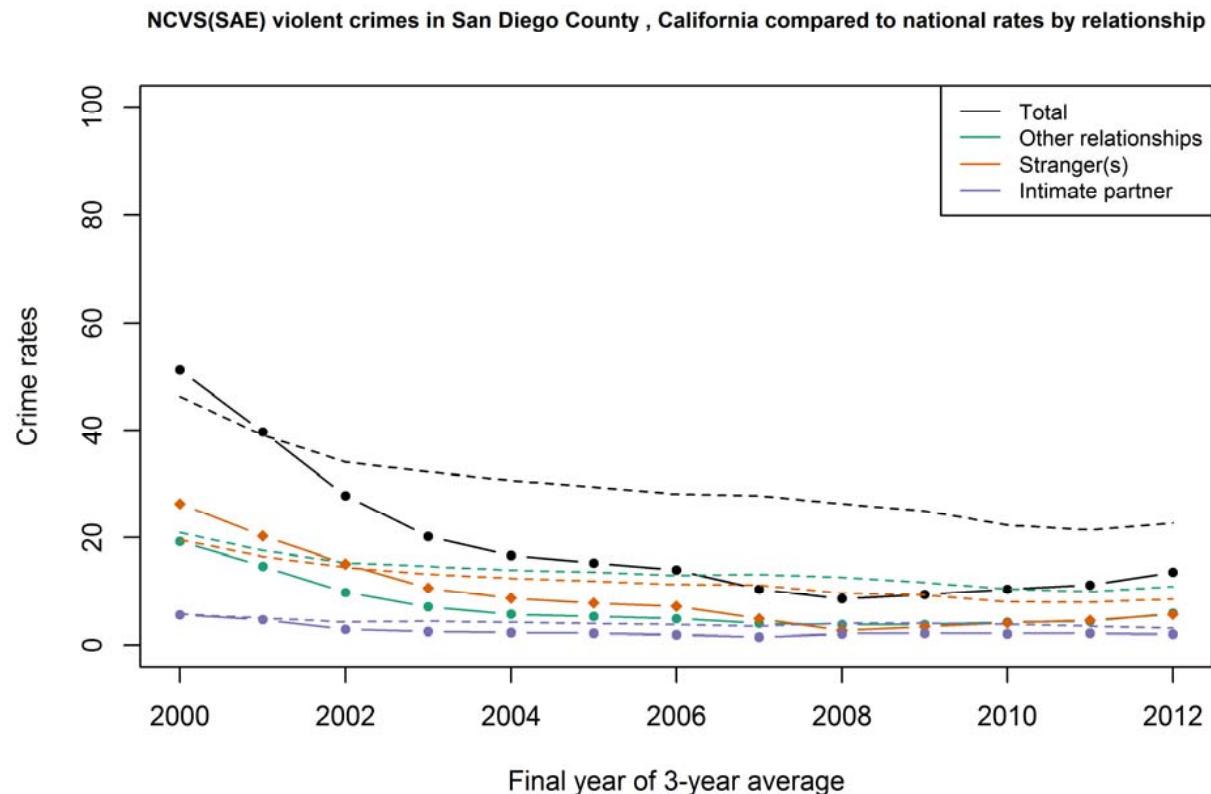




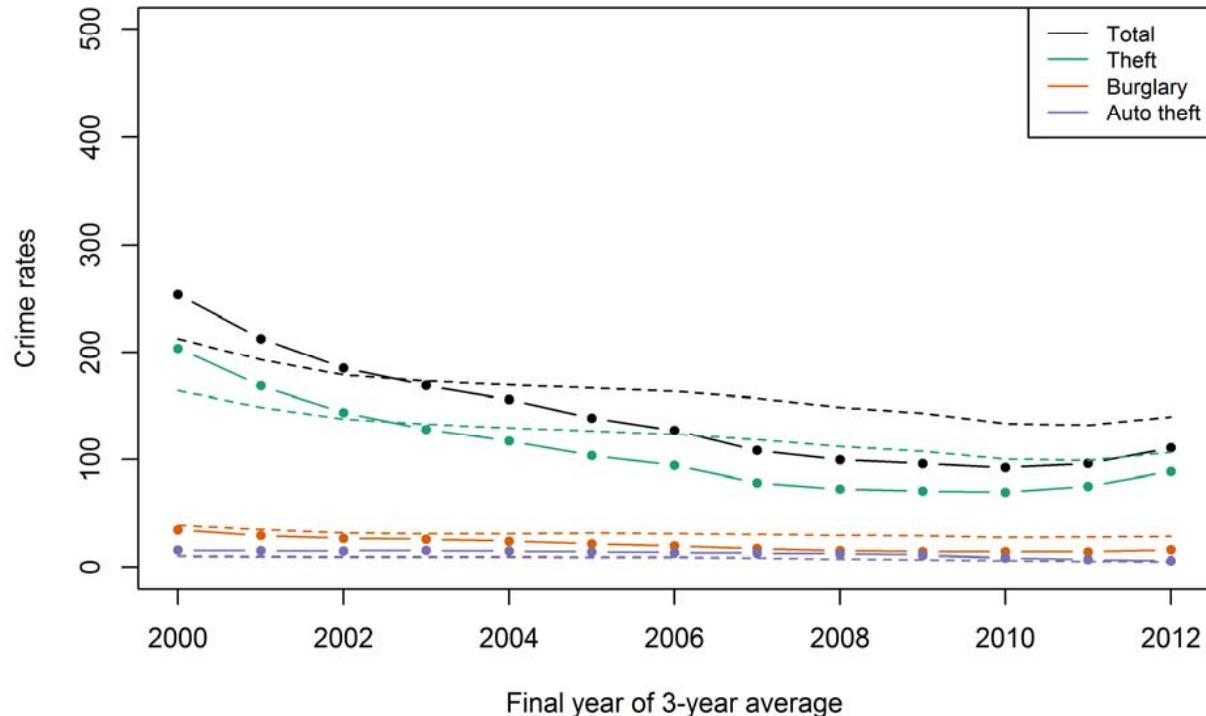
NCVS(SAE) property crimes in San Bernardino County , California compared to national rates

San Diego County, CA

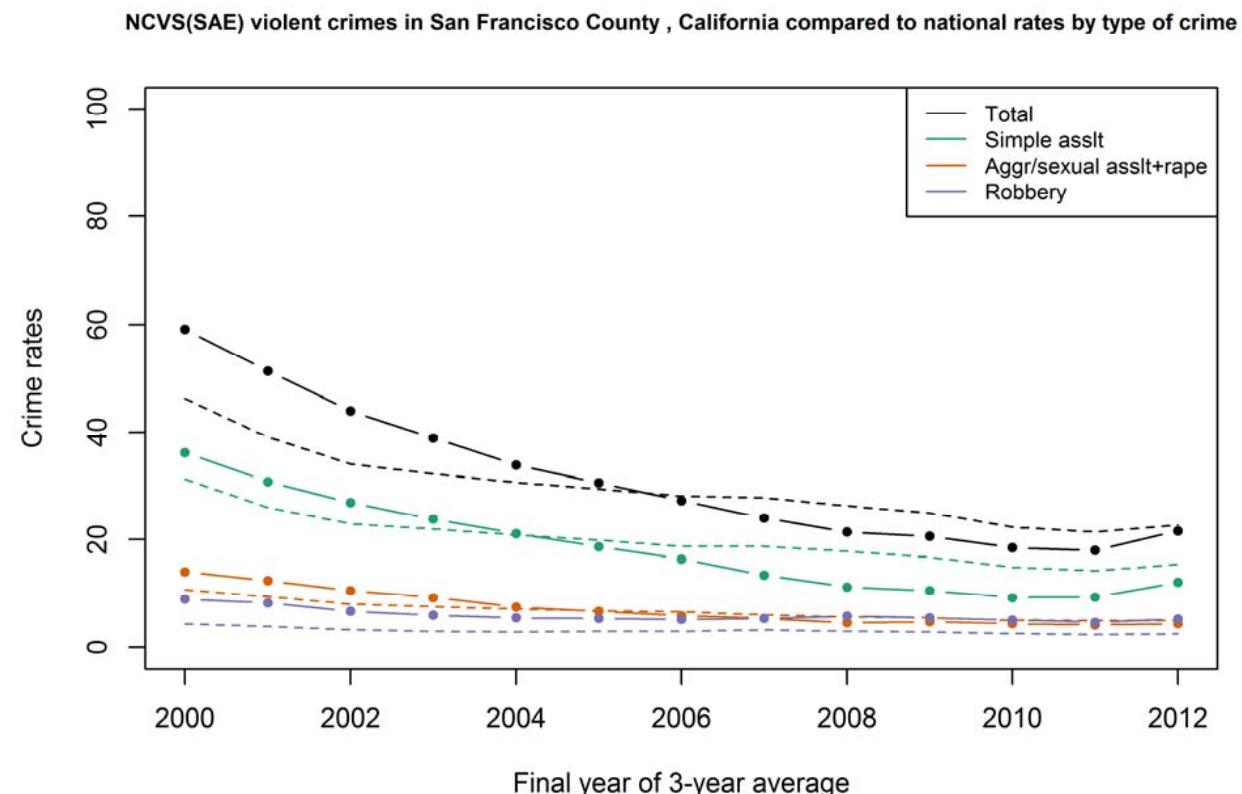




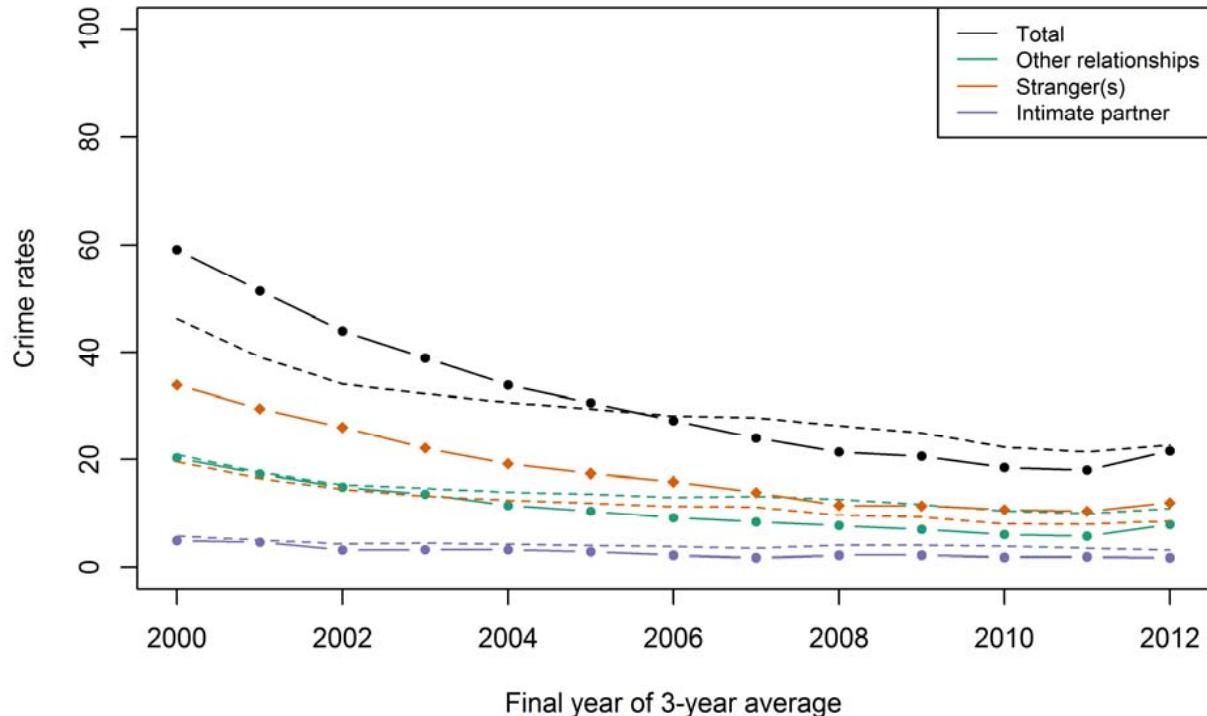
NCVS(SAE) property crimes in San Diego County , California compared to national rates



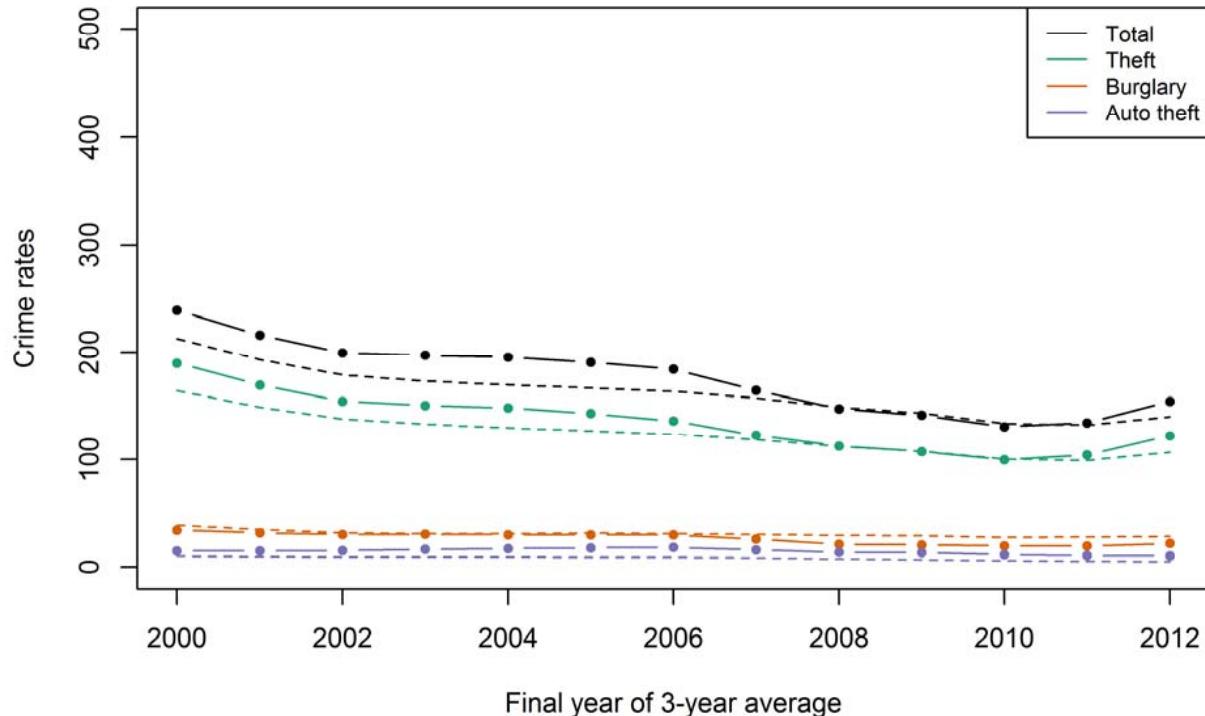
San Francisco County, CA



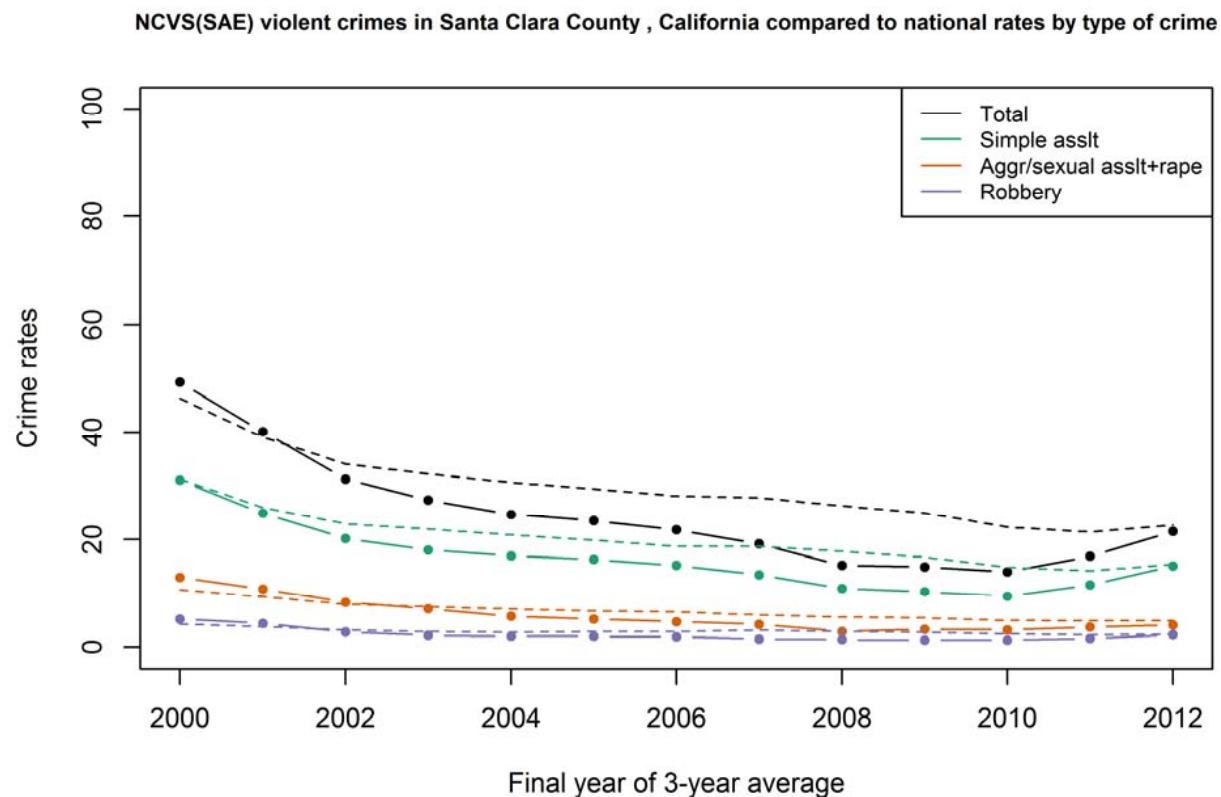
NCVS(SAE) violent crimes in San Francisco County , California compared to national rates by relationship

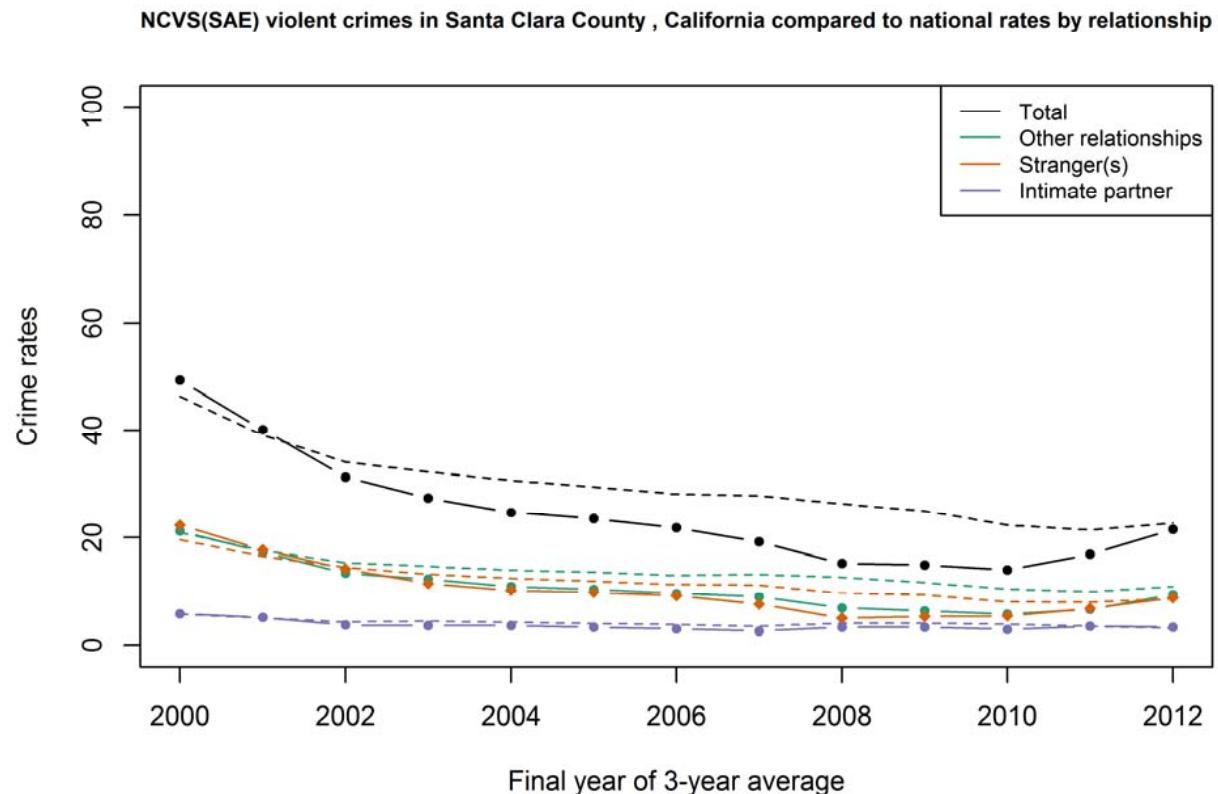


NCVS(SAE) property crimes in San Francisco County , California compared to national rates

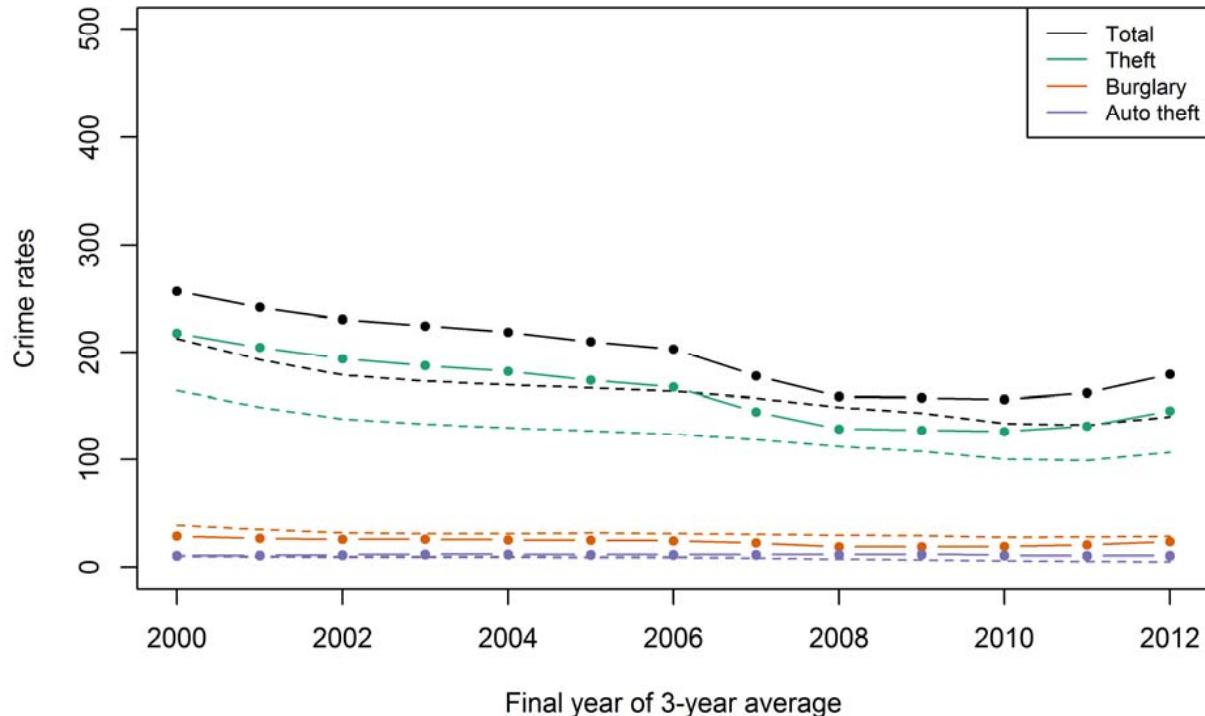


Santa Clara County, CA



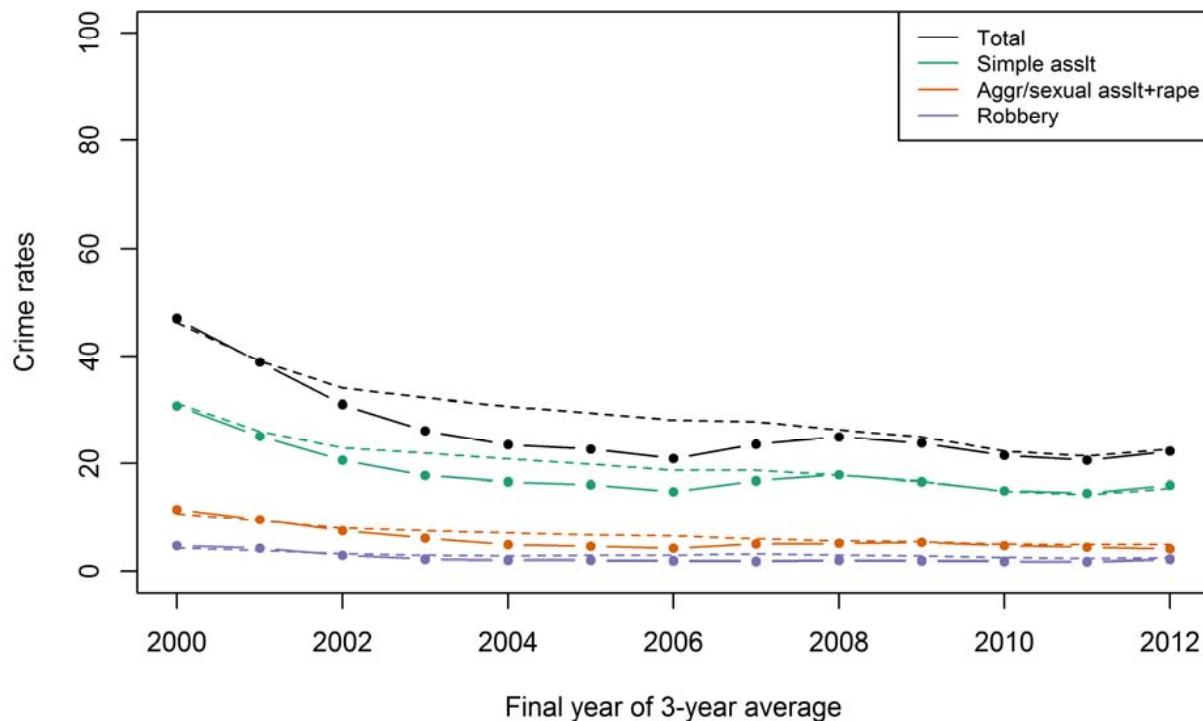


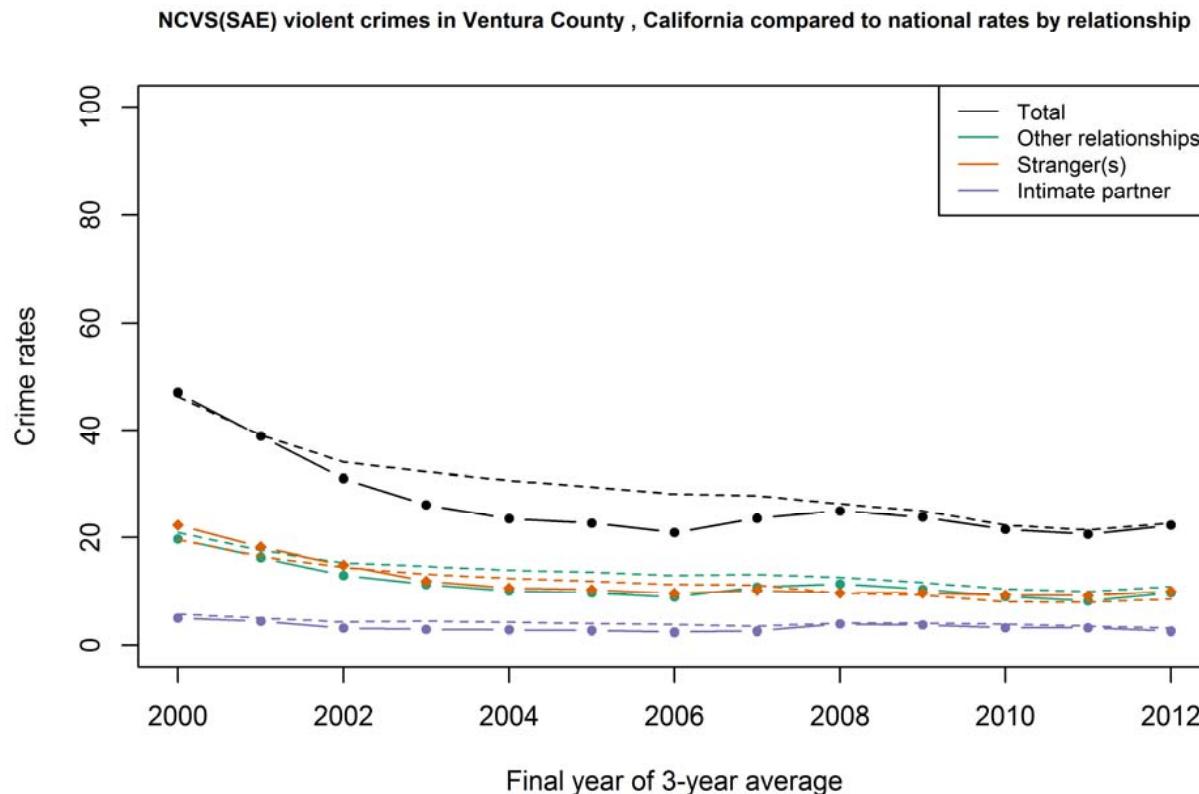
NCVS(SAE) property crimes in Santa Clara County , California compared to national rates

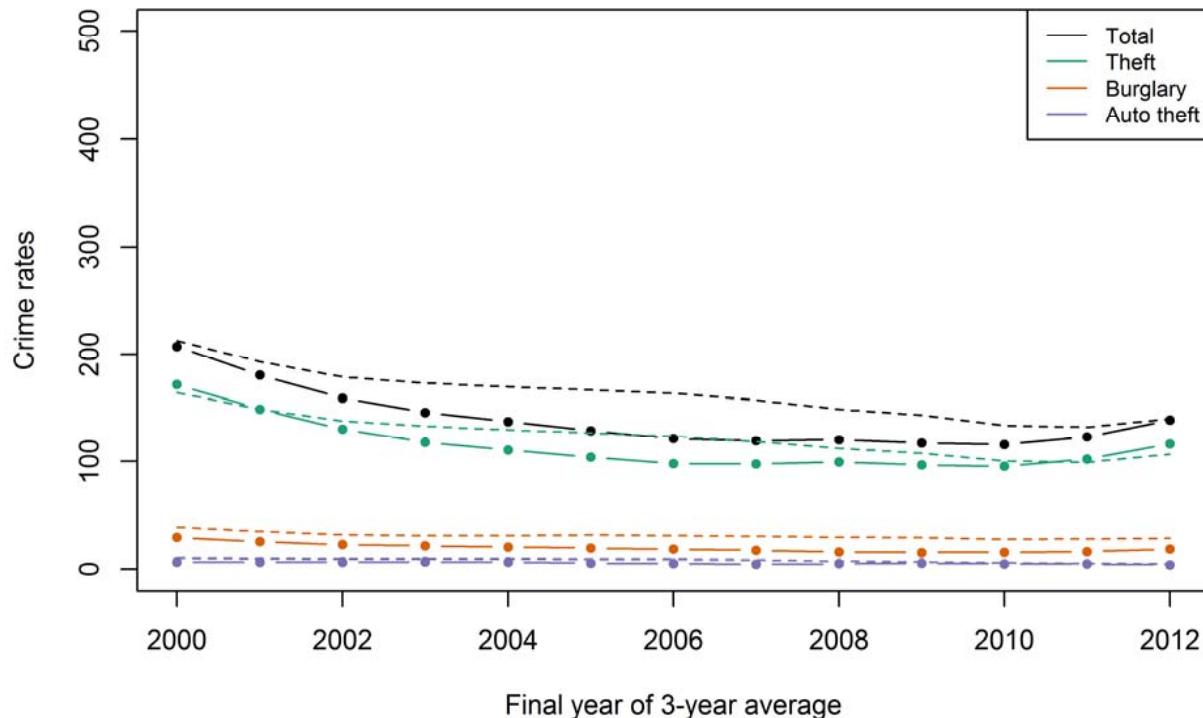


Ventura County, CA

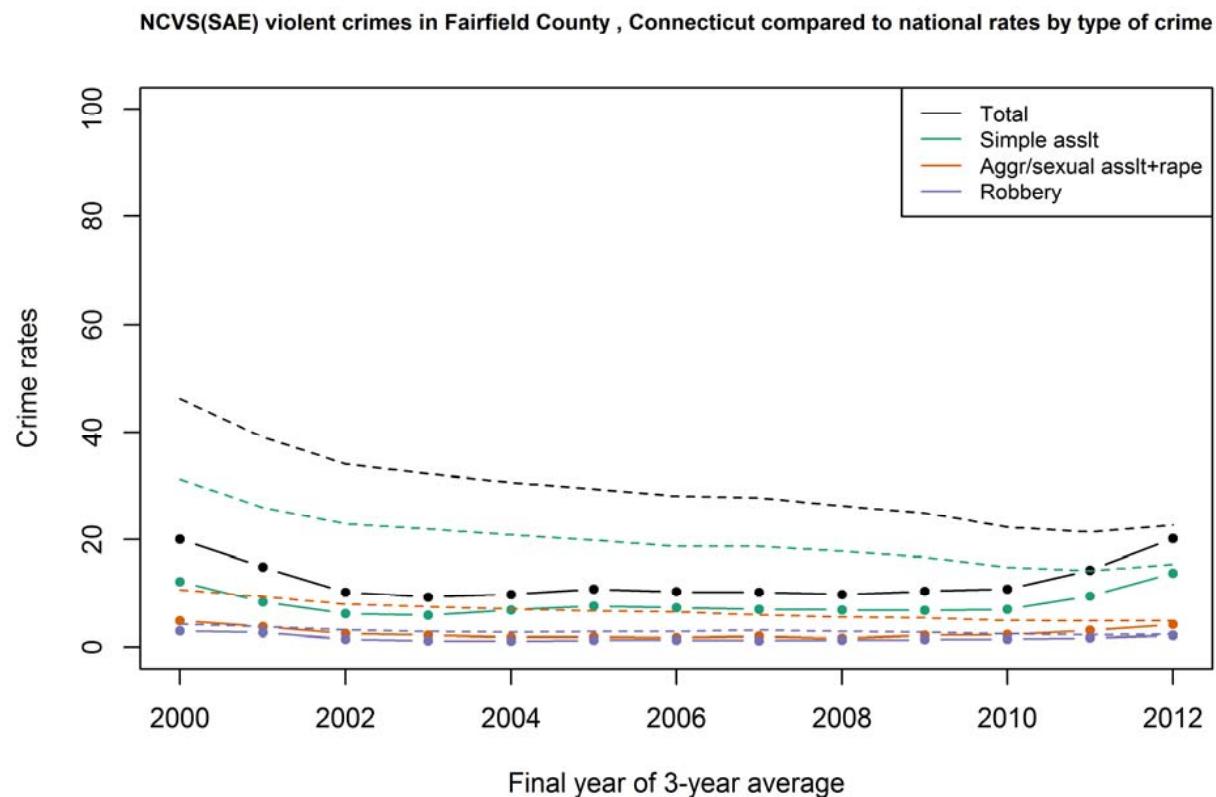
NCVS(SAE) violent crimes in Ventura County , California compared to national rates by type of crime

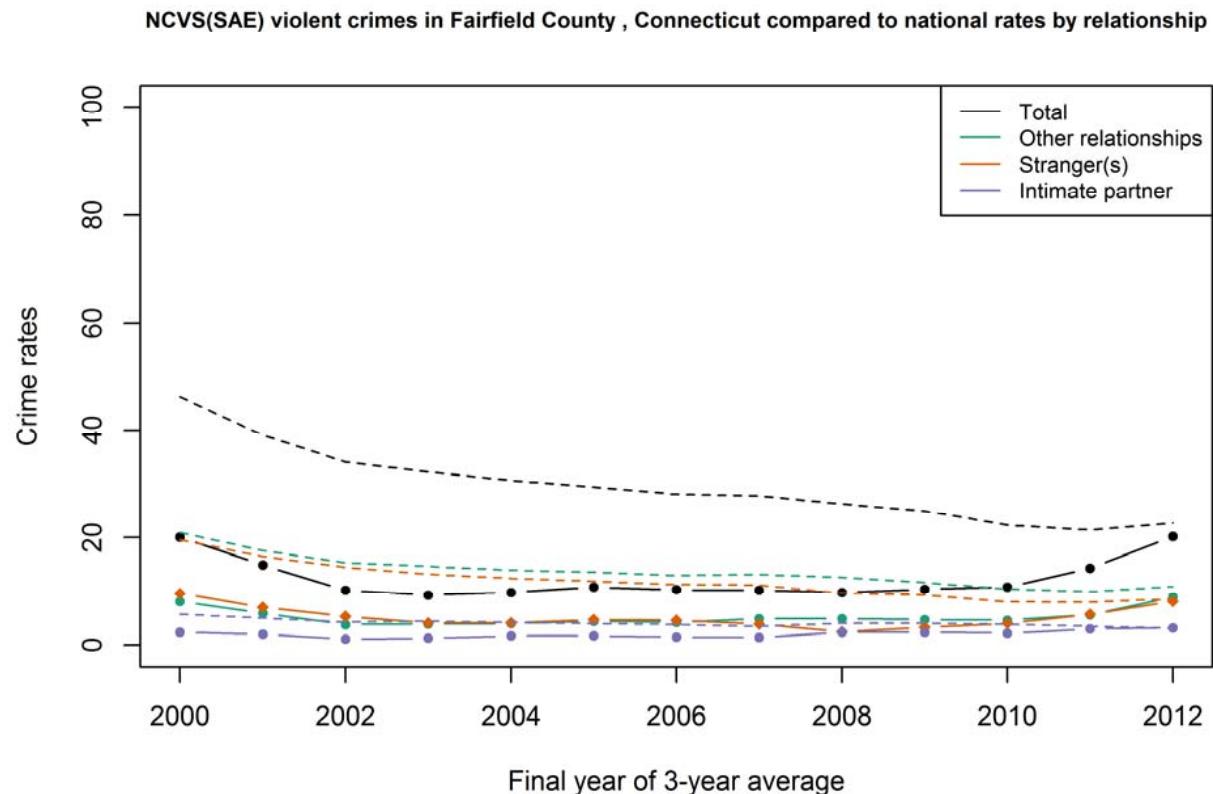


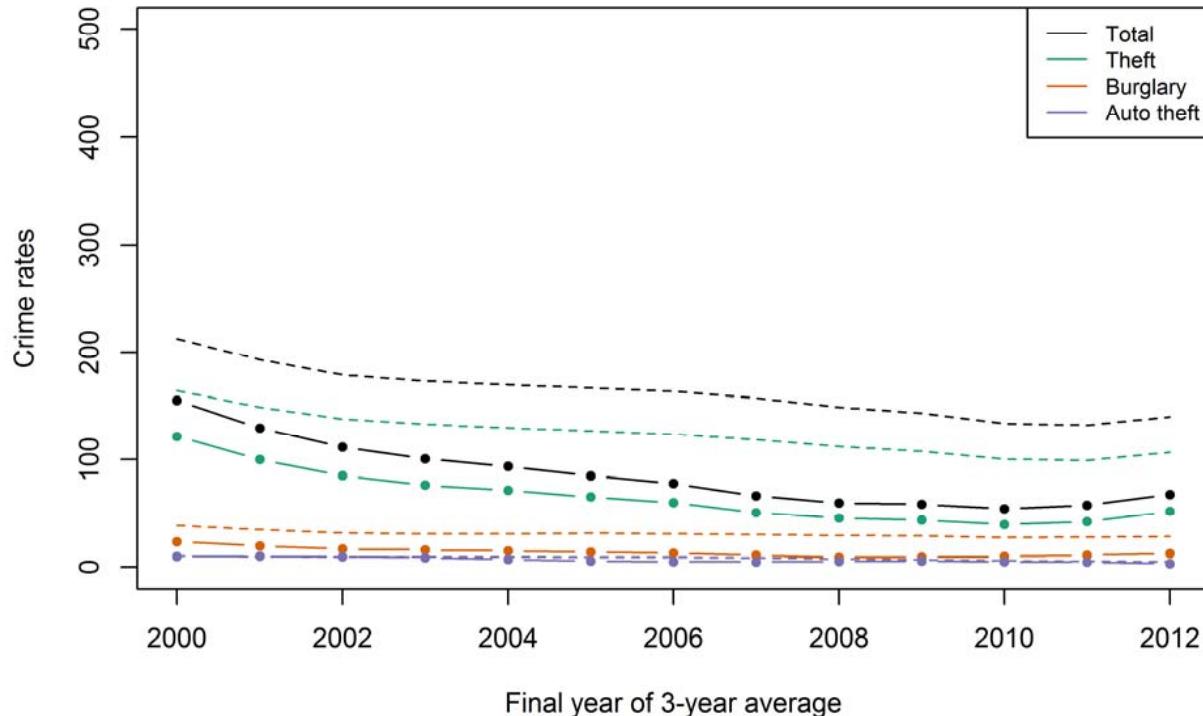


NCVS(SAE) property crimes in Ventura County , California compared to national rates

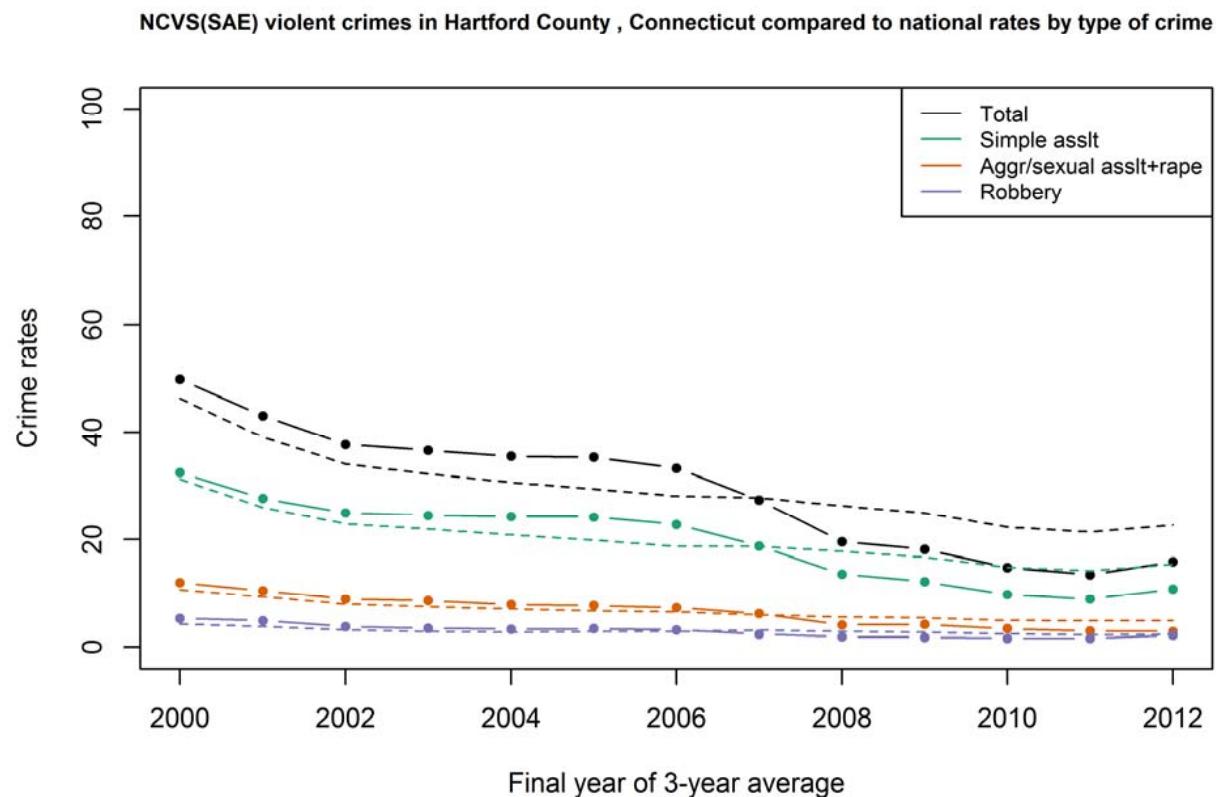
Fairfield County, CT

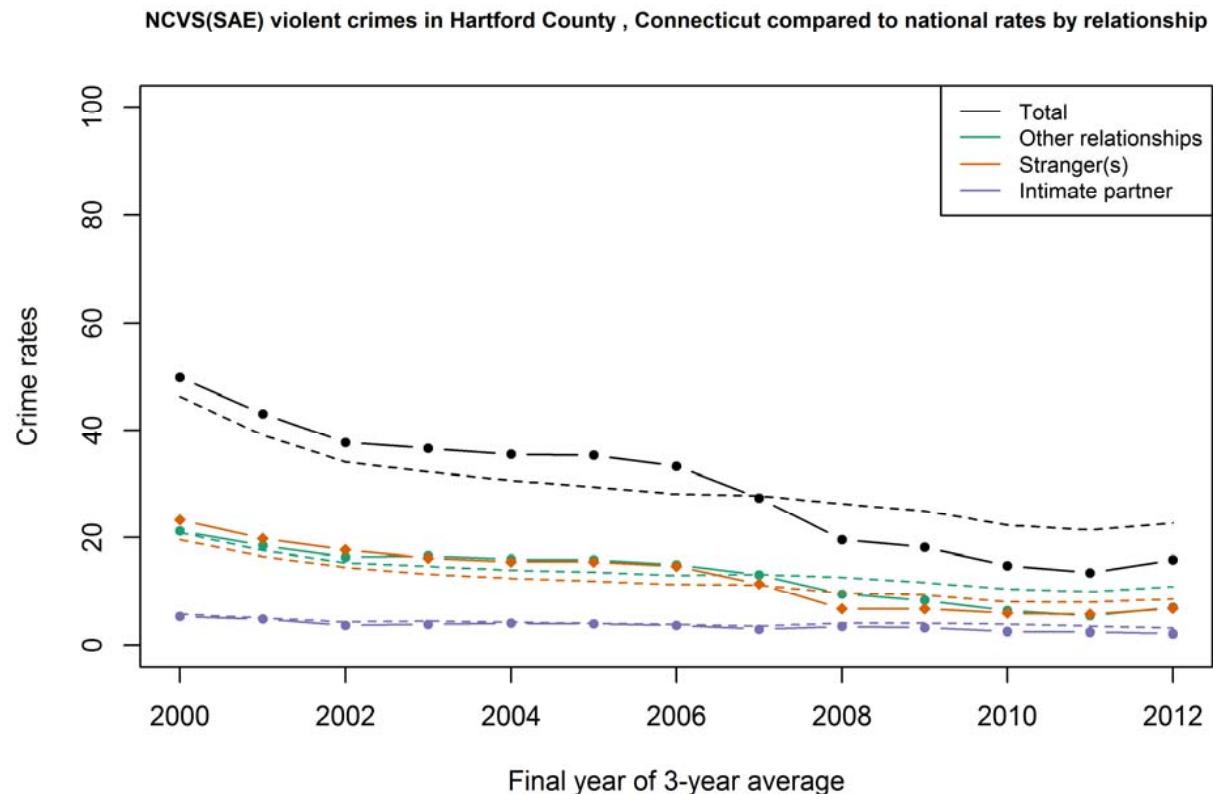




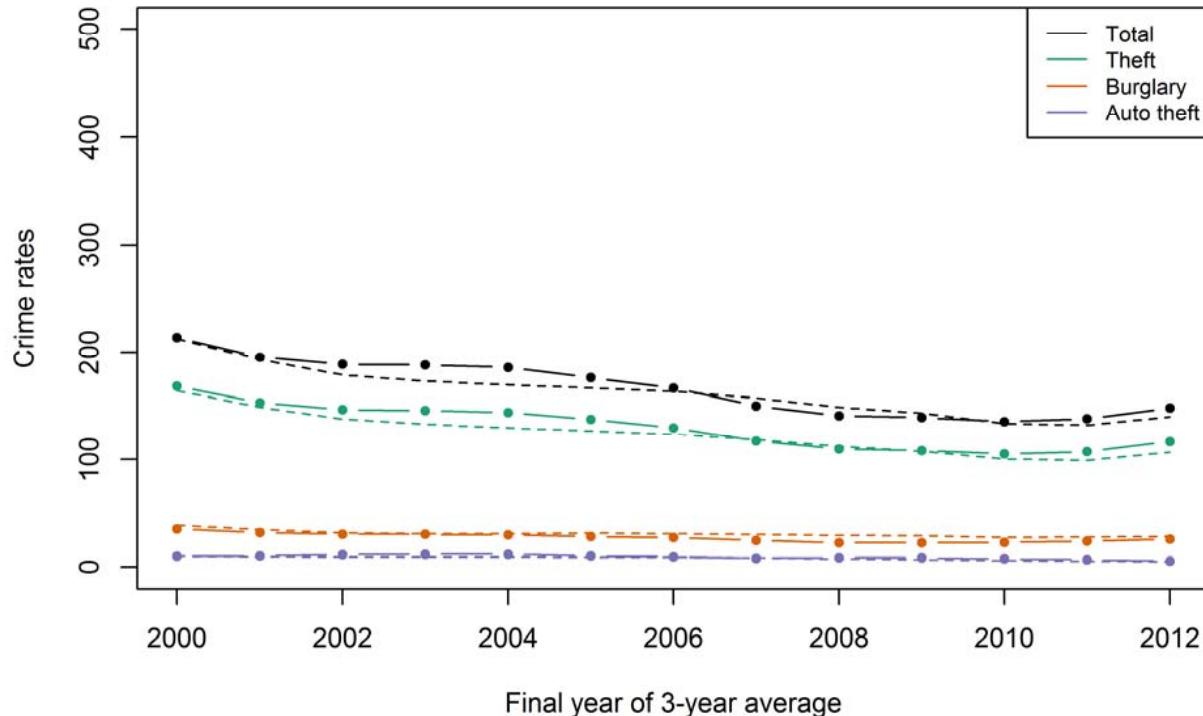
NCVS(SAE) property crimes in Fairfield County , Connecticut compared to national rates

Hartford County, CT

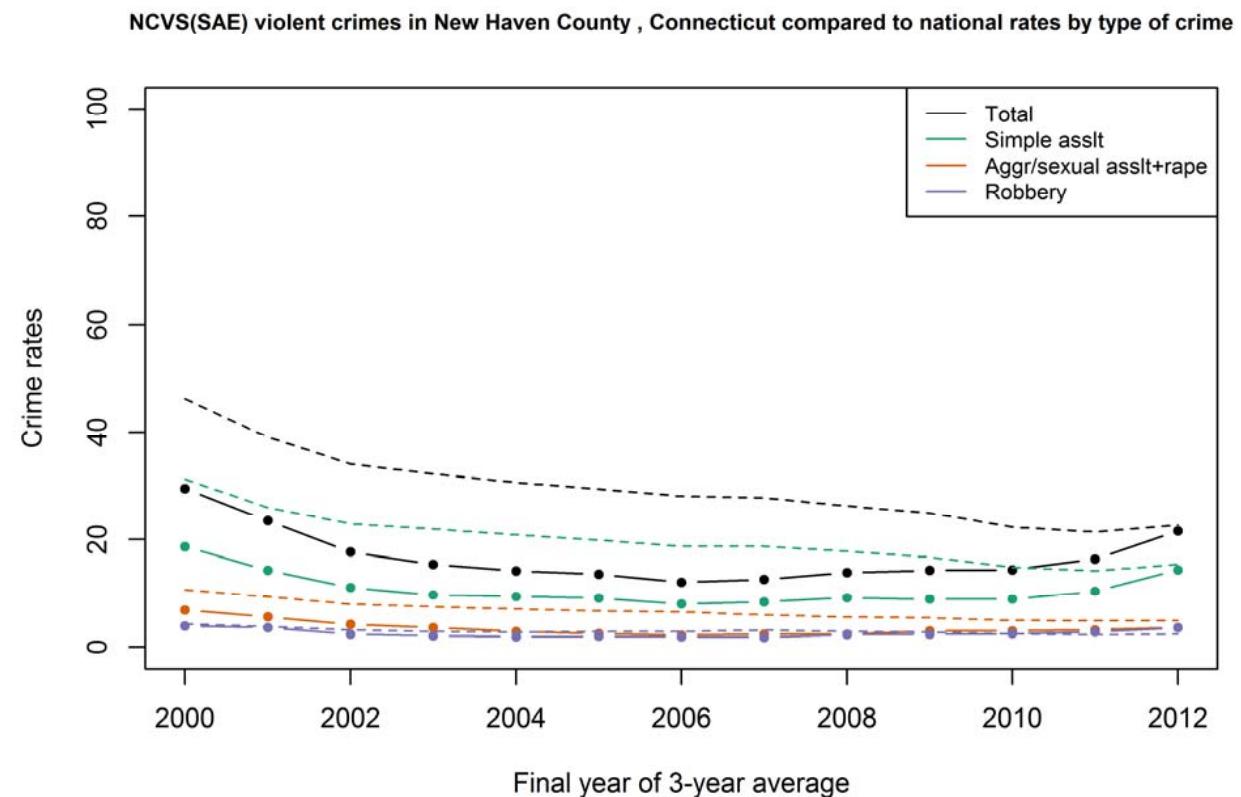


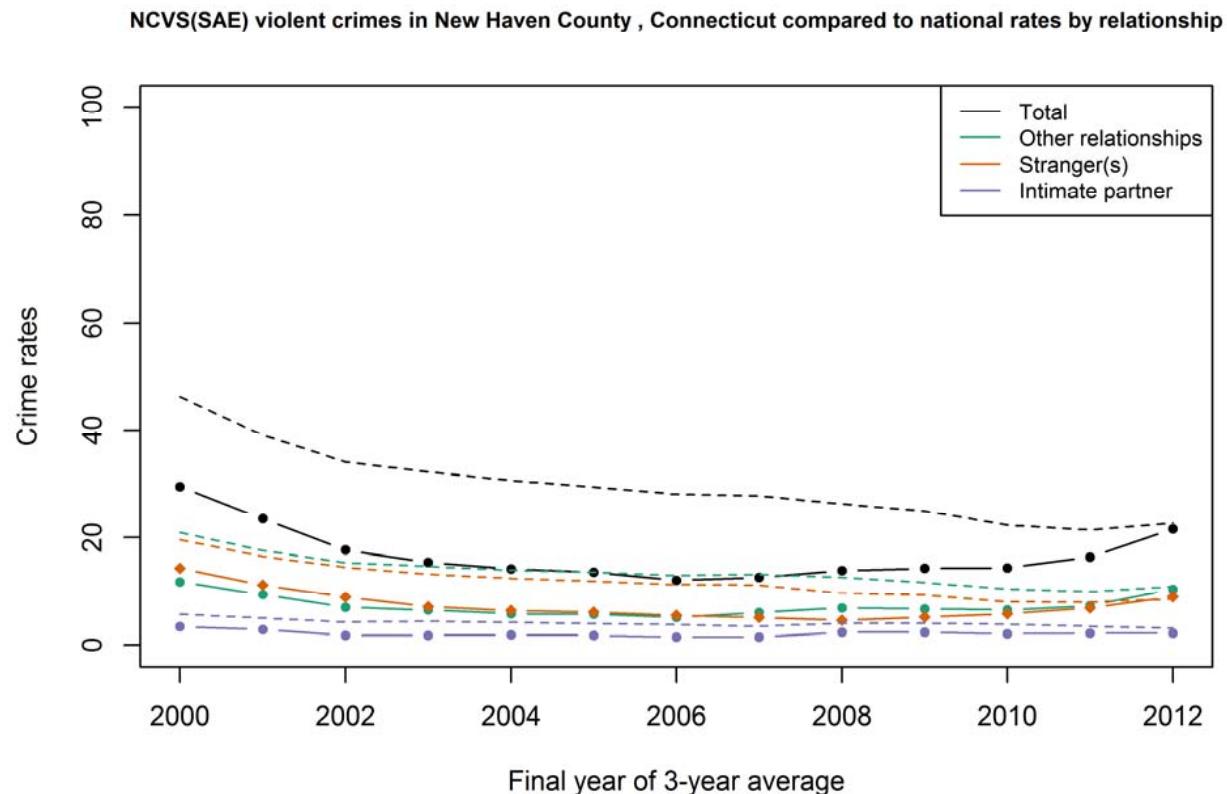


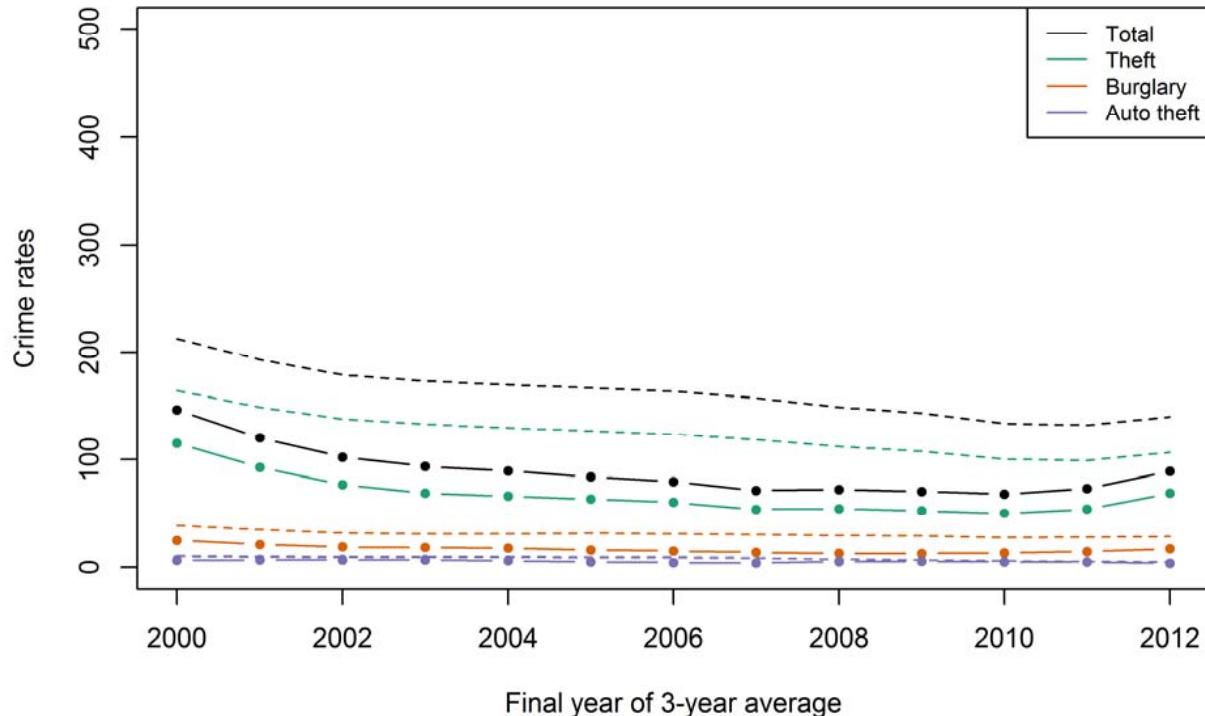
NCVS(SAE) property crimes in Hartford County , Connecticut compared to national rates



New Haven County, CT

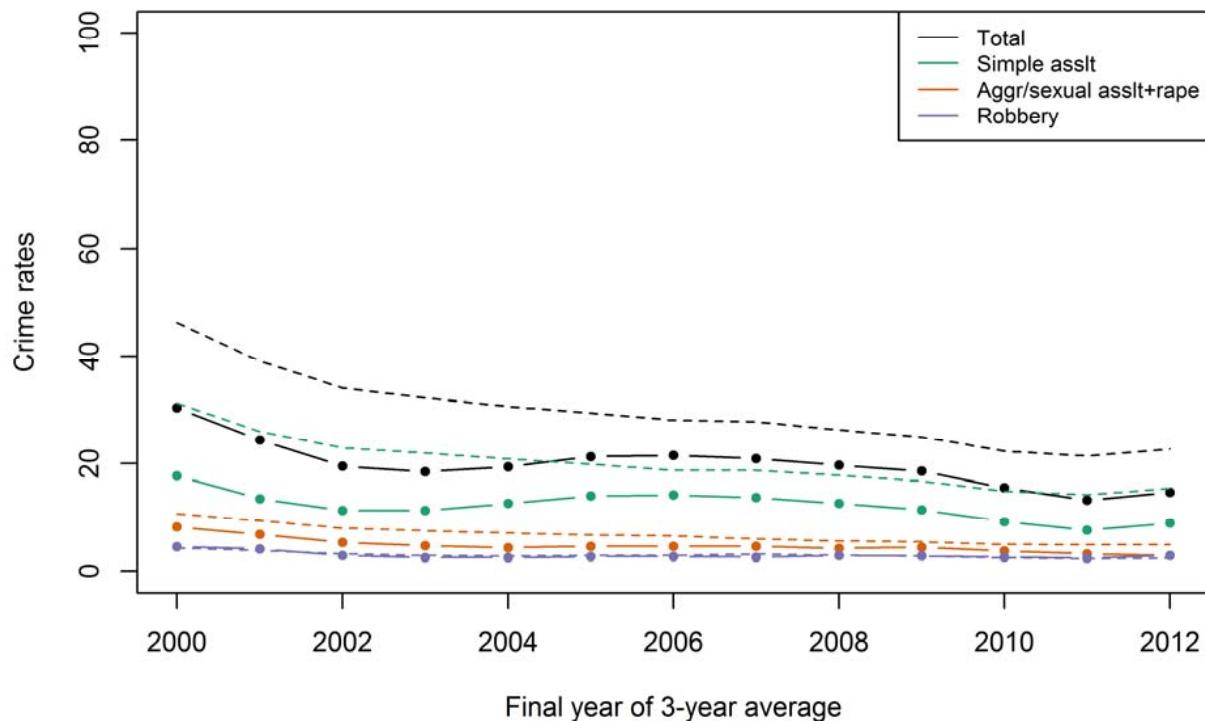


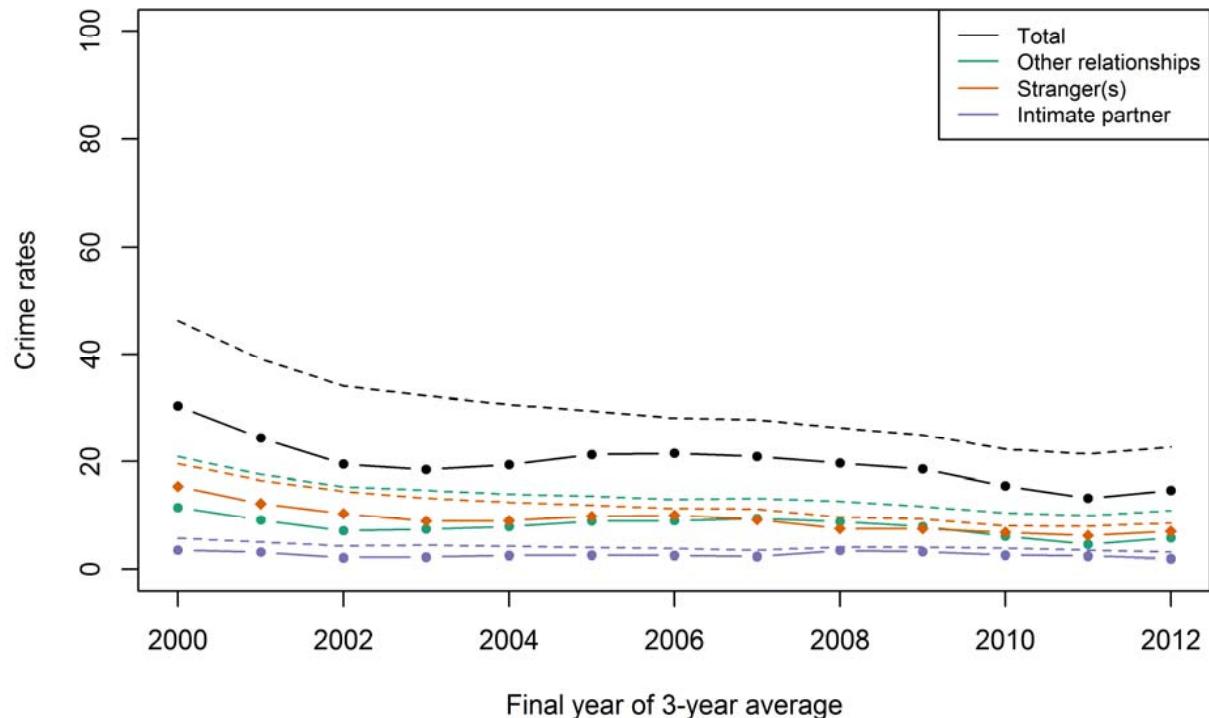


NCVS(SAE) property crimes in New Haven County , Connecticut compared to national rates

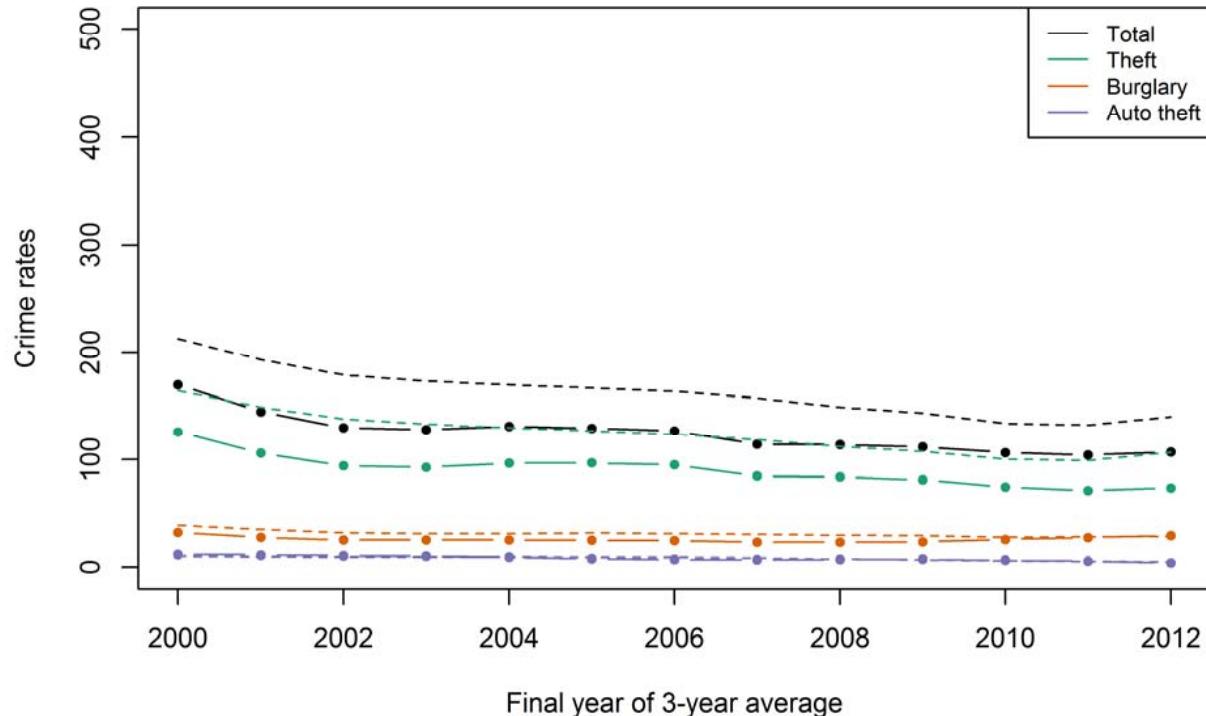
Broward County, FL

NCVS(SAE) violent crimes in Broward County , Florida compared to national rates by type of crime

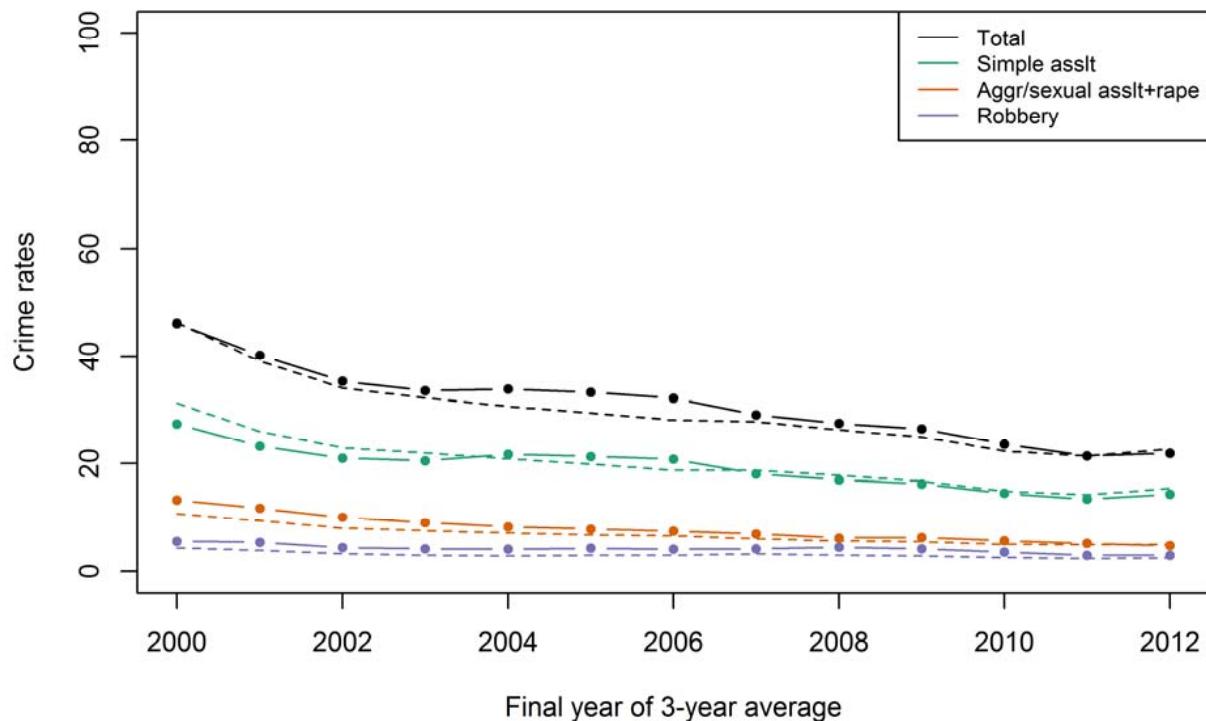


NCVS(SAE) violent crimes in Broward County , Florida compared to national rates by relationship

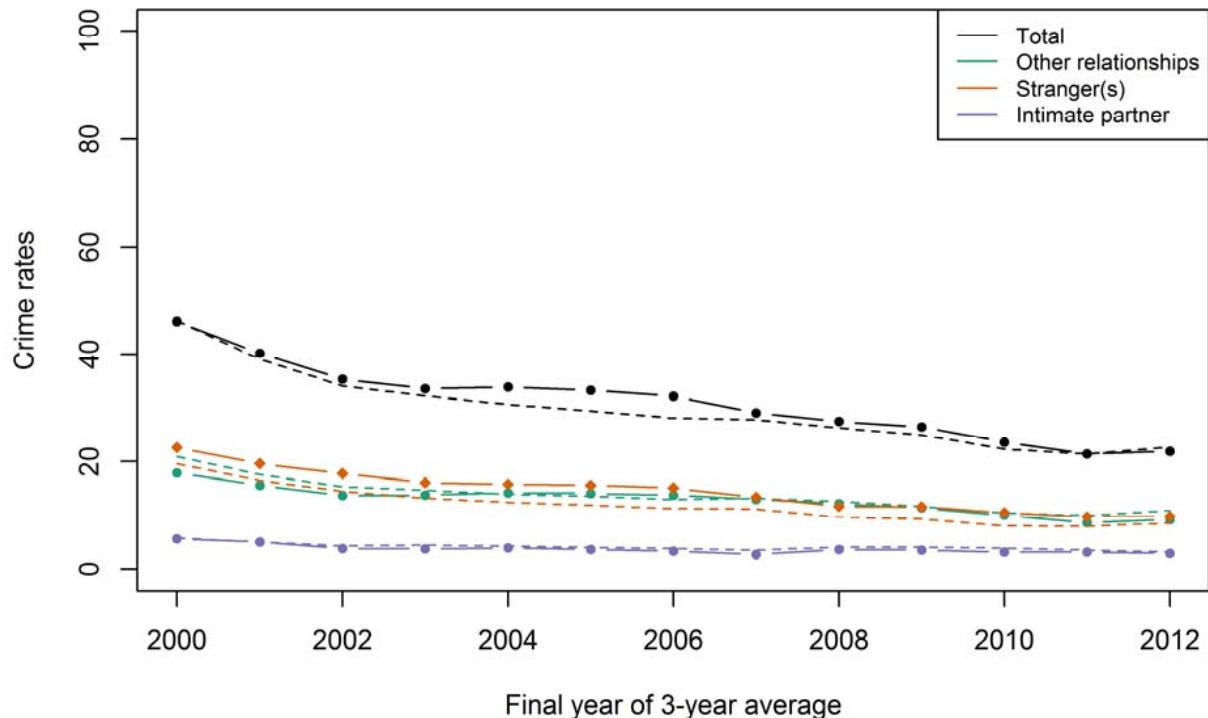
NCVS(SAE) property crimes in Broward County , Florida compared to national rates



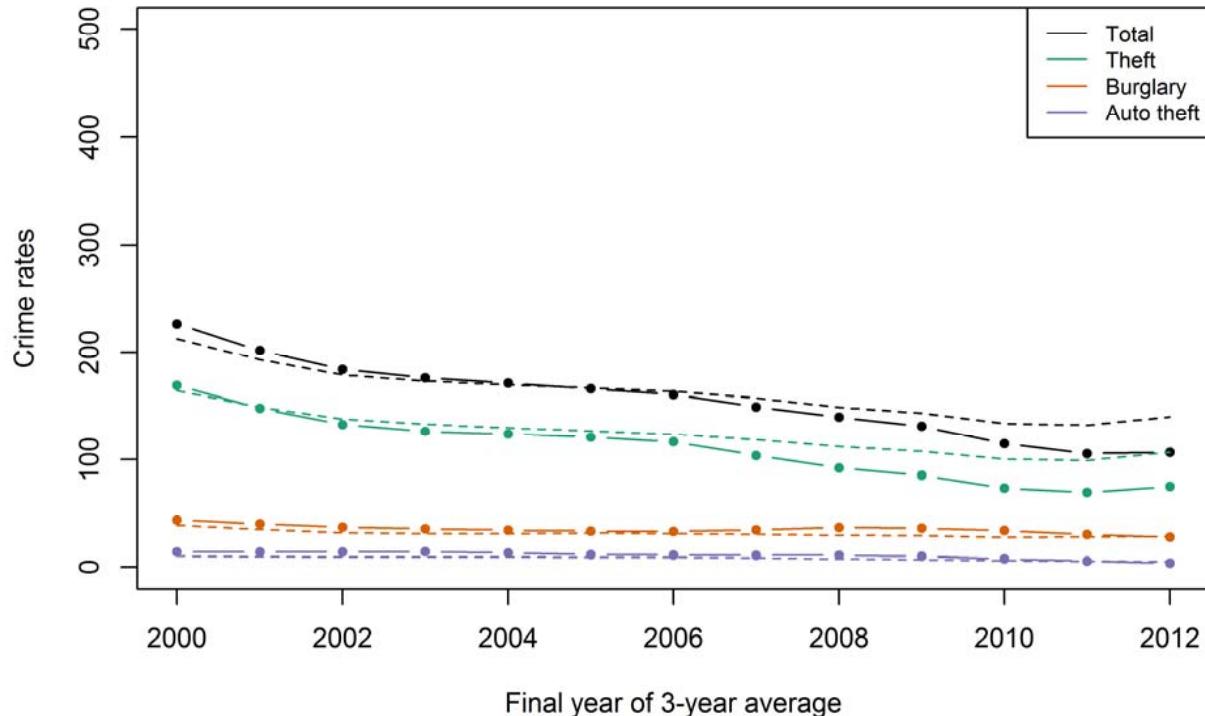
Duval County, FL

NCVS(SAE) violent crimes in Duval County , Florida compared to national rates by type of crime

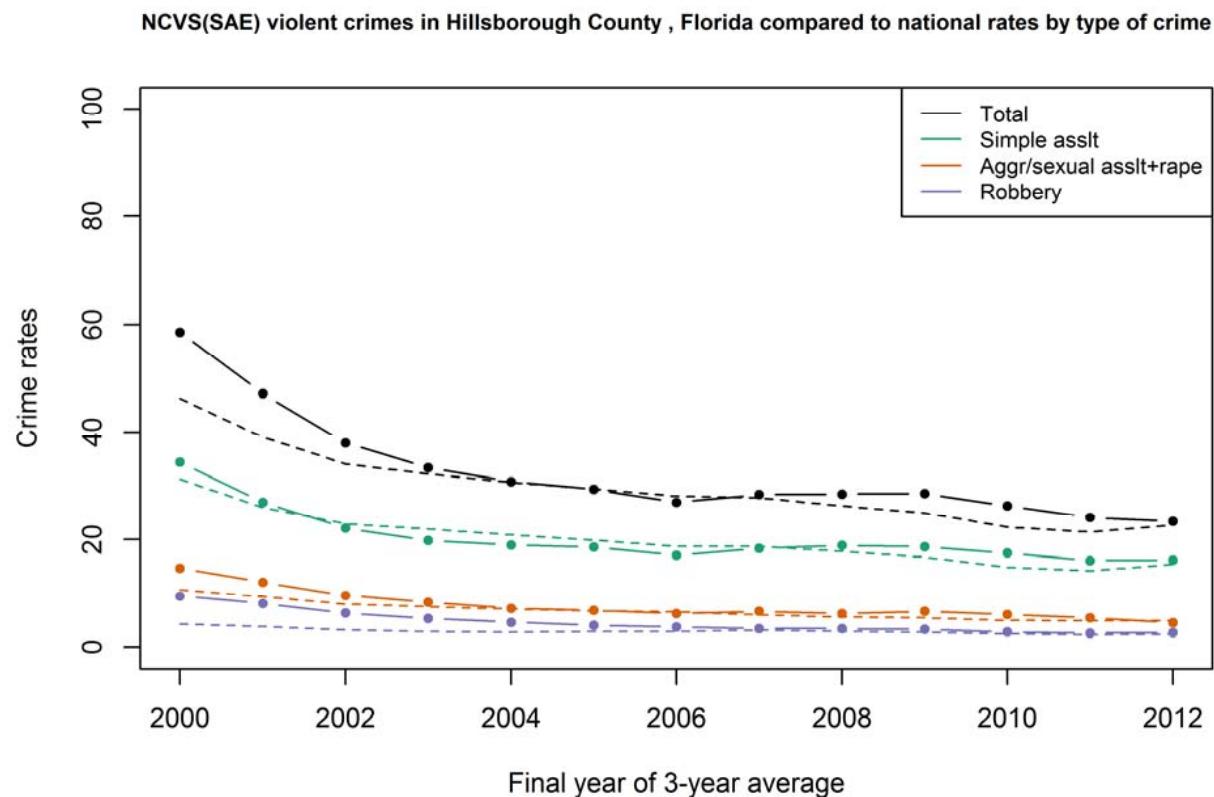
NCVS(SAE) violent crimes in Duval County , Florida compared to national rates by relationship

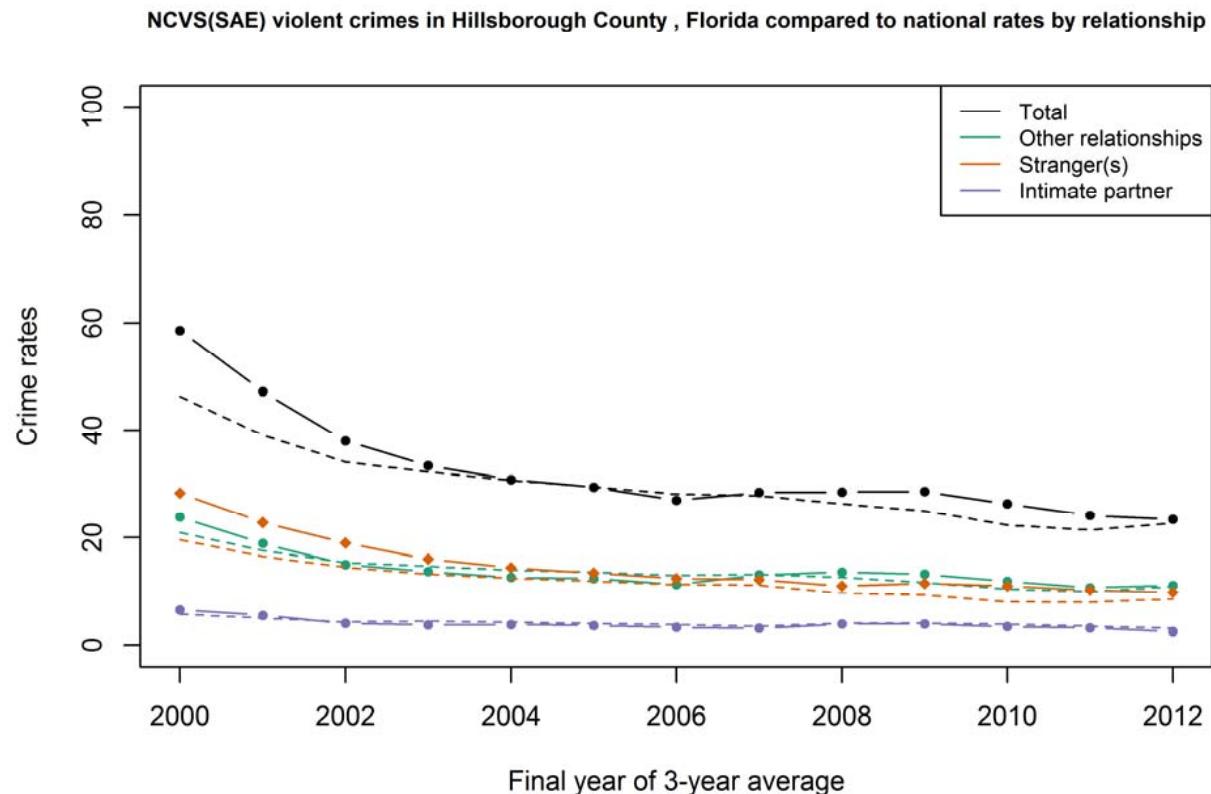


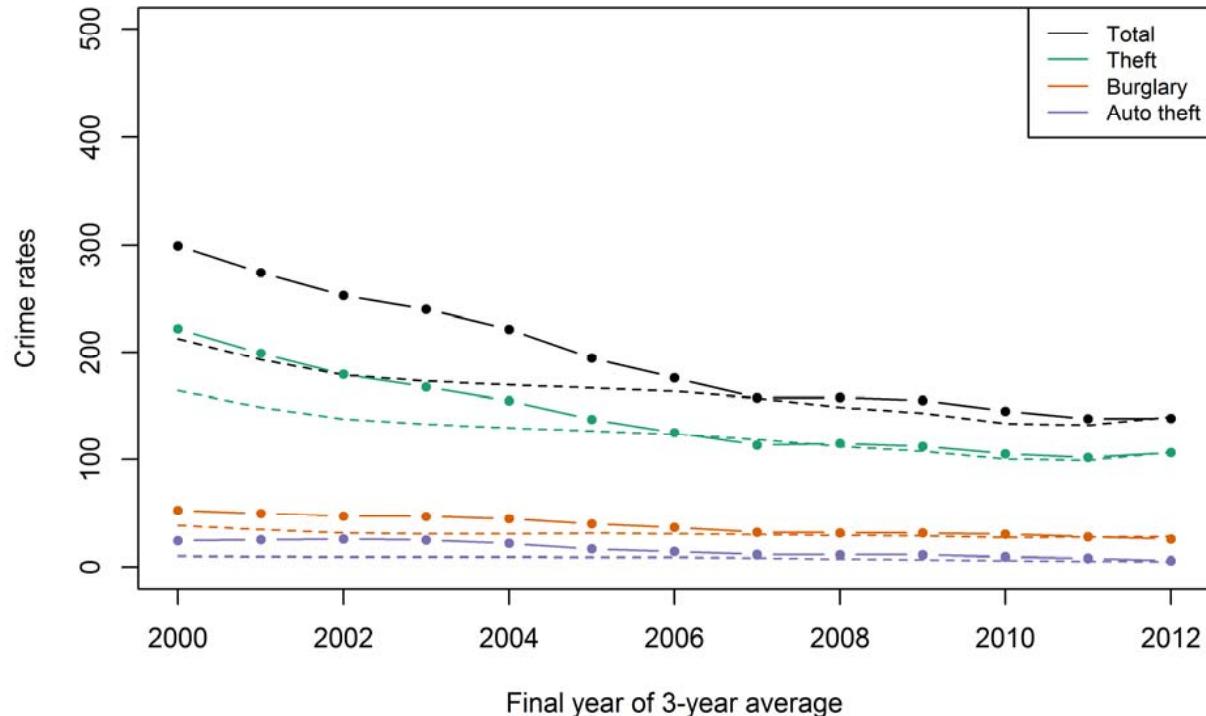
NCVS(SAE) property crimes in Duval County , Florida compared to national rates



Hillsborough County, FL

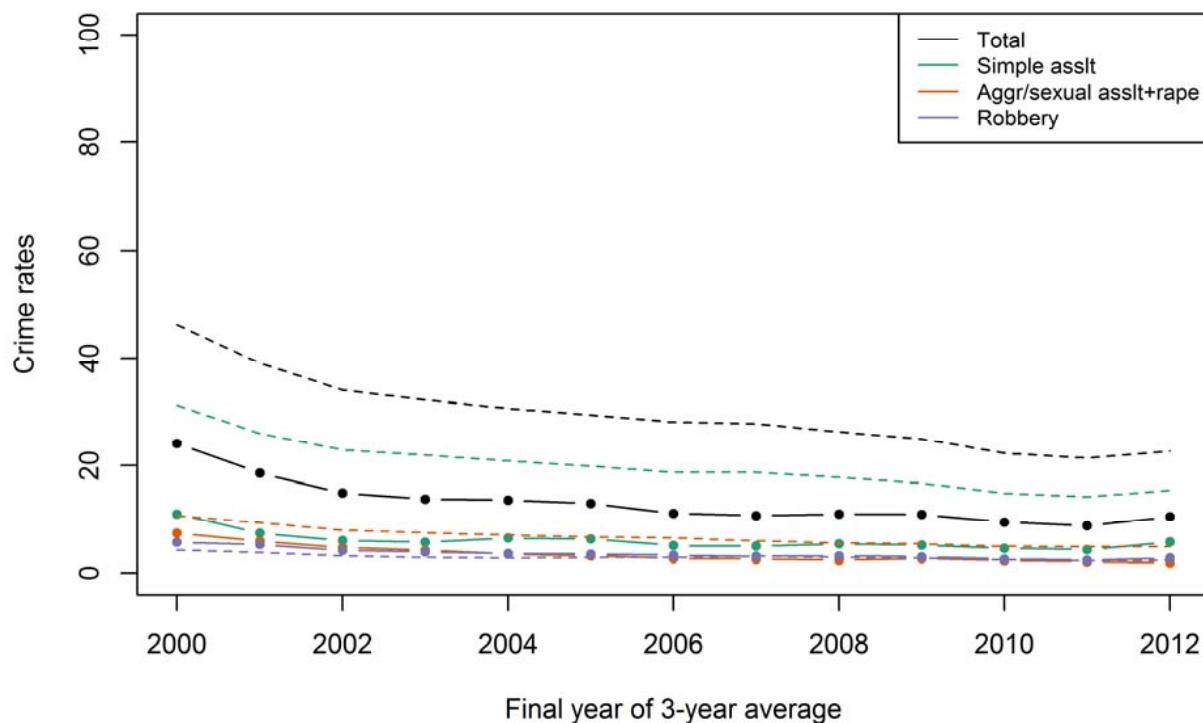


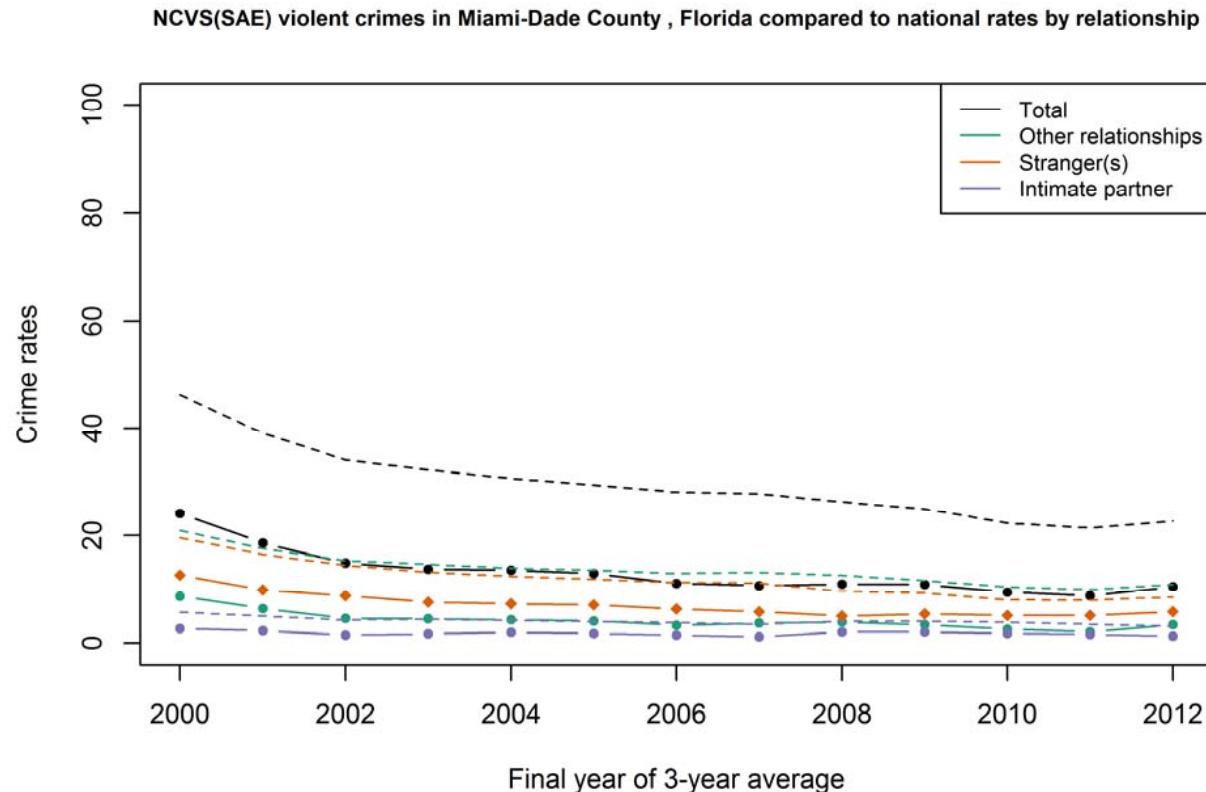


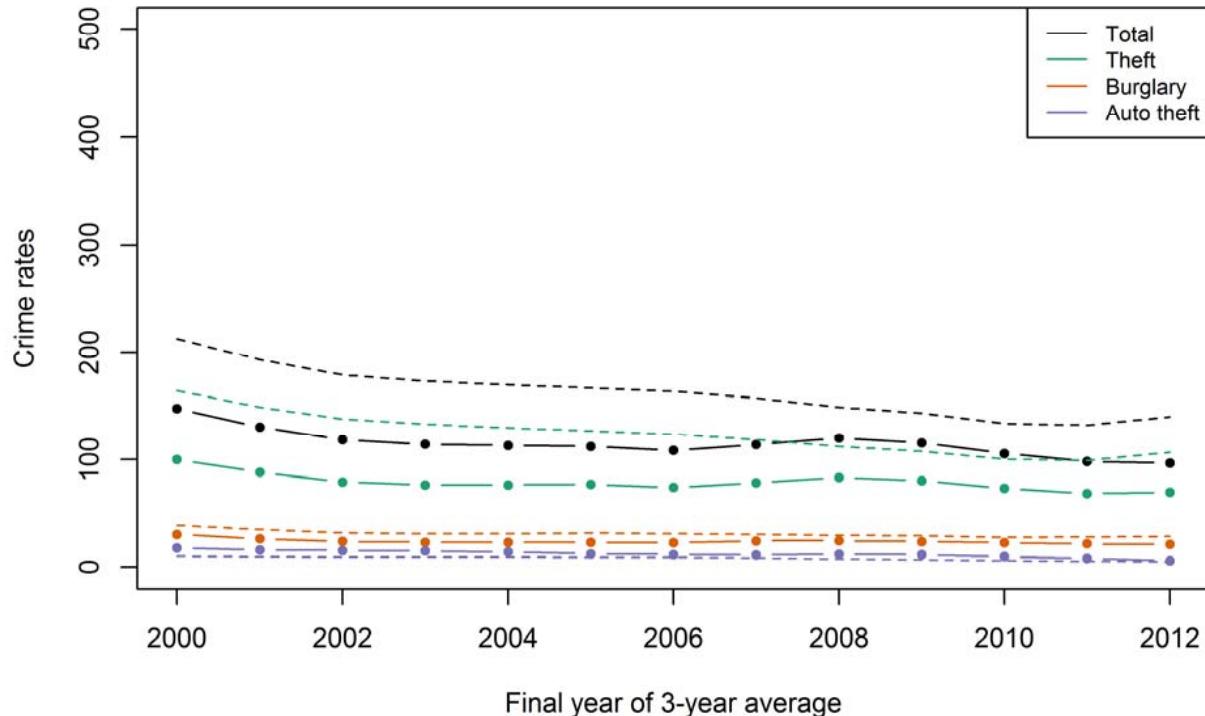
NCVS(SAE) property crimes in Hillsborough County , Florida compared to national rates

Miami-Dade County, FL

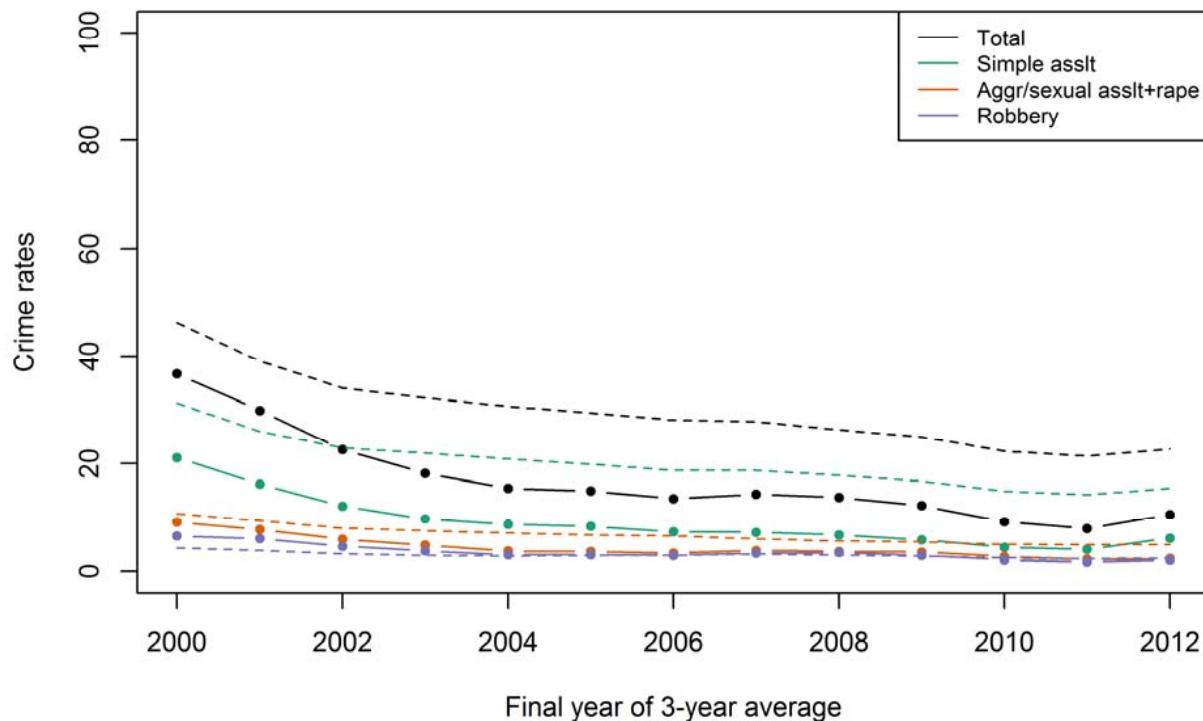
NCVS(SAE) violent crimes in Miami-Dade County , Florida compared to national rates by type of crime

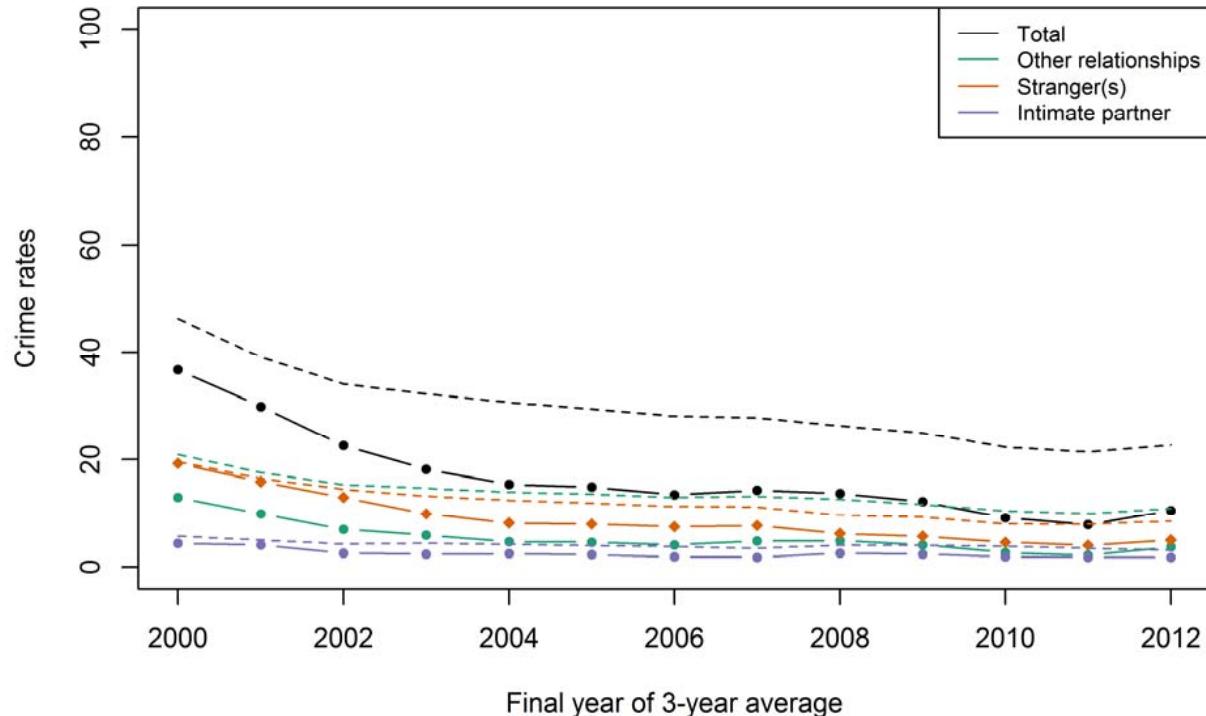




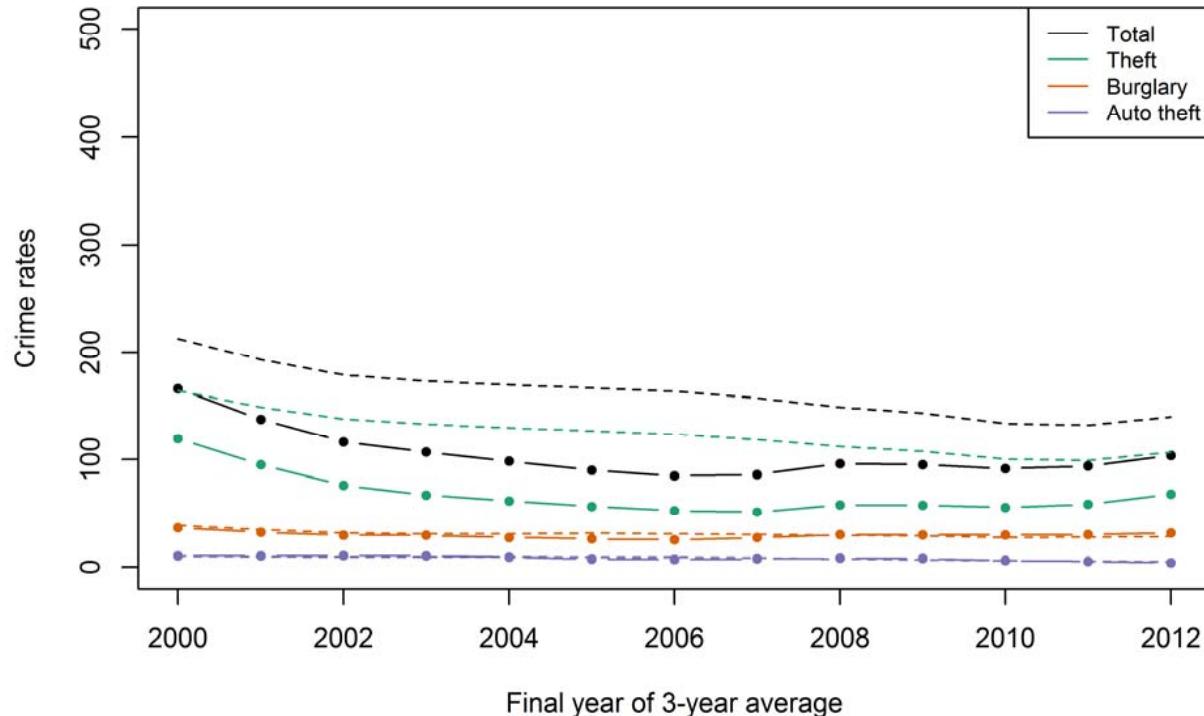
NCVS(SAE) property crimes in Miami-Dade County , Florida compared to national rates

Orange County, FL

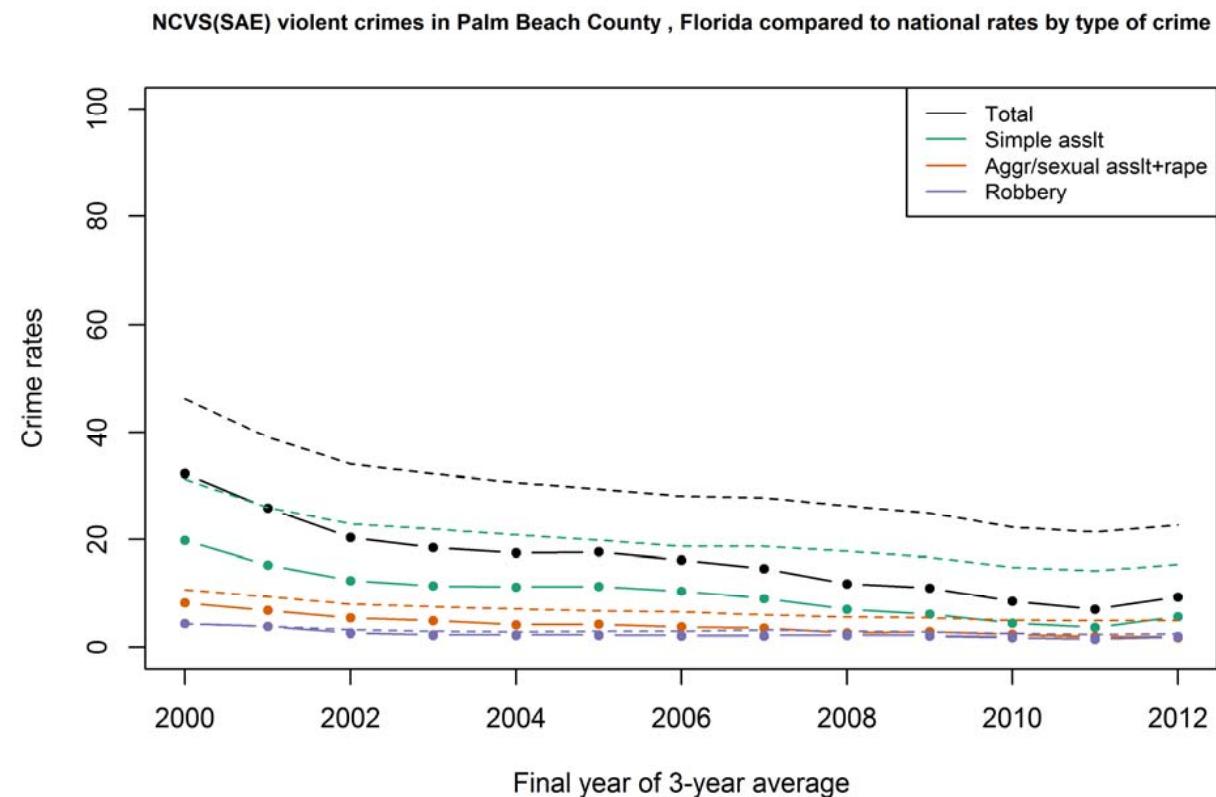
NCVS(SAE) violent crimes in Orange County , Florida compared to national rates by type of crime

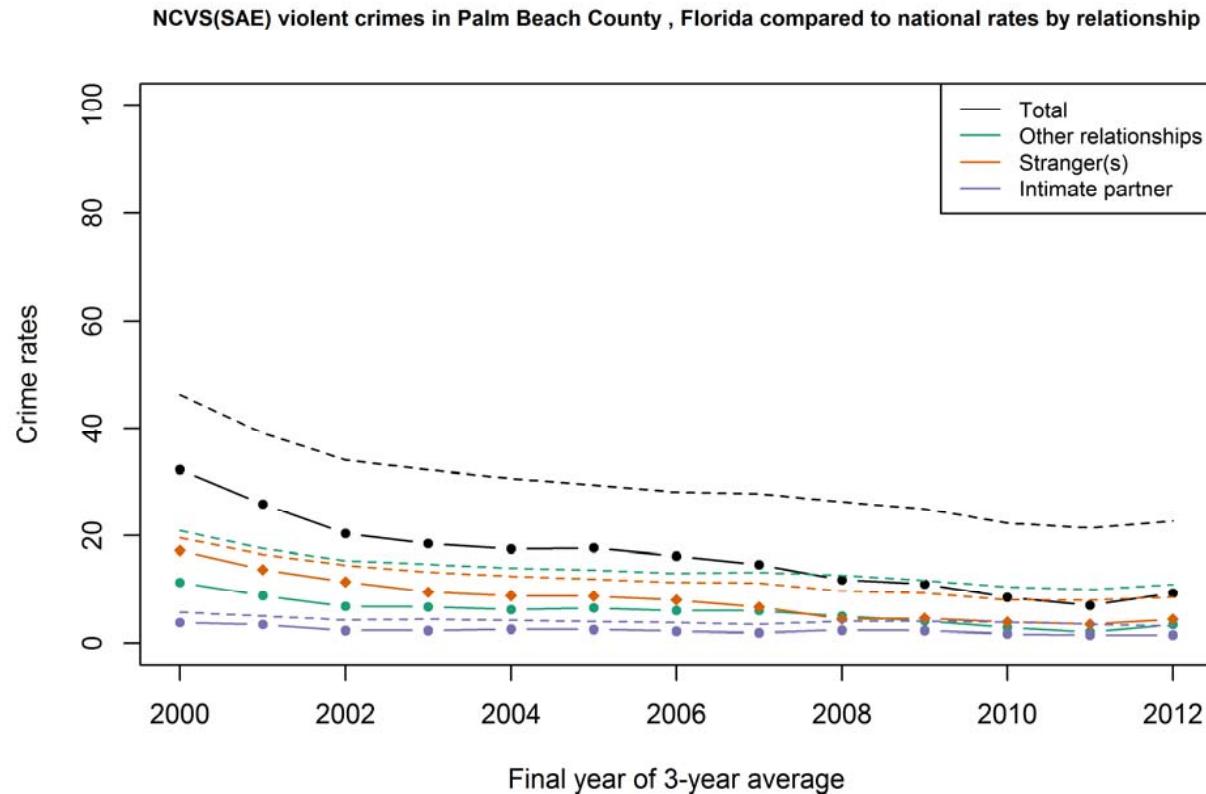
NCVS(SAE) violent crimes in Orange County , Florida compared to national rates by relationship

NCVS(SAE) property crimes in Orange County , Florida compared to national rates

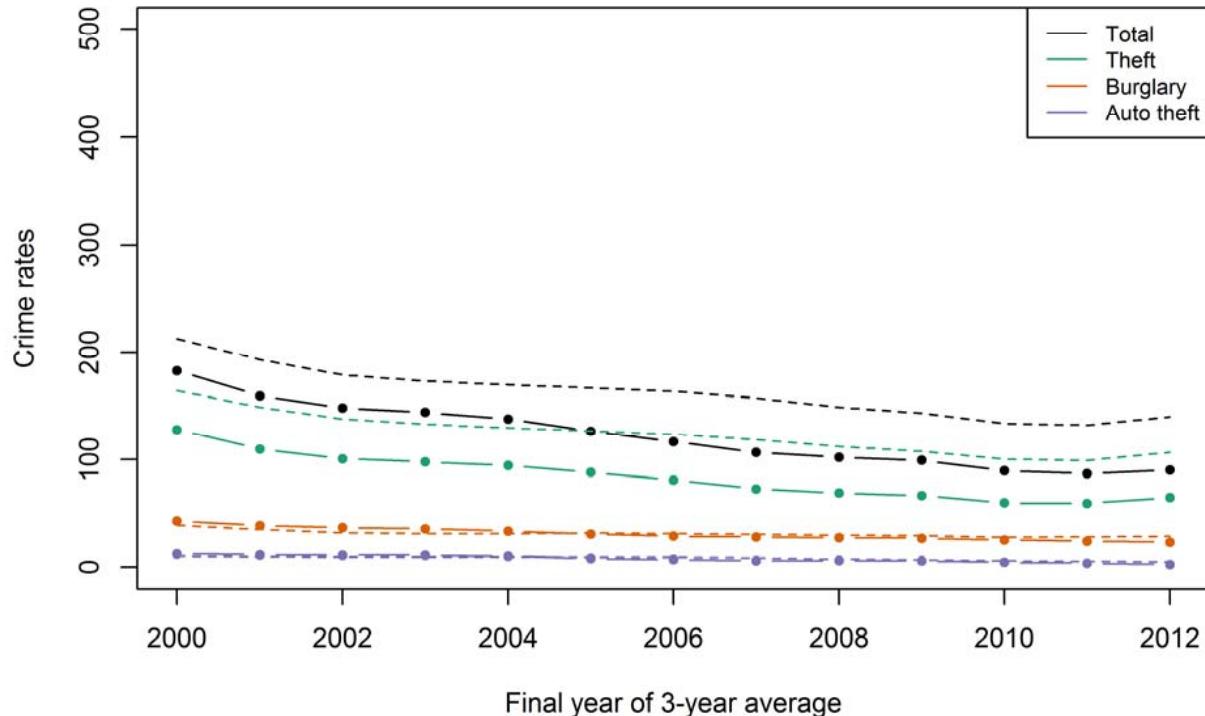


Palm Beach County, FL



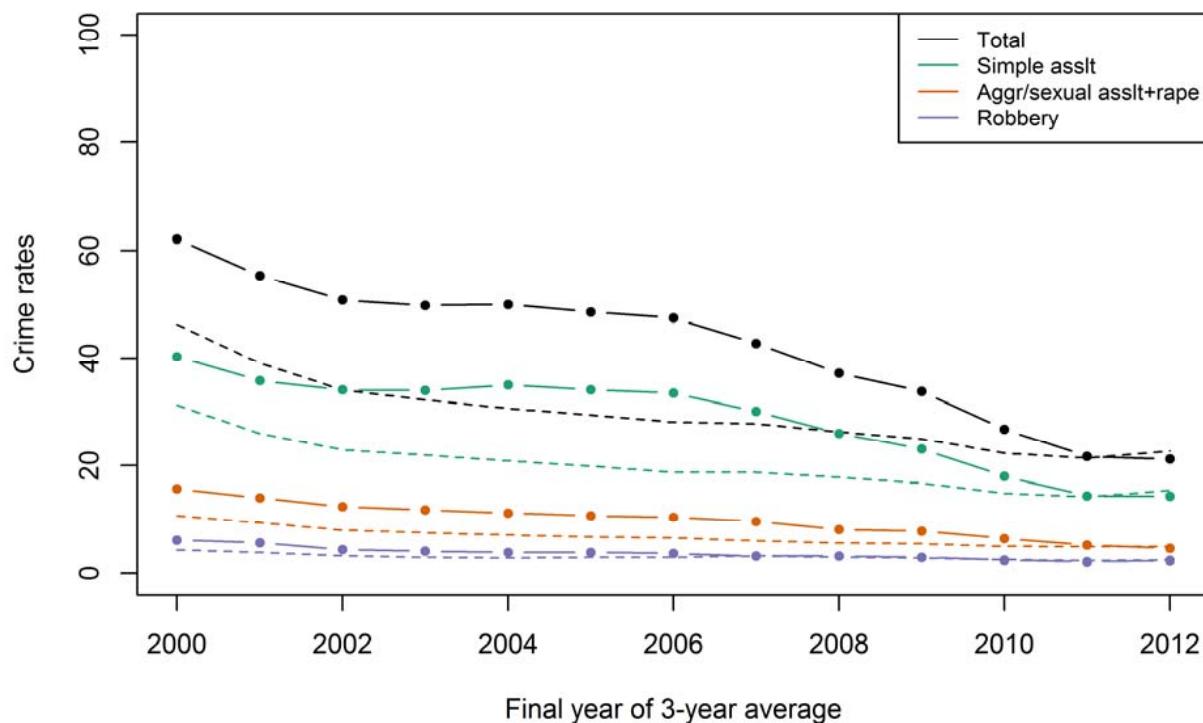


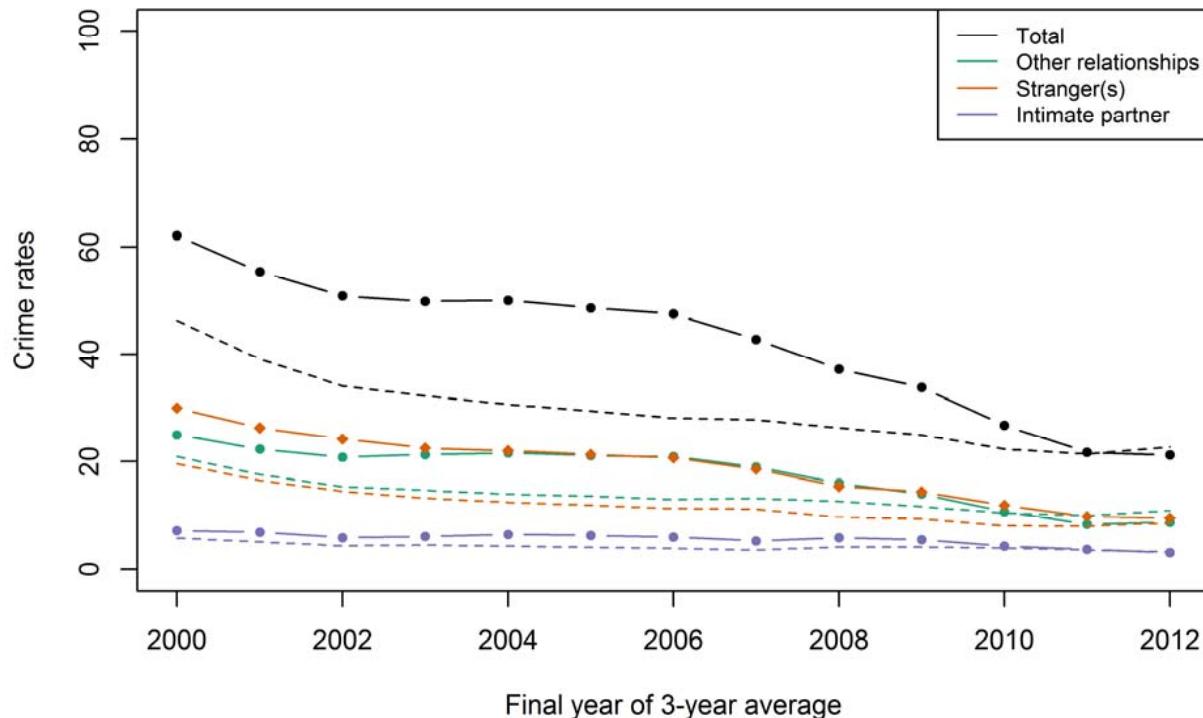
NCVS(SAE) property crimes in Palm Beach County , Florida compared to national rates

