

# TRENDS IN THE GENDER GAP IN VIOLENT OFFENDING: NEW EVIDENCE FROM THE NATIONAL CRIME VICTIMIZATION SURVEY\*

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*Recent research has compared male and female trends in violent offending in Uniform Crime Report (UCR) arrest data with similar trends derived from victims' reports in the National Crime Victimization Survey (NCVS) and has concluded that the two data sources produce contrary findings. In this article, we reassess this issue and draw different conclusions. Using pooled National Crime Survey (NCS) and NCVS data for 1973 to 2005, we find that the female-to-male offending rate ratios for aggravated assault, robbery, and simple assault have increased over time and that the narrowing of the gender gaps is very similar to patterns in UCR arrest data. In addition, we find that these patterns are in part caused by larger decreases in male than female offending after the mid-1990s and not by recent increases in violent*

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*offending rates among females. We conclude that changes in the gender gaps in aggravated assault, robbery, and simple assault are real and not artifacts; therefore, these changes deserve serious attention in future research. We conclude with a discussion of several hypotheses that might account for a narrowing of the gender gap in nonlethal violent offending over time.*

Males commit crime, particularly violent crime, at higher rates than do females. This statement is one of the few undisputed “facts” in criminology. Significant debate, however, surrounds the question of whether the magnitude of the gender gap in offending has changed over time. Some scholars maintain that the gap is characterized most accurately by stability (Steffensmeier, 1993; Steffensmeier et al., 2005, 2006), whereas others report a narrowing in the gap in certain offenses over time (Heimer, 2000; O’Brien, 1999).

The media seems to come down on the side of change, often exaggerating the magnitude and claiming that girls and women have gone “wild” and are more violent than ever before (e.g., Leach, 2004; Scelfo, 2006). Unfortunately, popular press and even textbook accounts of trends in female offending have confused two very different questions—whether female violence has increased over time and whether the gender gap in violence has narrowed. Examining time-series arrest data shows that female violence was stable or increased slightly in the 1980s, increased in the early 1990s, and then decreased substantially in the later 1990s, just as did male violence. Researchers are more or less in agreement that girls and women have not gone wild and are not more violent than ever before (compare Heimer, 2000; O’Brien, 1999; Steffensmeier et al., 2005, 2006).

What remains unresolved, however, is whether trends in the violent offending of females directly parallel trends in the violent offending of males. More specifically, researchers have drawn contradictory conclusions about whether the gender gap has decreased or narrowed over time, either because of somewhat greater increases in female rates during the crime boom or smaller decreases during the crime bust. However, many studies have relied on arrest data from the Uniform Crime Reports (UCR), which may be biased for examining trends in the gender gap. This article seeks to resolve the gender gap debate by the careful calculation of victims’ reports of the sex/gender of offenders from the National Crime Survey (NCS) for 1973 through 1992 and the National Crime Victimization Survey (NCVS) for 1993 through 2005. Two recently published papers also used this approach (Steffensmeier et al., 2005, 2006). However, our estimates of female and male rates, and the gender gap in the rates, differ importantly from those reported in these studies. Creating comparable estimates over time requires that multiple decisions be made throughout a

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series of steps and that researchers make these decisions transparent to readers. In this article, we clearly spell out the procedures for producing estimates over time from the pooled NCS-NCVS data, as well as the decisions that we make at each stage of the process, to assess changes in the gender gap in violent offending. This articulation of procedures can serve as a template for additional research using the NCVS data that can contribute to our understanding of the relationship between gender and violent crime and that can specifically resolve what seem to be contradictory assessments of the gender gap in offending.

THE DEBATE OVER THE GENDER GAP  
IN OFFENDING

In the mid-1970s, Rita Simon (1975) and Freda Adler (1975) published very influential books that reported that women's rates of crime and violence were increasing at a faster rate than men's offending, which produced some narrowing in the gender gap in offending. These books spurred a spate of studies of trends in women's offending in the United States, Canada, and the United Kingdom, which were focused mostly on arrest and conviction data (e.g., Austin, 1982; Box and Hale, 1983; Fox and Hartnagel, 1979; Noblit and Burcart, 1976; Steffensmeier, 1980). Methodological problems in the early research created a lack of clarity. However, researchers soon acknowledged that a comparative approach taking into account both male rates and female rates was essential for concluding whether any unique change had occurred in women's offending (e.g., Box and Hale, 1983; Steffensmeier, 1980). Researchers also took others to task for failing to adjust crime rates for changes in the adult female and male populations over time and for masking important differences by analyzing indices of crime rather than disaggregating by offense type (Box and Hale, 1983: 35). On balance, research that compared female with male arrest rates during the 1960s and 1970s in the United States questioned whether any meaningful change in the gender gap in offending had occurred, and concluded that if any change had occurred, it was limited to minor property crime (e.g., Steffensmeier, 1980; Steffensmeier and Cobb, 1981).

It now seems clear that the findings about changes in the gender gap in arrests must be contextualized by time period and type of offense. Simon (1975) compared female arrest rates in the 1960s and 1970s and concluded that notable increases were found in property offenses, but no important increases were discovered in female arrest rates for violence. Steffensmeier and Cobb (1981) examined arrests over a longer time period—from the 1930s through the 1970s—and reported that the gender gap had

narrowed some for property crimes but not for violent offenses. Steffensmeier (1993) studied three time points between 1960 and 1990 and similarly reported a modest narrowing in the gender gap in property arrests but no change in the gender gap in violent arrests. However, Giordano, Kerbel, and Dudley (1981) reported reductions in the gender gap