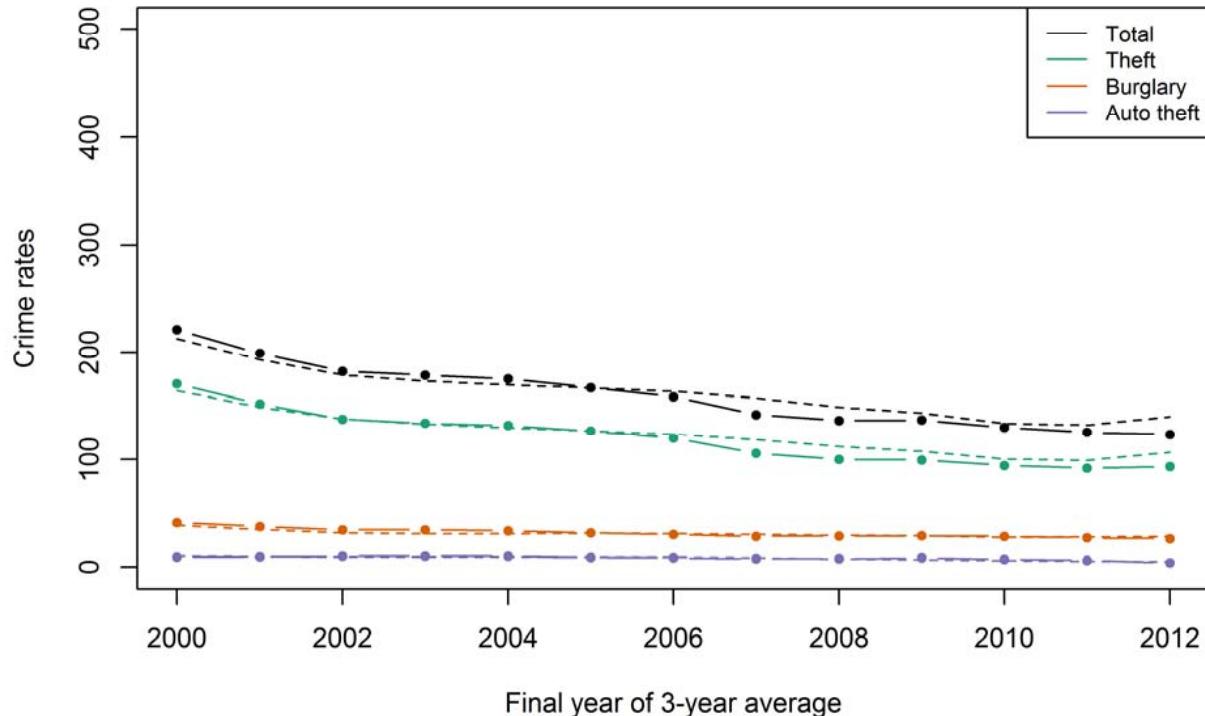


Pinellas County, FL

NCVS(SAE) violent crimes in Pinellas County , Florida compared to national rates by type of crime

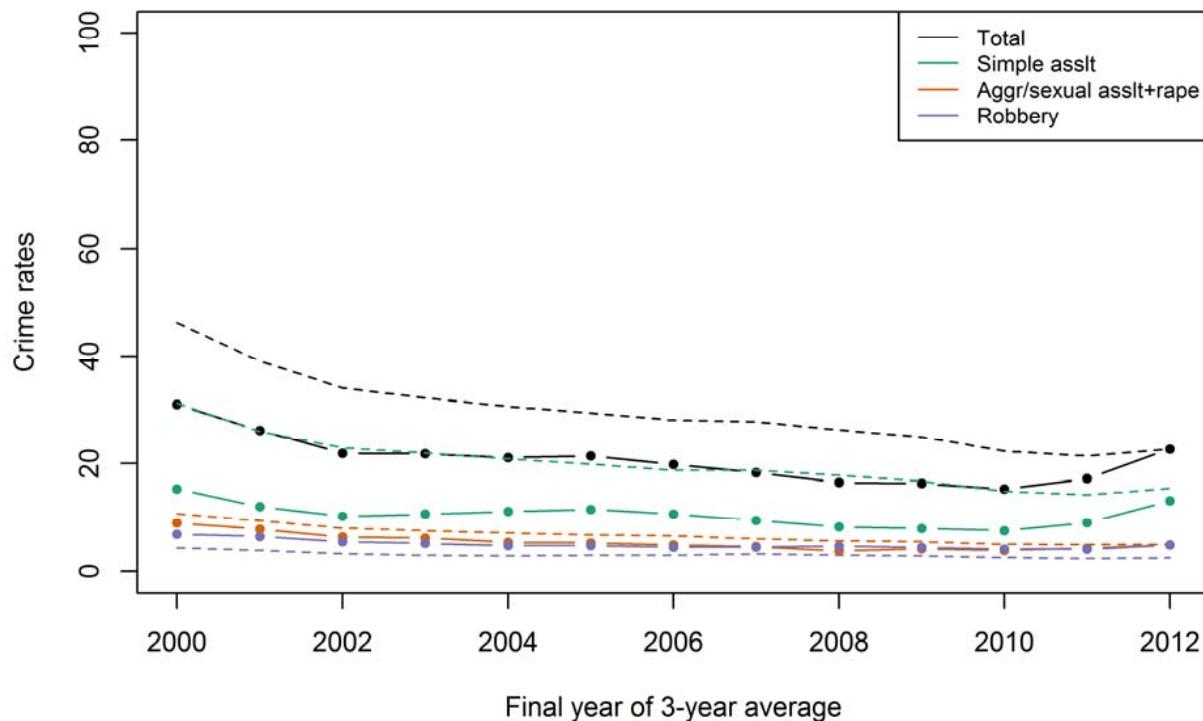


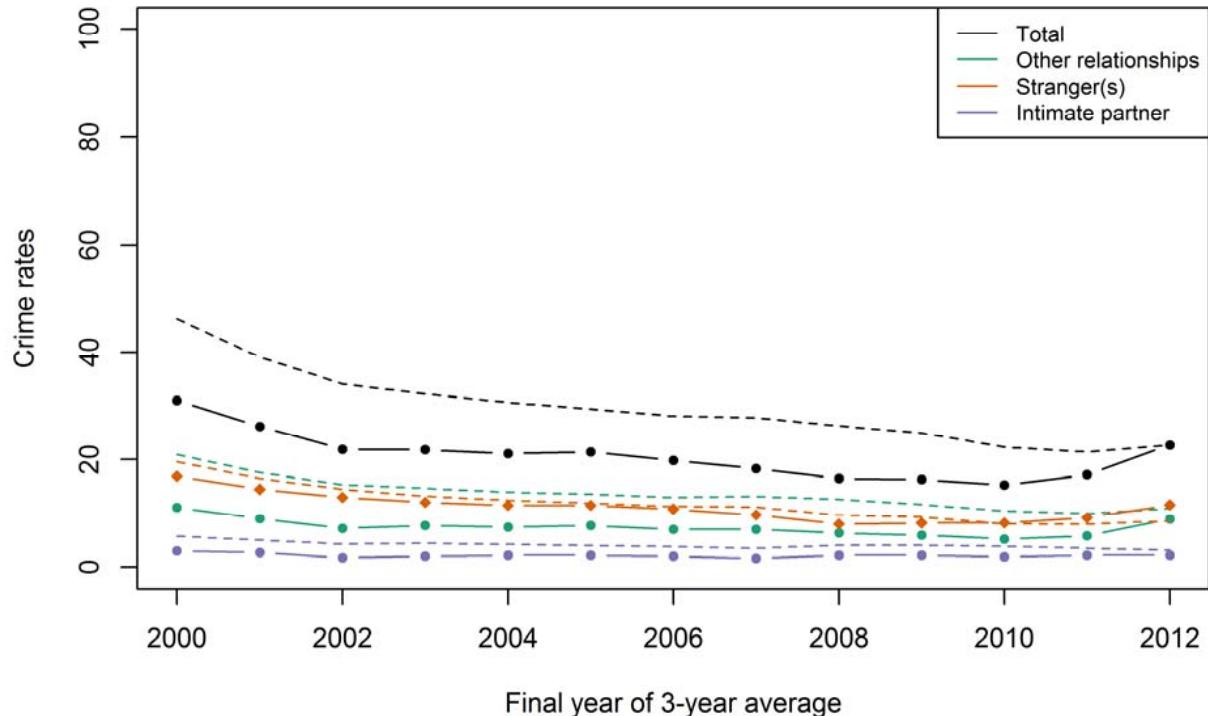
NCVS(SAE) violent crimes in Pinellas County , Florida compared to national rates by relationship

NCVS(SAE) property crimes in Pinellas County , Florida compared to national rates

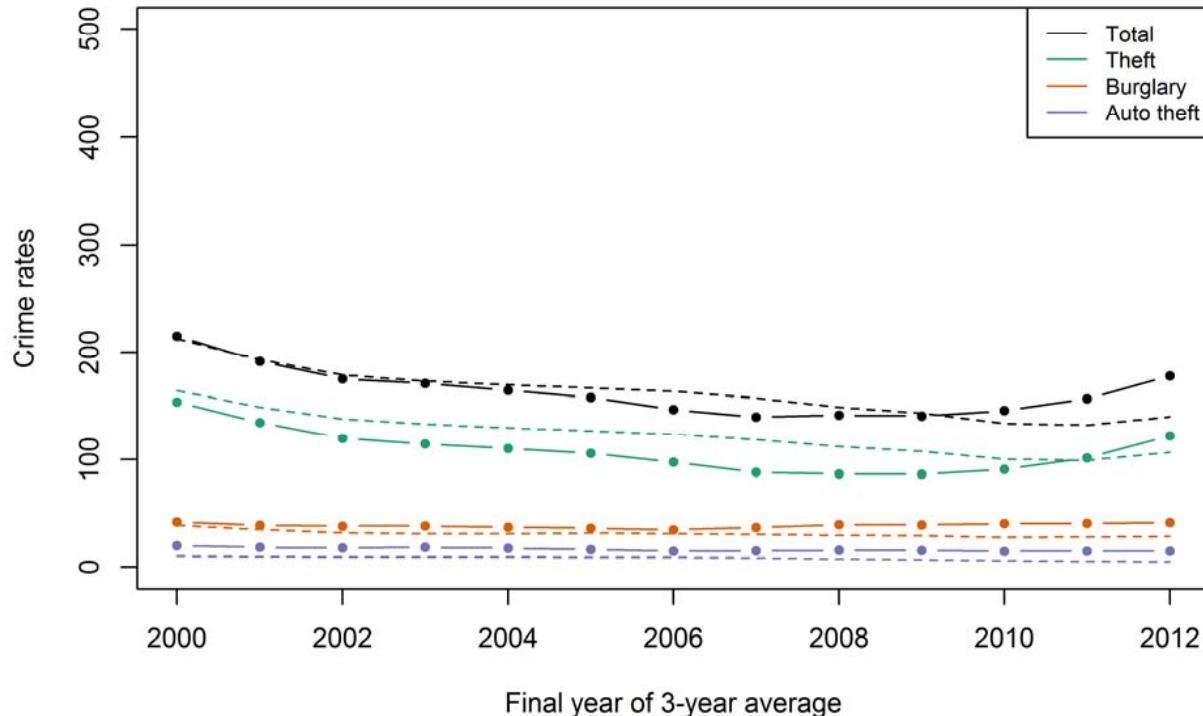
Fulton County, GA

NCVS(SAE) violent crimes in Fulton County , Georgia compared to national rates by type of crime



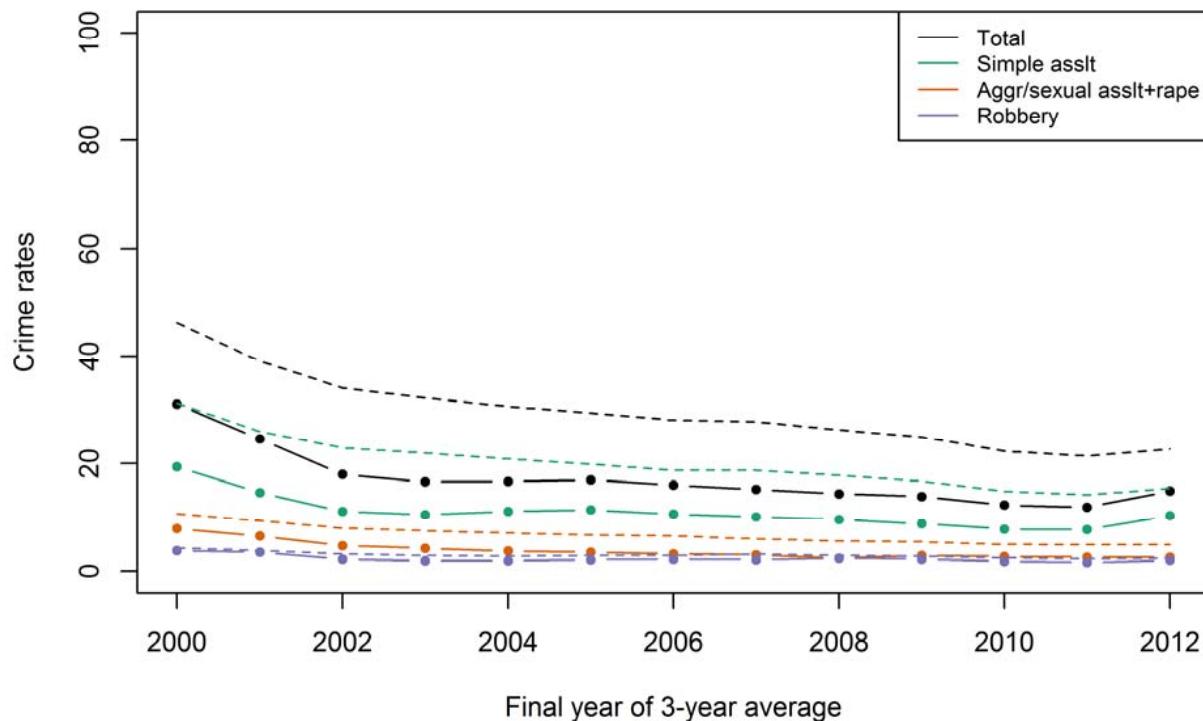
NCVS(SAE) violent crimes in Fulton County , Georgia compared to national rates by relationship

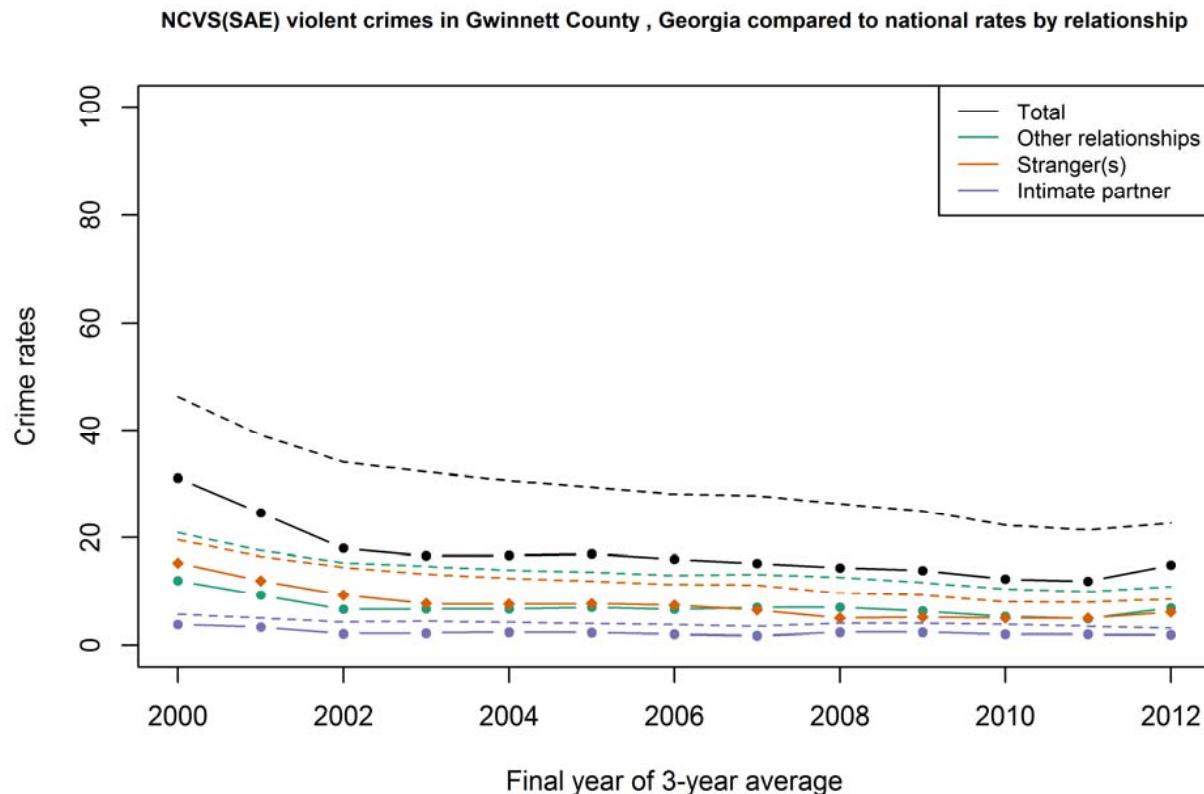
NCVS(SAE) property crimes in Fulton County , Georgia compared to national rates



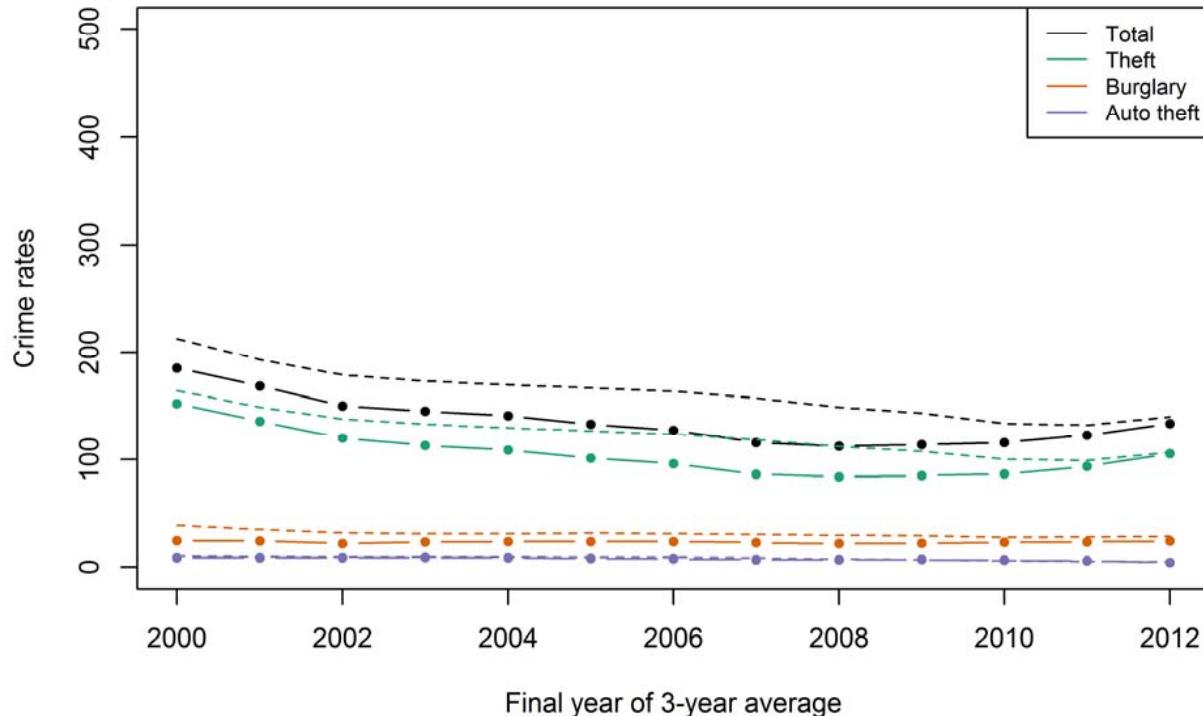
Gwinnett County, GA

NCVS(SAE) violent crimes in Gwinnett County , Georgia compared to national rates by type of crime



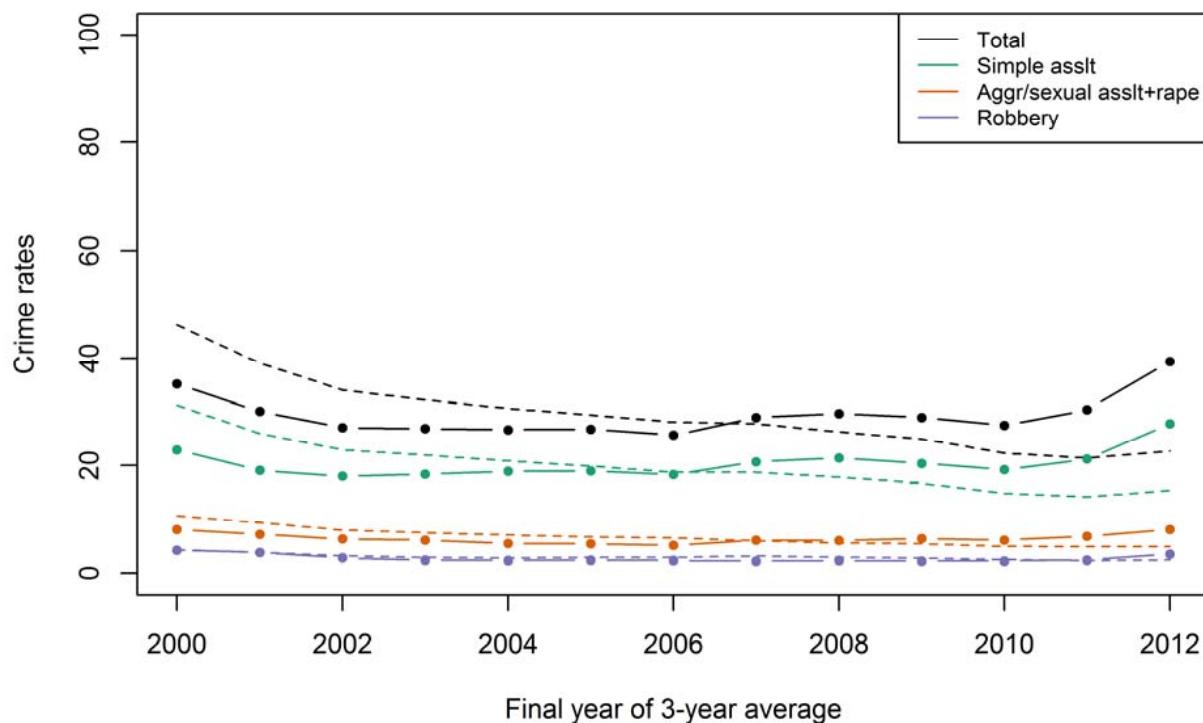


NCVS(SAE) property crimes in Gwinnett County , Georgia compared to national rates

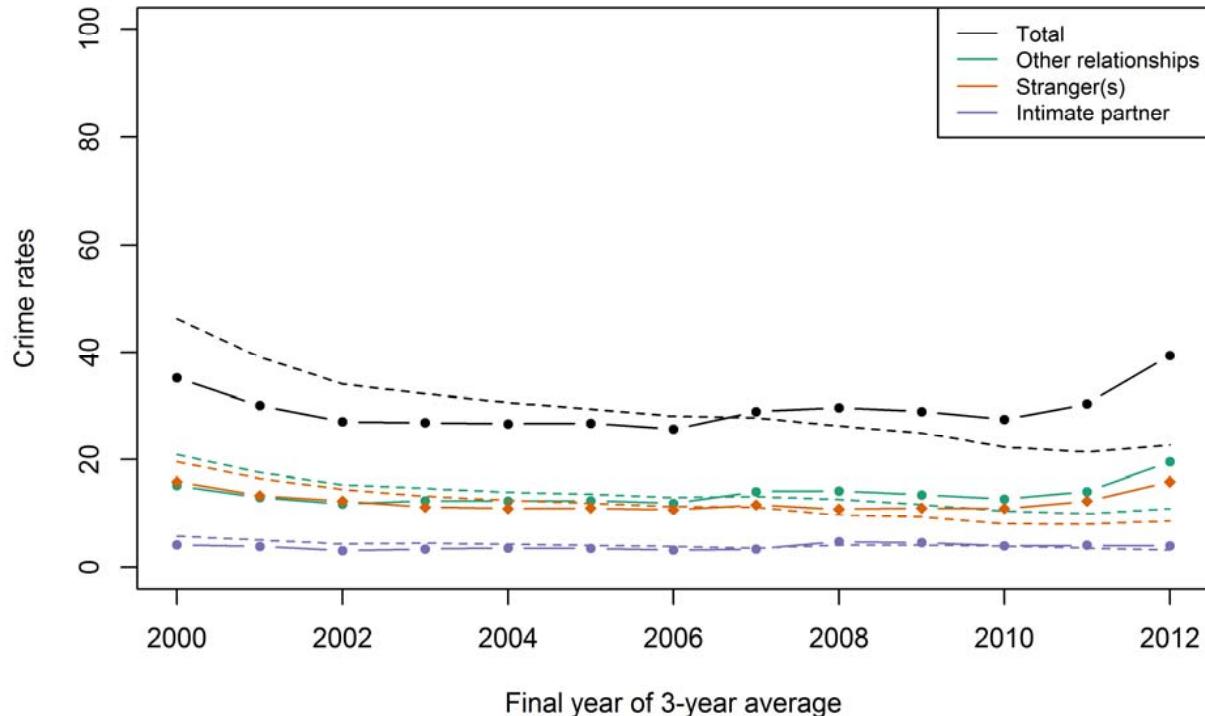


Honolulu County, HI

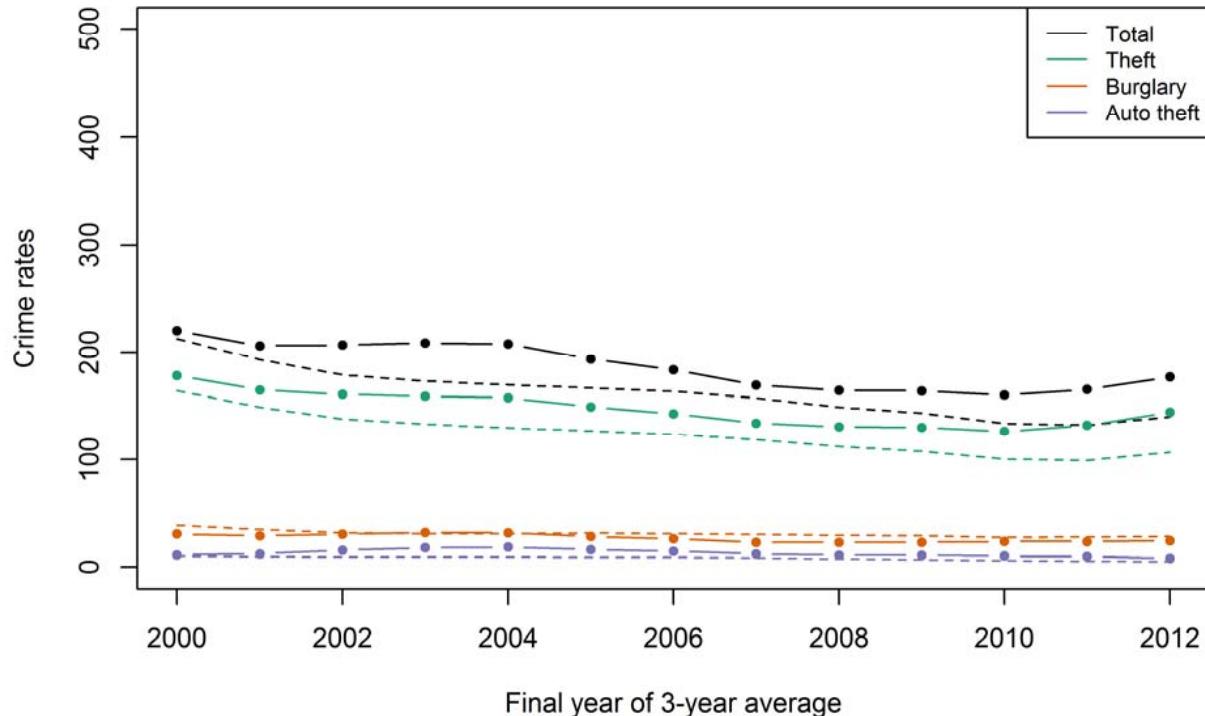
NCVS(SAE) violent crimes in Honolulu County , Hawaii compared to national rates by type of crime



NCVS(SAE) violent crimes in Honolulu County , Hawaii compared to national rates by relationship

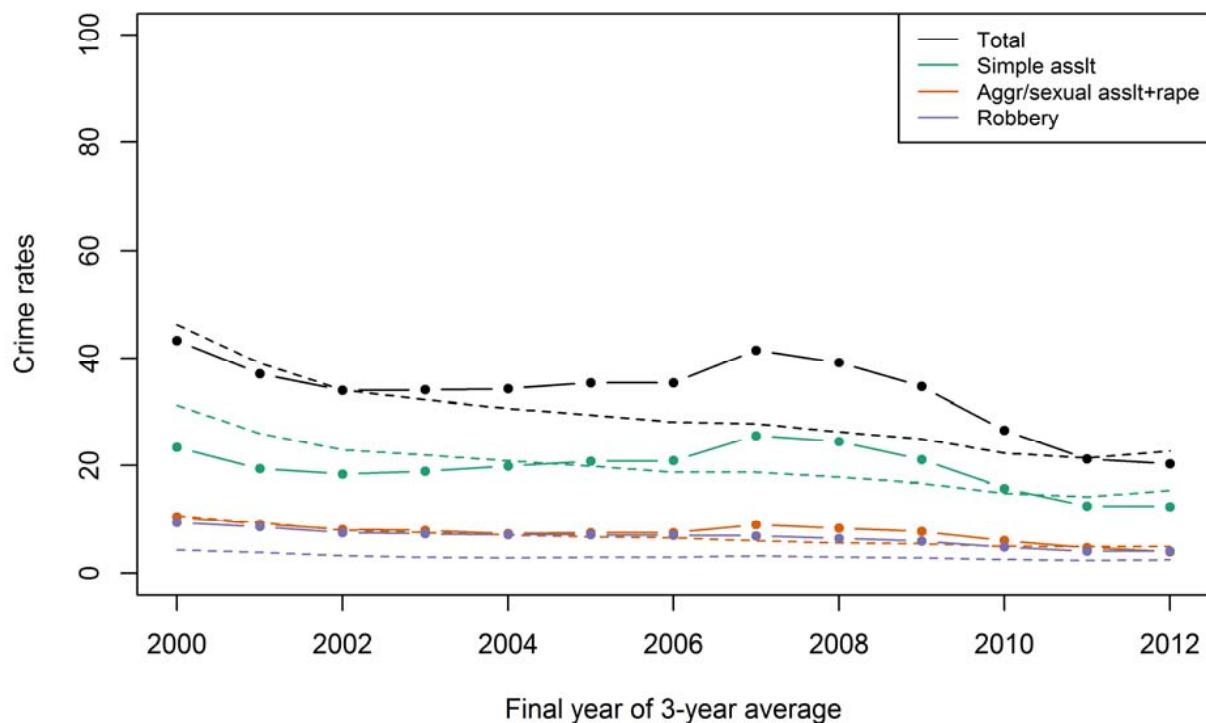


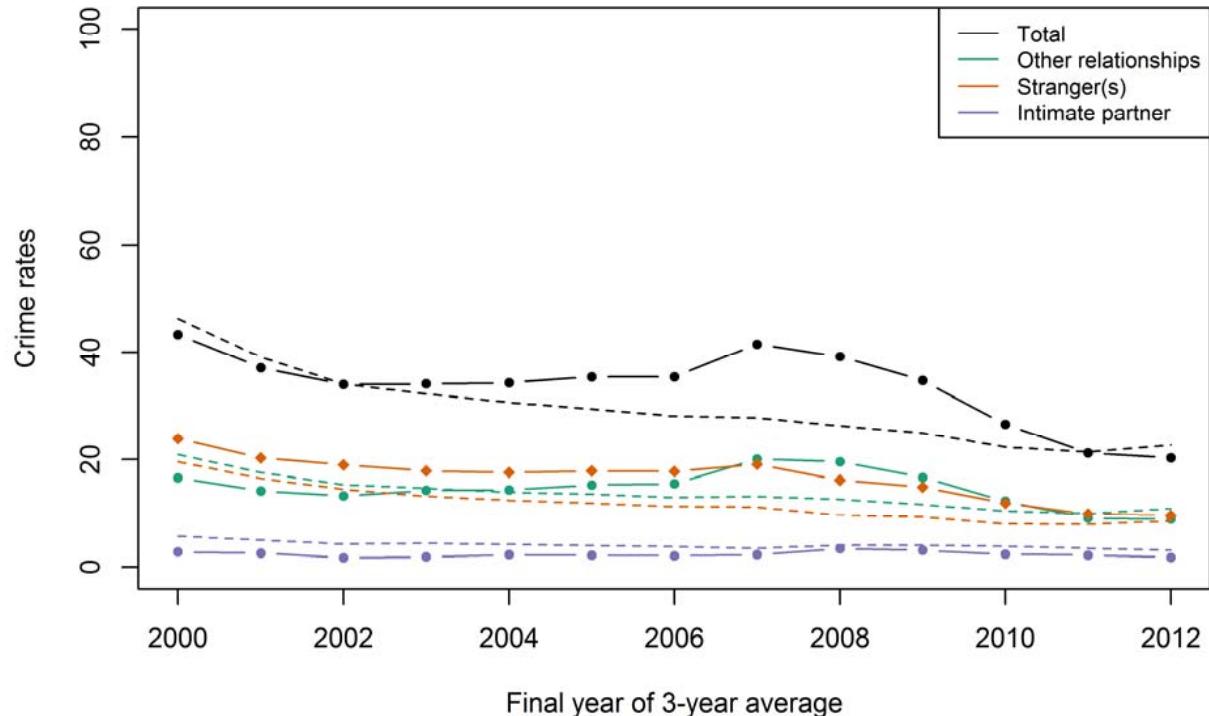
NCVS(SAE) property crimes in Honolulu County , Hawaii compared to national rates



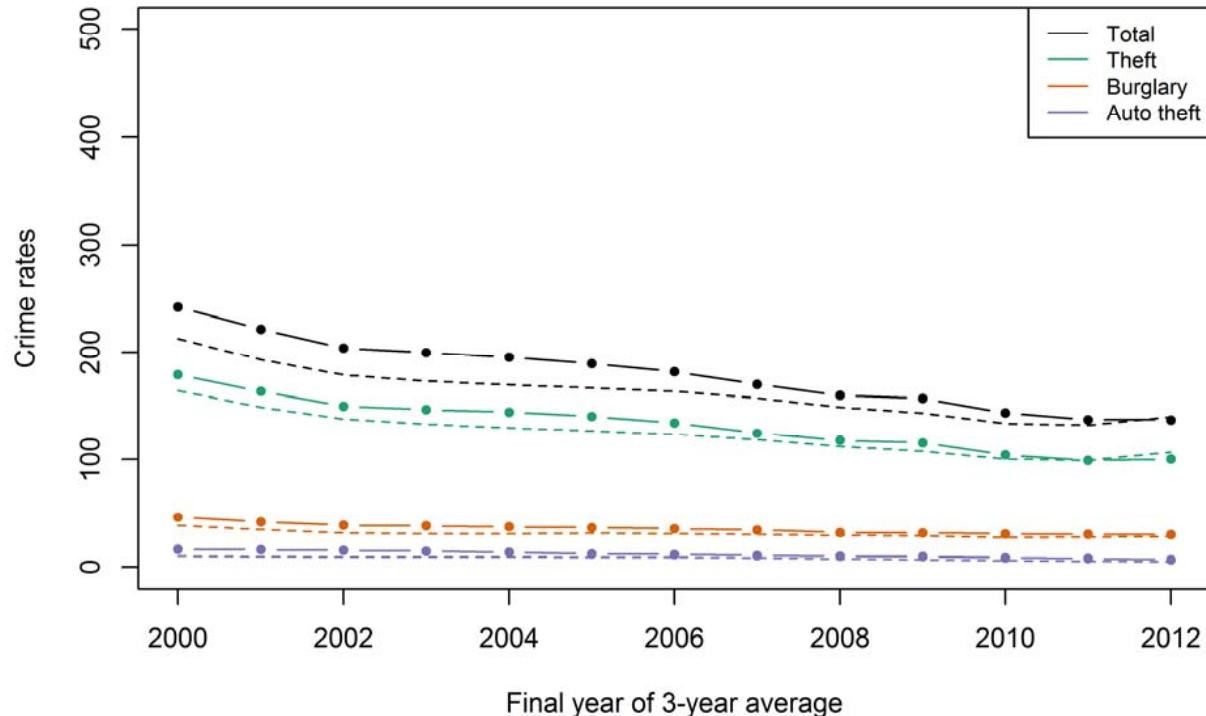
Cook County, IL

NCVS(SAE) violent crimes in Cook County , Illinois compared to national rates by type of crime



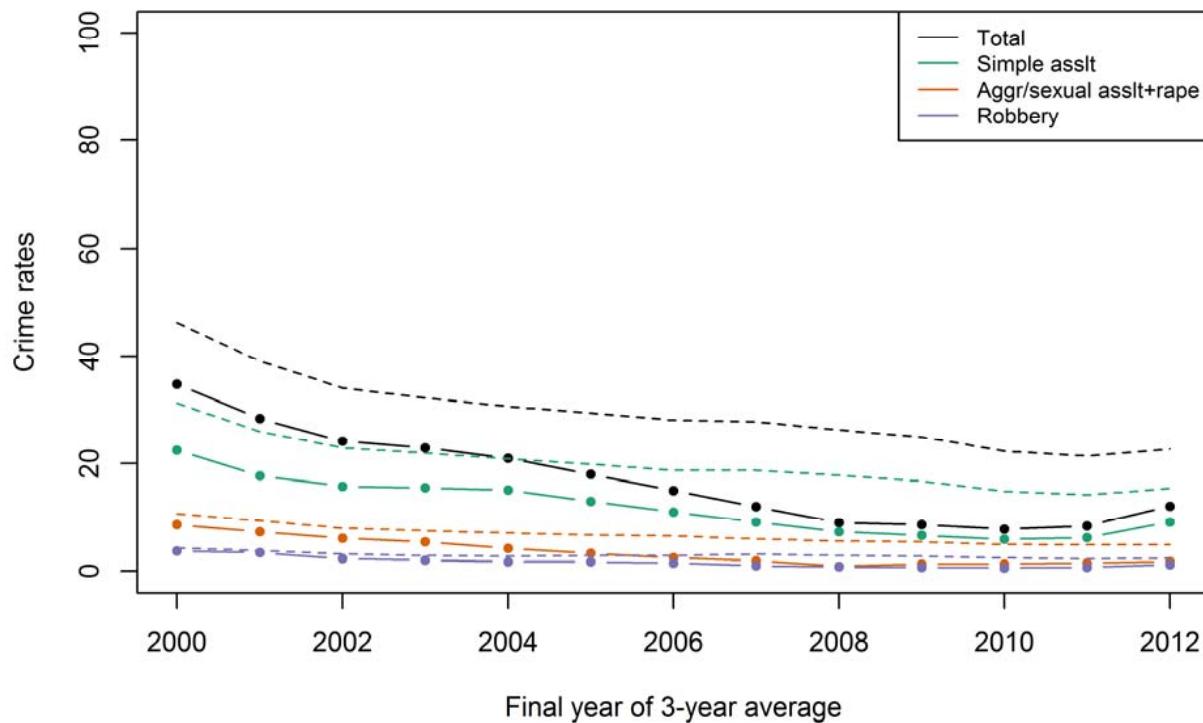
NCVS(SAE) violent crimes in Cook County , Illinois compared to national rates by relationship

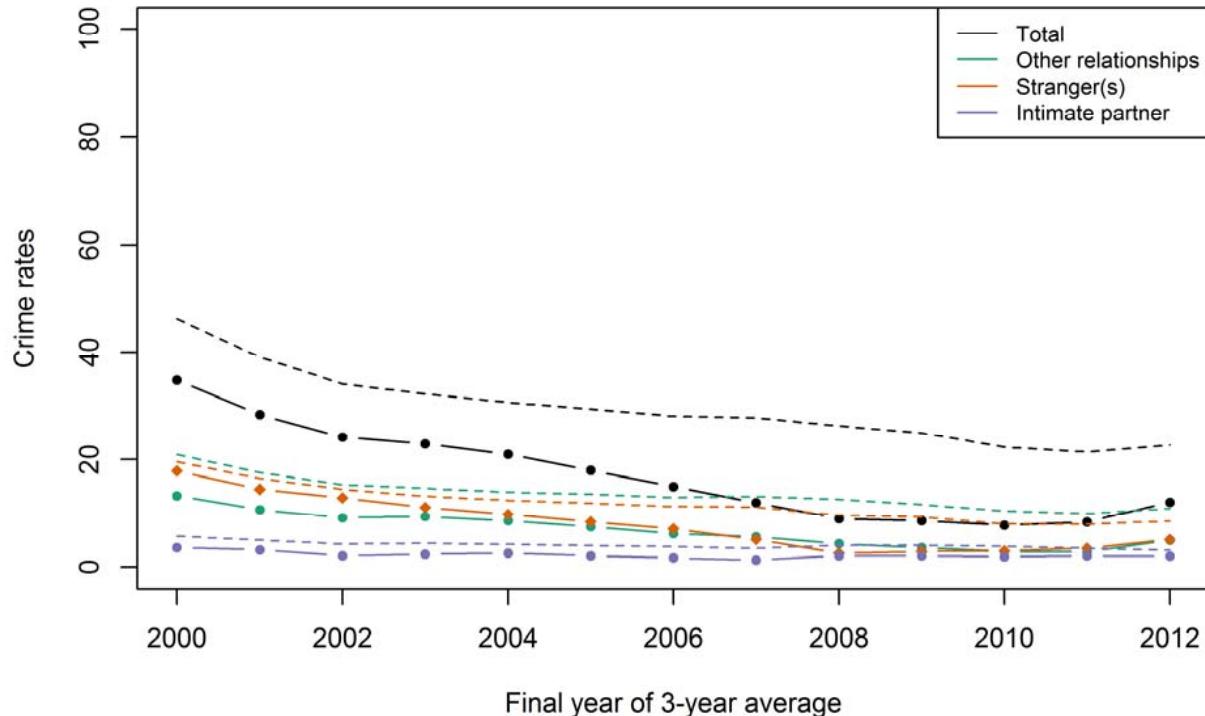
NCVS(SAE) property crimes in Cook County , Illinois compared to national rates

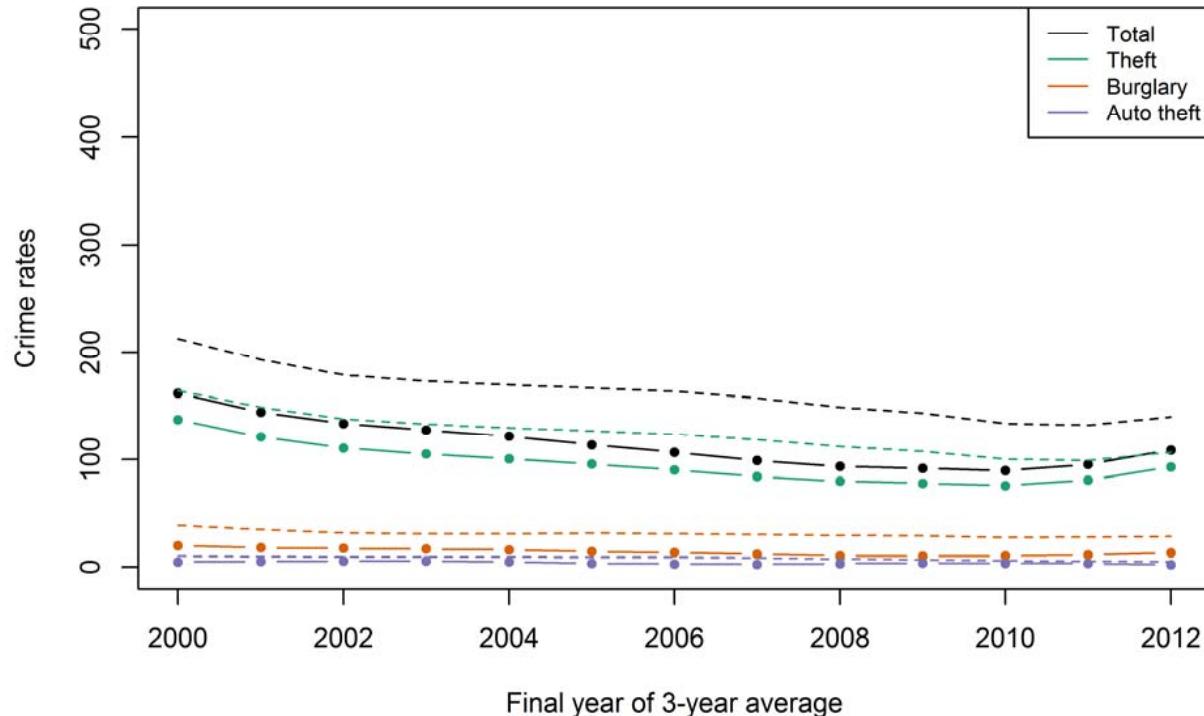


DuPage County, IL

NCVS(SAE) violent crimes in DuPage County , Illinois compared to national rates by type of crime

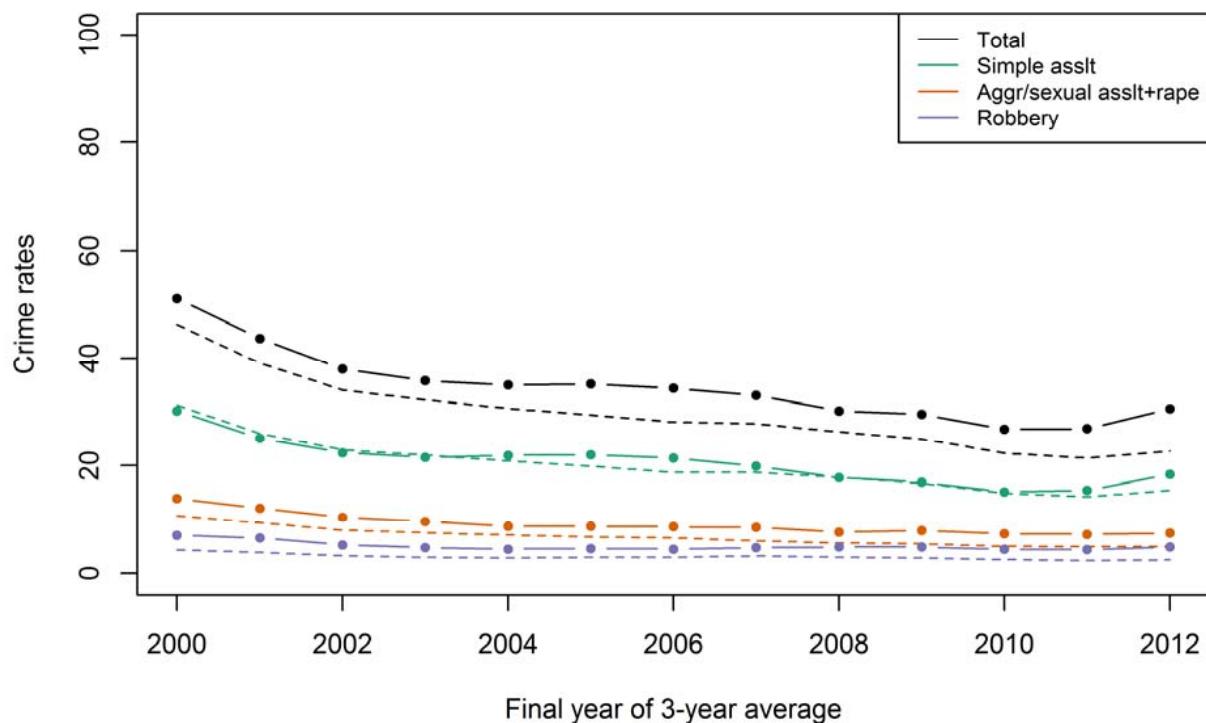


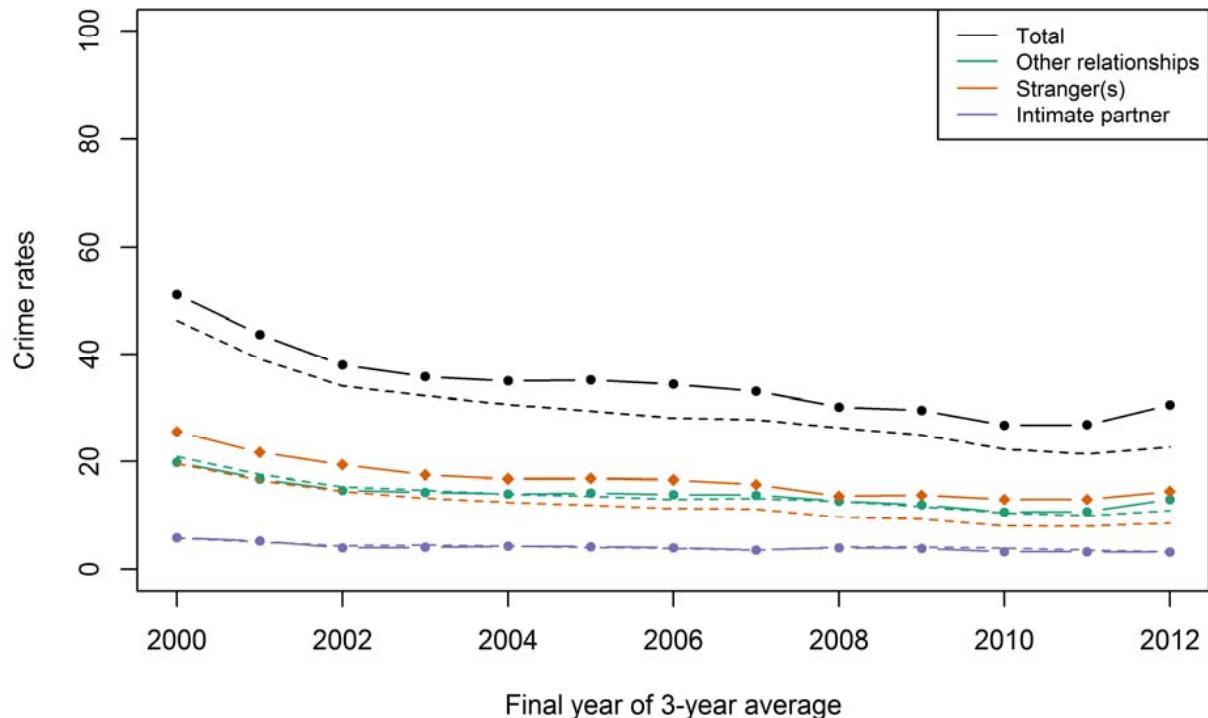
NCVS(SAE) violent crimes in DuPage County , Illinois compared to national rates by relationship

NCVS(SAE) property crimes in DuPage County , Illinois compared to national rates

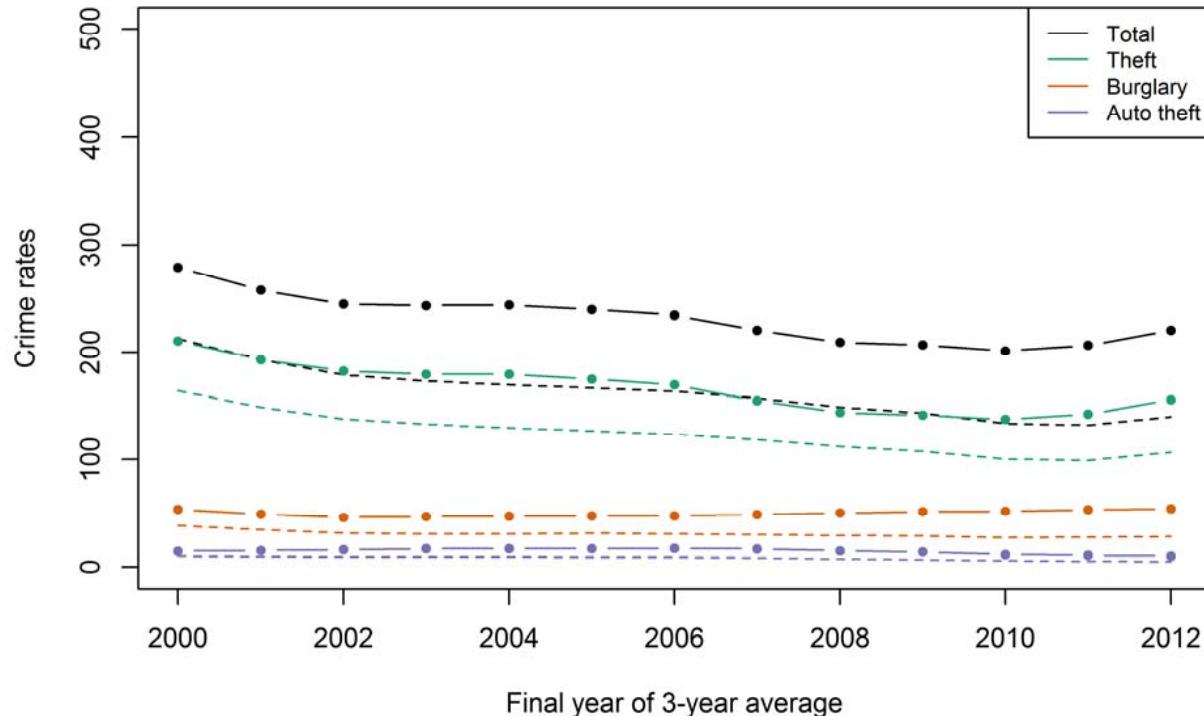
Marion County, IN

NCVS(SAE) violent crimes in Marion County , Indiana compared to national rates by type of crime

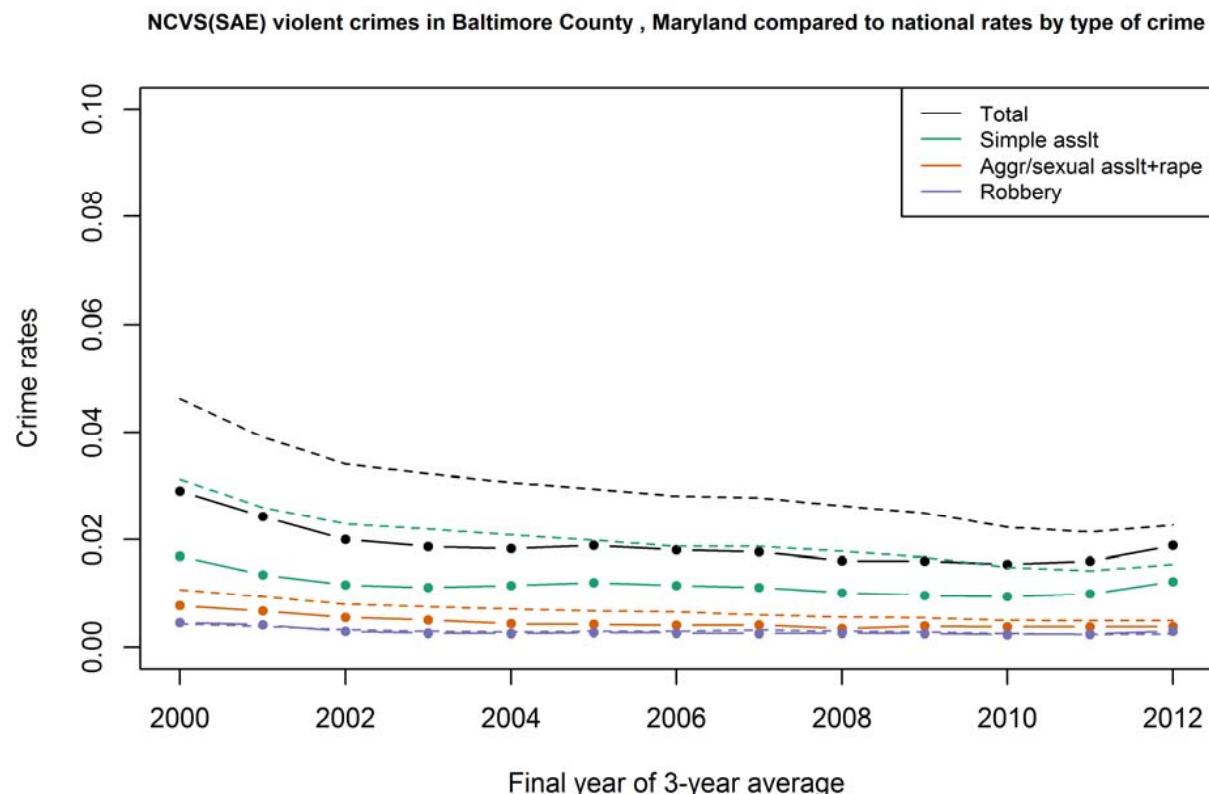


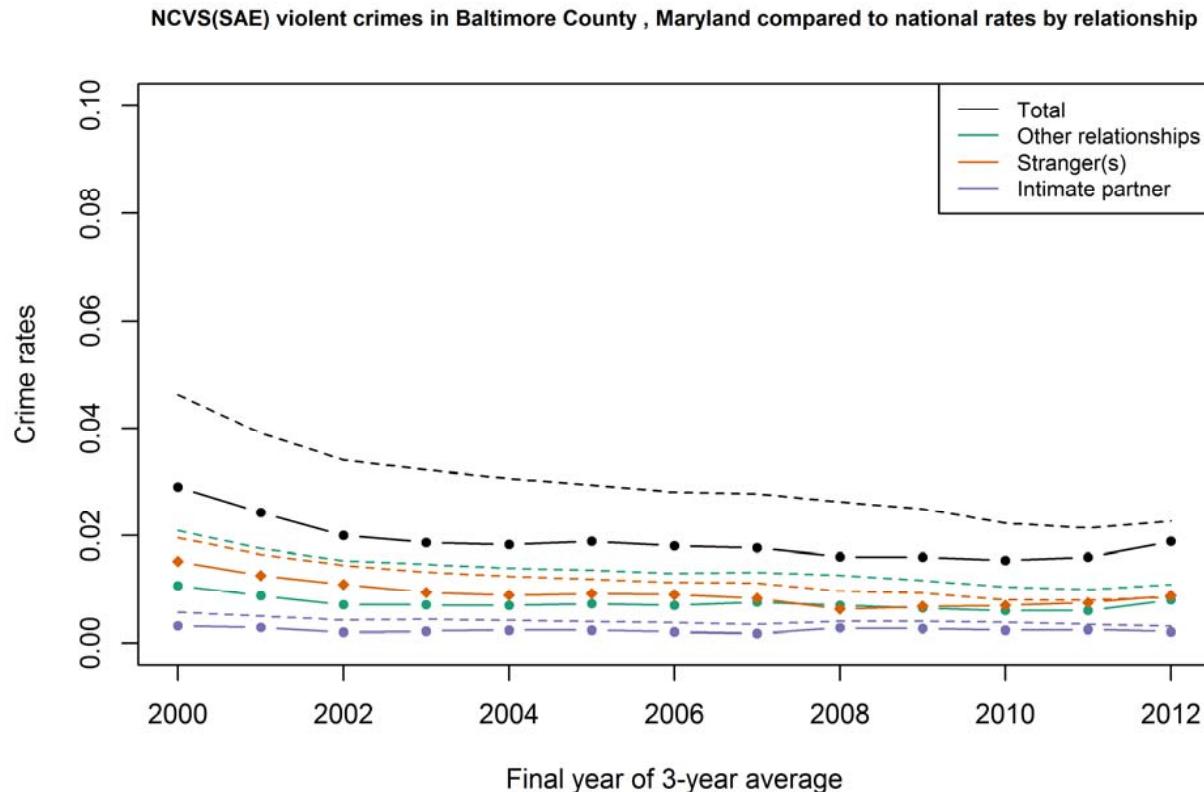
NCVS(SAE) violent crimes in Marion County , Indiana compared to national rates by relationship

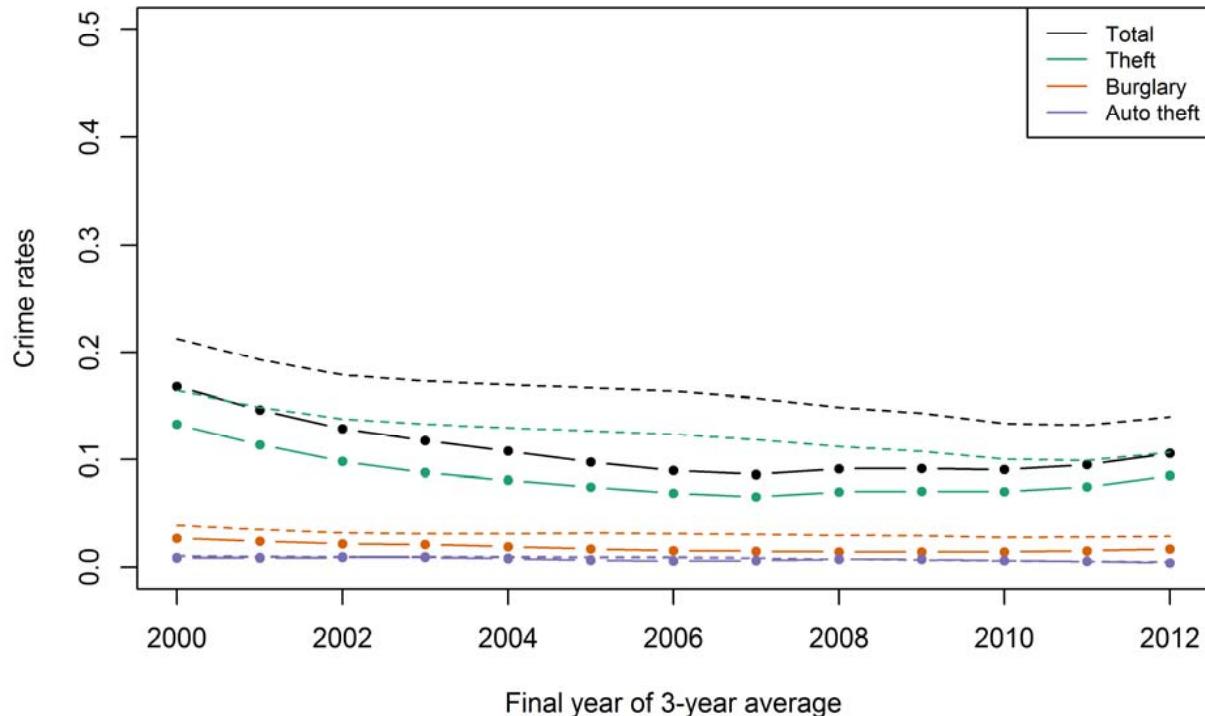
NCVS(SAE) property crimes in Marion County , Indiana compared to national rates



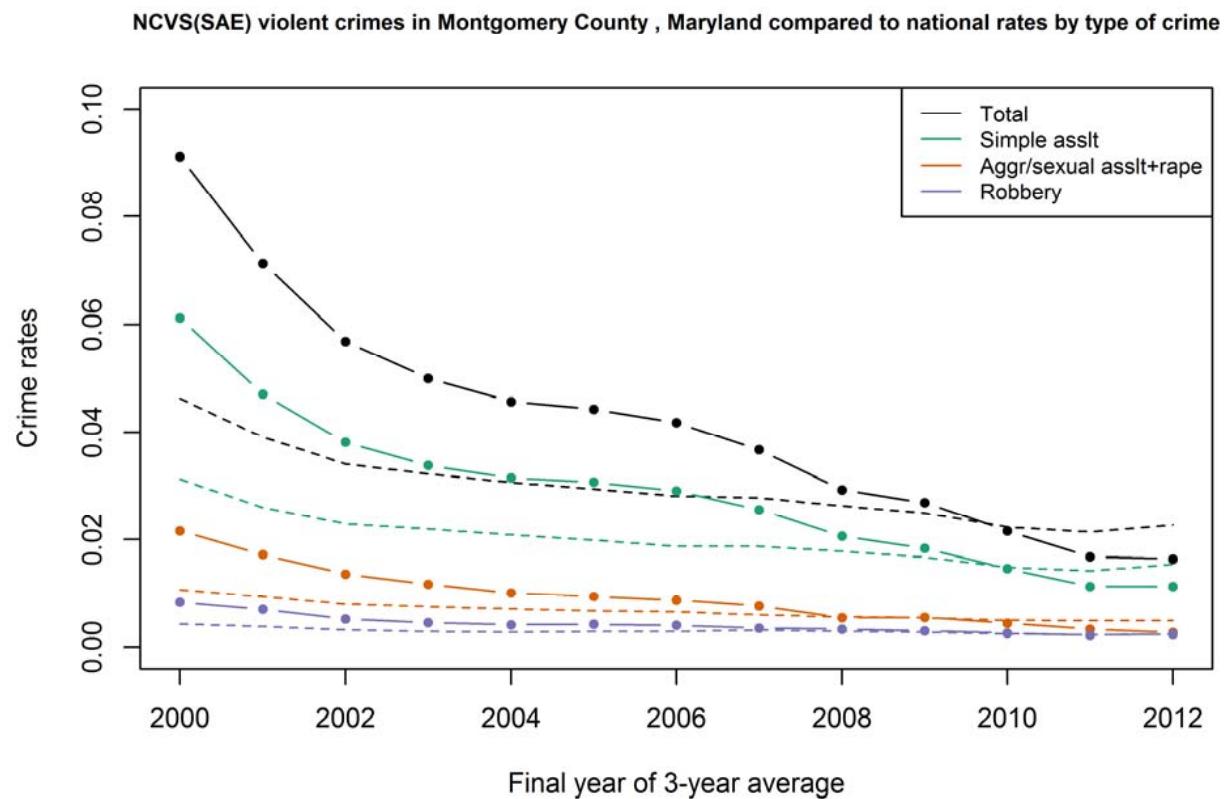
Baltimore County, MD

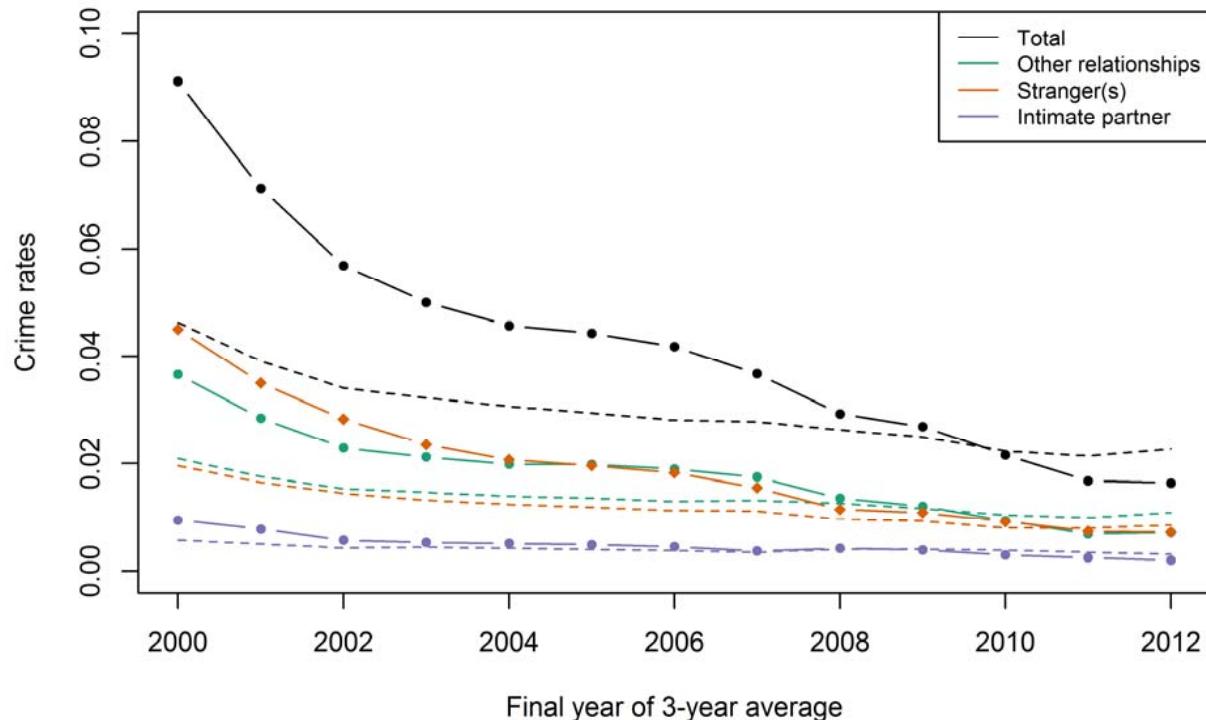




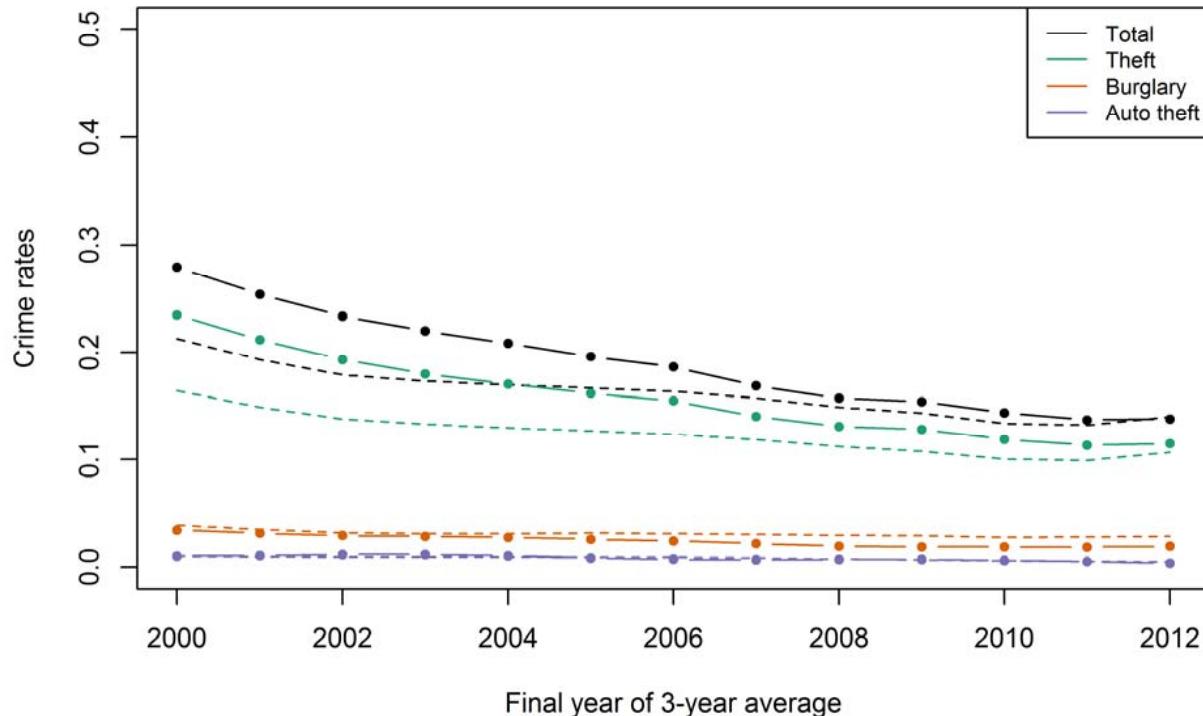
NCVS(SAE) property crimes in Baltimore County , Maryland compared to national rates

Montgomery County, MD



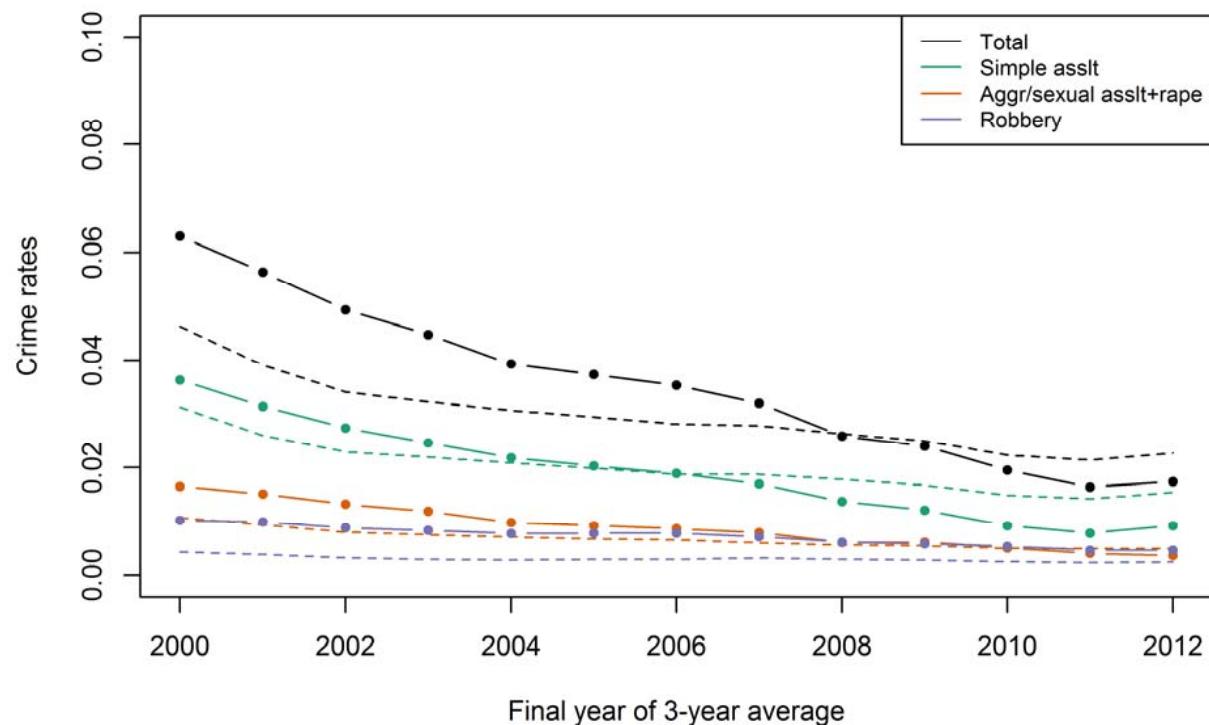
NCVS(SAE) violent crimes in Montgomery County , Maryland compared to national rates by relationship

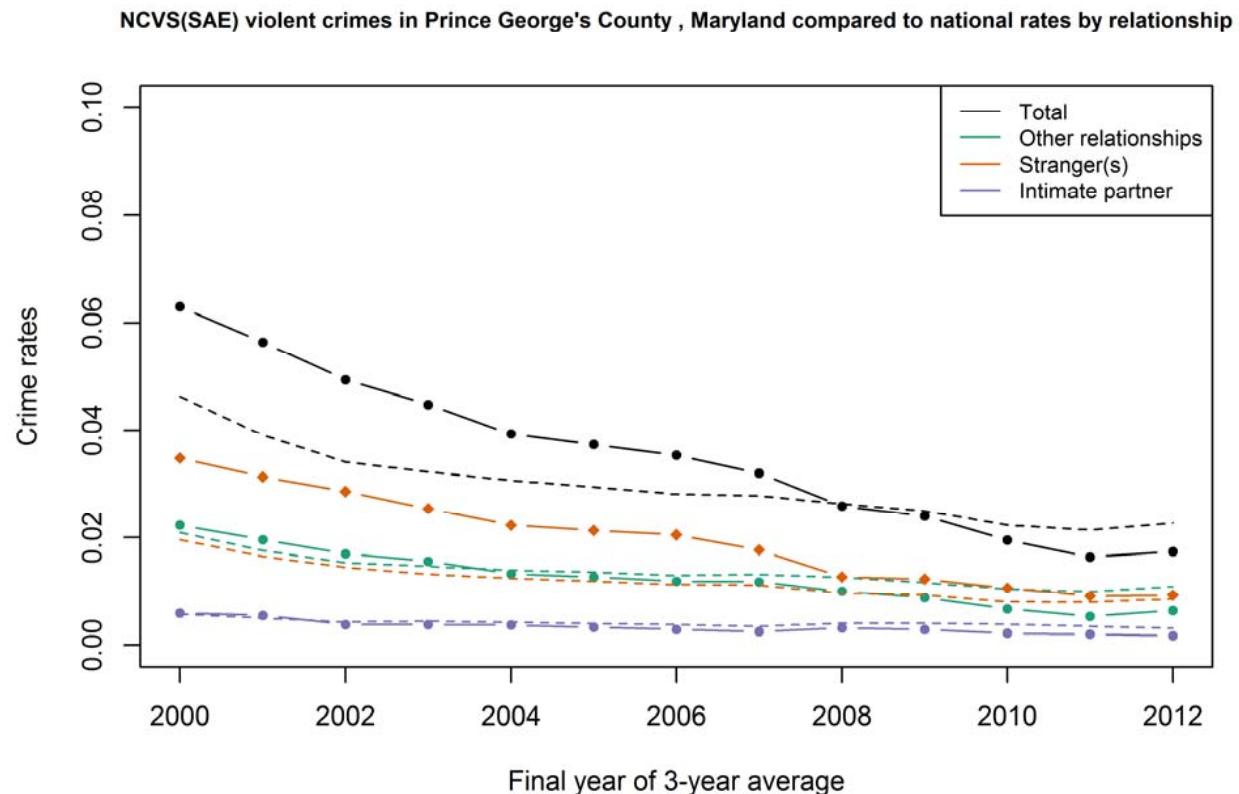
NCVS(SAE) property crimes in Montgomery County , Maryland compared to national rates

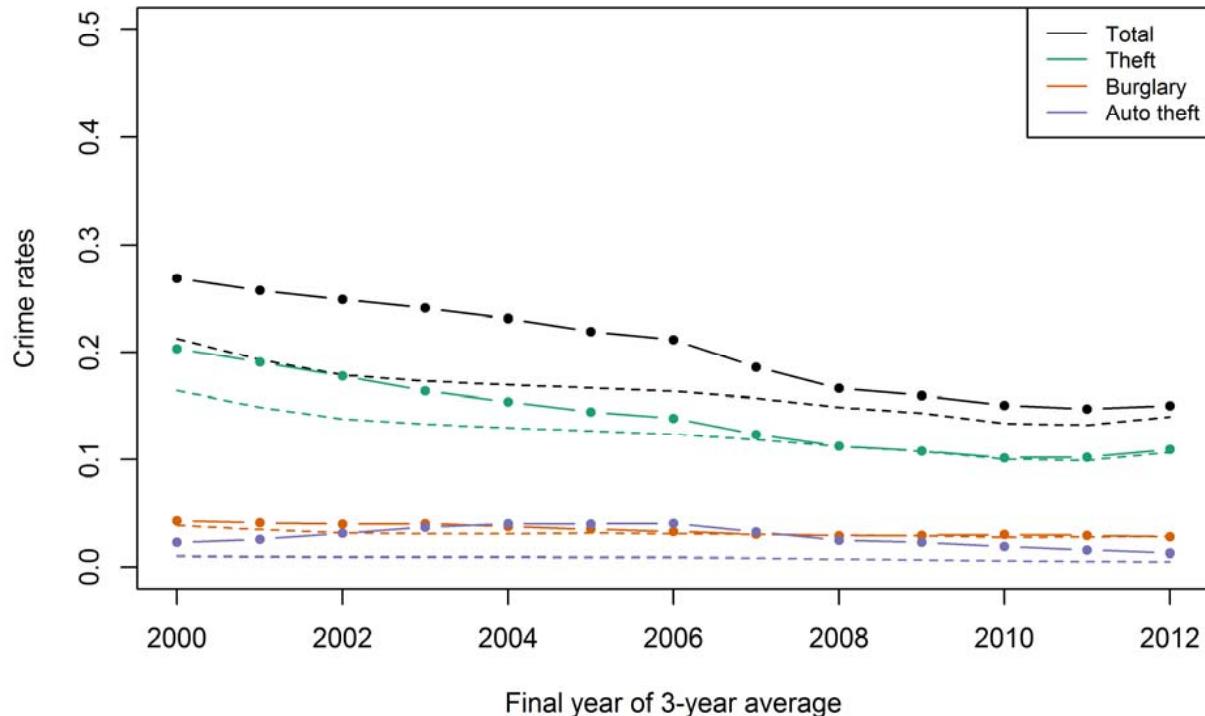


Prince George's County, MD

NCVS(SAE) violent crimes in Prince George's County , Maryland compared to national rates by type of crime

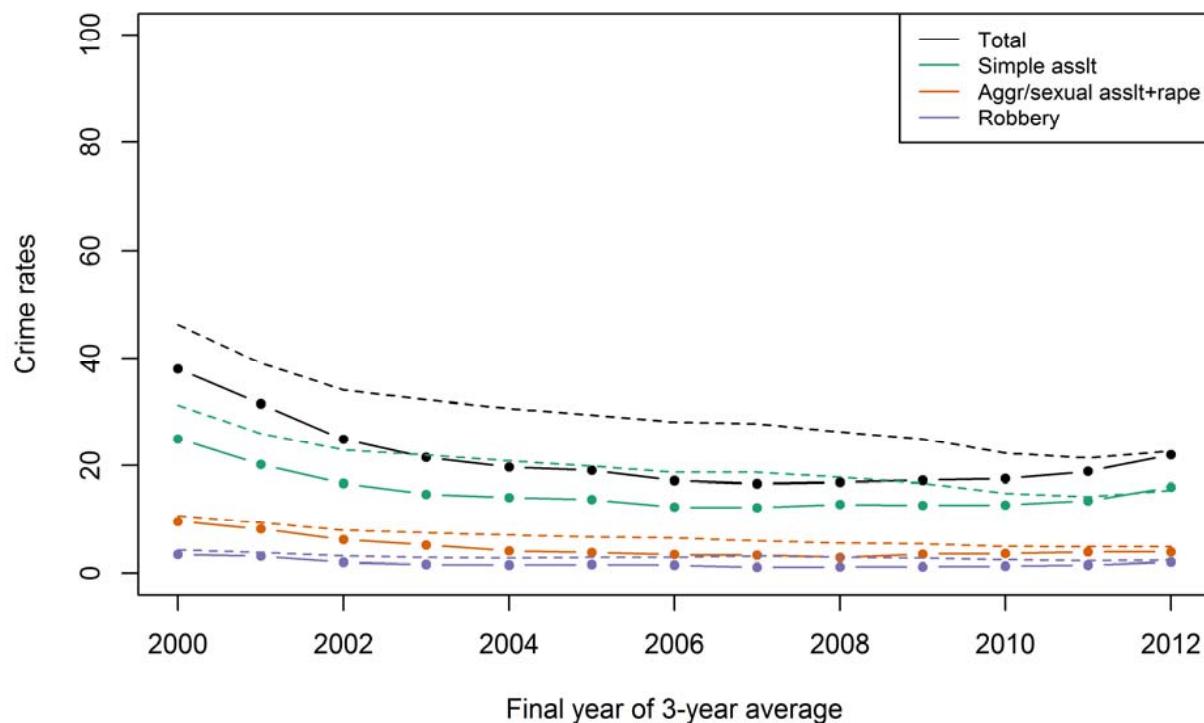


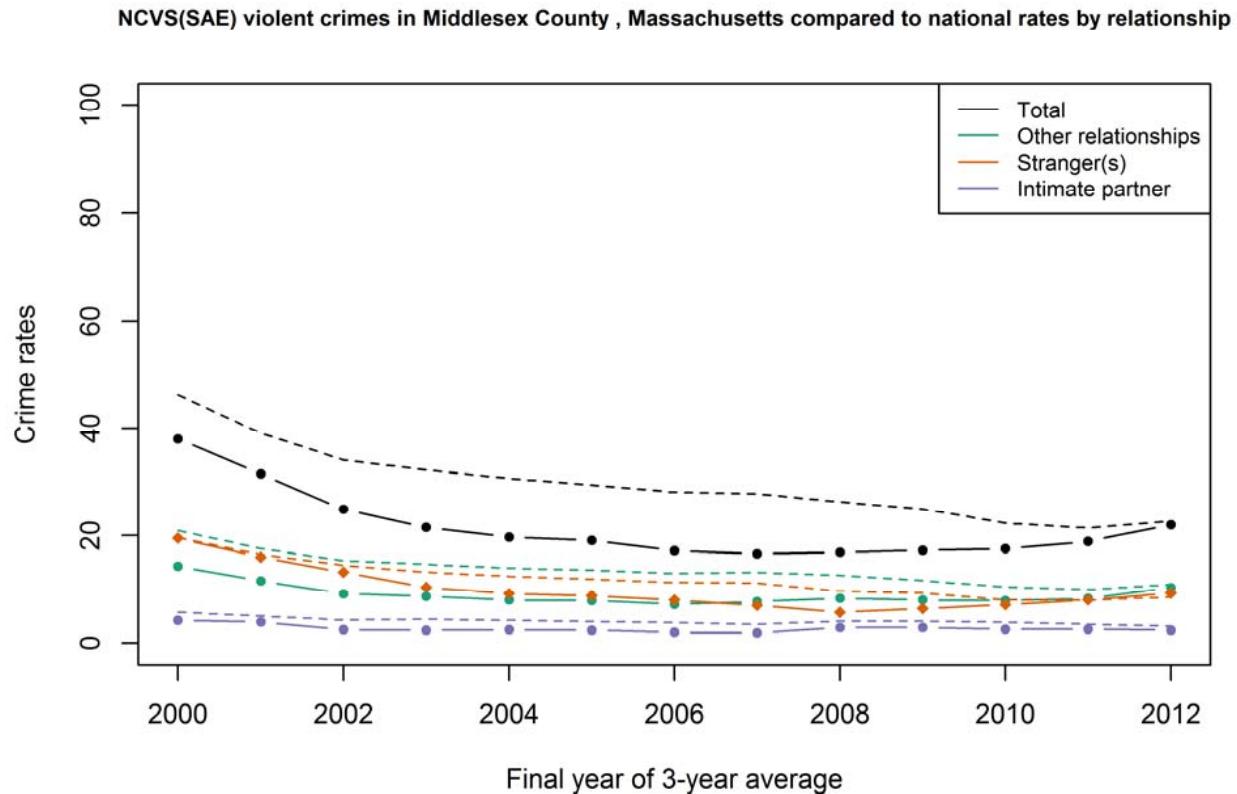


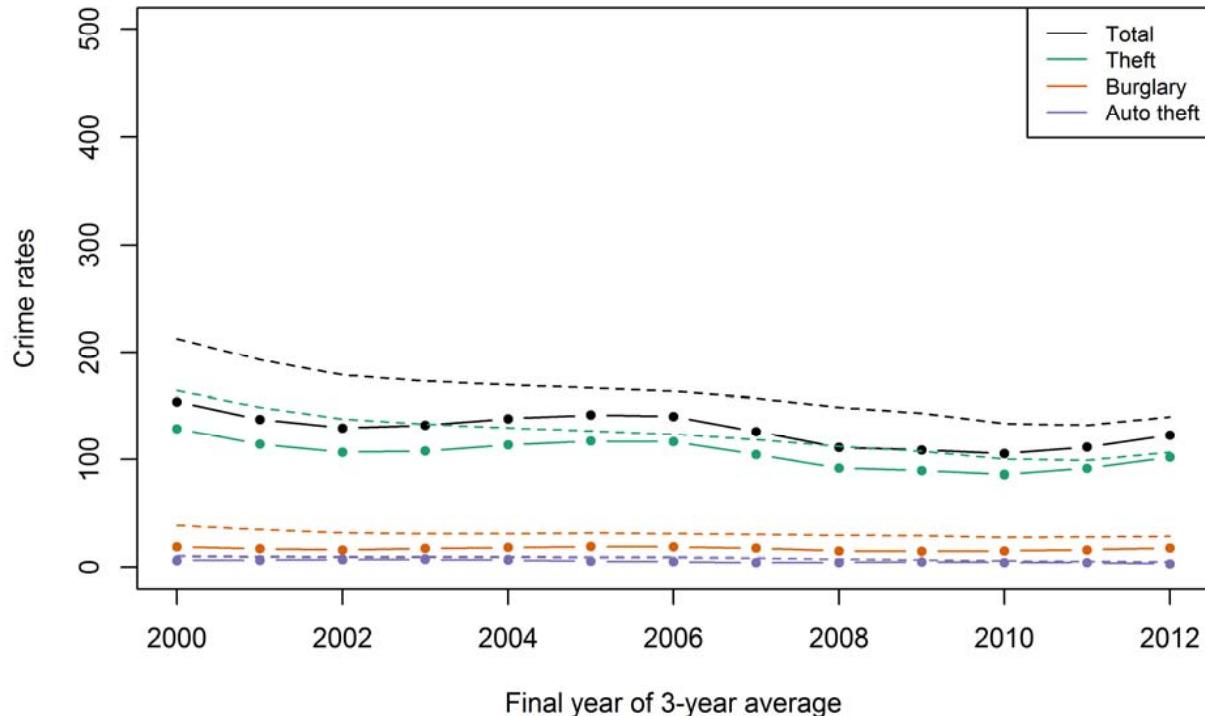
NCVS(SAE) property crimes in Prince George's County , Maryland compared to national rates

Middlesex County, MA

NCVS(SAE) violent crimes in Middlesex County , Massachusetts compared to national rates by type of crime

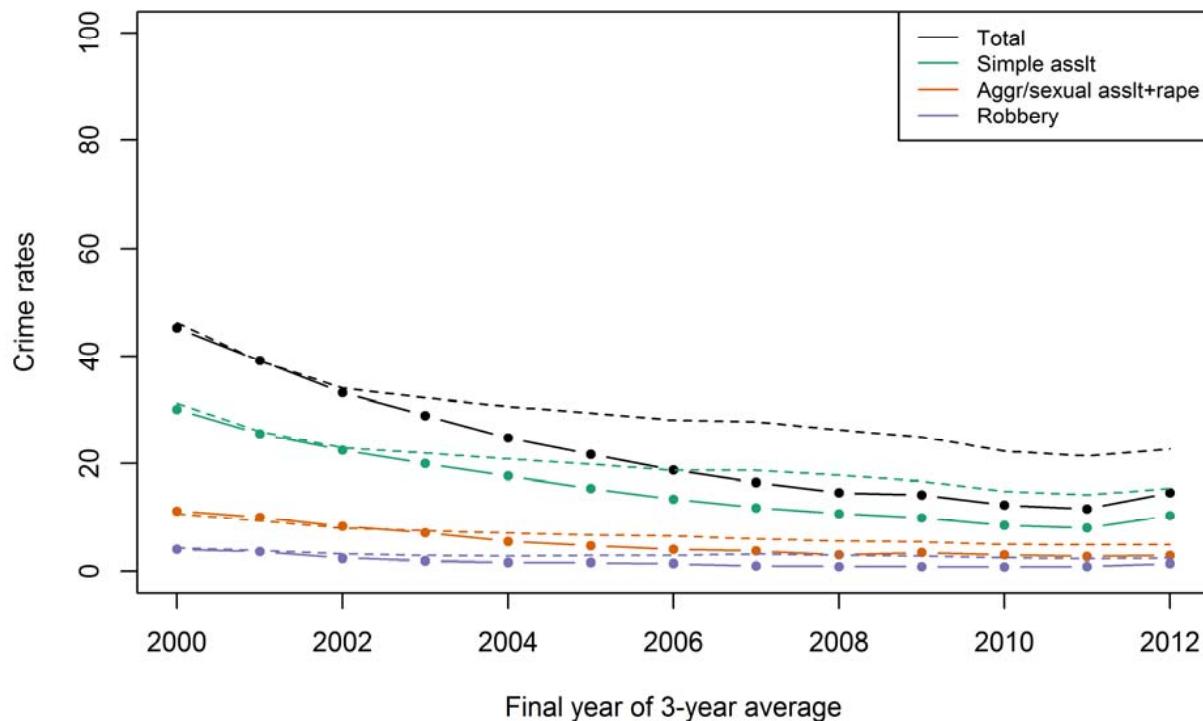


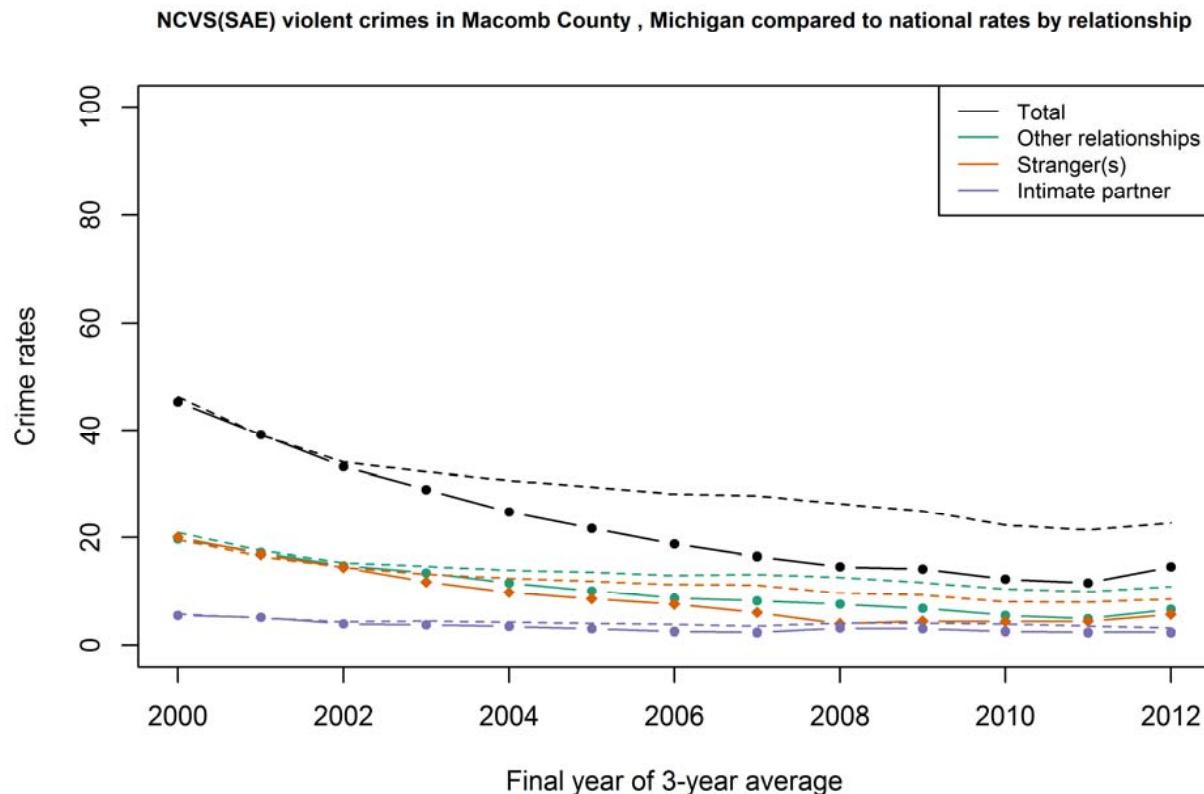


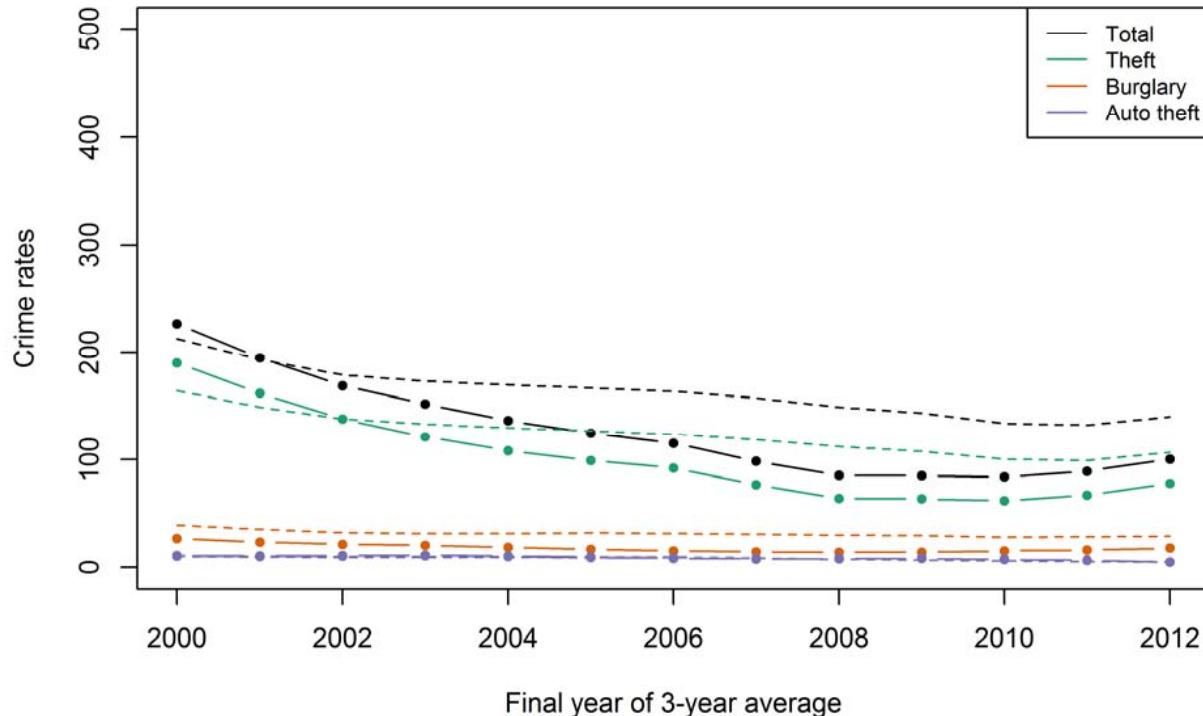
NCVS(SAE) property crimes in Middlesex County , Massachusetts compared to national rates

Macomb County, MI

NCVS(SAE) violent crimes in Macomb County , Michigan compared to national rates by type of crime

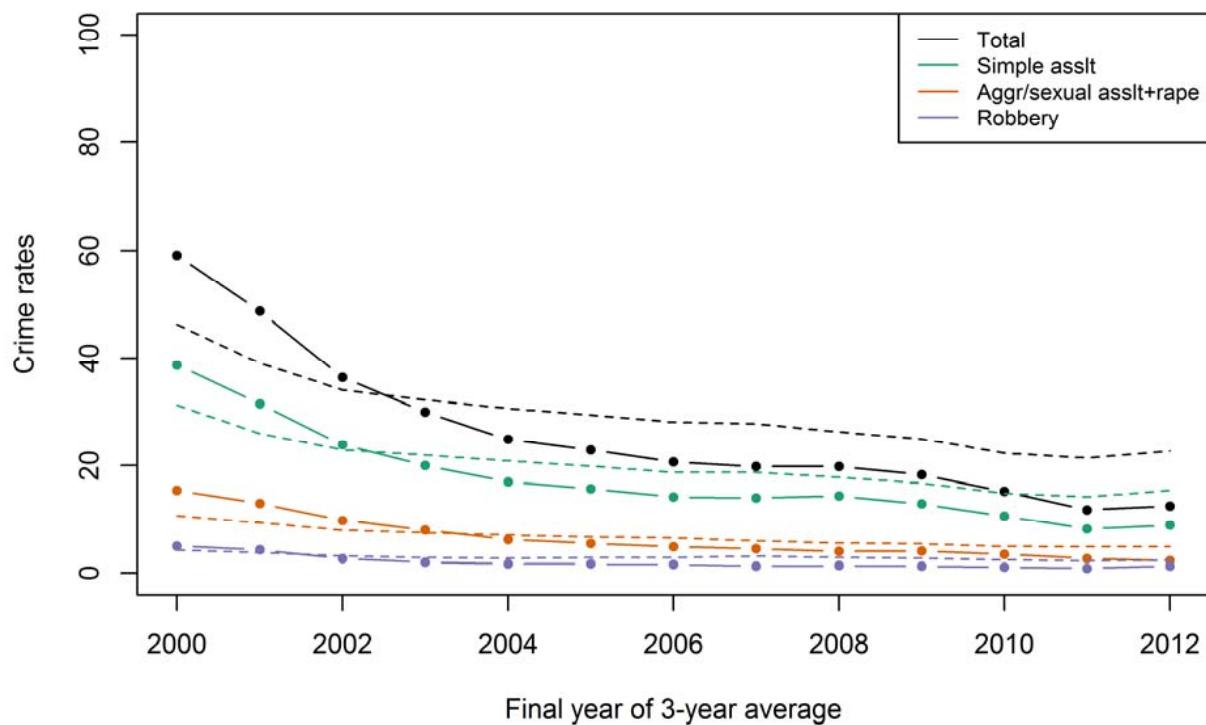


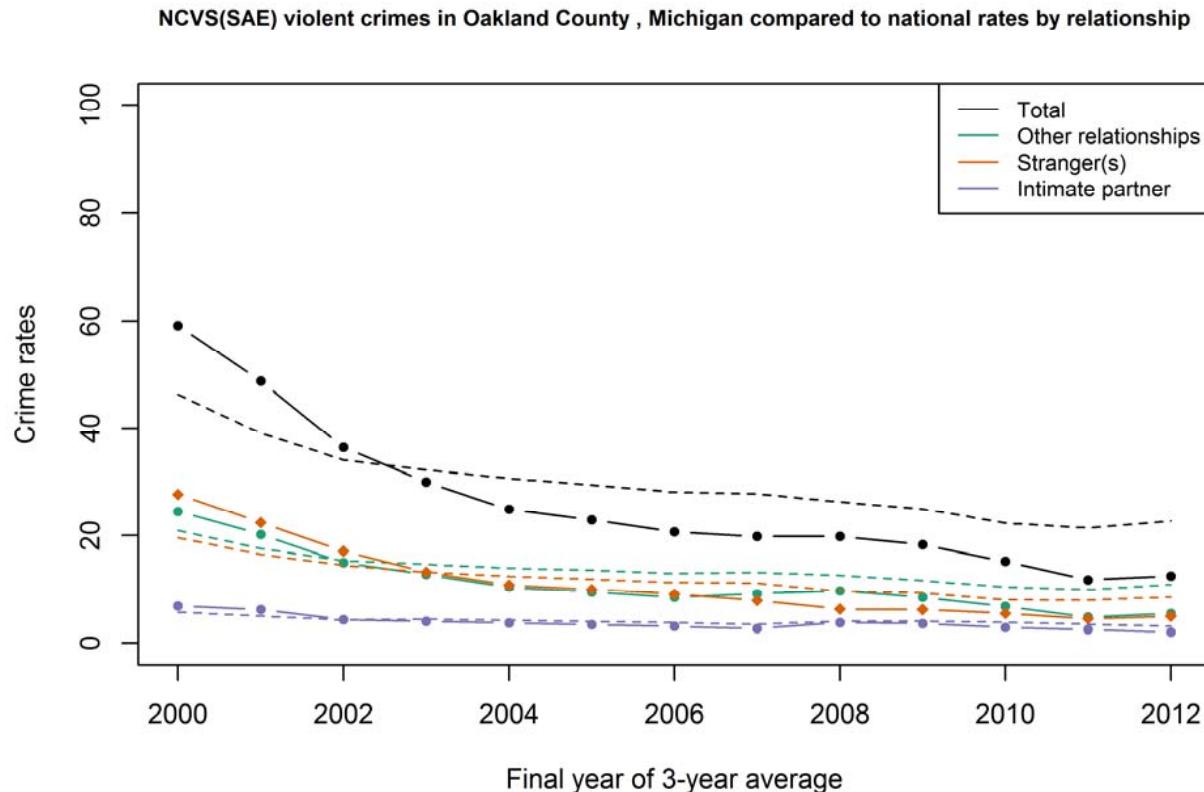


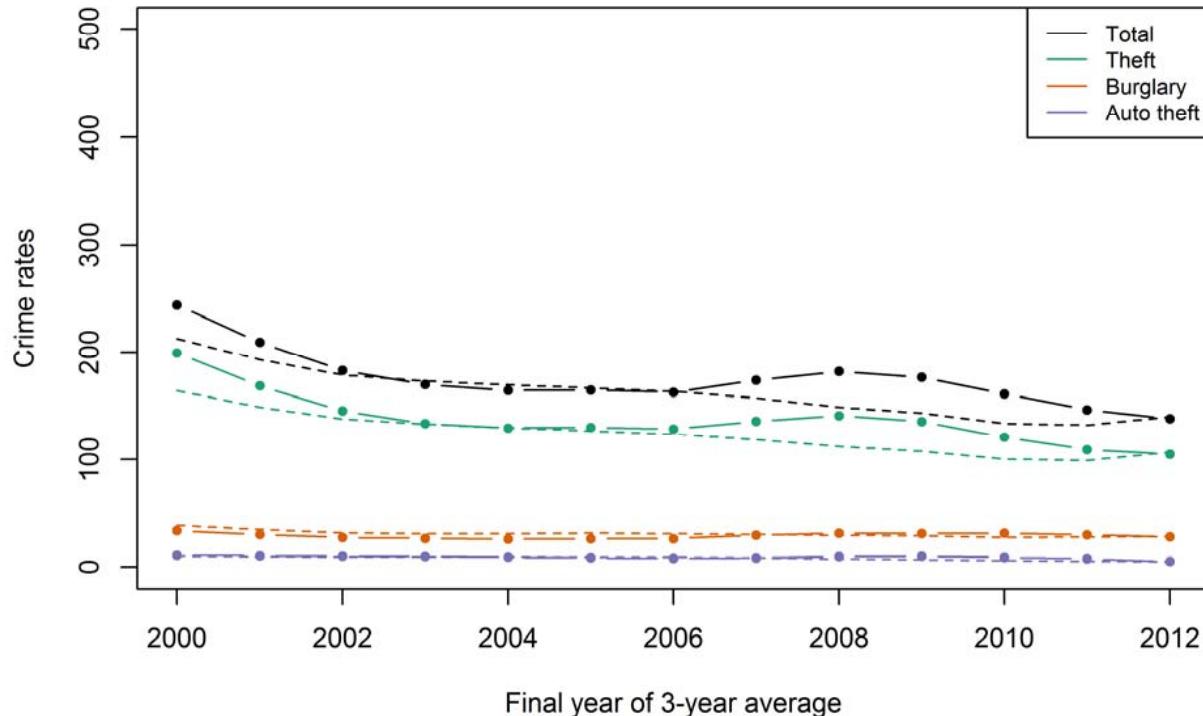
NCVS(SAE) property crimes in Macomb County , Michigan compared to national rates

Oakland County, MI

NCVS(SAE) violent crimes in Oakland County , Michigan compared to national rates by type of crime

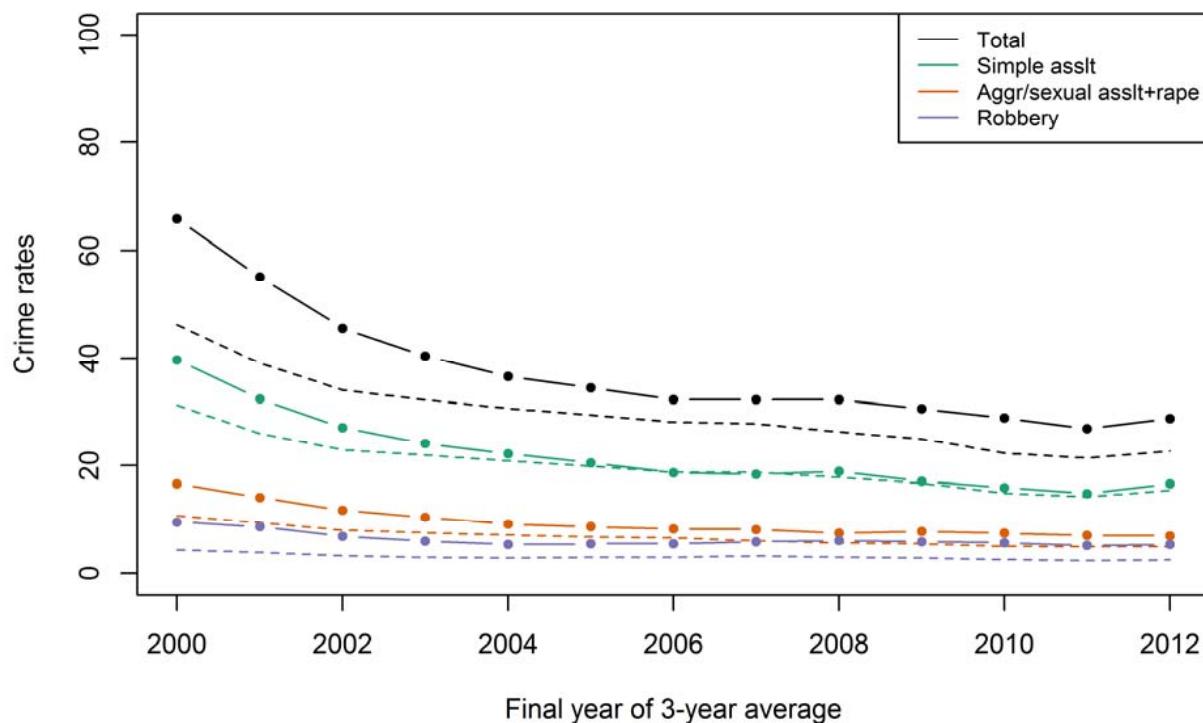




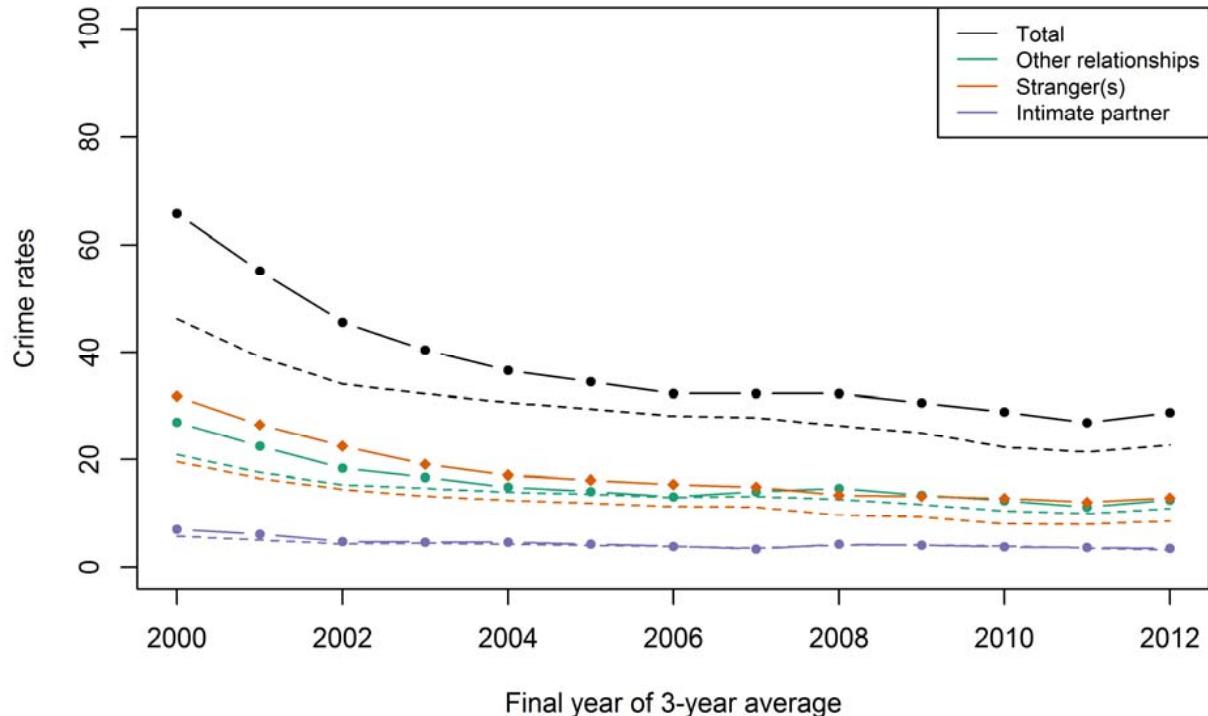
NCVS(SAE) property crimes in Oakland County , Michigan compared to national rates

Wayne County, MI

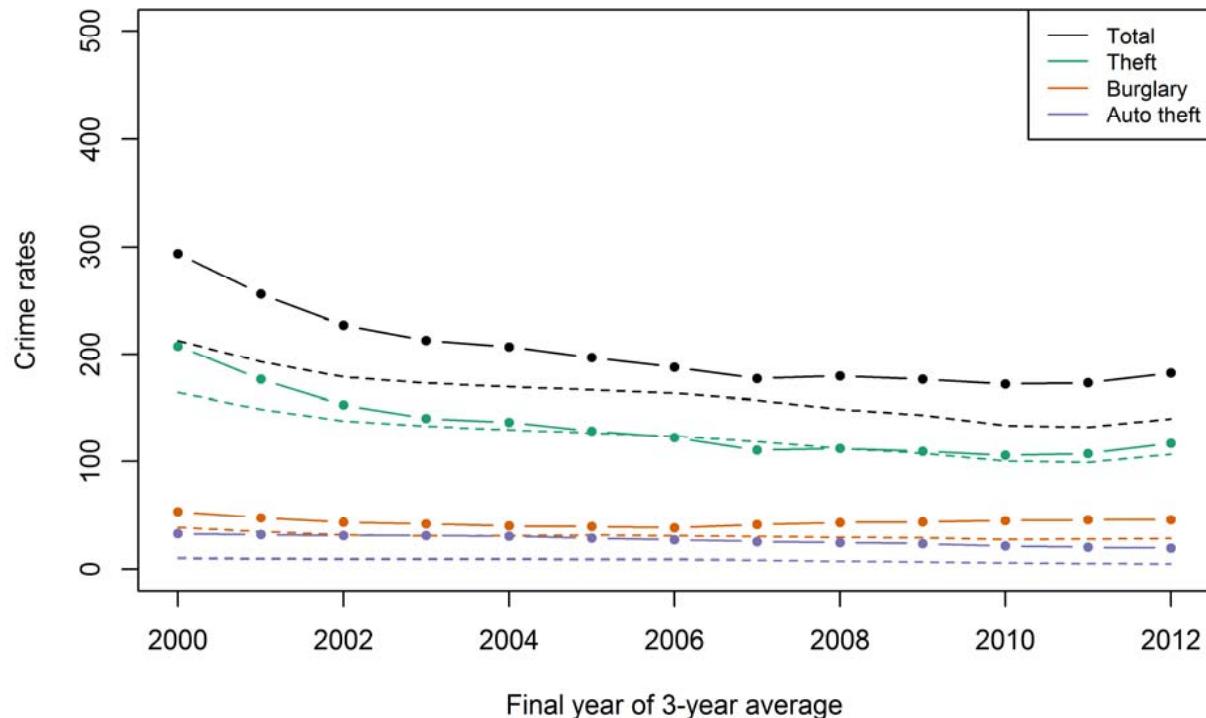
NCVS(SAE) violent crimes in Wayne County , Michigan compared to national rates by type of crime



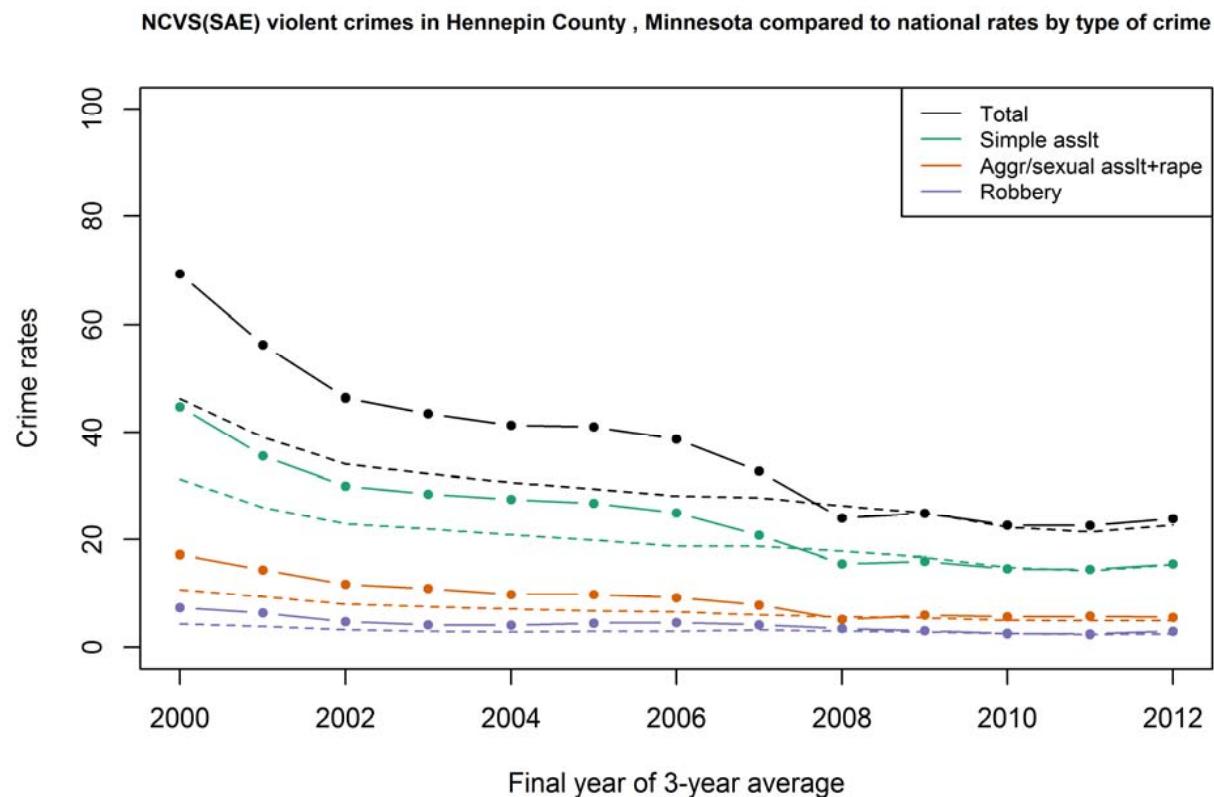
NCVS(SAE) violent crimes in Wayne County , Michigan compared to national rates by relationship

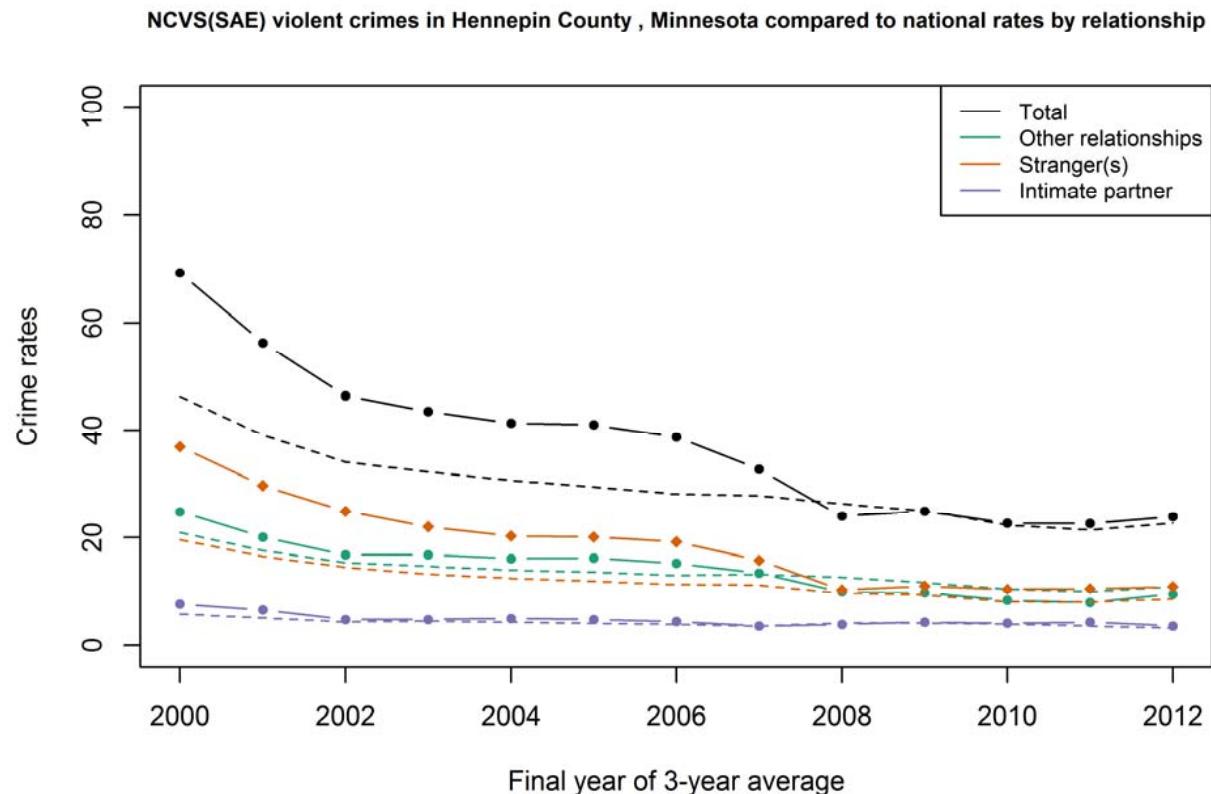


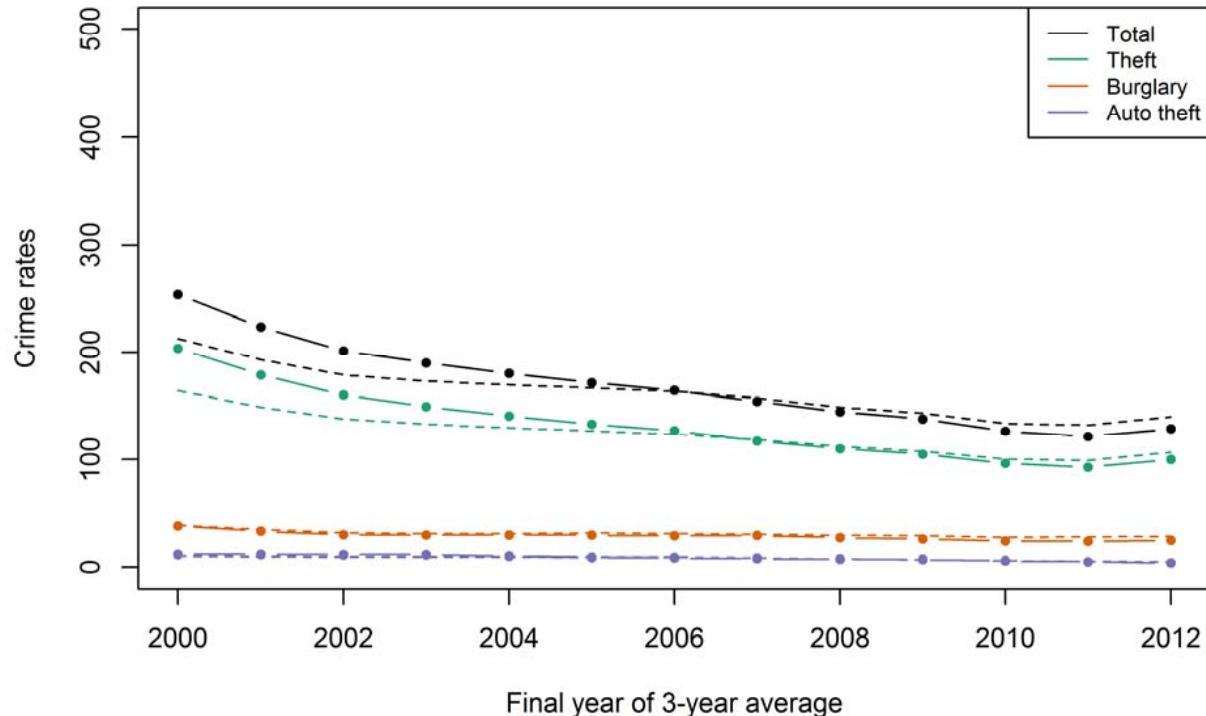
NCVS(SAE) property crimes in Wayne County , Michigan compared to national rates



Hennepin County, MN

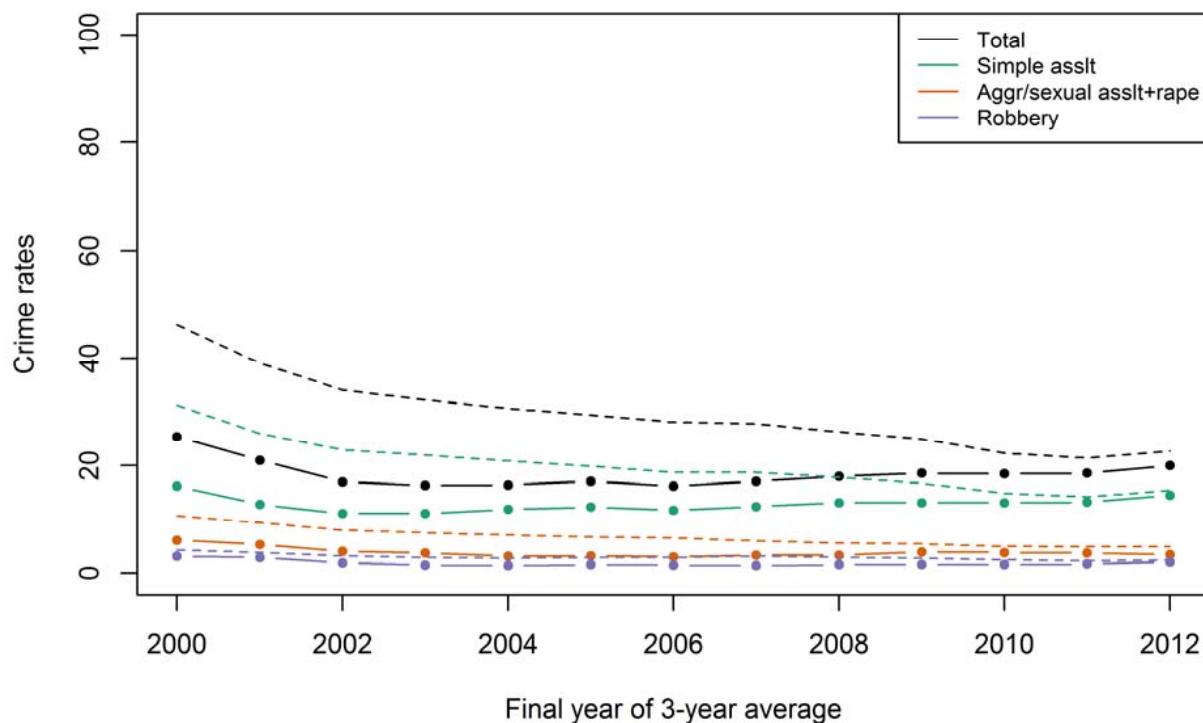


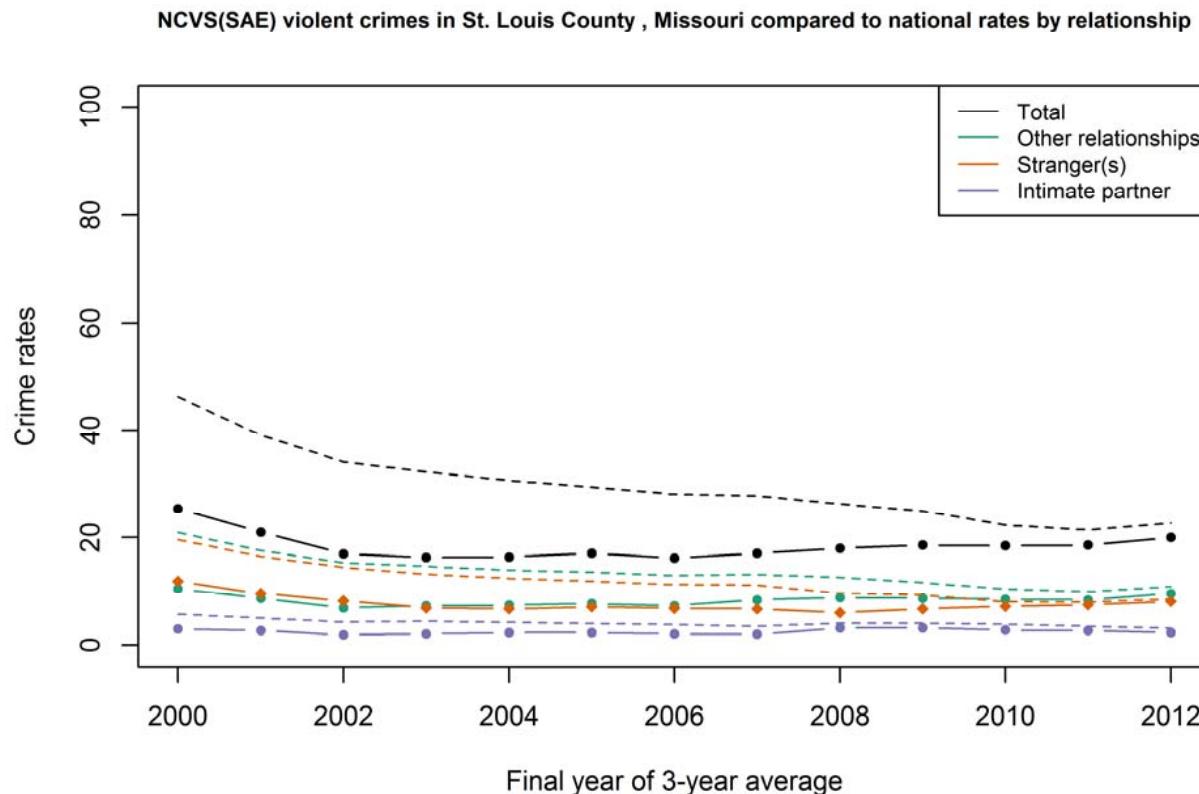


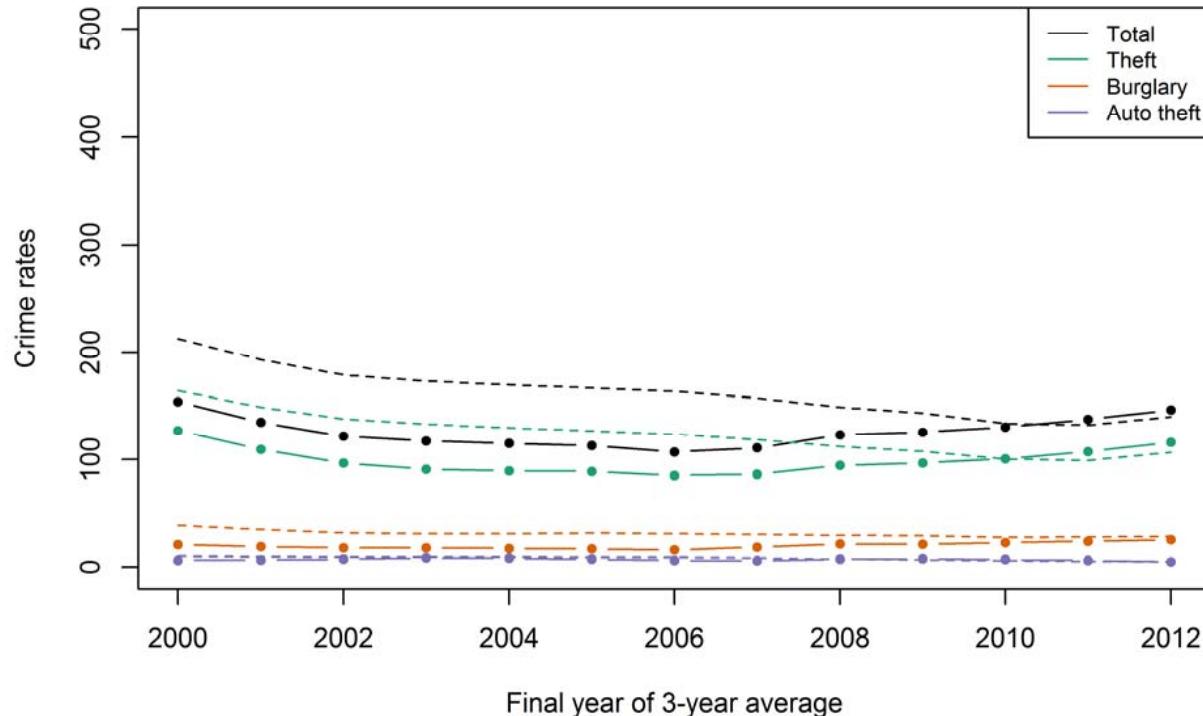
NCVS(SAE) property crimes in Hennepin County , Minnesota compared to national rates

St. Louis County, MO

NCVS(SAE) violent crimes in St. Louis County , Missouri compared to national rates by type of crime

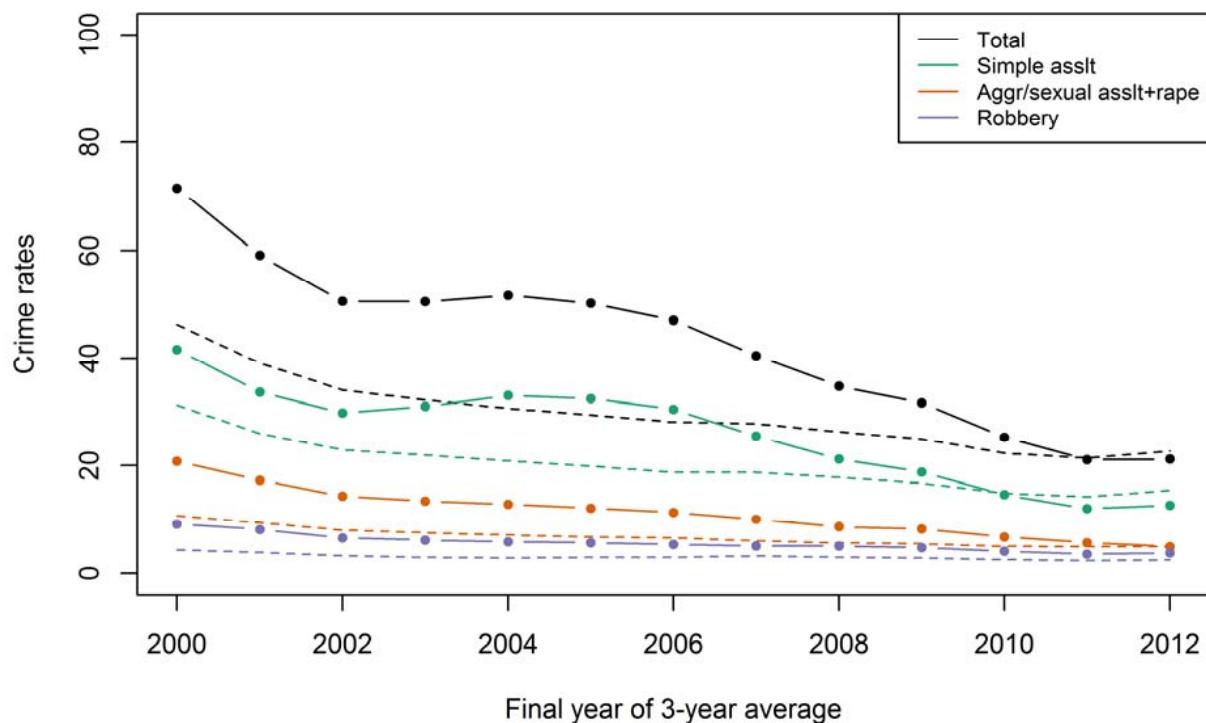




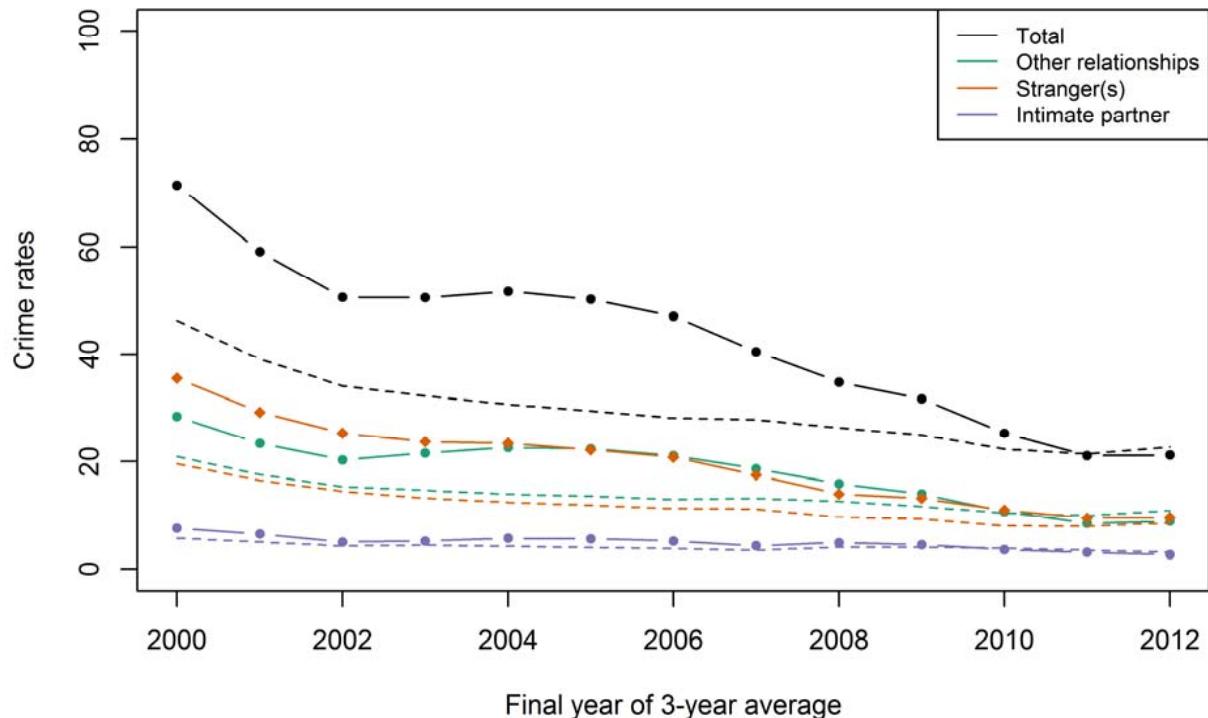
NCVS(SAE) property crimes in St. Louis County , Missouri compared to national rates

Clark County, NV

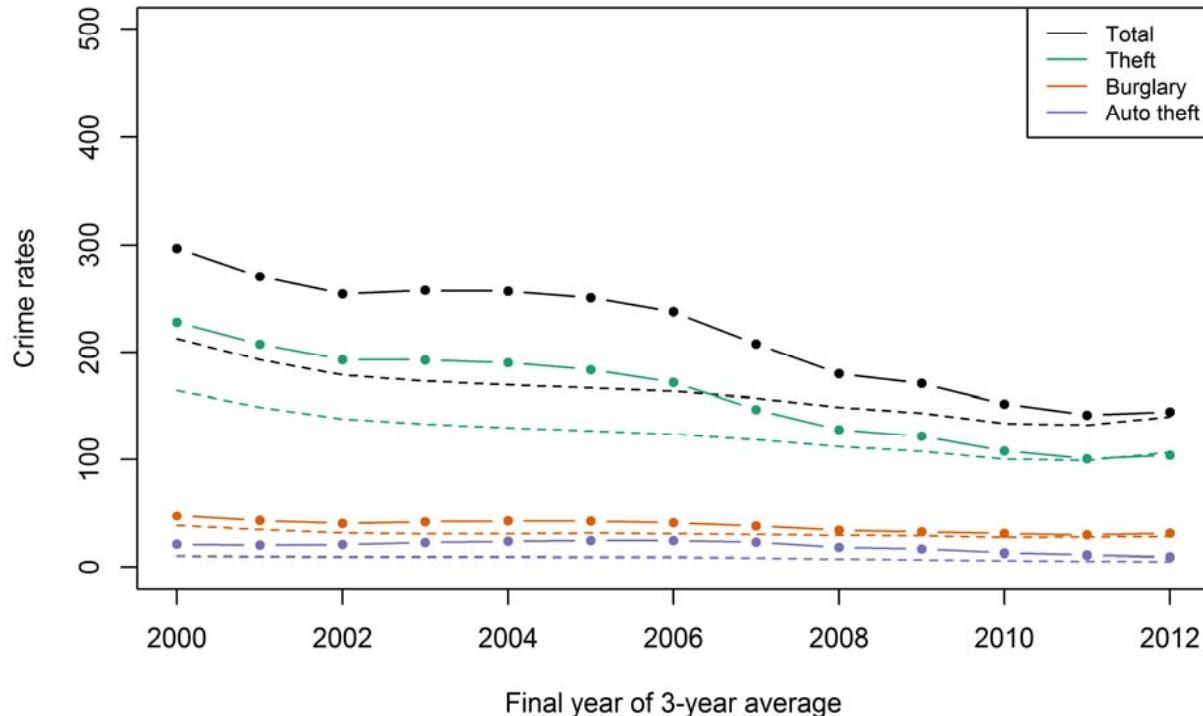
NCVS(SAE) violent crimes in Clark County , Nevada compared to national rates by type of crime



NCVS(SAE) violent crimes in Clark County , Nevada compared to national rates by relationship

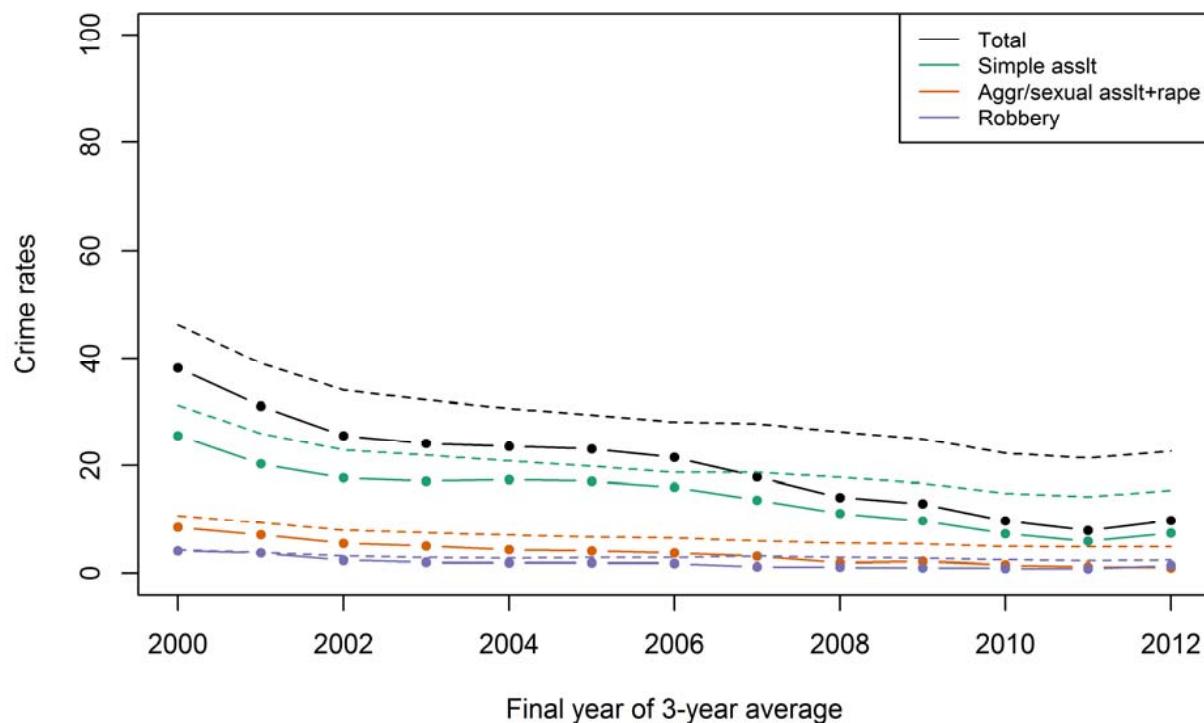


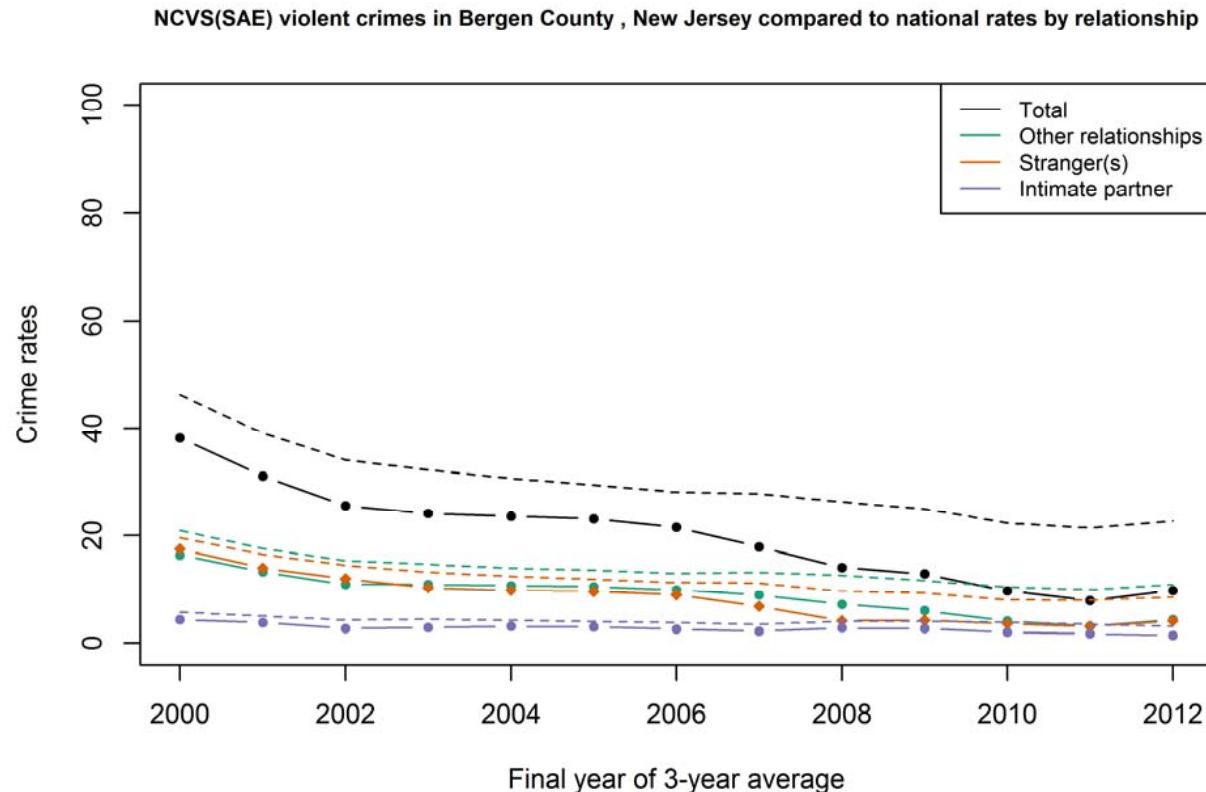
NCVS(SAE) property crimes in Clark County , Nevada compared to national rates

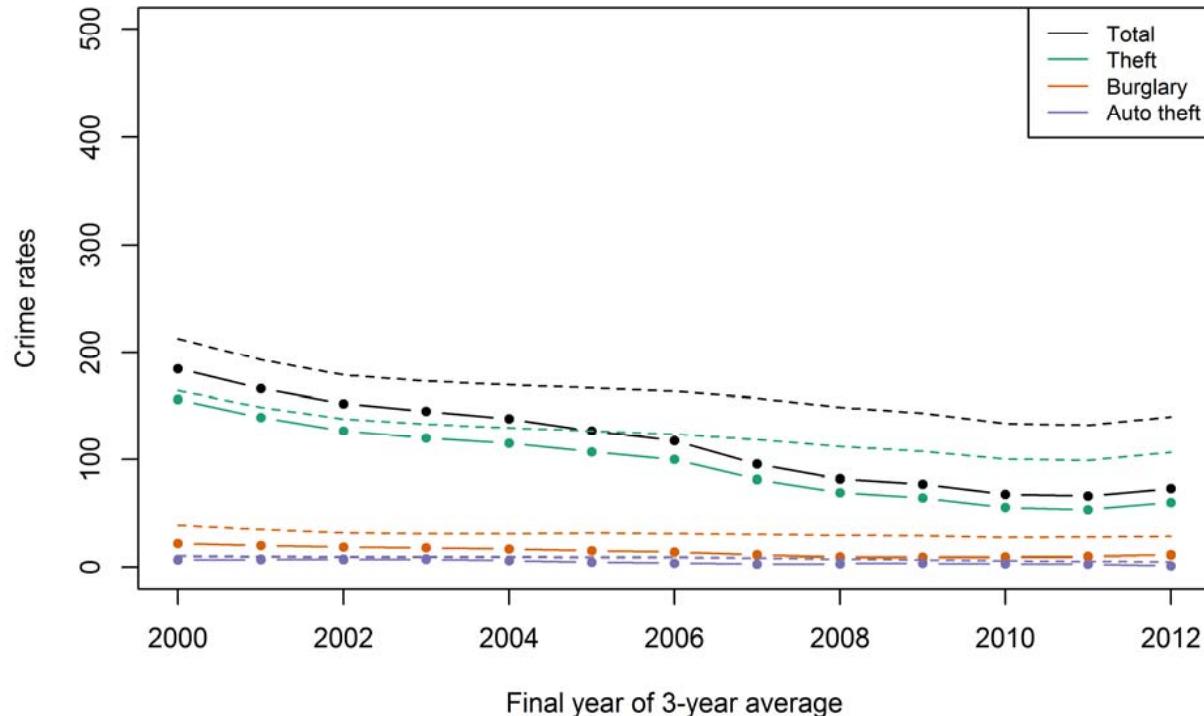


Bergen County, NJ

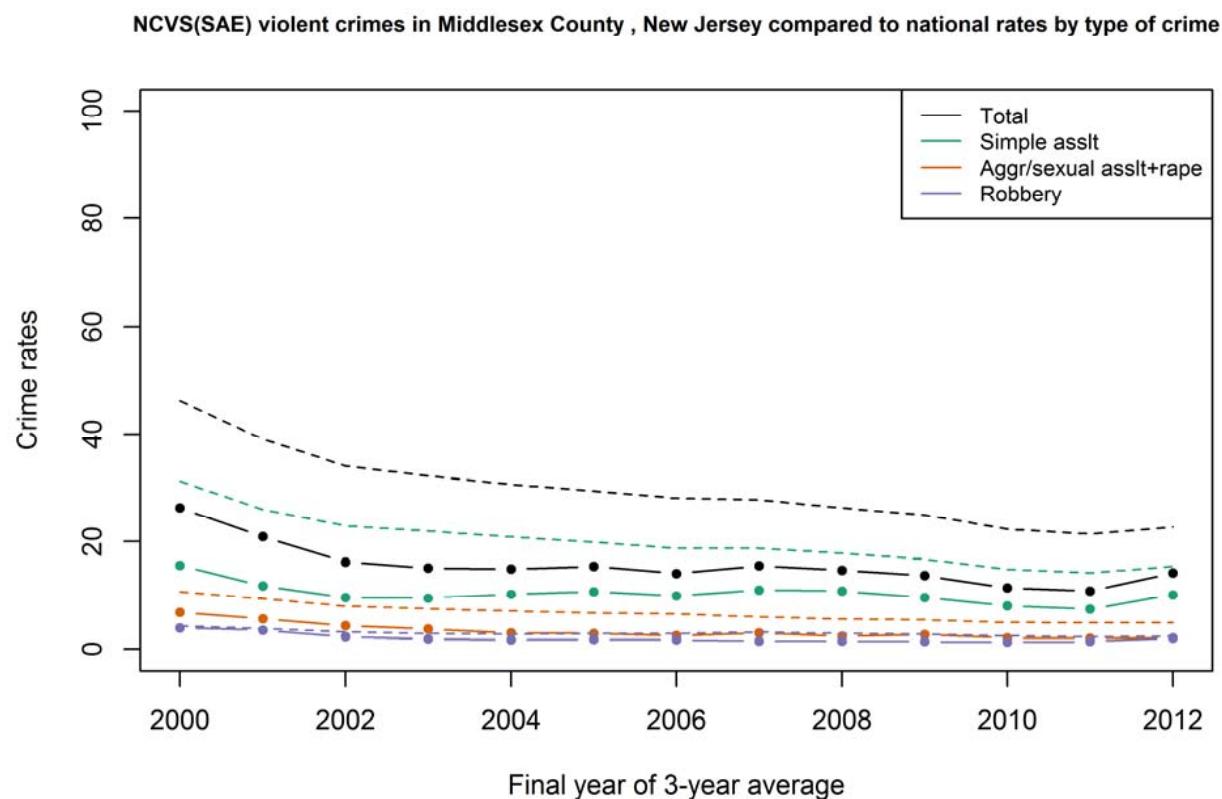
NCVS(SAE) violent crimes in Bergen County , New Jersey compared to national rates by type of crime

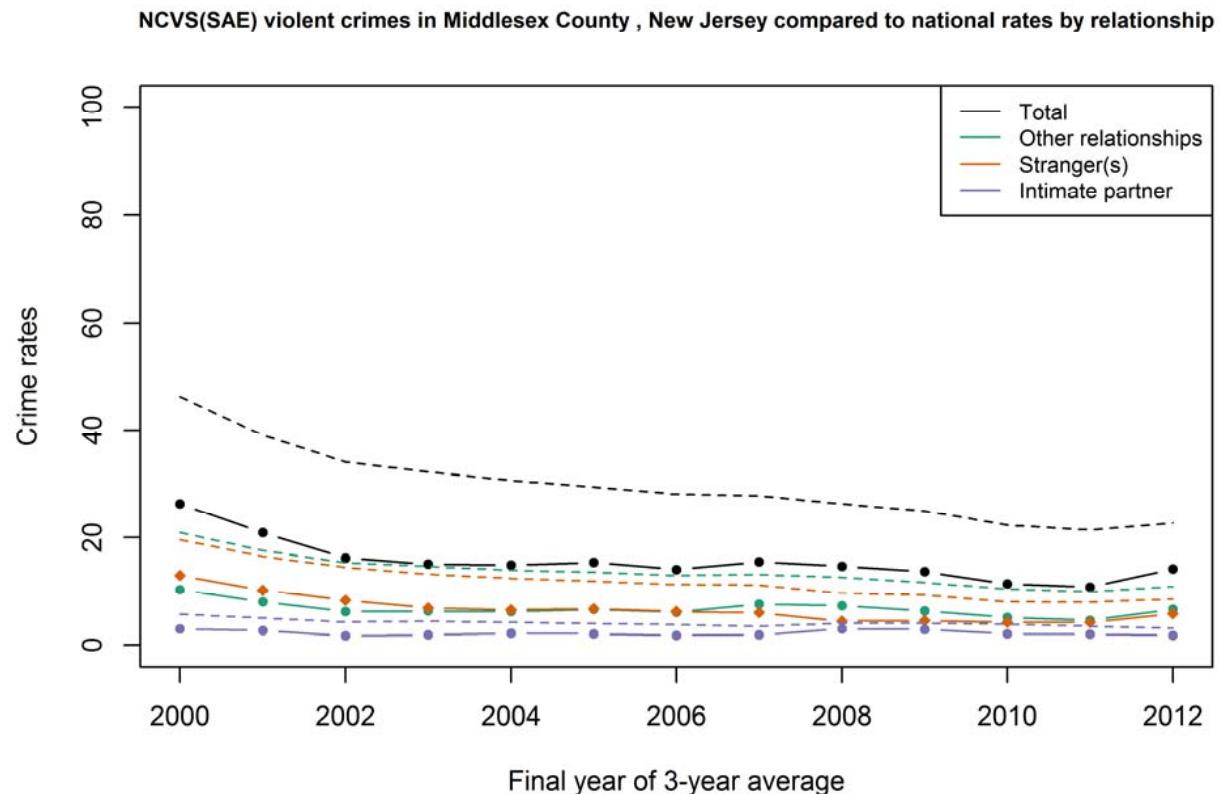




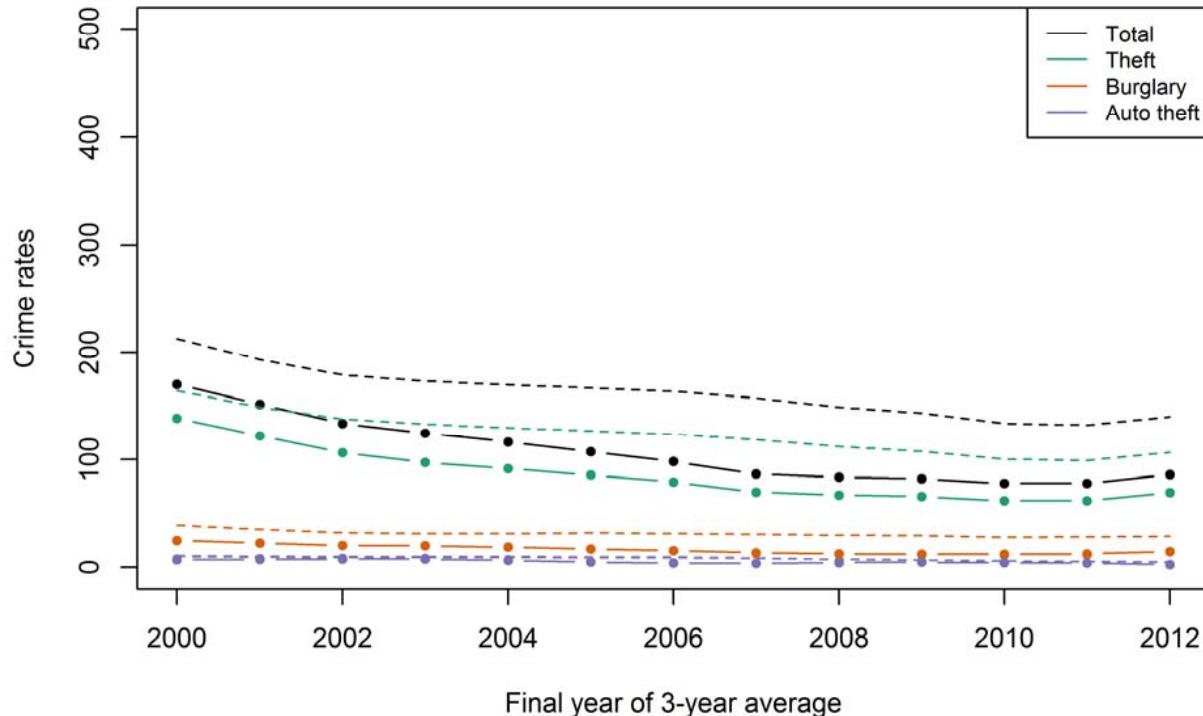
NCVS(SAE) property crimes in Bergen County , New Jersey compared to national rates

Middlesex, NJ



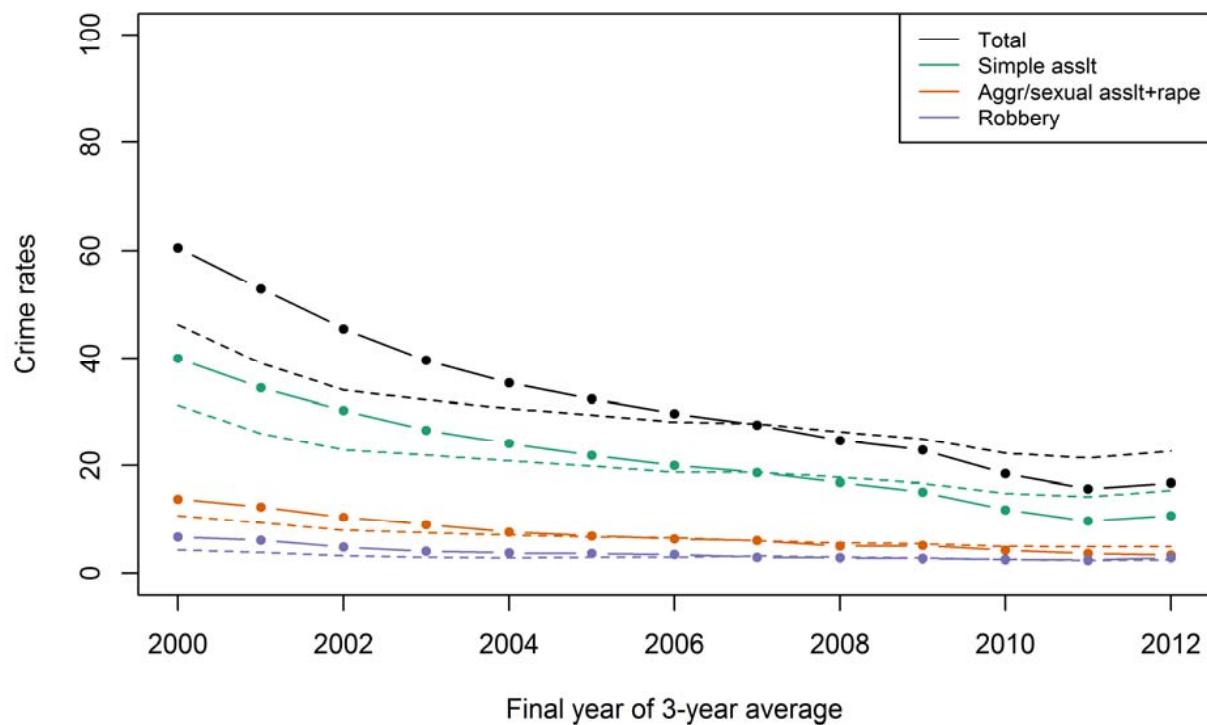


NCVS(SAE) property crimes in Middlesex County , New Jersey compared to national rates

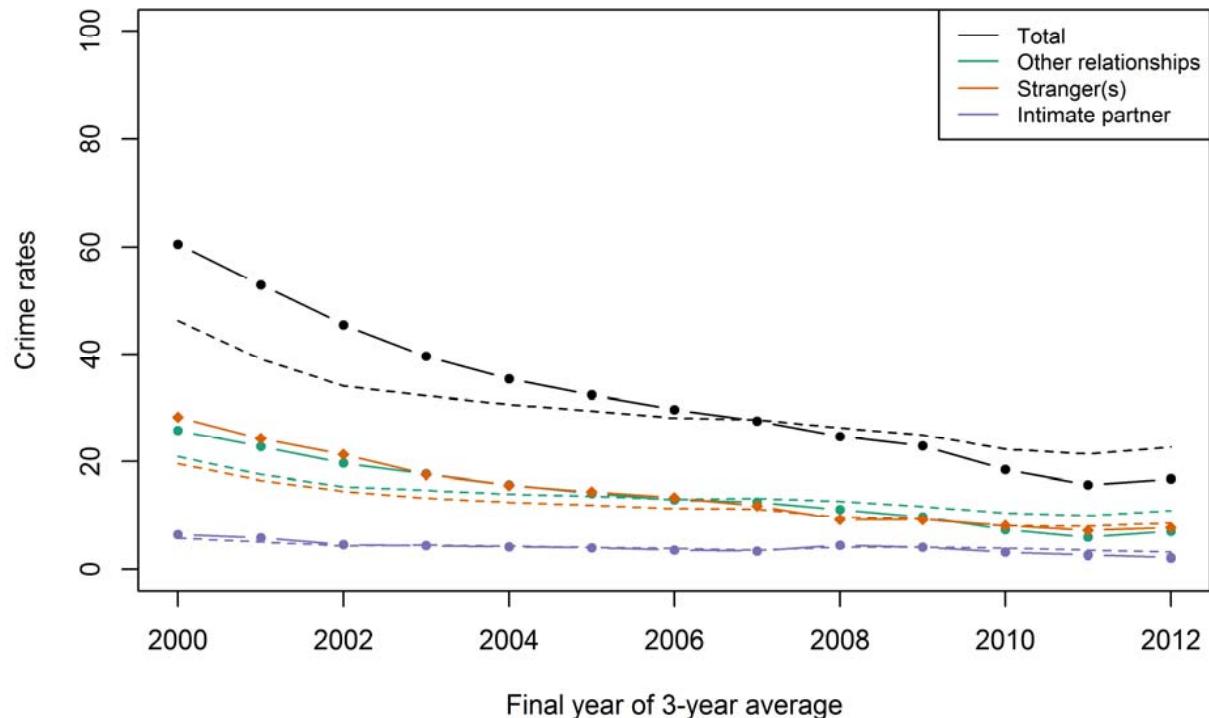


Erie County, NY

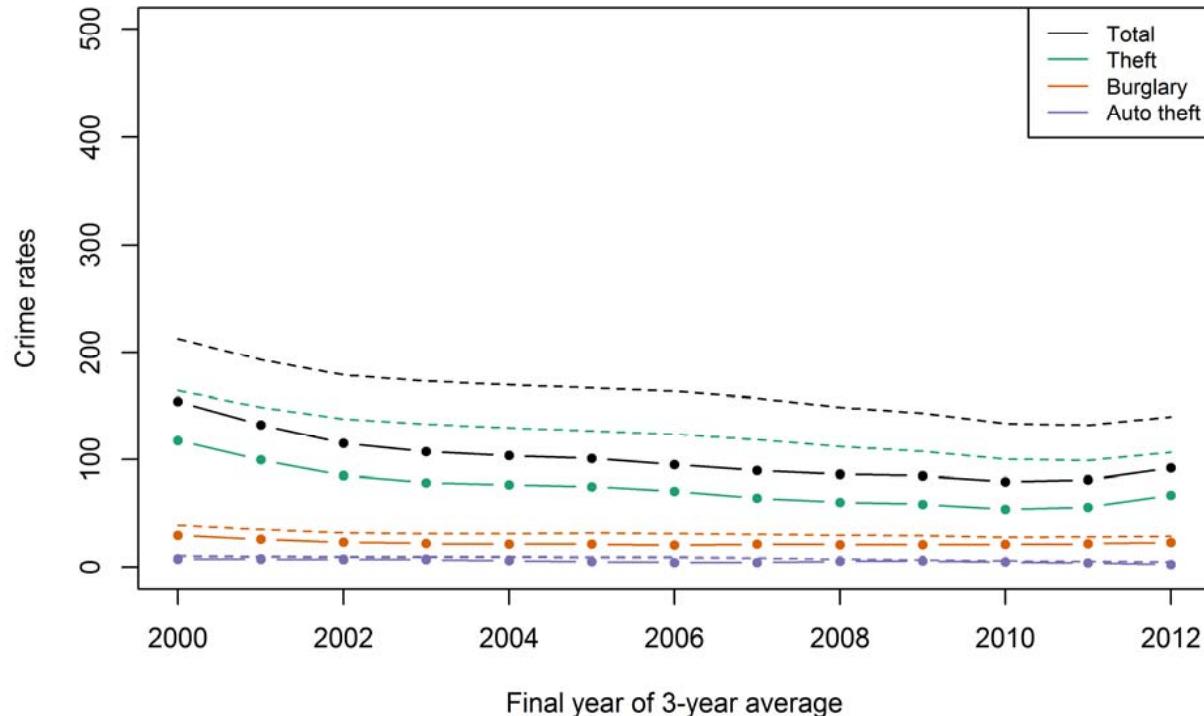
NCVS(SAE) violent crimes in Erie County , New York compared to national rates by type of crime



NCVS(SAE) violent crimes in Erie County , New York compared to national rates by relationship

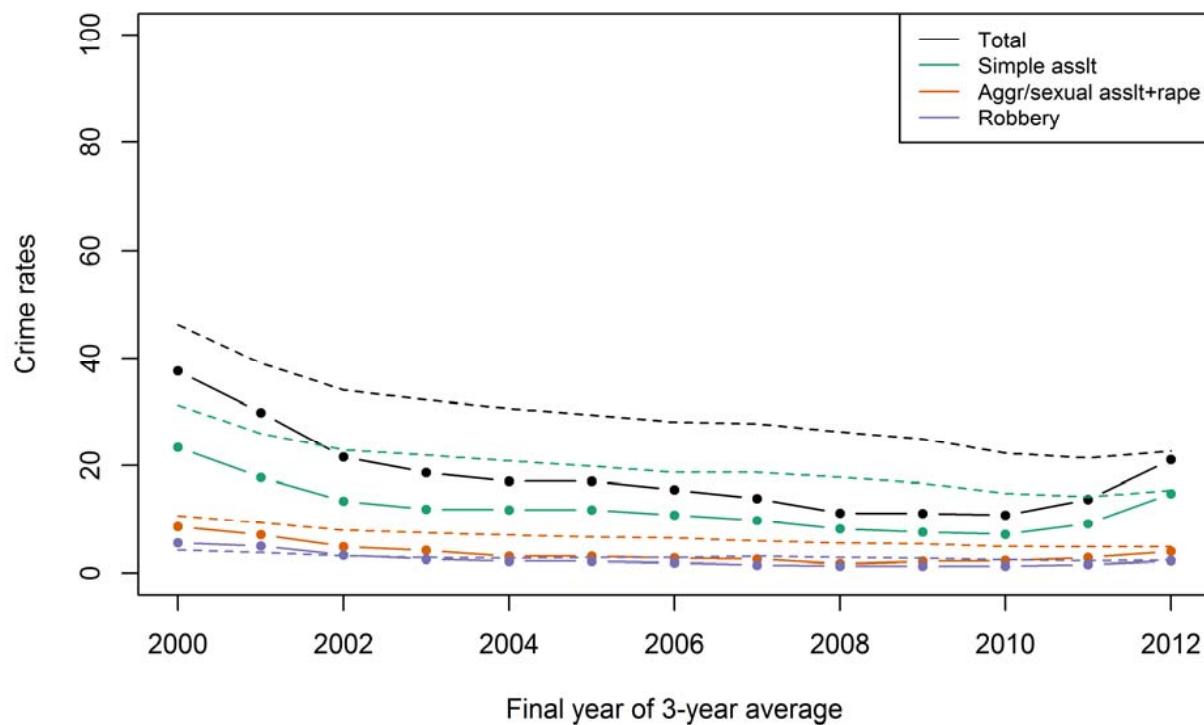


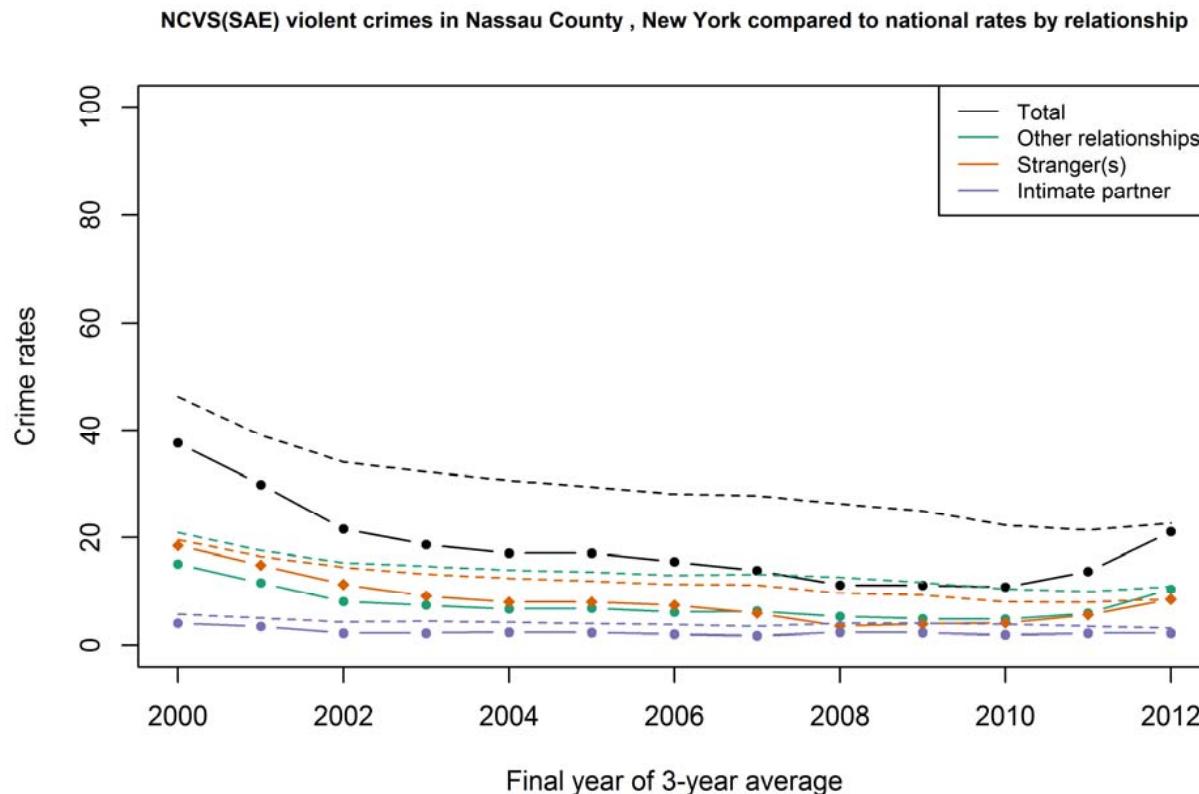
NCVS(SAE) property crimes in Erie County , New York compared to national rates



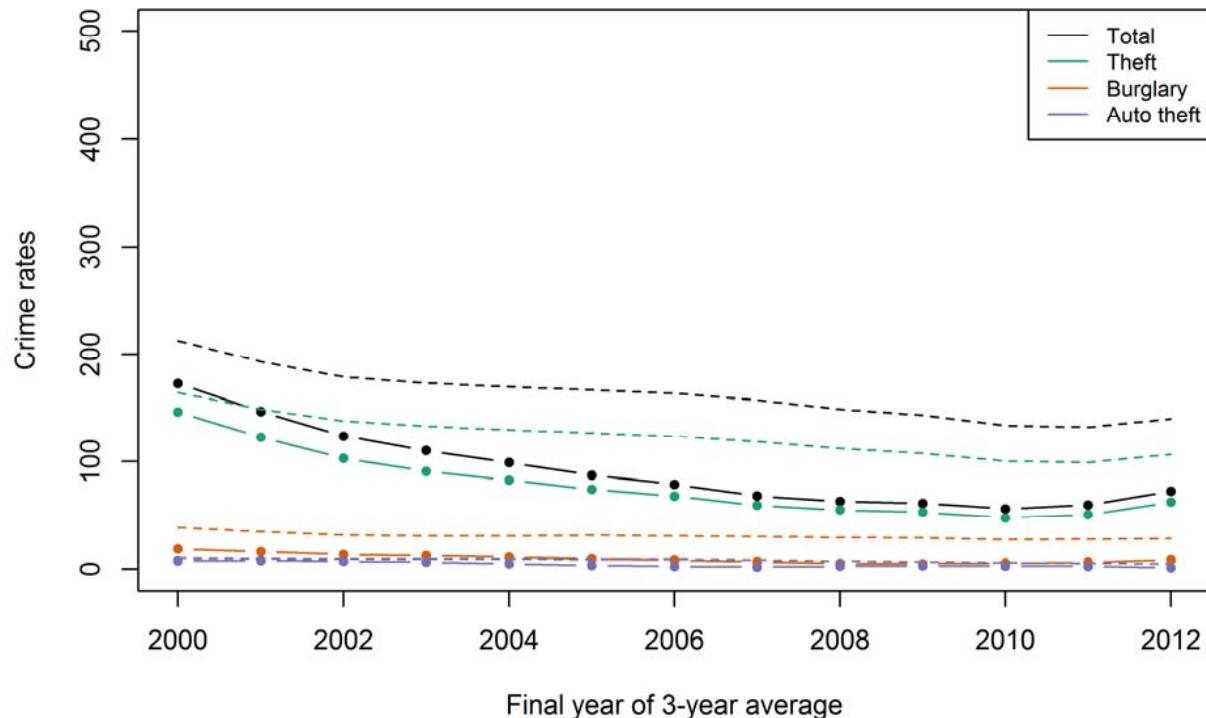
Nassau County, NY

NCVS(SAE) violent crimes in Nassau County , New York compared to national rates by type of crime



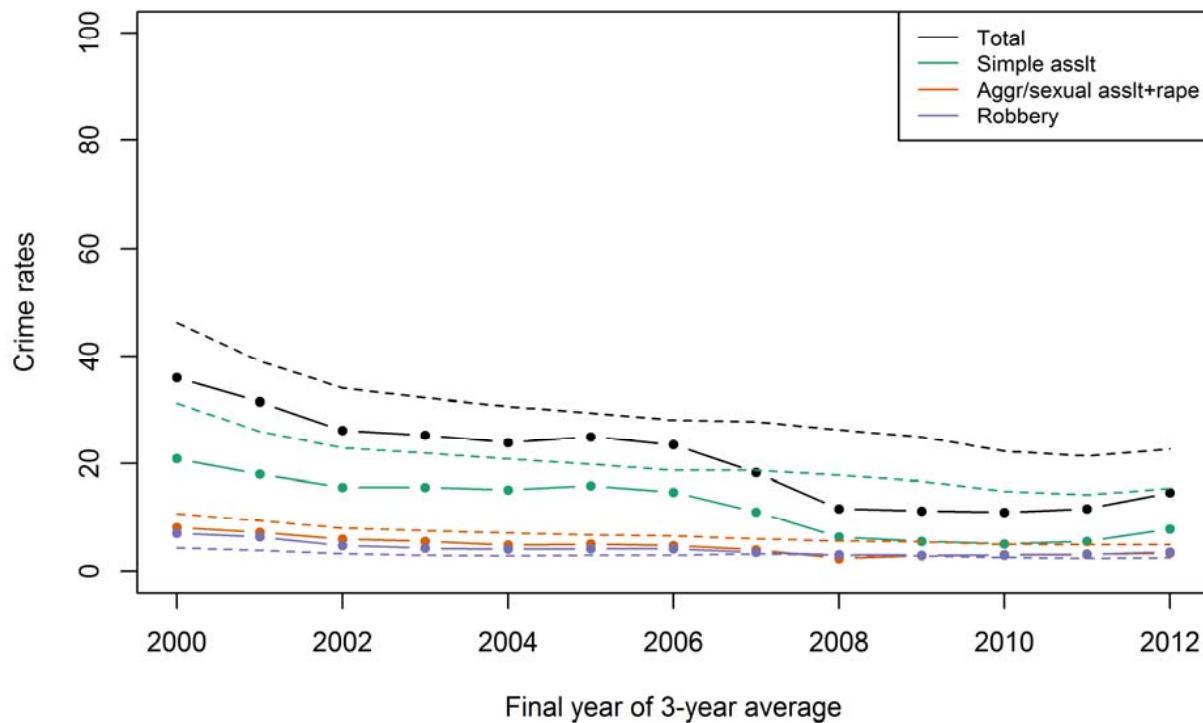


NCVS(SAE) property crimes in Nassau County , New York compared to national rates

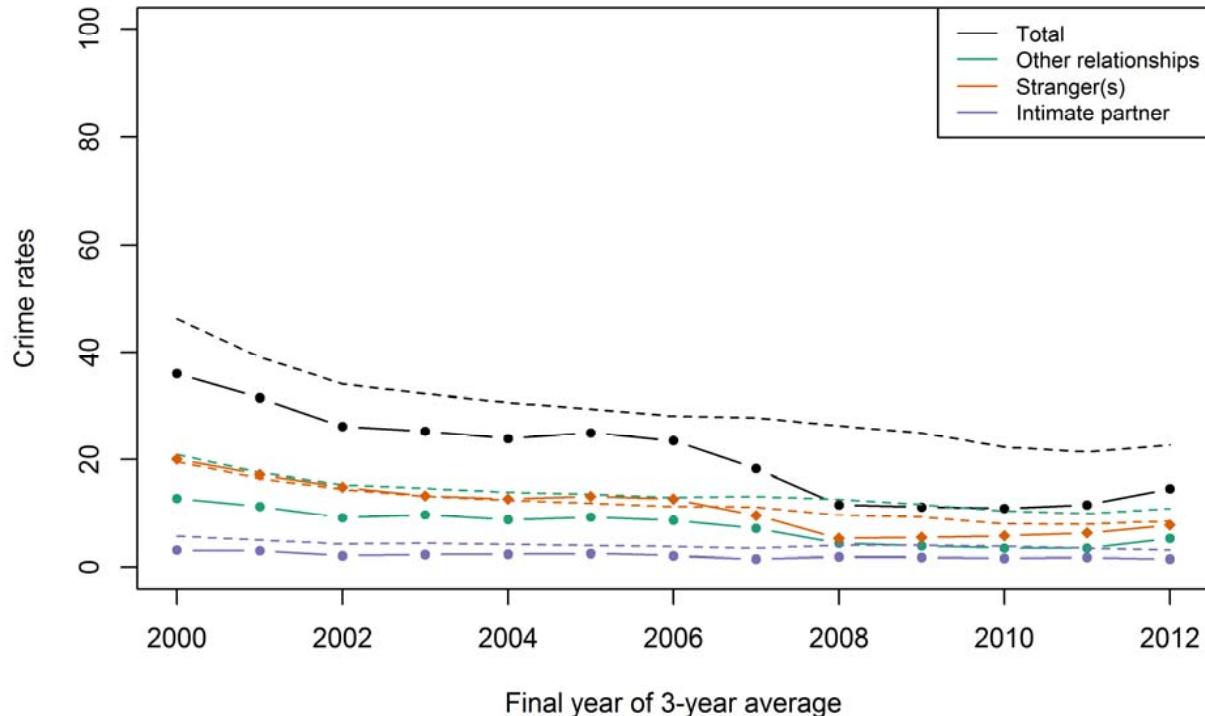


New York City, NY

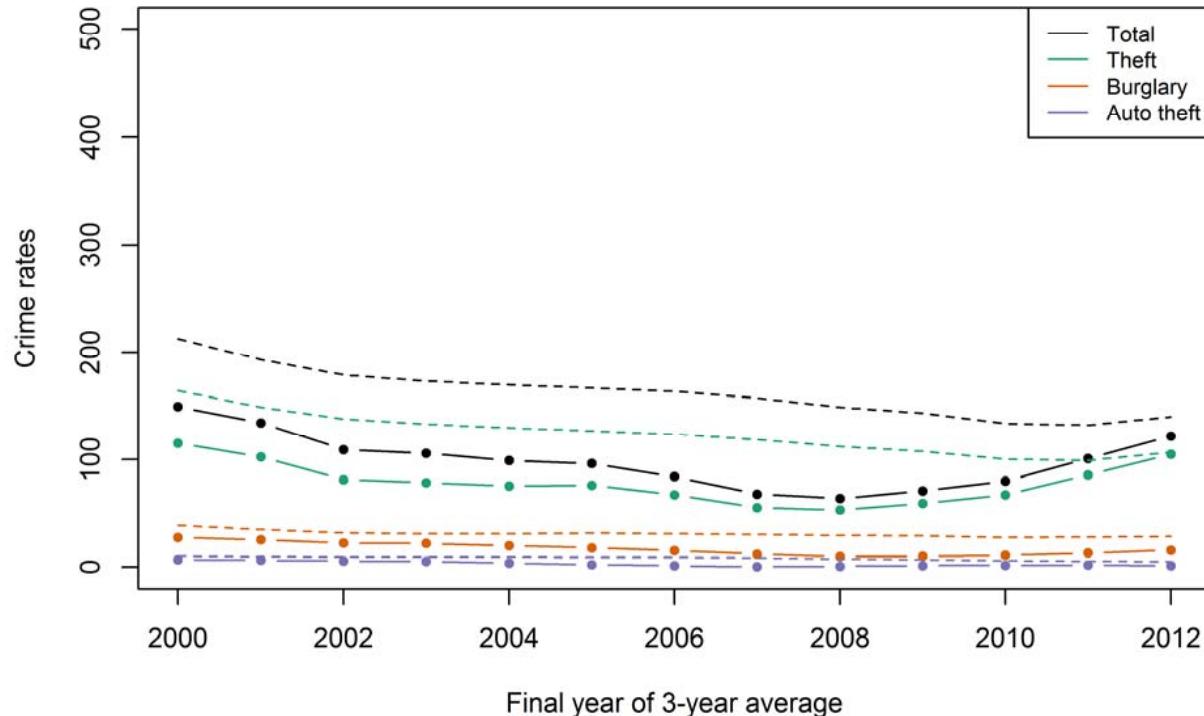
NCVS(SAE) violent crimes in New York City , New York compared to national rates by type of crime



NCVS(SAE) violent crimes in New York City , New York compared to national rates by relationship

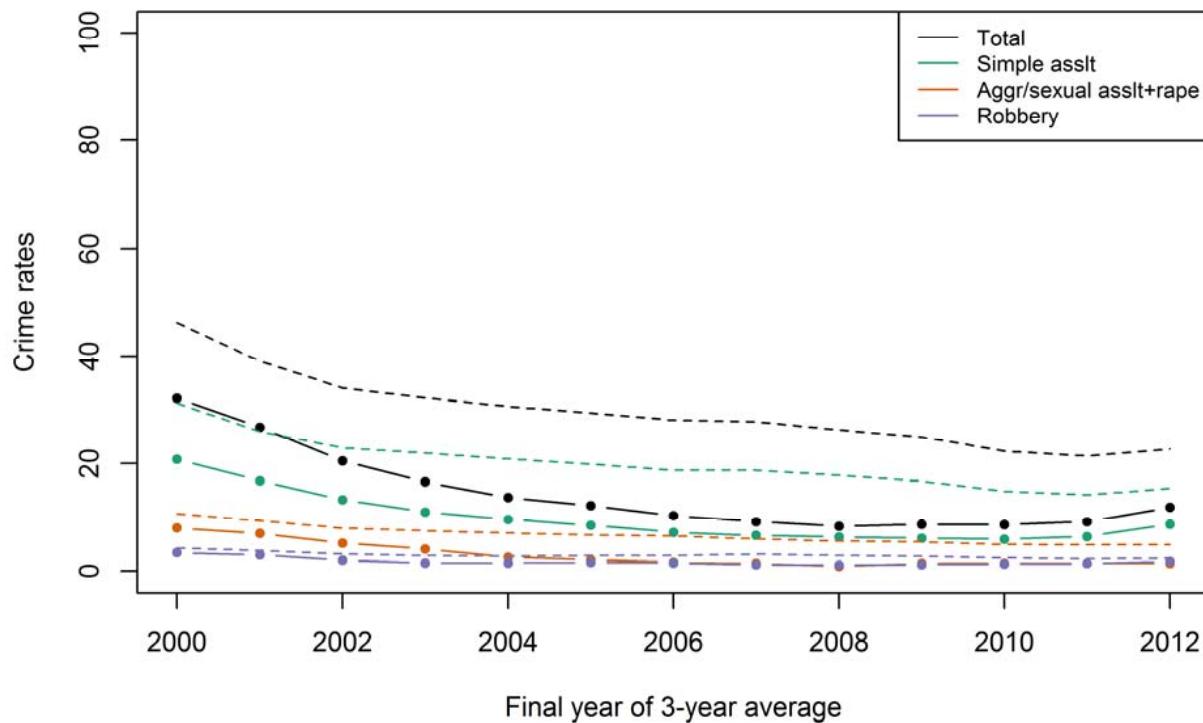


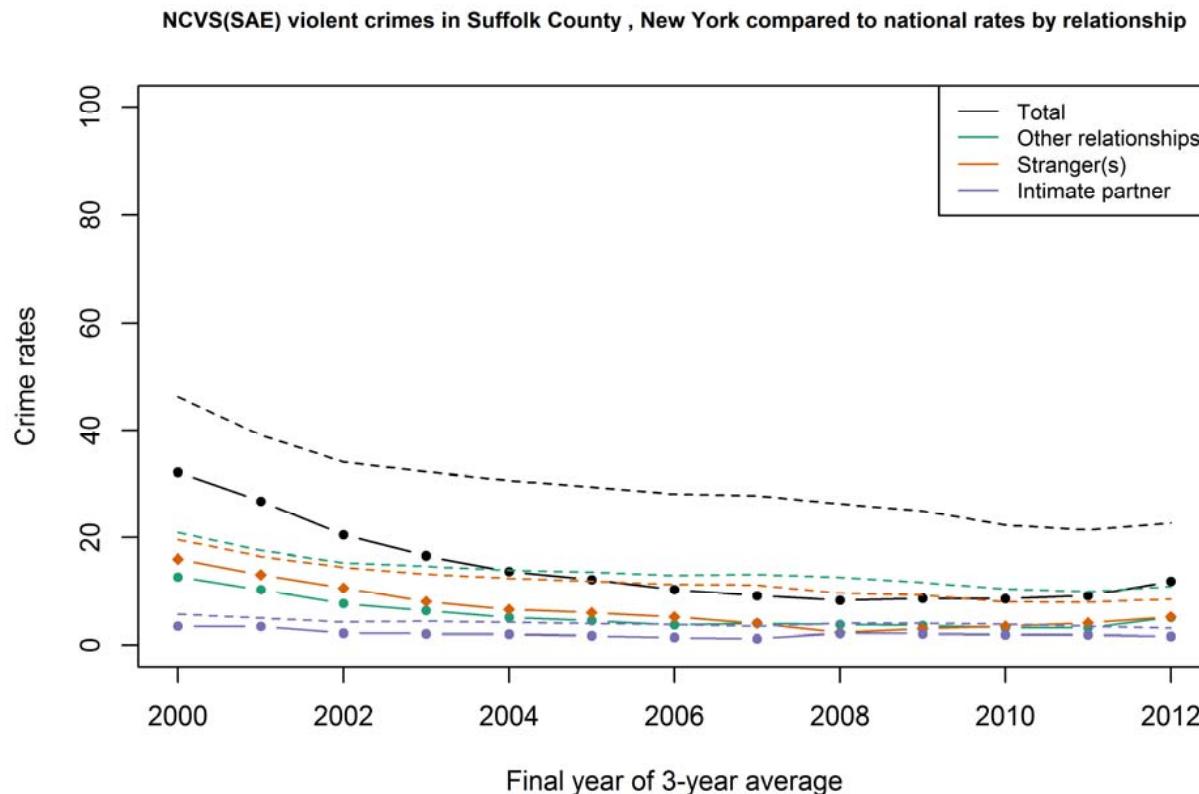
NCVS(SAE) property crimes in New York City , New York compared to national rates



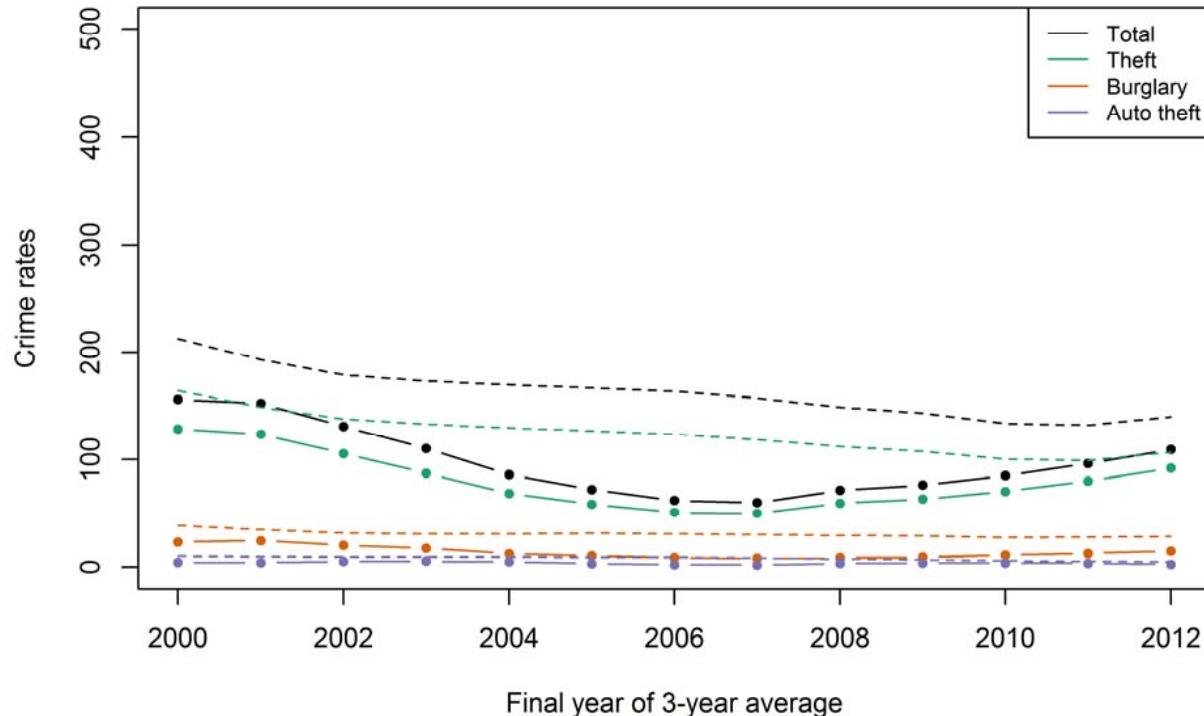
Suffolk County, NY

NCVS(SAE) violent crimes in Suffolk County , New York compared to national rates by type of crime

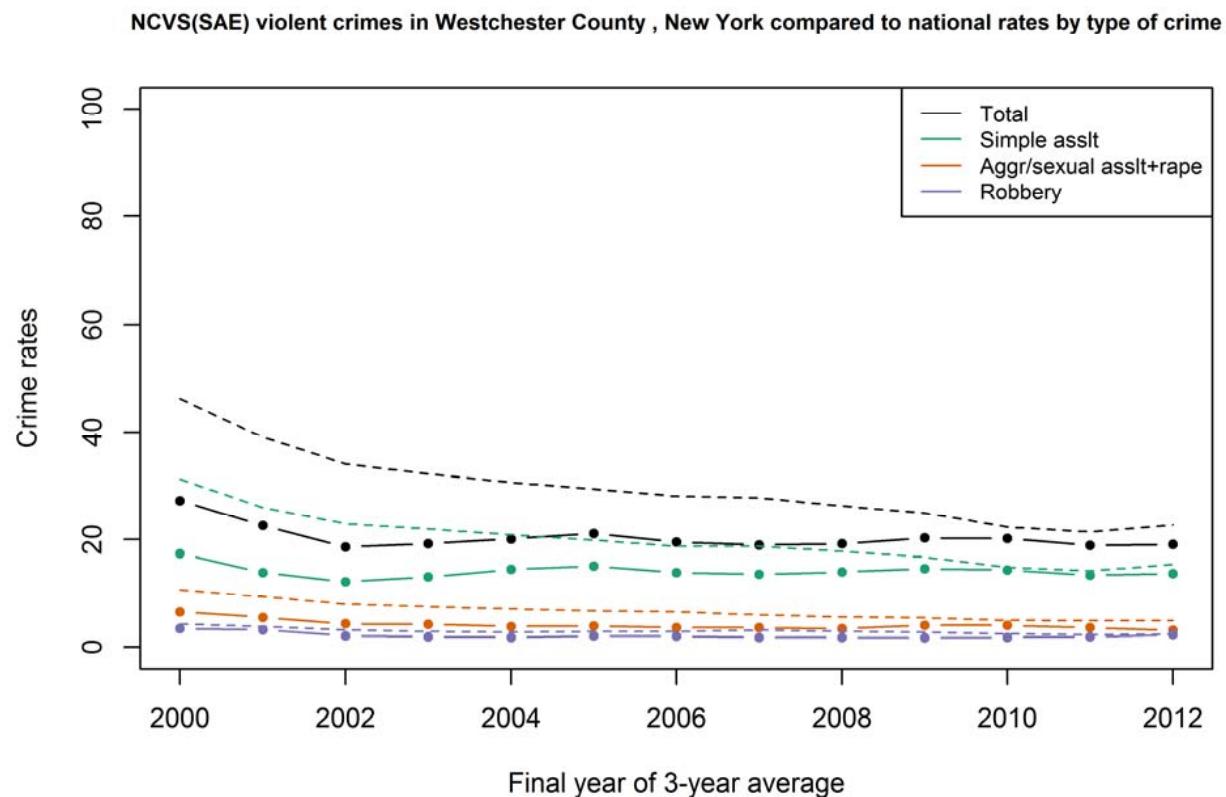


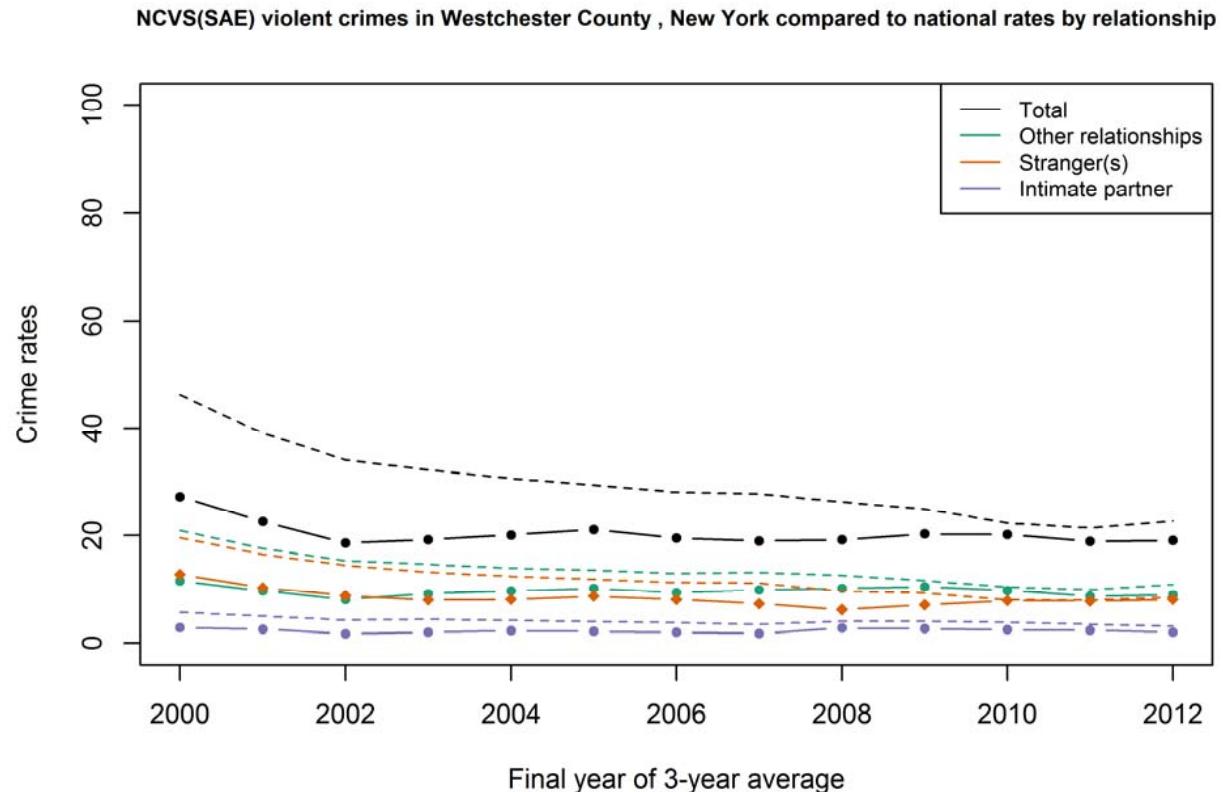


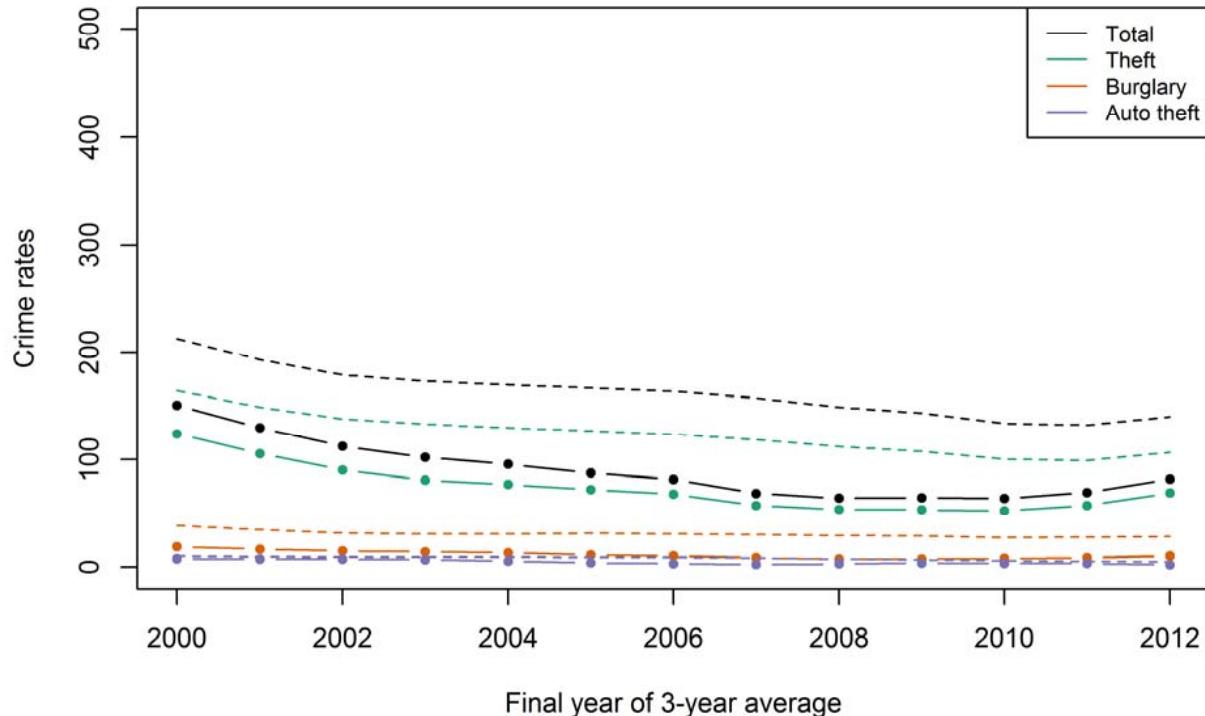
NCVS(SAE) property crimes in Suffolk County , New York compared to national rates



Westchester County, NY

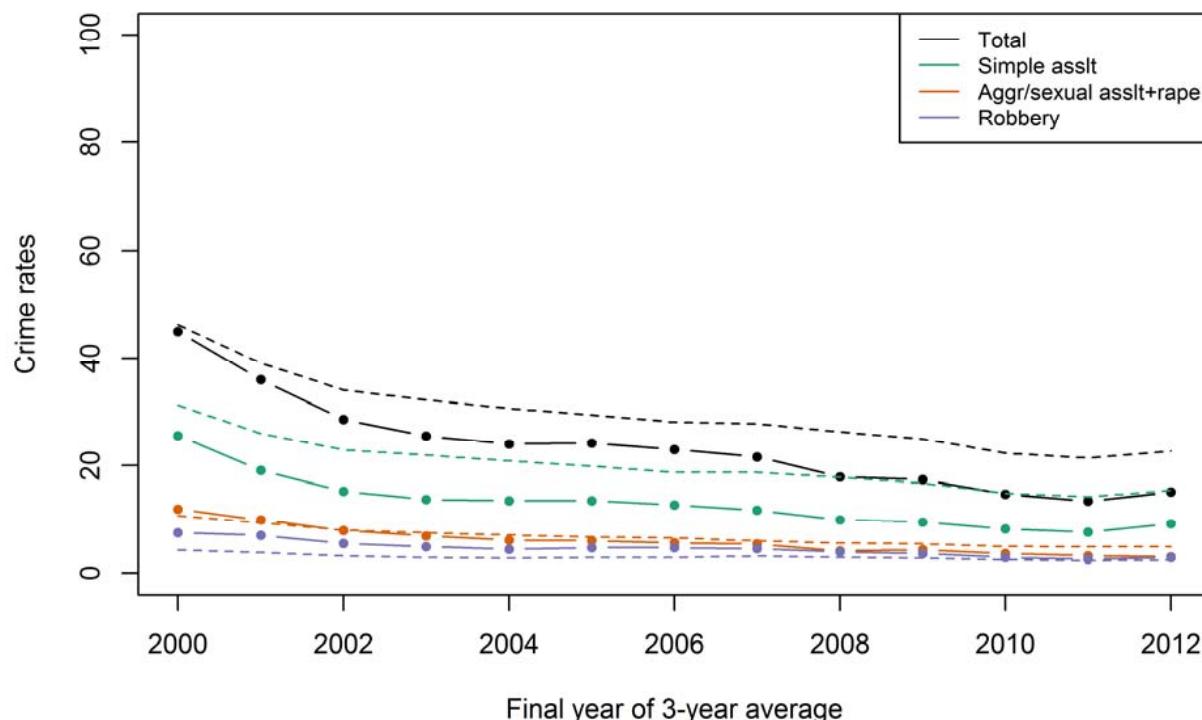




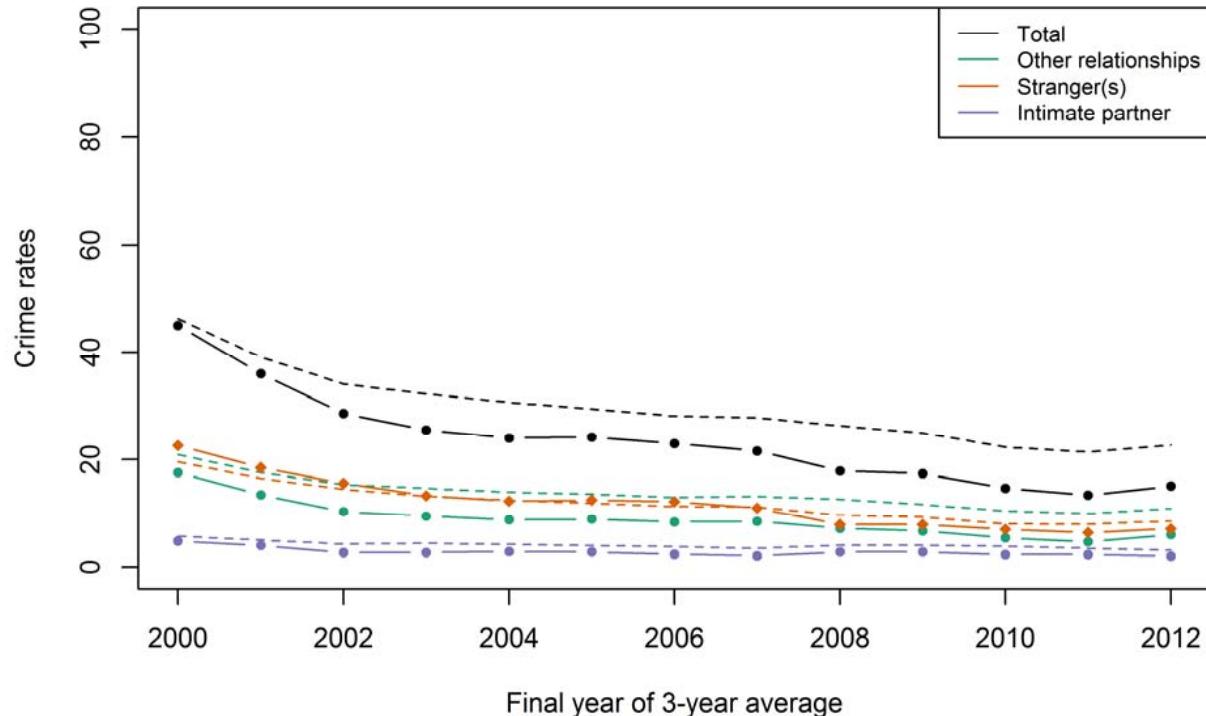
NCVS(SAE) property crimes in Westchester County , New York compared to national rates

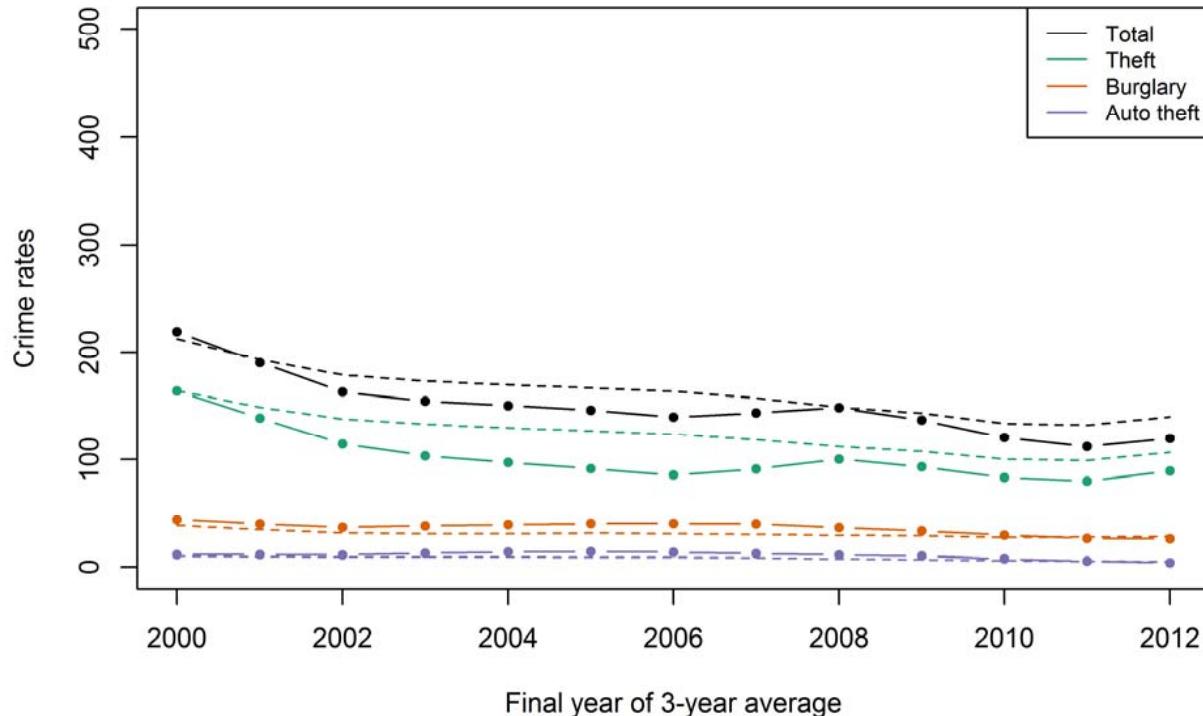
Mecklenburg County, NC

NCVS(SAE) violent crimes in Mecklenburg County , North Carolina compared to national rates by type of crime

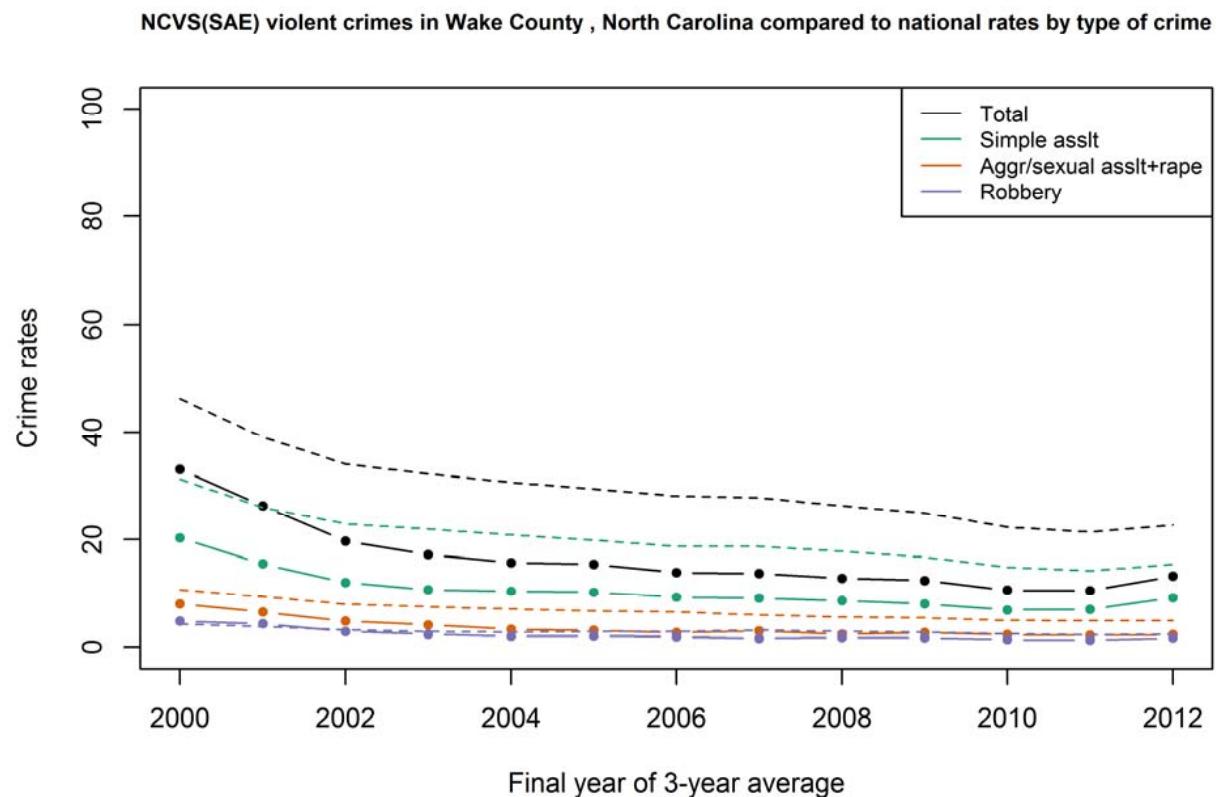


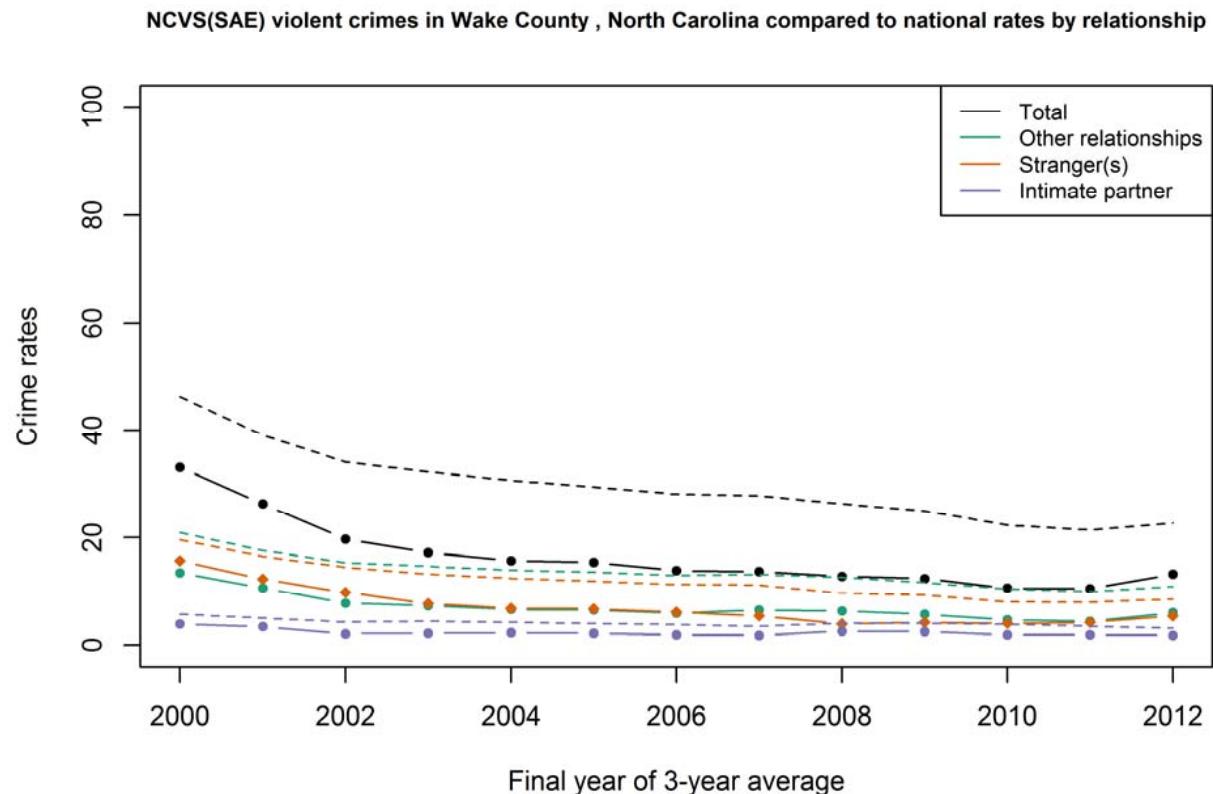
NCVS(SAE) violent crimes in Mecklenburg County , North Carolina compared to national rates by relationship

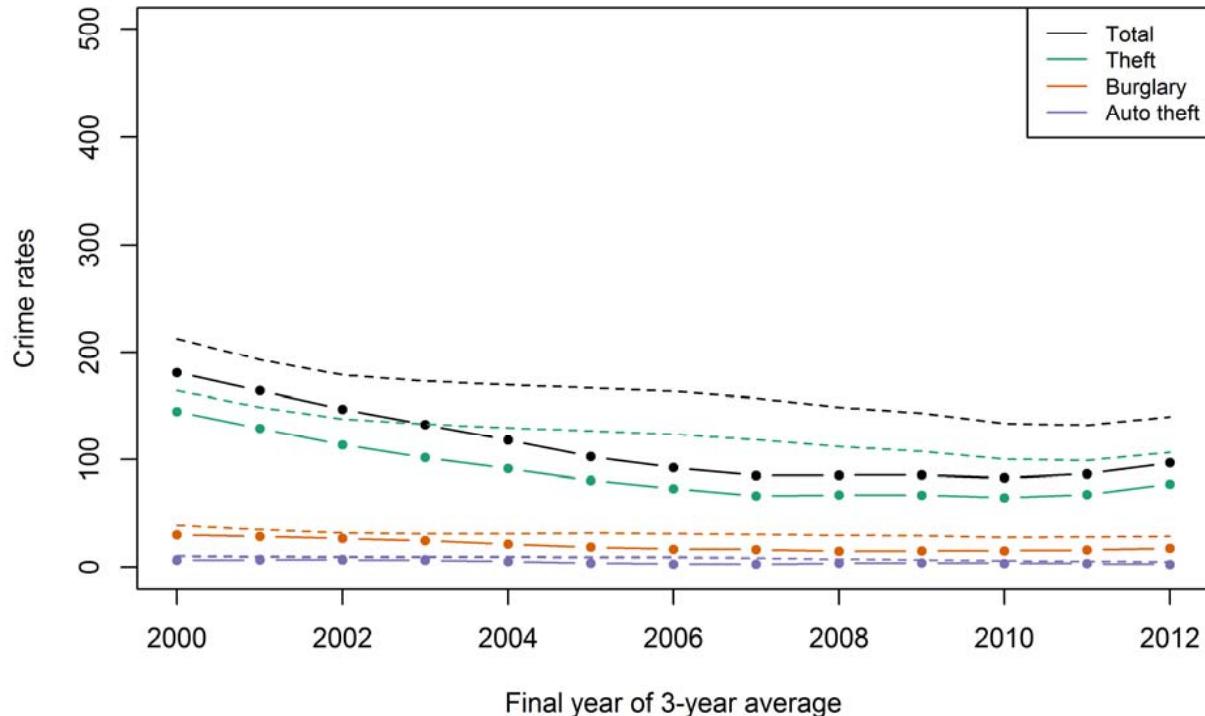


NCVS(SAE) property crimes in Mecklenburg County , North Carolina compared to national rates

Wake County, NC

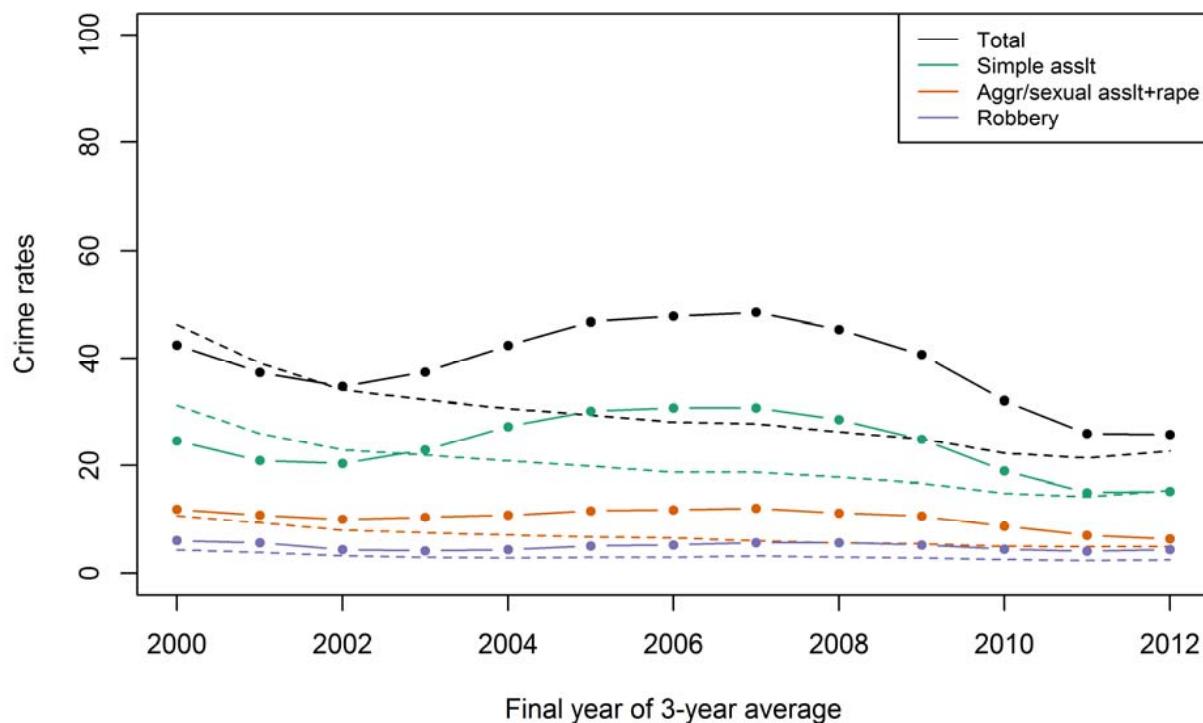


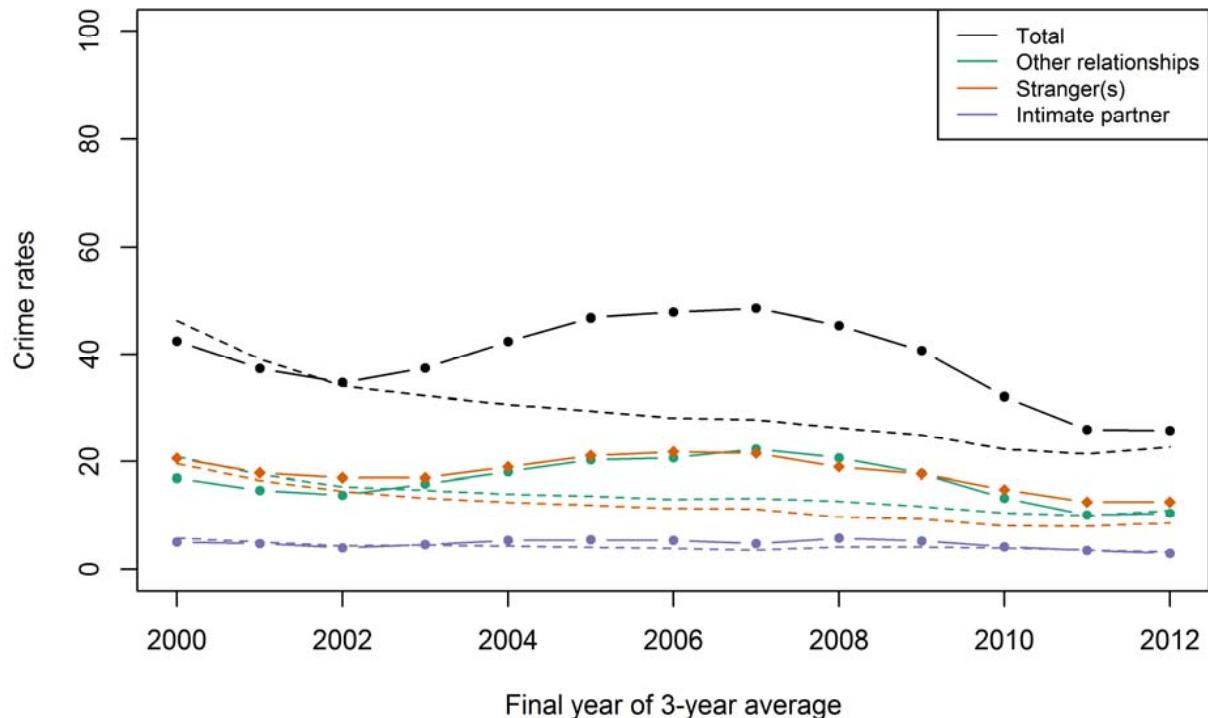


NCVS(SAE) property crimes in Wake County , North Carolina compared to national rates

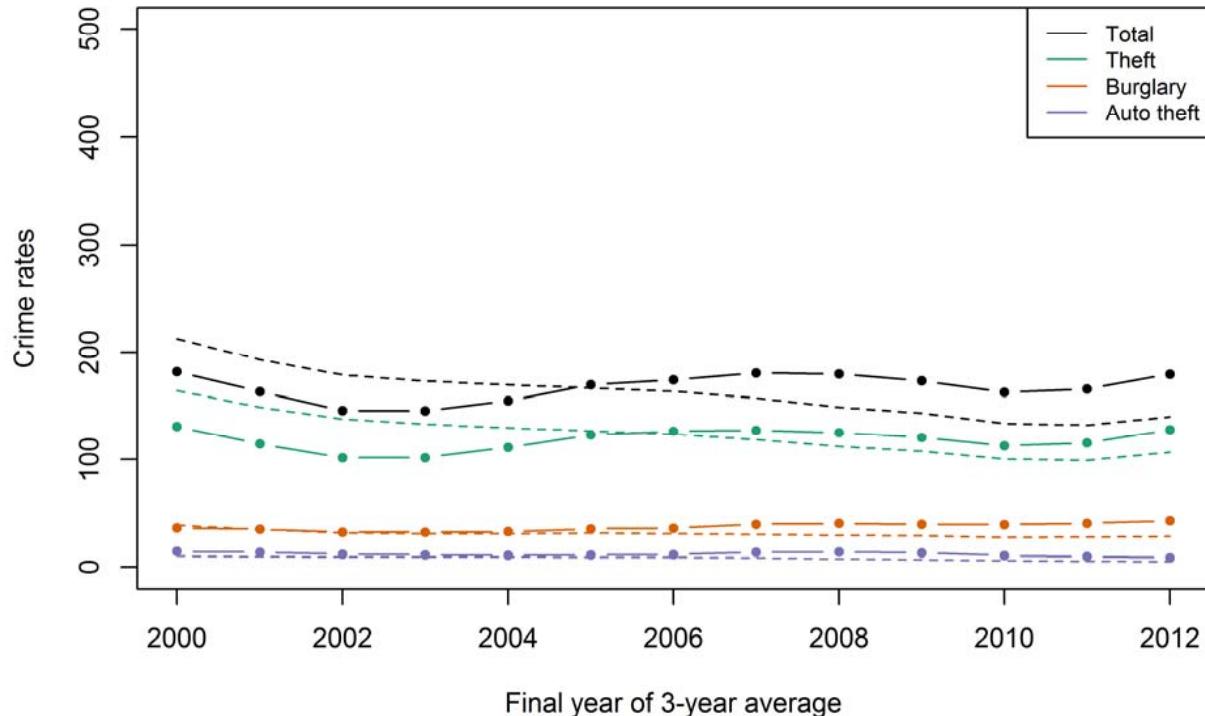
Cuyahoga County, OH

NCVS(SAE) violent crimes in Cuyahoga County , Ohio compared to national rates by type of crime



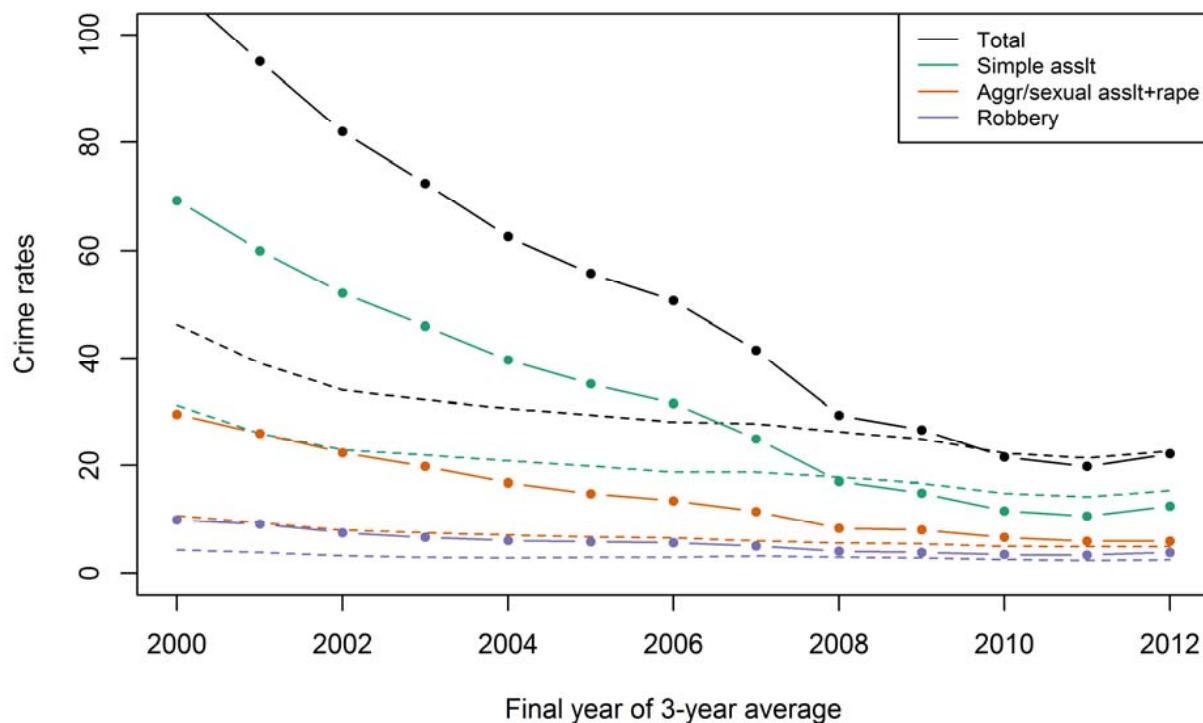
NCVS(SAE) violent crimes in Cuyahoga County , Ohio compared to national rates by relationship

NCVS(SAE) property crimes in Cuyahoga County , Ohio compared to national rates

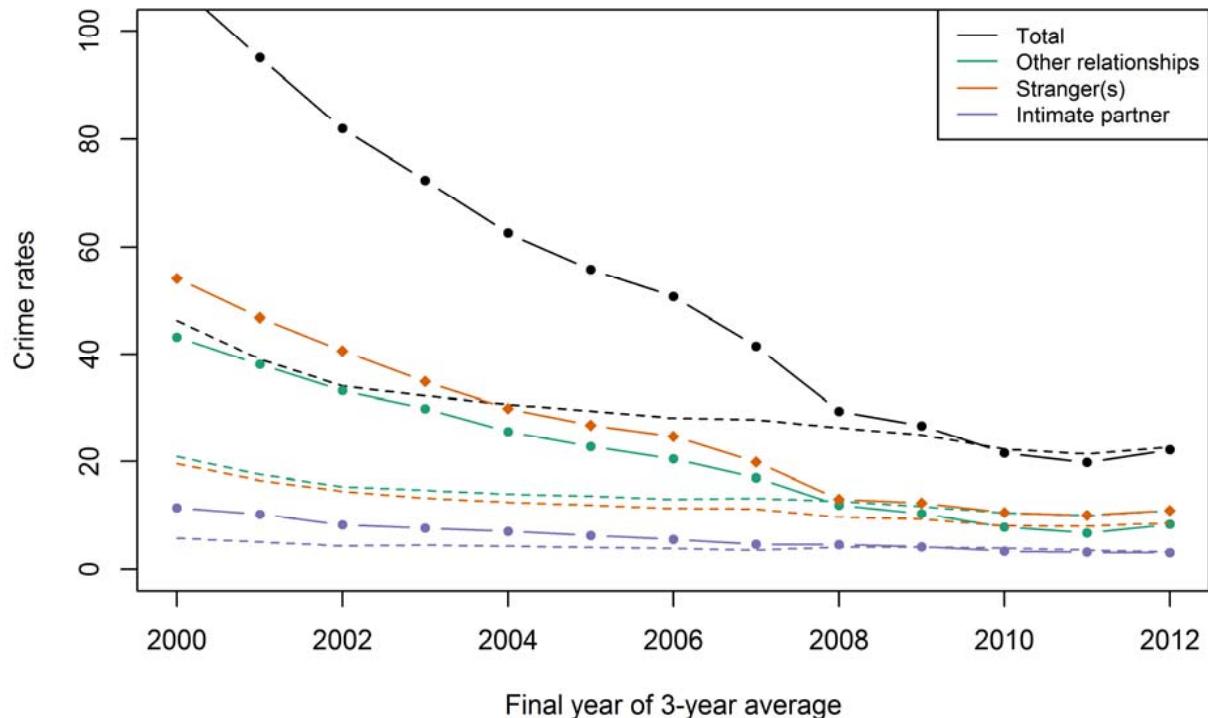


Franklin County, OH

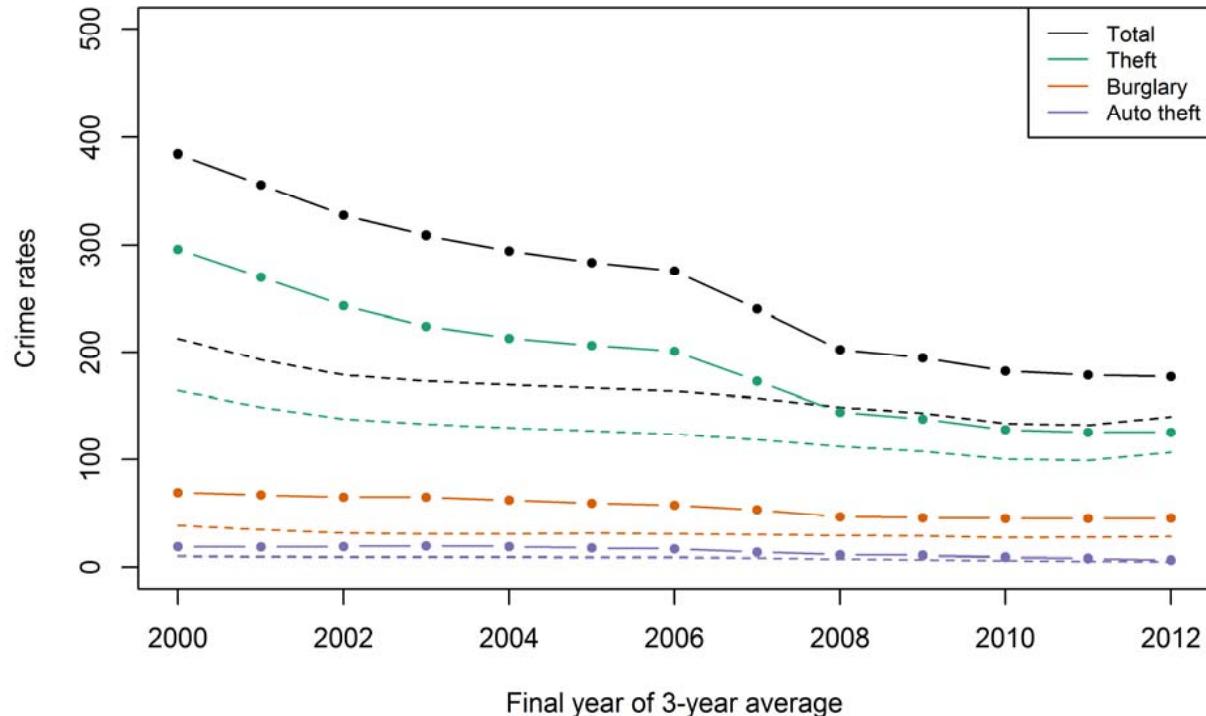
NCVS(SAE) violent crimes in Franklin County , Ohio compared to national rates by type of crime



NCVS(SAE) violent crimes in Franklin County , Ohio compared to national rates by relationship

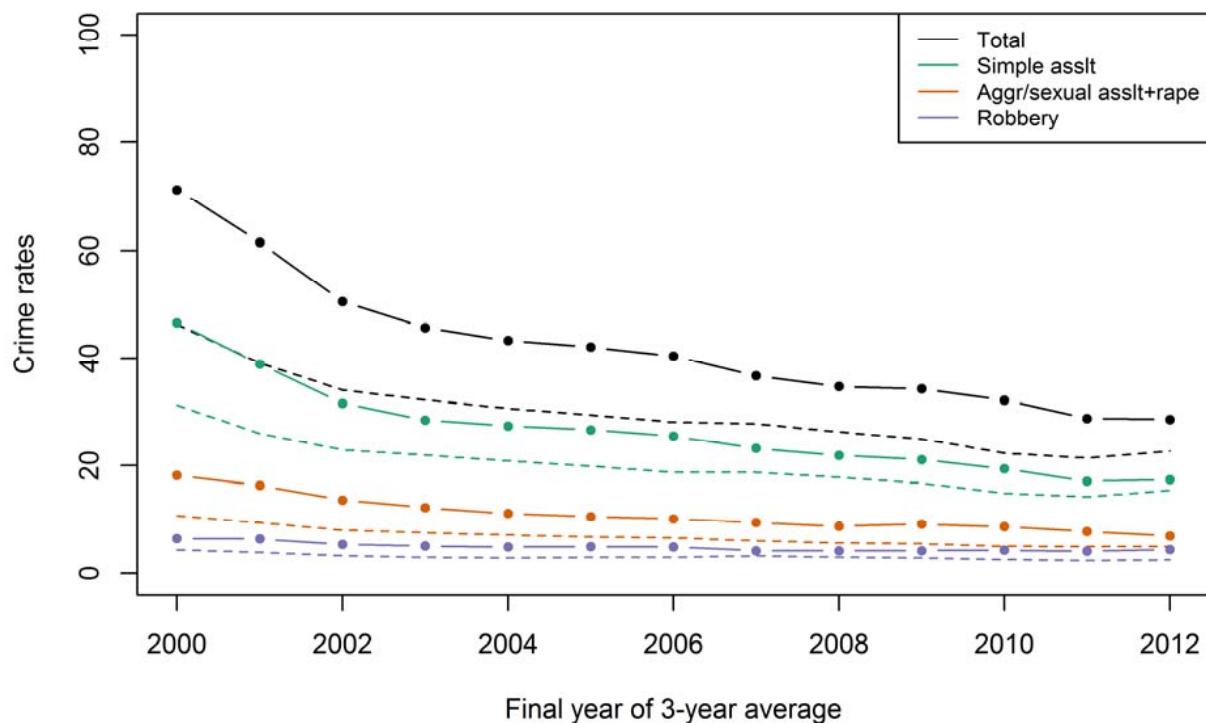


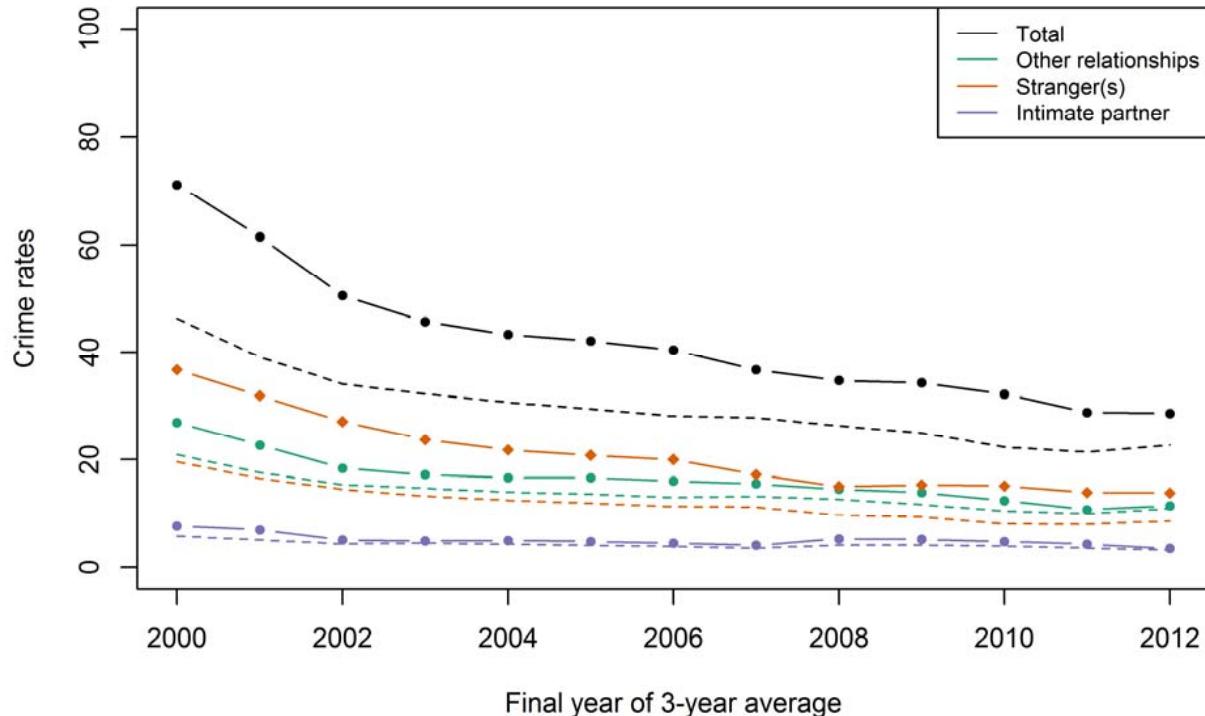
NCVS(SAE) property crimes in Franklin County , Ohio compared to national rates



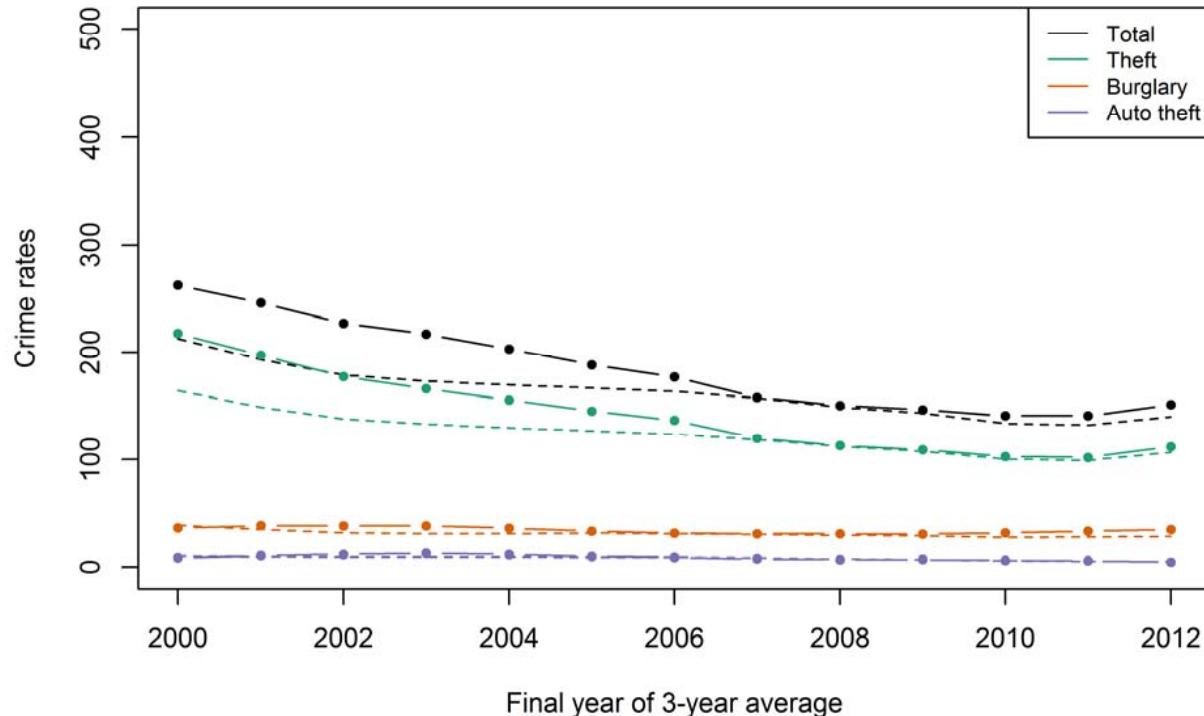
Hamilton County, OH

NCVS(SAE) violent crimes in Hamilton County , Ohio compared to national rates by type of crime

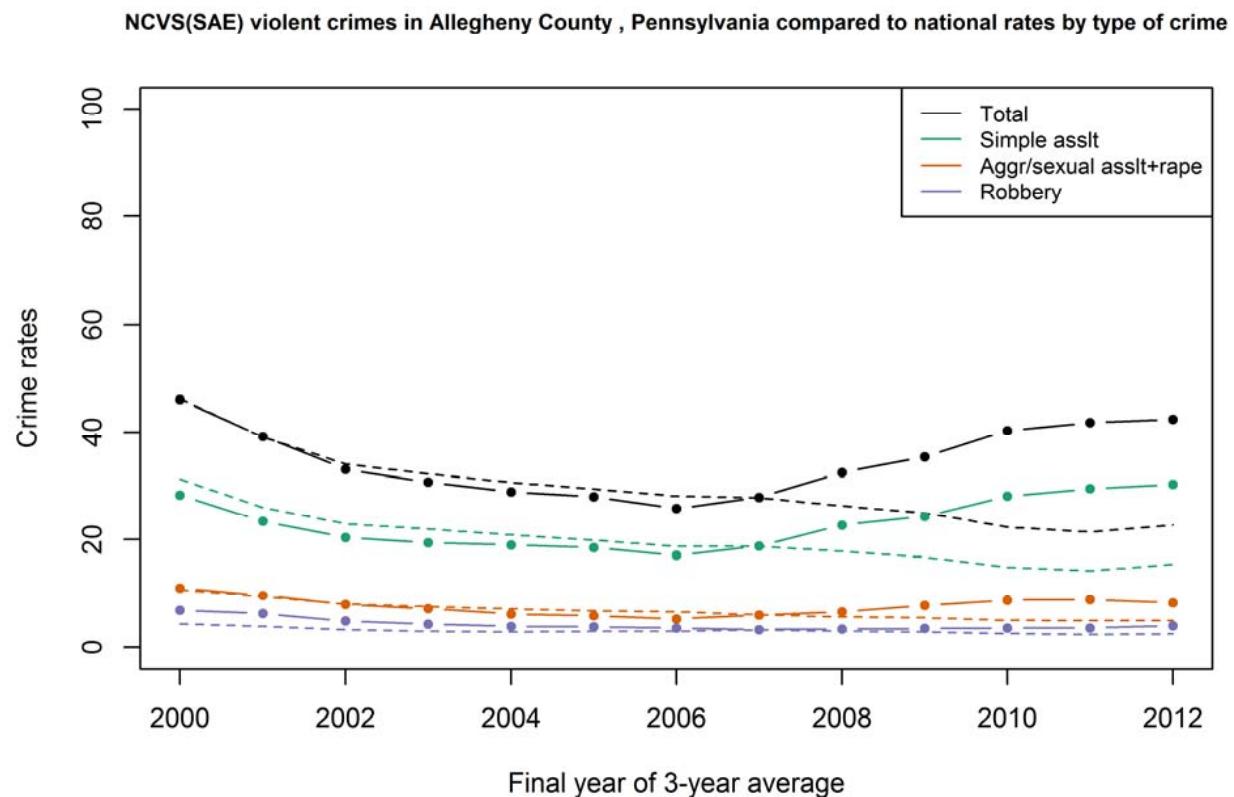


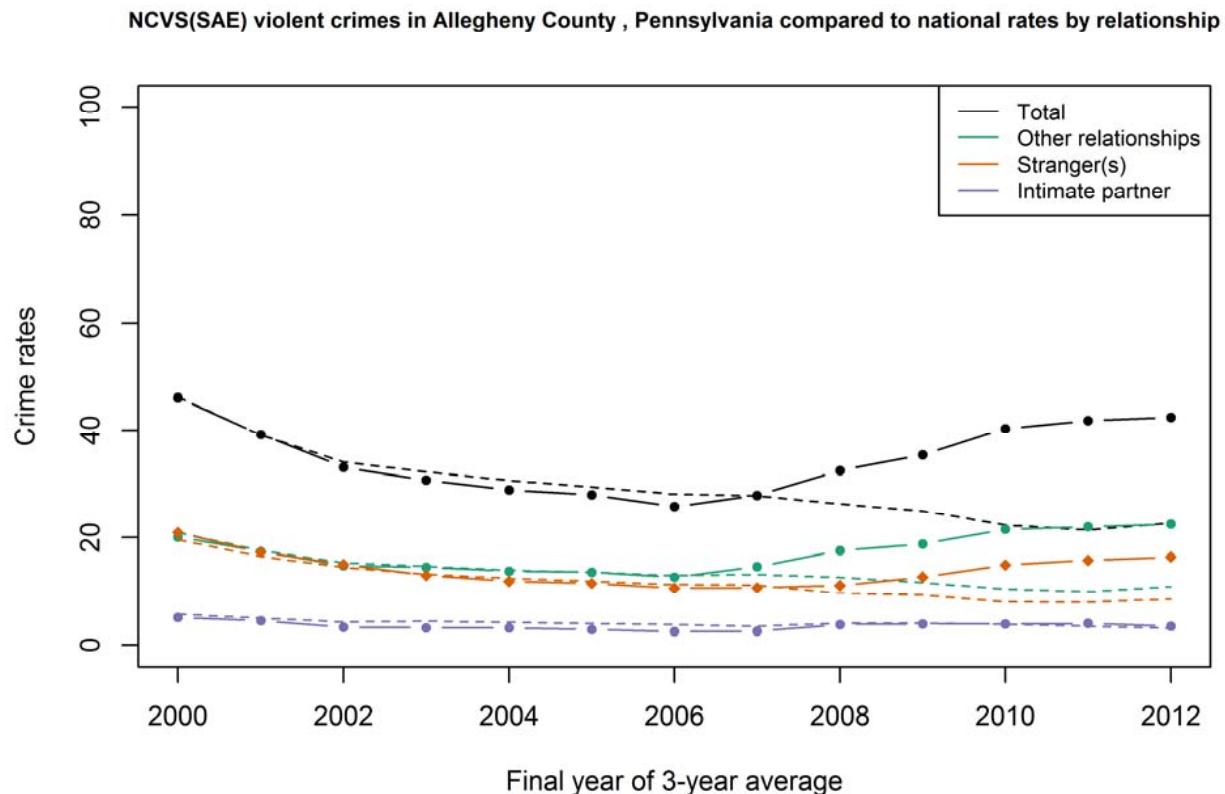
NCVS(SAE) violent crimes in Hamilton County , Ohio compared to national rates by relationship

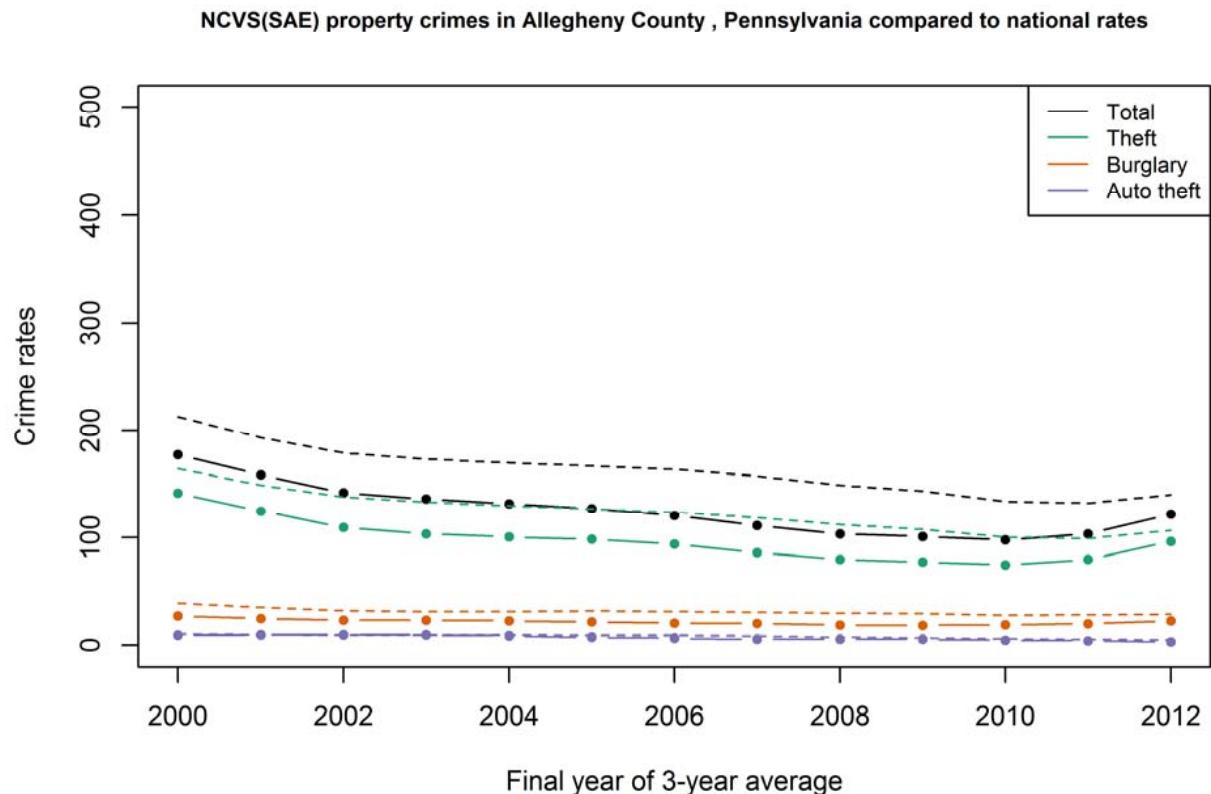
NCVS(SAE) property crimes in Hamilton County , Ohio compared to national rates



Allegheny County, PA

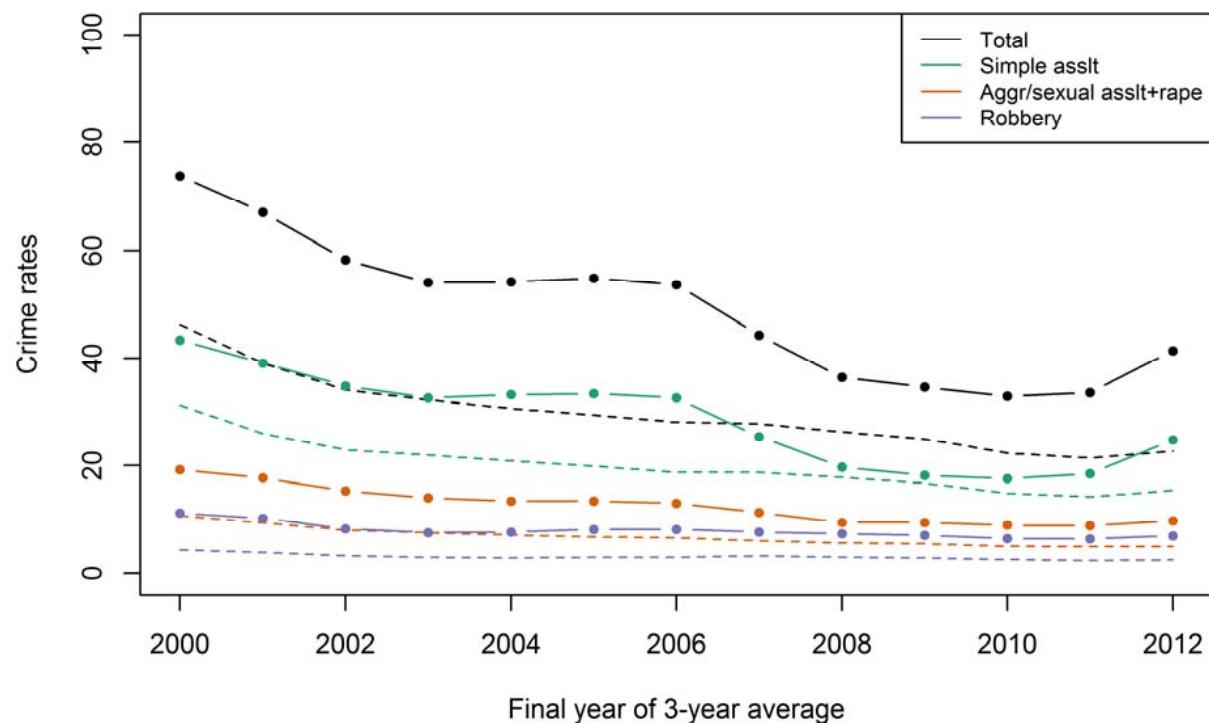


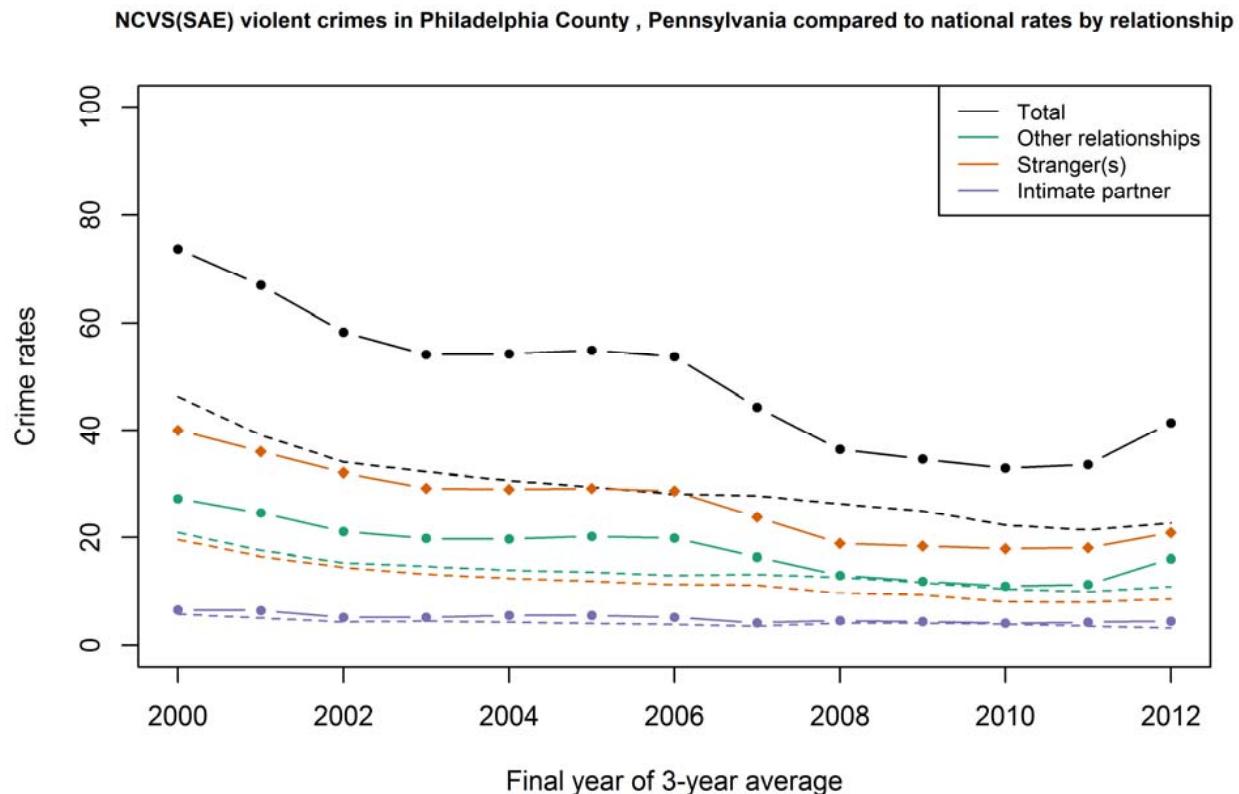


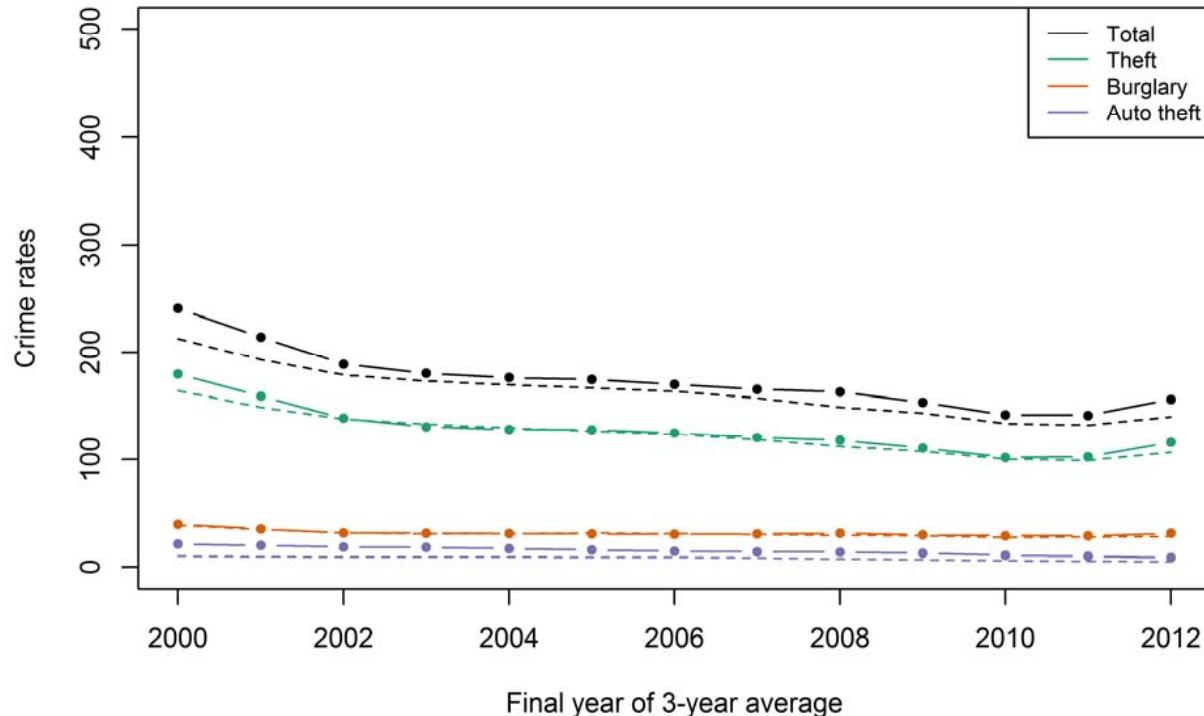


Philadelphia County, PA

NCVS(SAE) violent crimes in Philadelphia County , Pennsylvania compared to national rates by type of crime

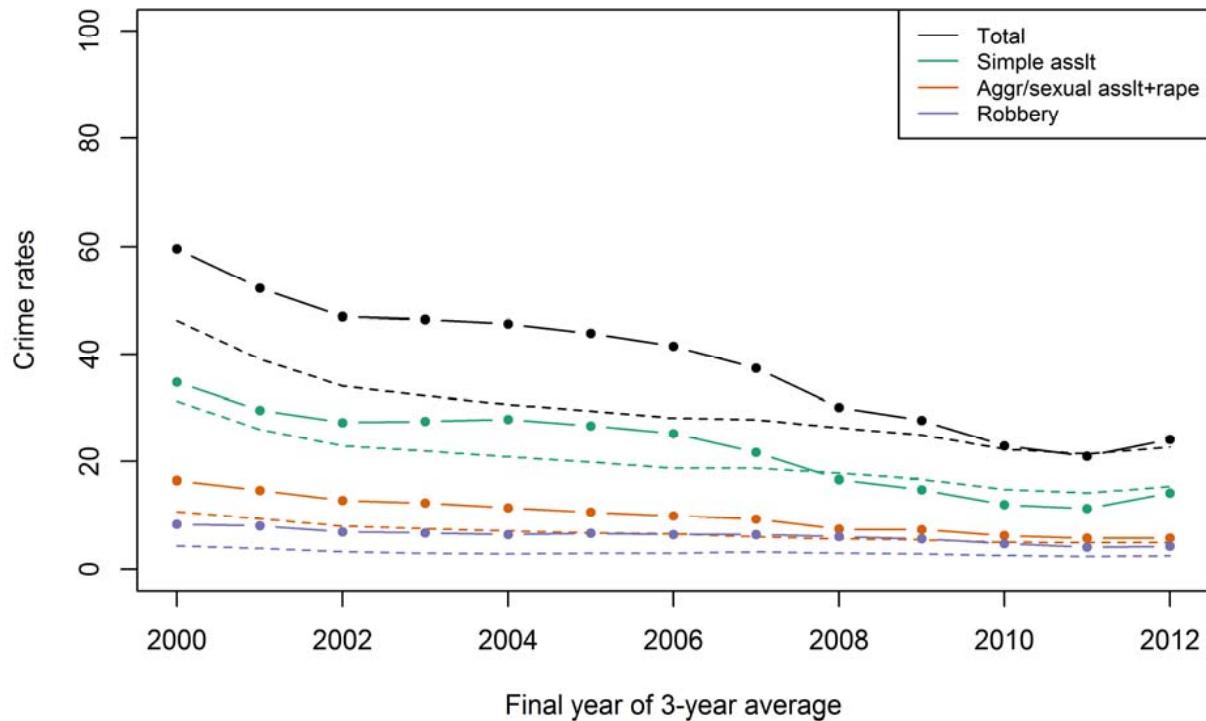


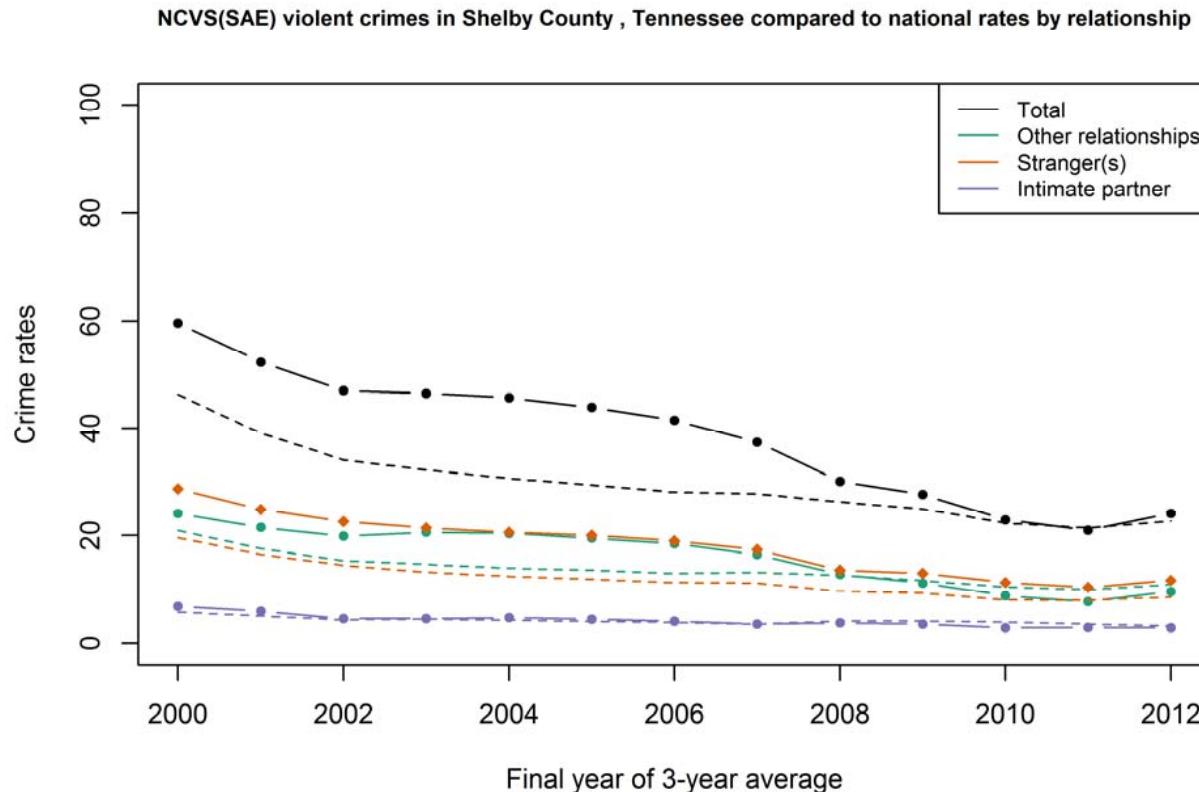


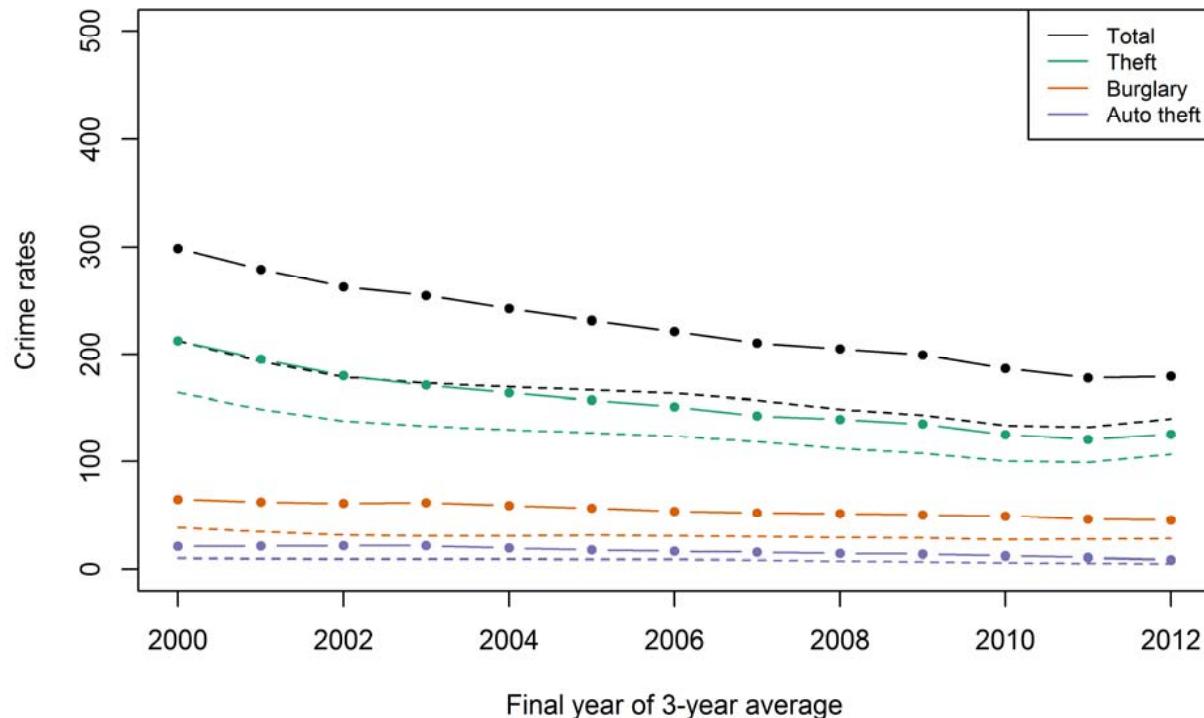
NCVS(SAE) property crimes in Philadelphia County , Pennsylvania compared to national rates

Shelby County, TN

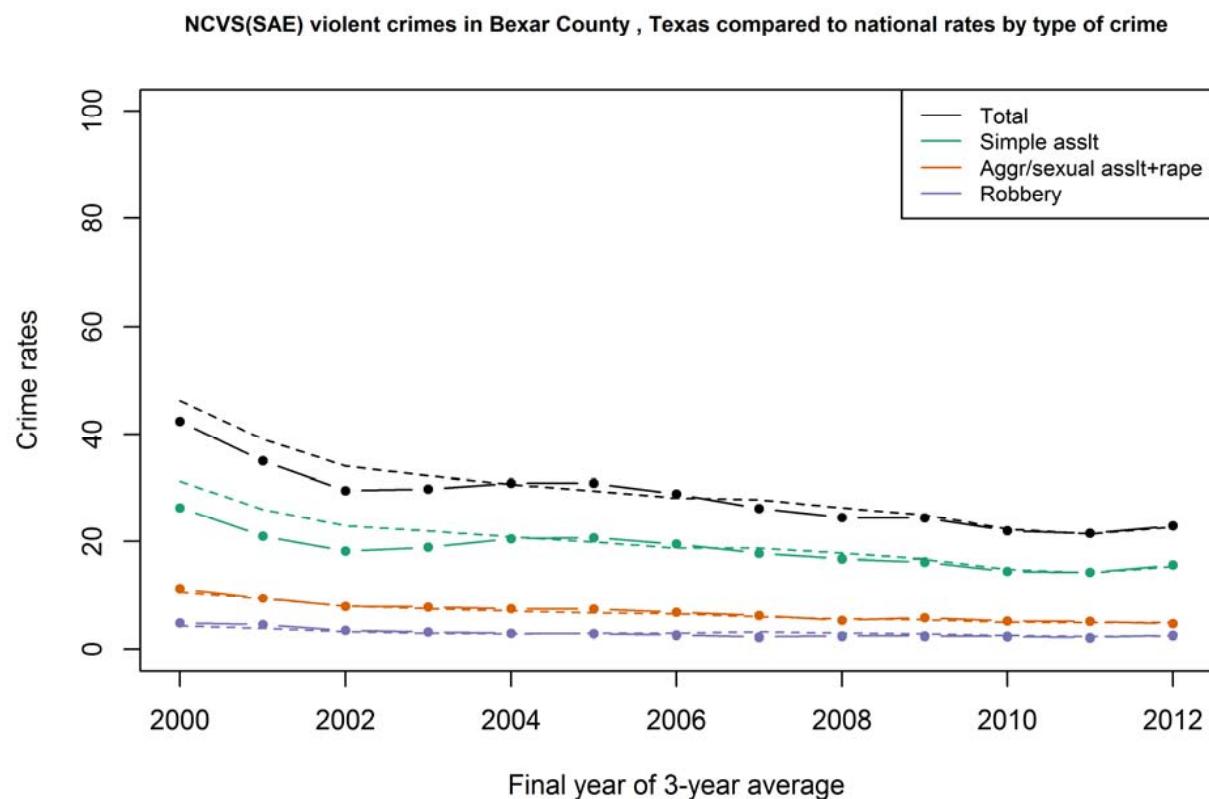
NCVS(SAE) violent crimes in Shelby County , Tennessee compared to national rates by type of crime

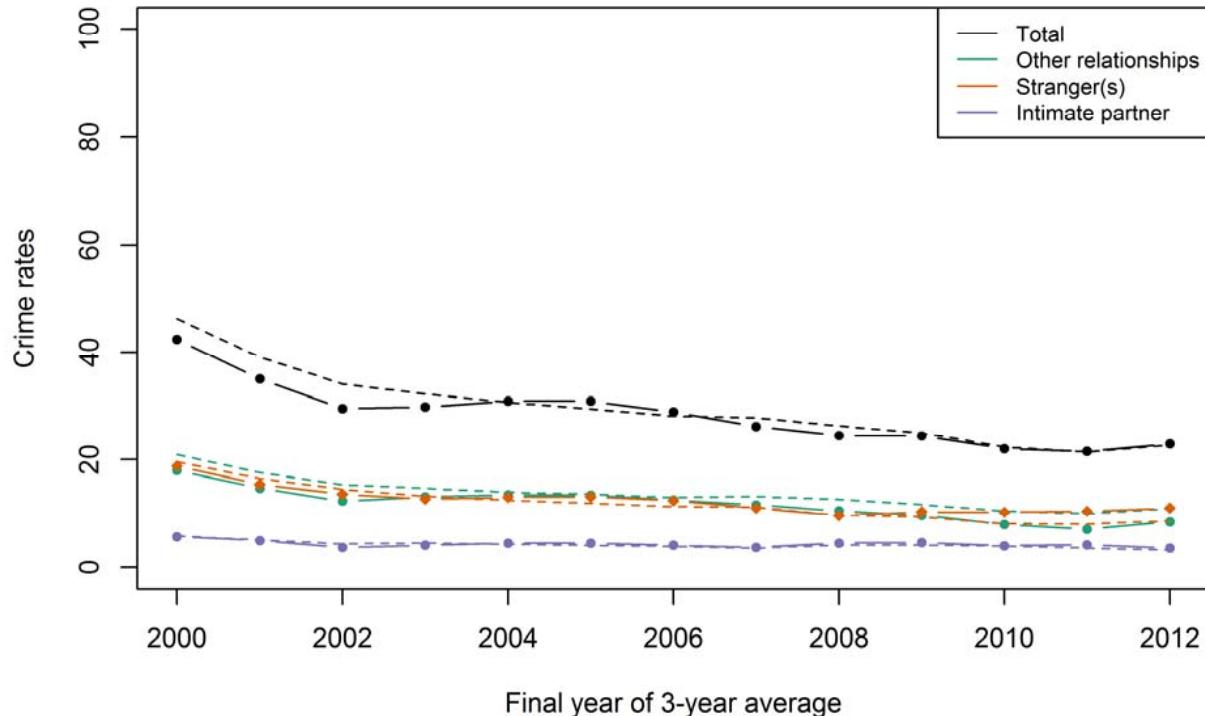




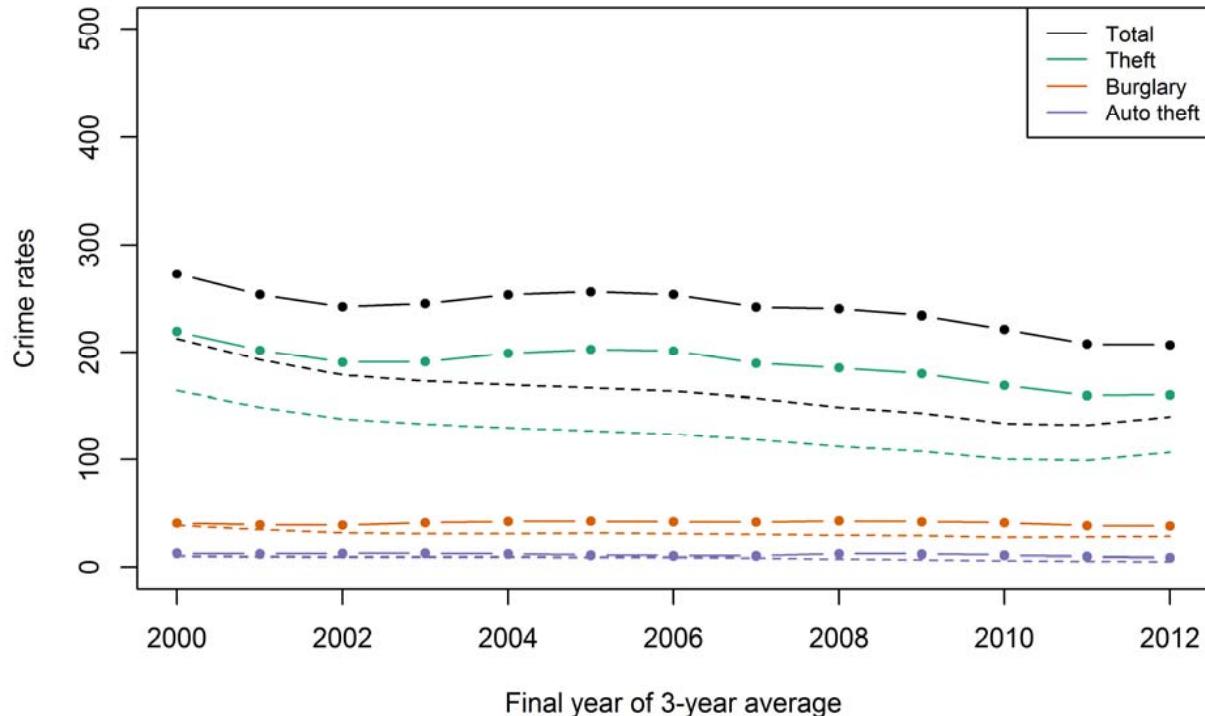
NCVS(SAE) property crimes in Shelby County , Tennessee compared to national rates

Bexar County, TX



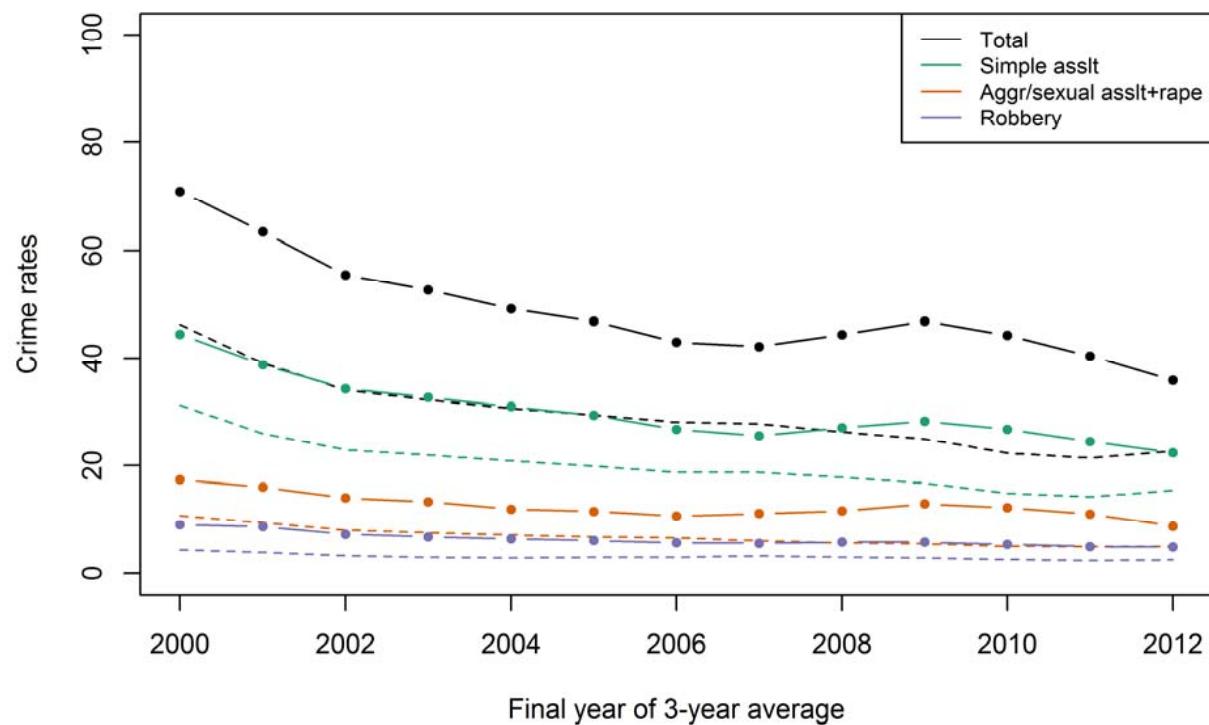
NCVS(SAE) violent crimes in Bexar County , Texas compared to national rates by relationship

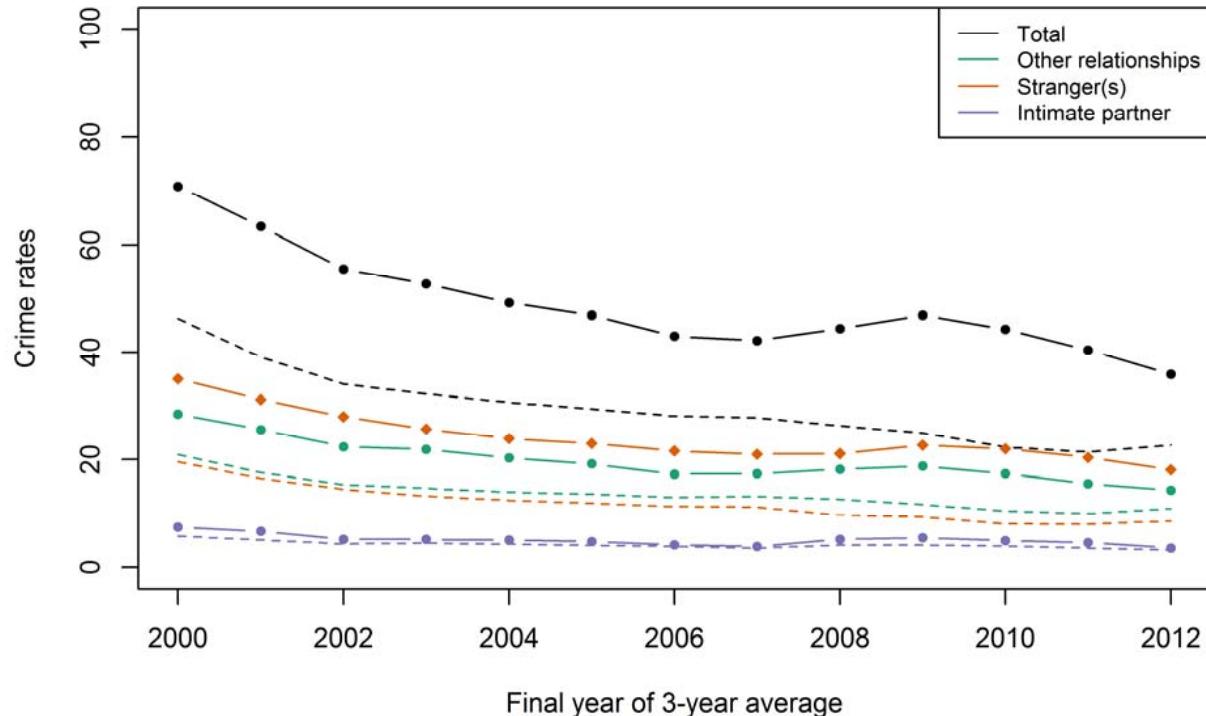
NCVS(SAE) property crimes in Bexar County , Texas compared to national rates



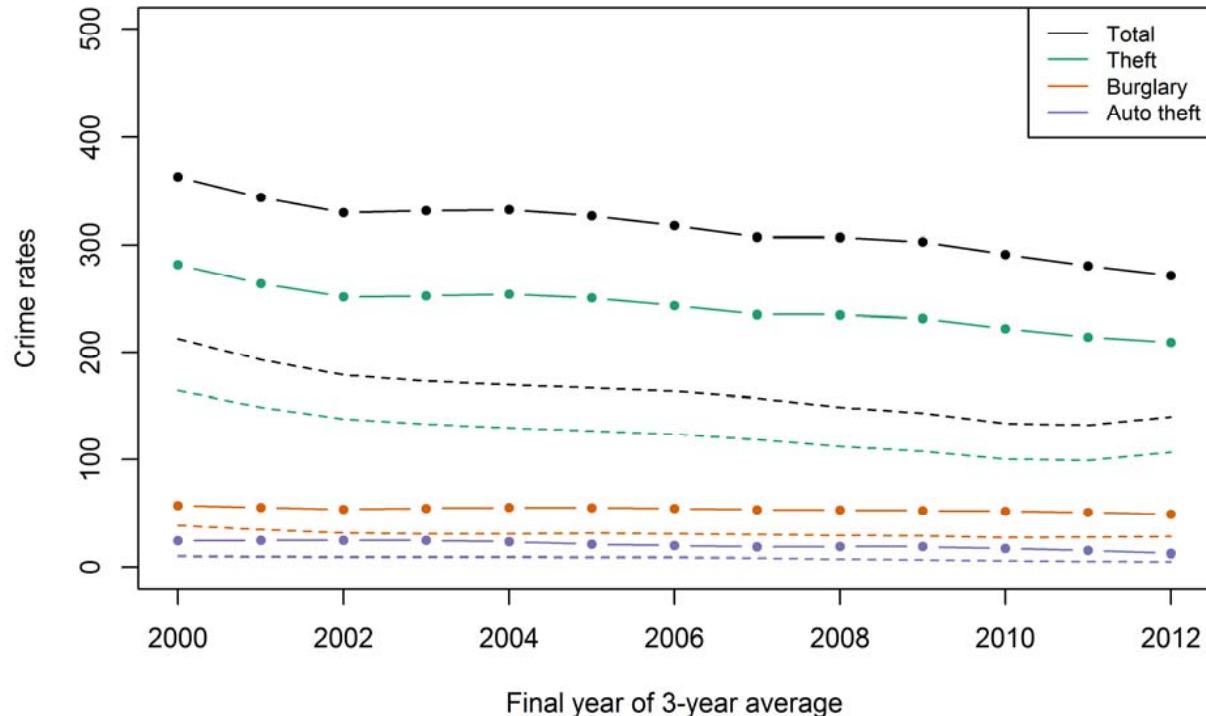
Dallas County, TX

NCVS(SAE) violent crimes in Dallas County , Texas compared to national rates by type of crime



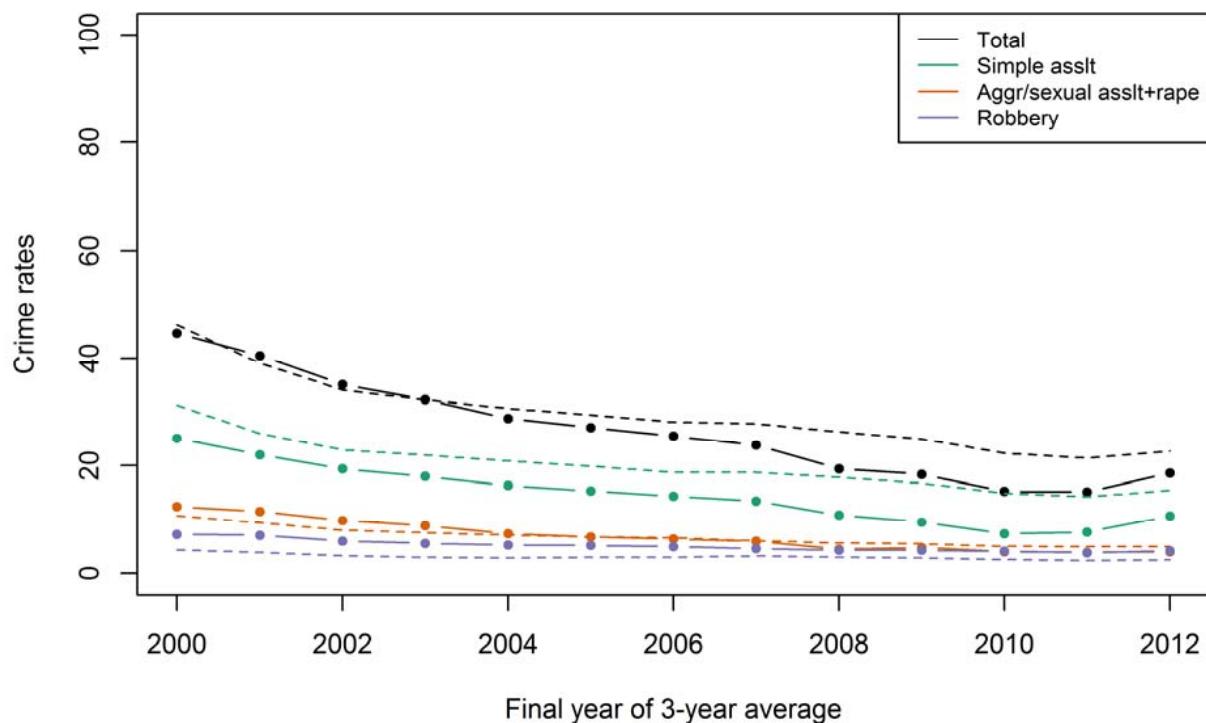
NCVS(SAE) violent crimes in Dallas County , Texas compared to national rates by relationship

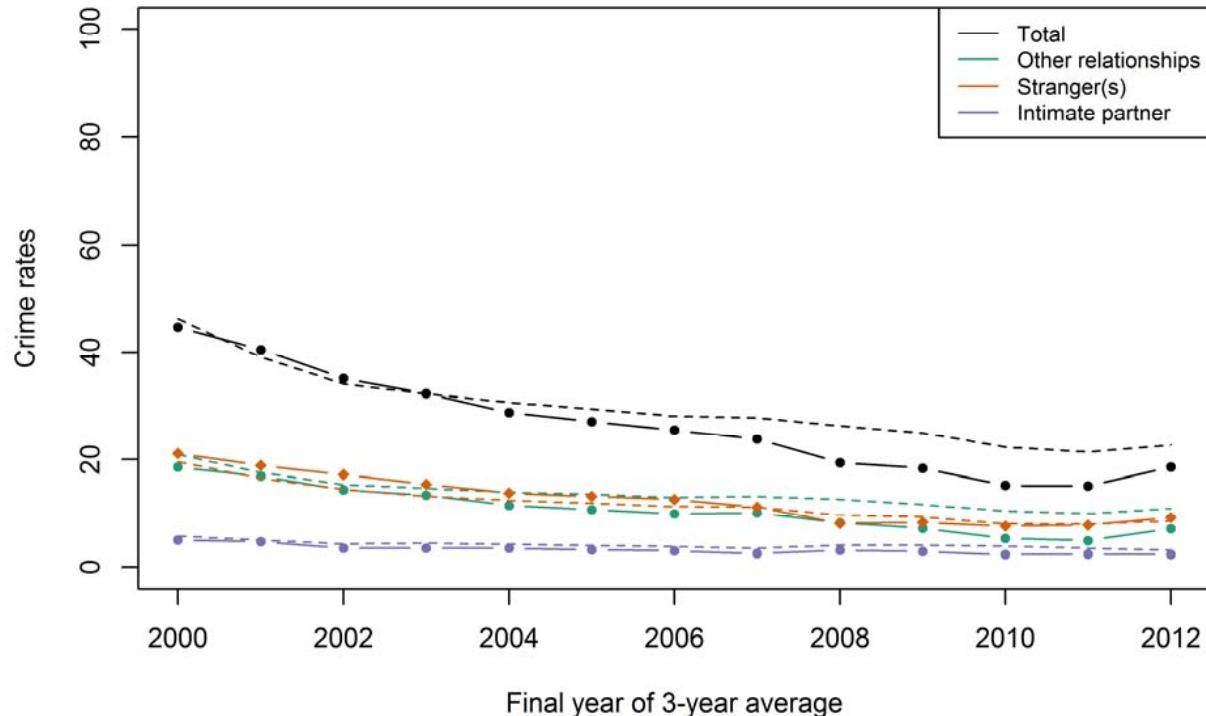
NCVS(SAE) property crimes in Dallas County , Texas compared to national rates



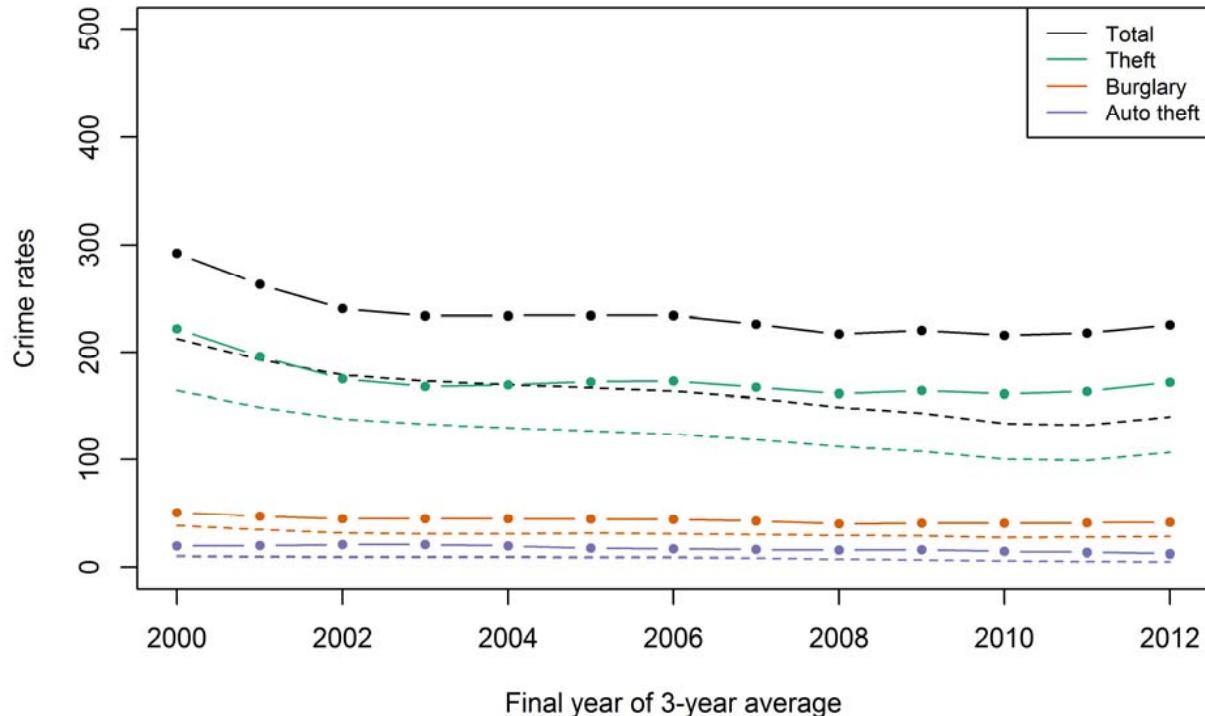
Harris County, TX

NCVS(SAE) violent crimes in Harris County , Texas compared to national rates by type of crime



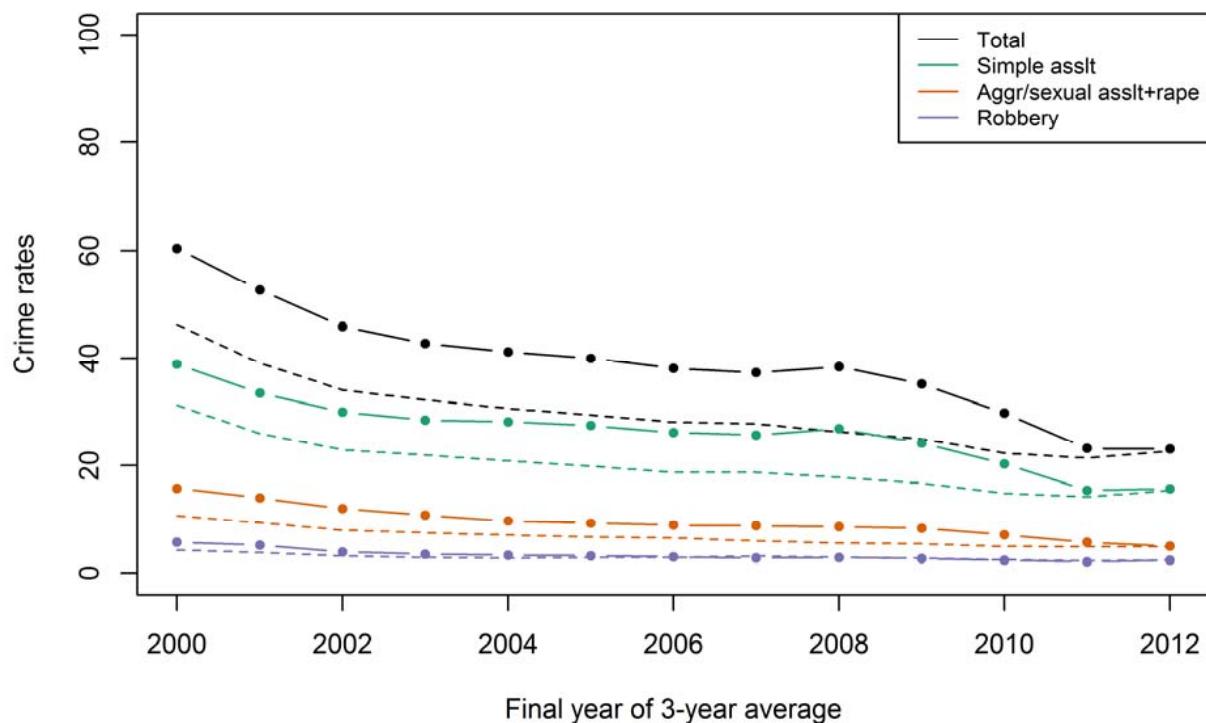
NCVS(SAE) violent crimes in Harris County , Texas compared to national rates by relationship

NCVS(SAE) property crimes in Harris County , Texas compared to national rates

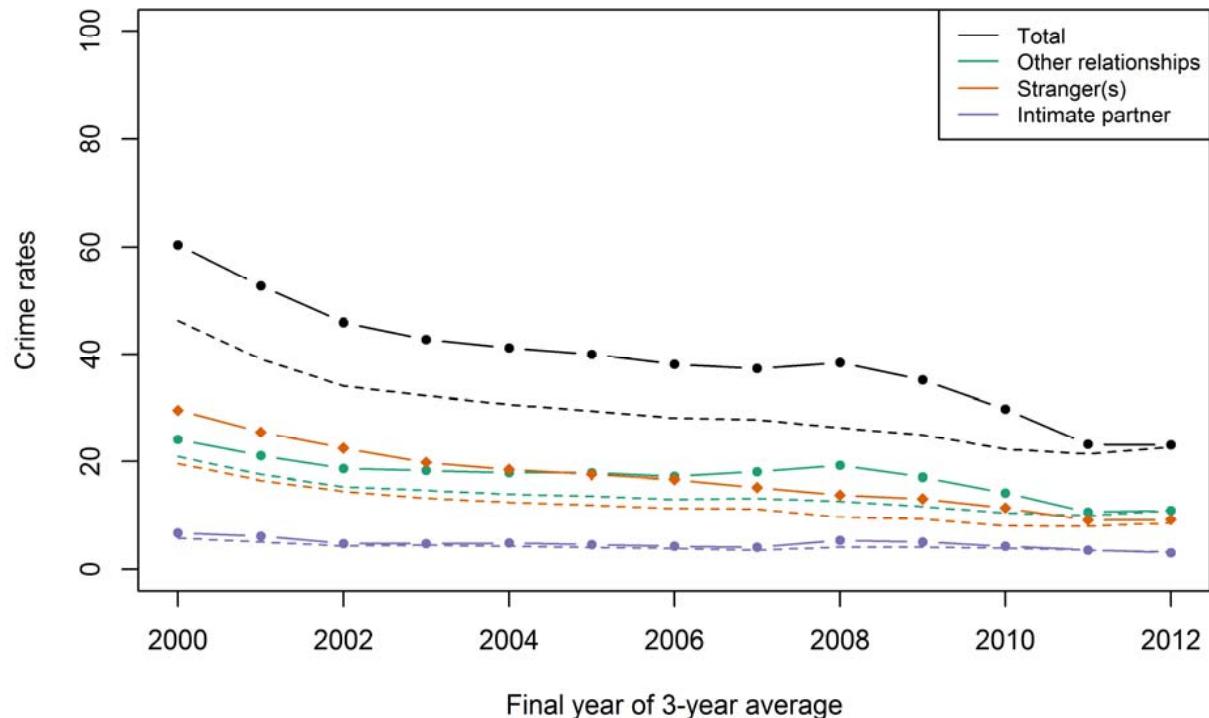


Tarrant, TX

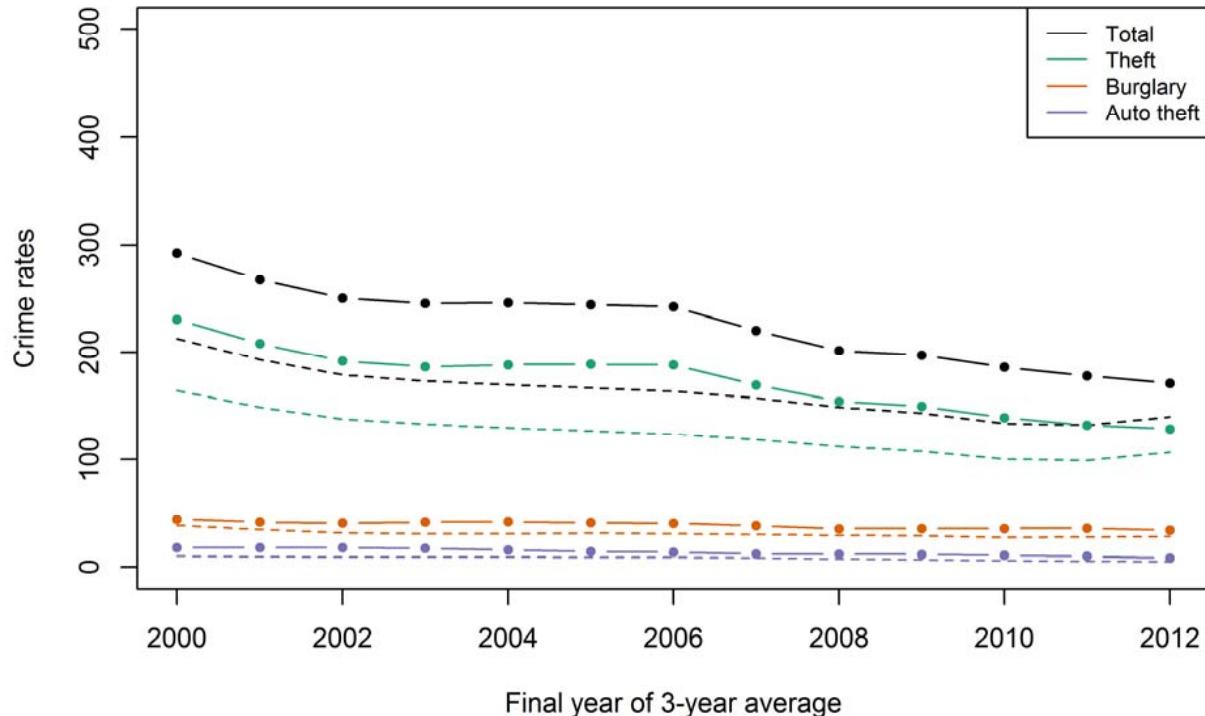
NCVS(SAE) violent crimes in Tarrant County , Texas compared to national rates by type of crime



NCVS(SAE) violent crimes in Tarrant County , Texas compared to national rates by relationship

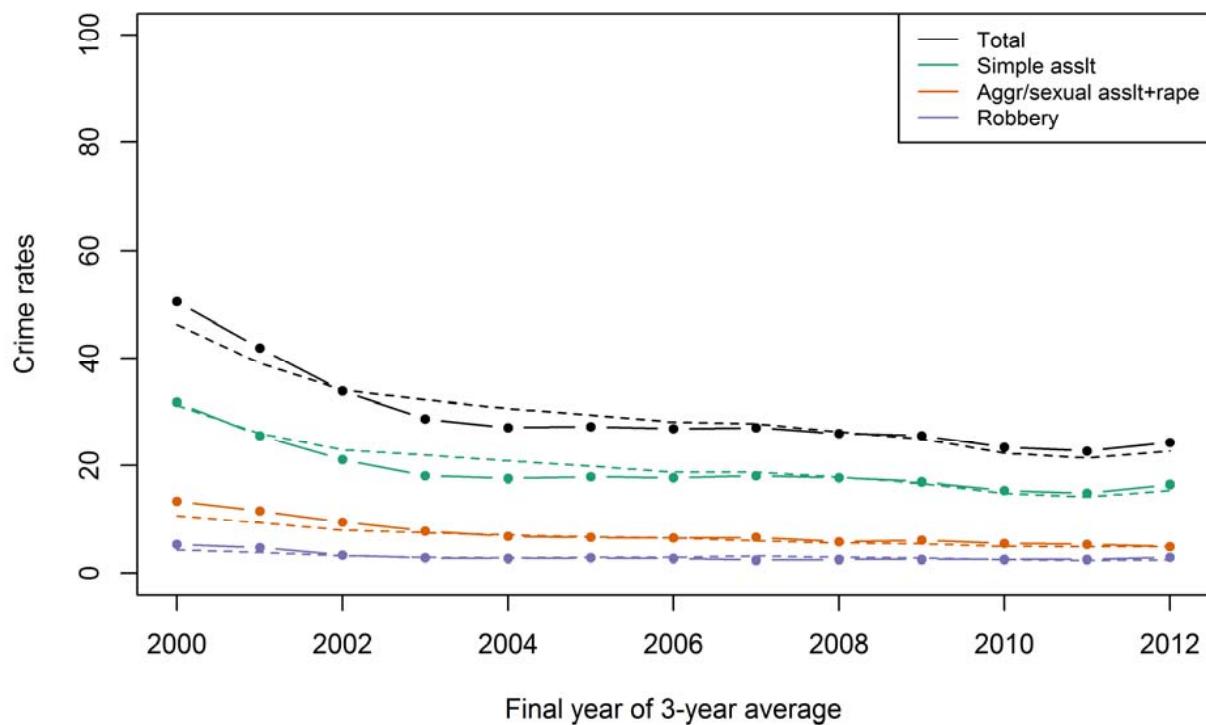


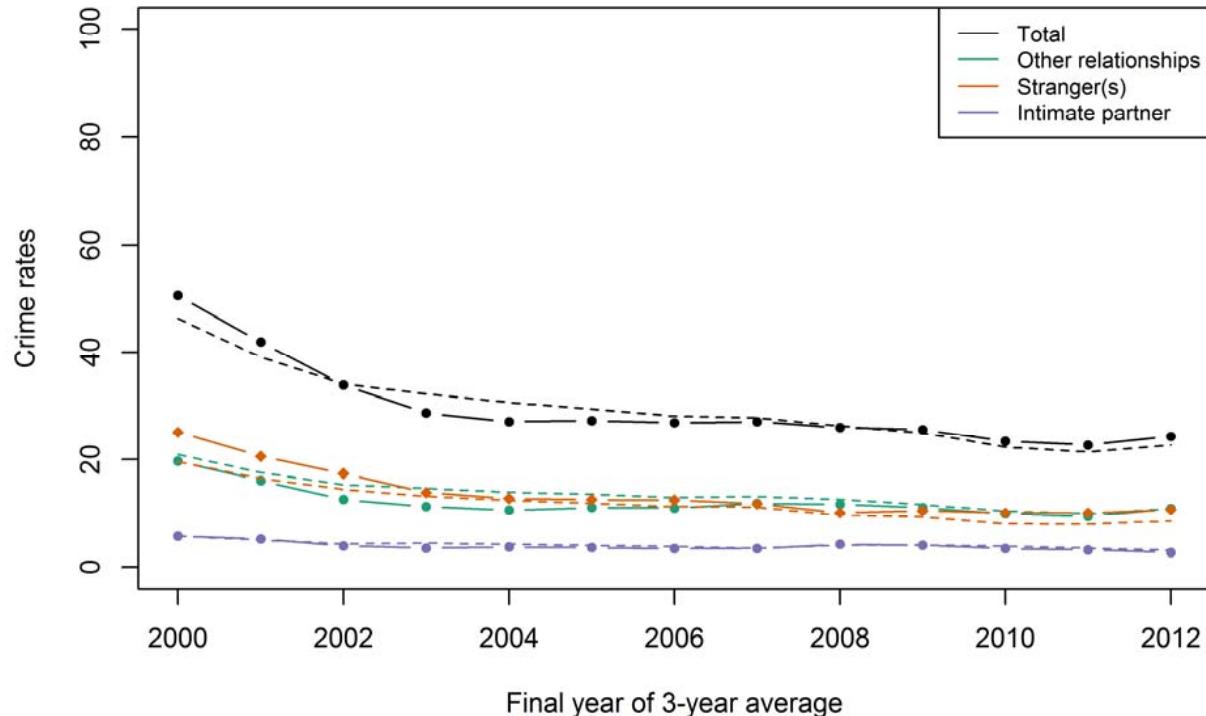
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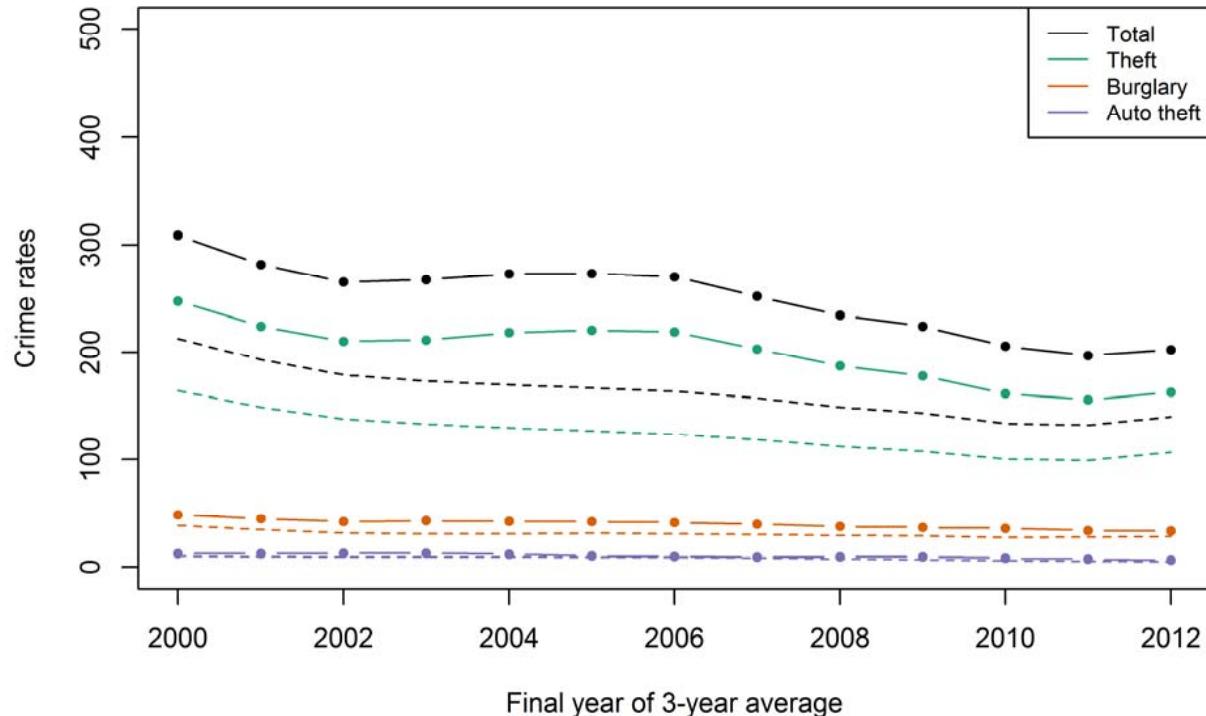
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NCVS(SAE) violent crimes in Travis County , Texas compared to national rates by type of crime



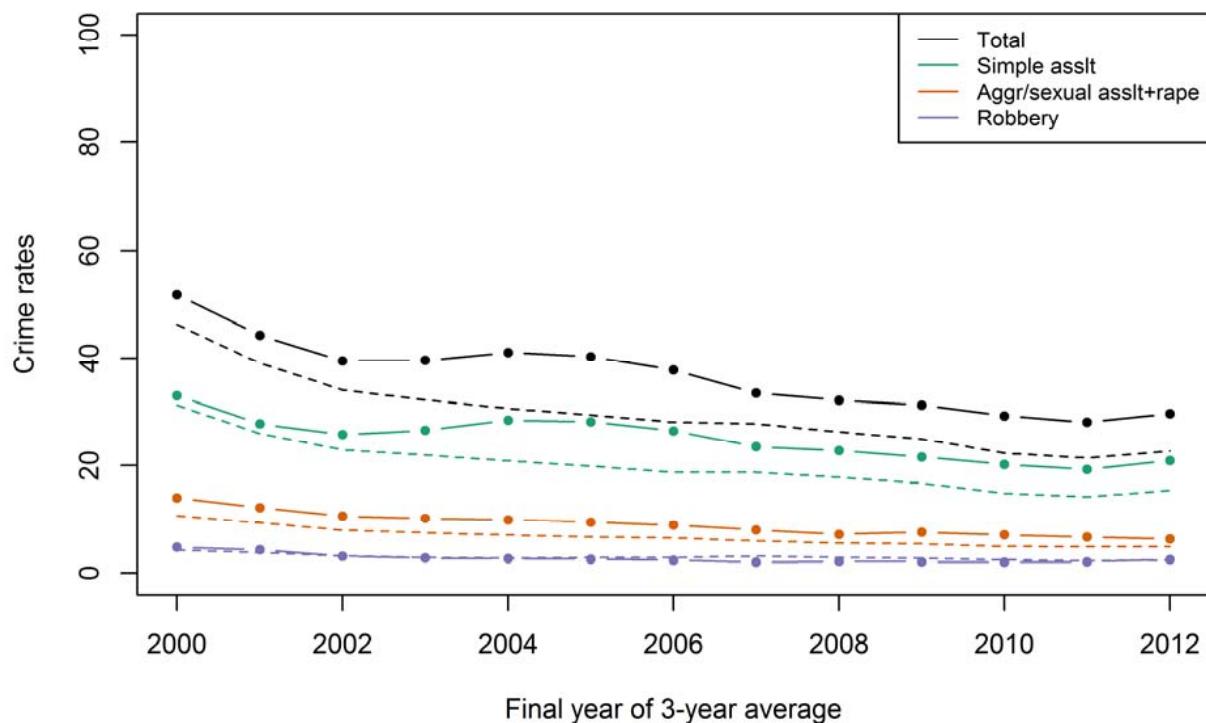
NCVS(SAE) violent crimes in Travis County , Texas compared to national rates by relationship

NCVS(SAE) property crimes in Travis County , Texas compared to national rates

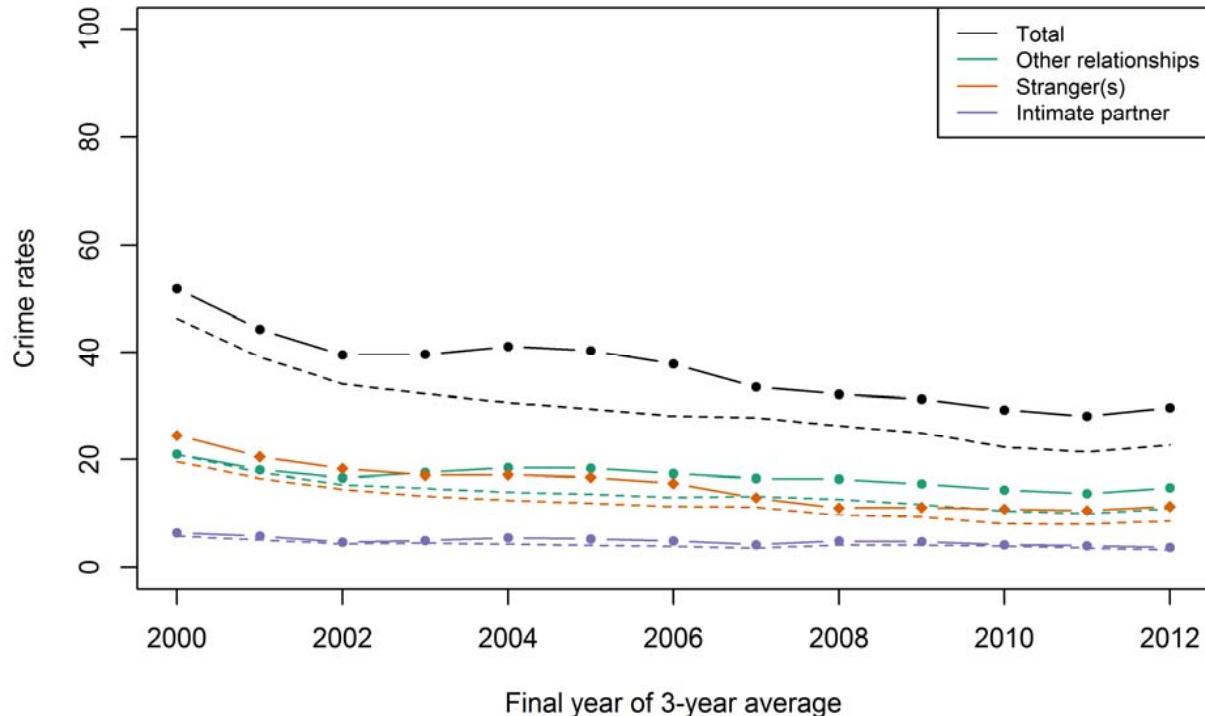


Salt Lake County, UT

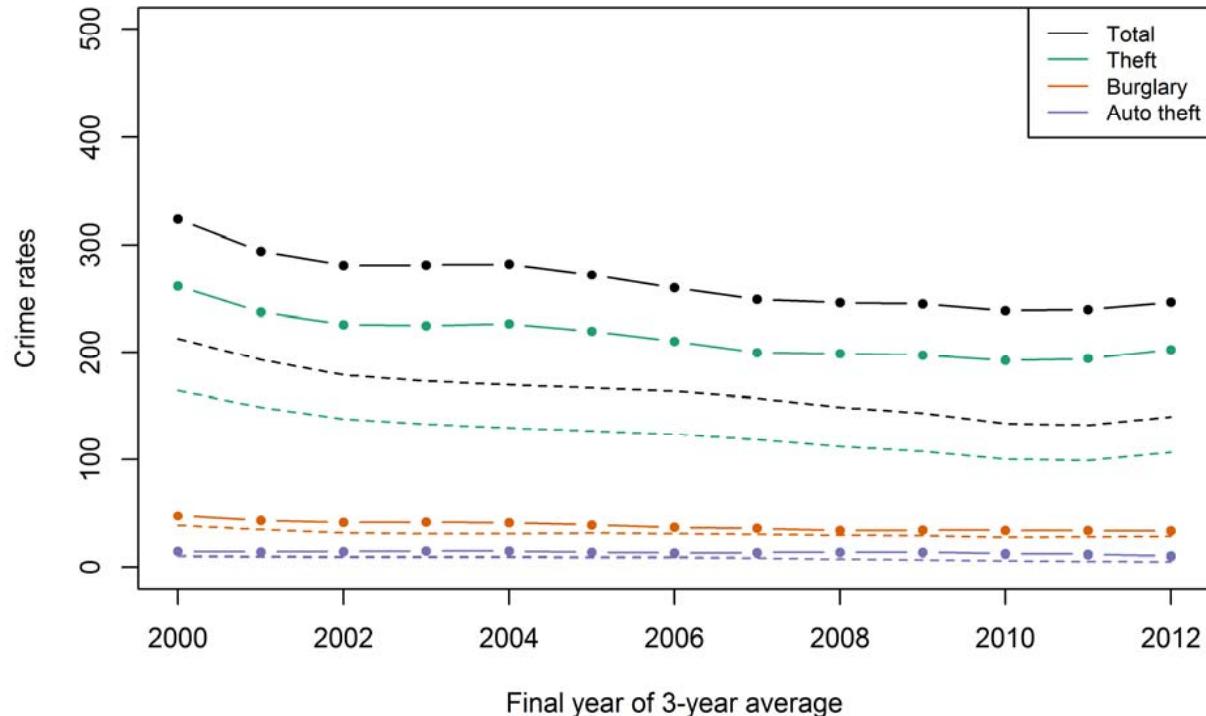
NCVS(SAE) violent crimes in Salt Lake County , Utah compared to national rates by type of crime



Final year of 3-year average

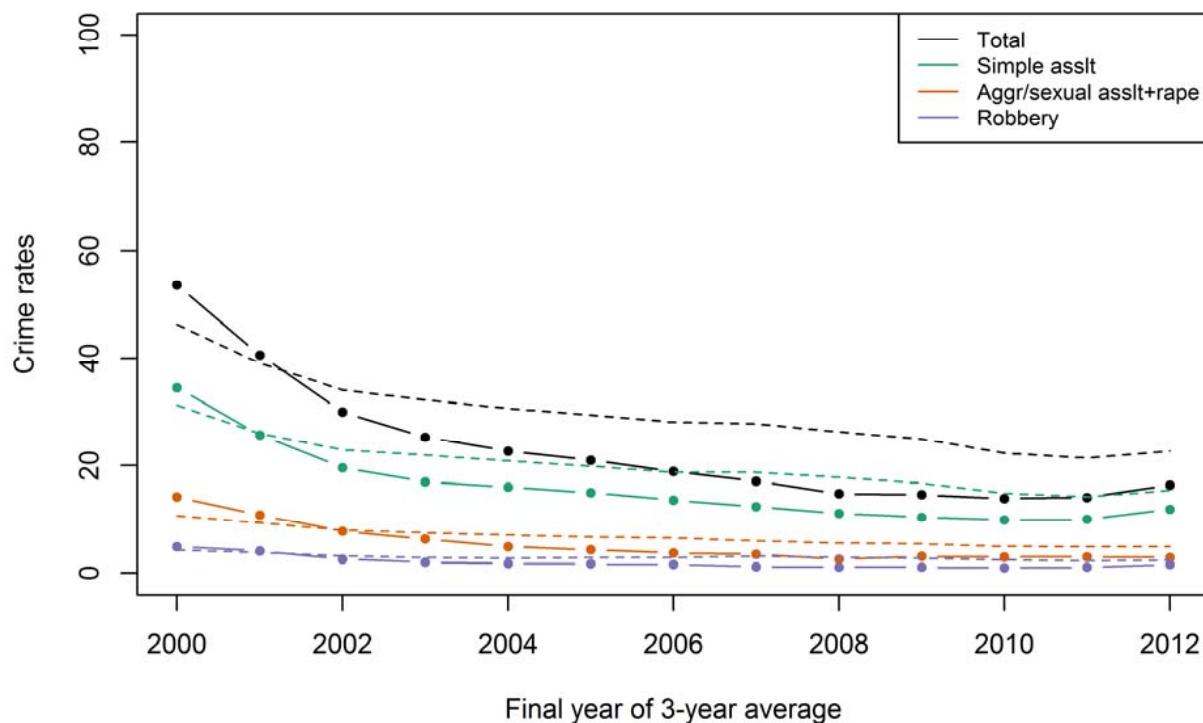
NCVS(SAE) violent crimes in Salt Lake County , Utah compared to national rates by relationship

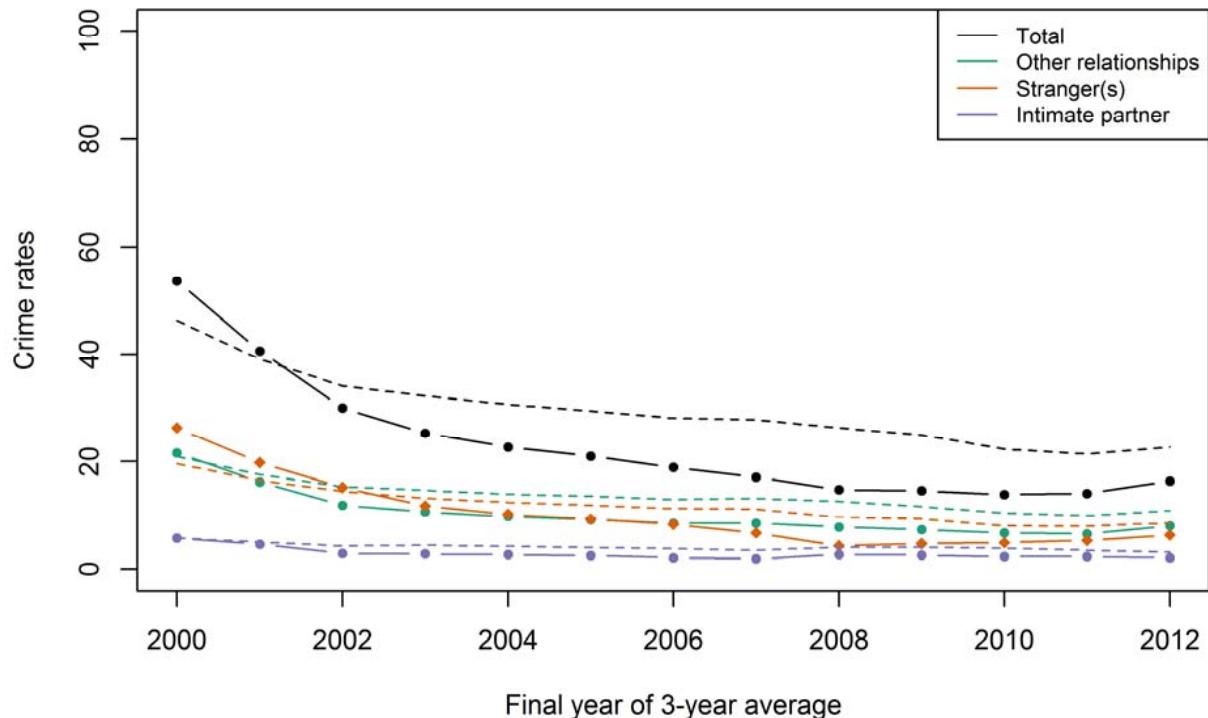
NCVS(SAE) property crimes in Salt Lake County , Utah compared to national rates



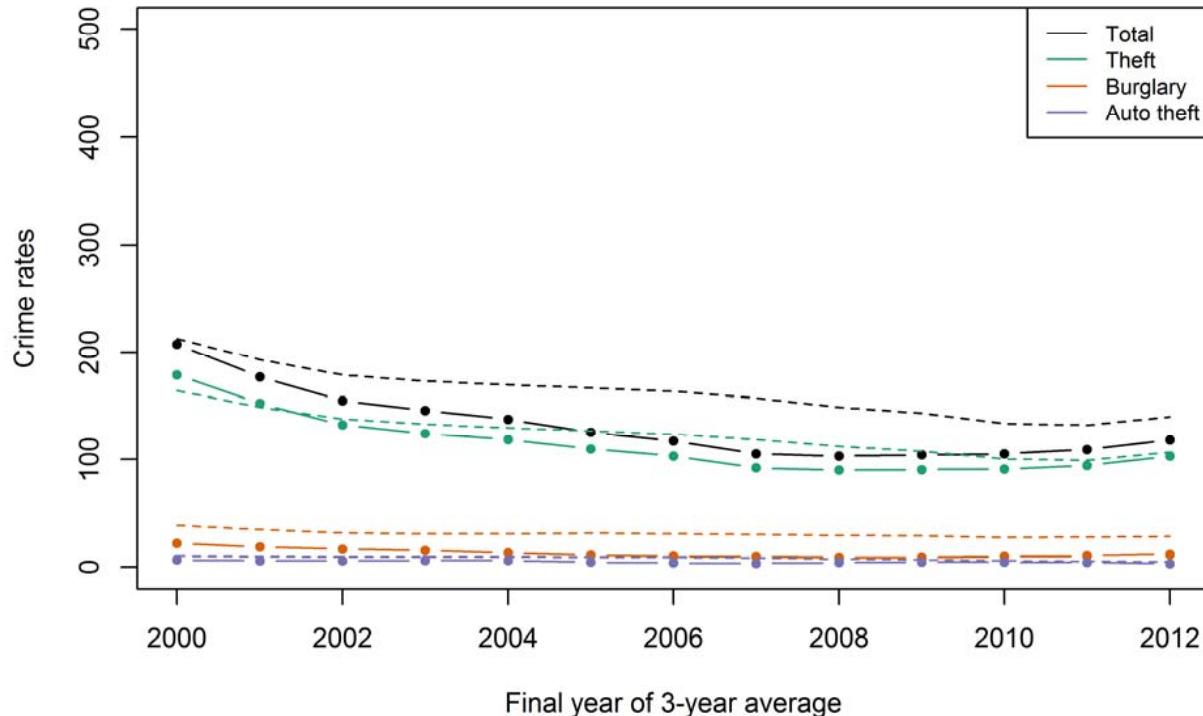
Fairfax County, VA

NCVS(SAE) violent crimes in Fairfax County , Virginia compared to national rates by type of crime



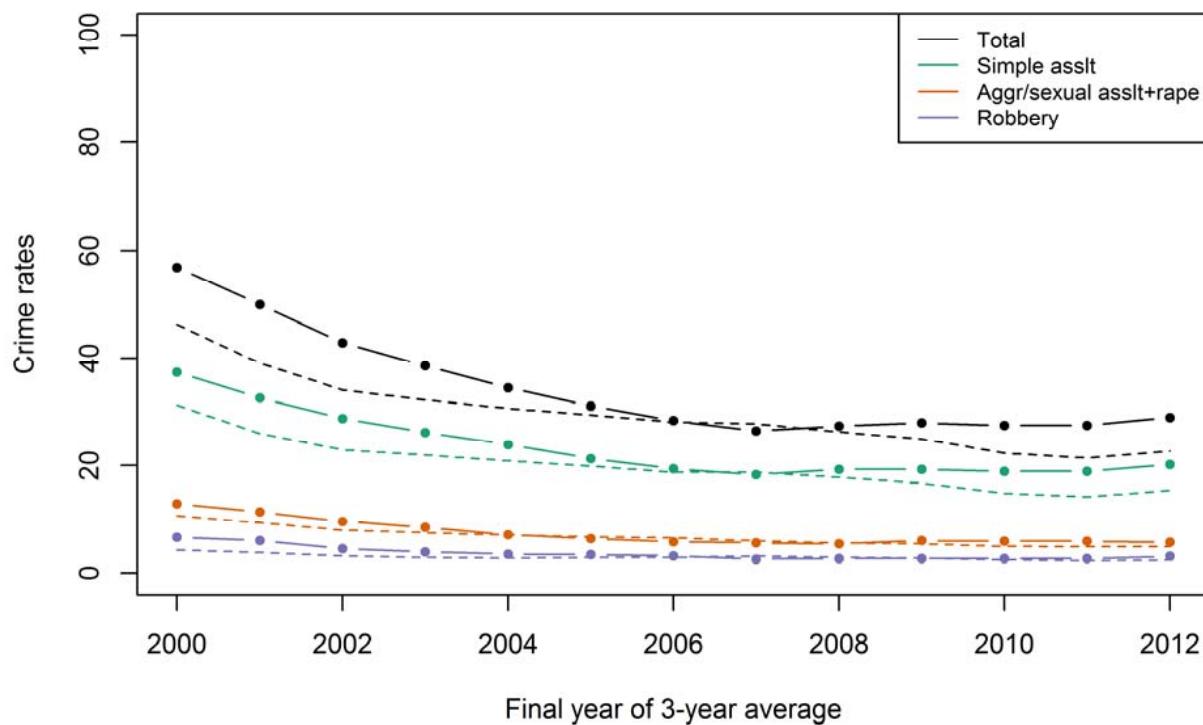
NCVS(SAE) violent crimes in Fairfax County , Virginia compared to national rates by relationship

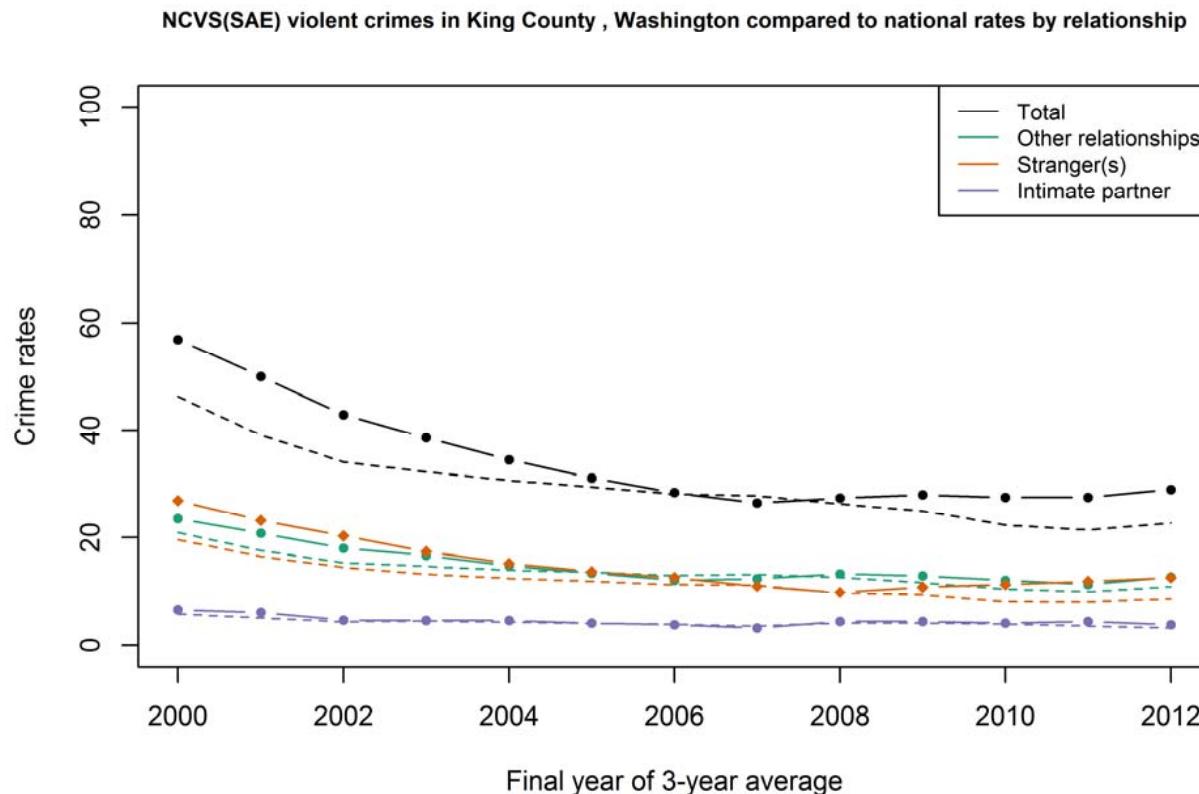
NCVS(SAE) property crimes in Fairfax County , Virginia compared to national rates



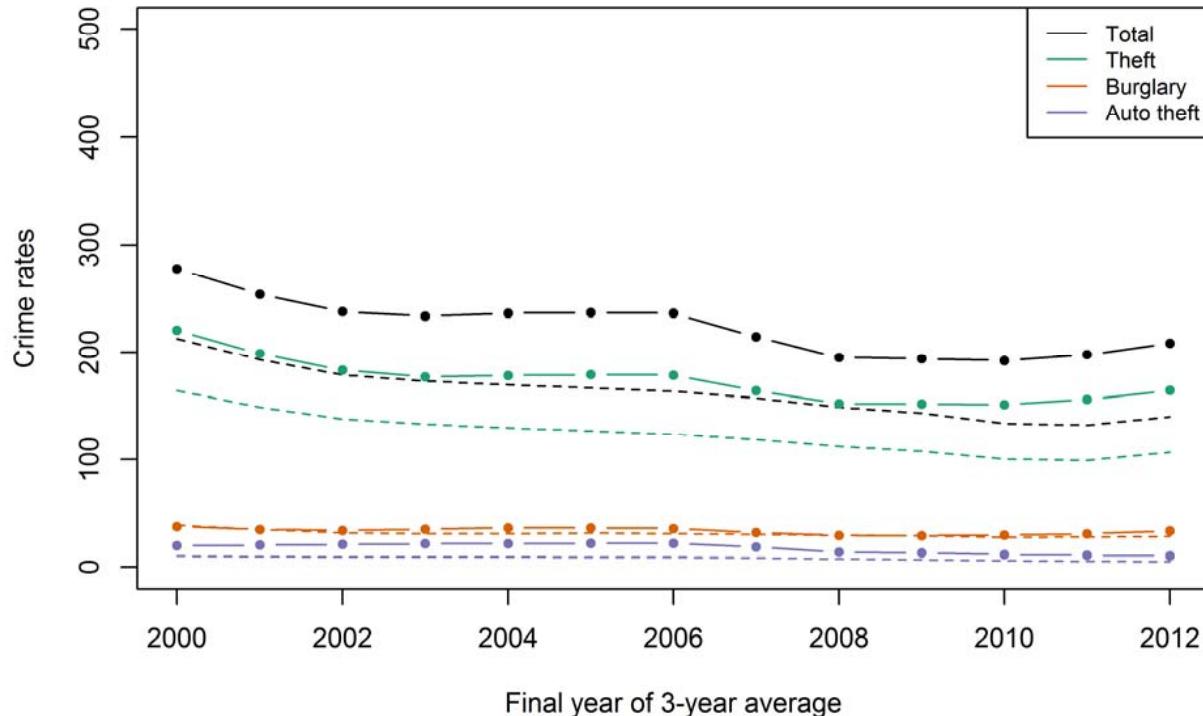
King County, WA

NCVS(SAE) violent crimes in King County , Washington compared to national rates by type of crime

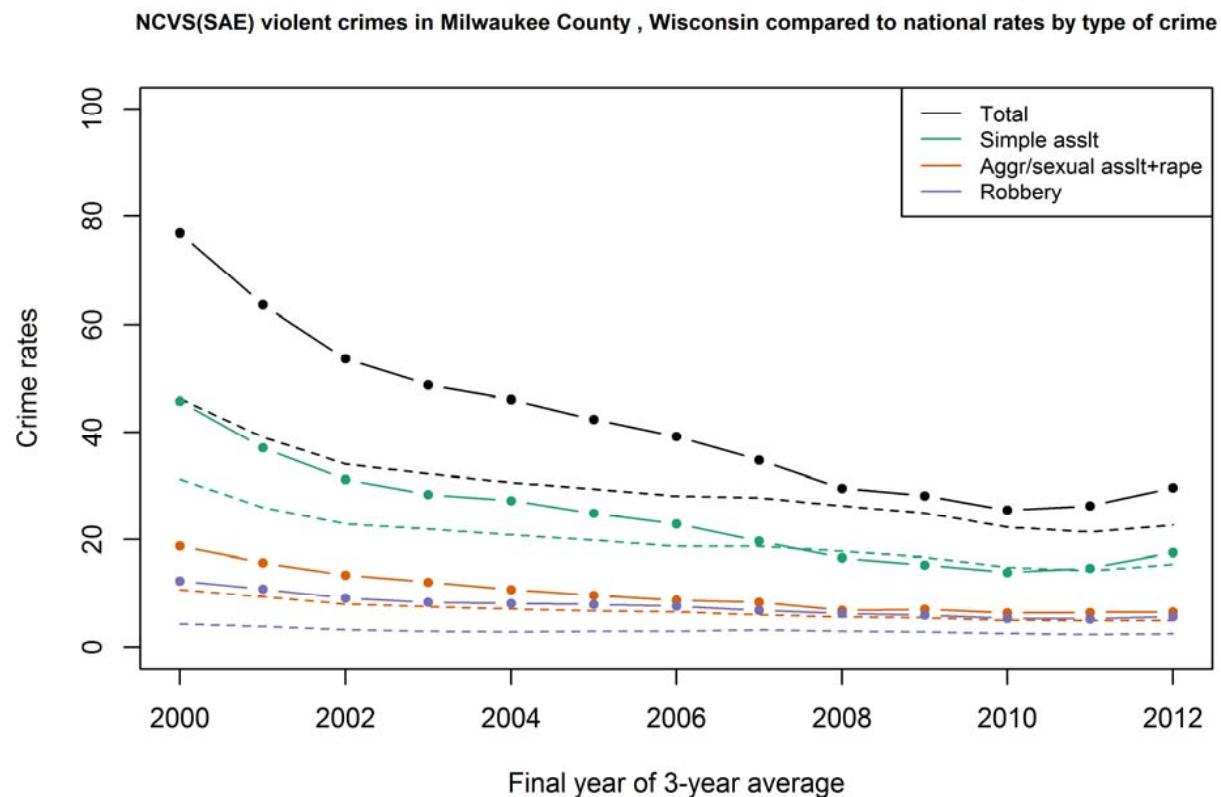


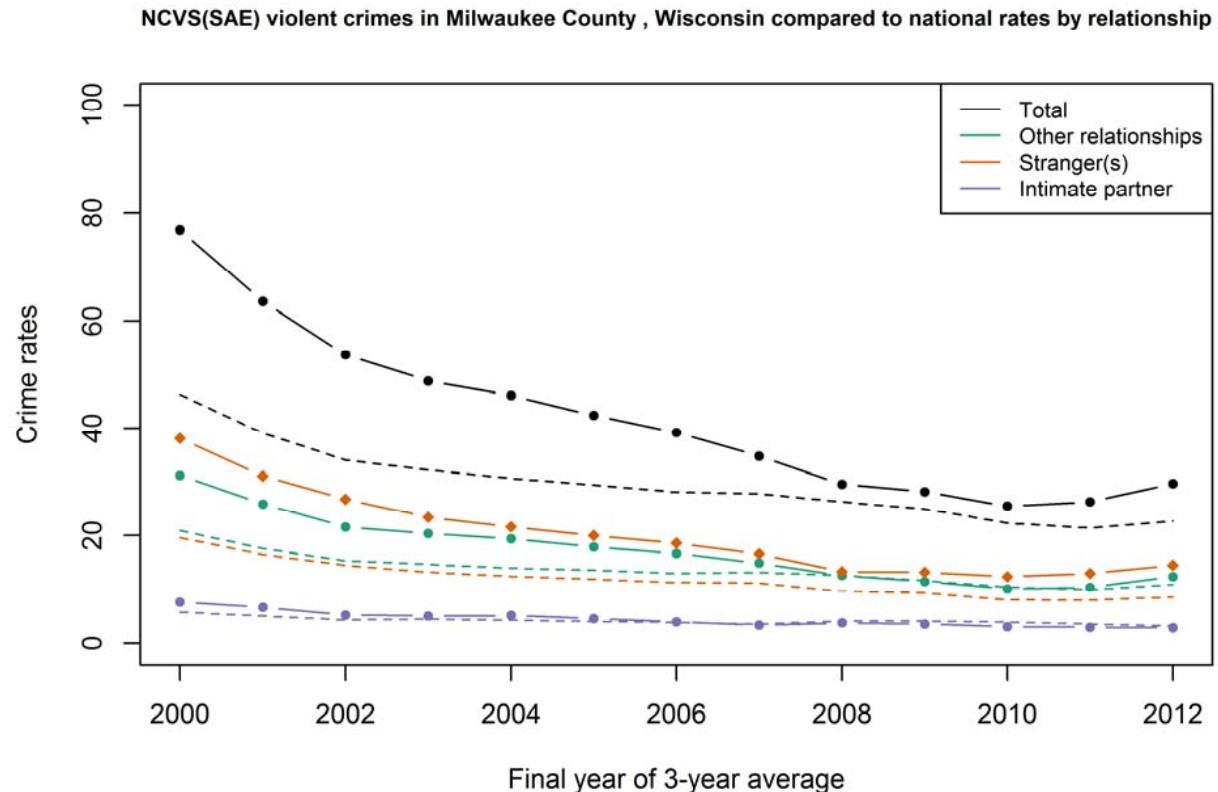


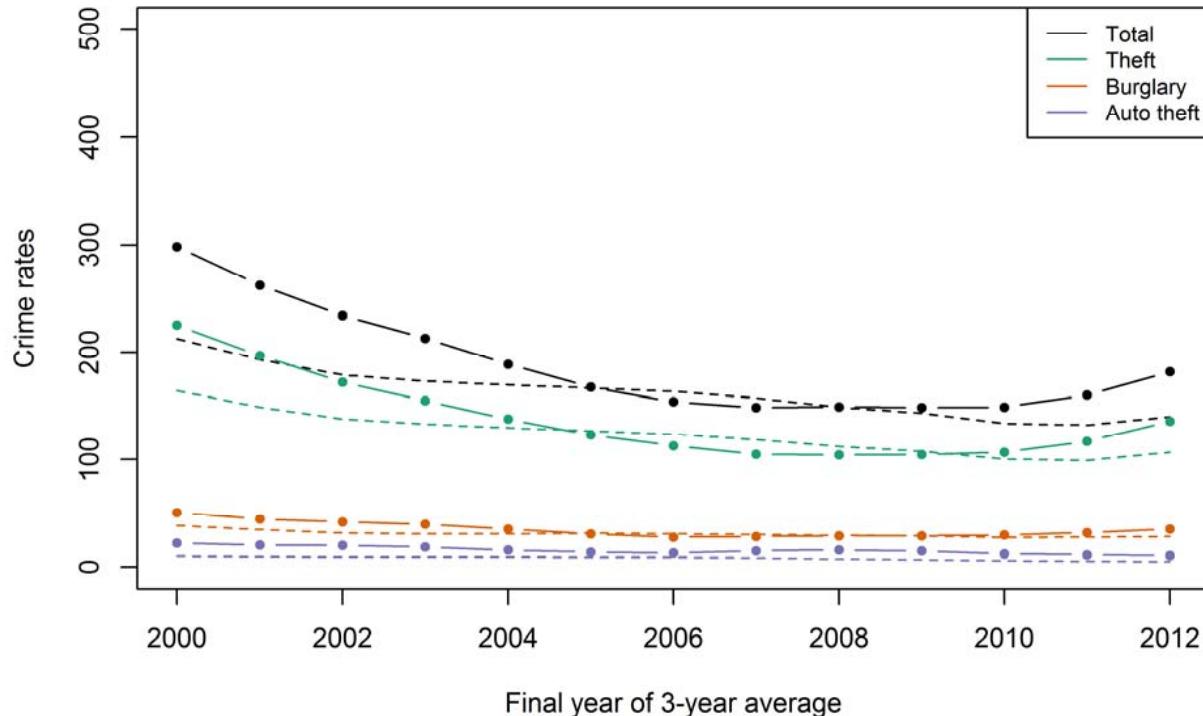
NCVS(SAE) property crimes in King County , Washington compared to national rates



Milwaukee County, WI





NCVS(SAE) property crimes in Milwaukee County , Wisconsin compared to national rates

Appendix D

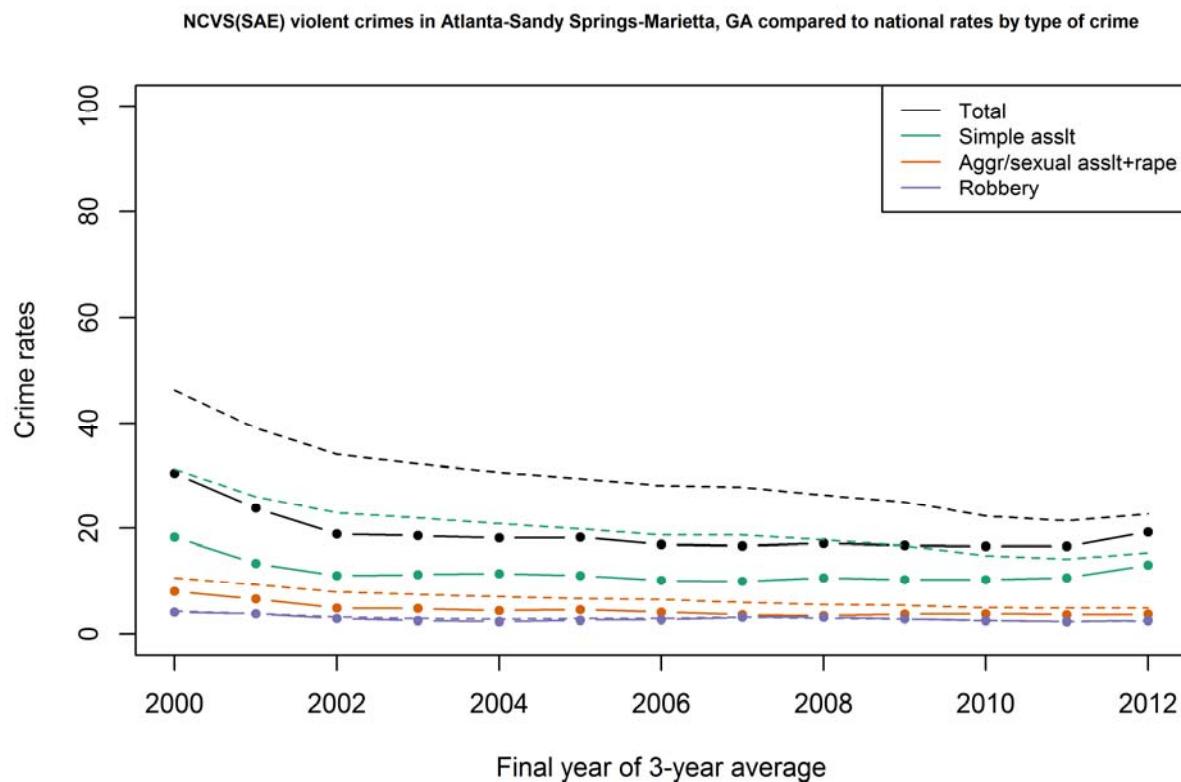
Trend Figures for Selected CBSAs

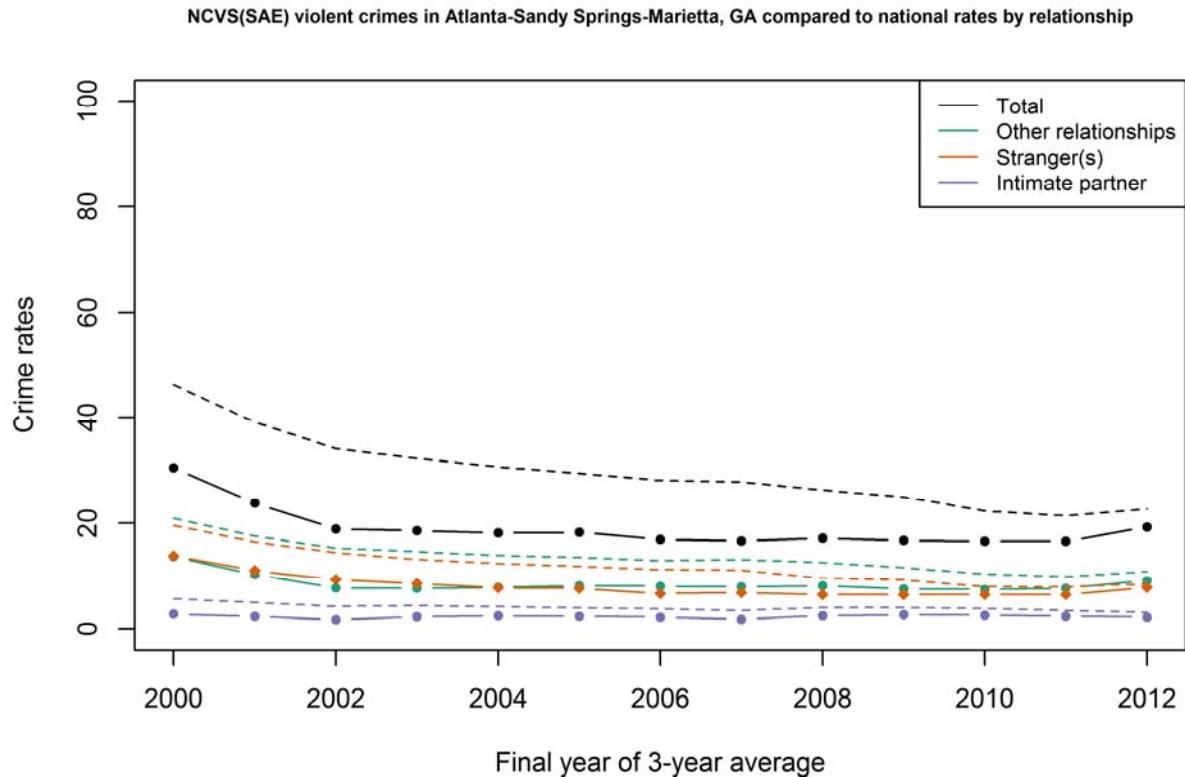
Table of Content

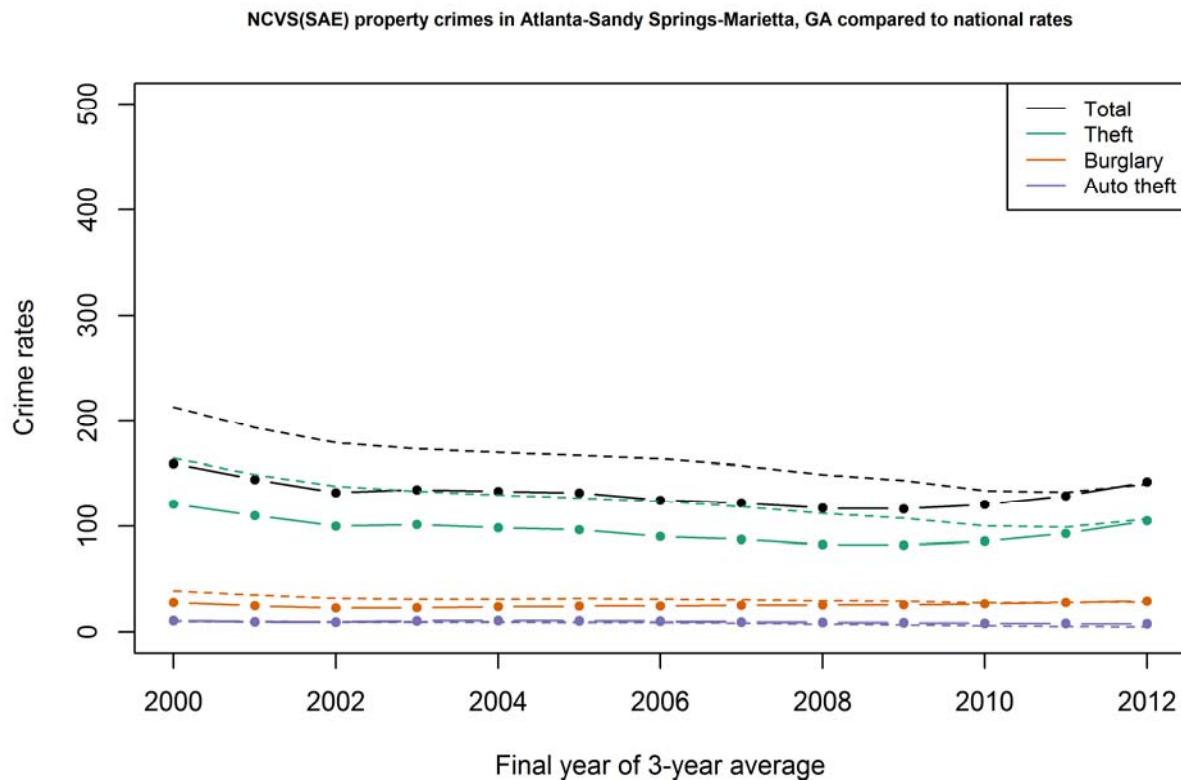
Atlanta-Sandy Springs-Marietta, GA	4
Austin-Round Rock-San Marcos, TX.....	7
Baltimore-Towson, MD	10
Birmingham-Hoover, AL.....	13
Boston-Cambridge-Quincy, MA-NH.....	16
Buffalo-Niagara Falls, NY.....	19
Charlotte-Gastonia-Rock Hill, NC-SC.....	22
Chicago-Joliet-Naperville, IL-IN-WI	25
Cincinnati-Middletown, OH-KY-IN	28
Cleveland-Elyria-Mentor, OH	31
Columbus, OH	34
Dallas-Fort Worth-Arlington, TX	37
Denver-Aurora-Broomfield, CO	40
Detroit-Warren-Livonia, MI	43
Hartford-West Hartford-East Hartford, CT	46
Houston-Sugar Land-Baytown, TX	49
Indianapolis-Carmel, IN.....	52
Jacksonville, FL	55
Kansas City, MO-KS	58
Las Vegas-Paradise, NV	61
Los Angeles-Long Beach-Santa Ana, CA.....	64
Louisville/Jefferson County, KY-IN	67
Memphis, TN-MS-AR.....	70
Miami-Fort Lauderdale-Pompano Beach, FL	73
Milwaukee-Waukesha-West Allis, WI	76
Minneapolis-St. Paul-Bloomington, MN-WI	79
Nashville-Davidson--Murfreesboro--Franklin, TN.....	82
New Orleans-Metairie-Kenner, LA.....	85
New York-Northern New Jersey-Long Island, NY-NJ-PA.....	88
Oklahoma City, OK	91
Orlando-Kissimmee-Sanford, FL	94

Philadelphia-Camden-Wilmington, PA-NJ-DE-MD.....	97
Phoenix-Mesa-Glendale, AZ.....	100
Pittsburgh, PA	103
Portland-Vancouver-Hillsboro, OR-WA.....	106
Providence-New Bedford-Fall River, RI-MA.....	109
Raleigh-Cary, NC.....	112
Richmond, VA.....	115
Riverside-San Bernardino-Ontario, CA.....	118
Rochester, NY.....	121
Sacramento--Arden-Arcade--Roseville, CA	124
St. Louis, MO-IL	127
Salt Lake City, UT.....	130
San Antonio-New Braunfels, TX	133
San Diego-Carlsbad-San Marcos, CA.....	136
San Francisco-Oakland-Fremont, CA	139
San Jose-Sunnyvale-Santa Clara, CA	142
Seattle-Tacoma-Bellevue, WA	145
Tampa-St. Petersburg-Clearwater, FL.....	148
Virginia Beach-Norfolk-Newport News, VA-NC	151
Washington-Arlington-Alexandria, DC-VA-MD-WV.....	154

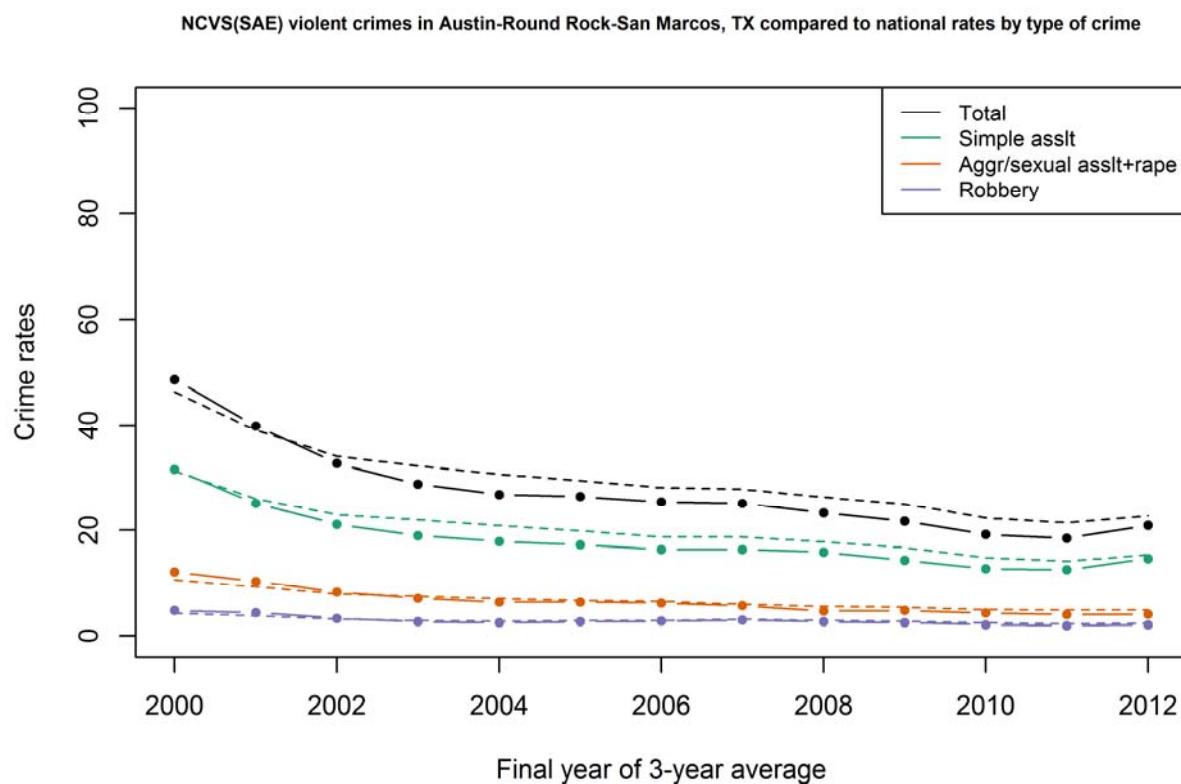
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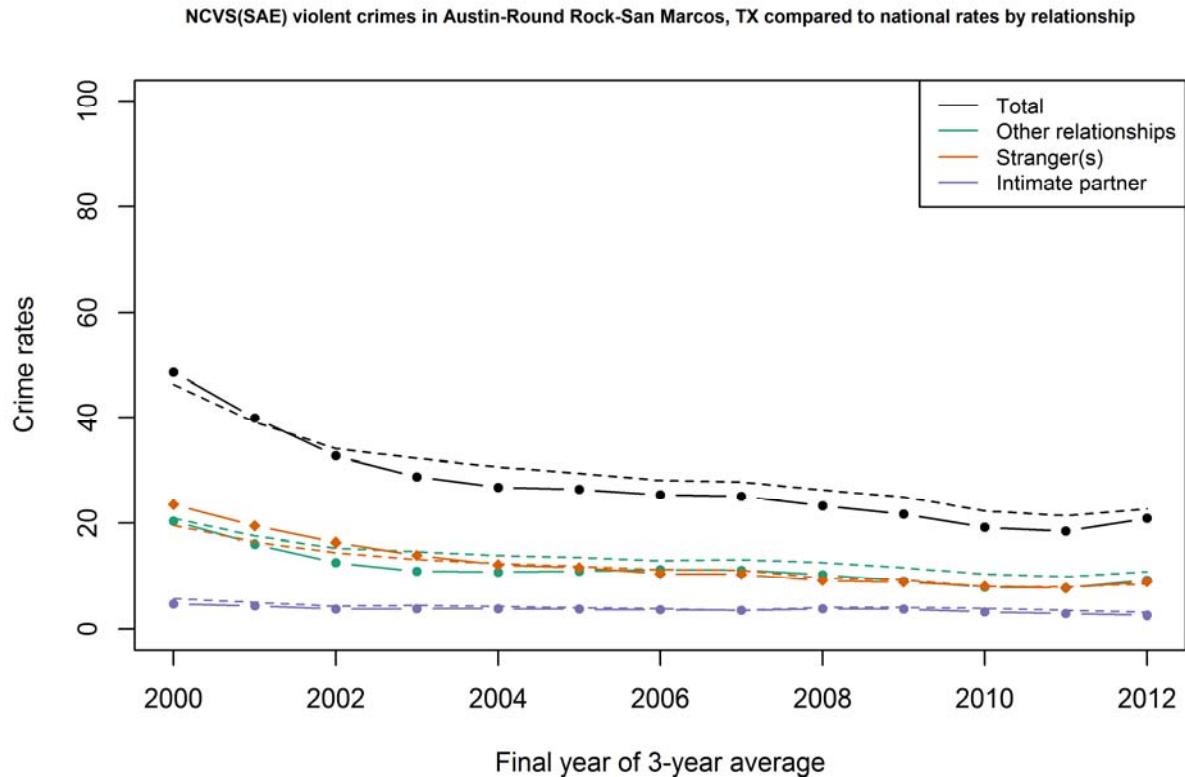


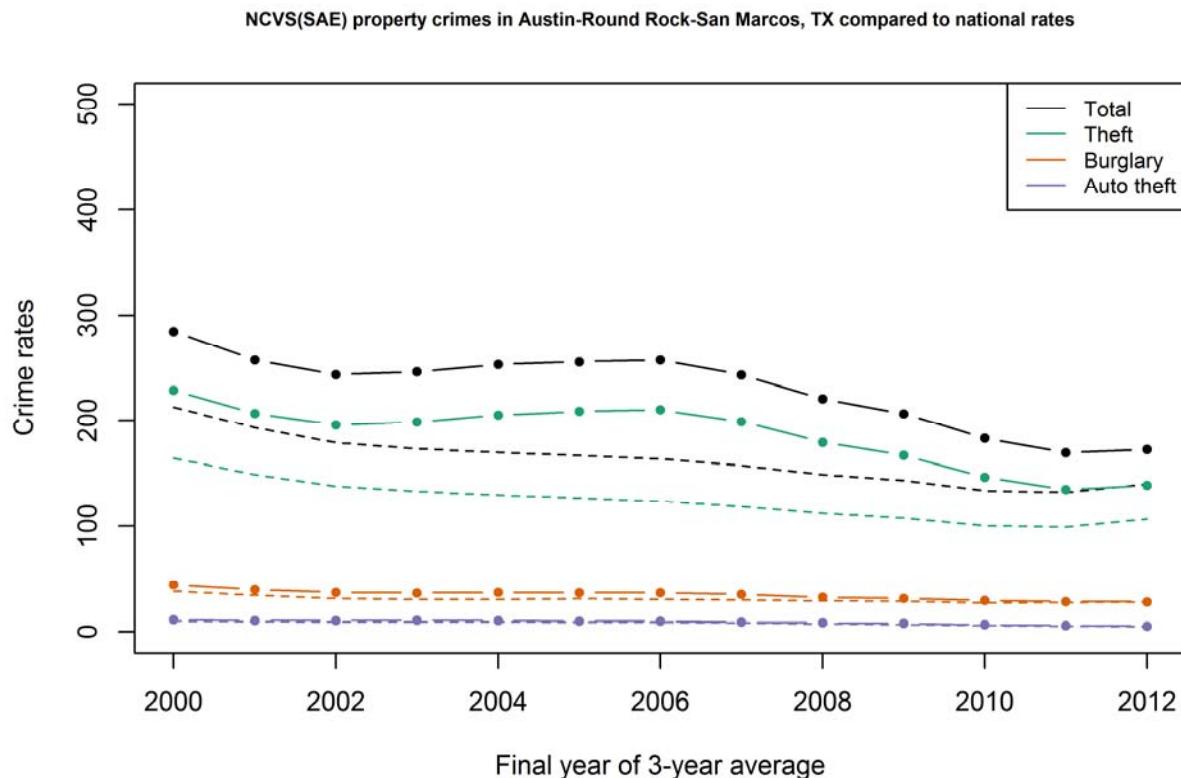




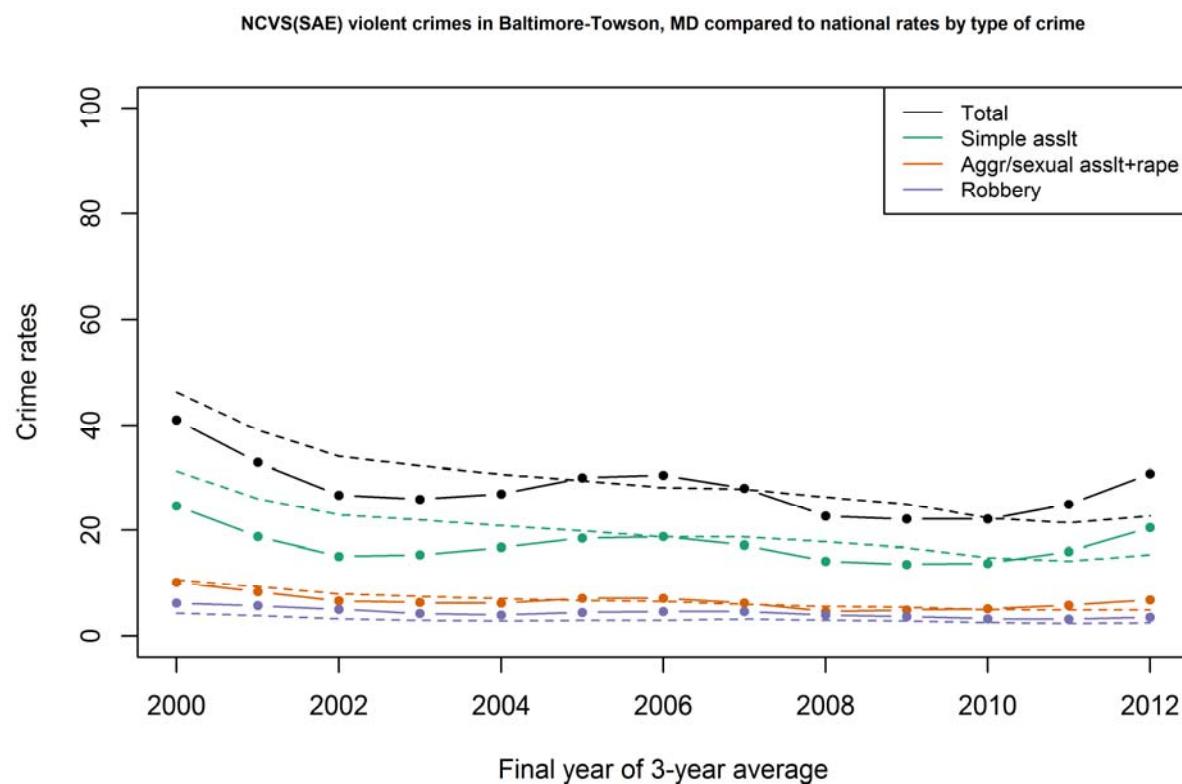
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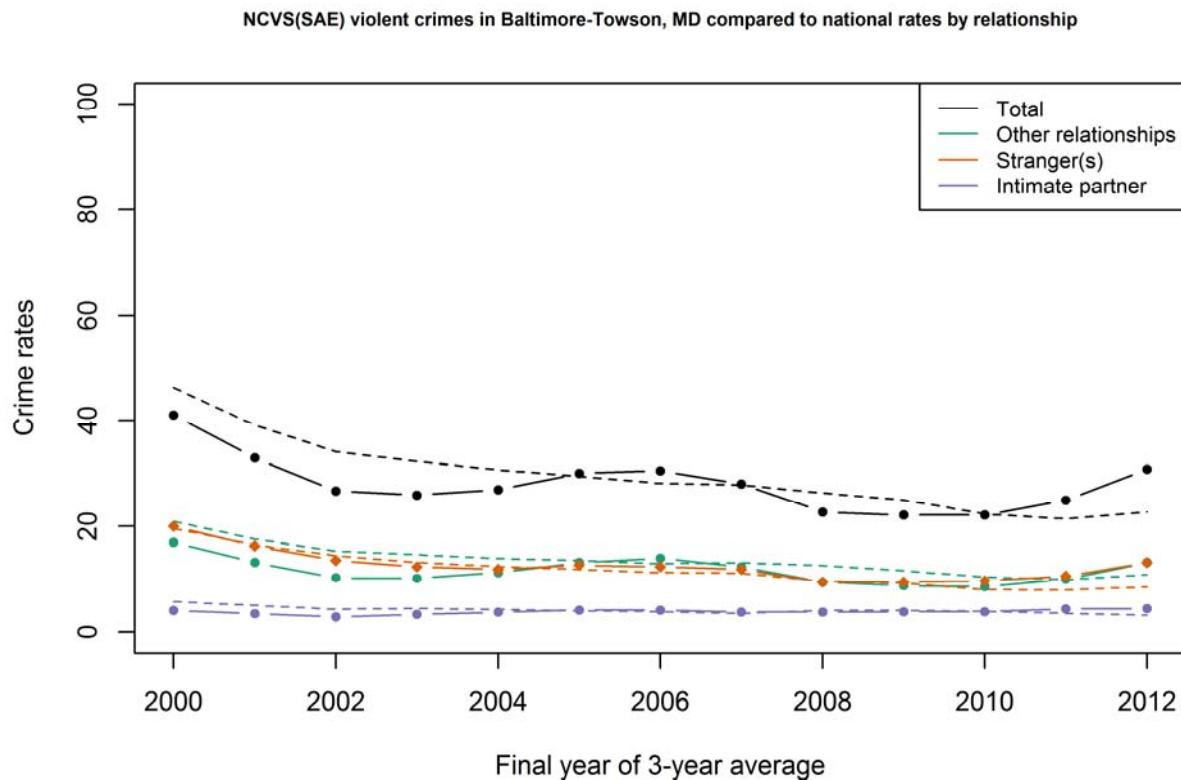


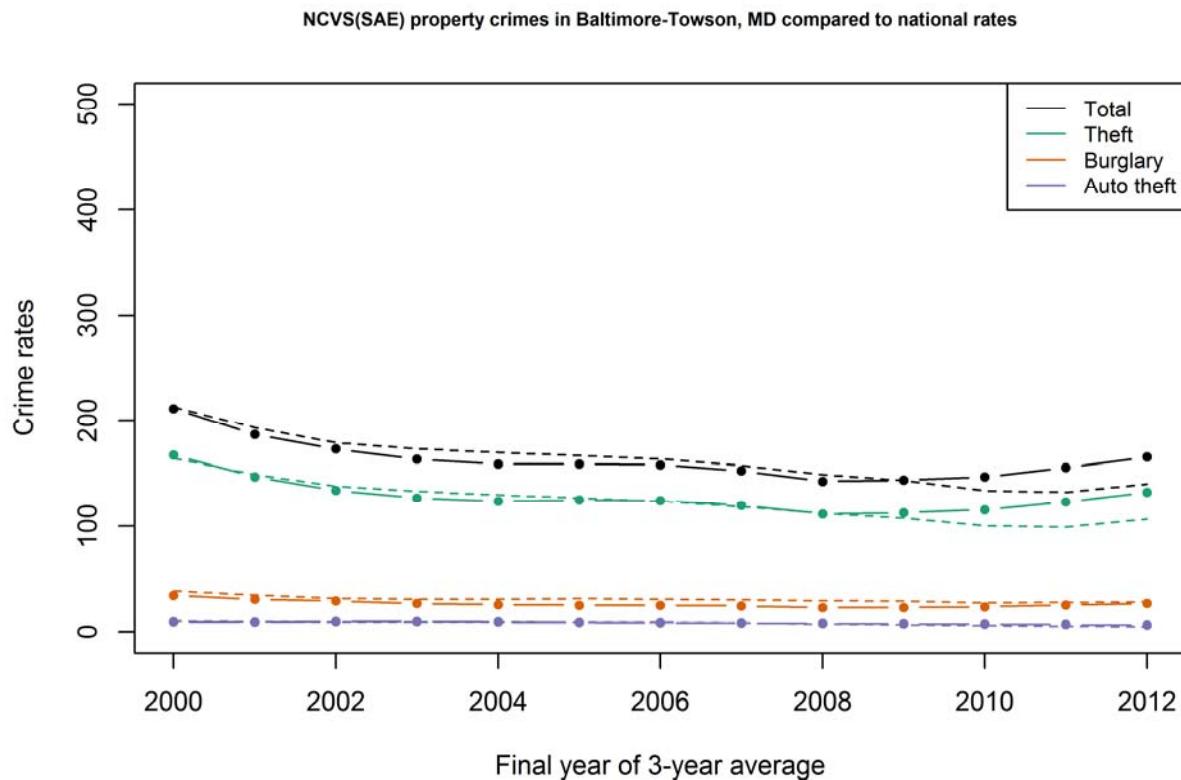




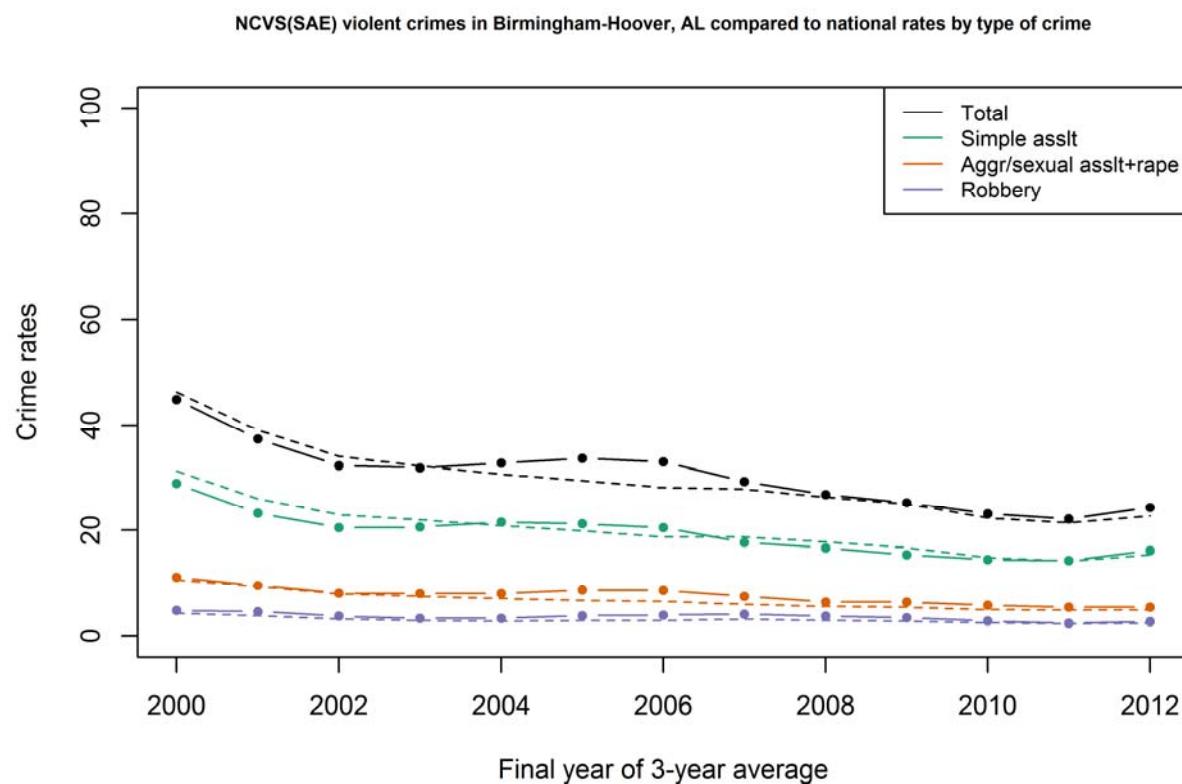
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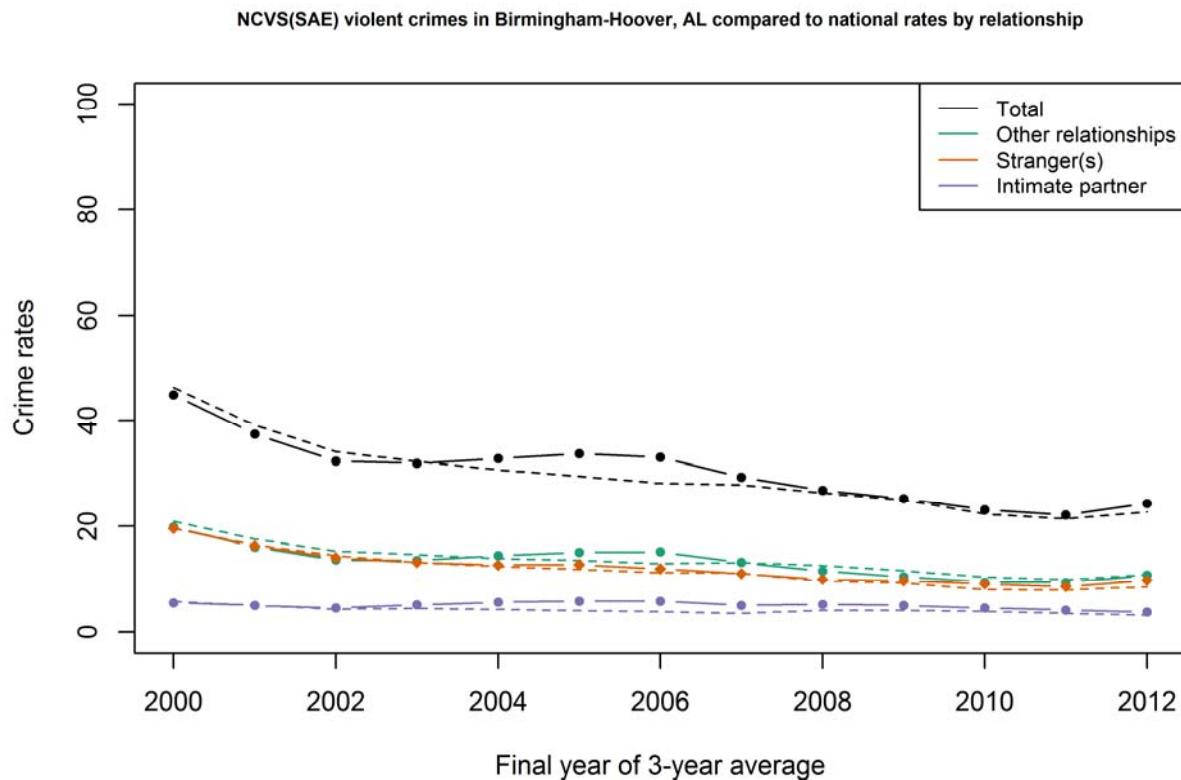


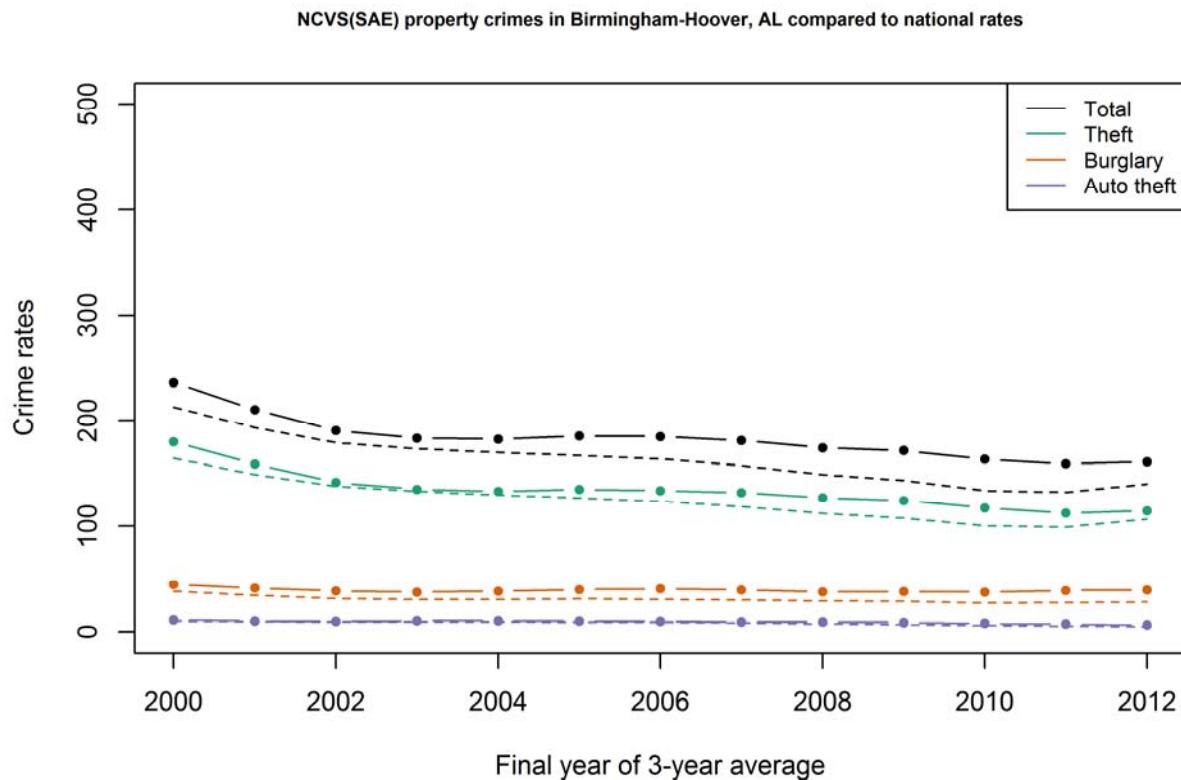




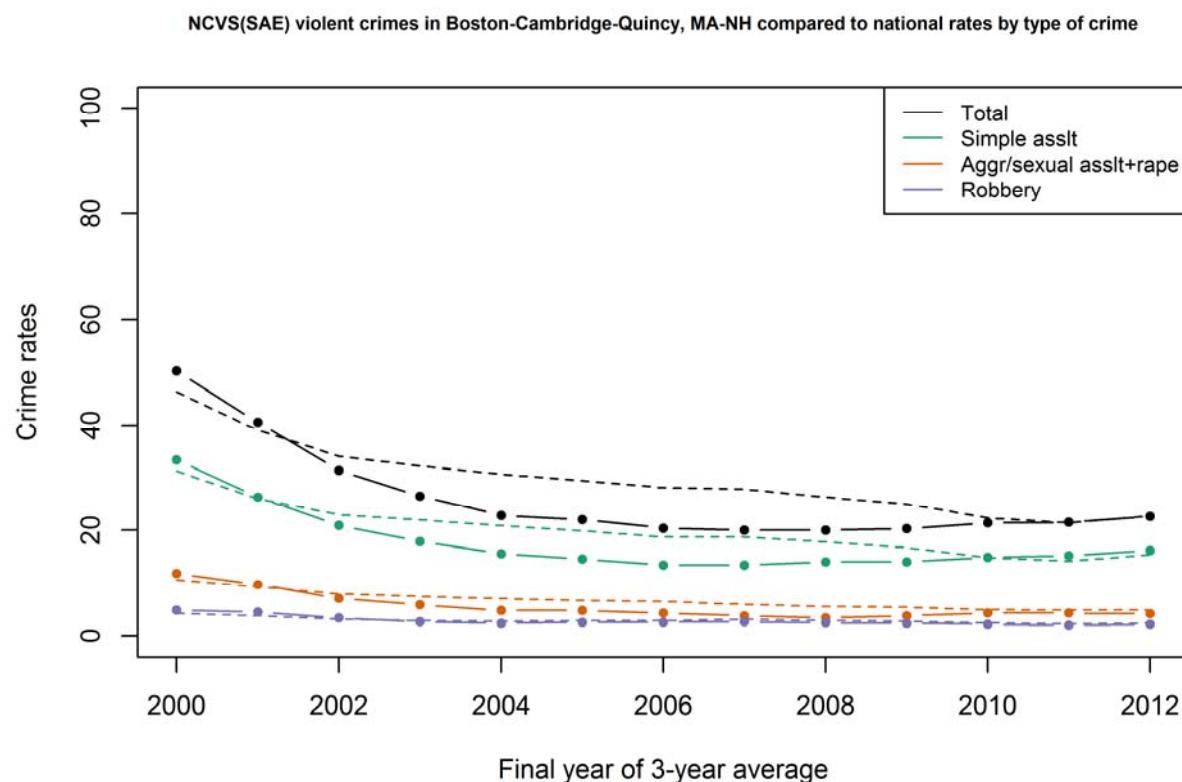
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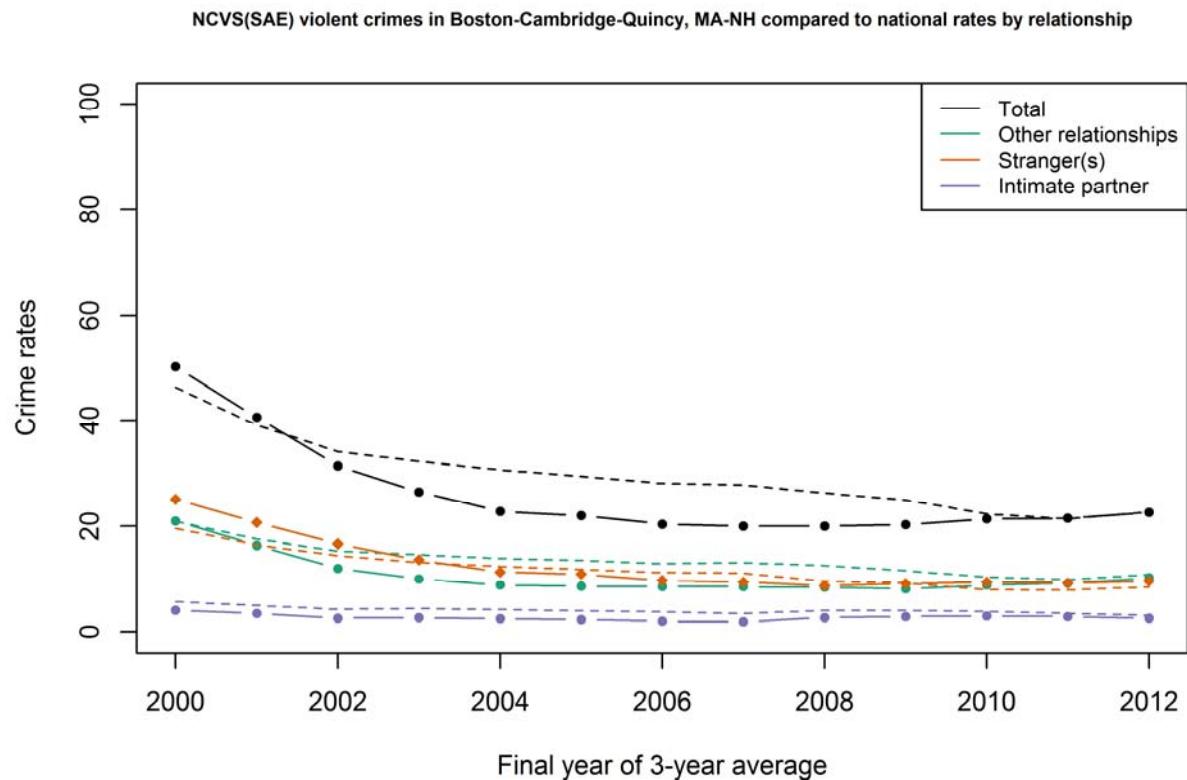


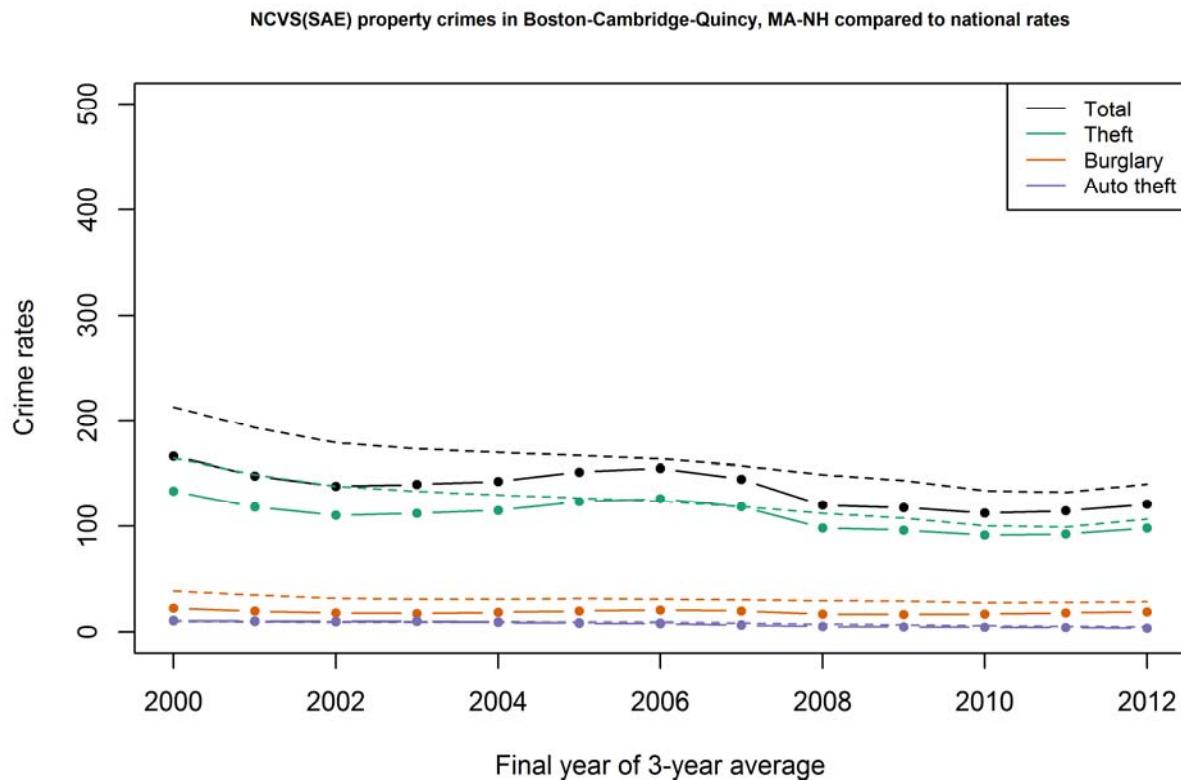




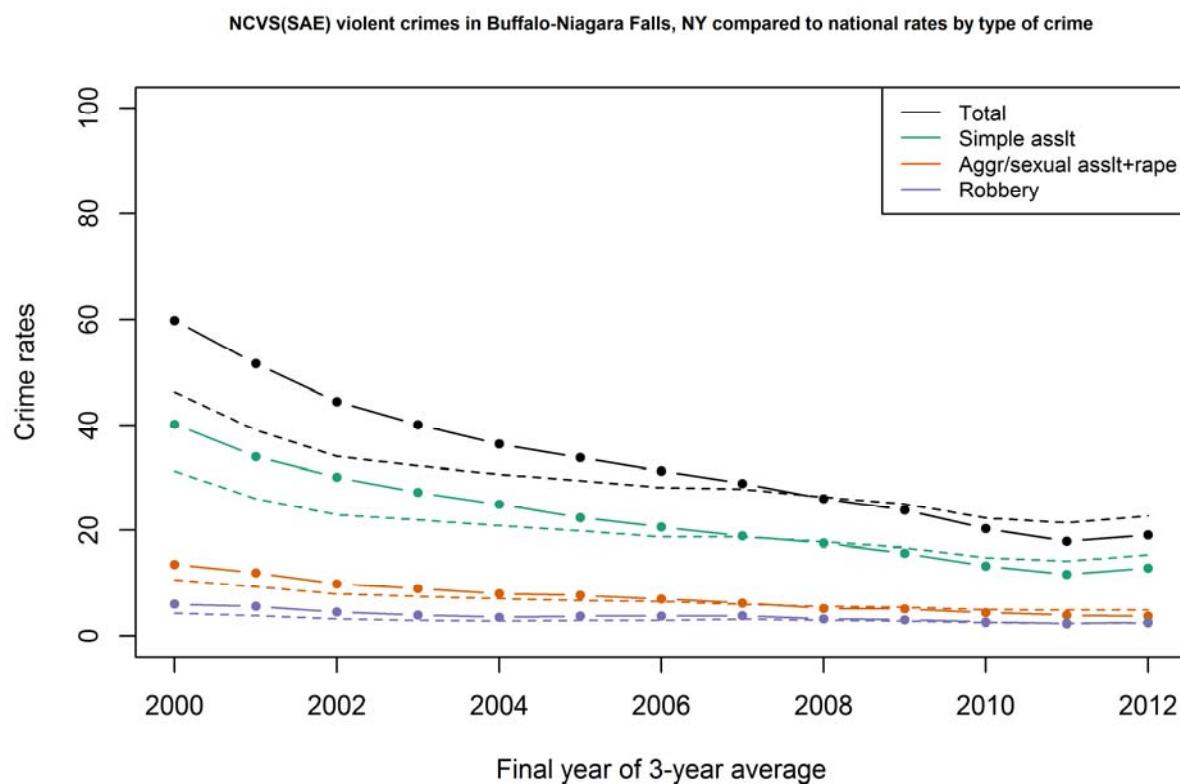
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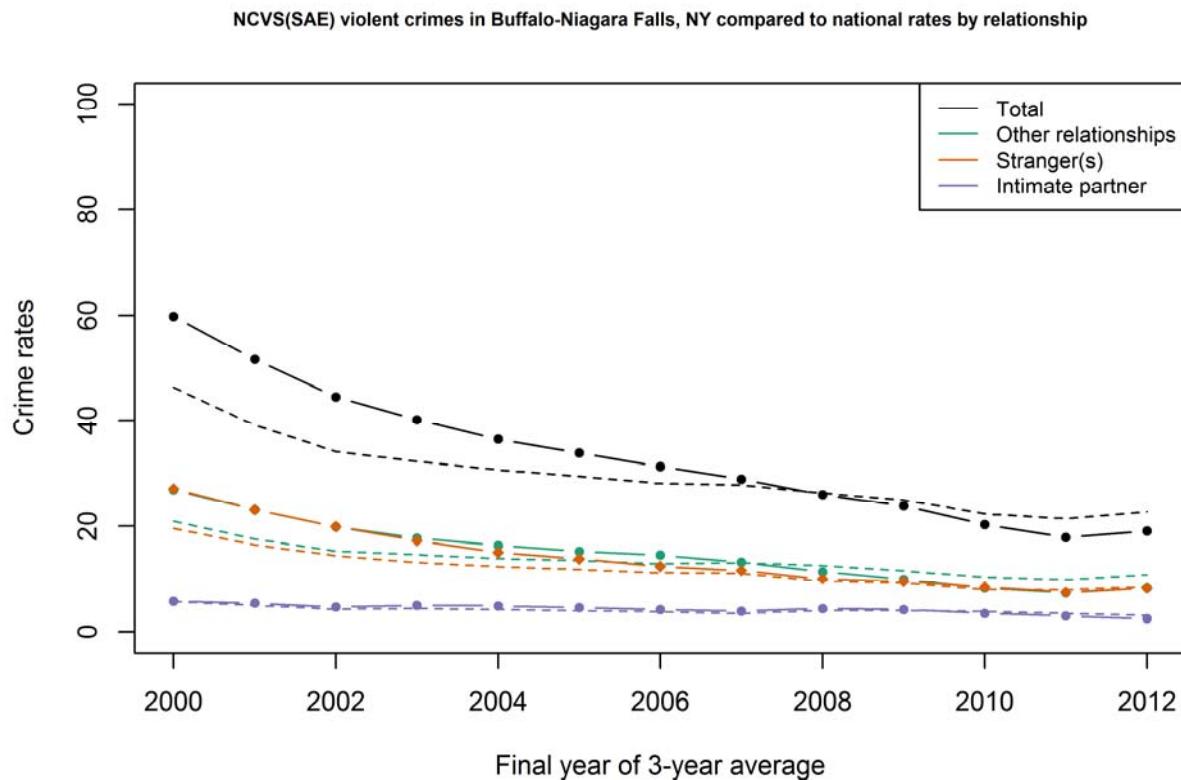


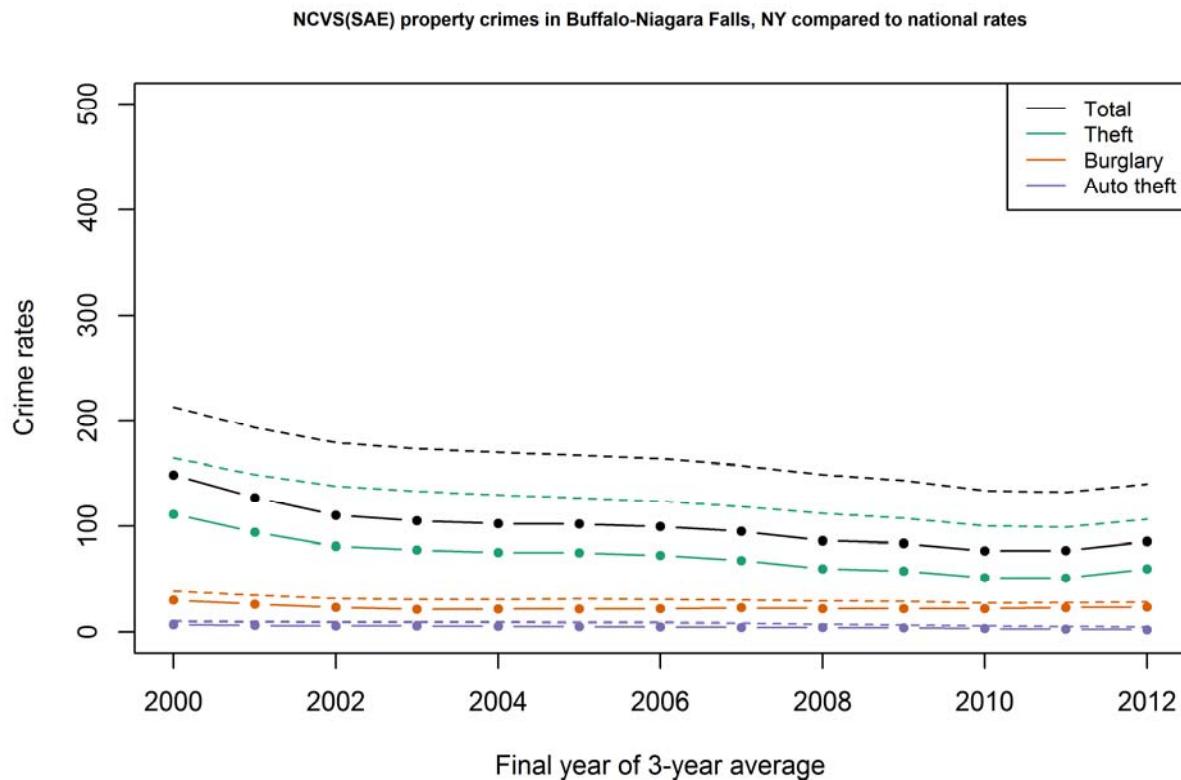




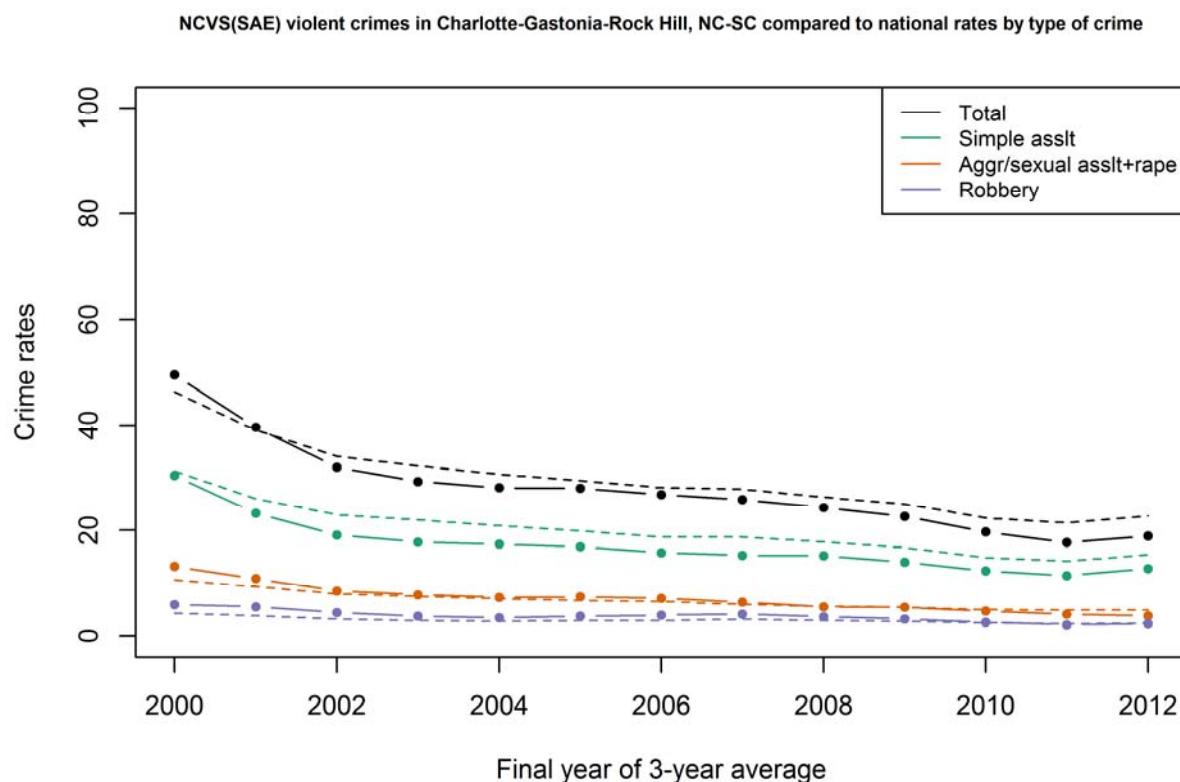
Buffalo-Niagara Falls, NY

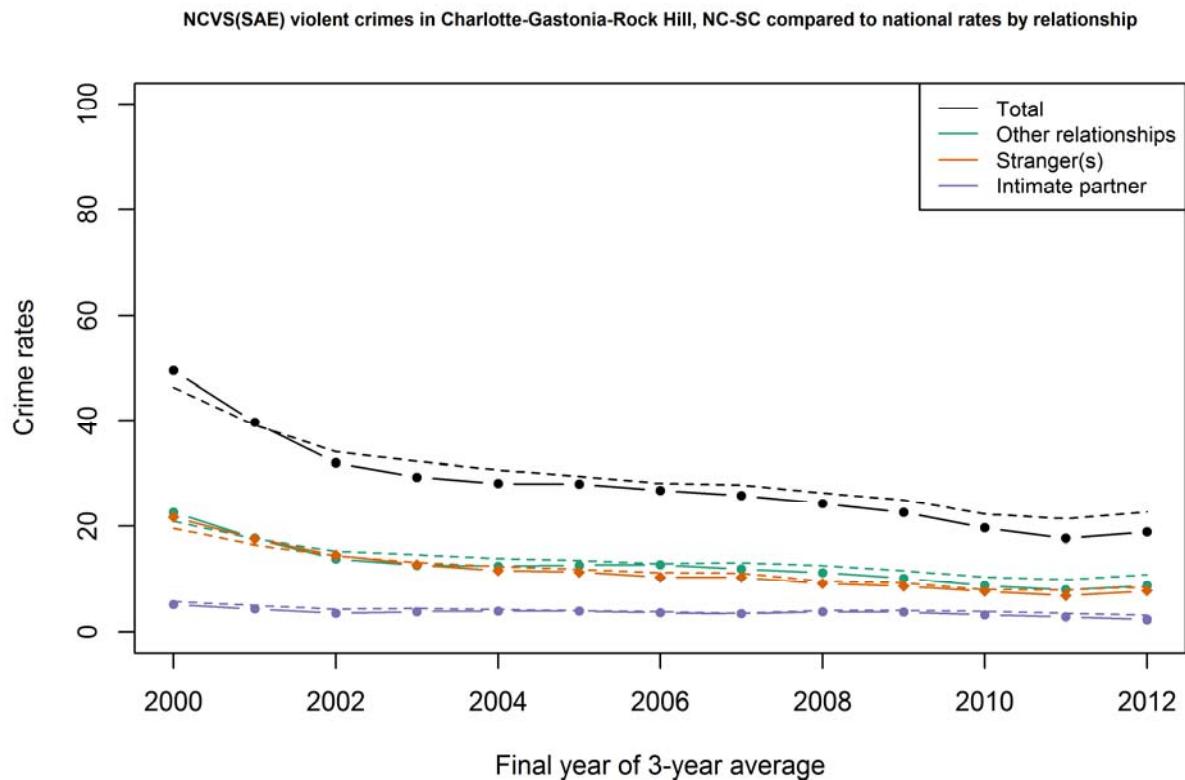


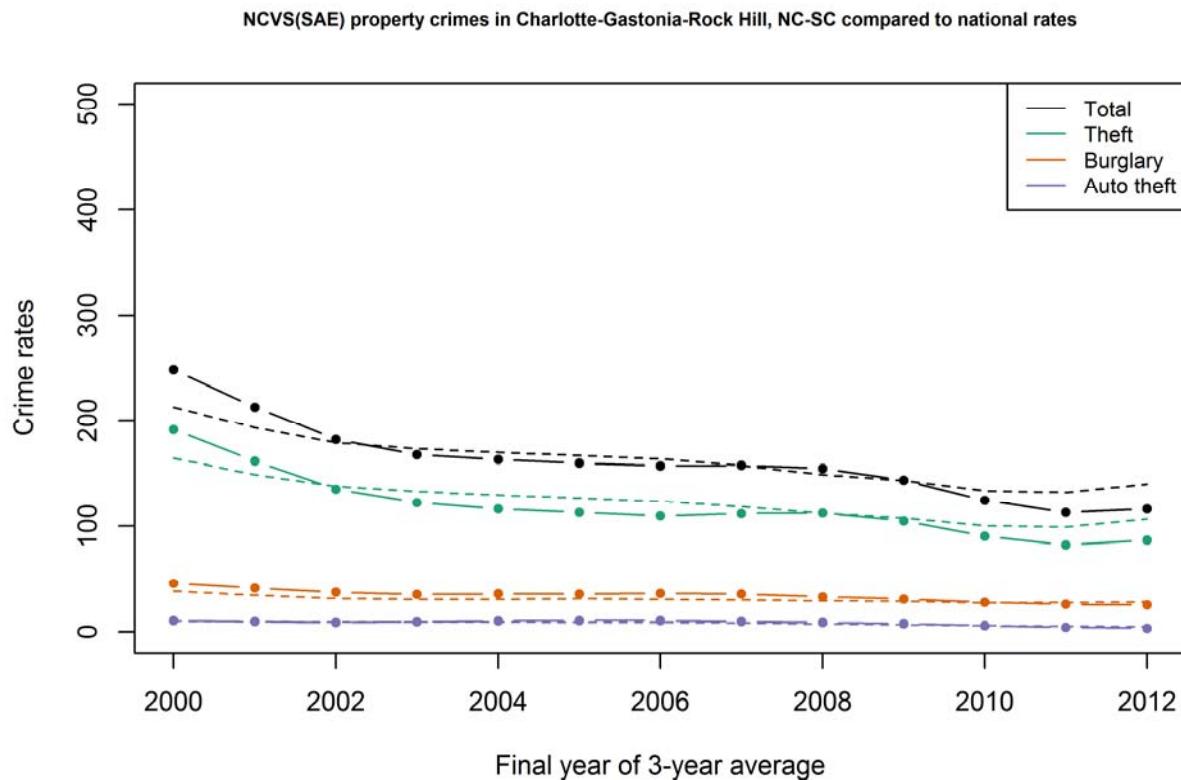




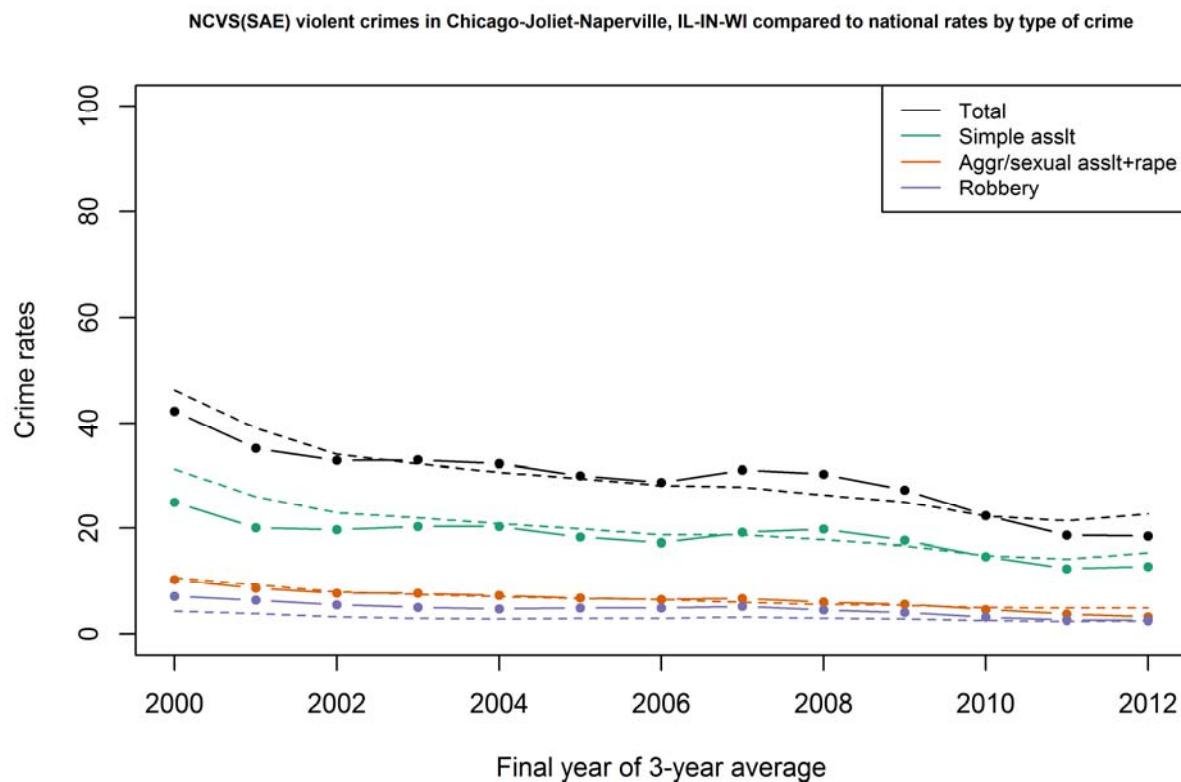
Charlotte-Gastonia-Rock Hill, NC-SC

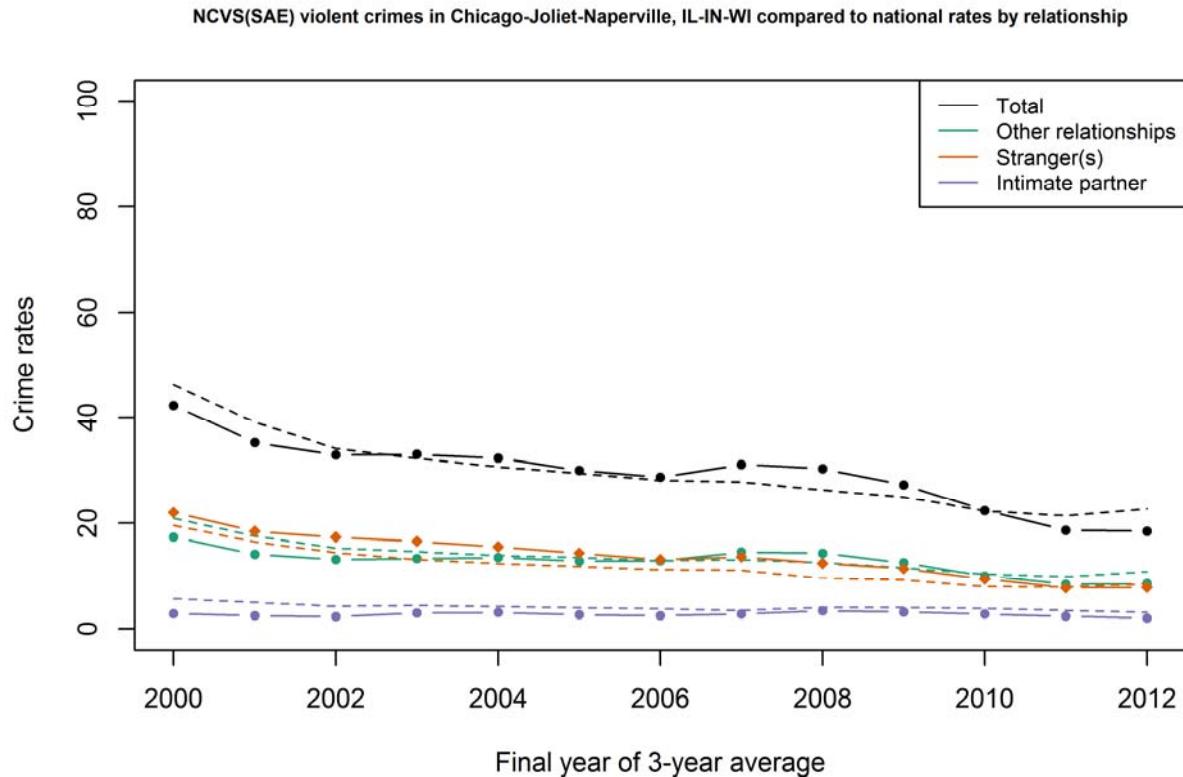


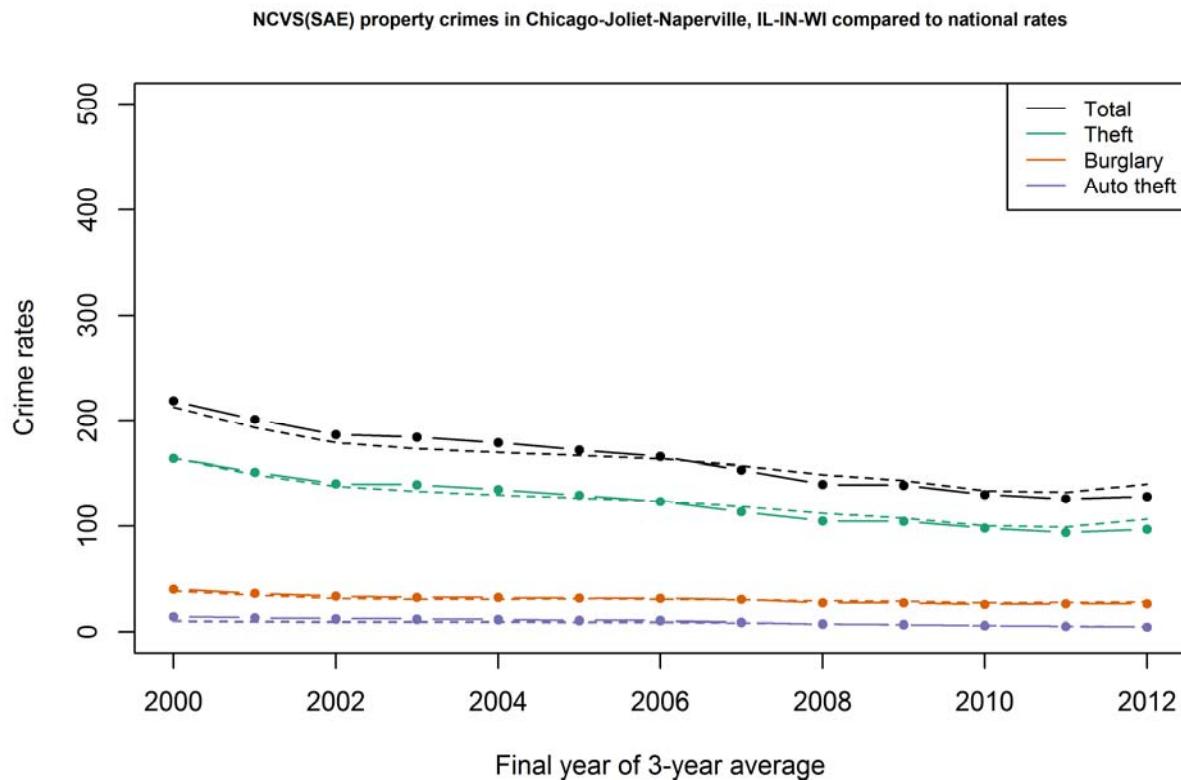




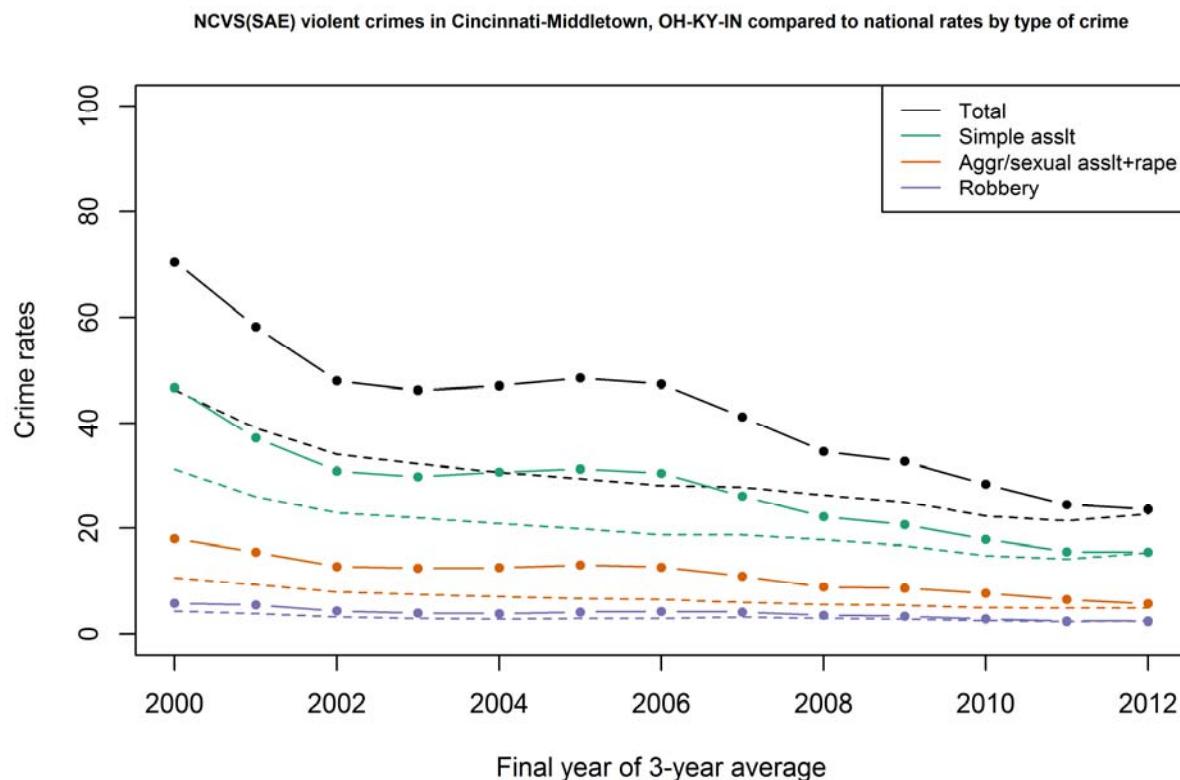
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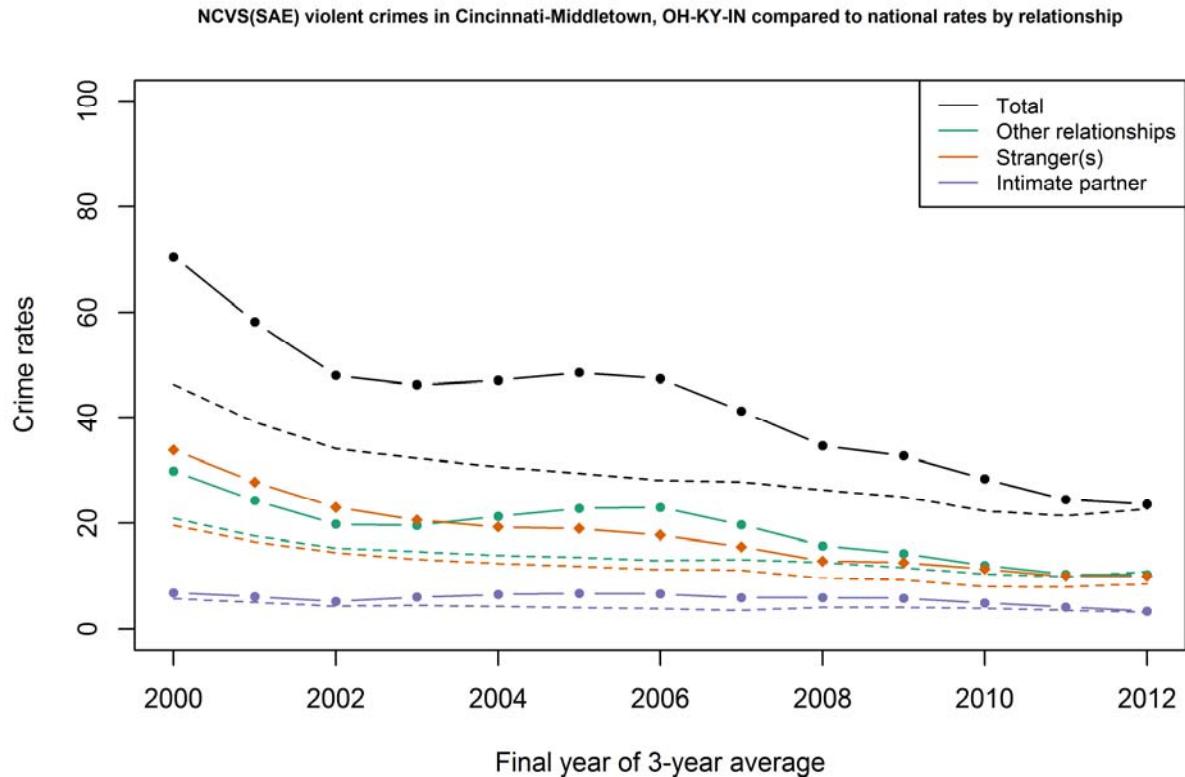


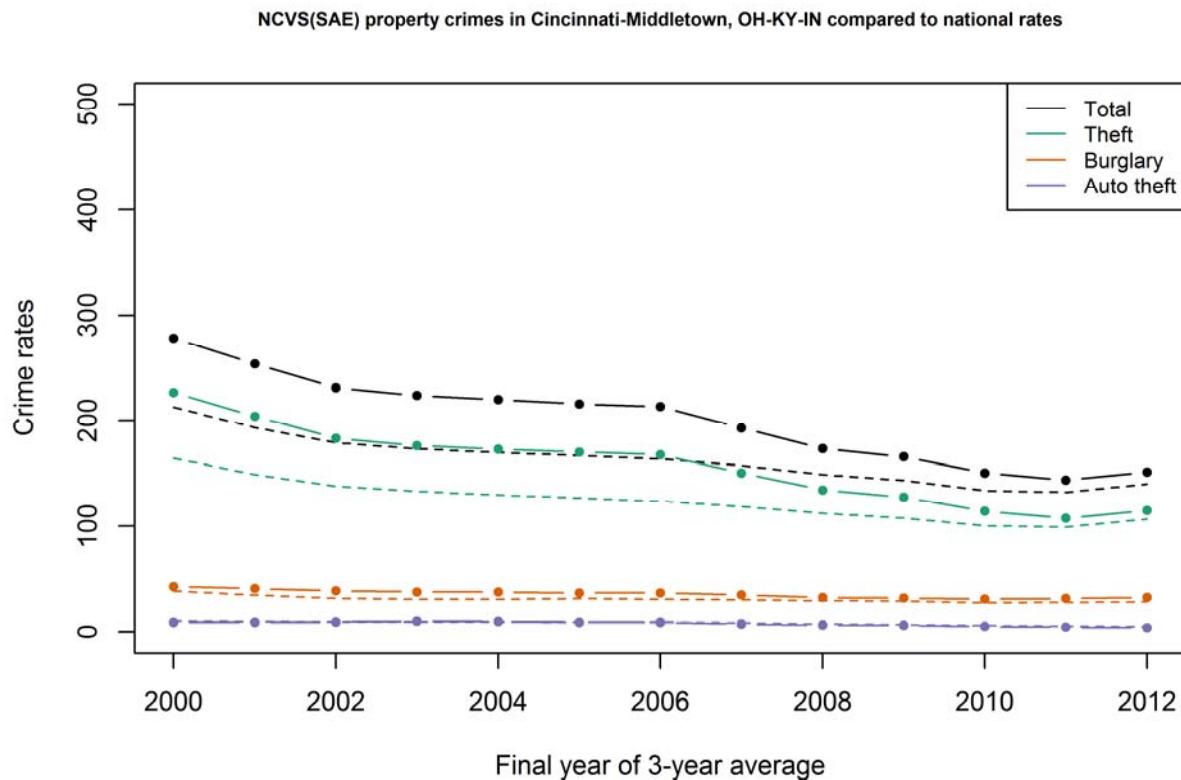




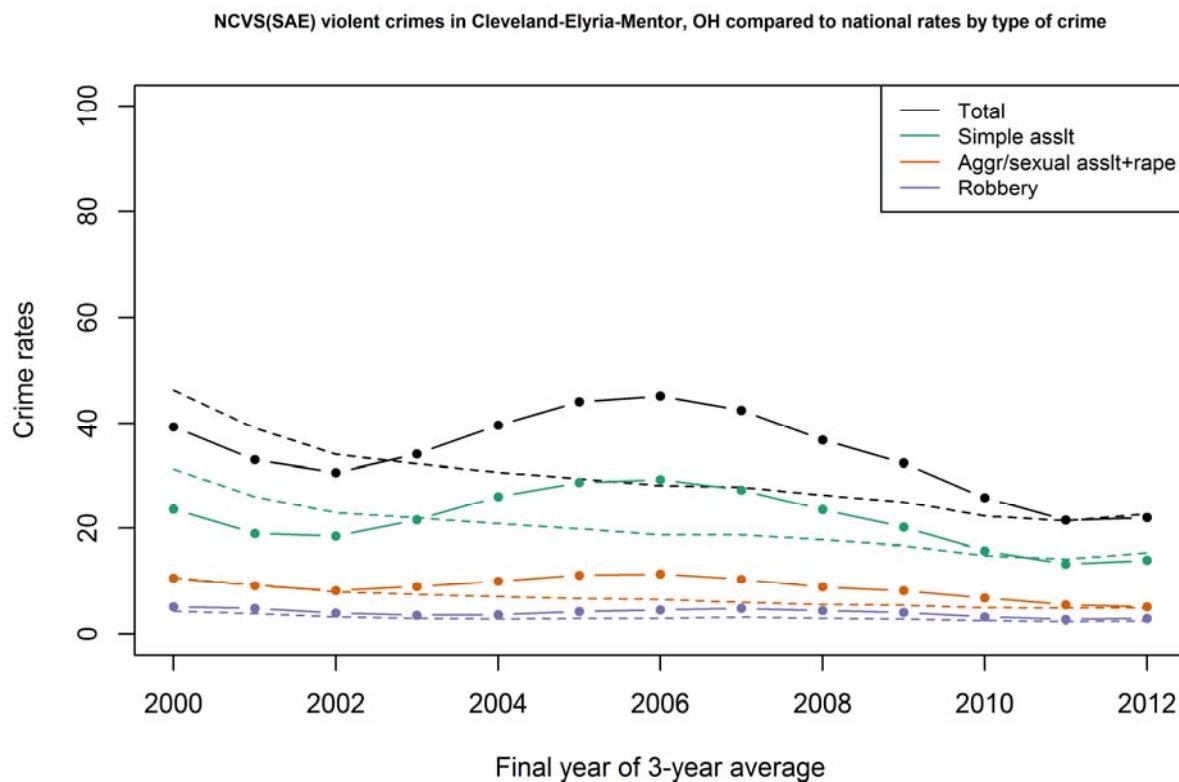
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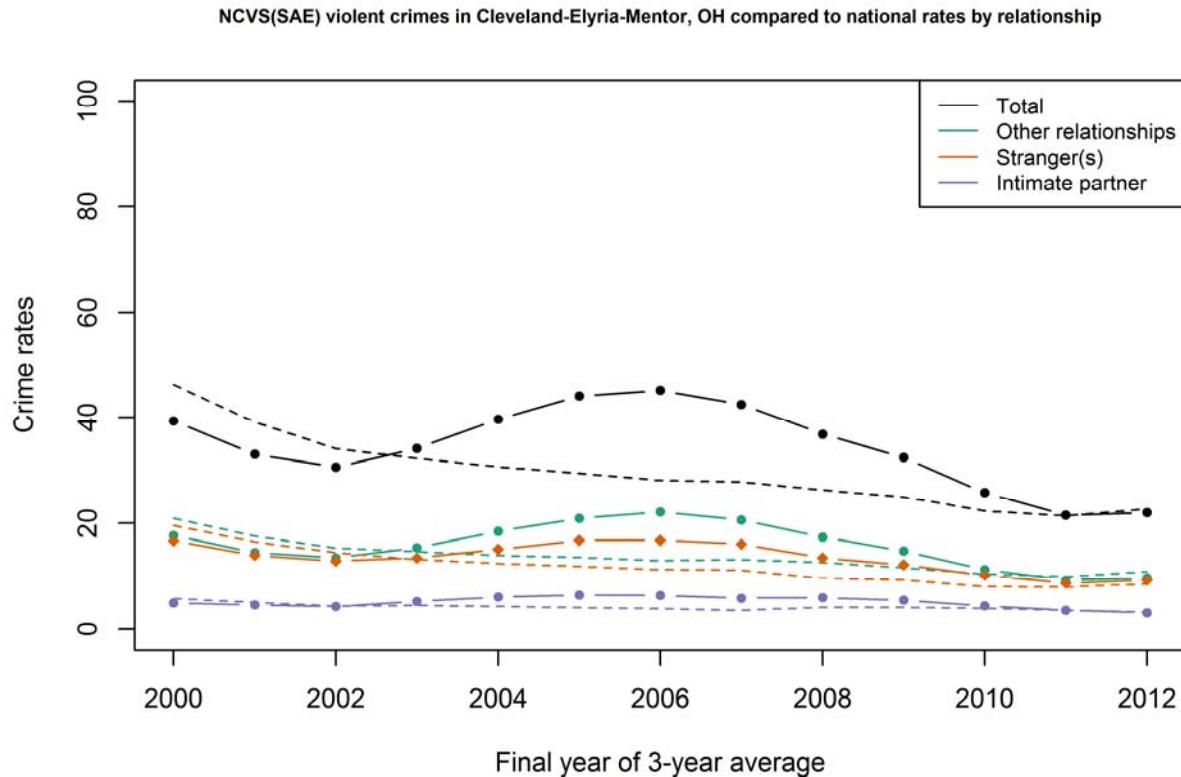


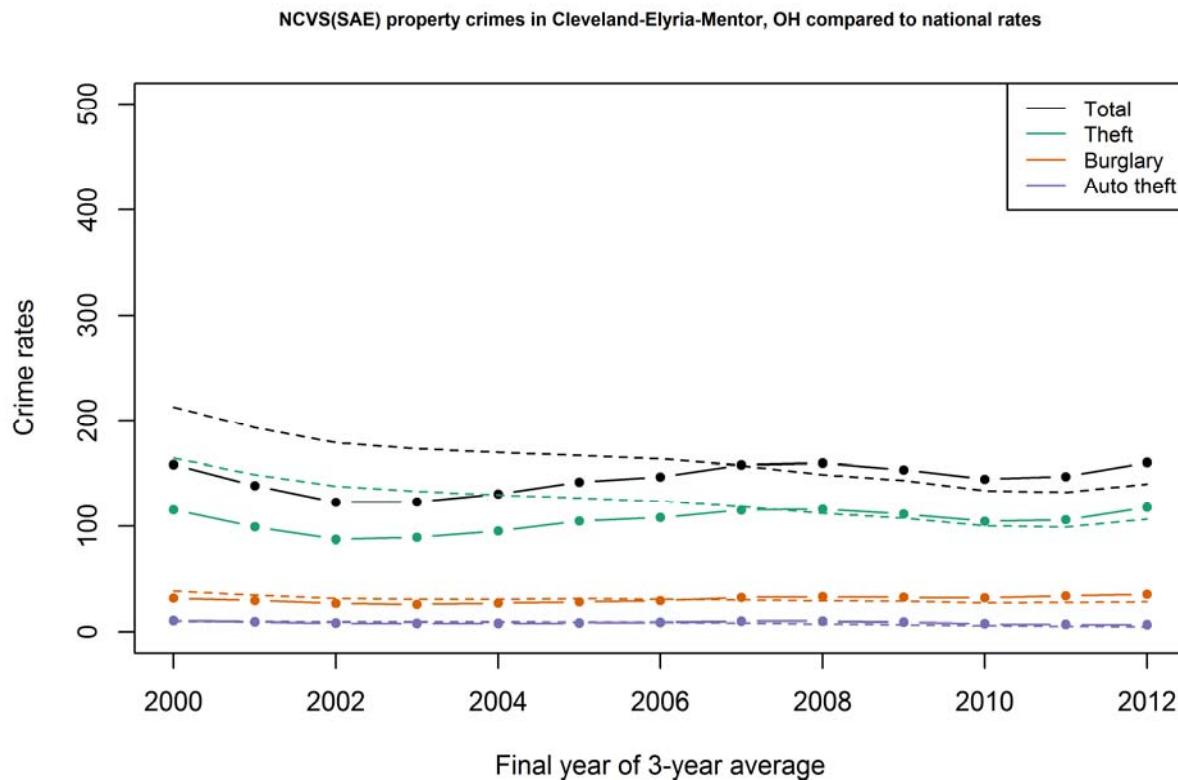




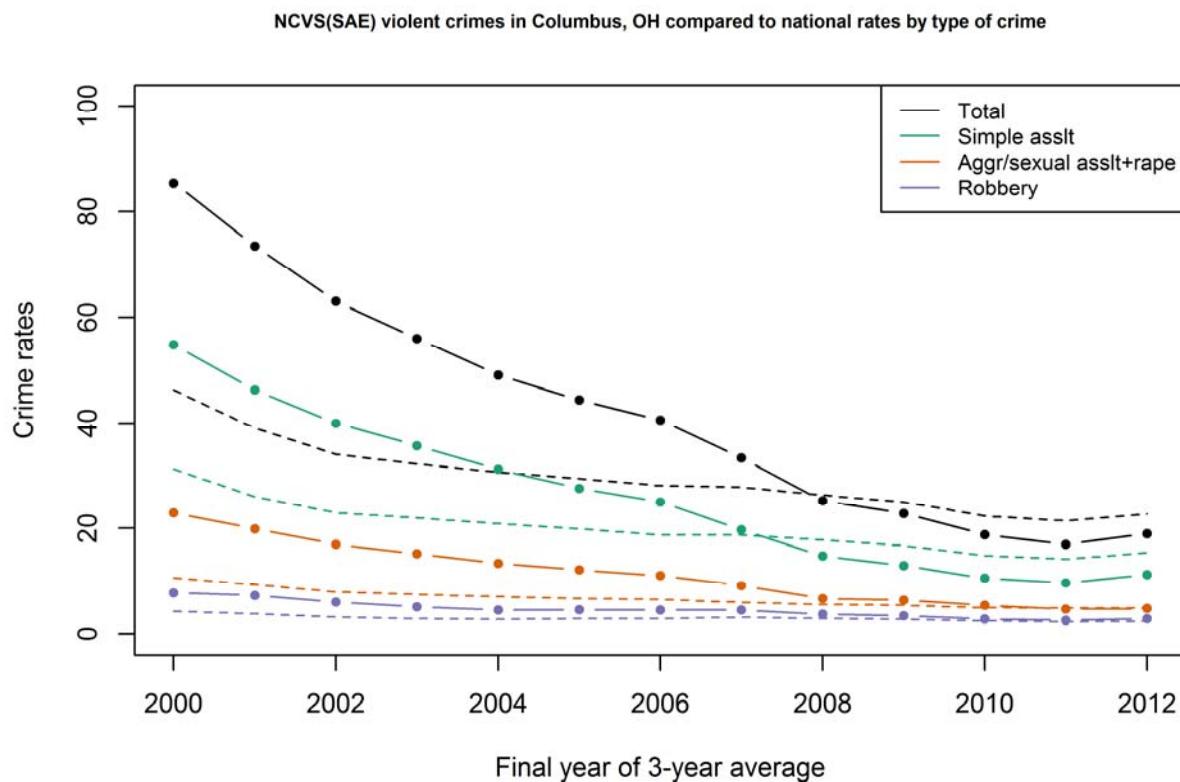
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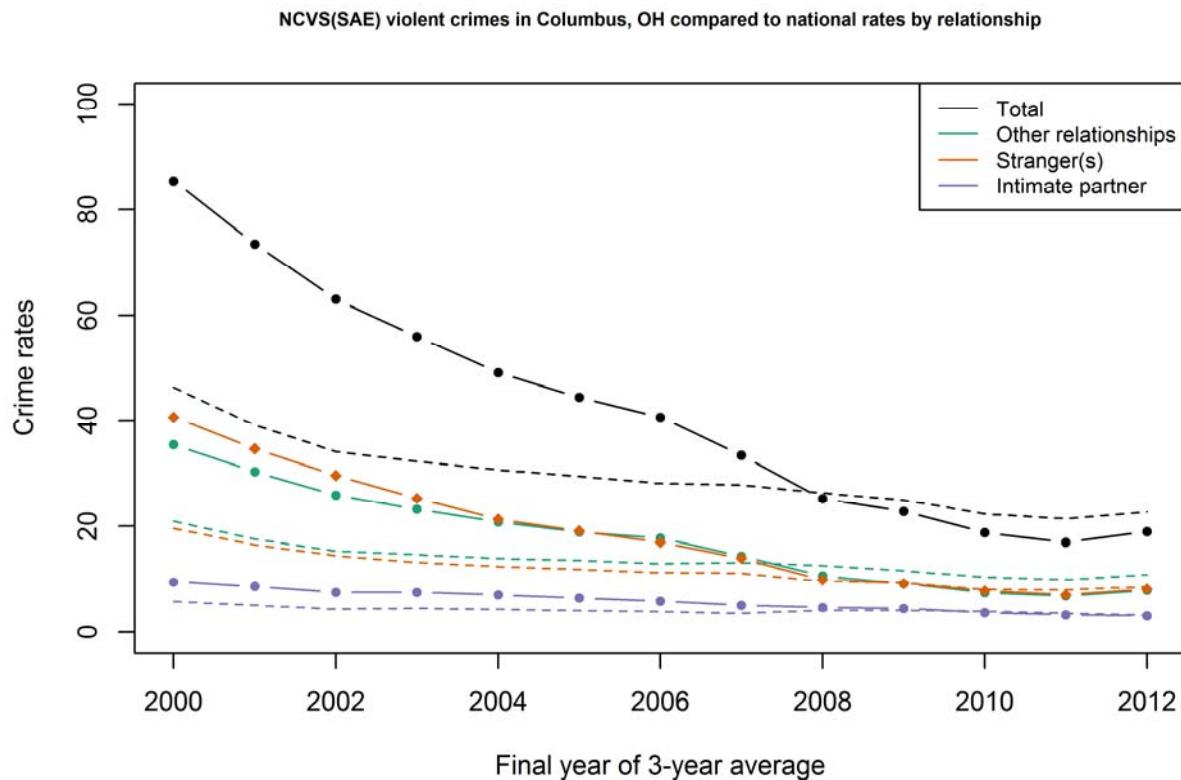


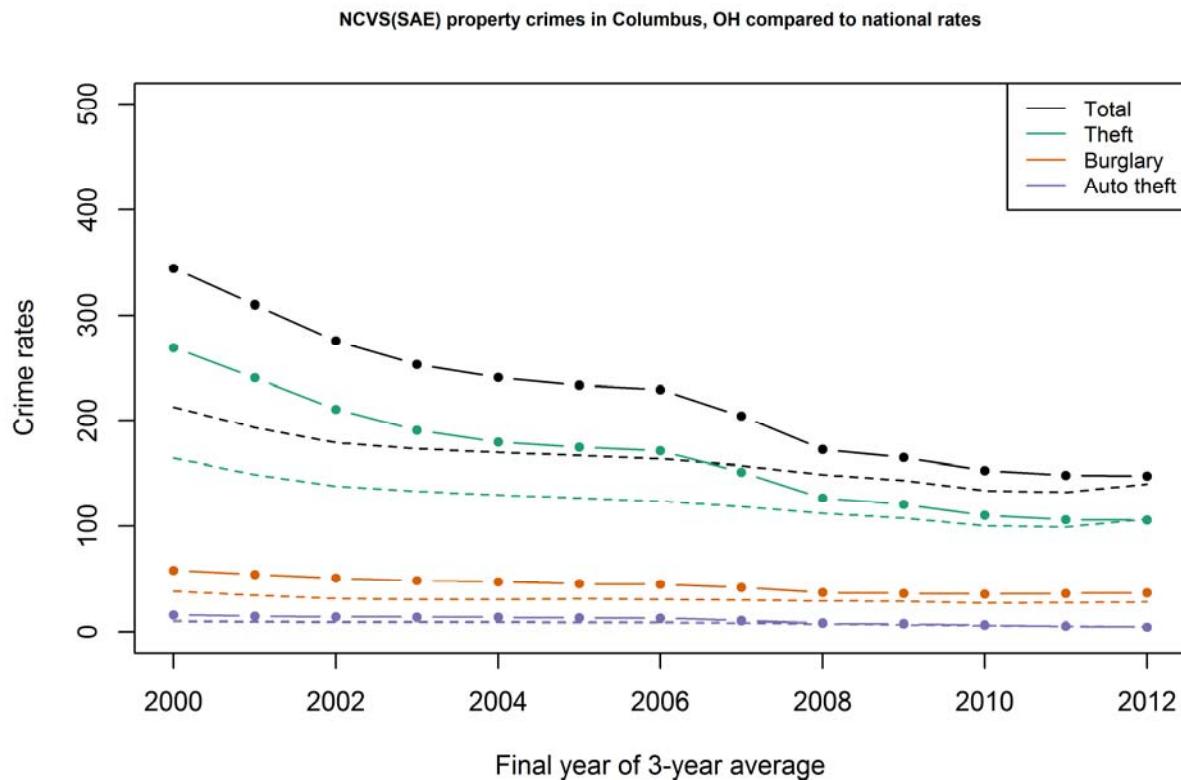




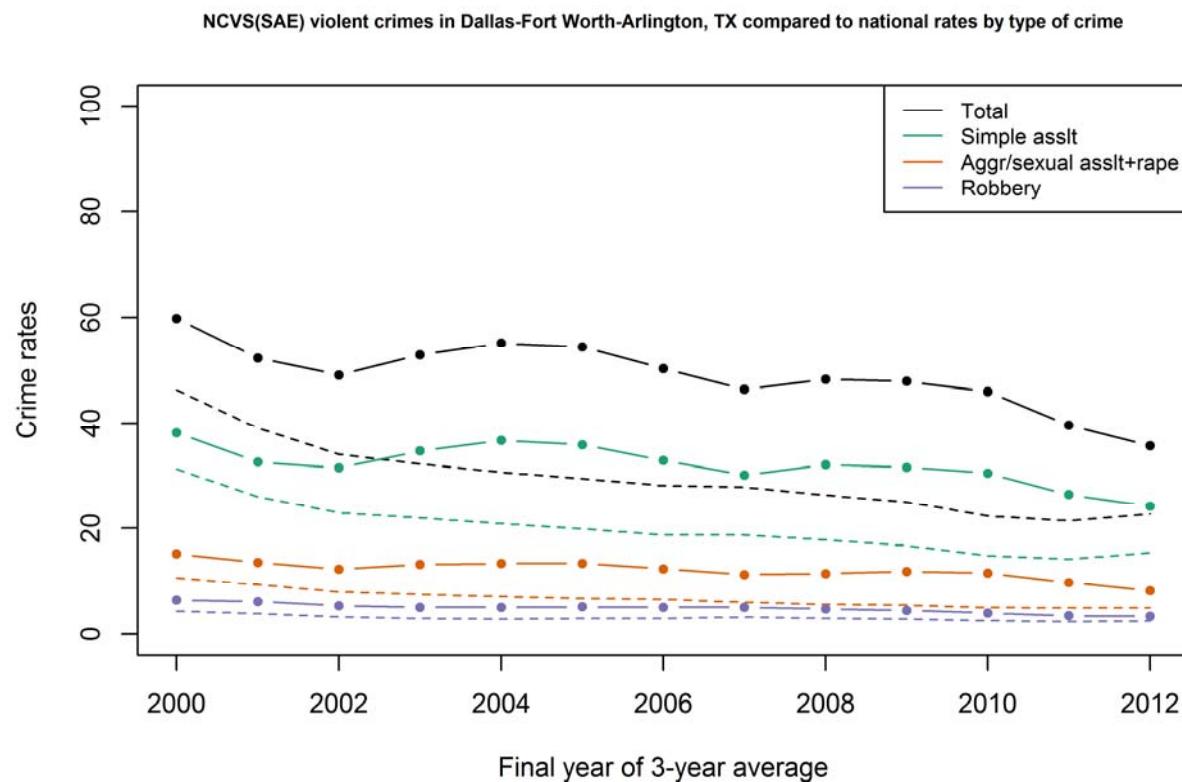
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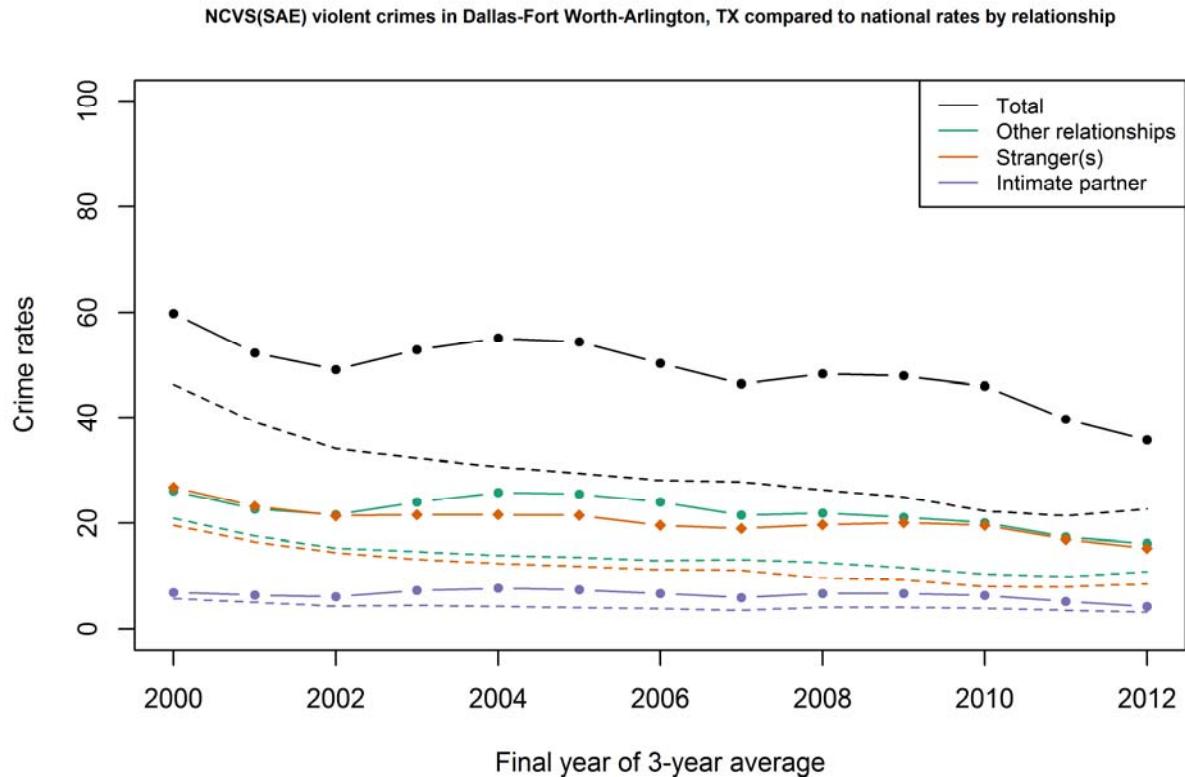


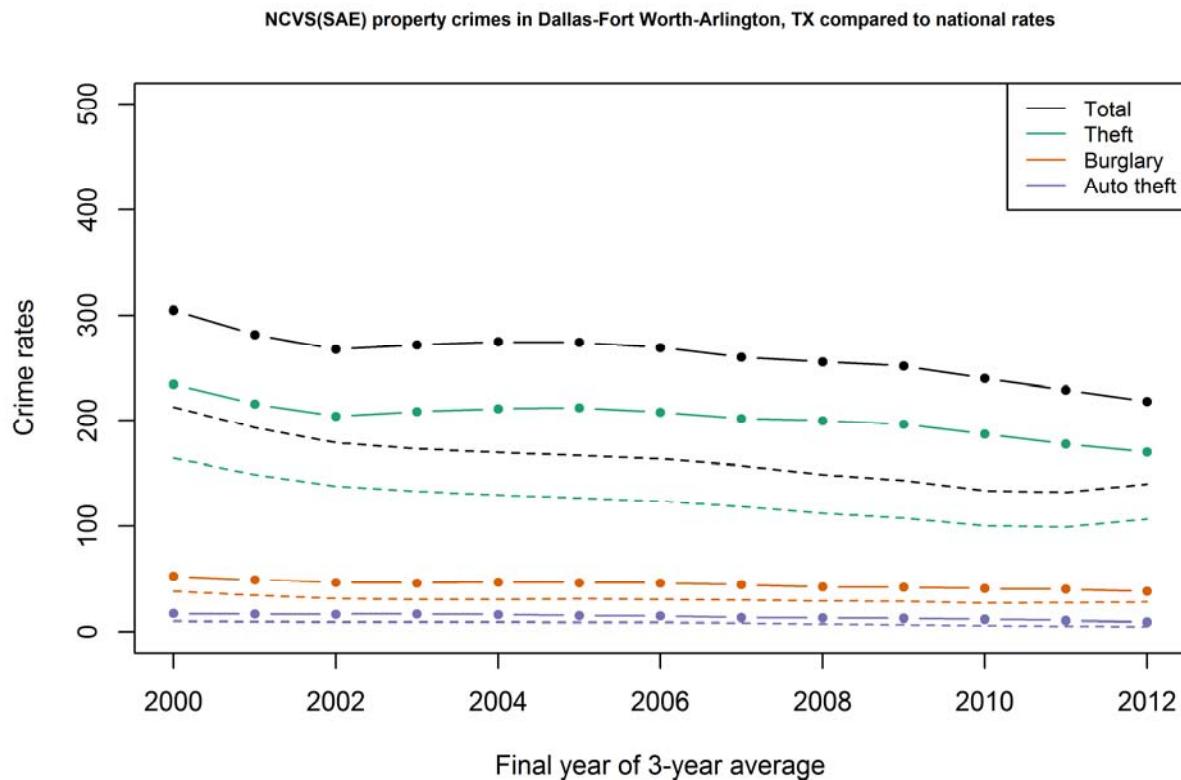




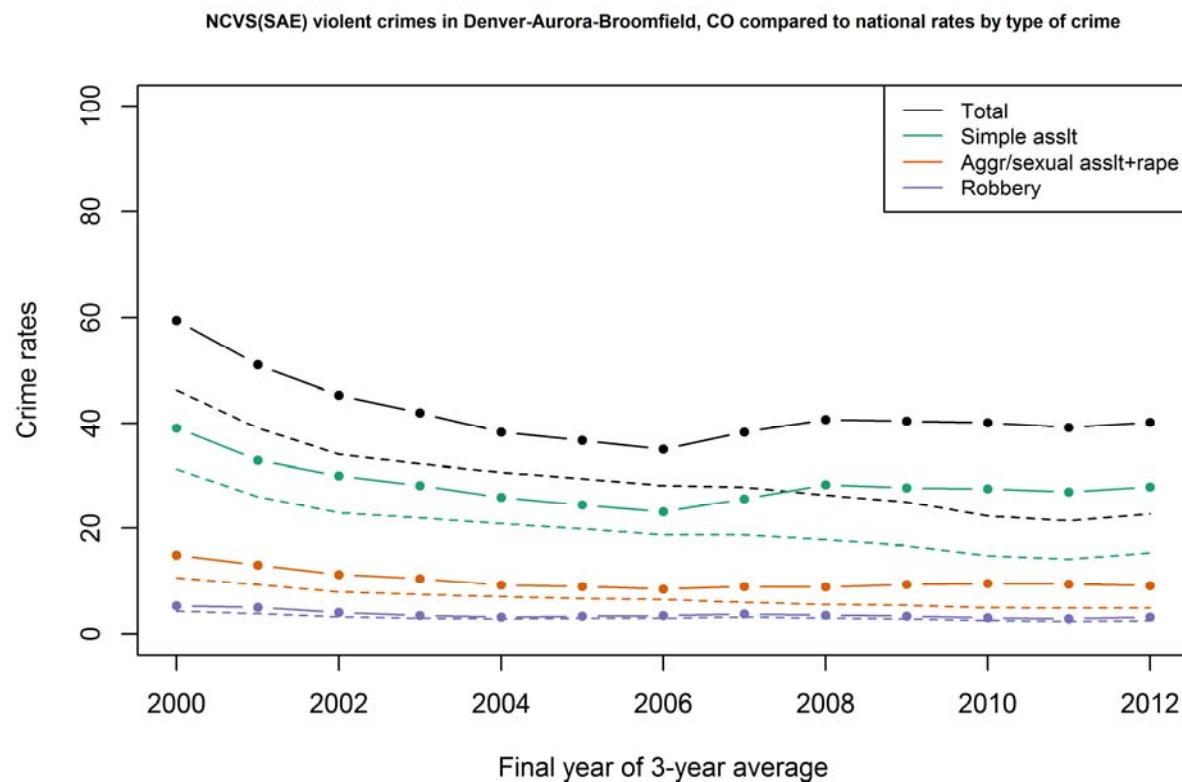
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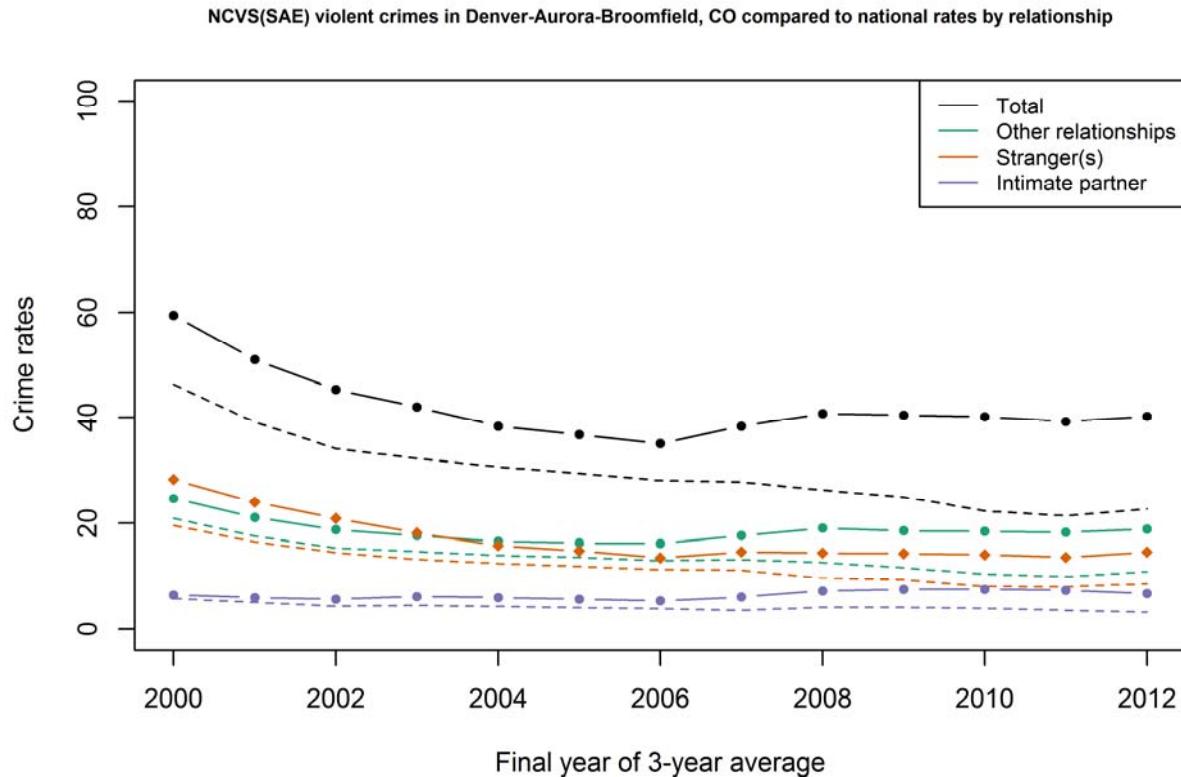




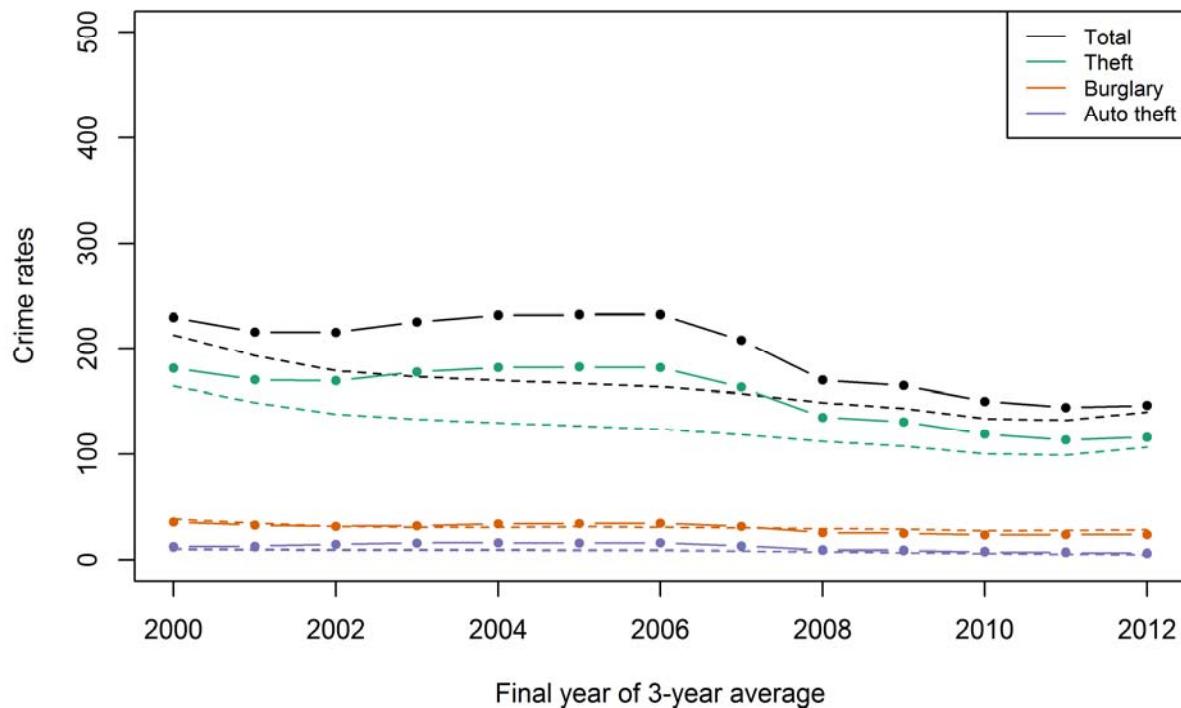


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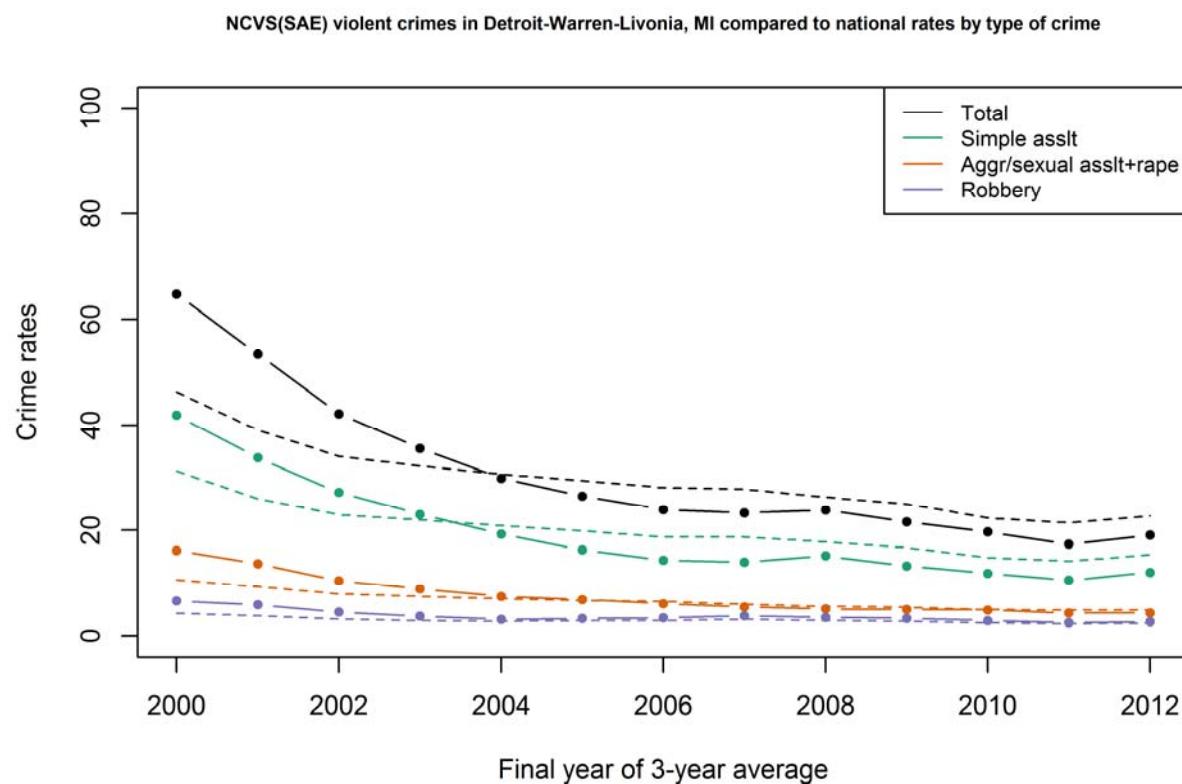


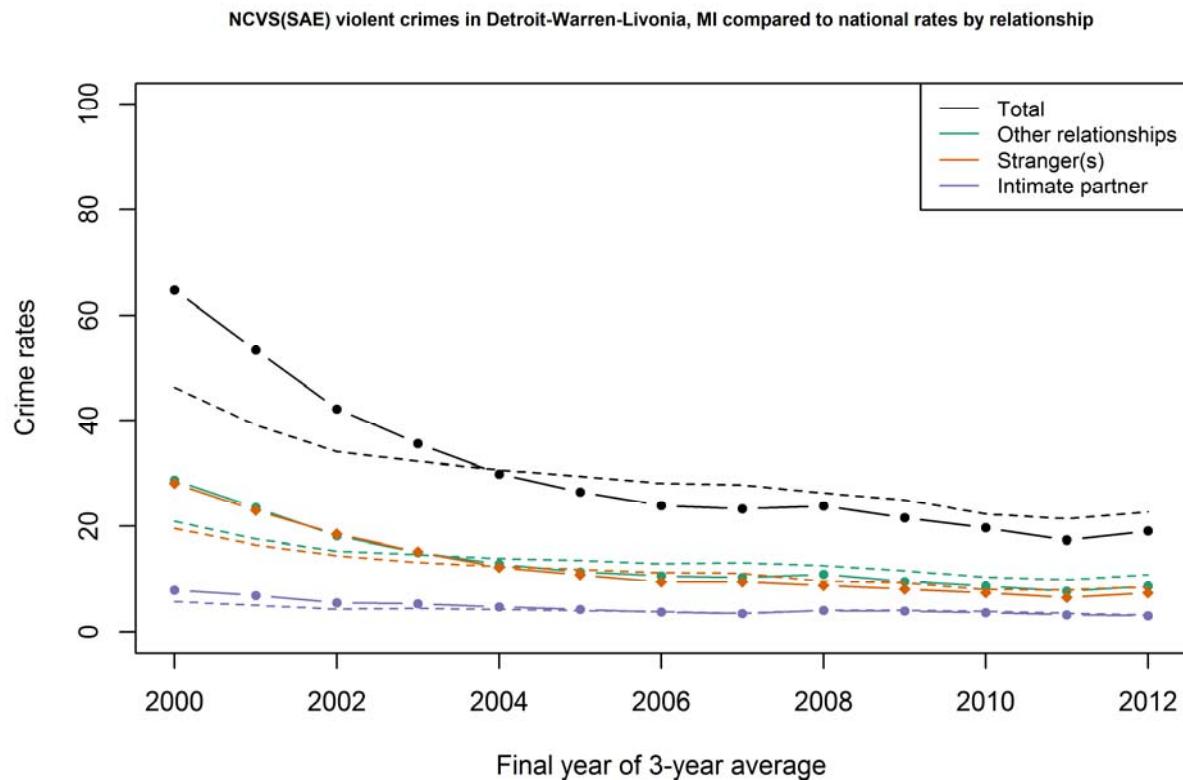


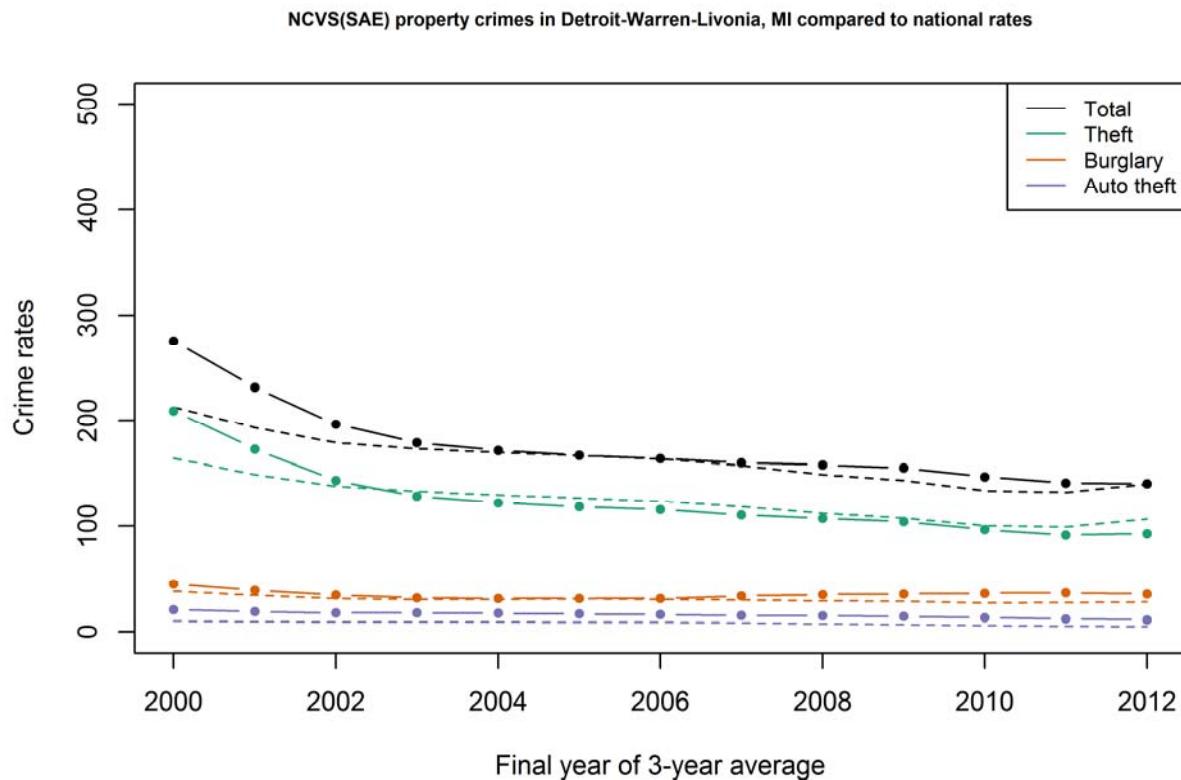
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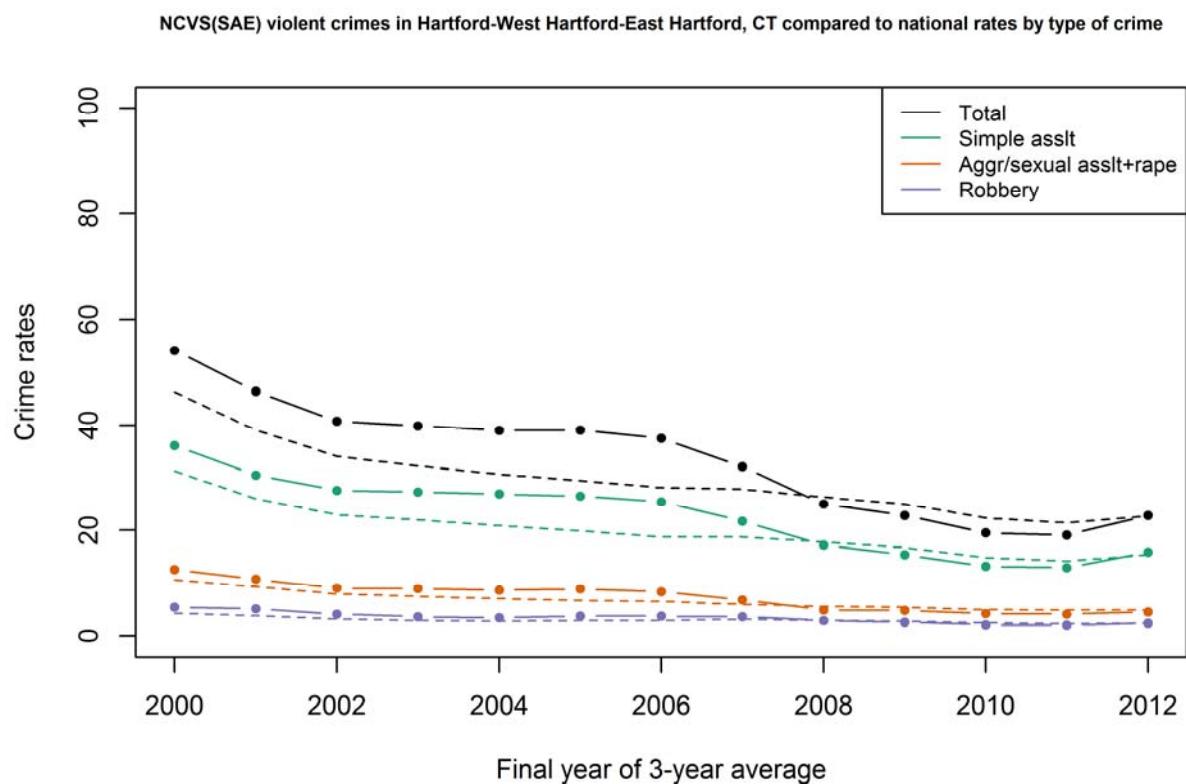
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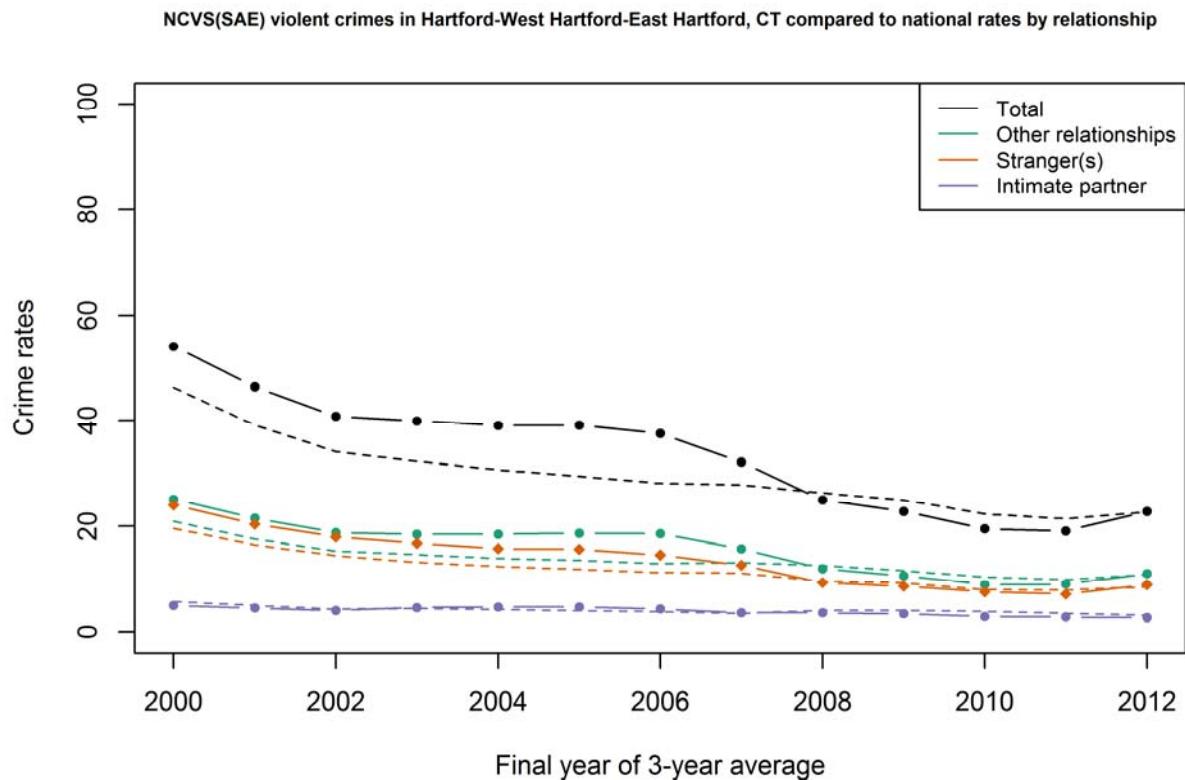


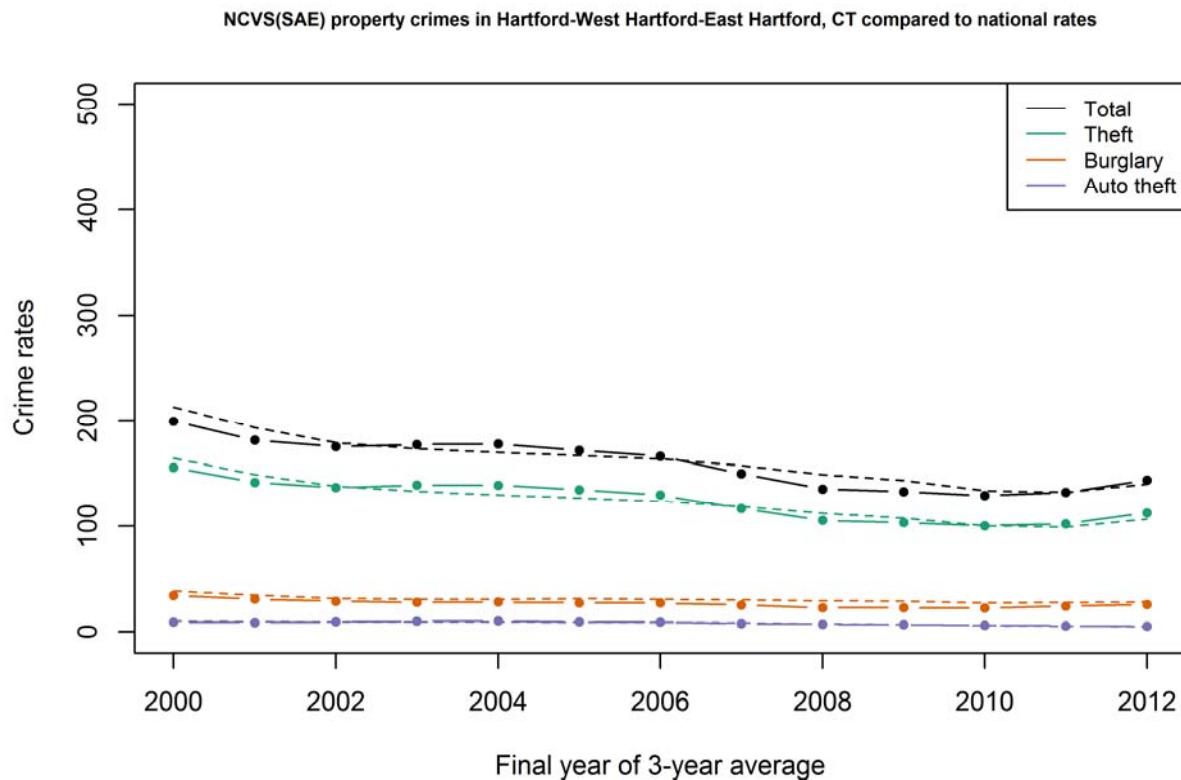




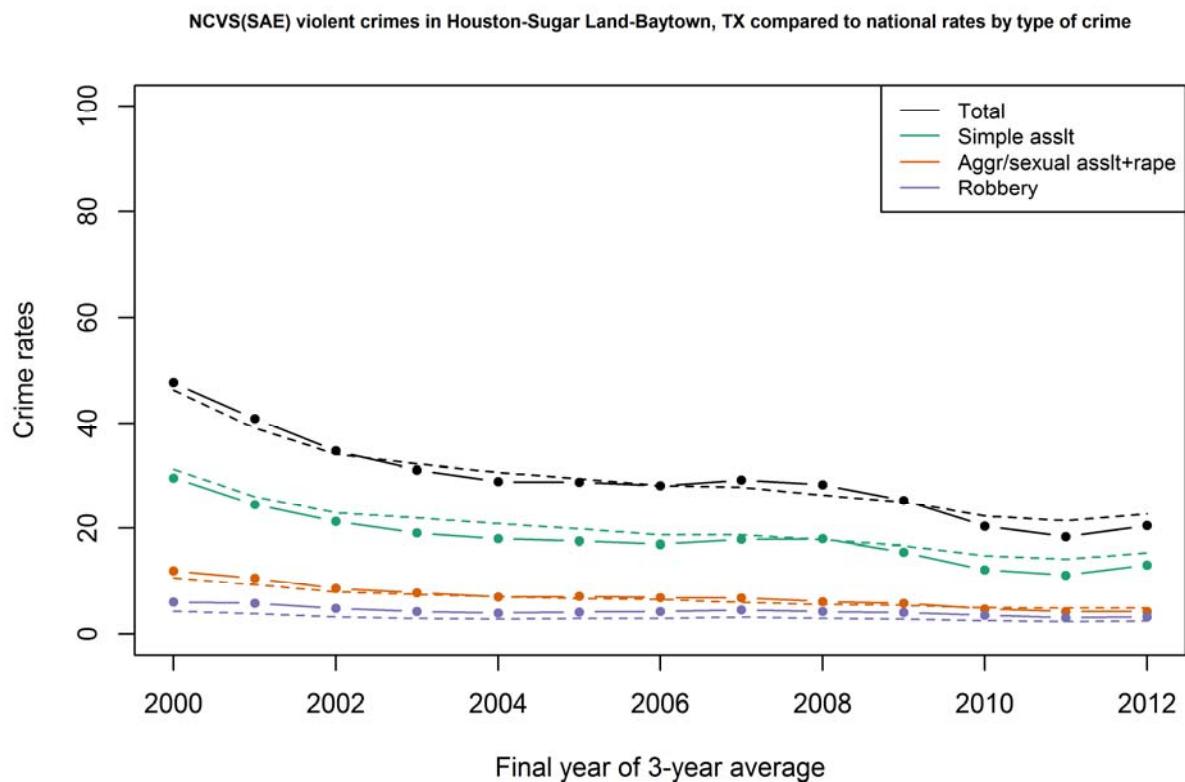
Hartford-West Hartford-East Hartford, CT

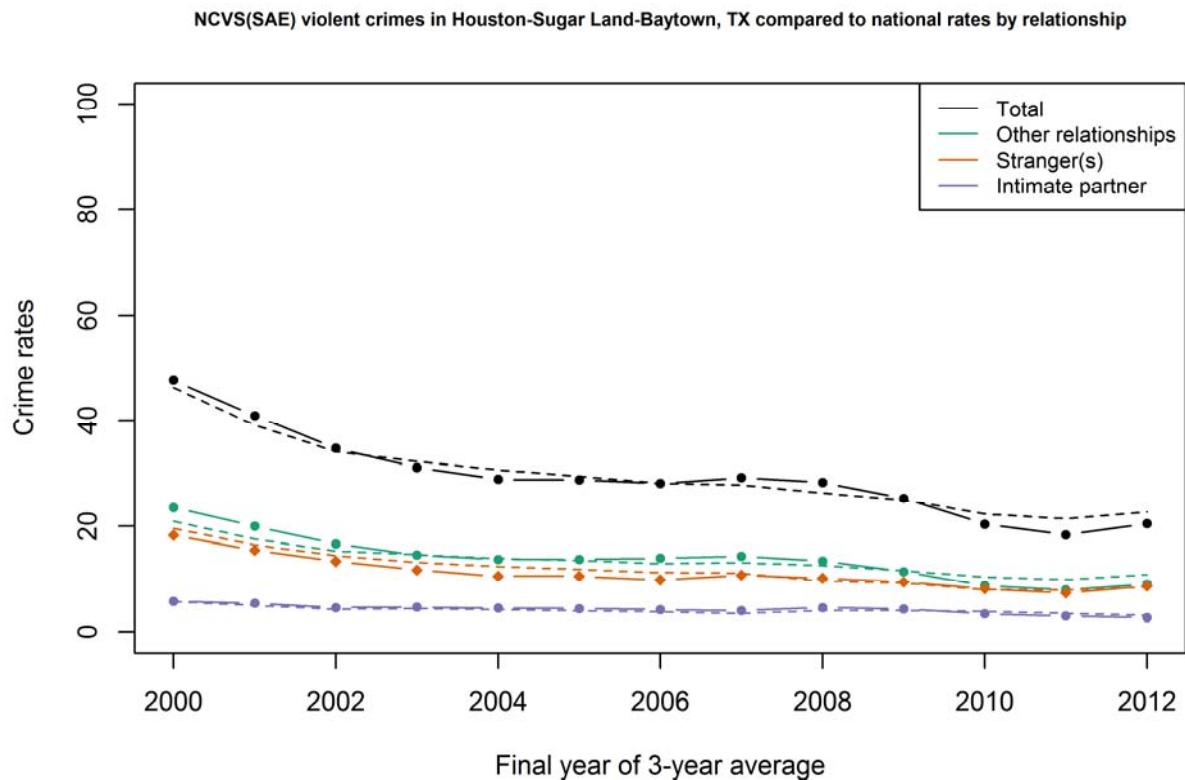


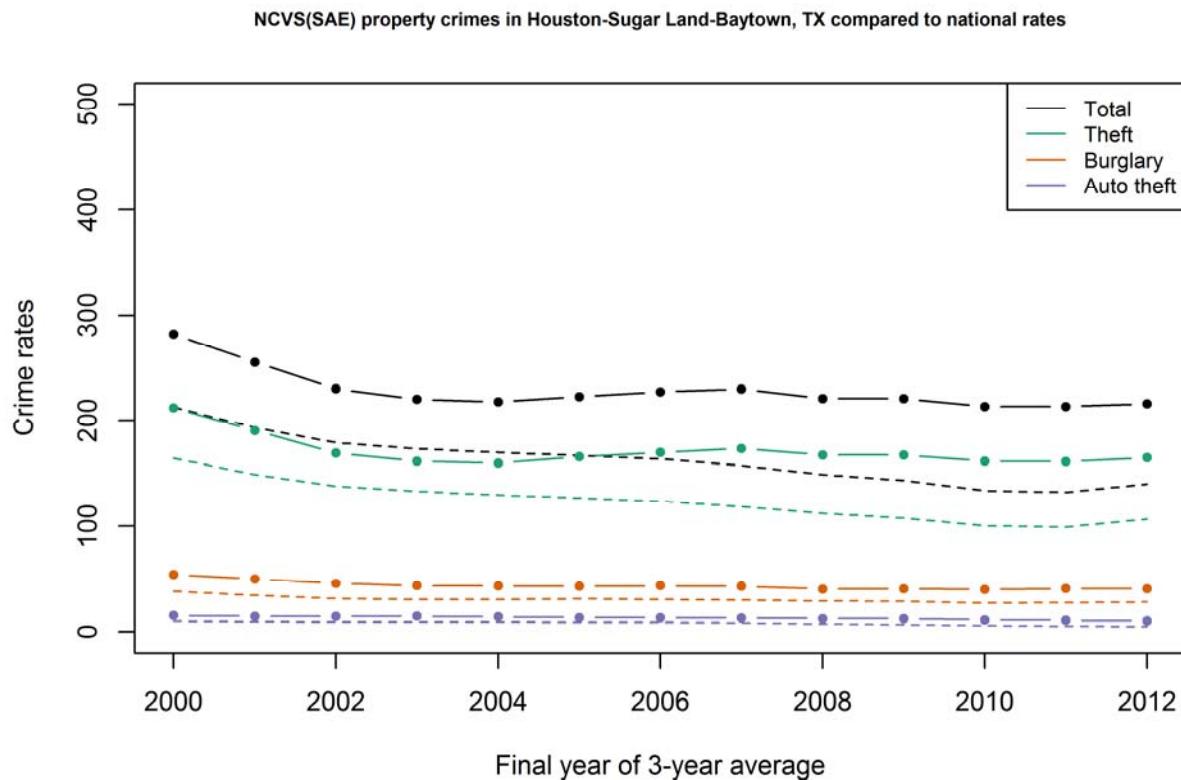




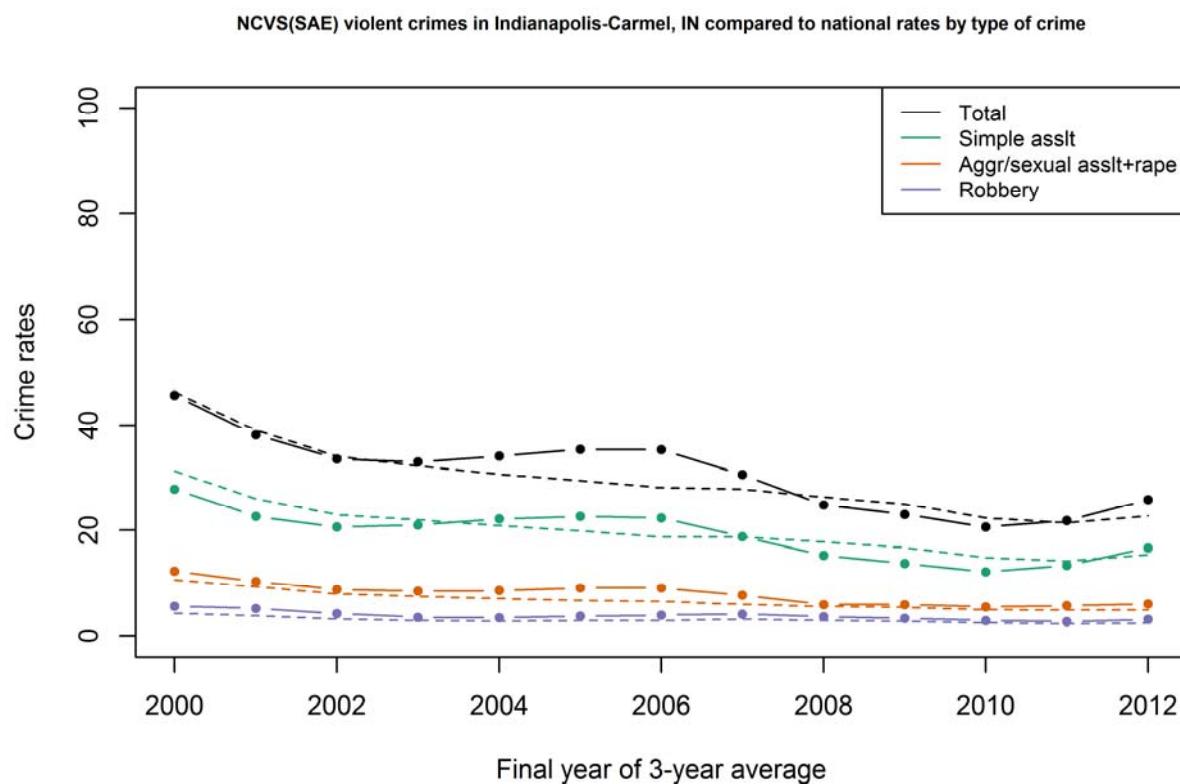
Houston-Sugar Land-Baytown, TX

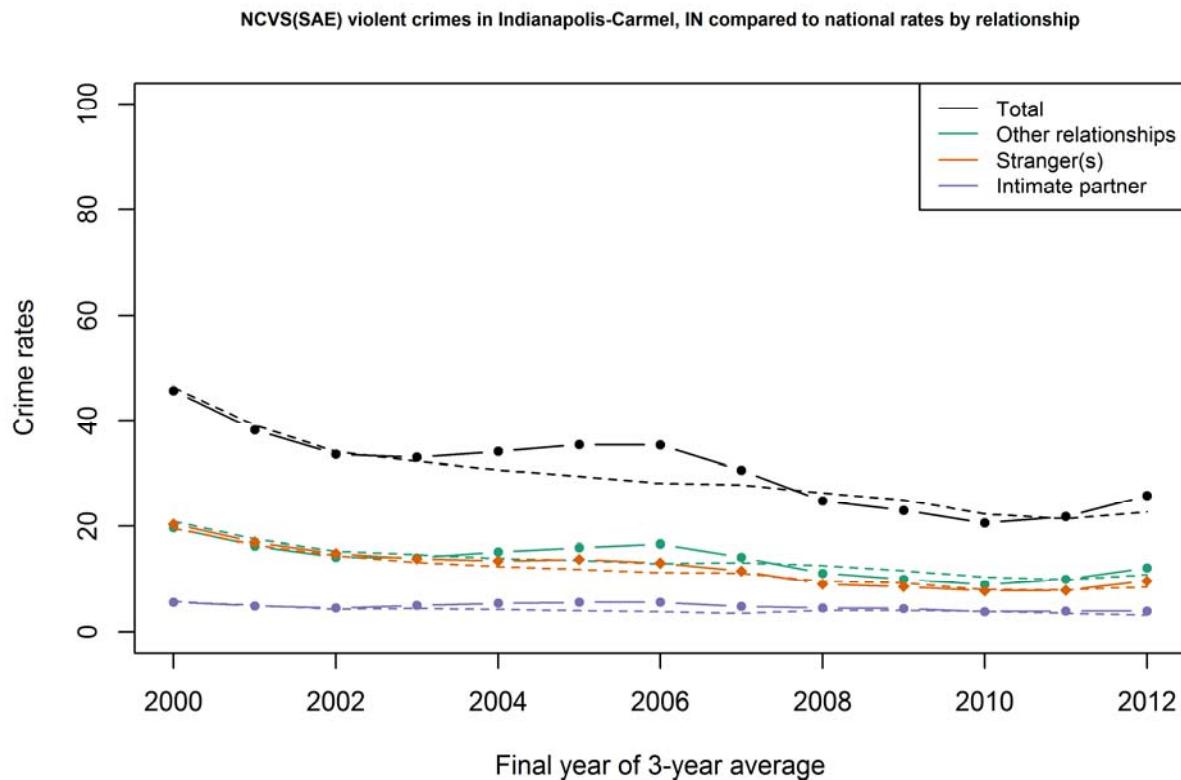




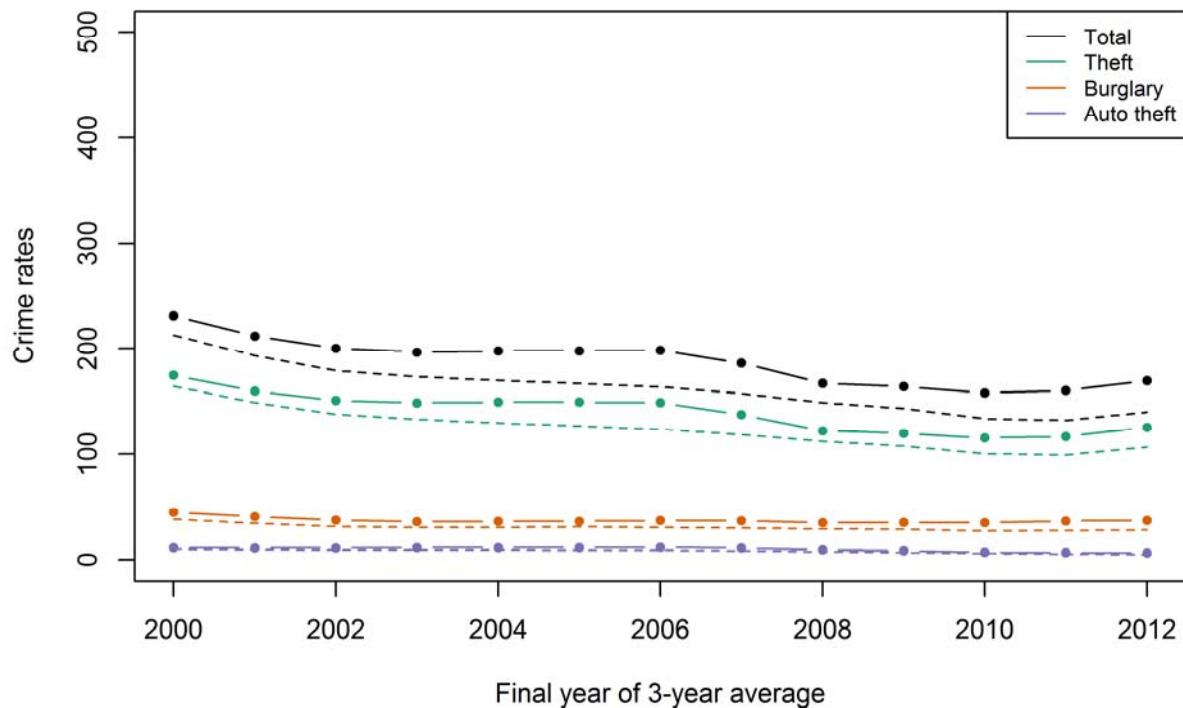


Indianapolis-Carmel, IN

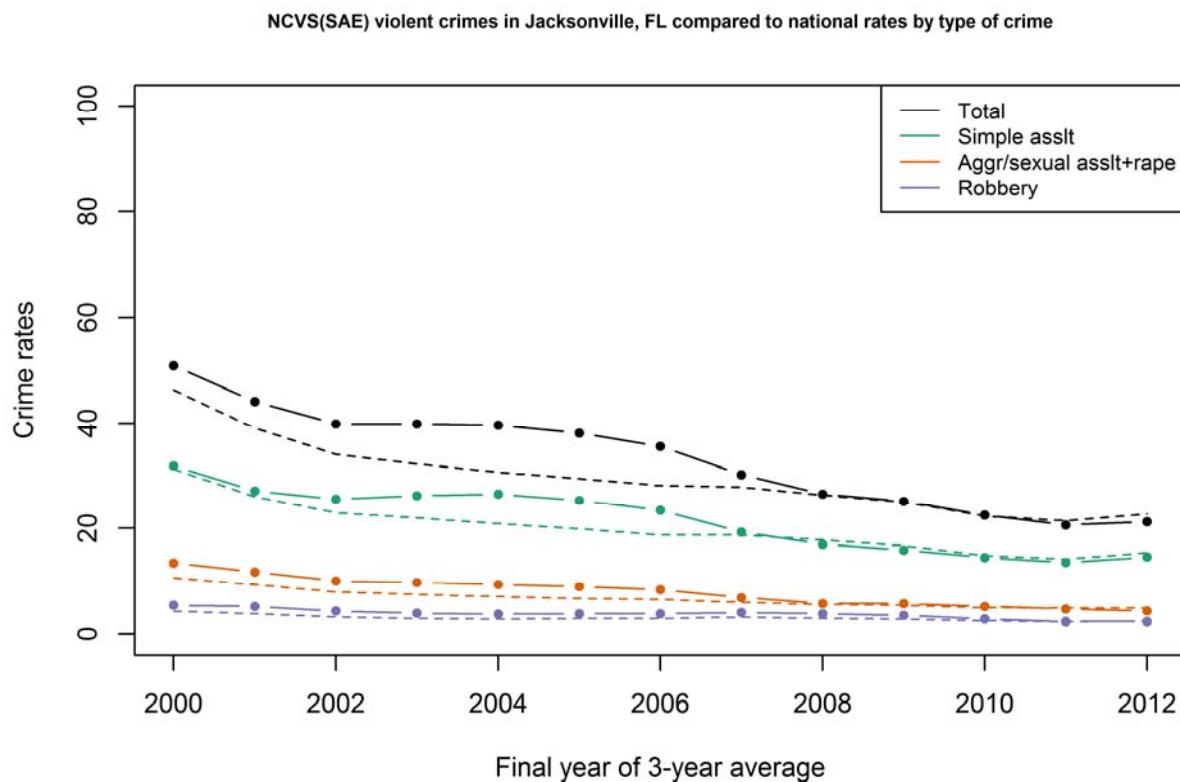


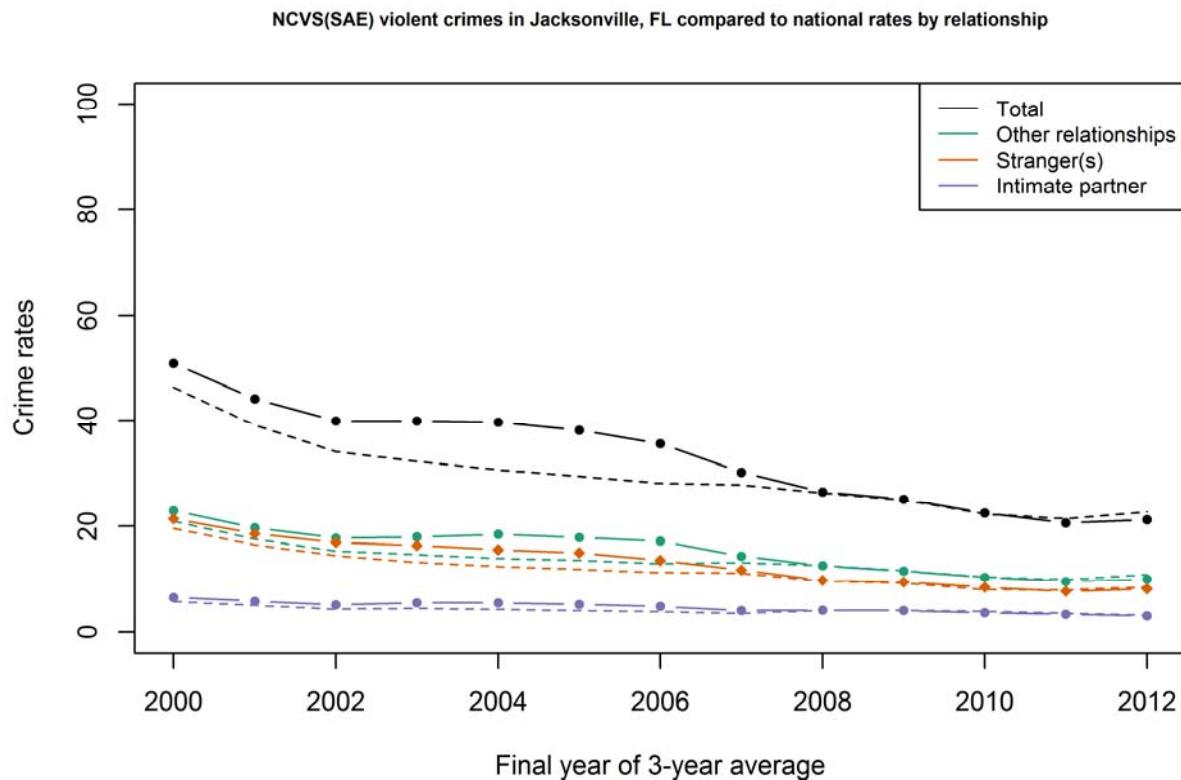


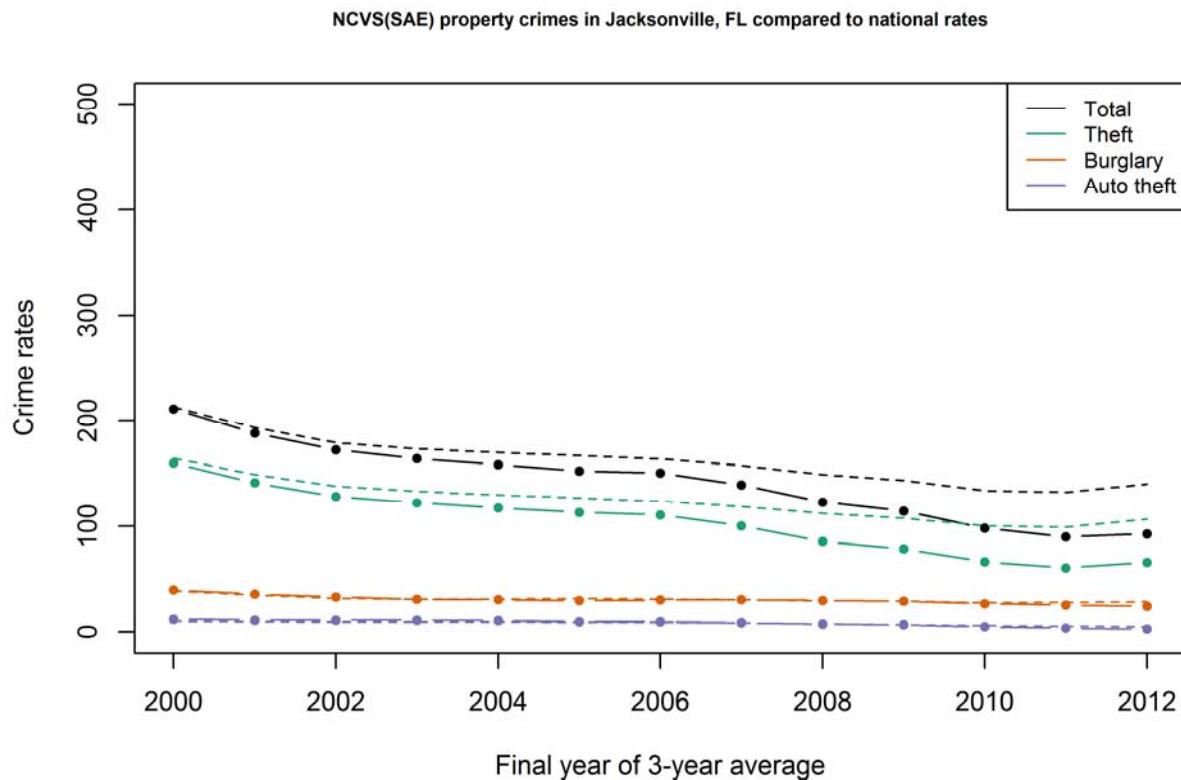
NCVS(SAE) property crimes in Indianapolis-Carmel, IN compared to national rates



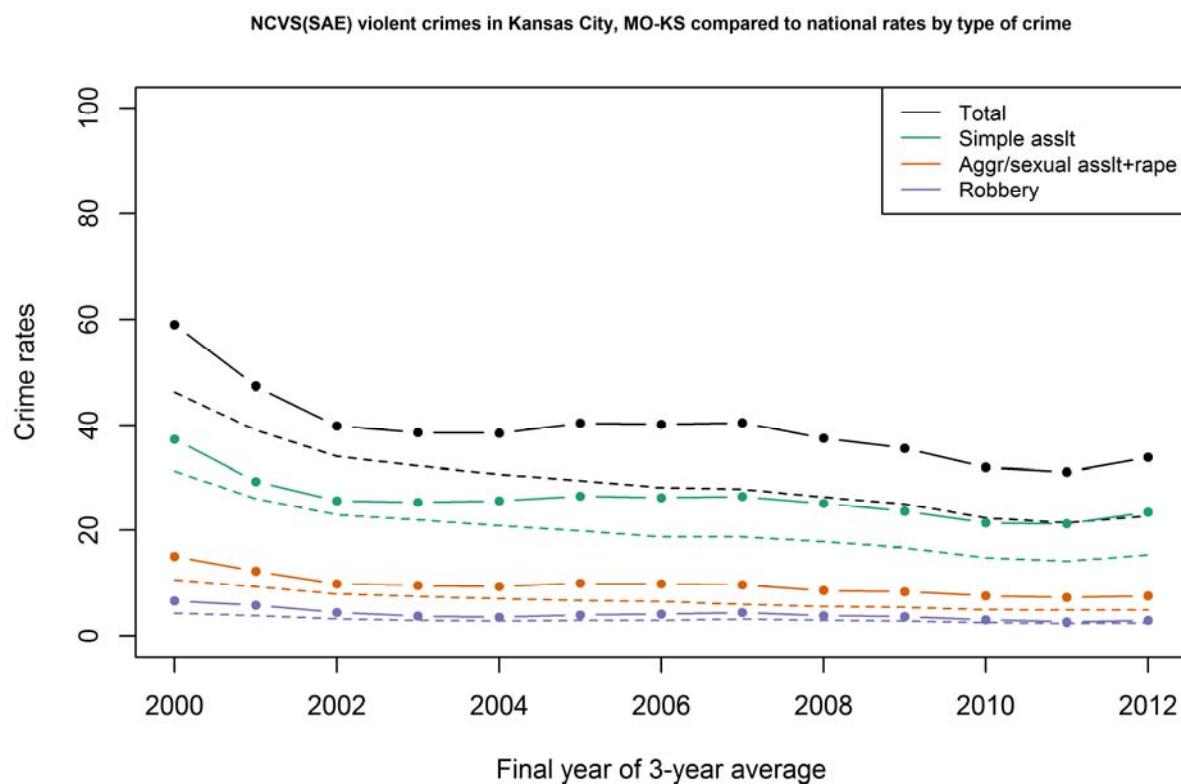
Jacksonville, FL

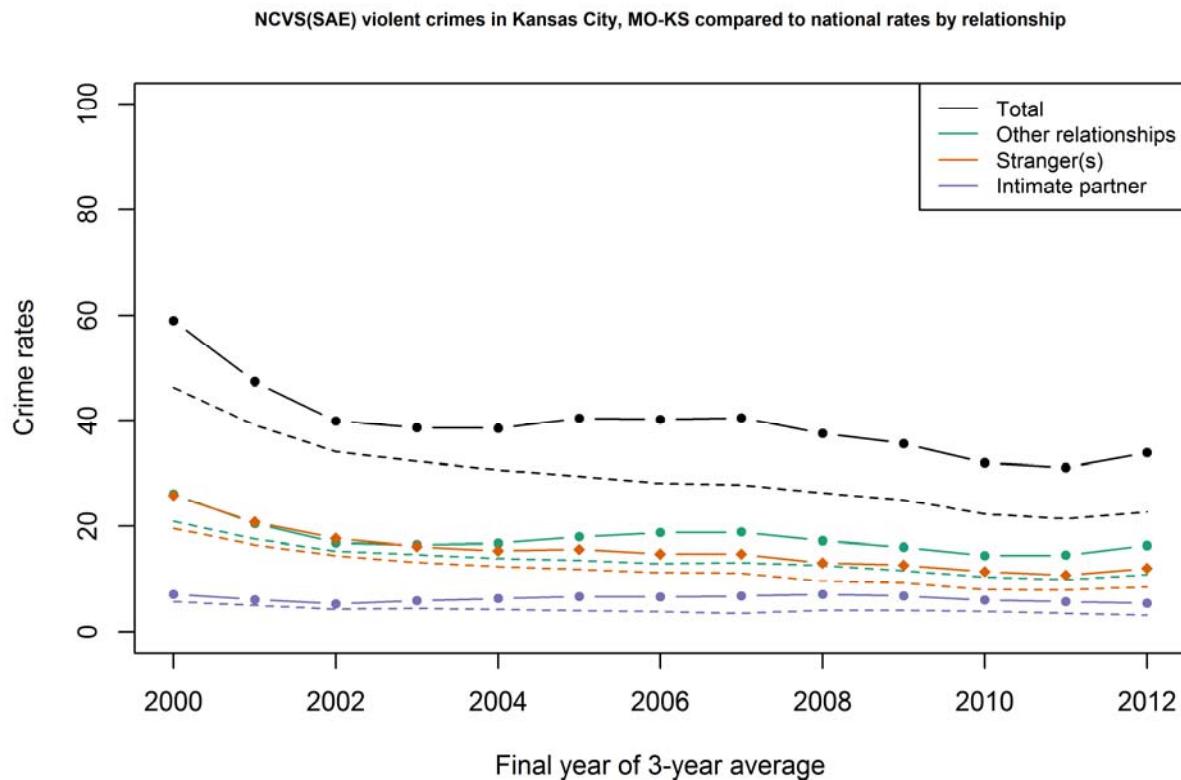


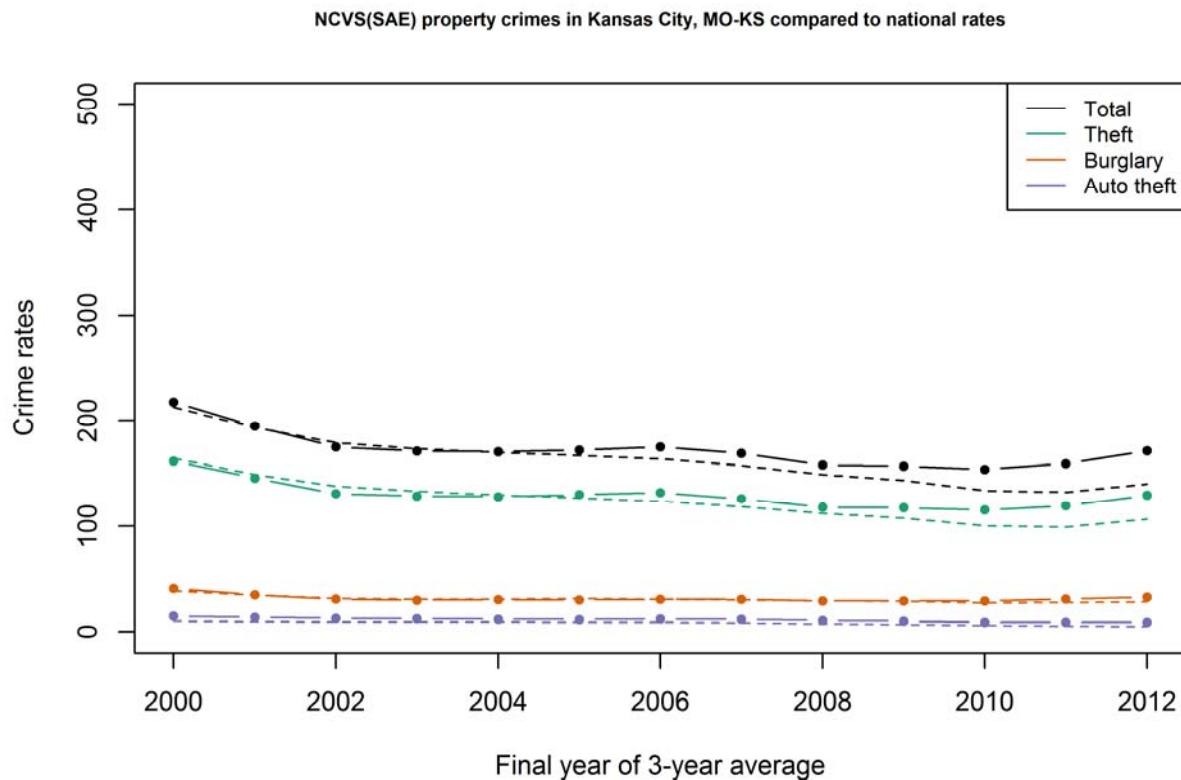




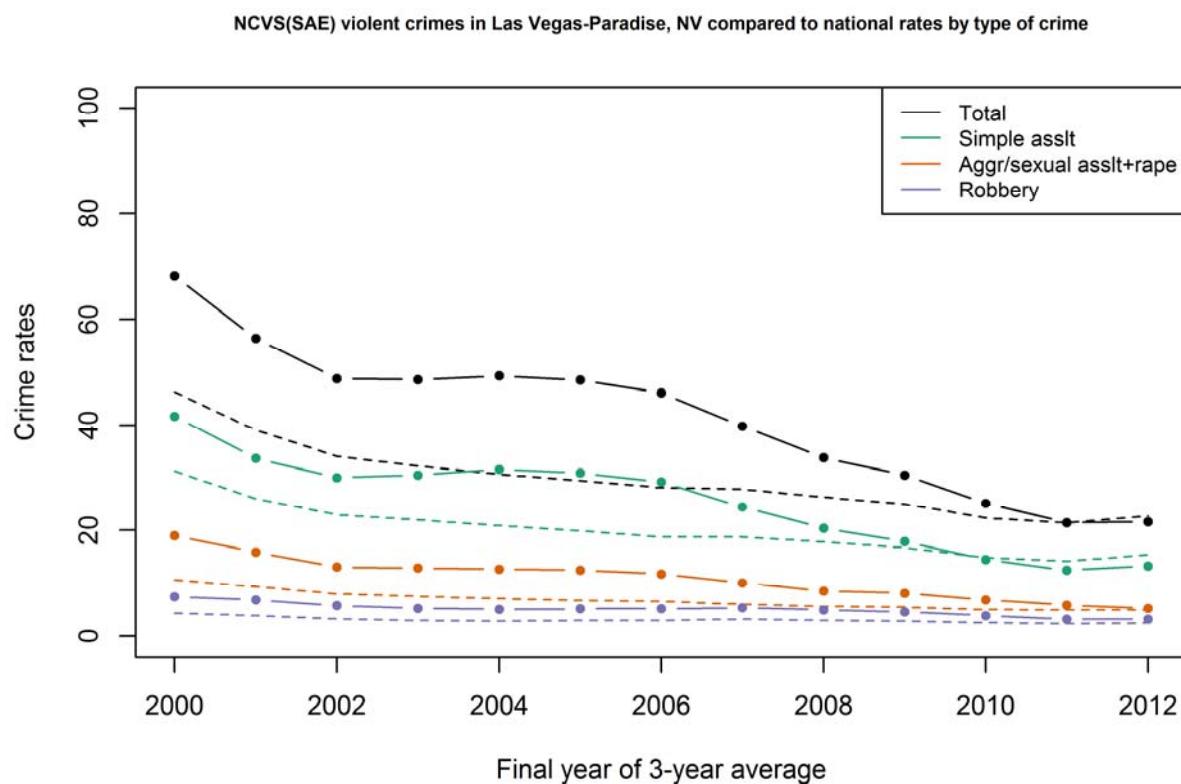
Kansas City, MO-KS

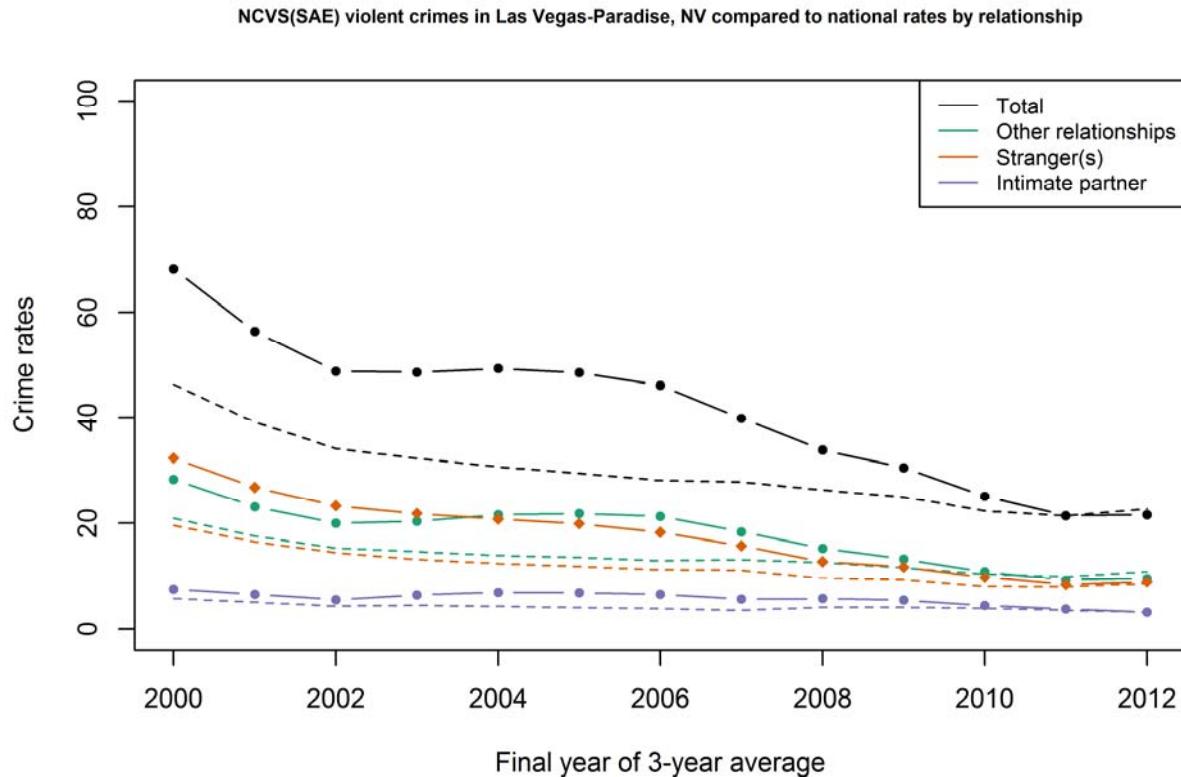


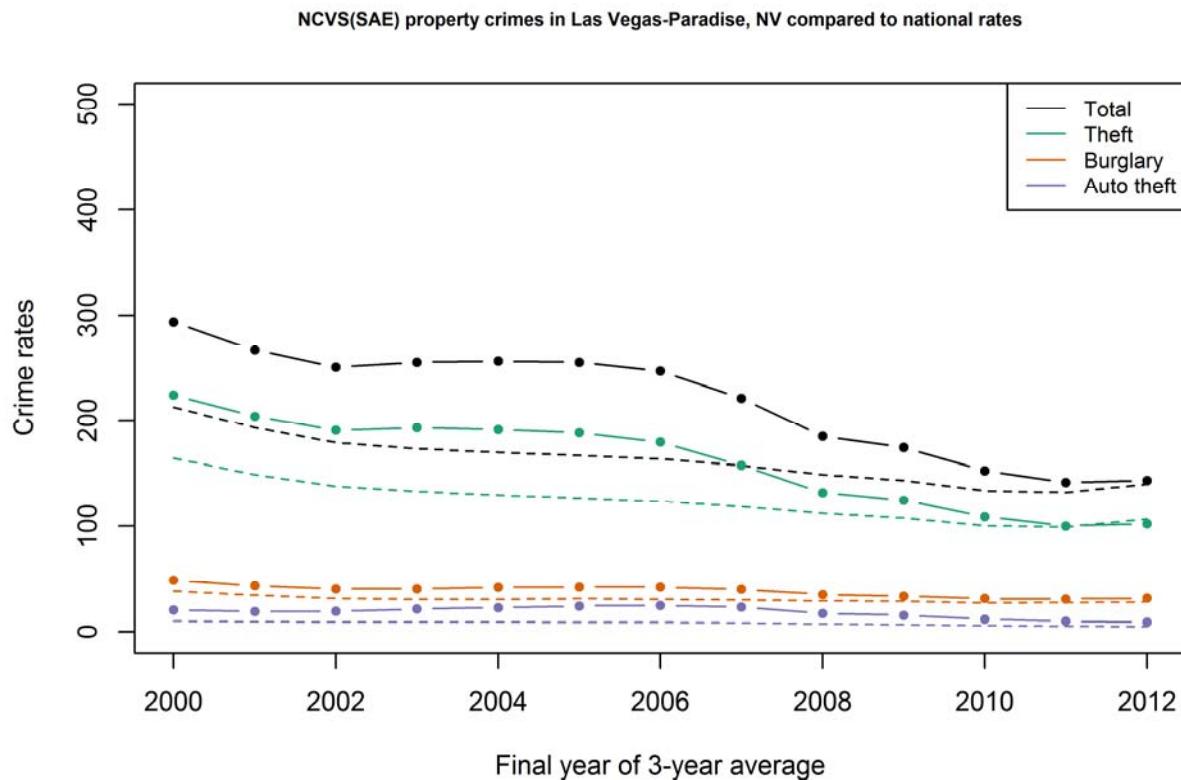




Las Vegas-Paradise, NV

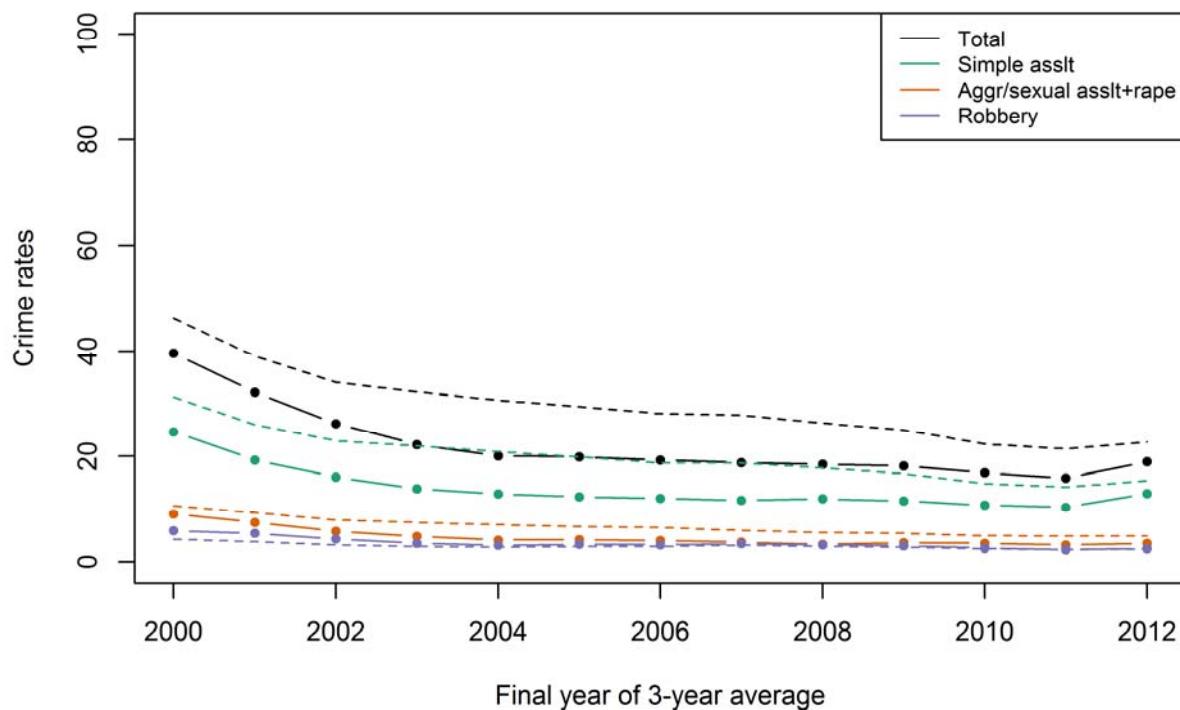


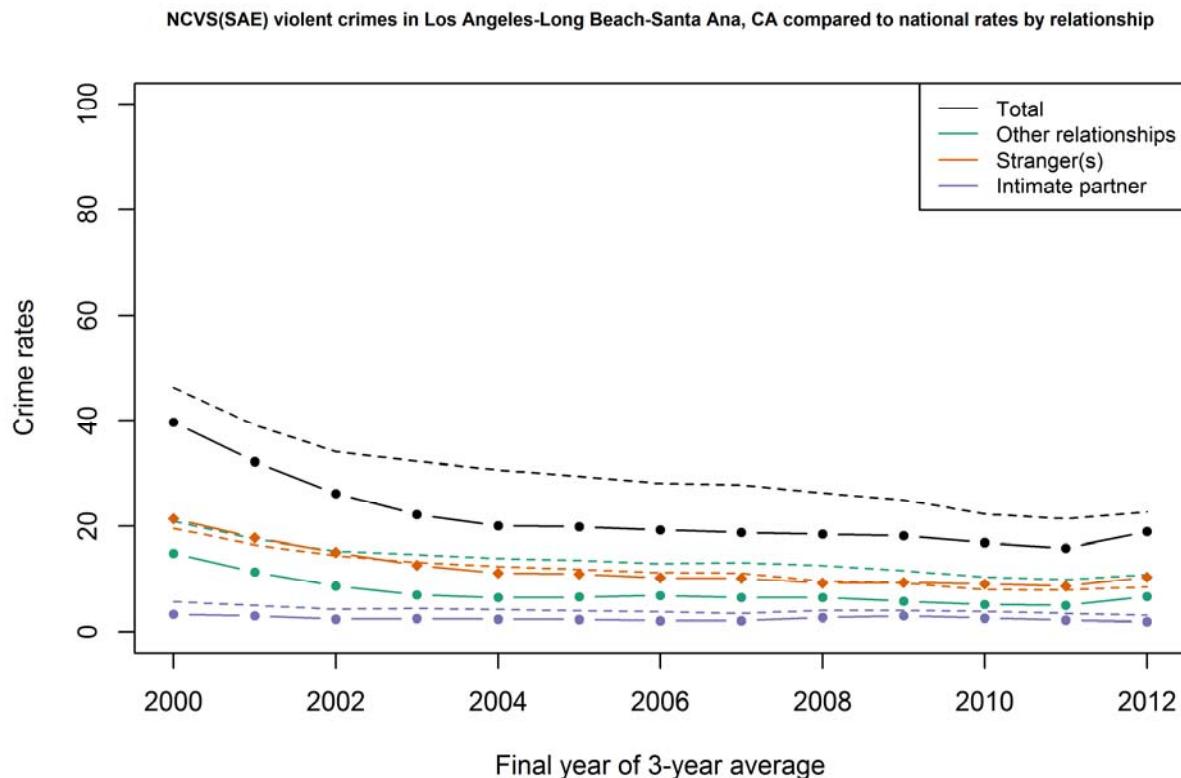


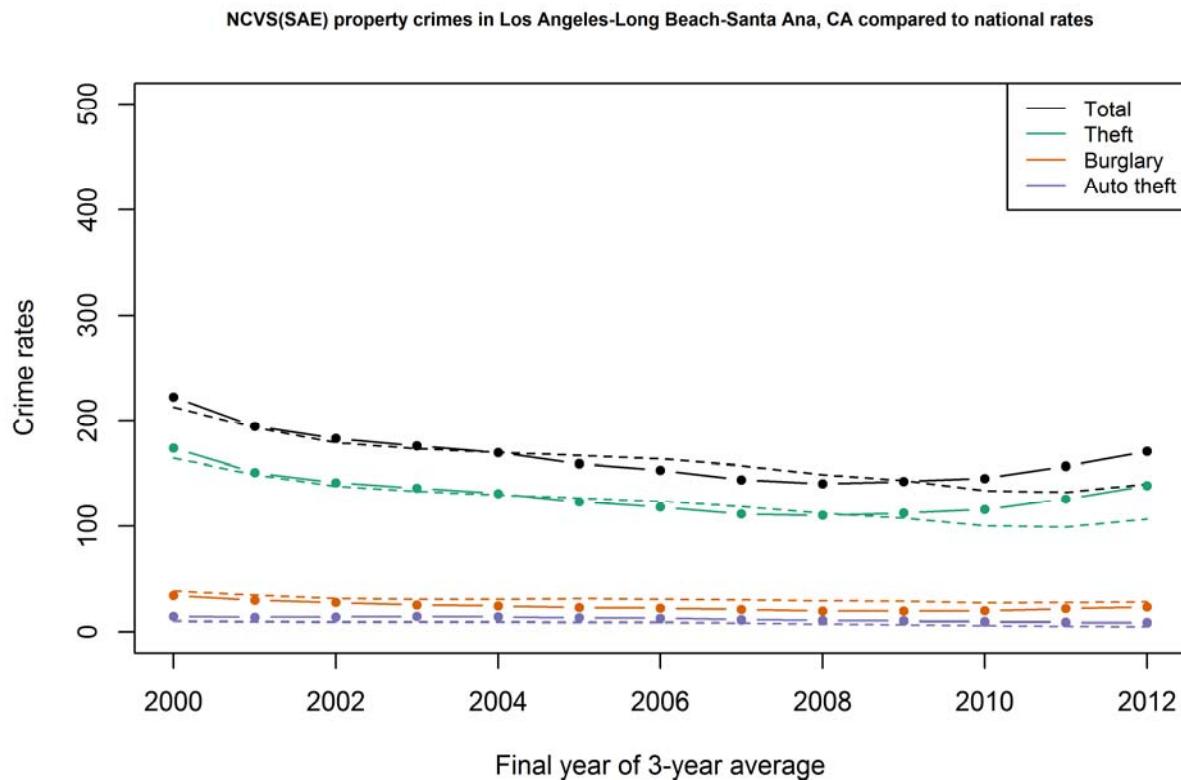


Los Angeles-Long Beach-Santa Ana, CA

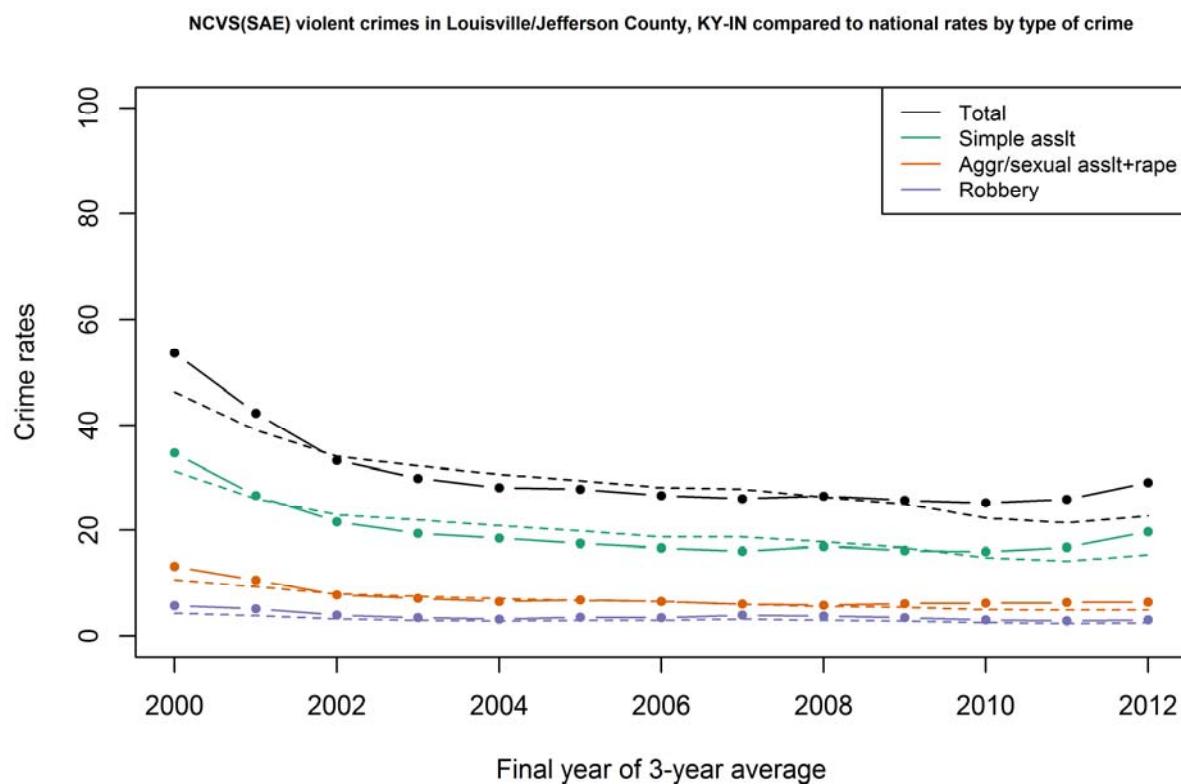
NCVS(SAE) violent crimes in Los Angeles-Long Beach-Santa Ana, CA compared to national rates by type of crime

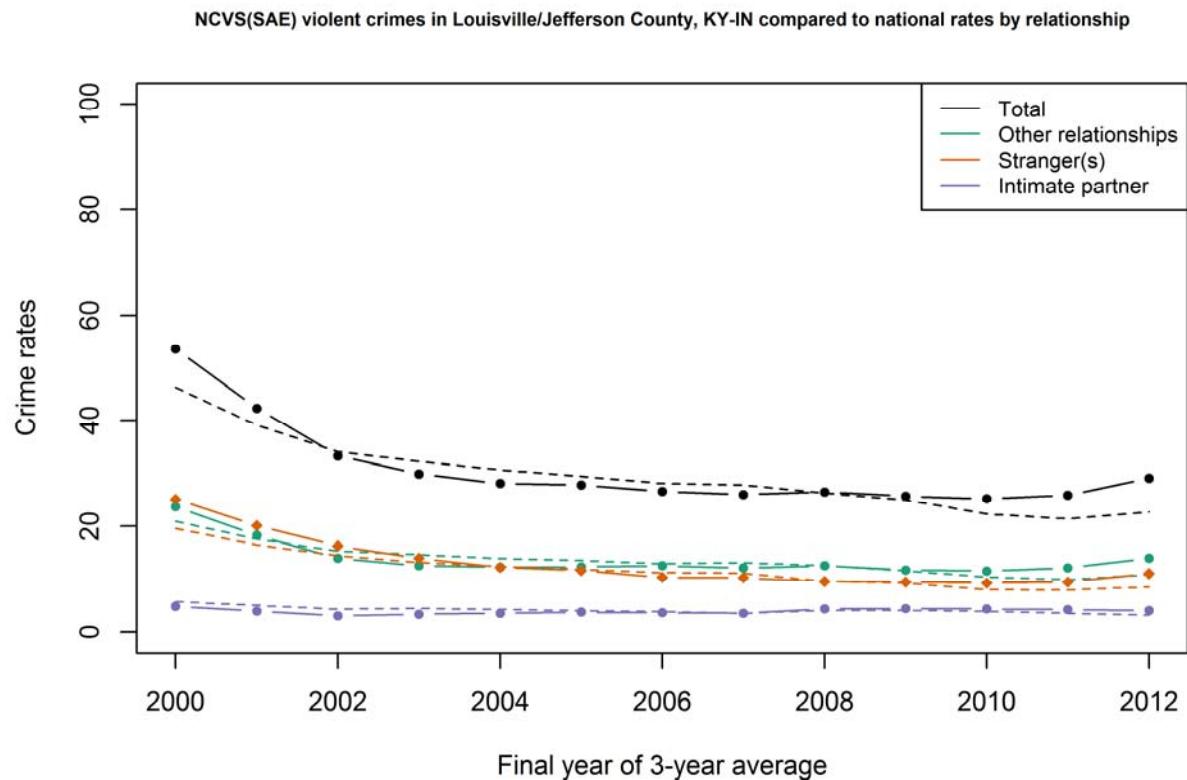


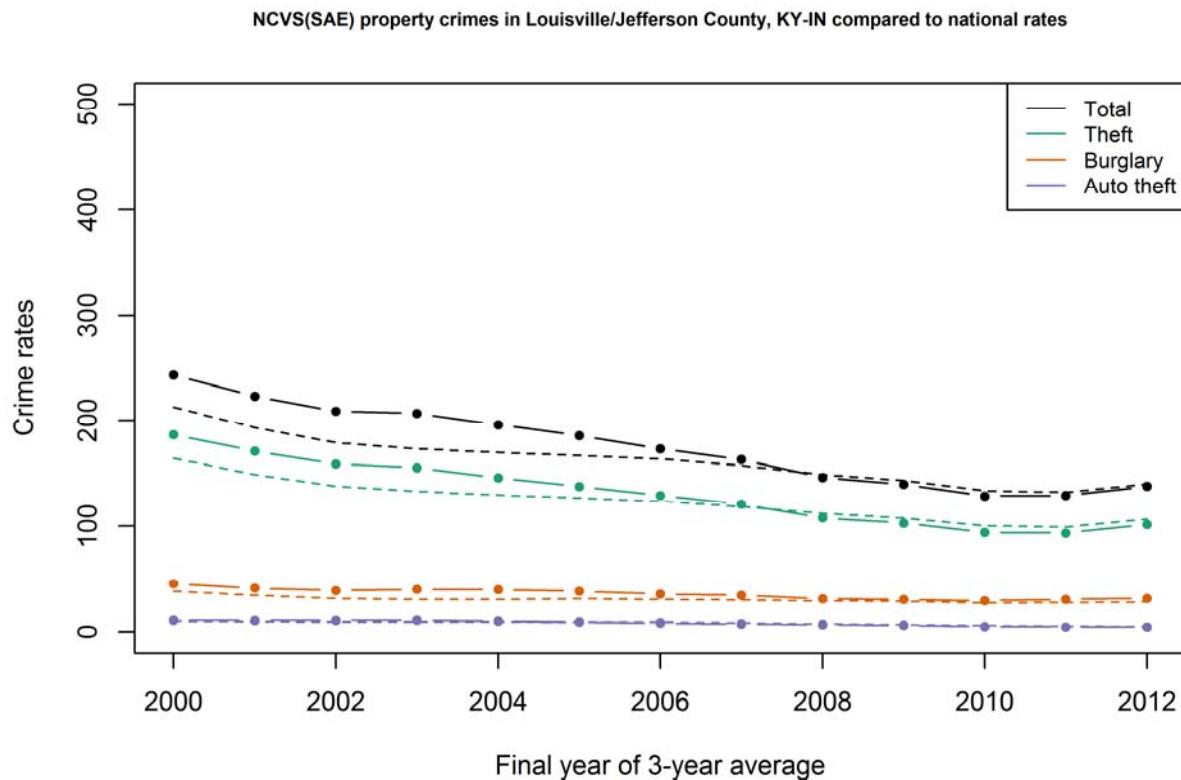




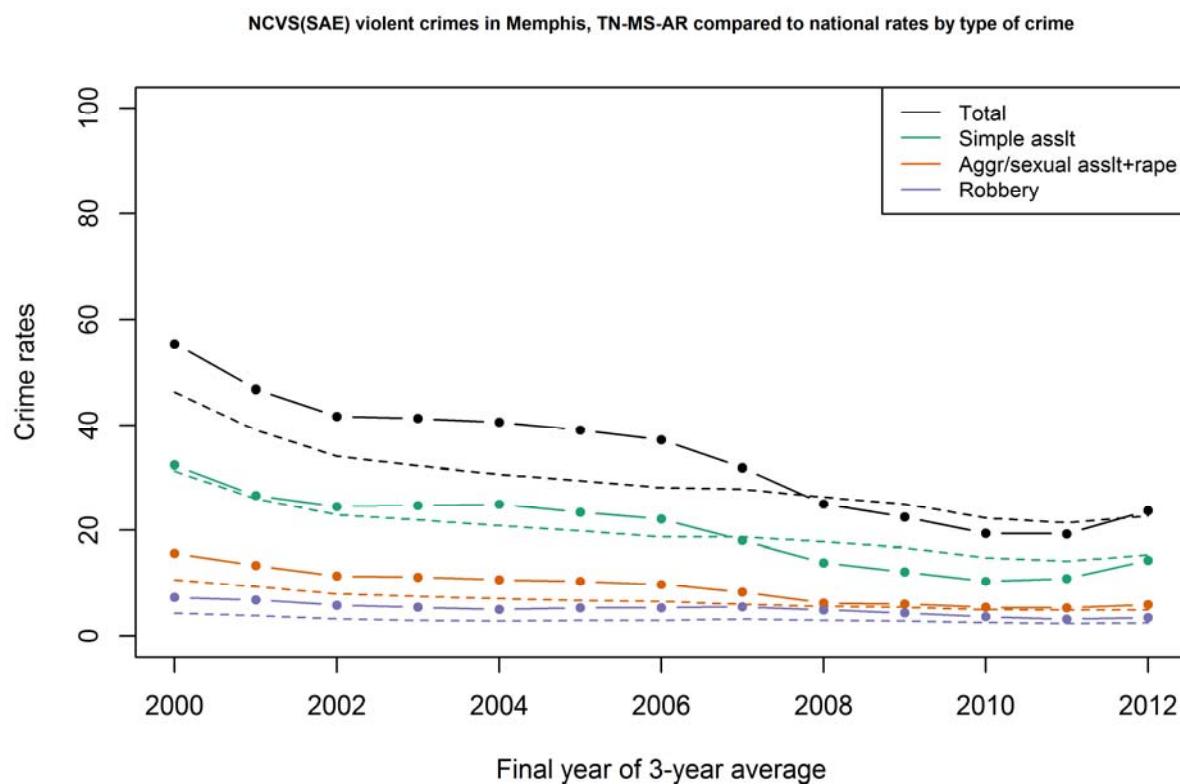
Louisville/Jefferson County, KY-IN

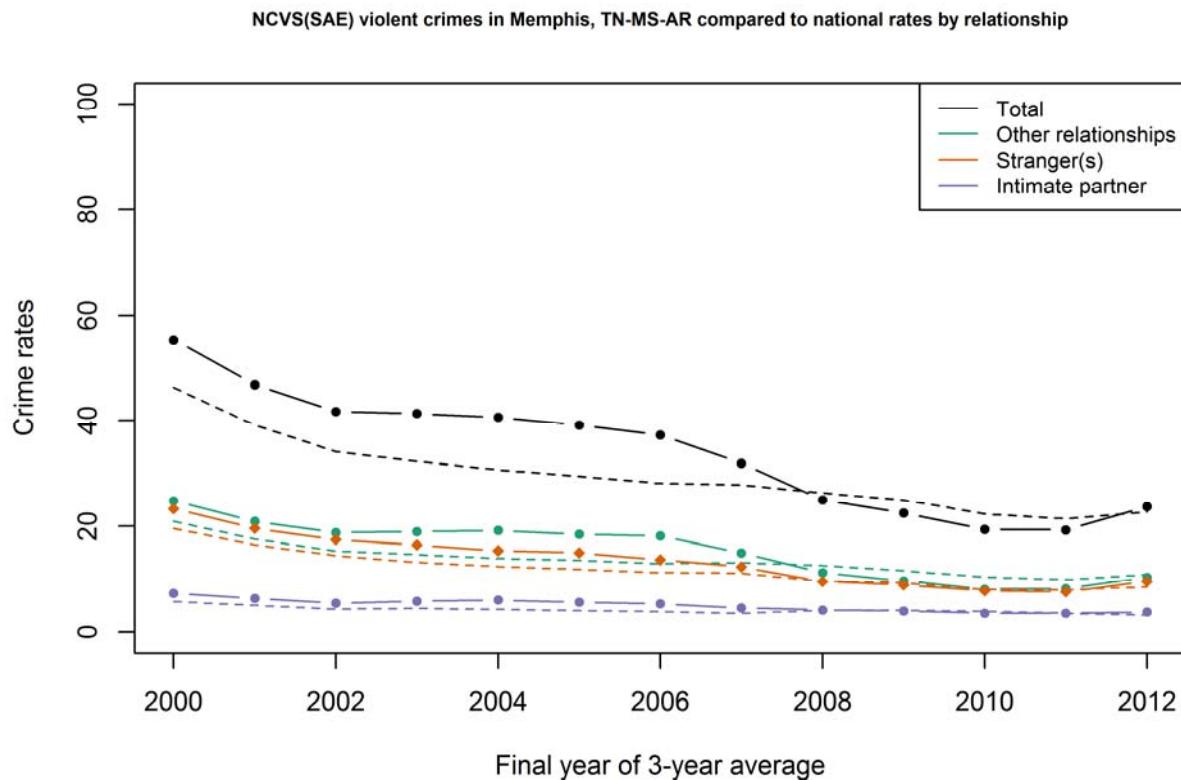


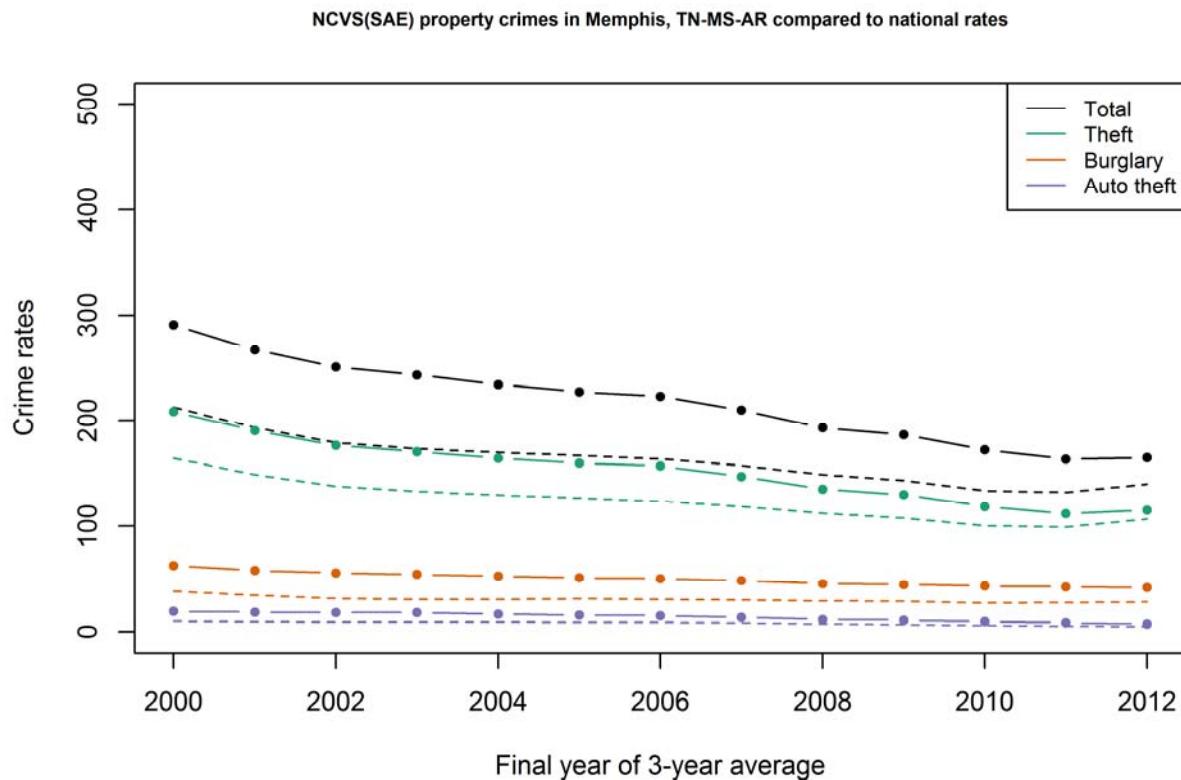




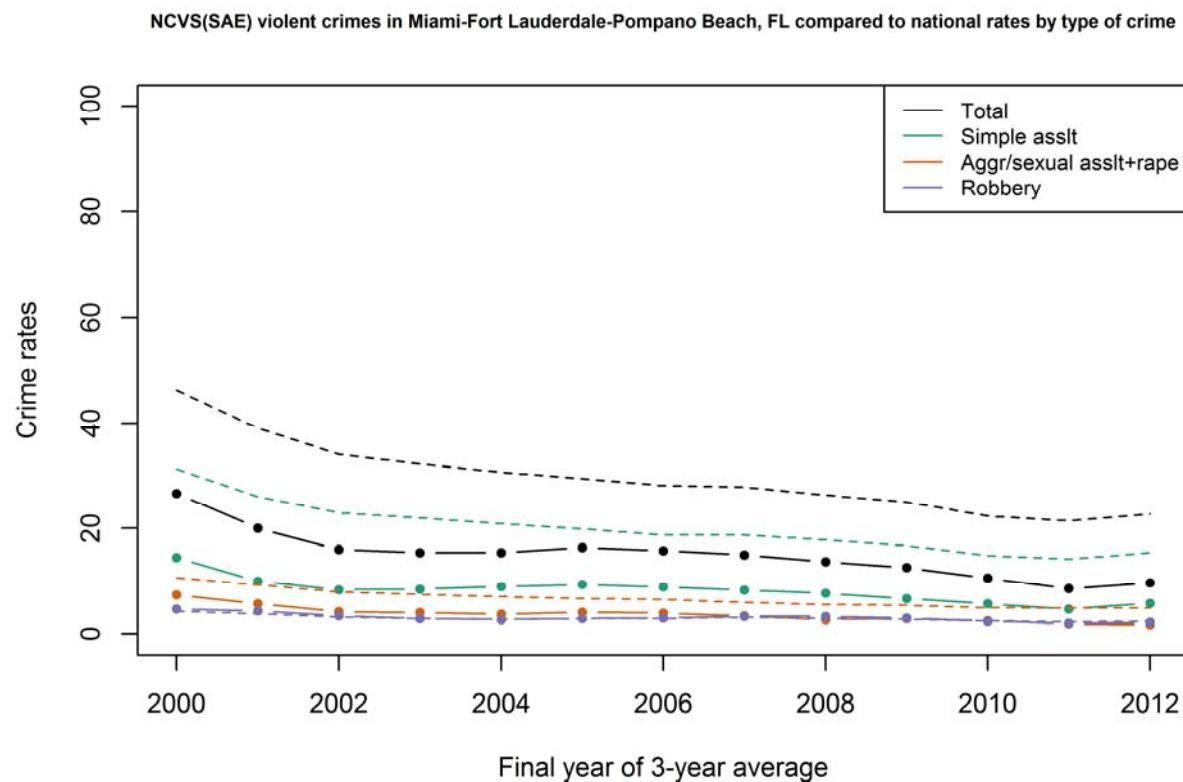
Memphis, TN-MS-AR

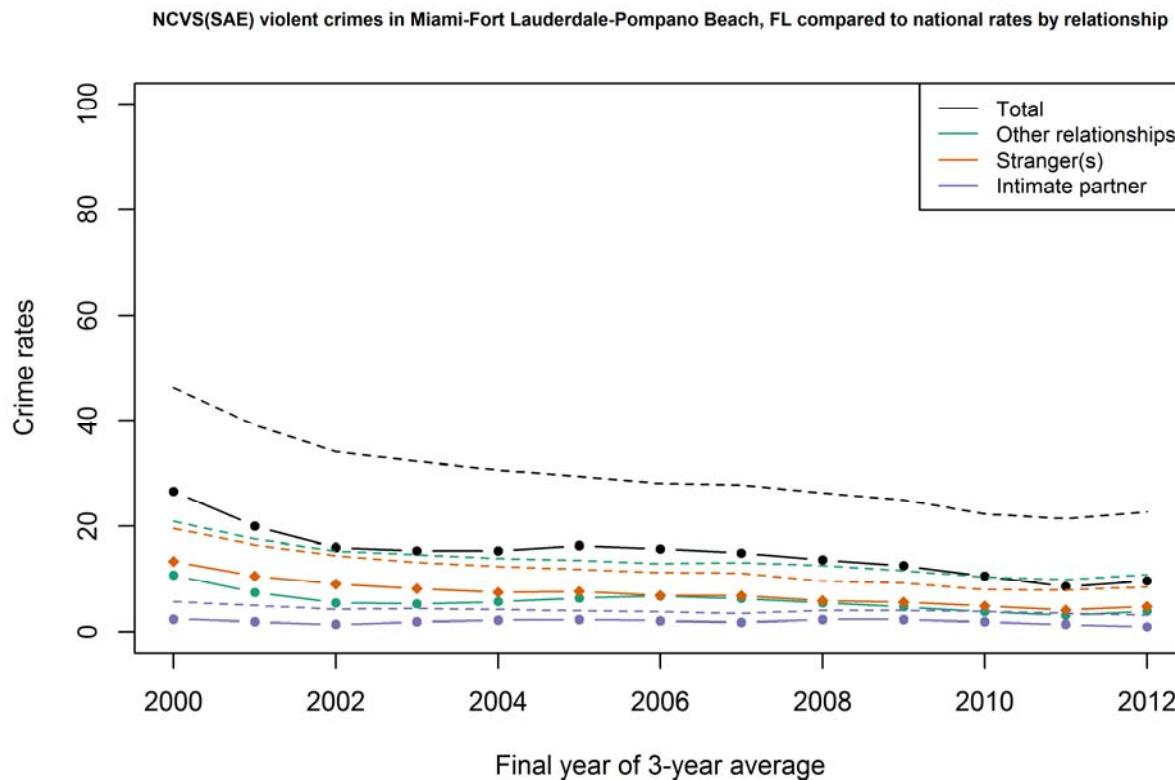


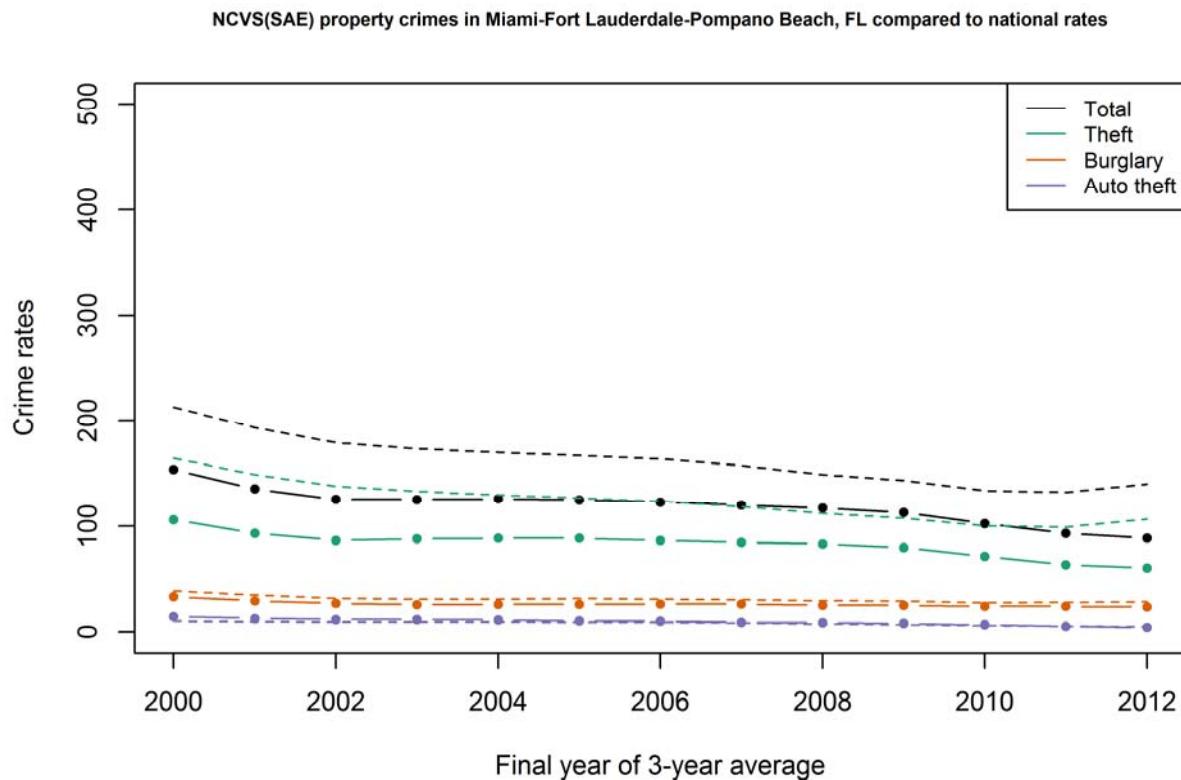




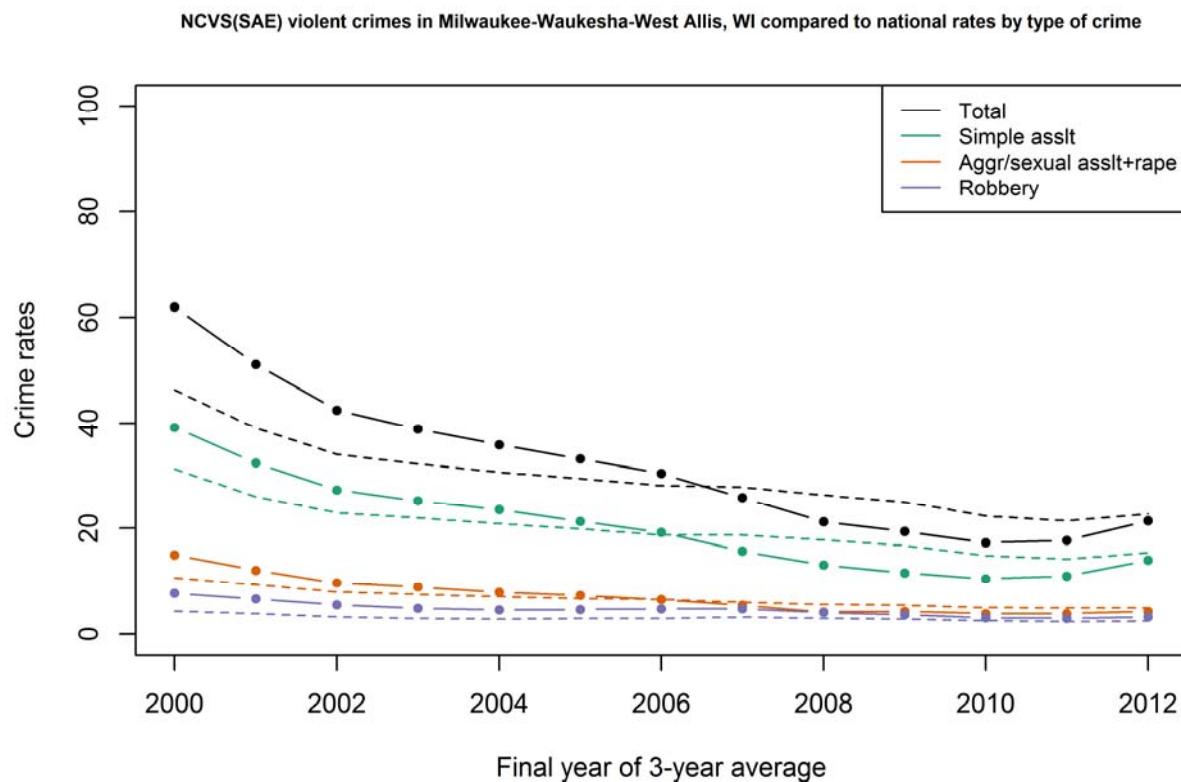
Miami-Fort Lauderdale-Pompano Beach, FL

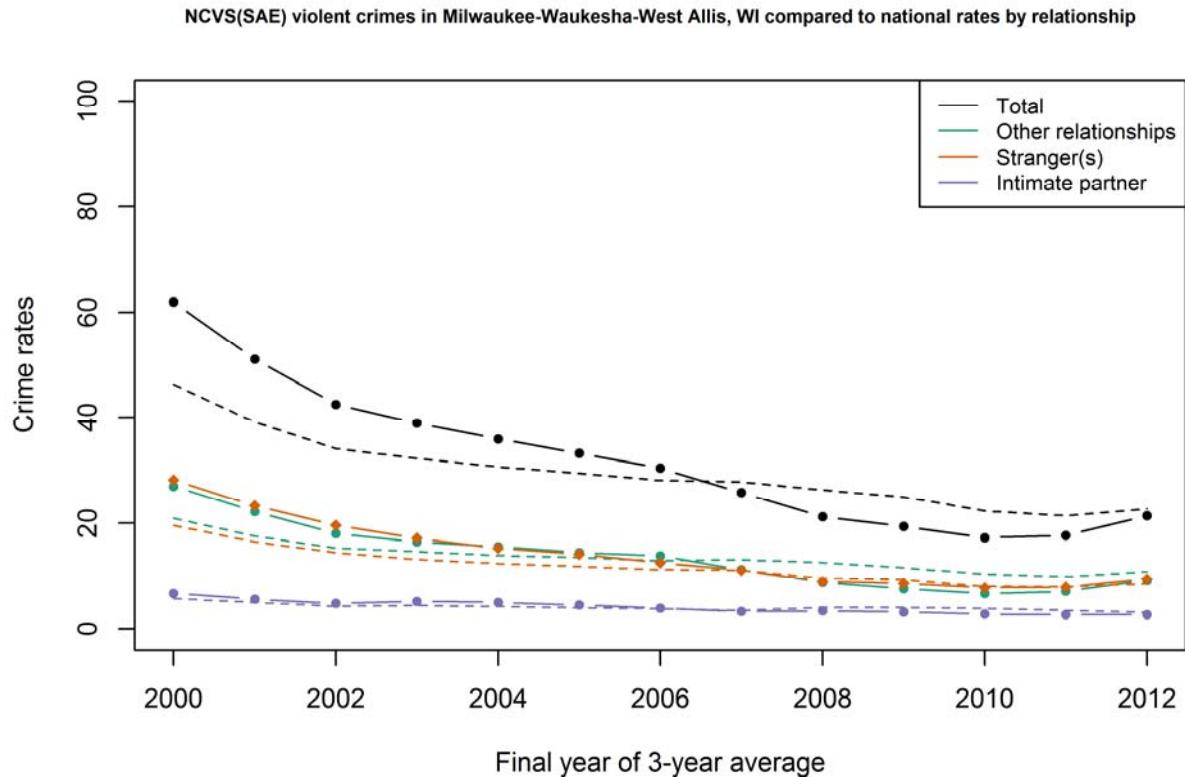


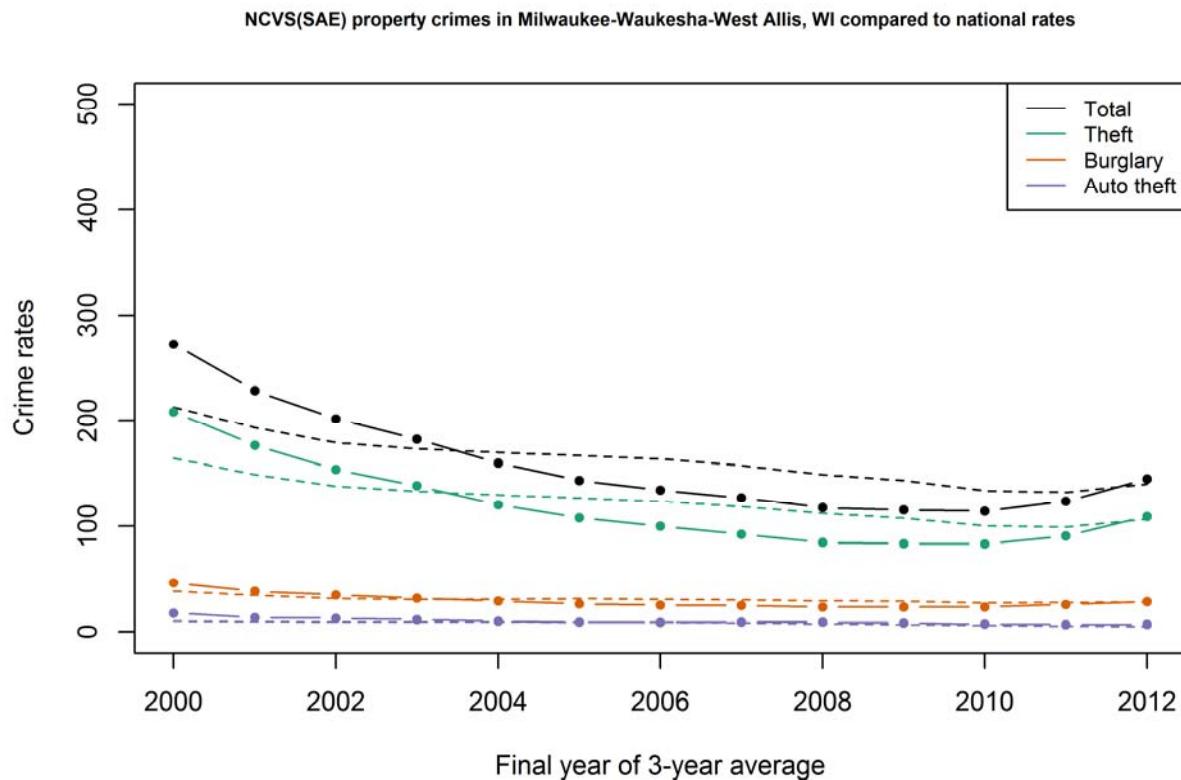




Milwaukee-Waukesha-West Allis, WI

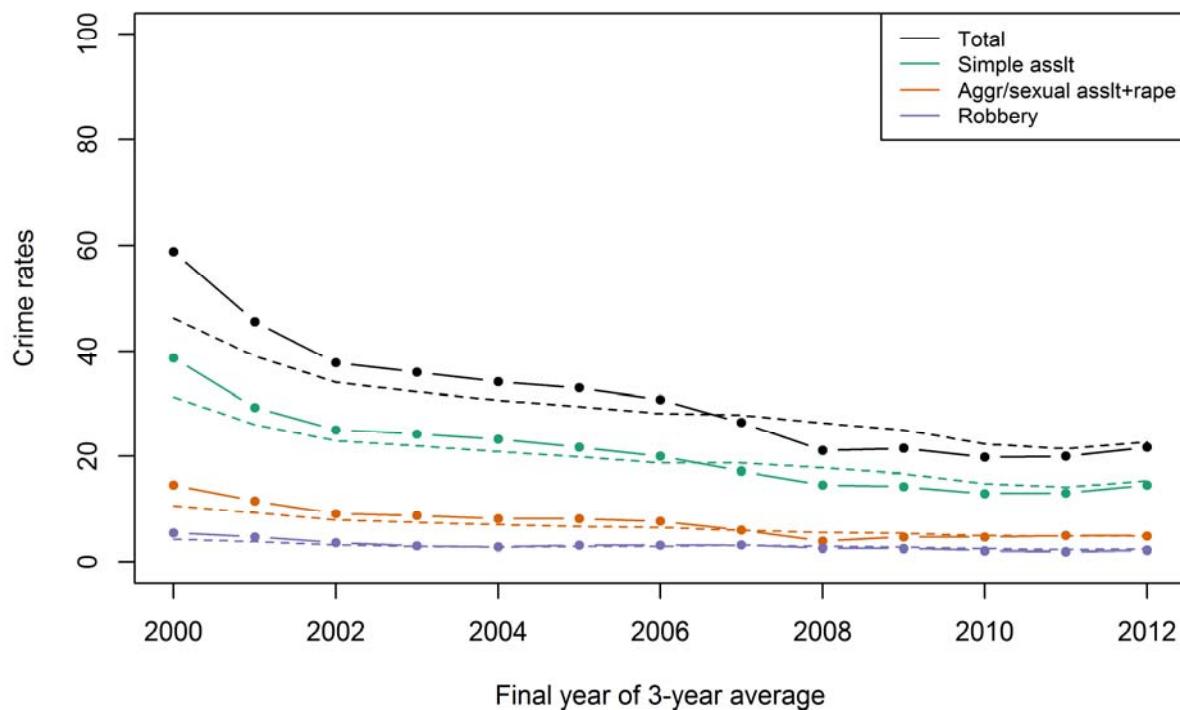


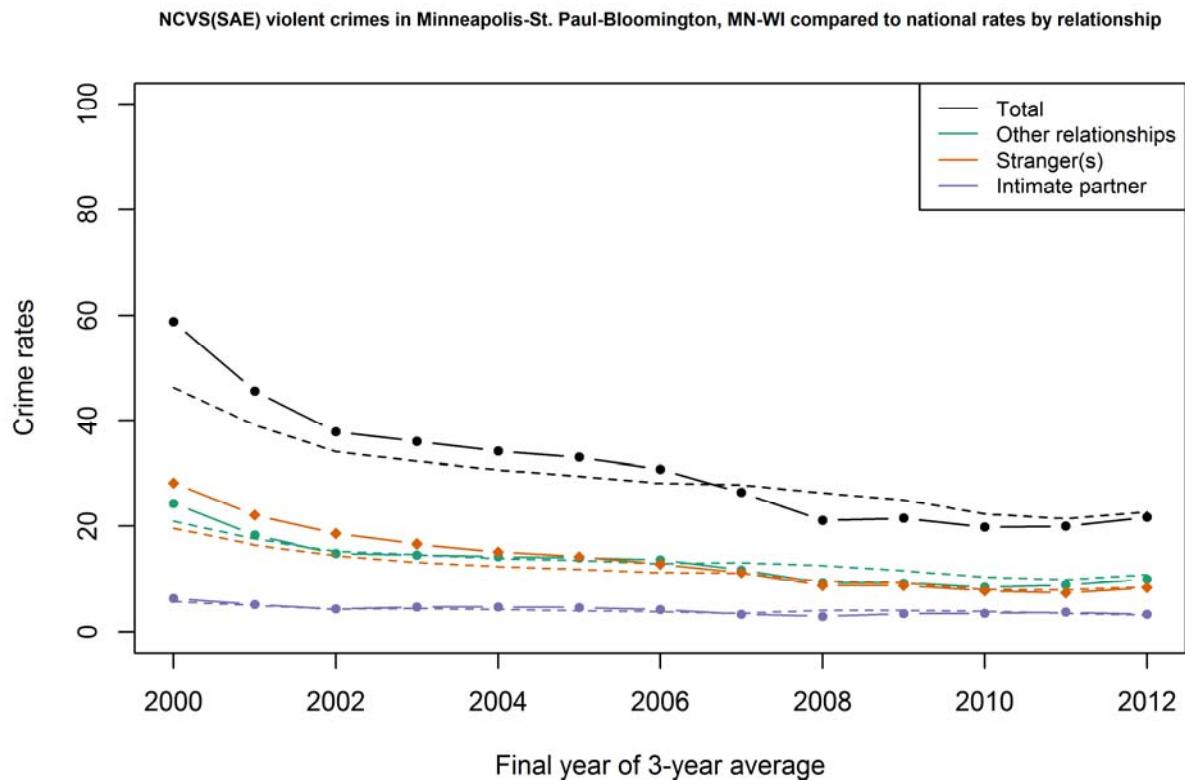


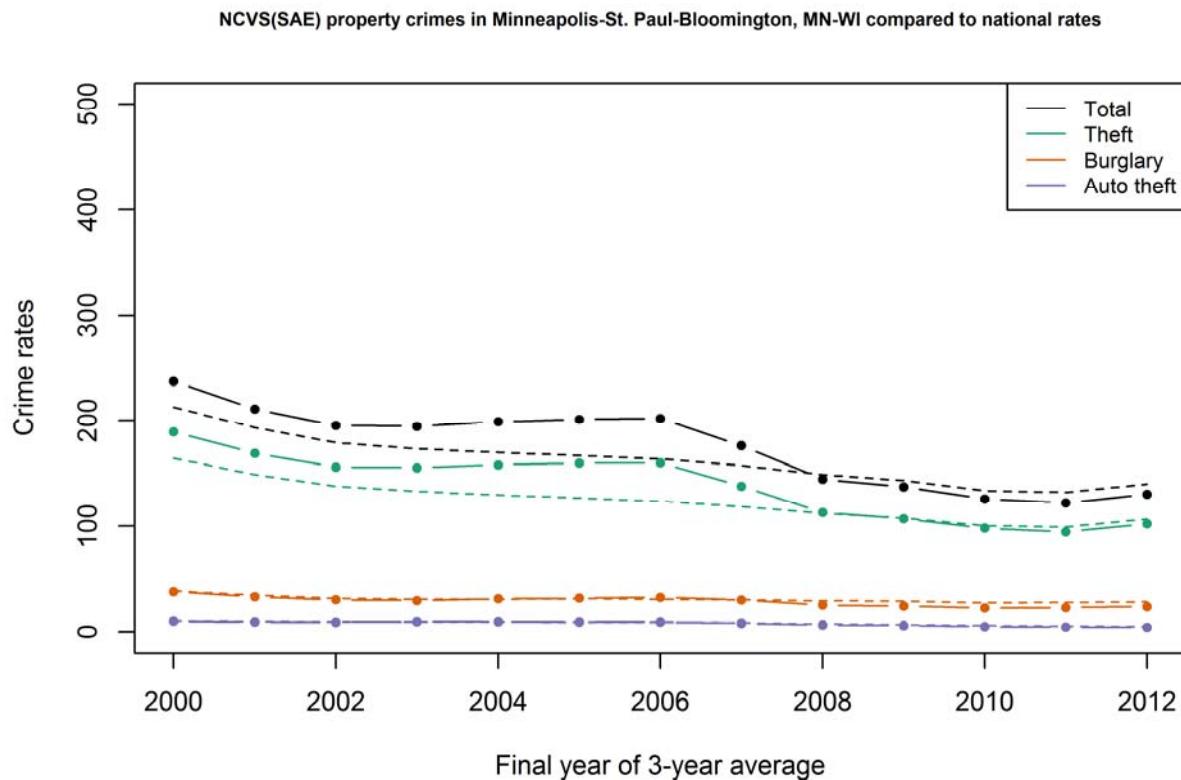


Minneapolis-St. Paul-Bloomington, MN-WI

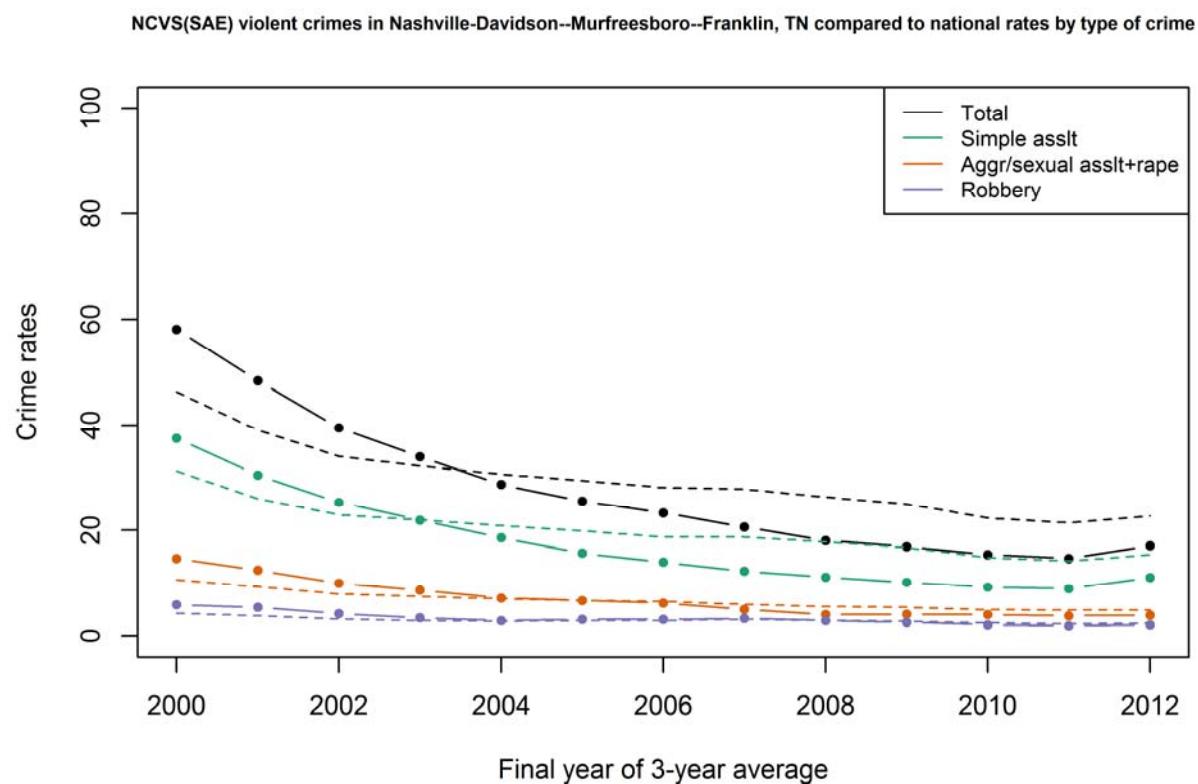
NCVS(SAE) violent crimes in Minneapolis-St. Paul-Bloomington, MN-WI compared to national rates by type of crime

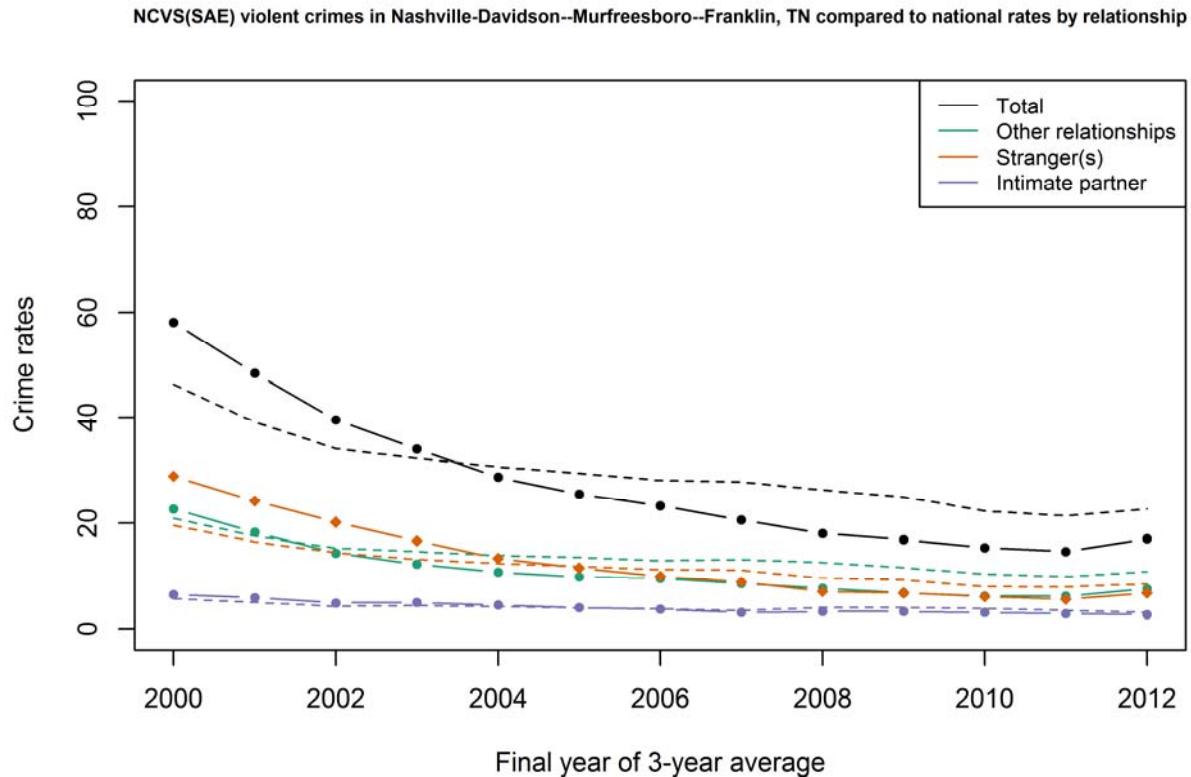


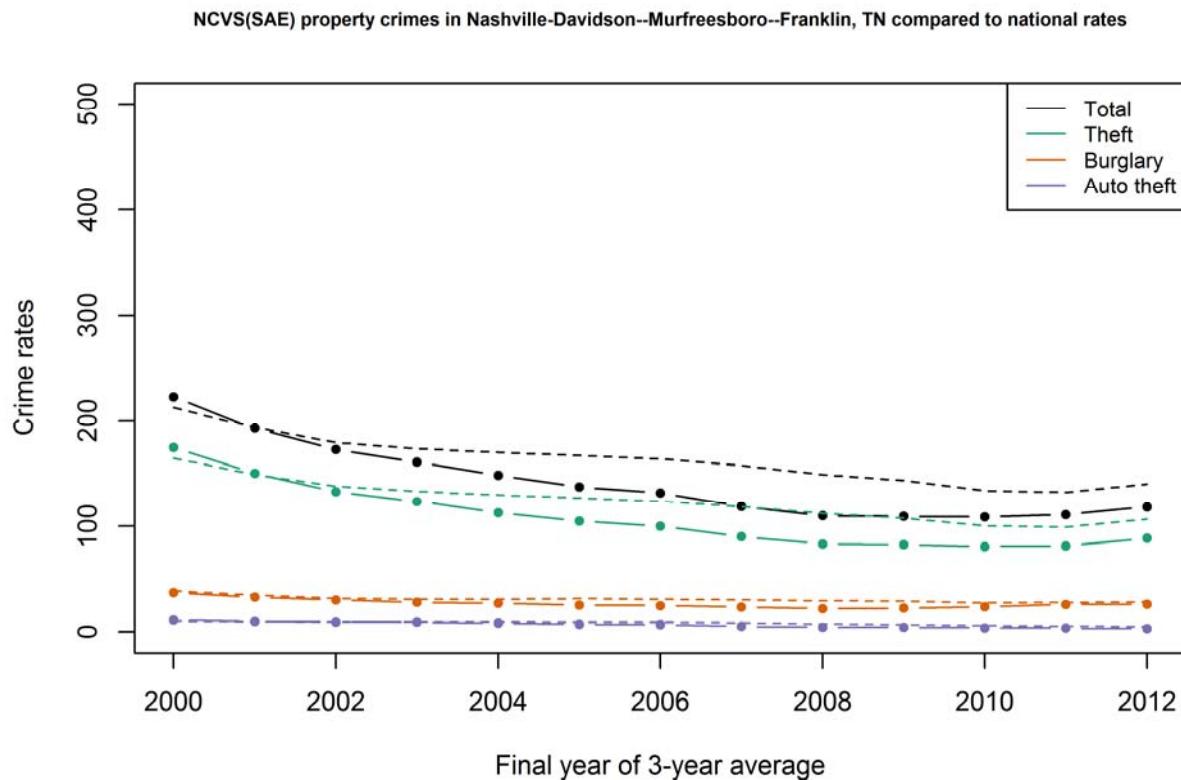




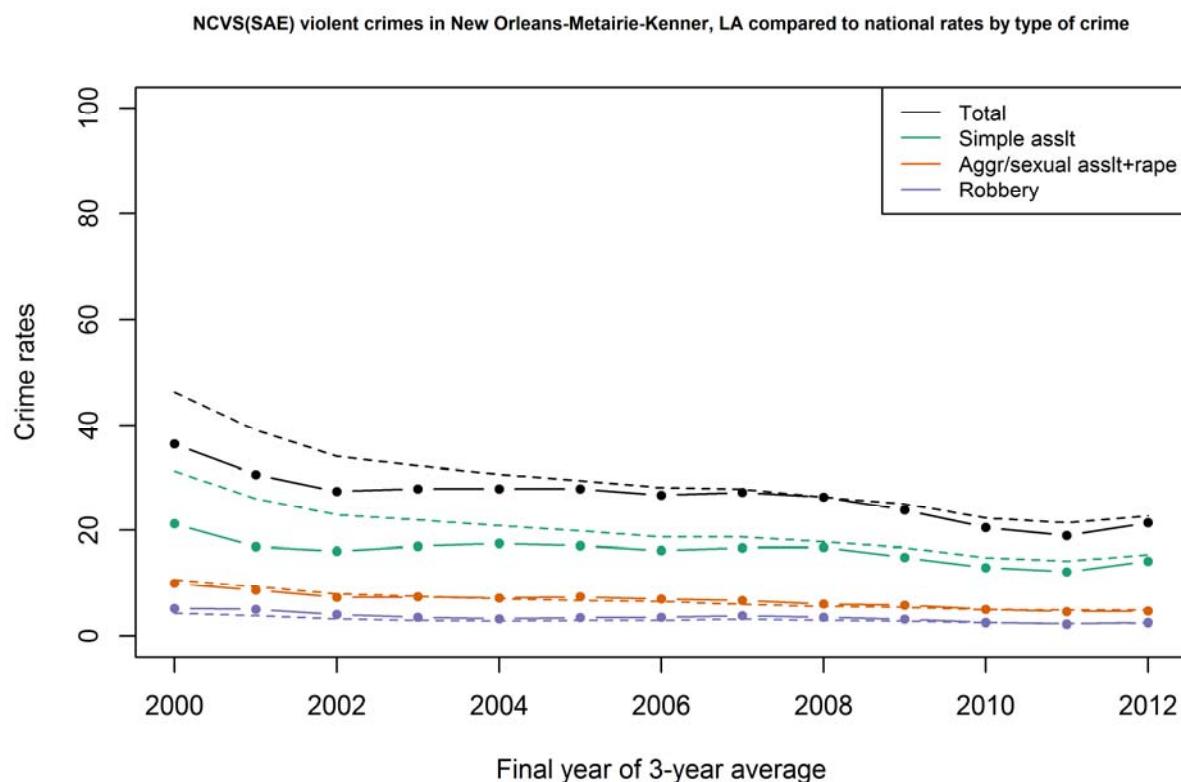
Nashville-Davidson--Murfreesboro--Franklin, TN

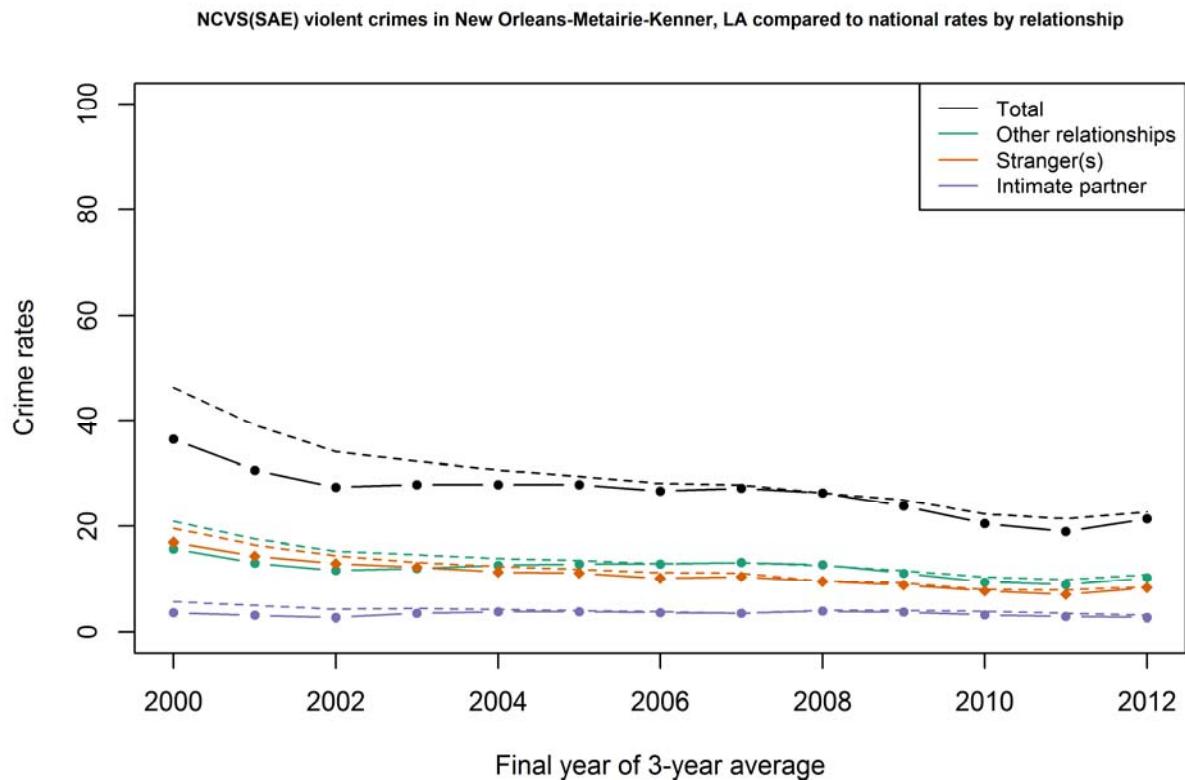


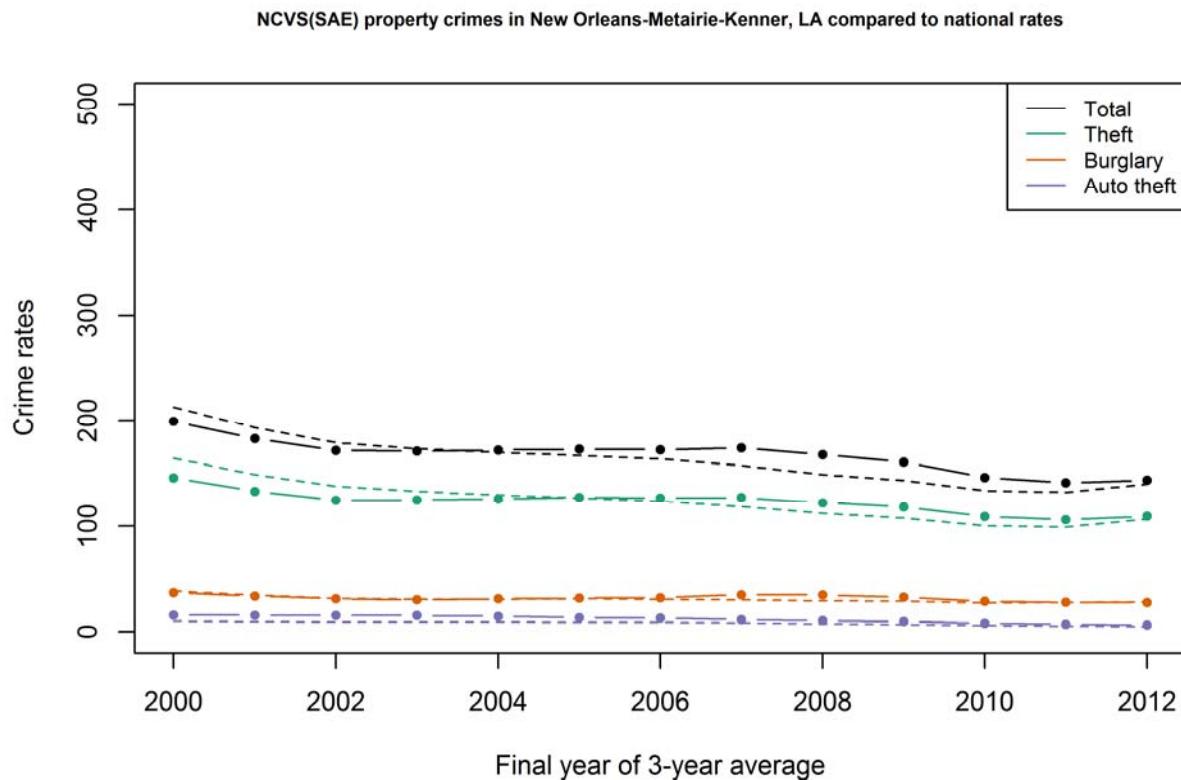




New Orleans-Metairie-Kenner, LA

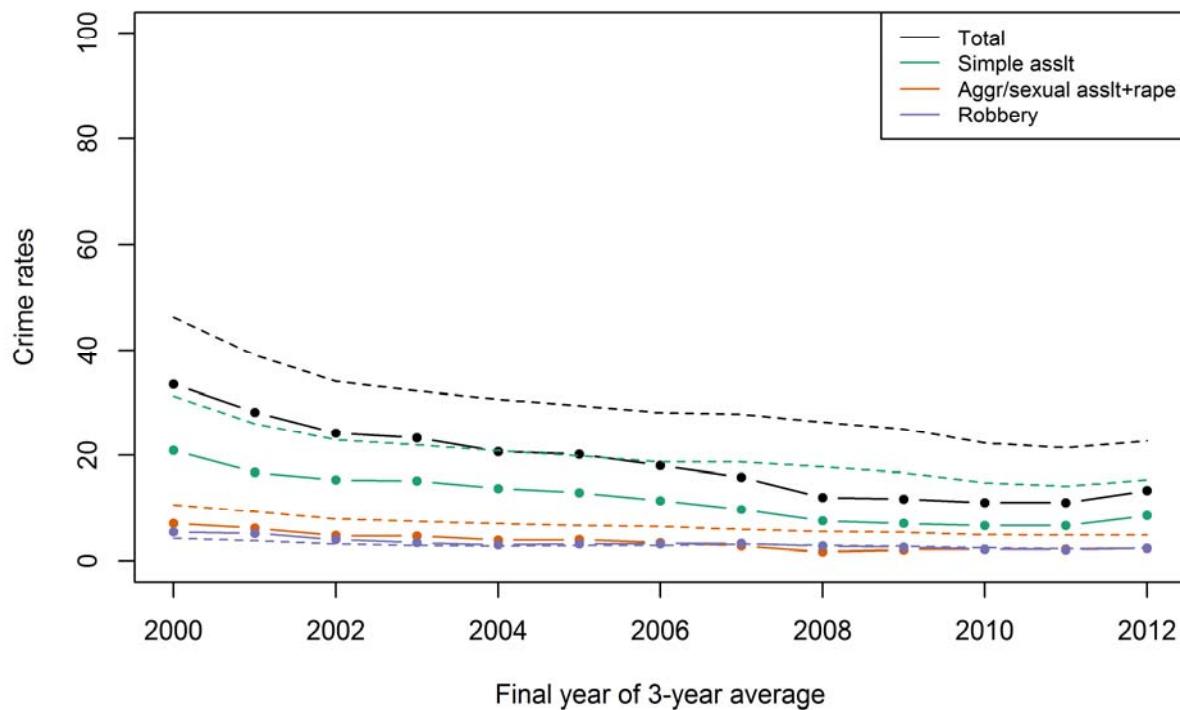


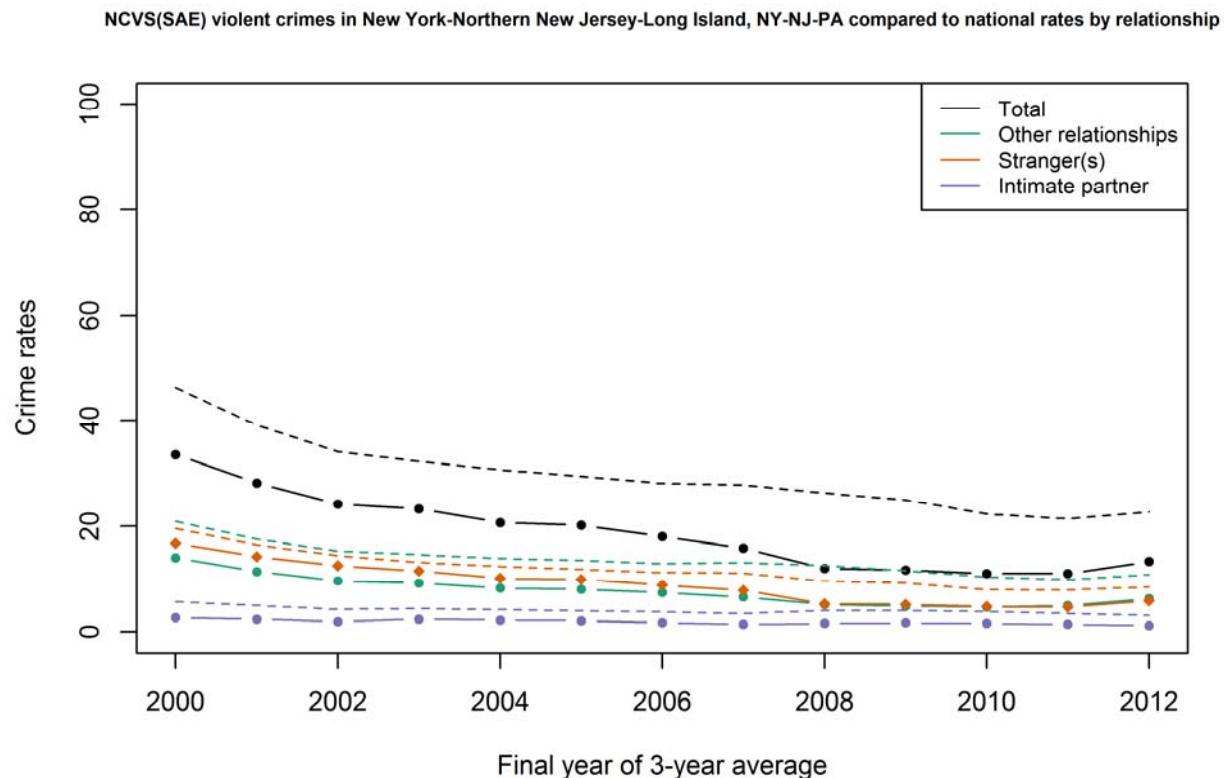




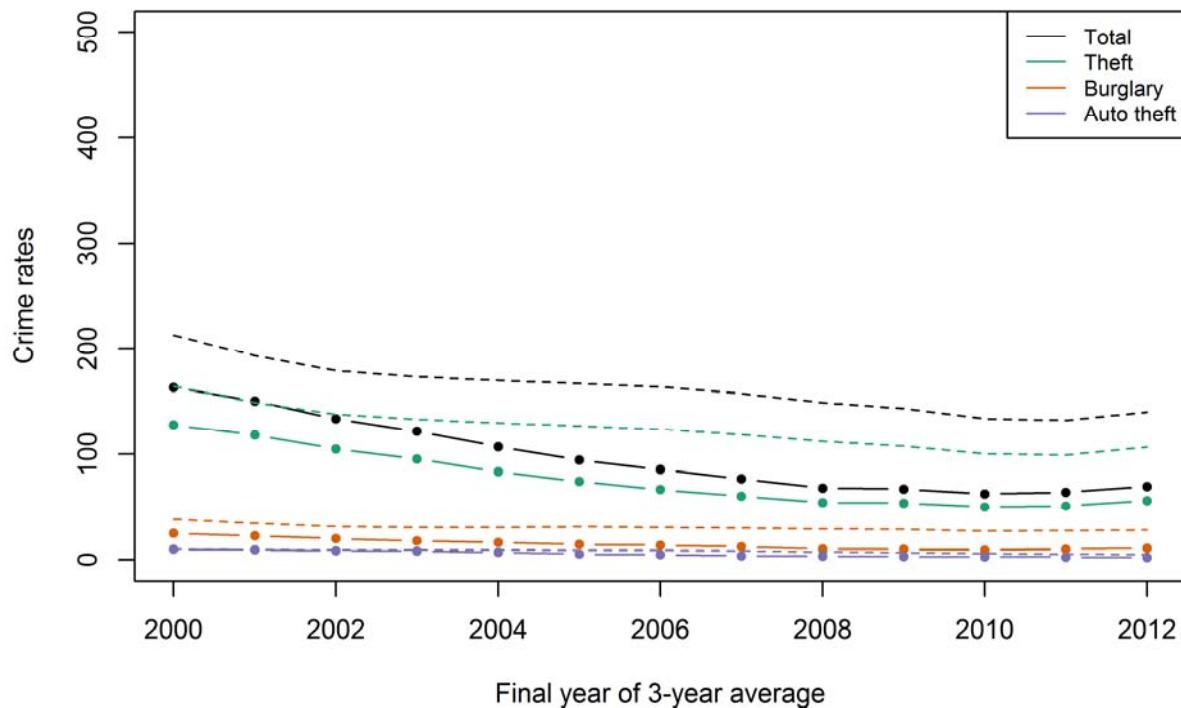
New York-Northern New Jersey-Long Island, NY-NJ-PA

NCVS(SAE) violent crimes in New York-Northern New Jersey-Long Island, NY-NJ-PA compared to national rates by type of crime

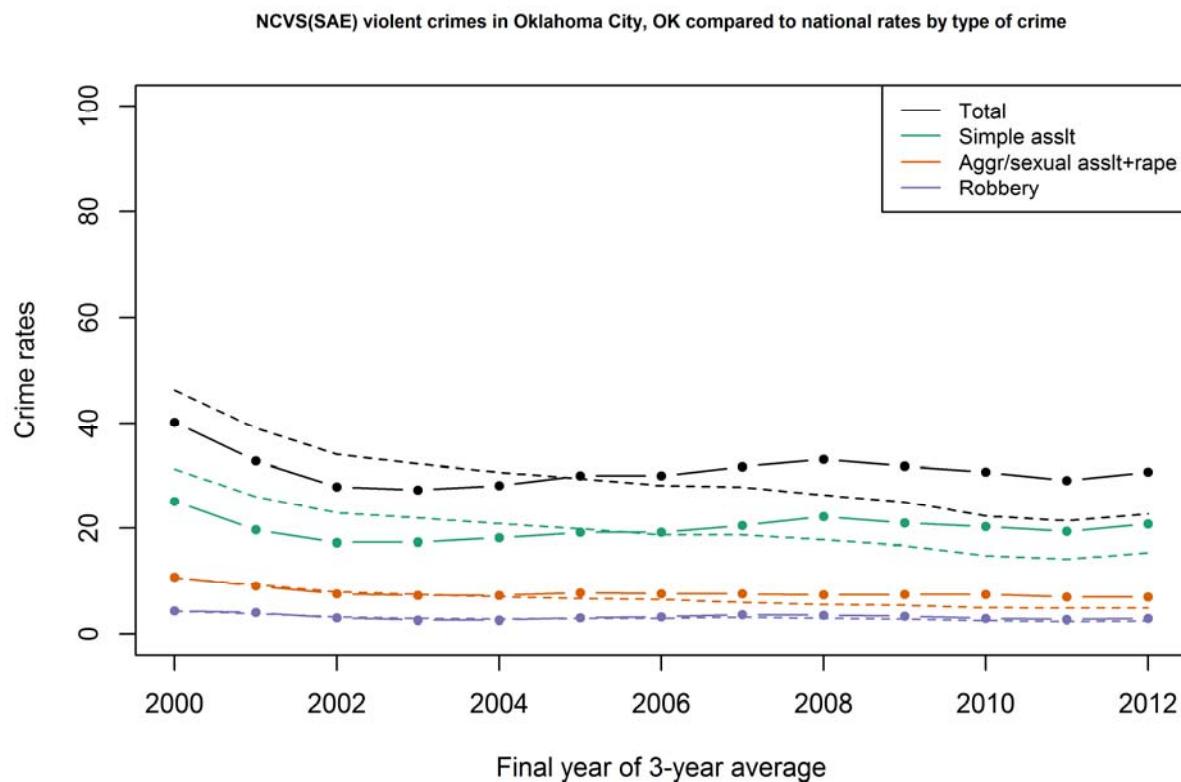


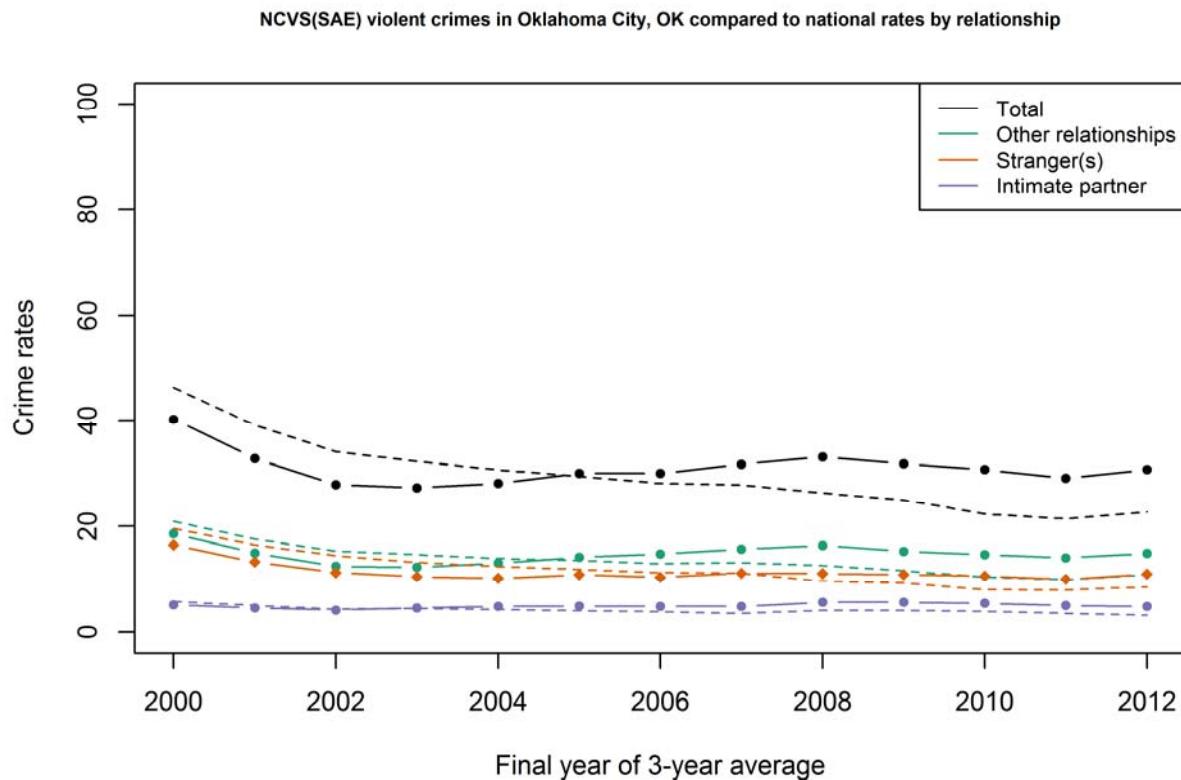


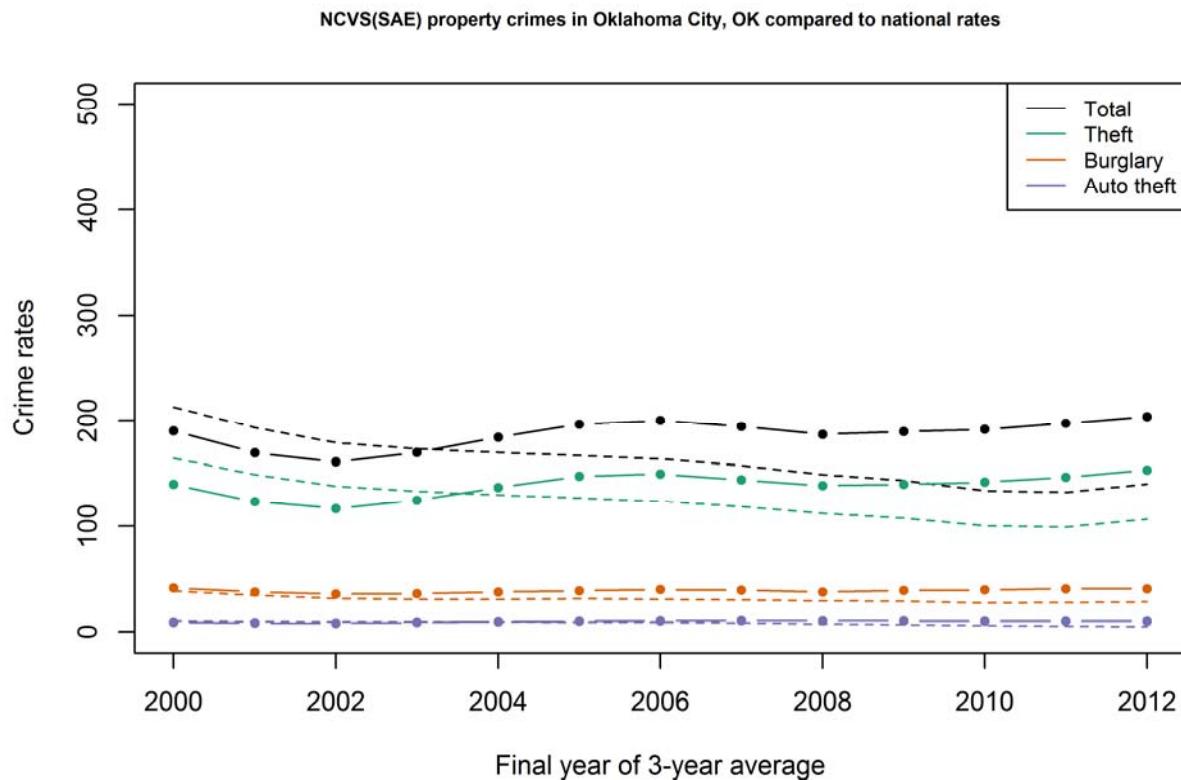
NCVS(SAE) property crimes in New York-Northern New Jersey-Long Island, NY-NJ-PA compared to national rates



Oklahoma City, OK

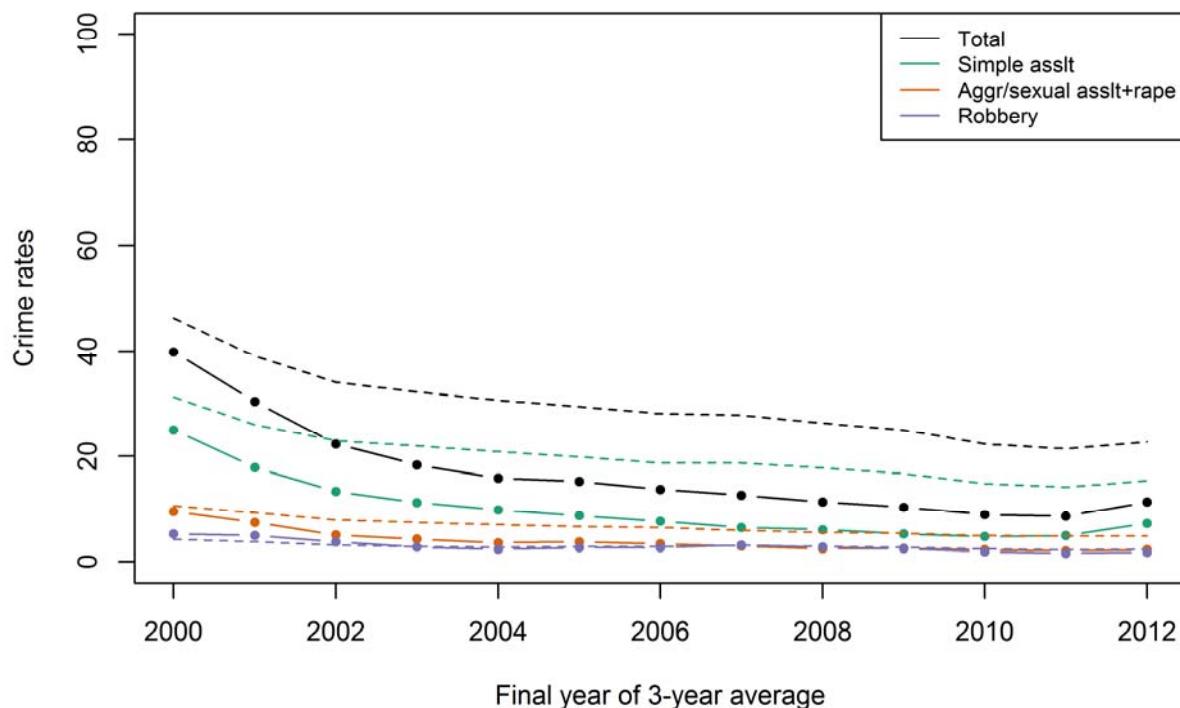


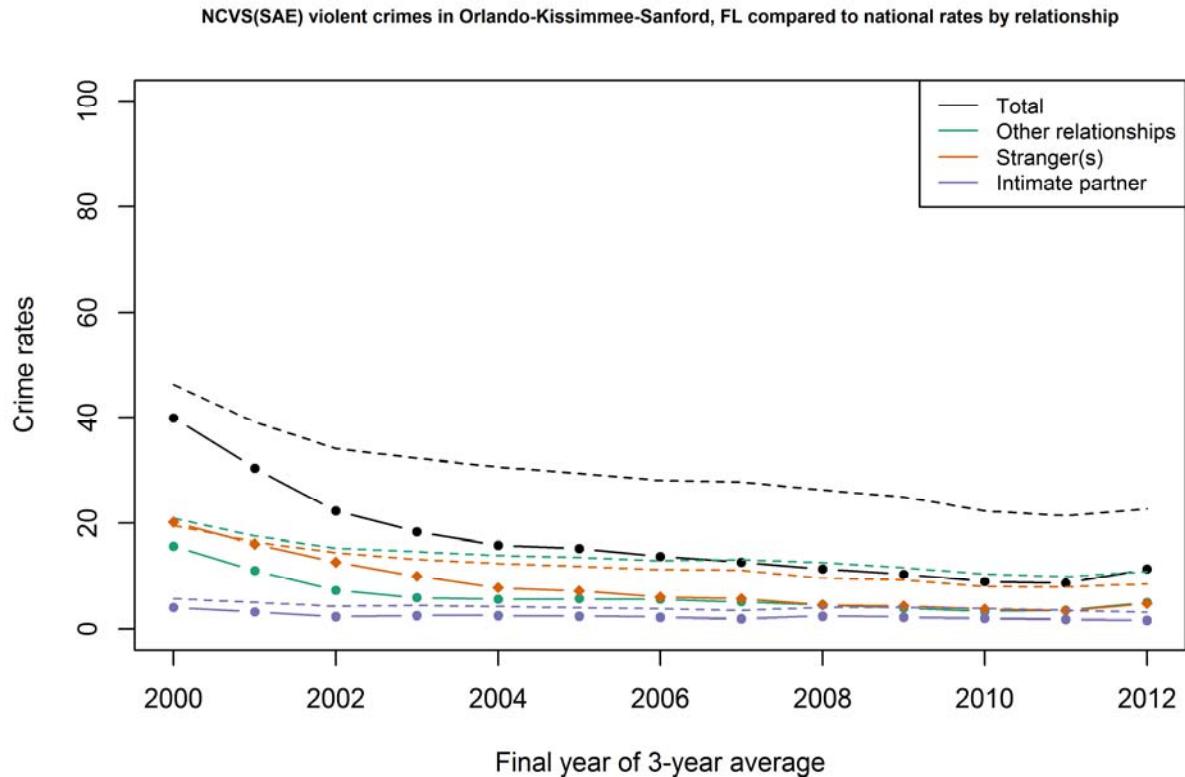


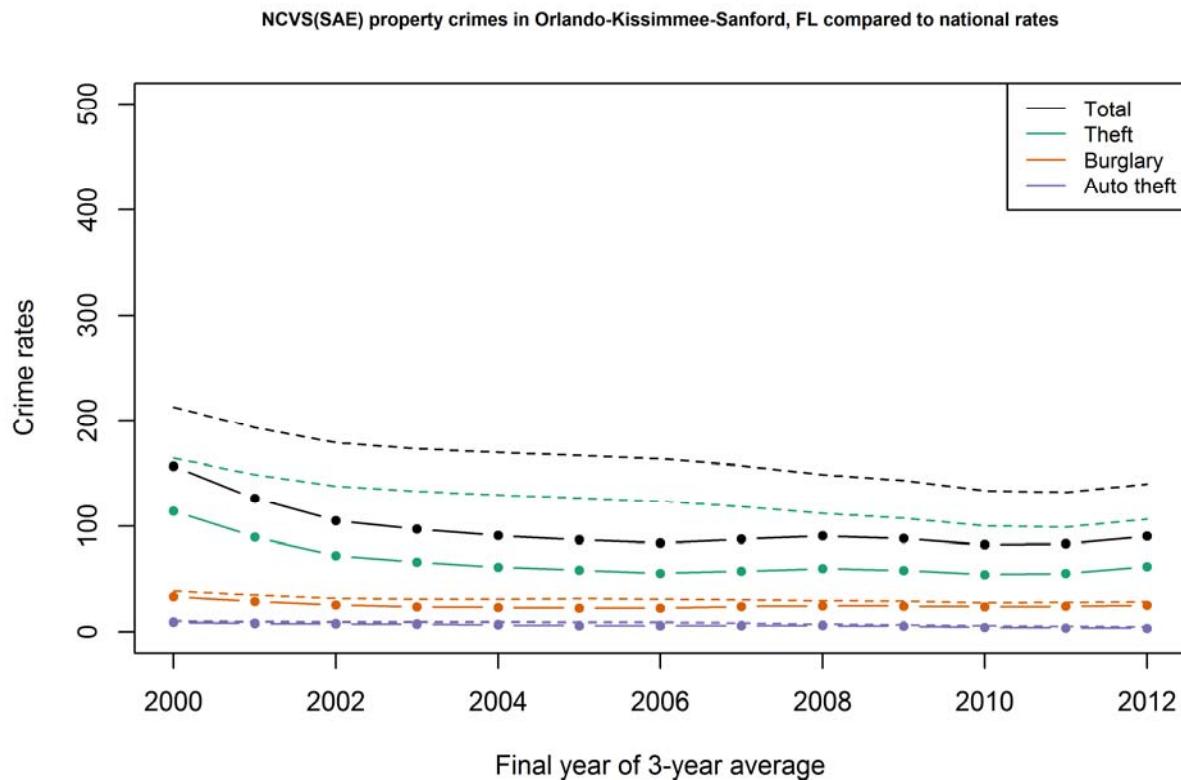


Orlando-Kissimmee-Sanford, FL

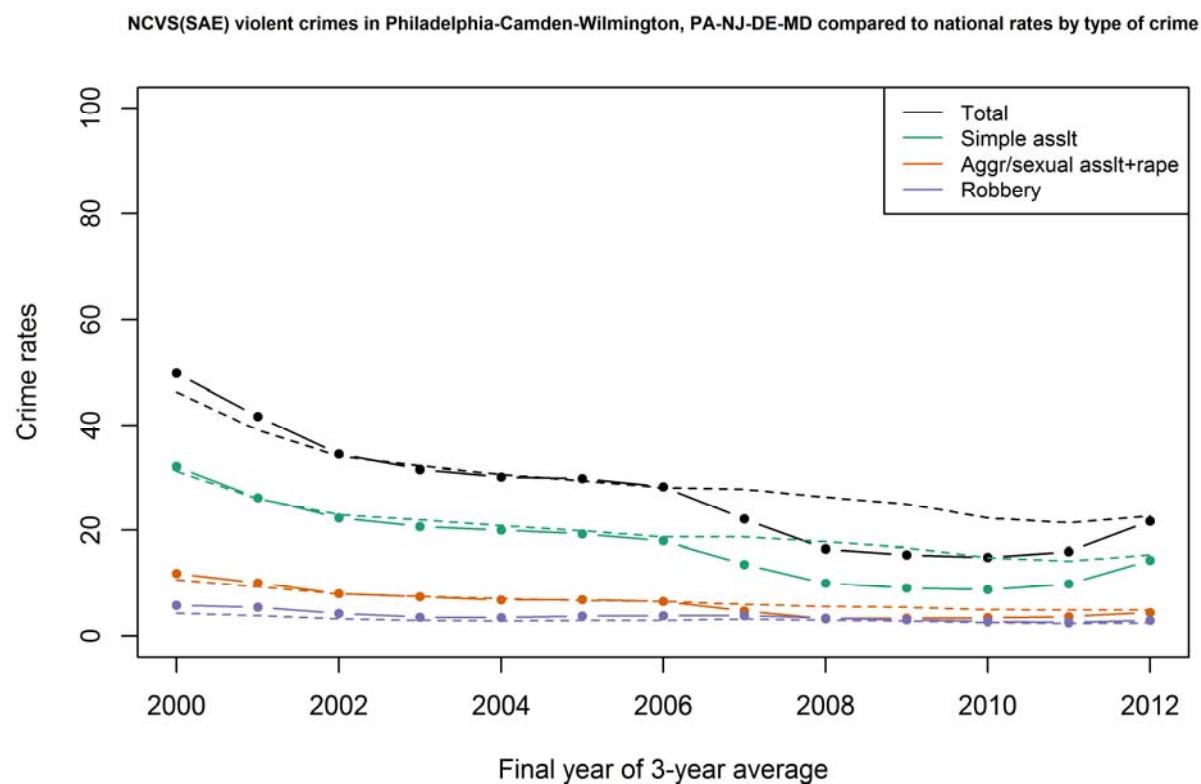
NCVS(SAE) violent crimes in Orlando-Kissimmee-Sanford, FL compared to national rates by type of crime

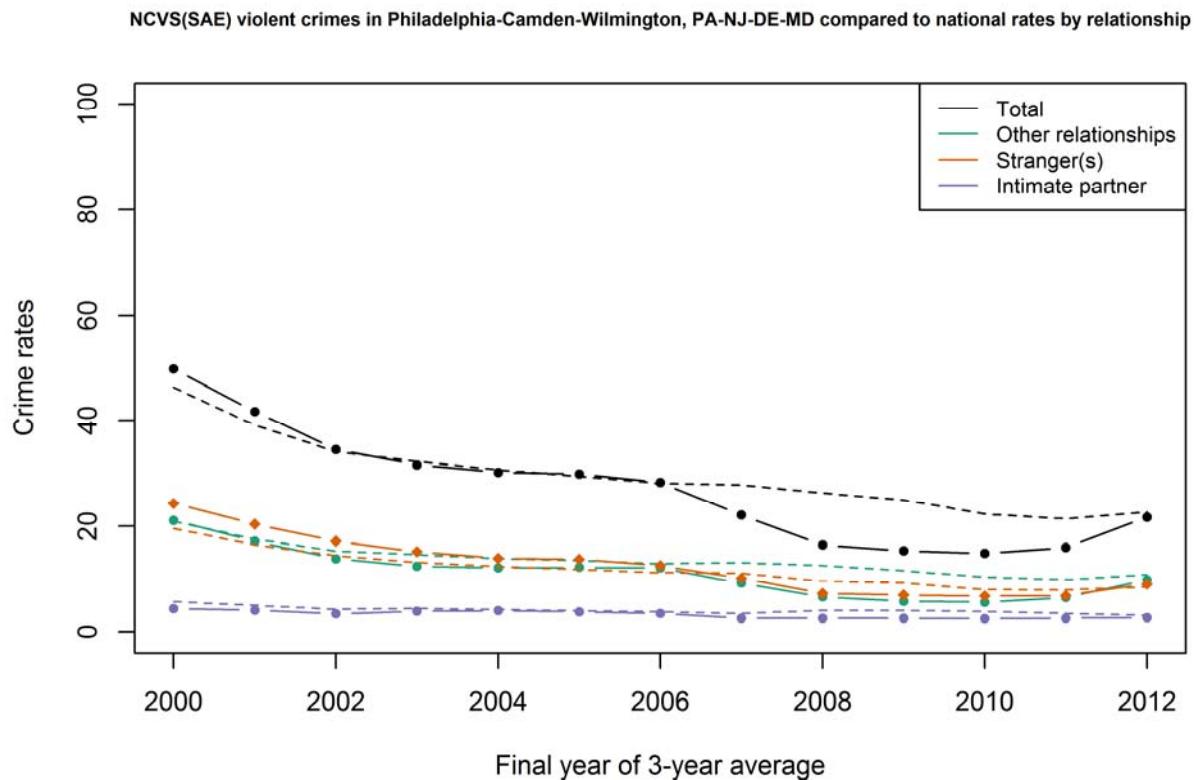


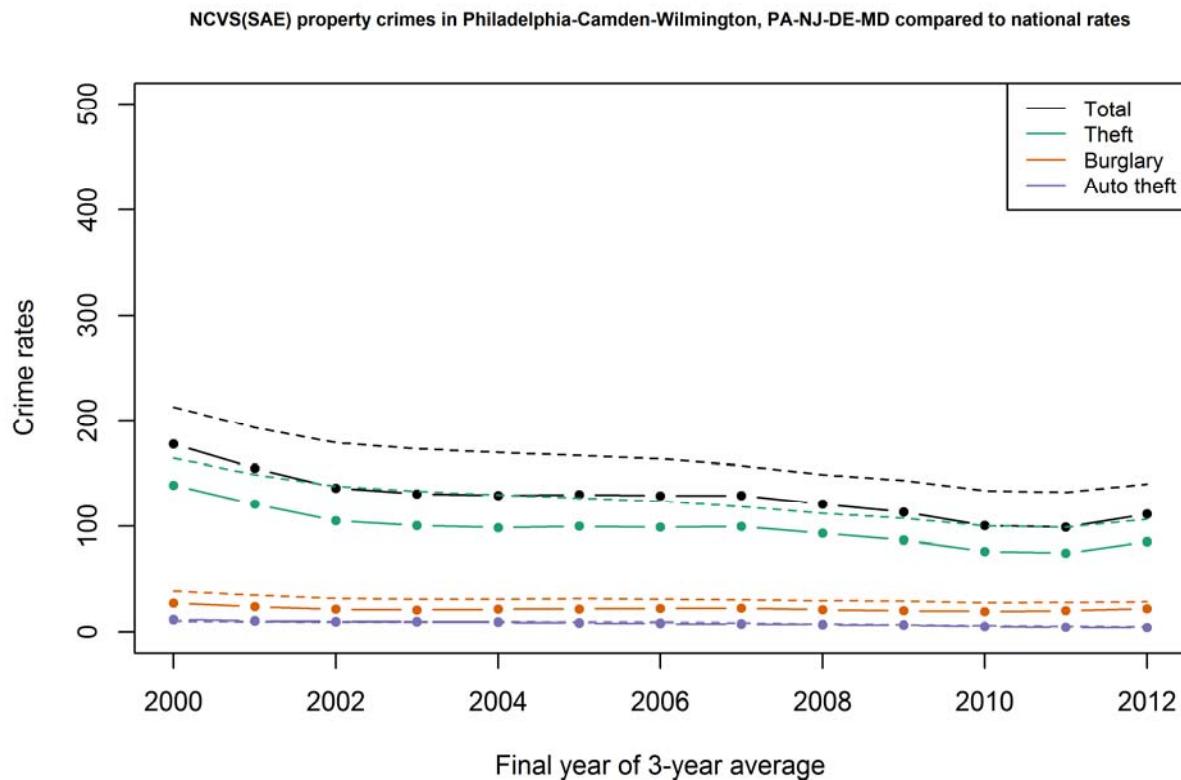




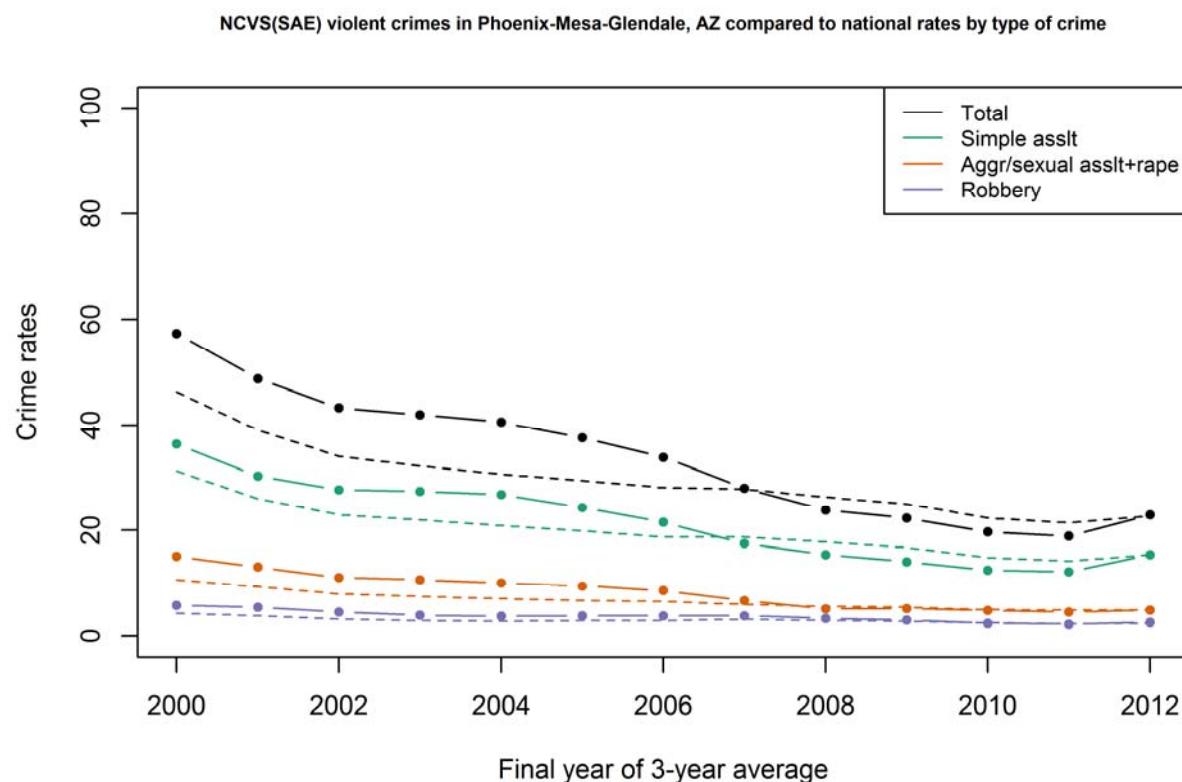
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD

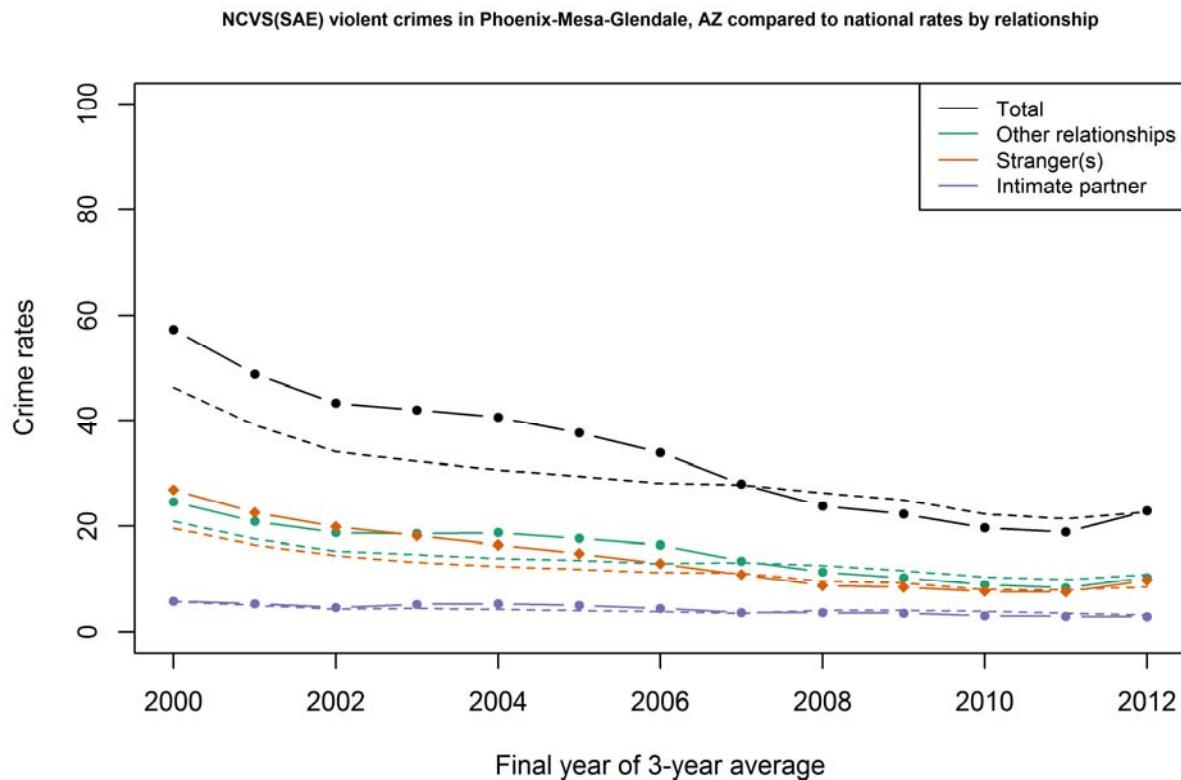




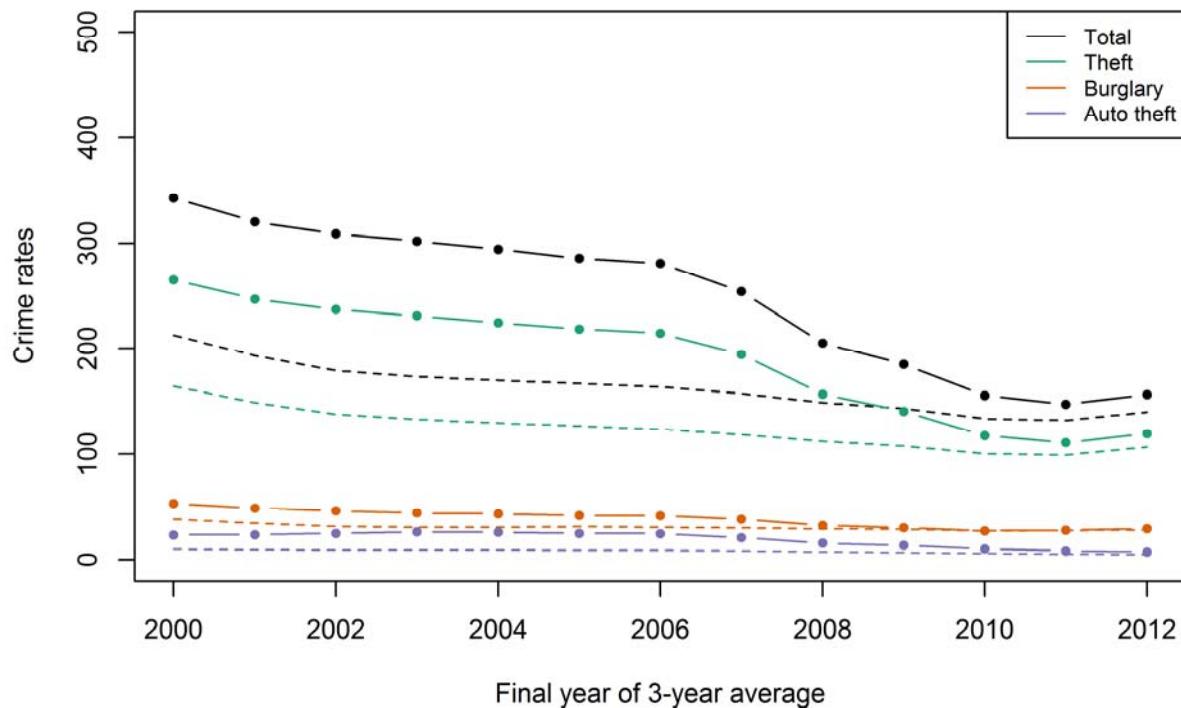


Phoenix-Mesa-Glendale, AZ

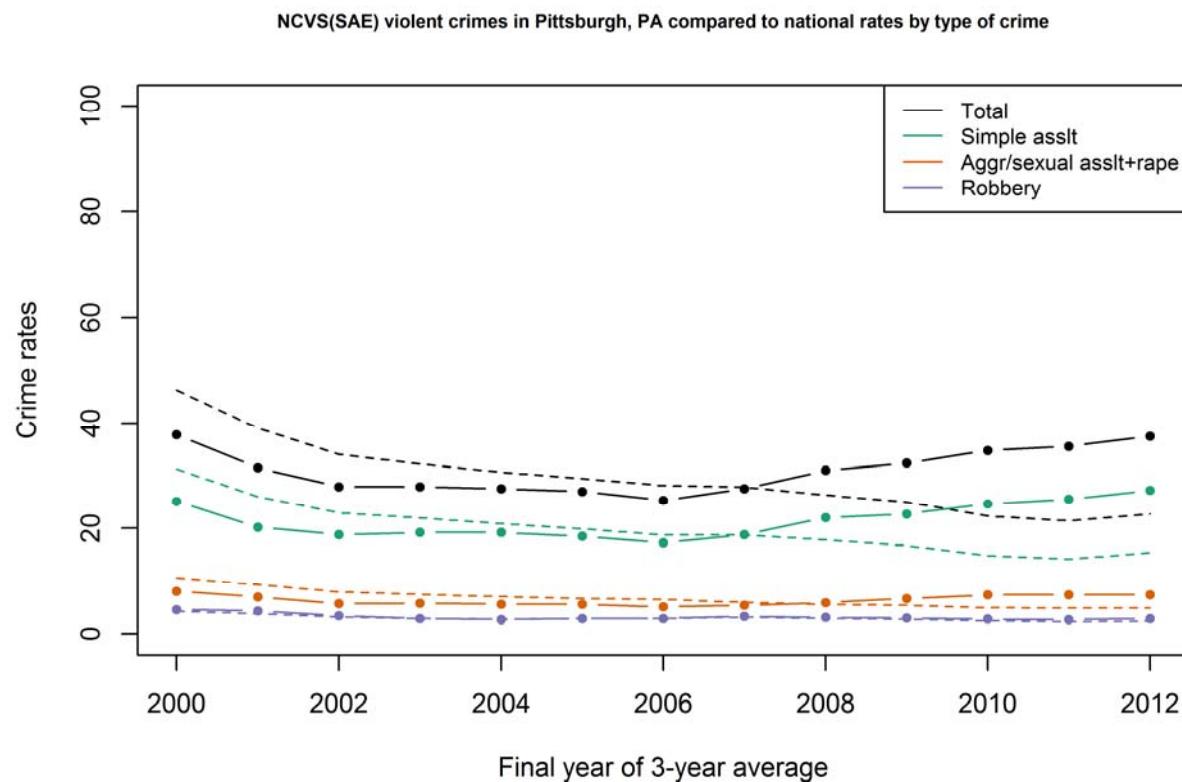


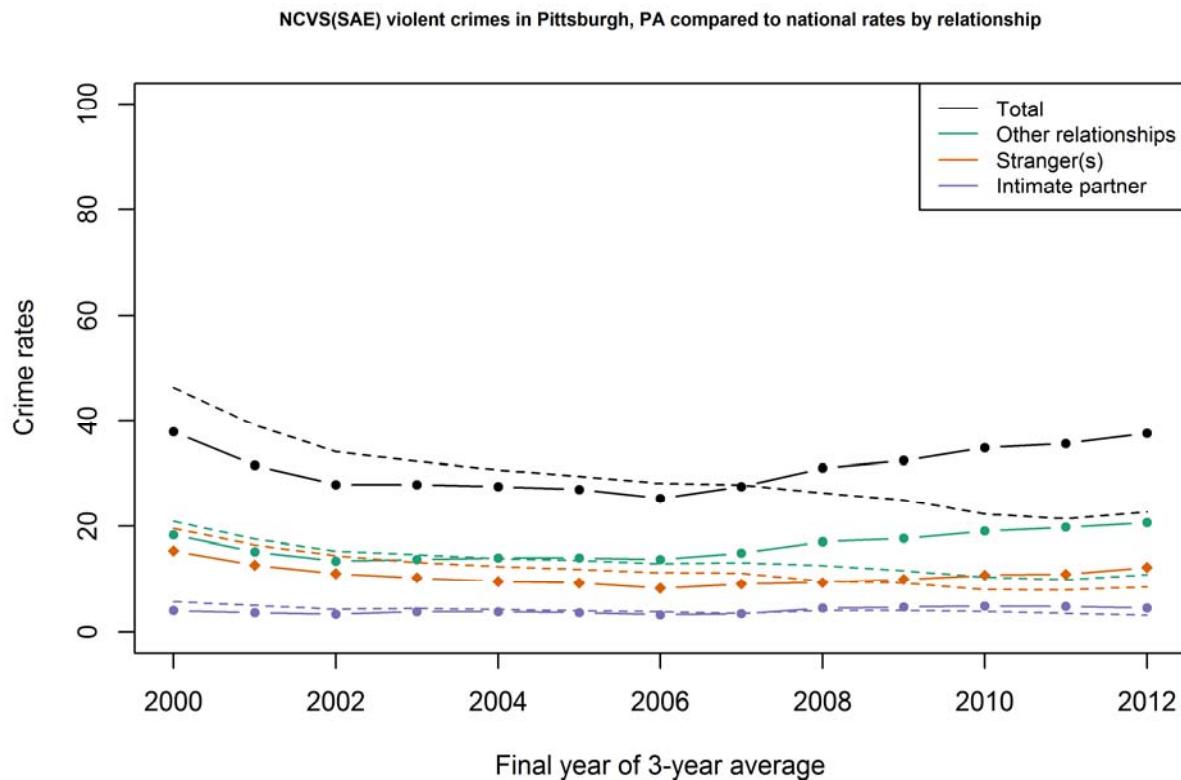


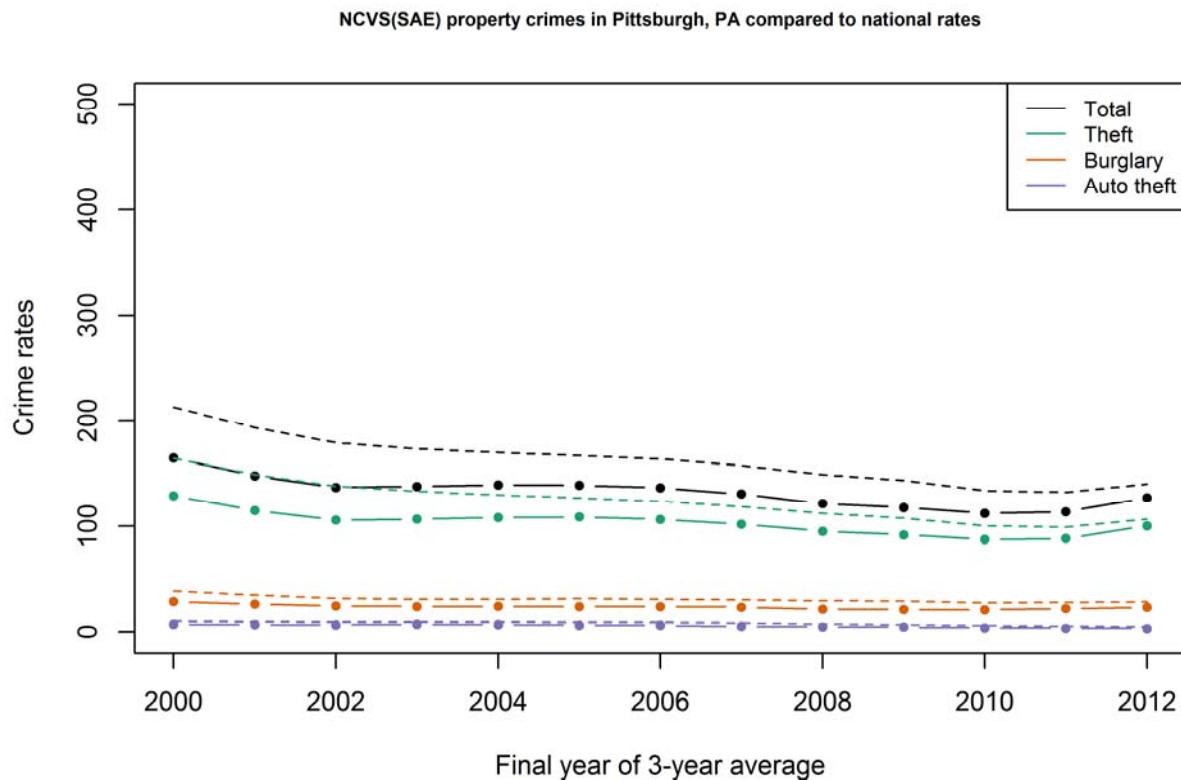
NCVS(SAE) property crimes in Phoenix-Mesa-Glendale, AZ compared to national rates



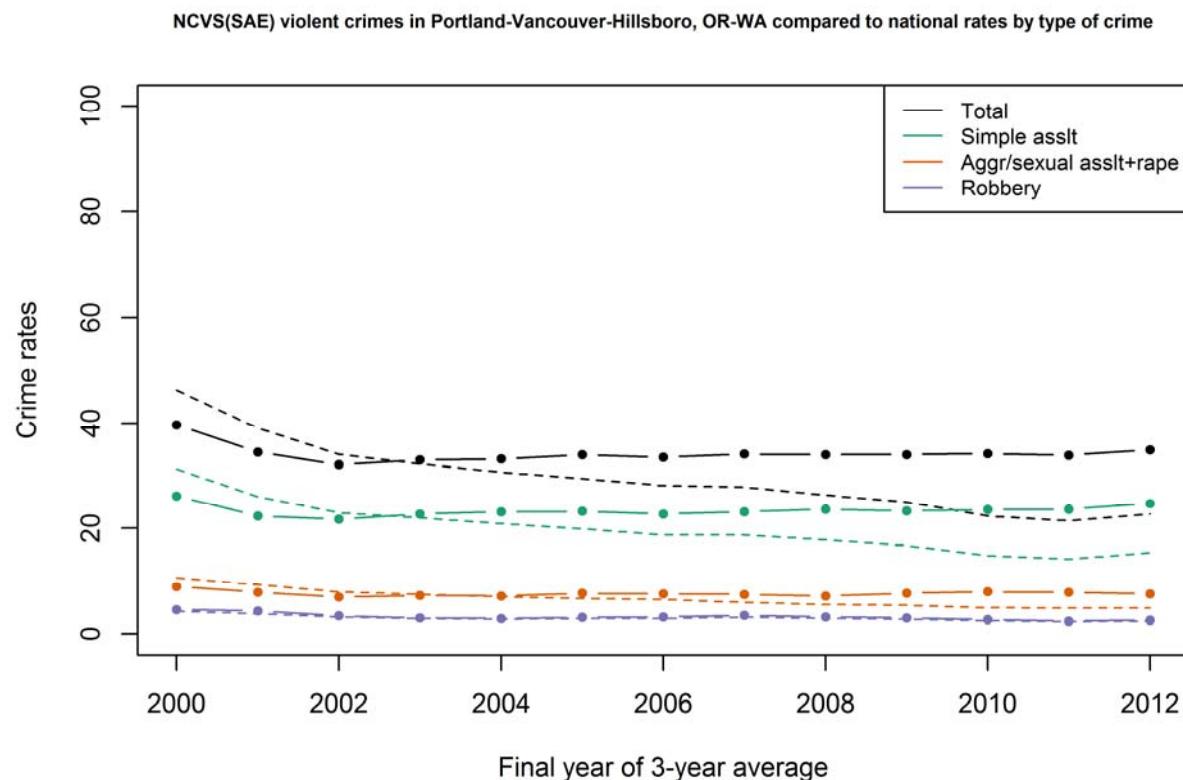
Pittsburgh, PA

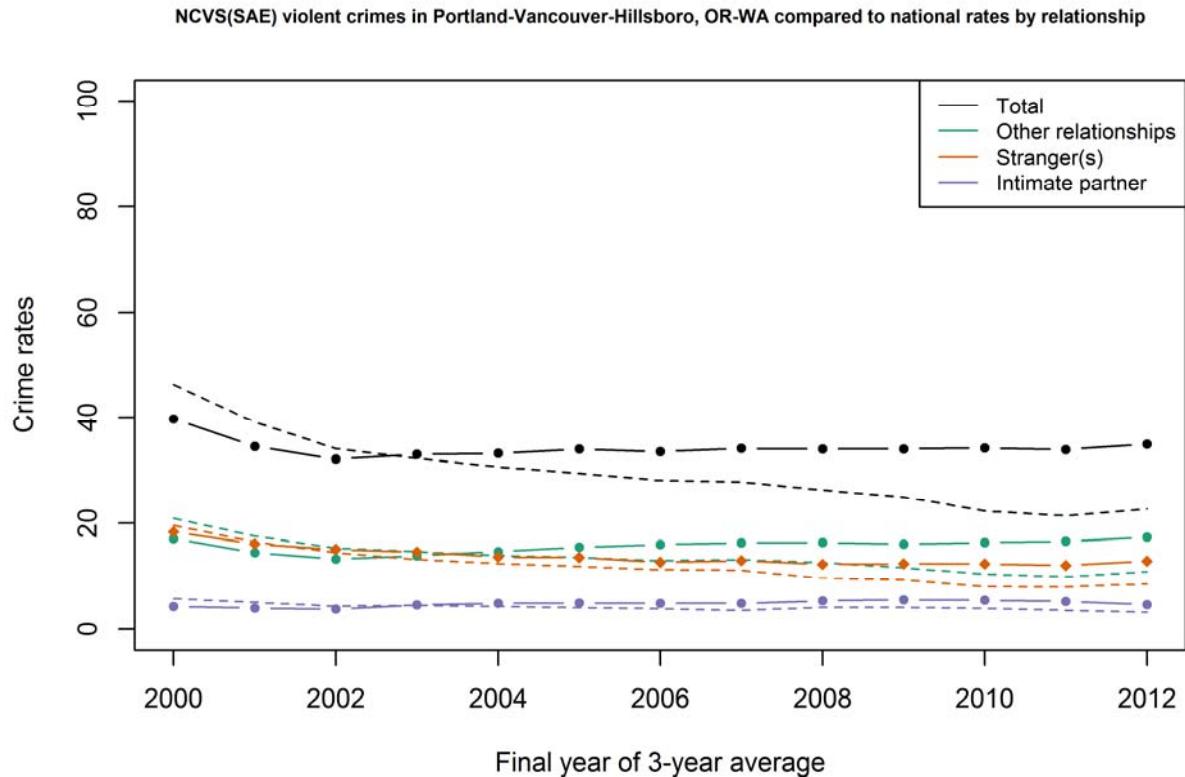


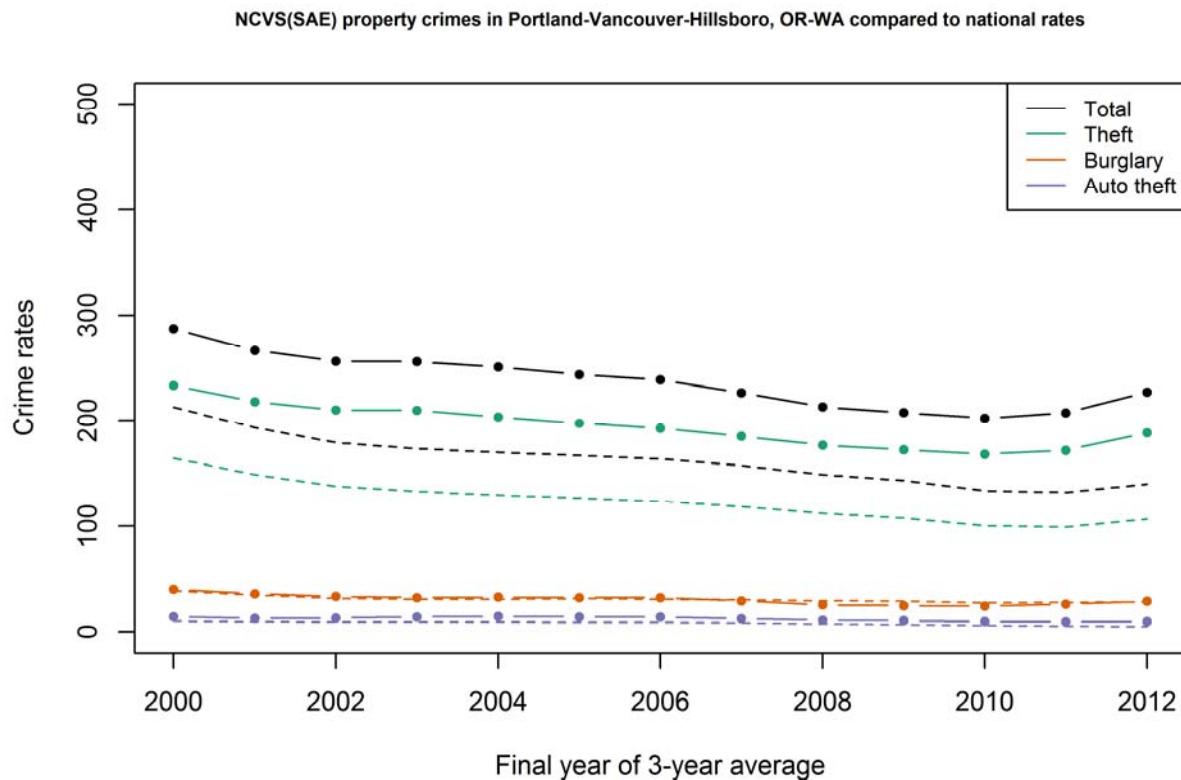




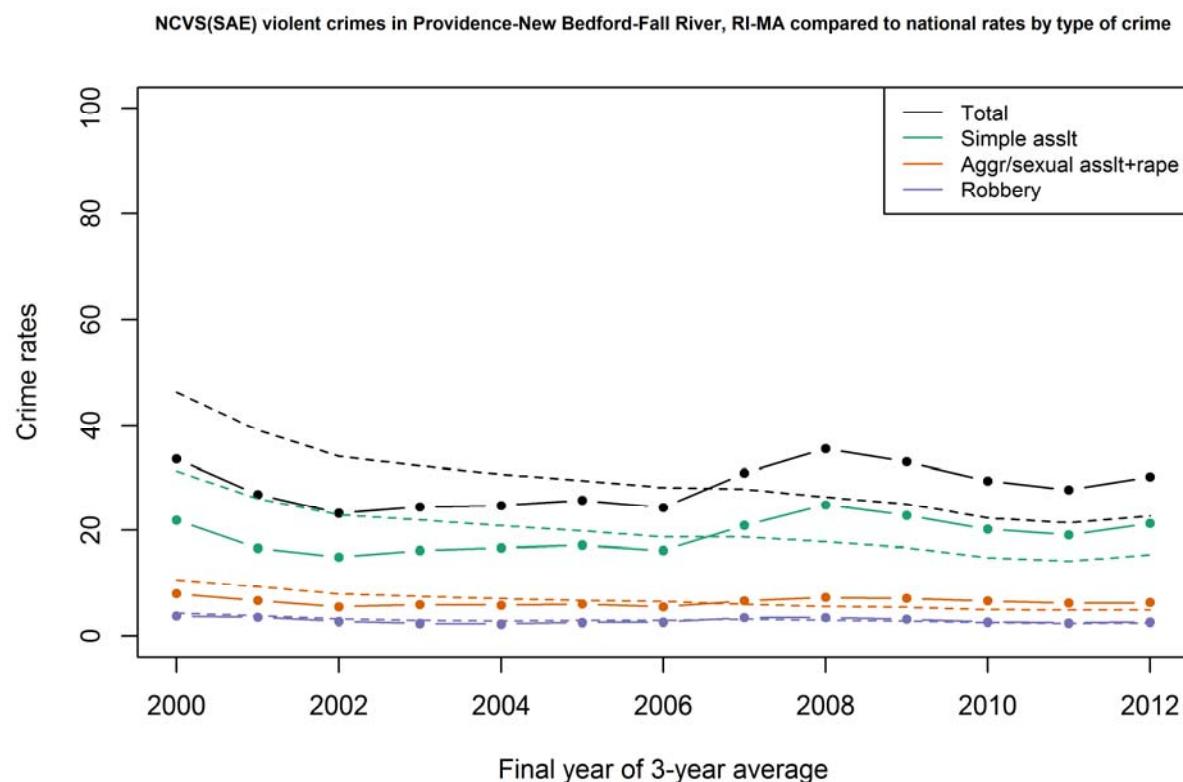
Portland-Vancouver-Hillsboro, OR-WA

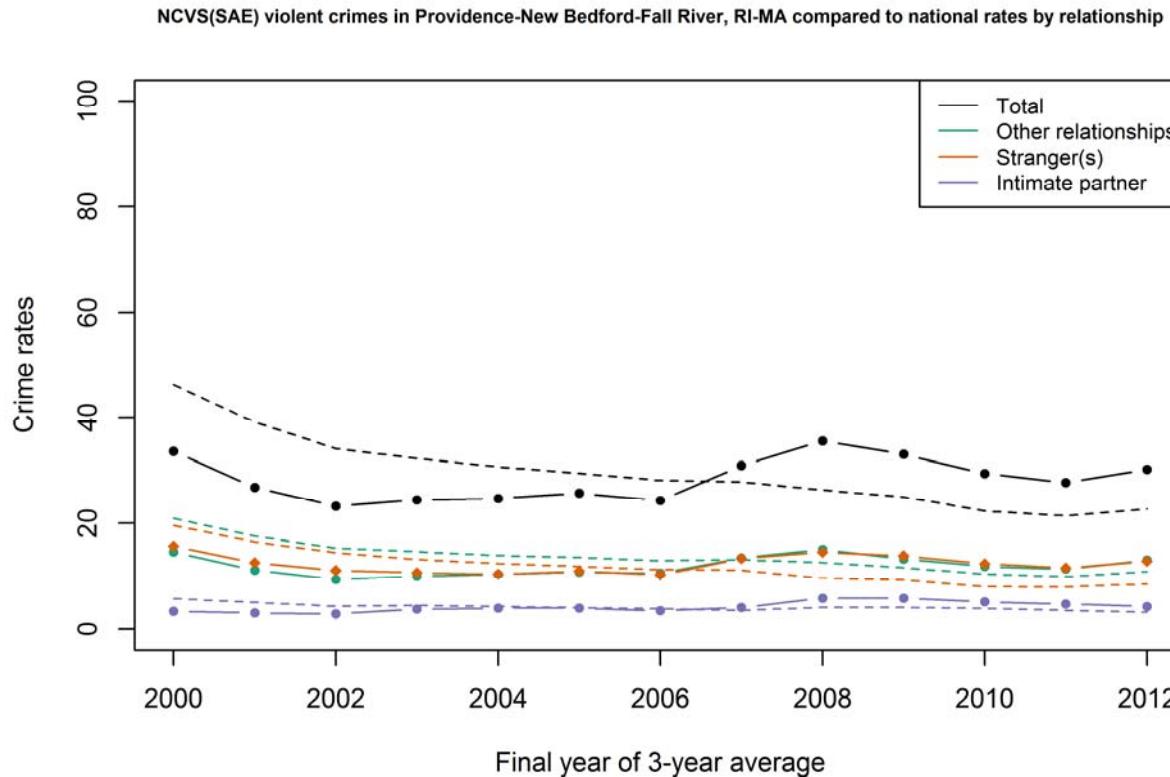


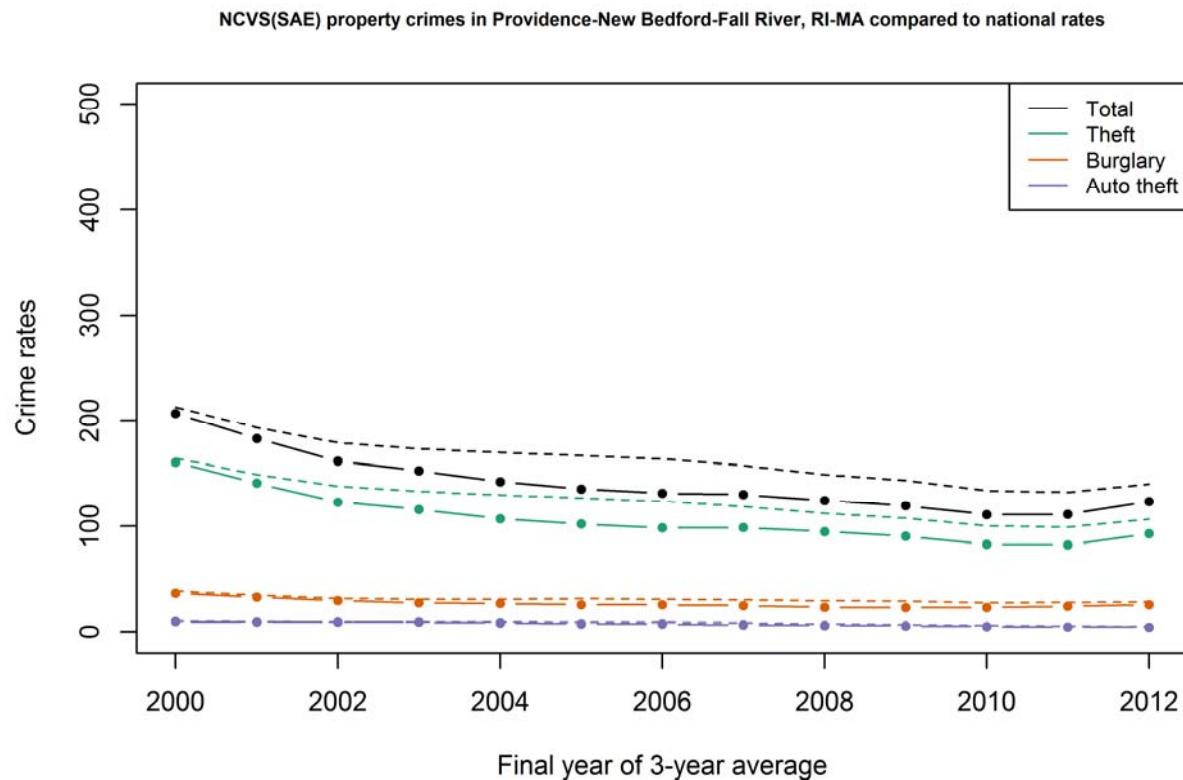




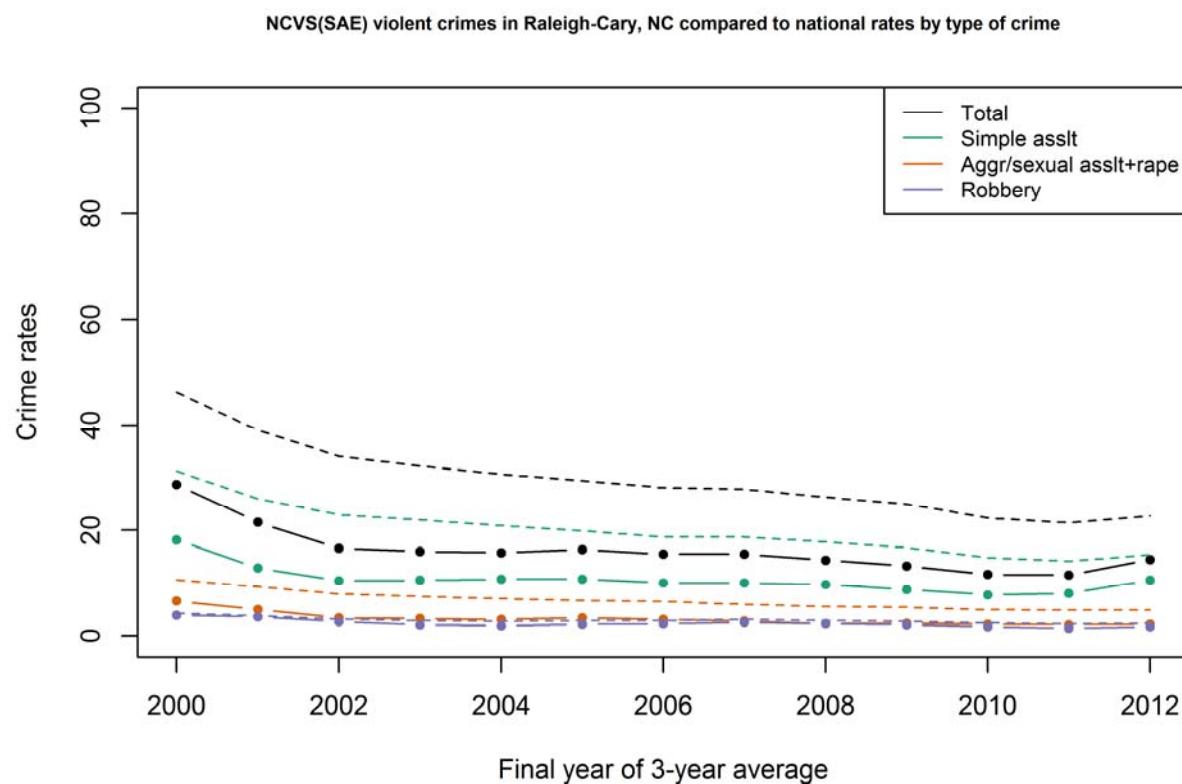
Providence-New Bedford-Fall River, RI-MA

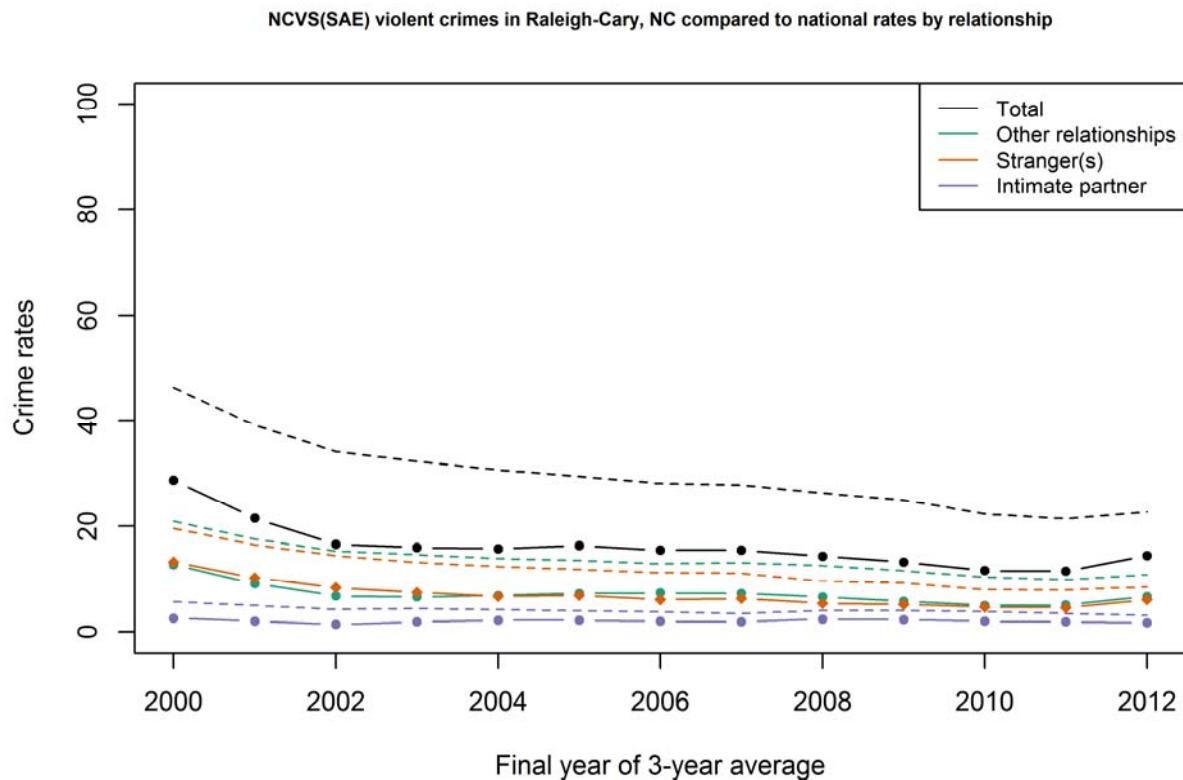


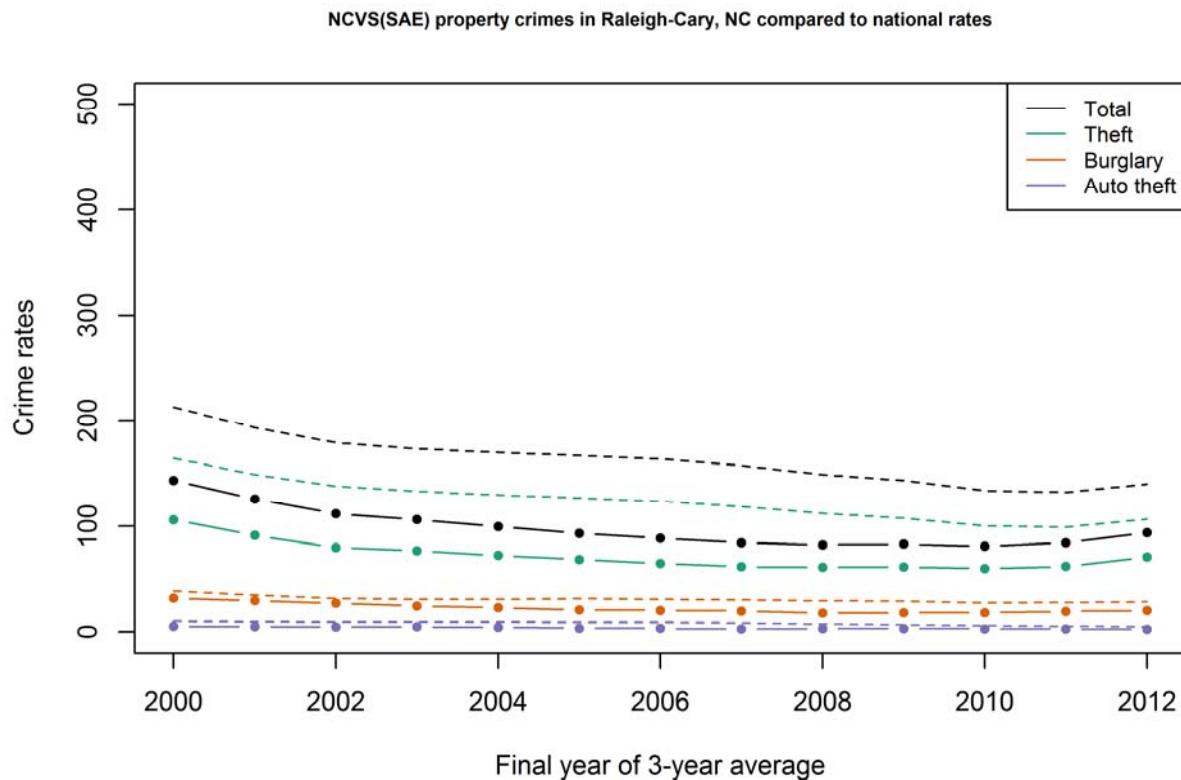




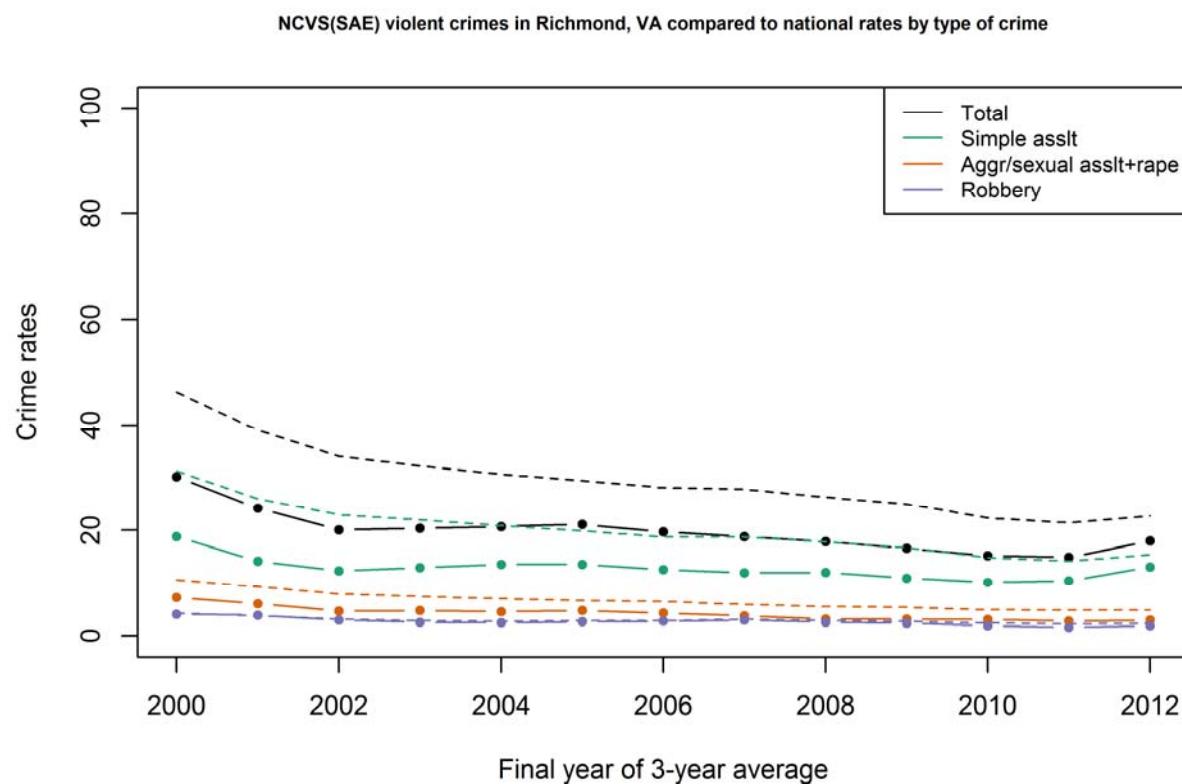
Raleigh-Cary, NC

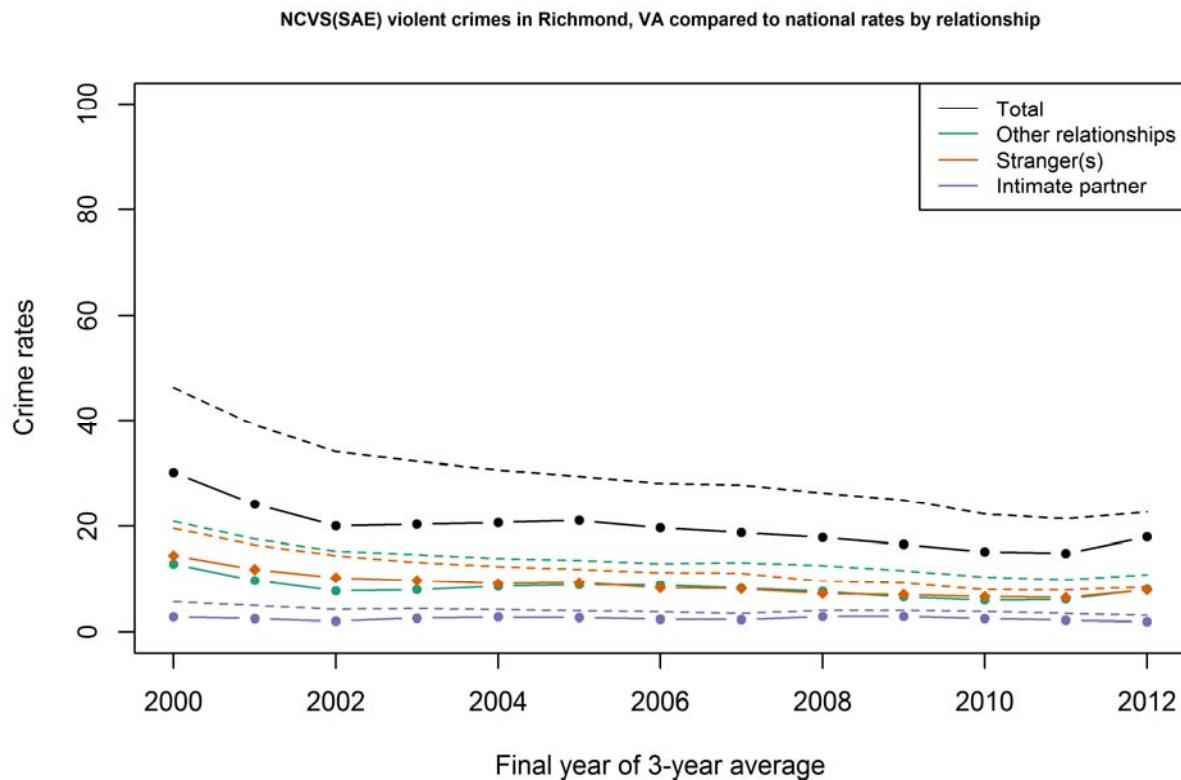


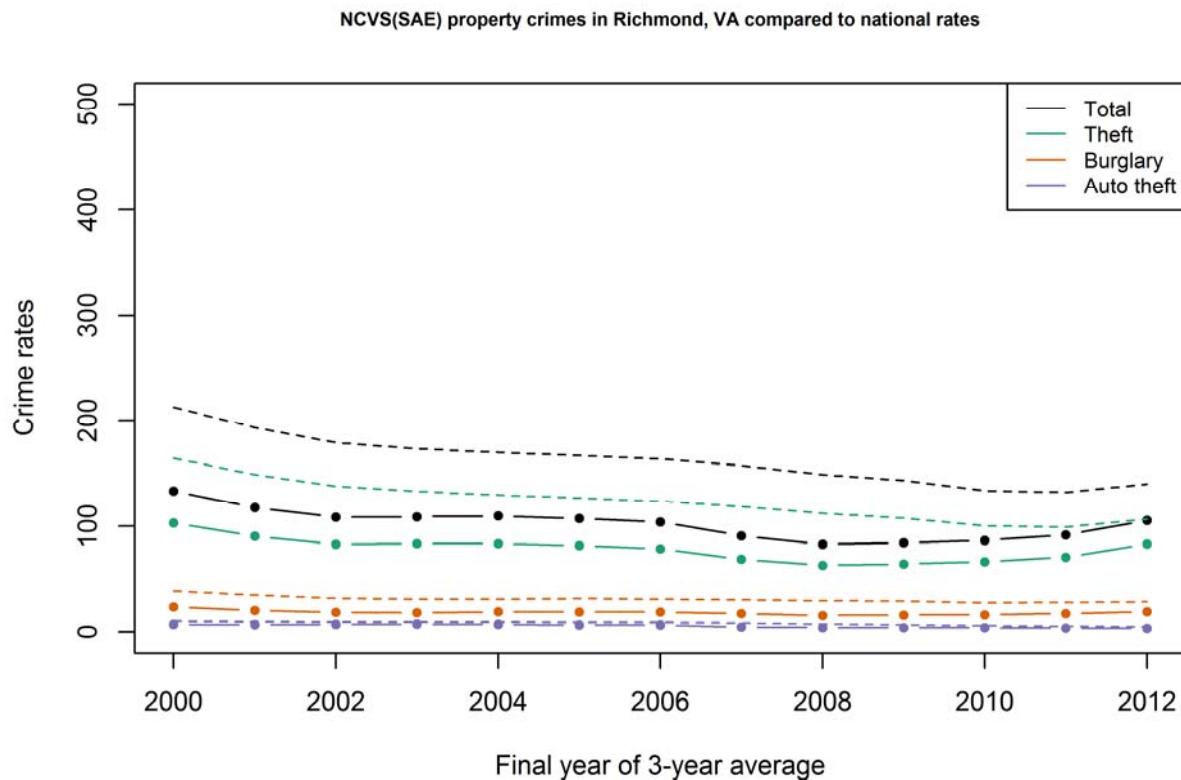




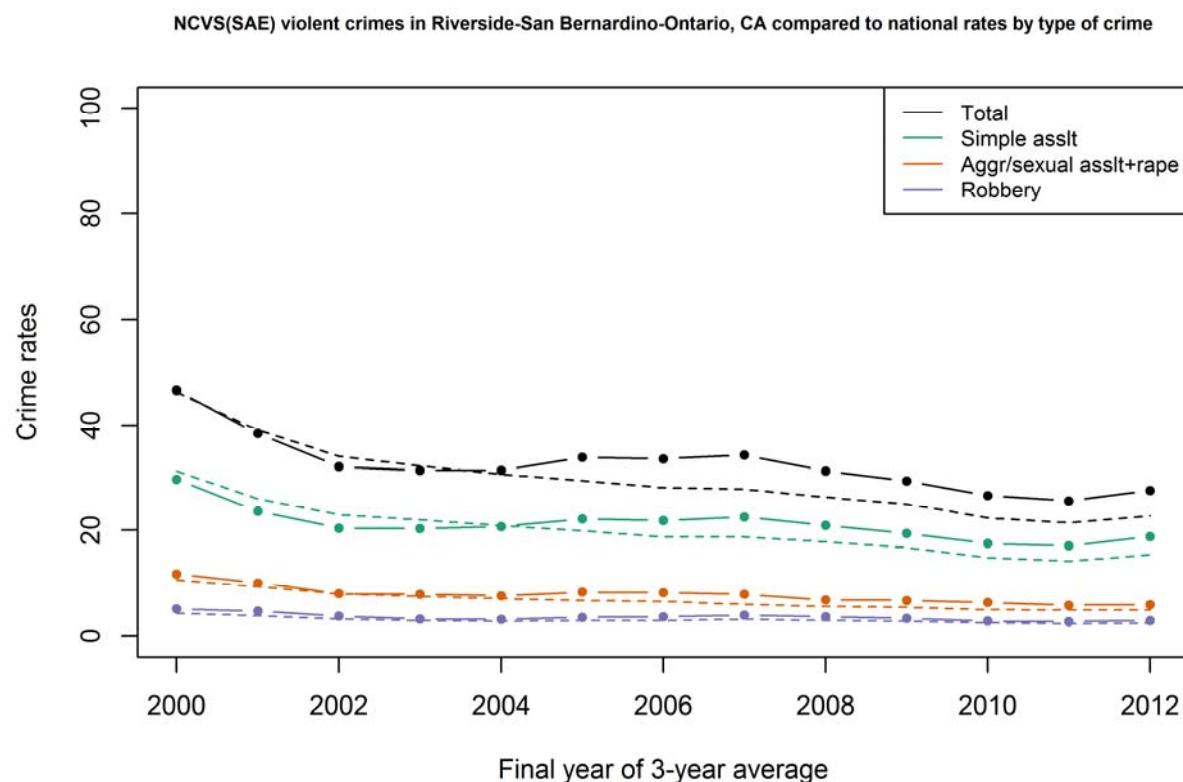
Richmond, VA

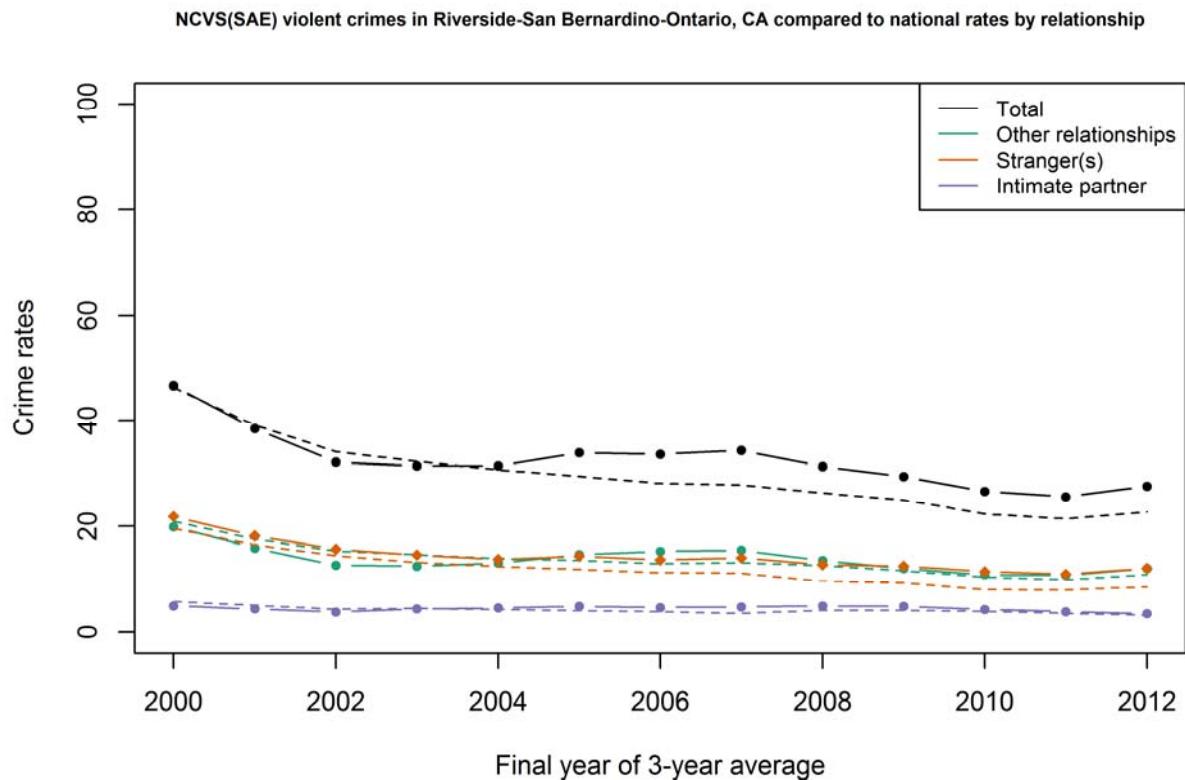


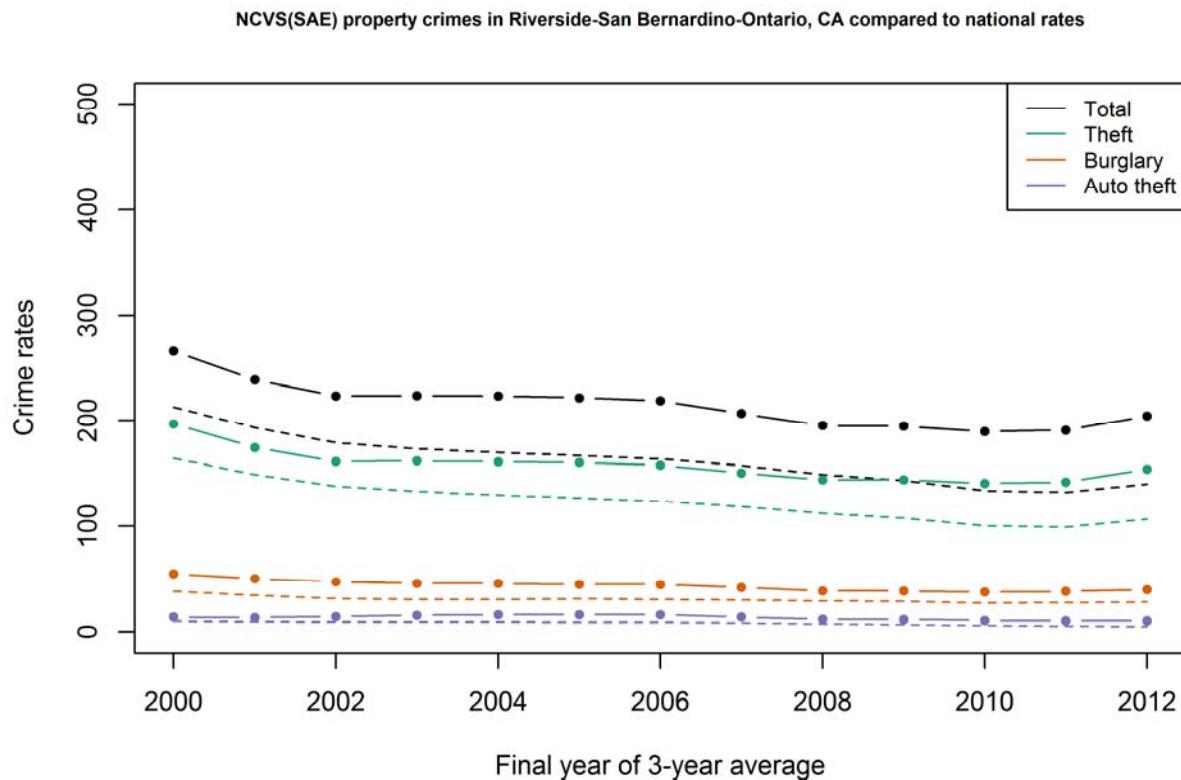




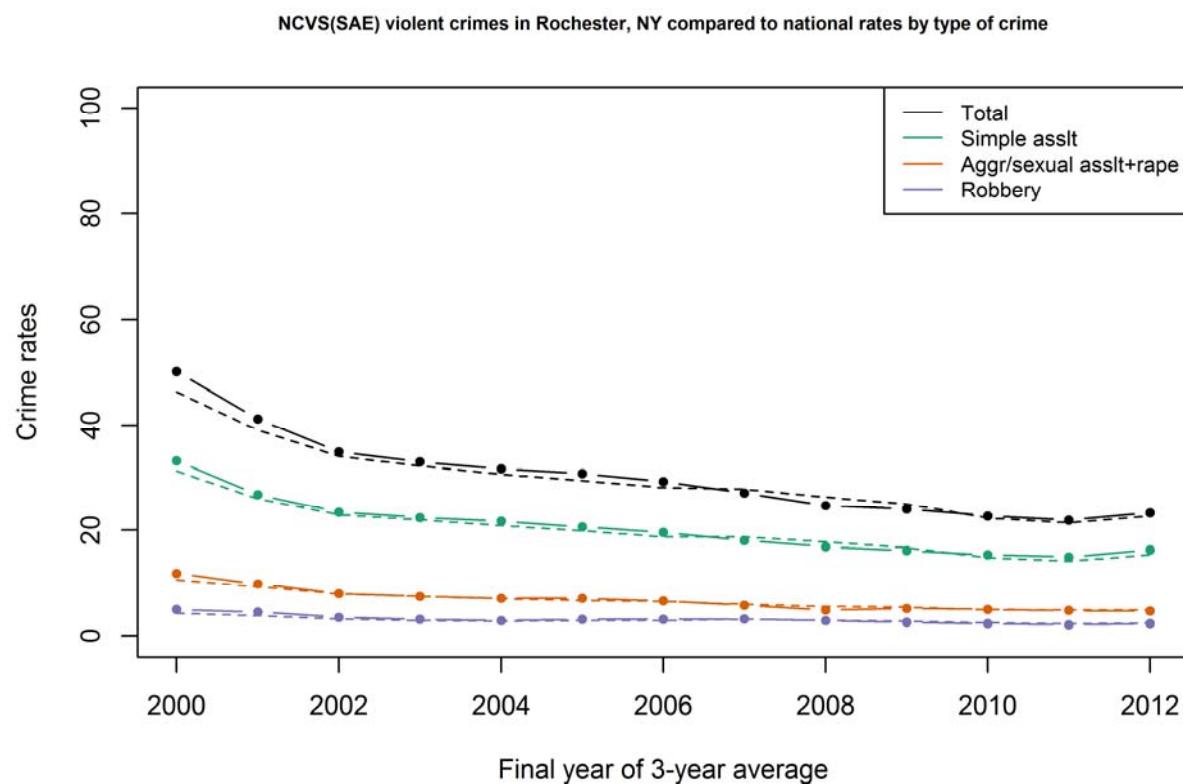
Riverside-San Bernardino-Ontario, CA

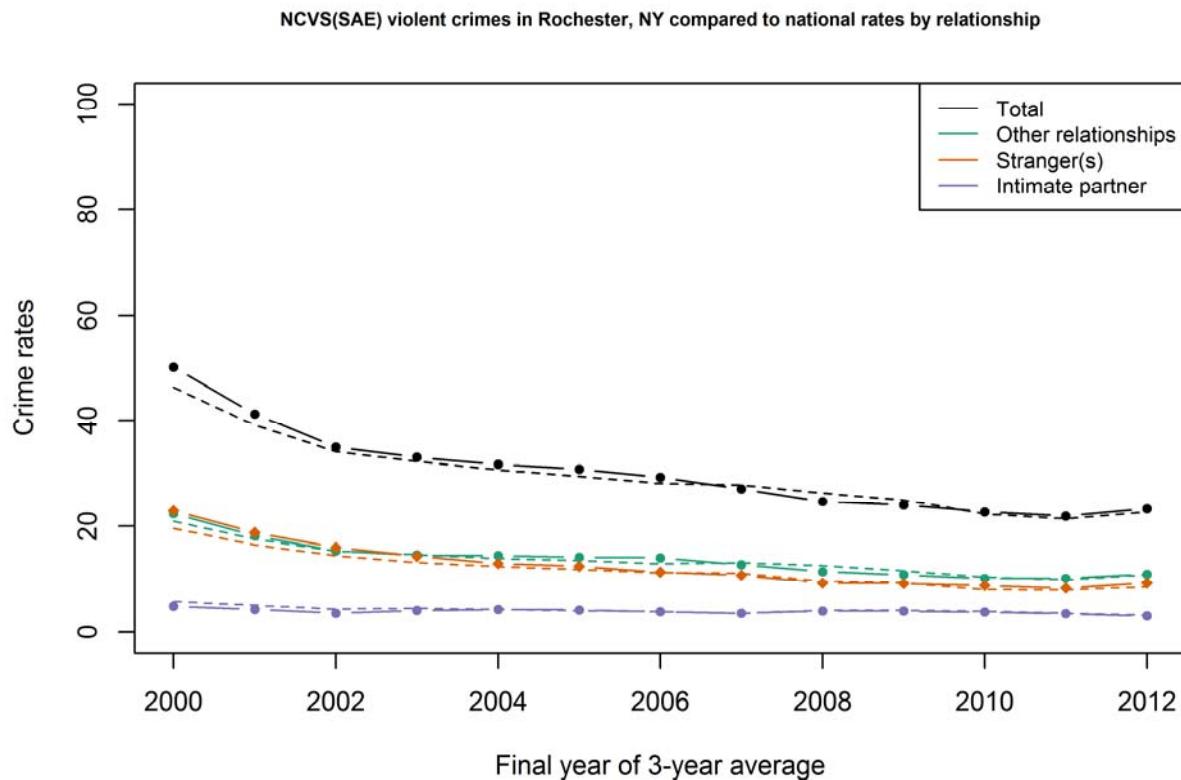


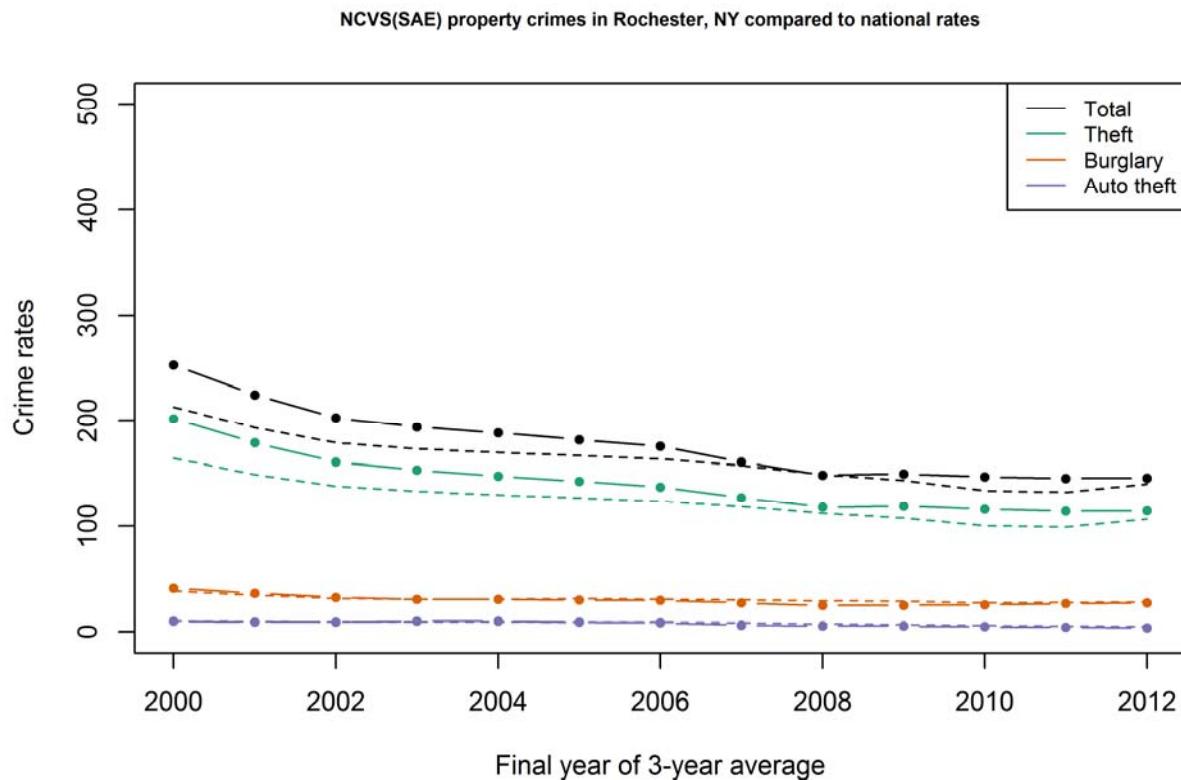




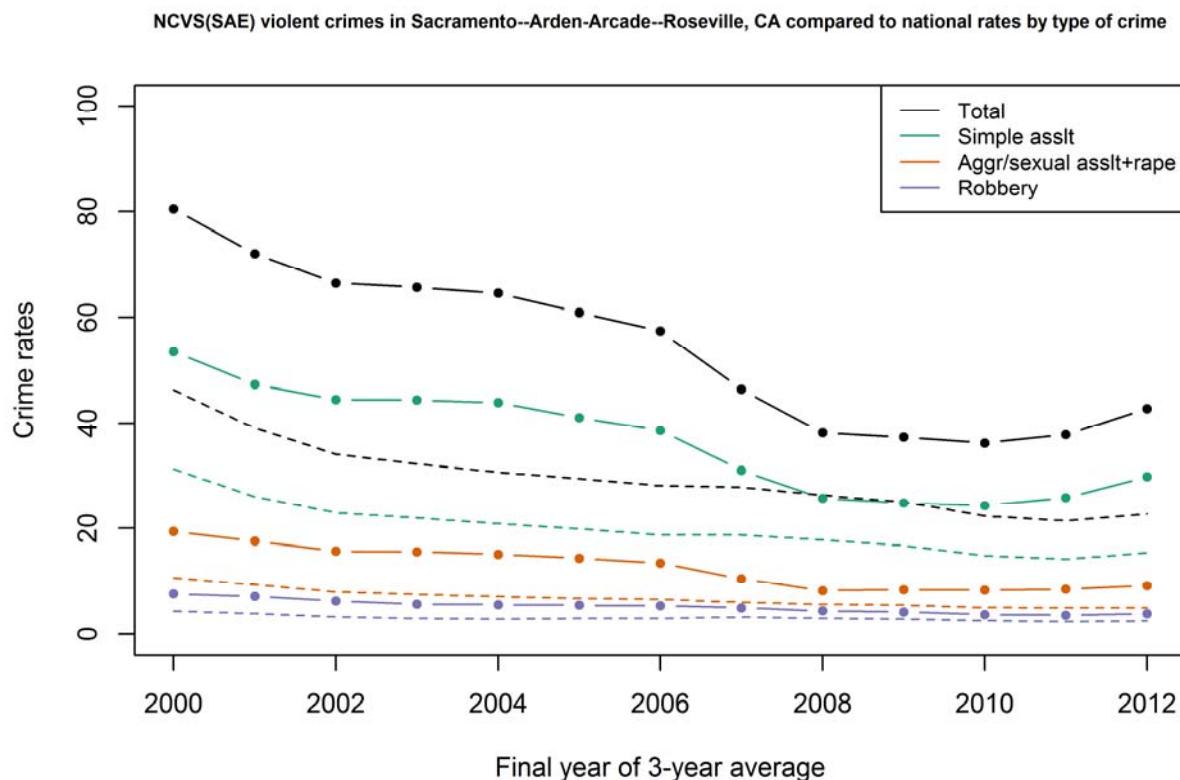
Rochester, NY

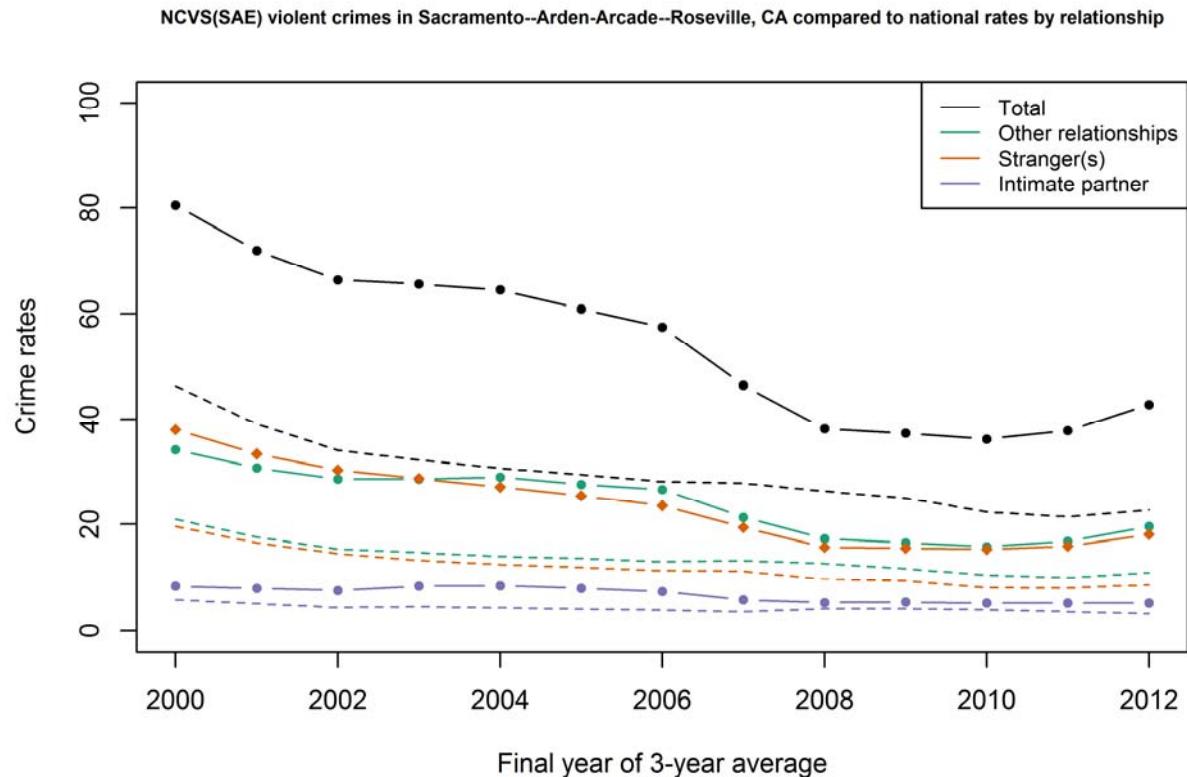


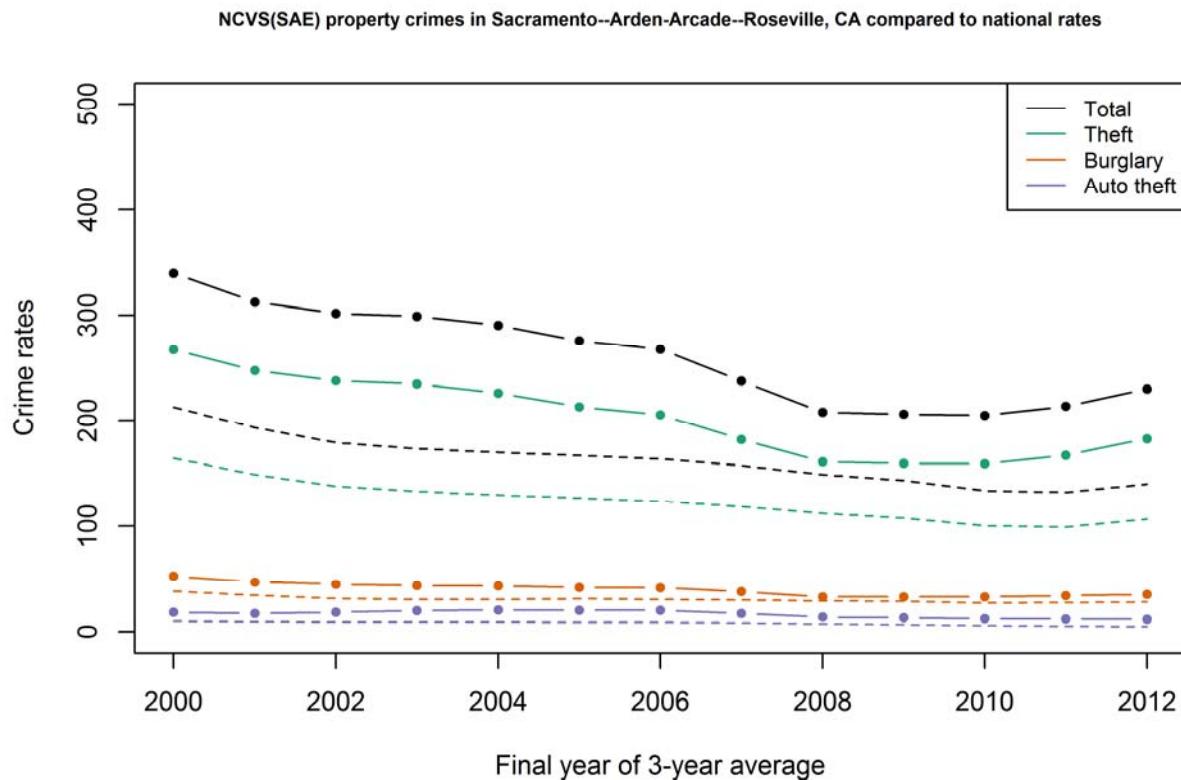




Sacramento--Arden-Arcade--Roseville, CA

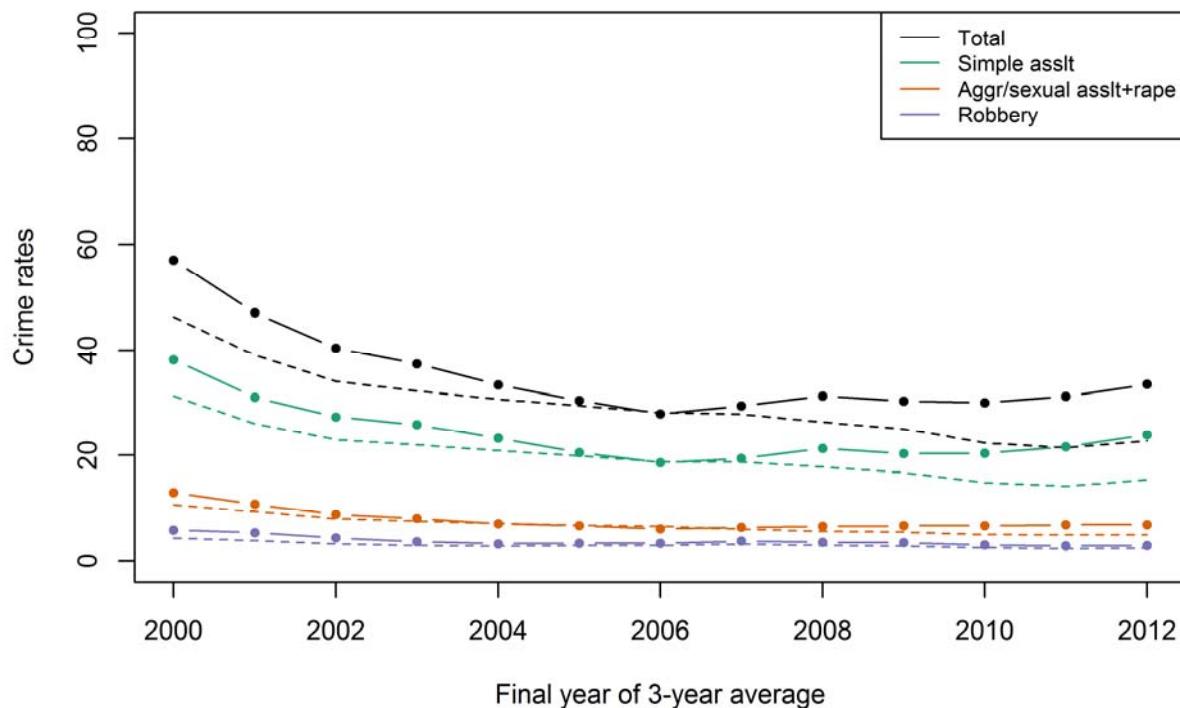


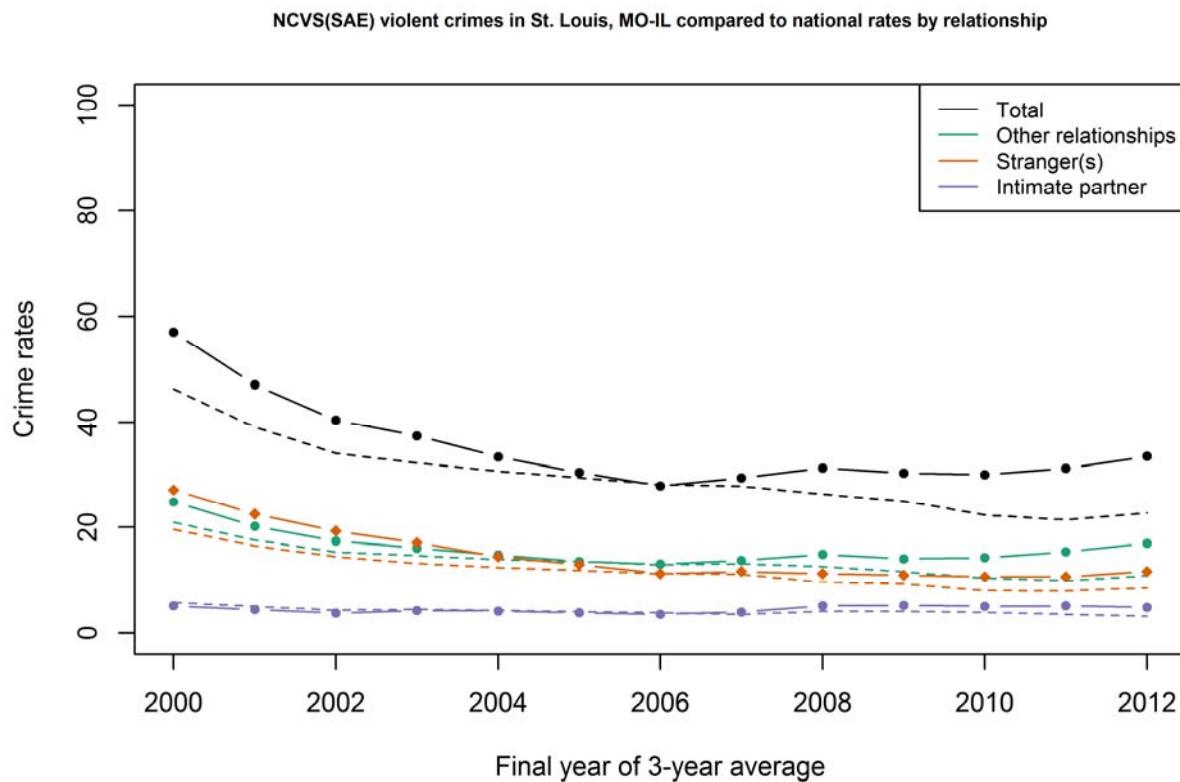


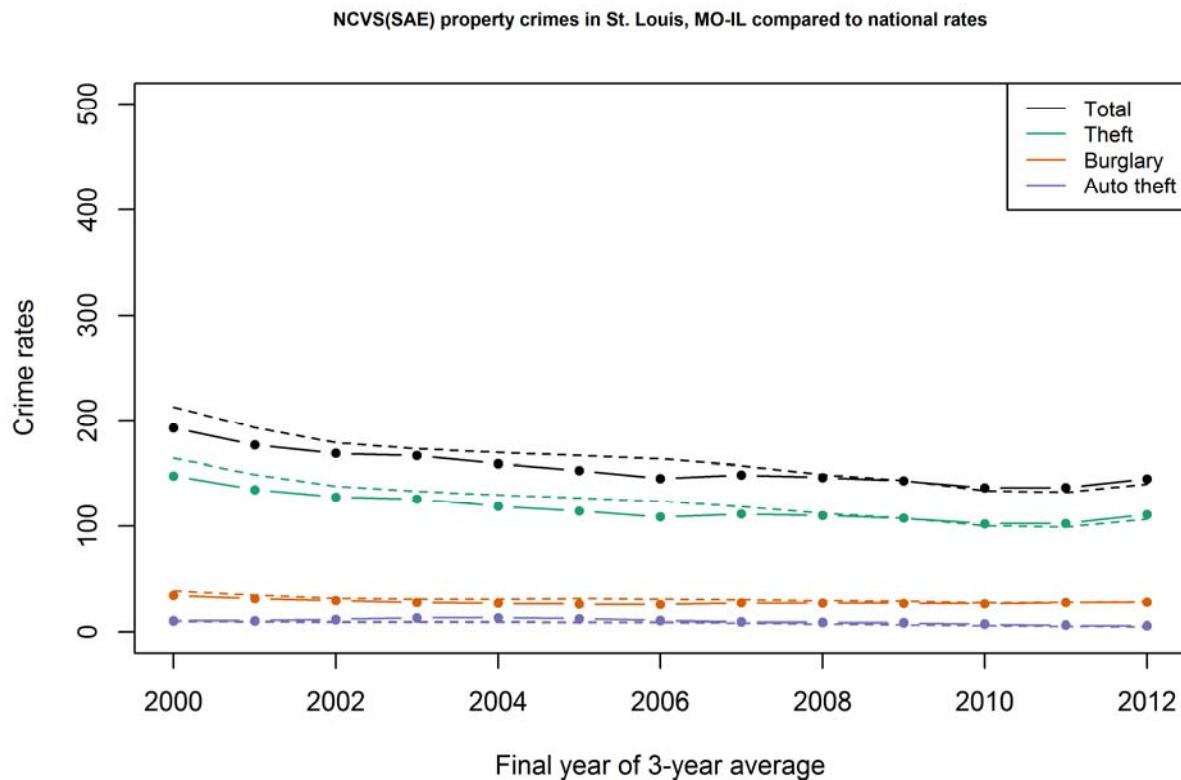


St. Louis, MO-IL

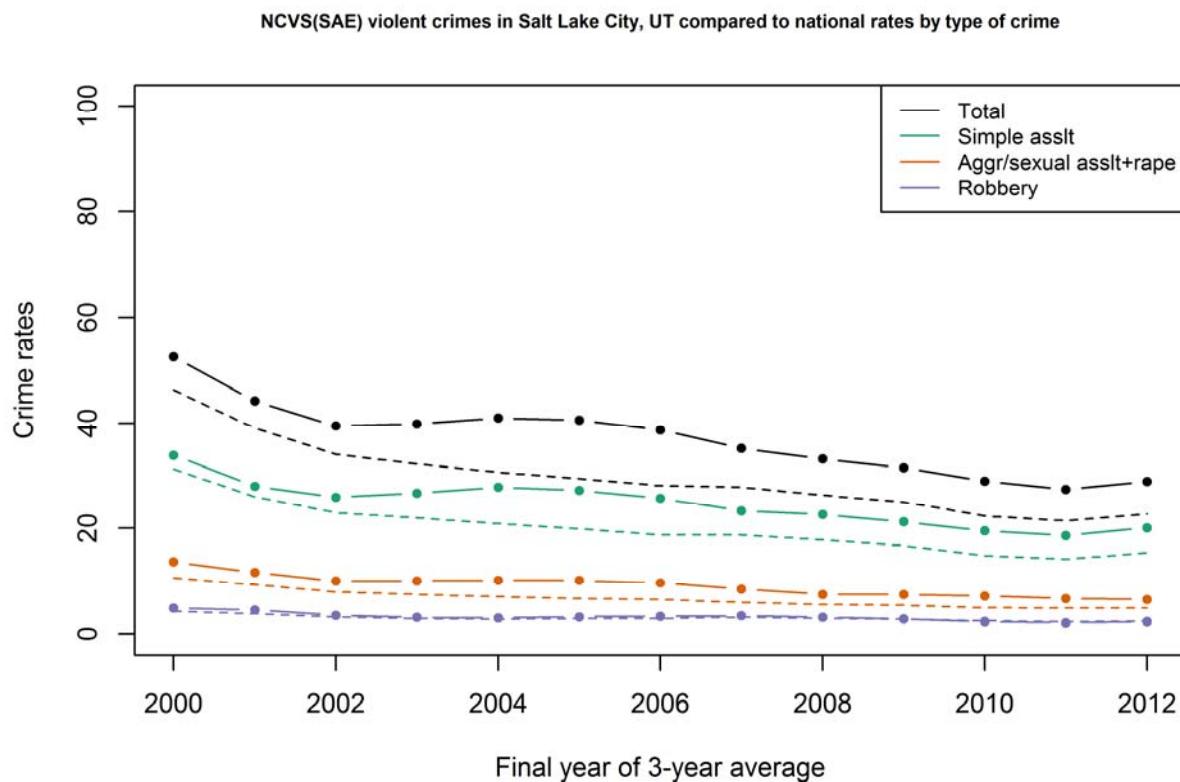
NCVS(SAE) violent crimes in St. Louis, MO-IL compared to national rates by type of crime

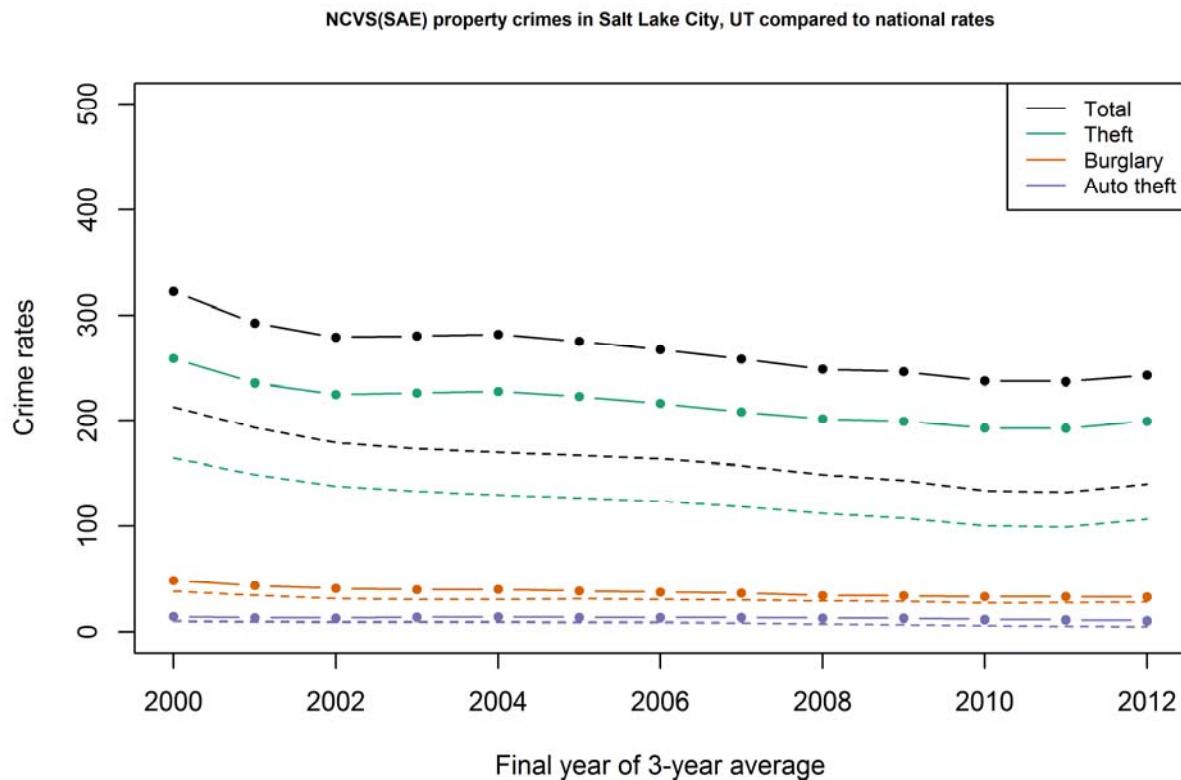


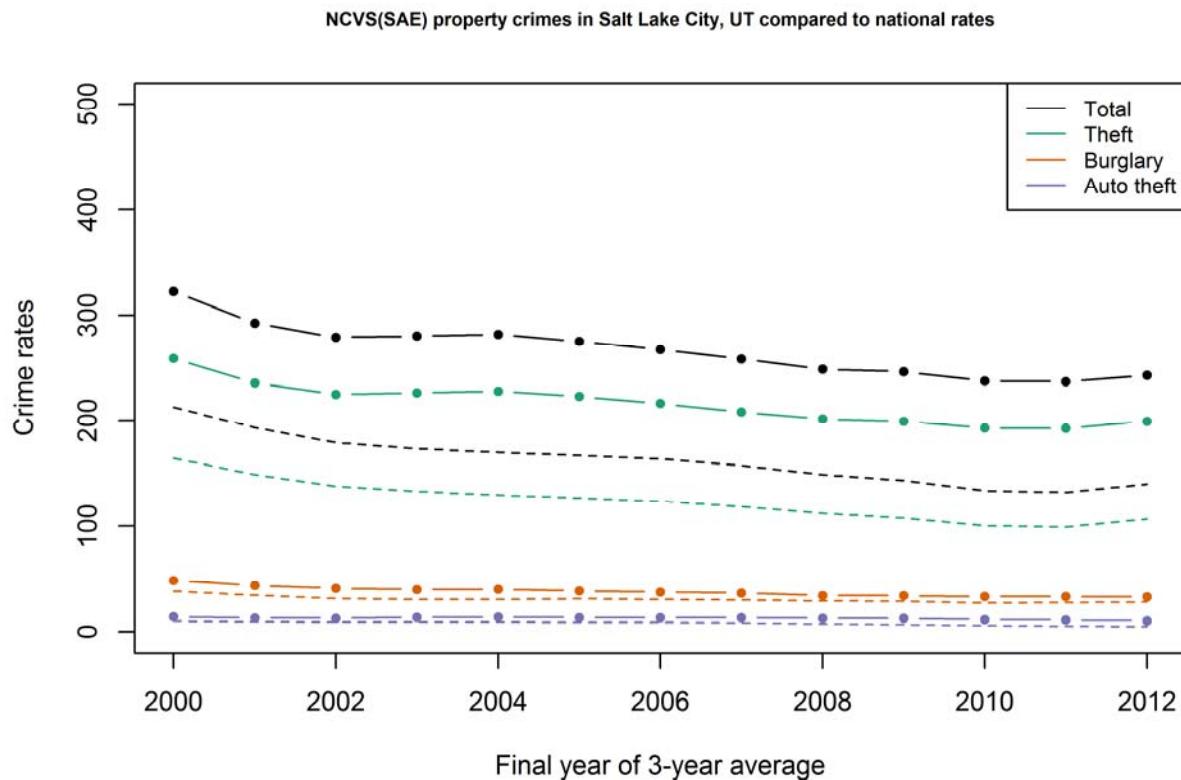




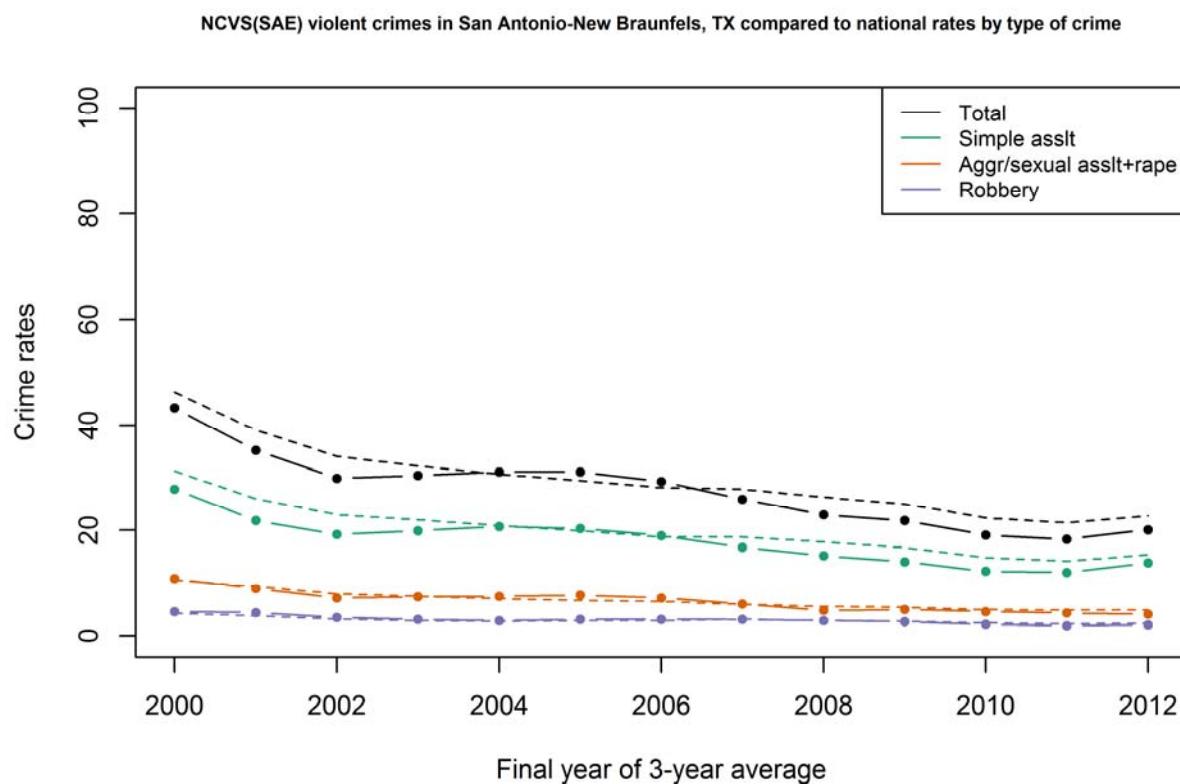
Salt Lake City, UT

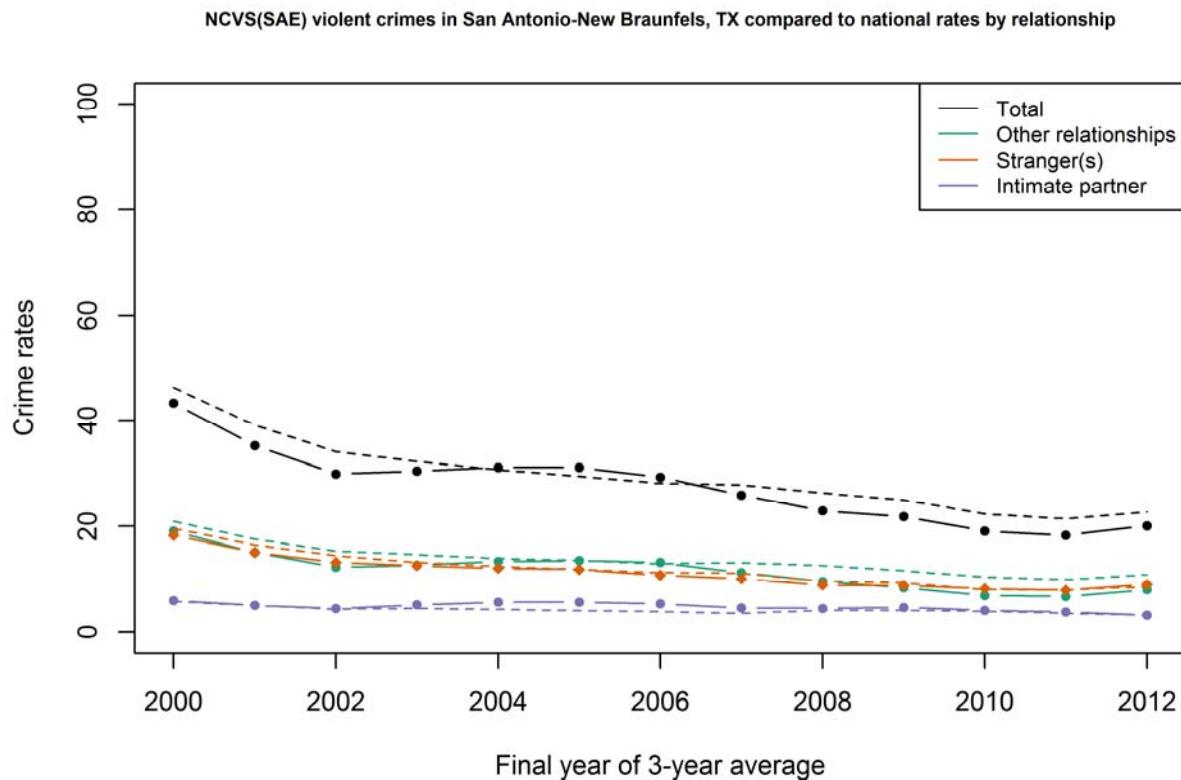


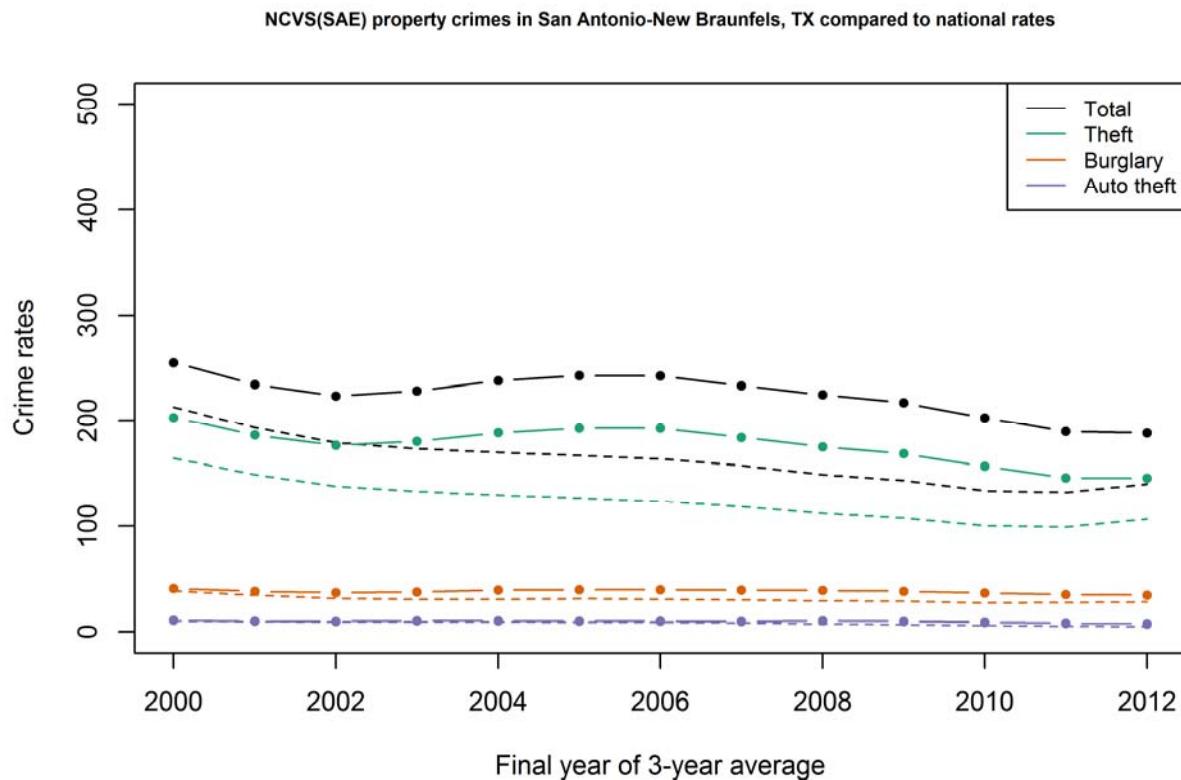




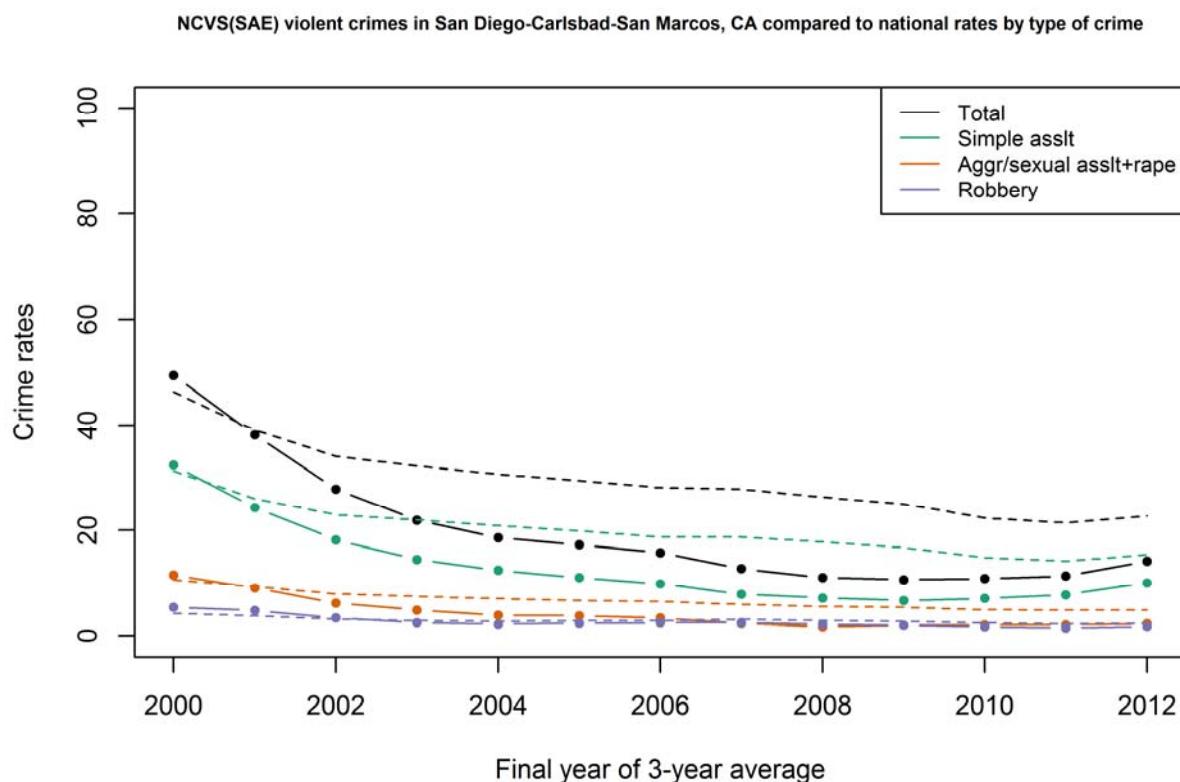
San Antonio-New Braunfels, TX

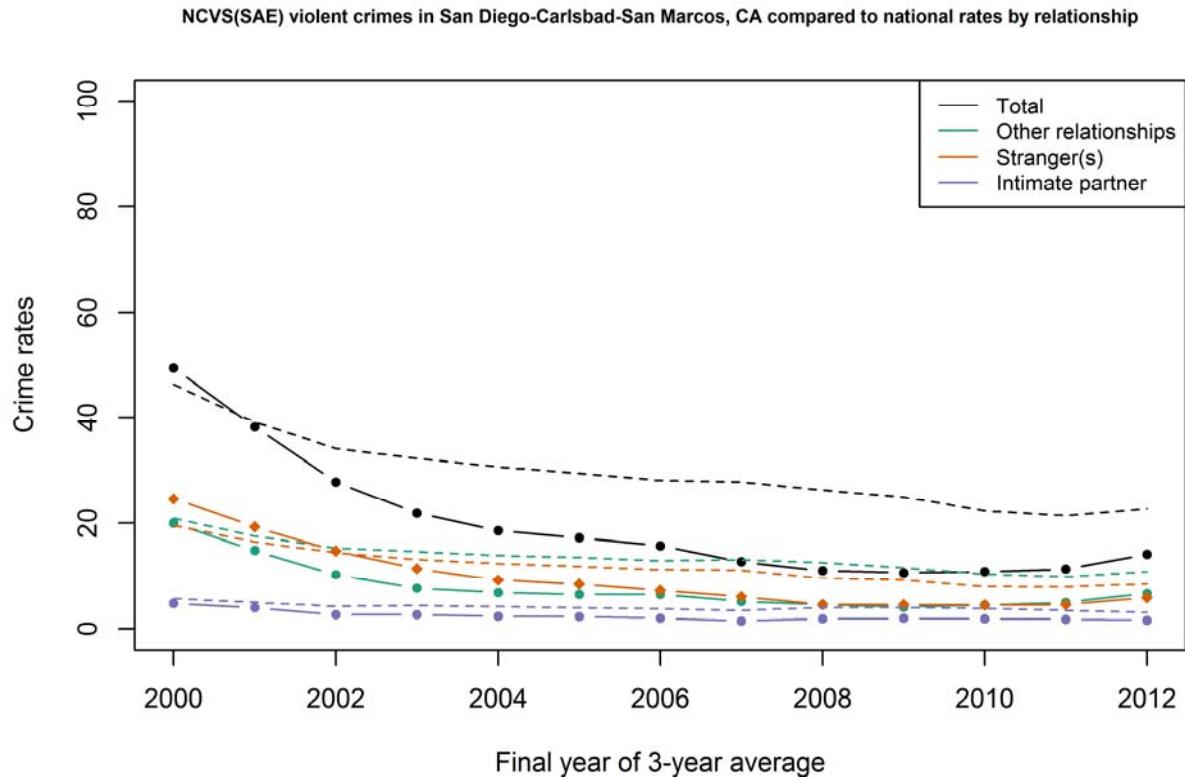


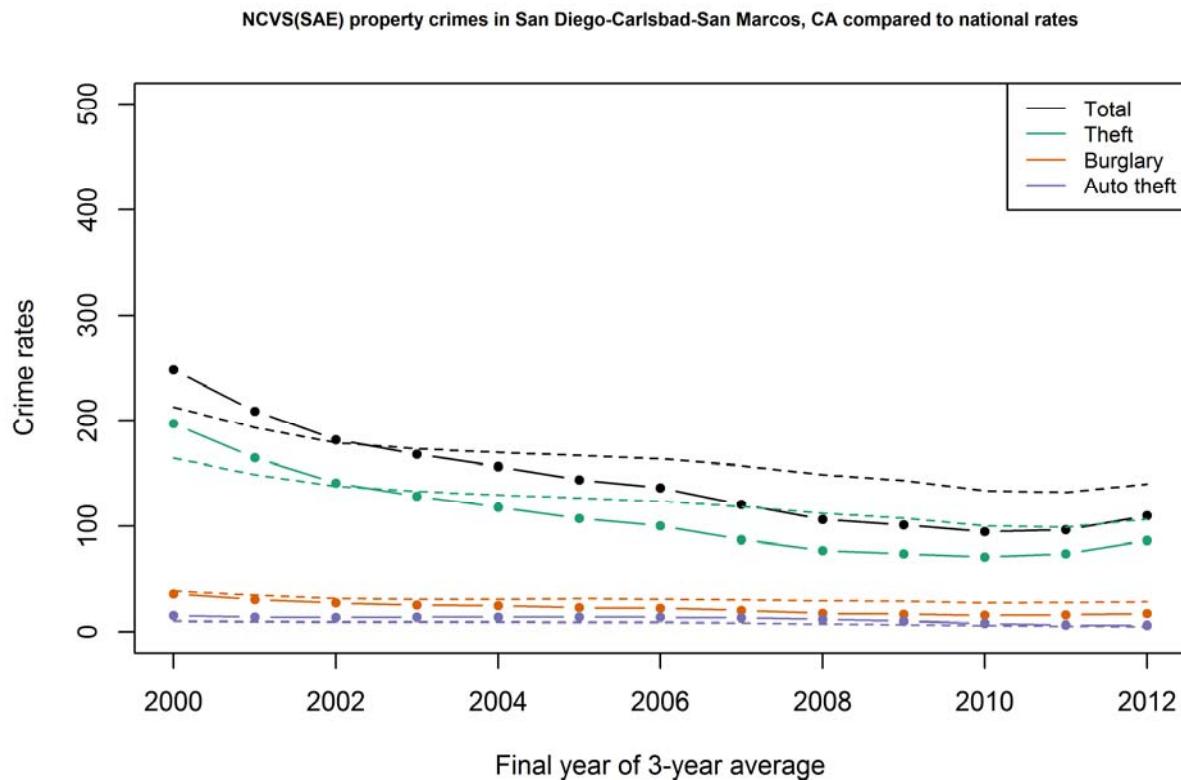




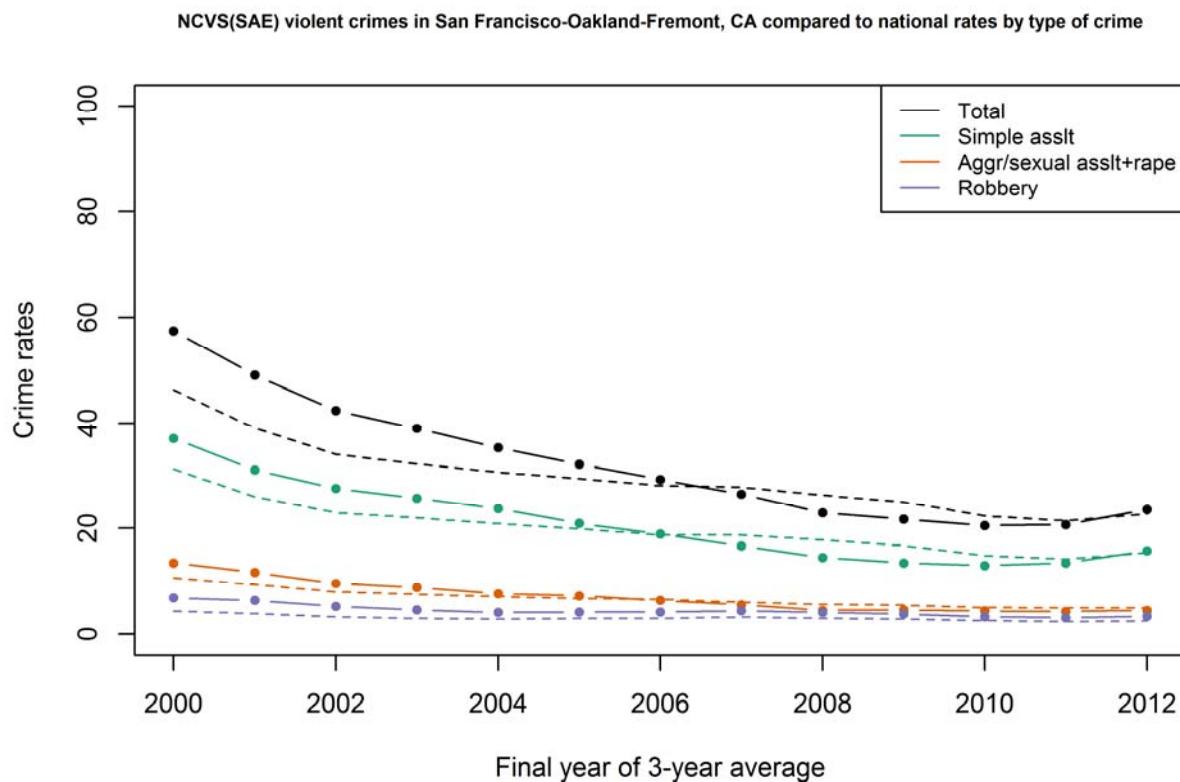
San Diego-Carlsbad-San Marcos, CA

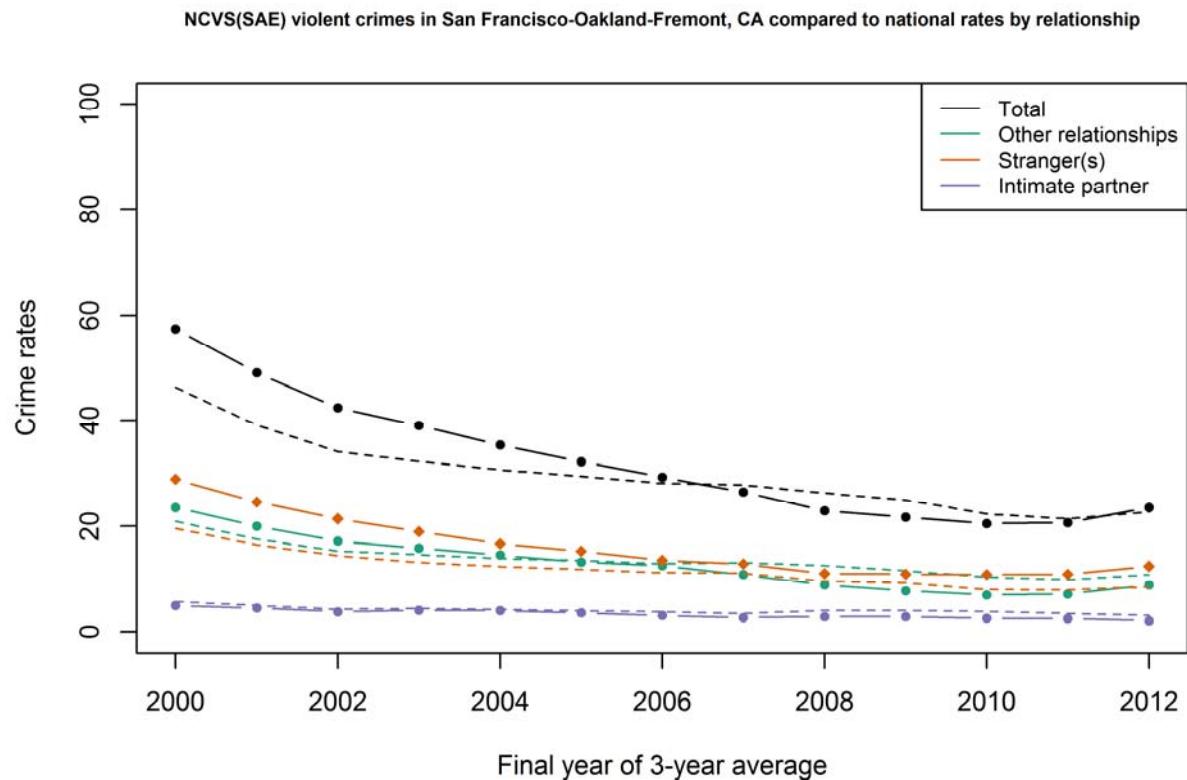


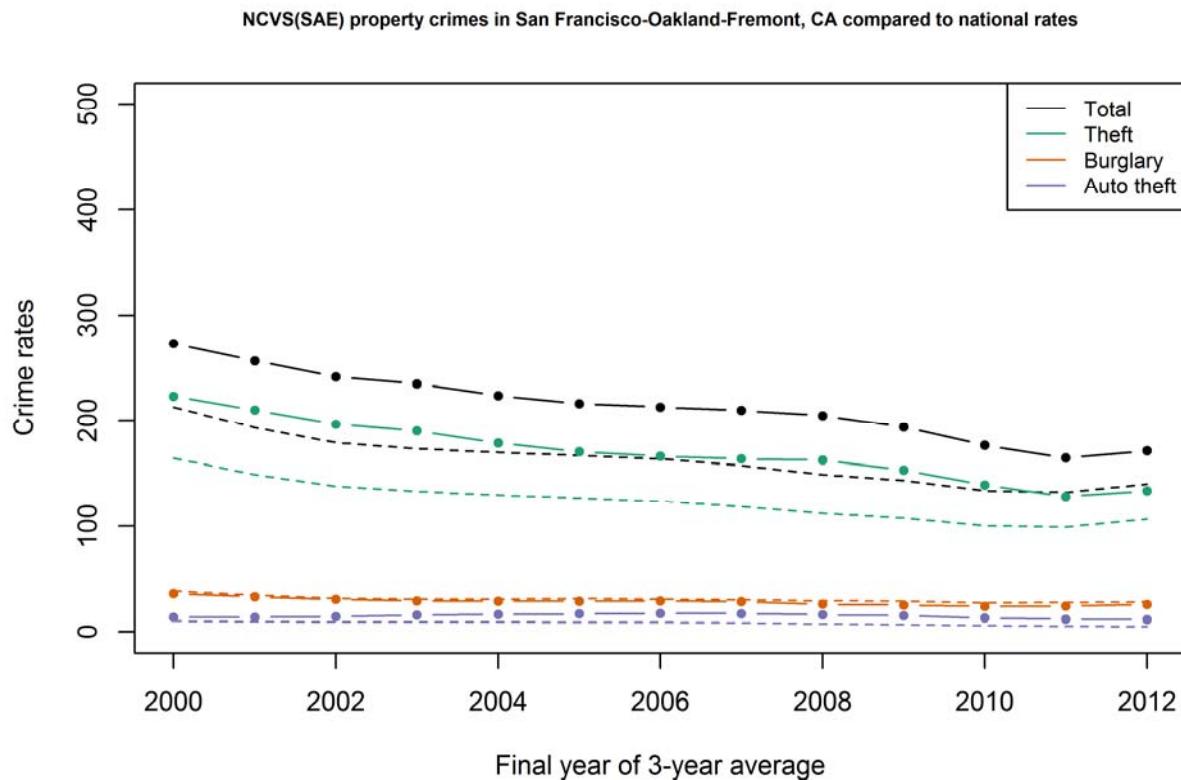




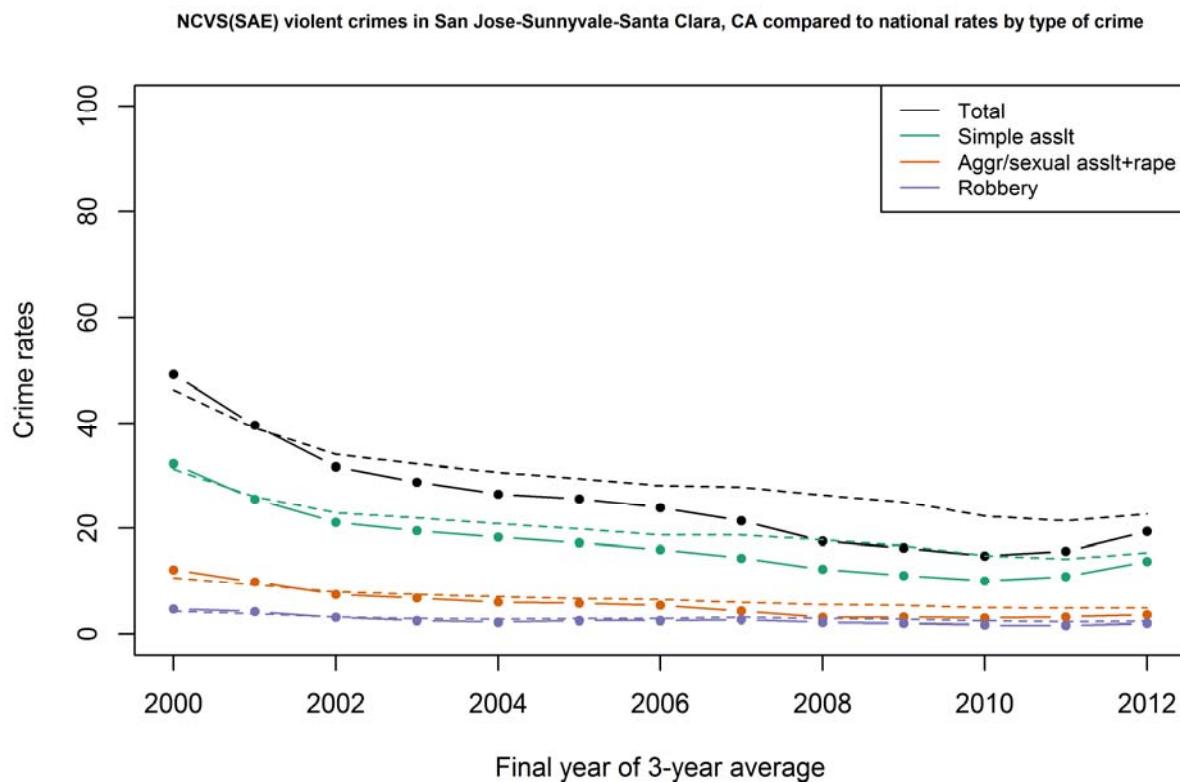
San Francisco-Oakland-Fremont, CA

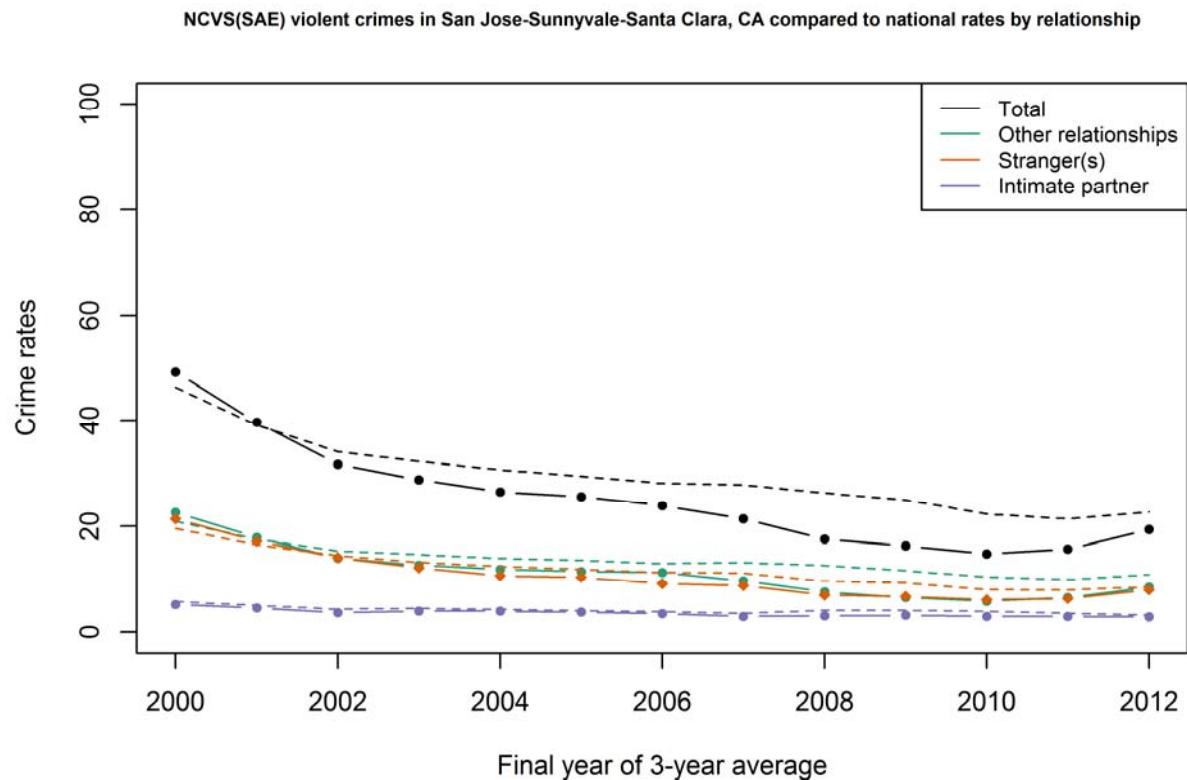


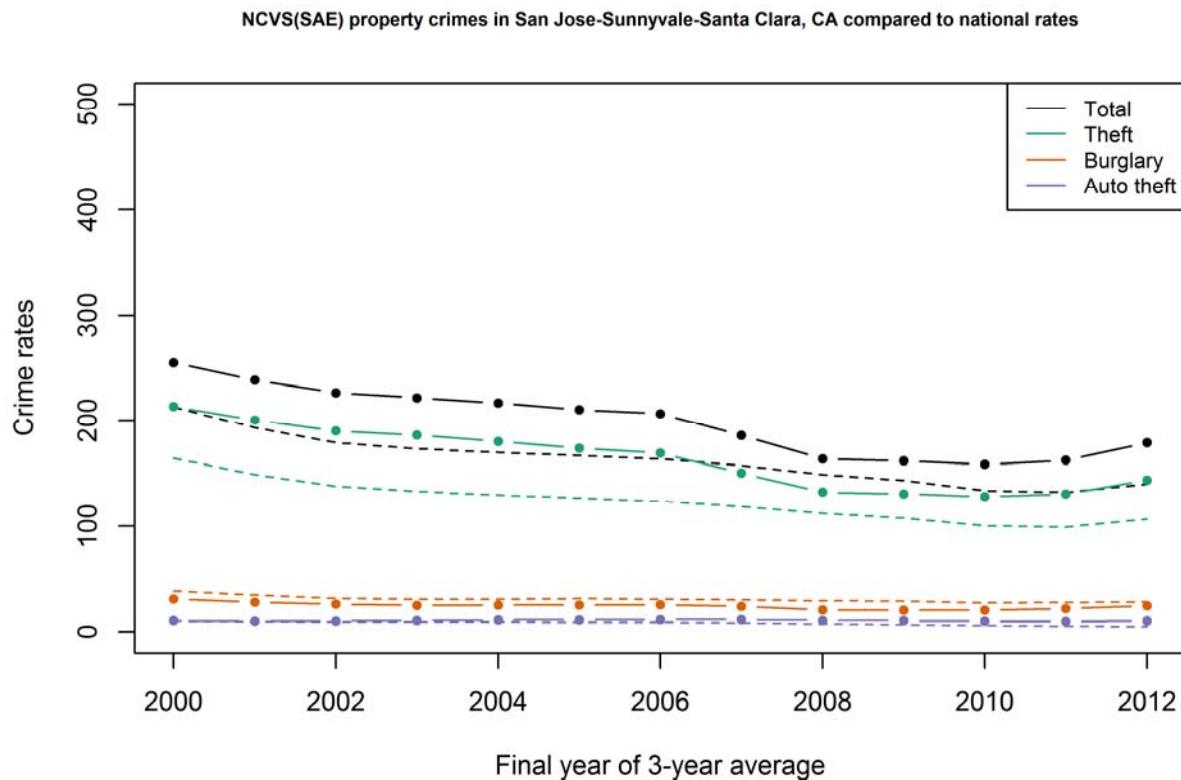




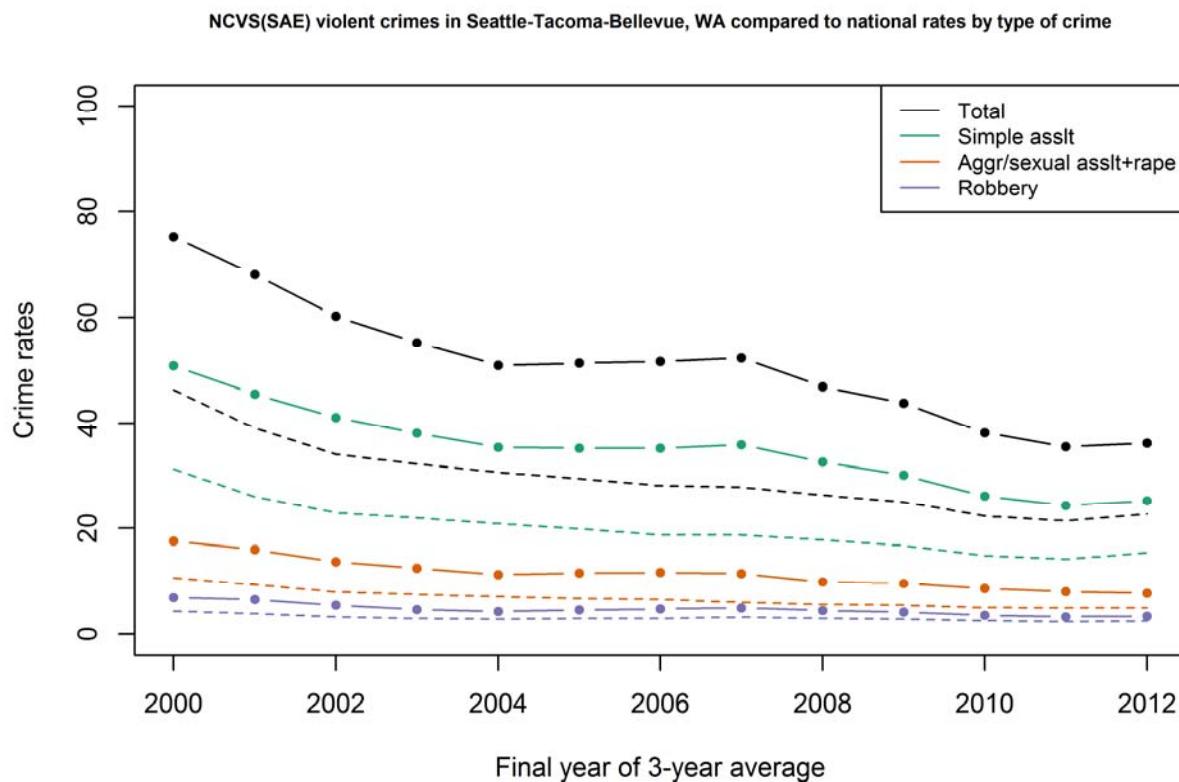
San Jose-Sunnyvale-Santa Clara, CA

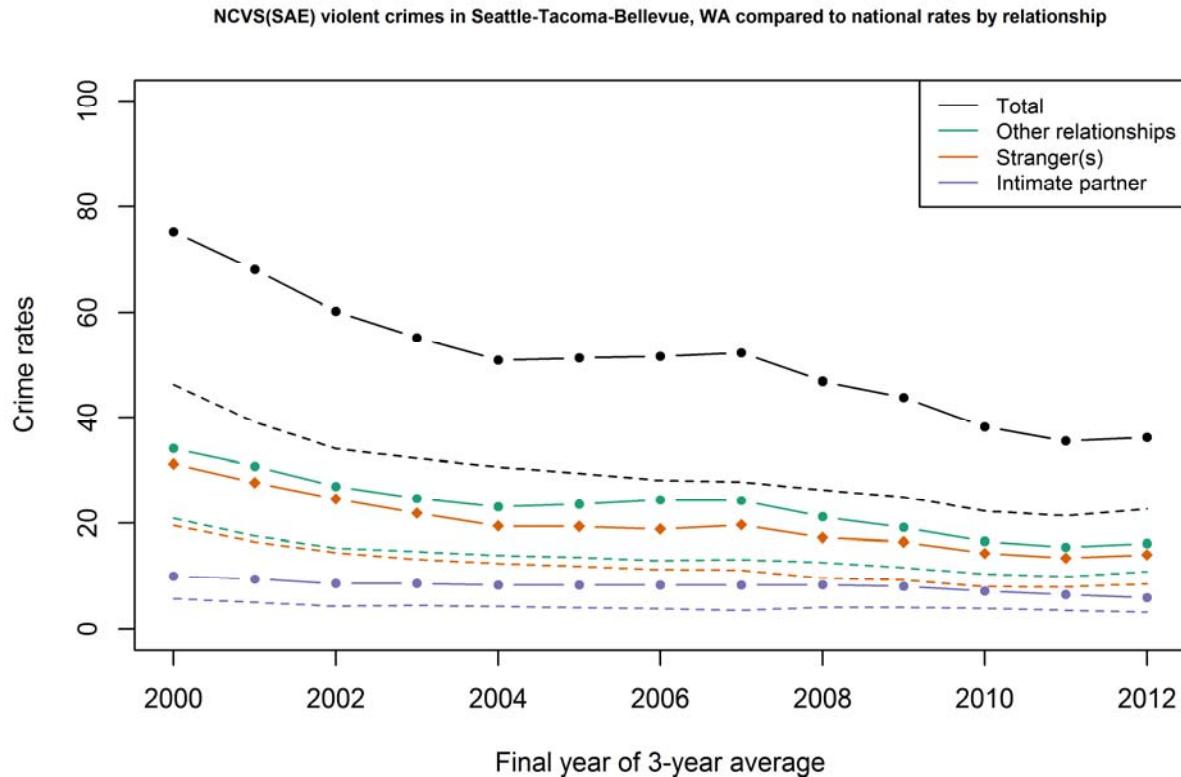


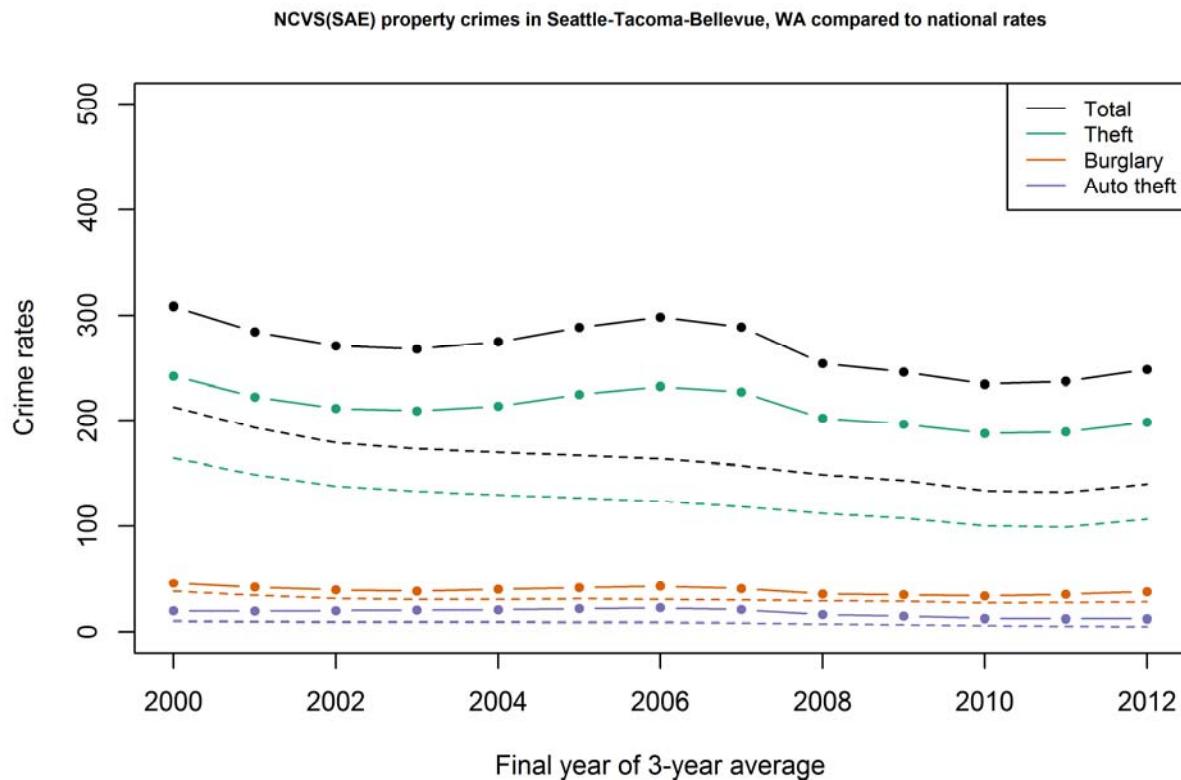




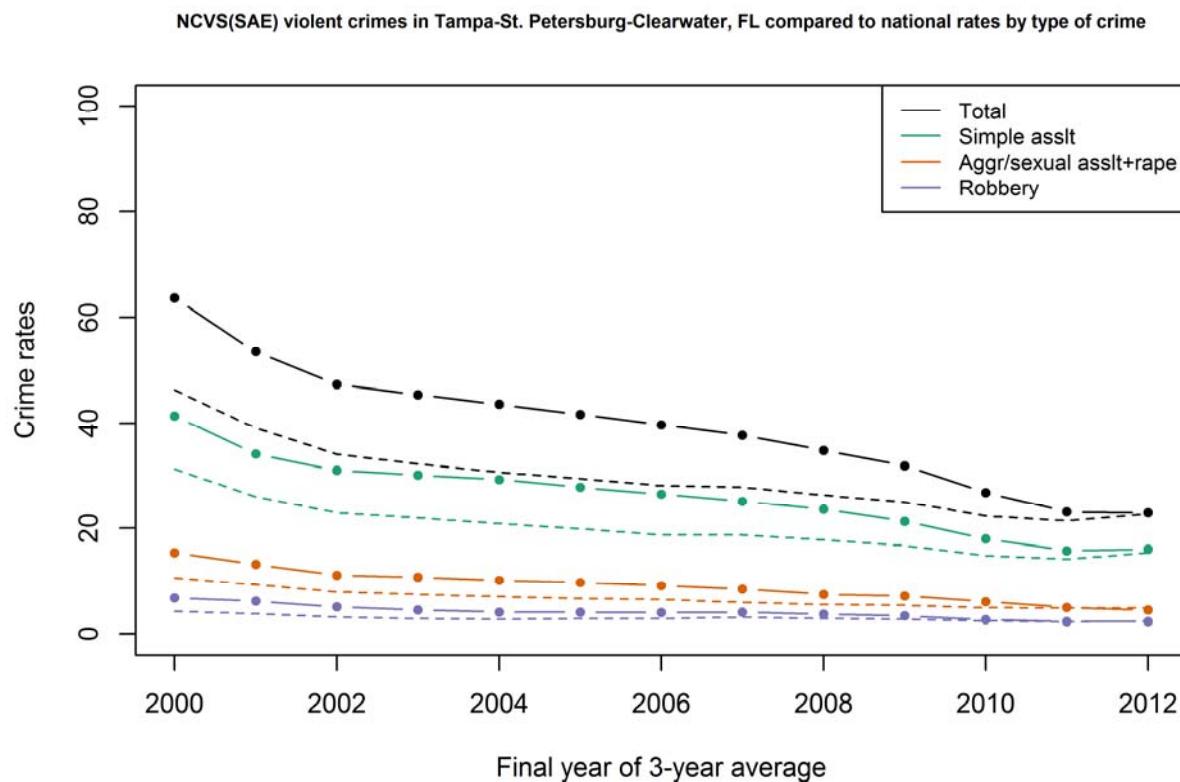
Seattle-Tacoma-Bellevue, WA

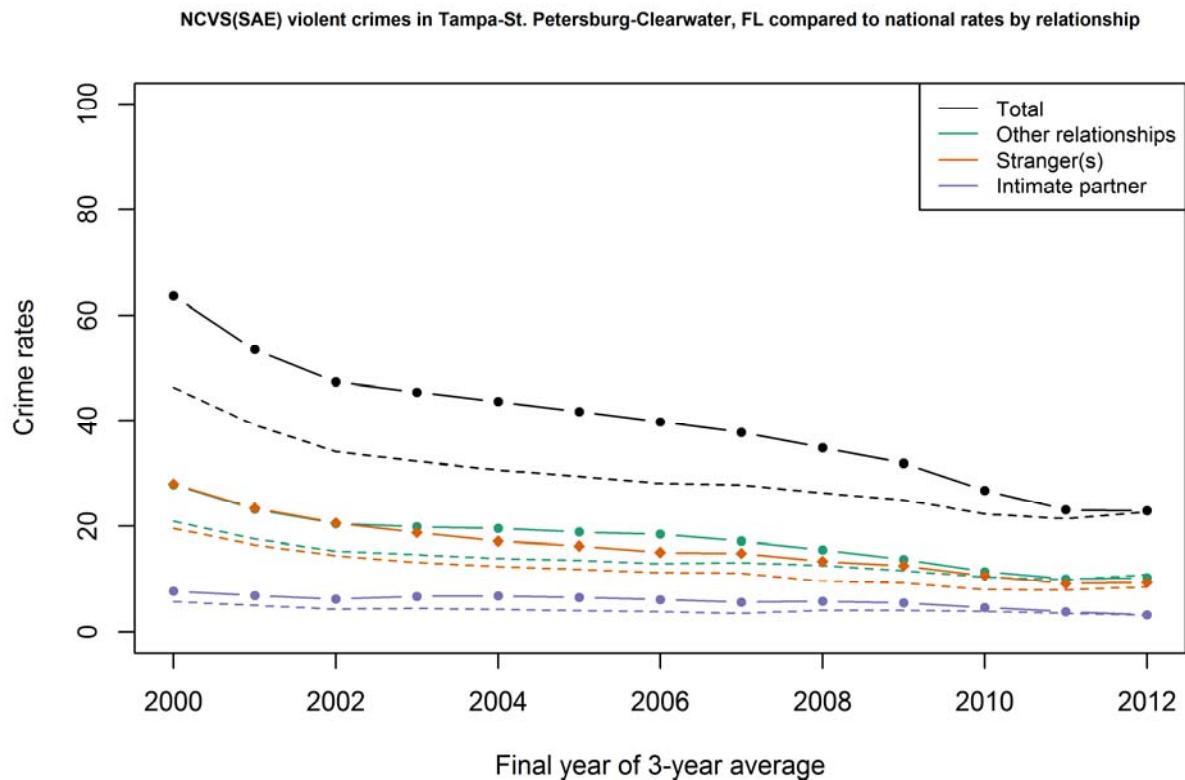


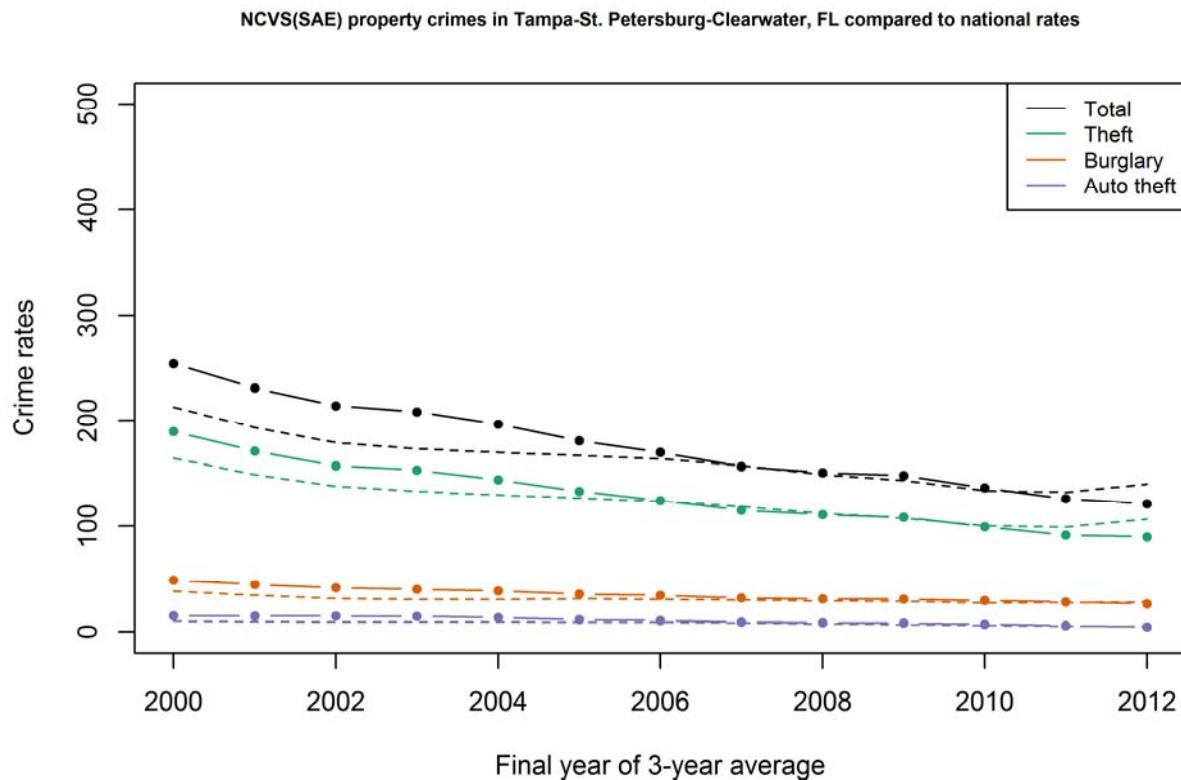




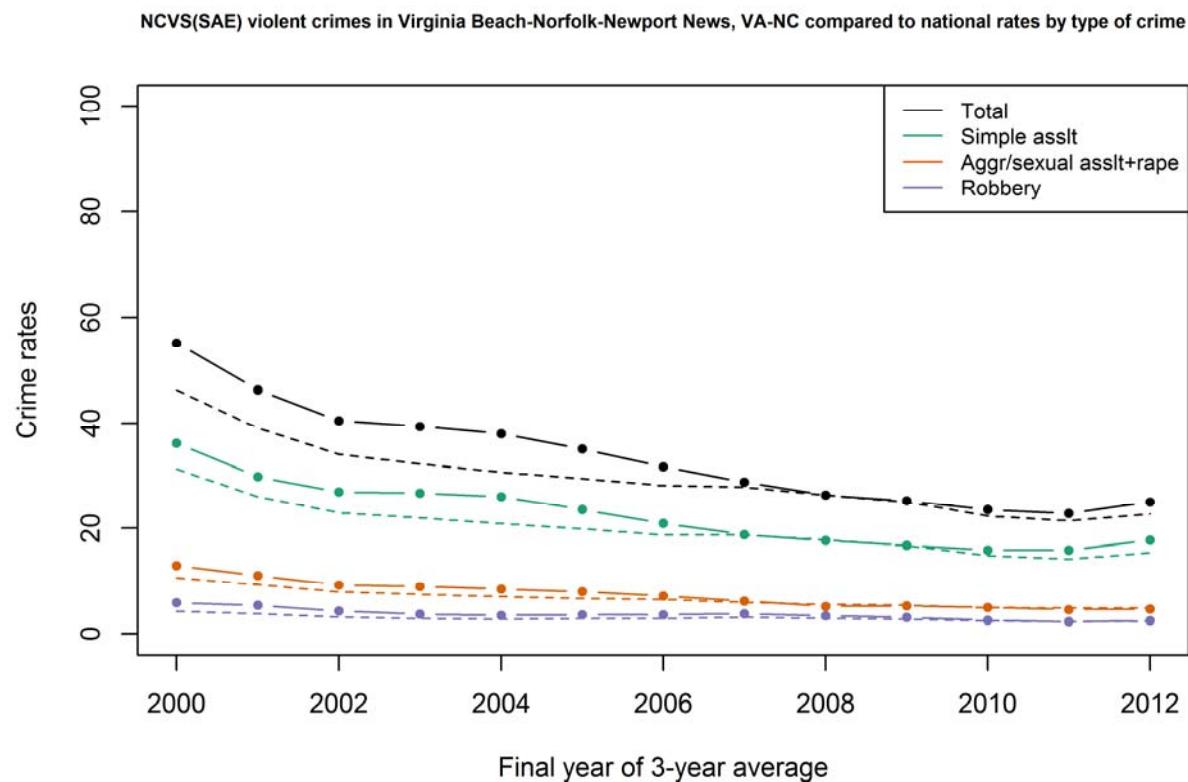
Tampa-St. Petersburg-Clearwater, FL

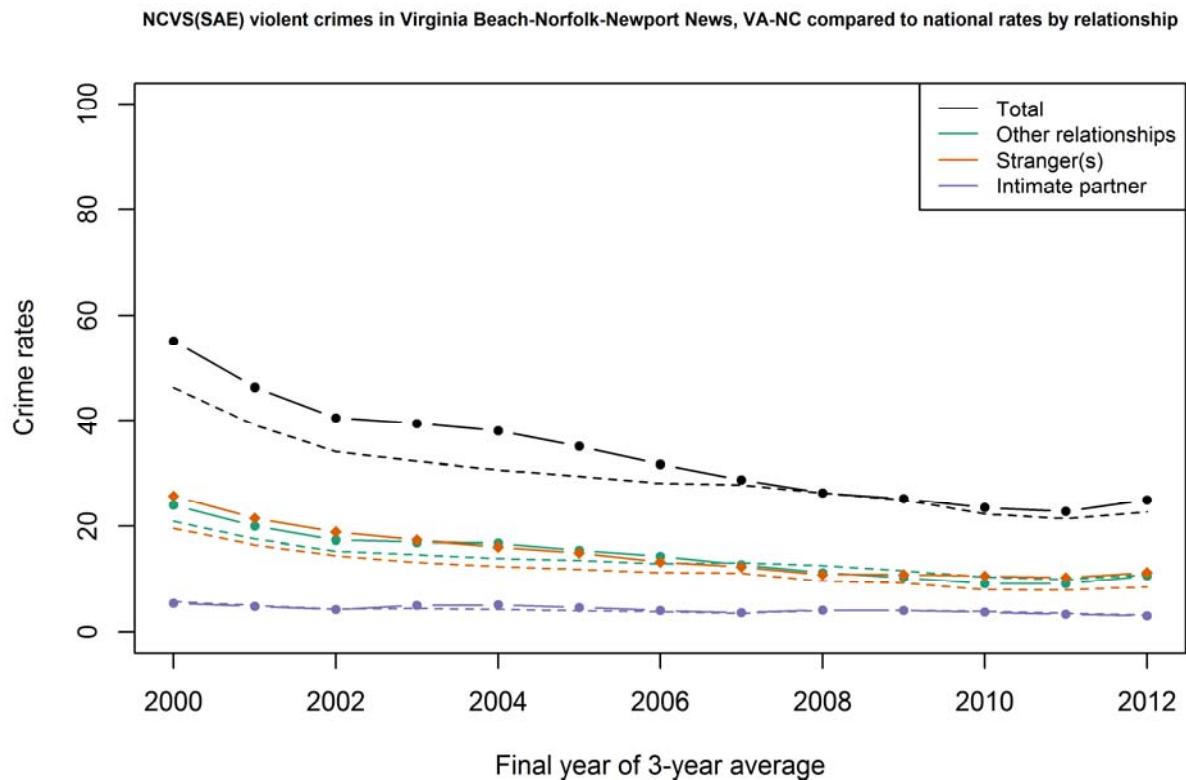


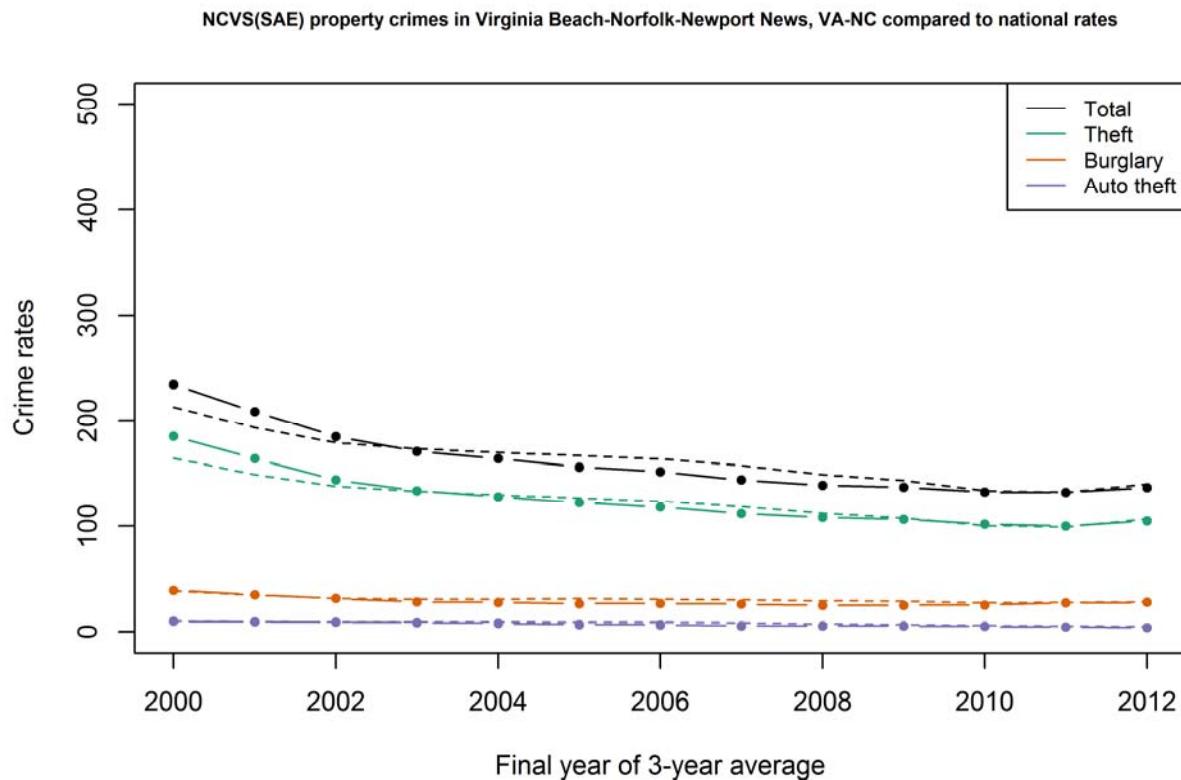




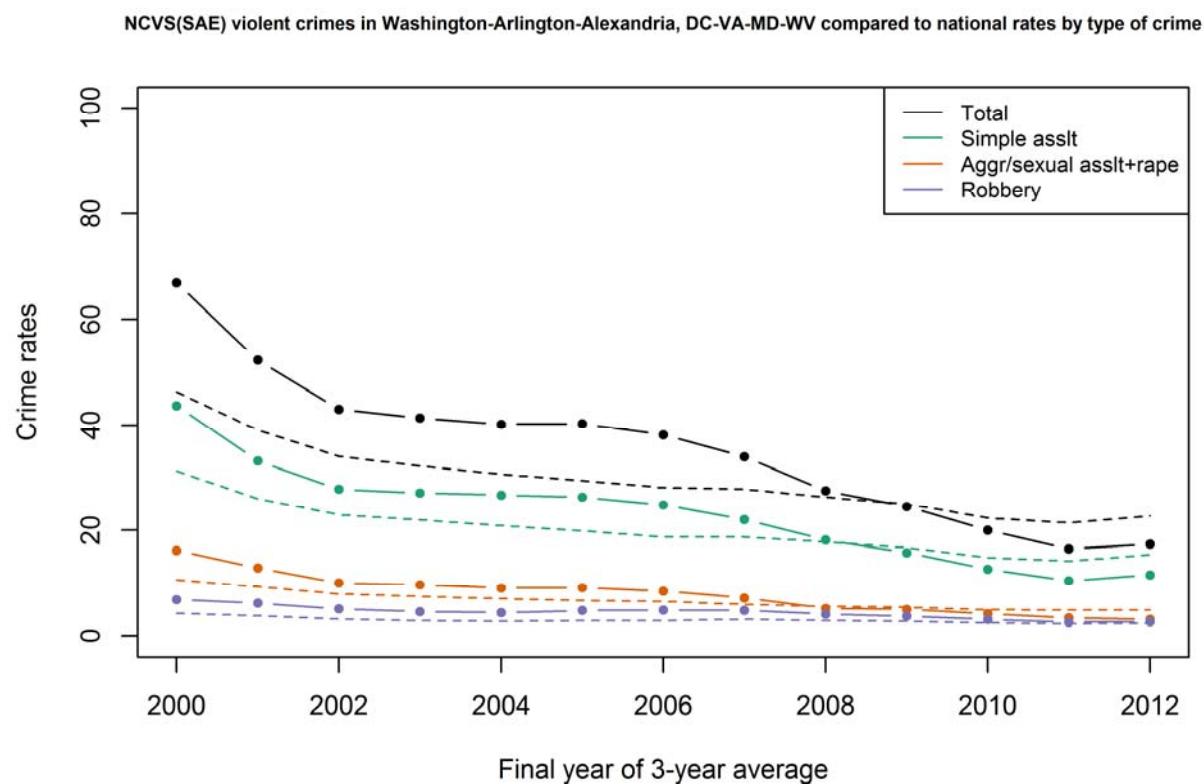
Virginia Beach-Norfolk-Newport News, VA-NC

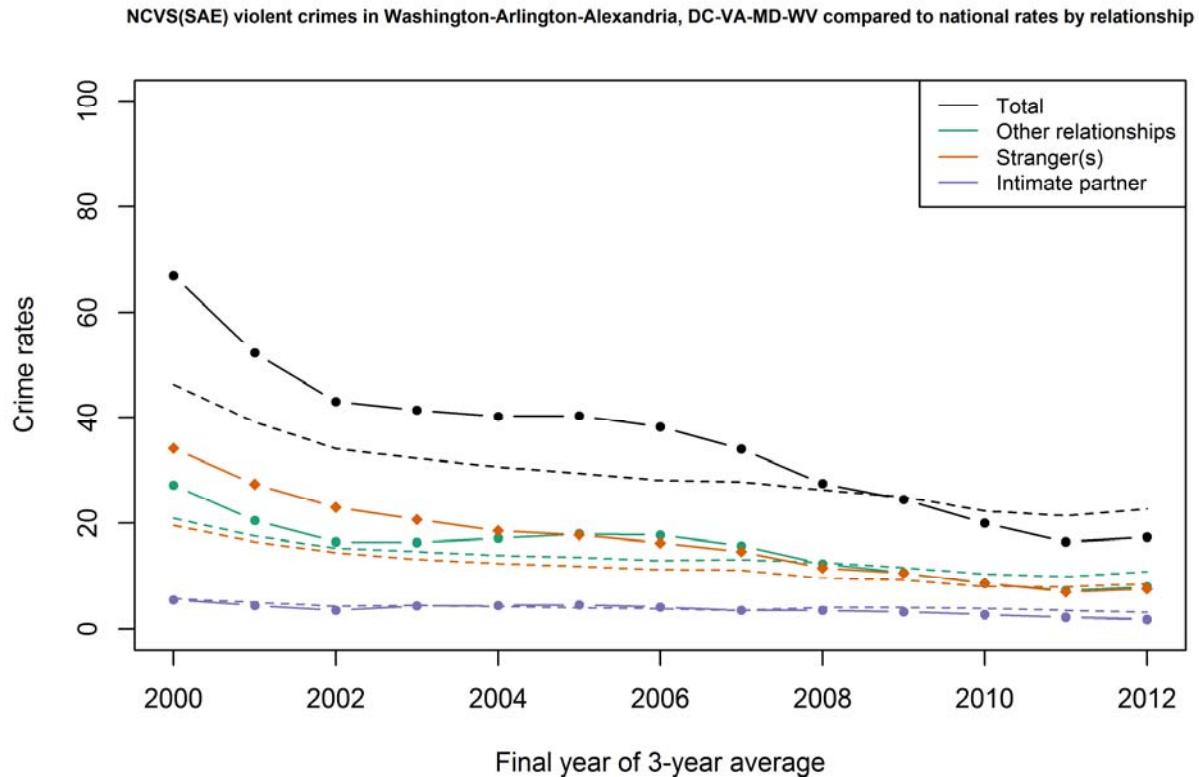




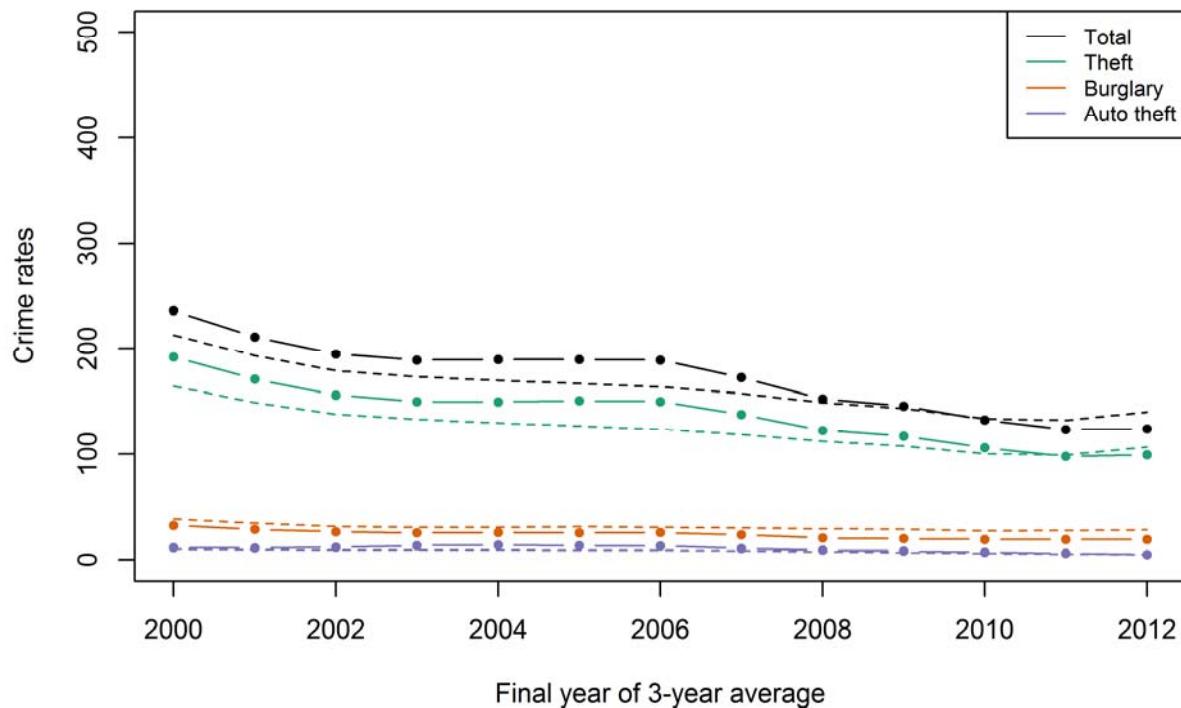


Washington-Arlington-Alexandria, DC-VA-MD-WV





NCVS(SAE) property crimes in Washington-Arlington-Alexandria, DC-VA-MD-WV compared to national rates





The Bureau of Justice Statistics of the U.S. Department of Justice is the principal federal agency responsible for measuring crime, criminal victimization, criminal offenders, victims of crime, correlates of crime, and the operation of criminal and civil justice systems at the federal, state, tribal, and local levels. BJS collects, analyzes, and disseminates reliable and valid statistics on crime and justice systems in the United States, supports improvements to state and local criminal justice information systems, and participates with national and international organizations to develop and recommend national standards for justice statistics. William J. Sabol is director.



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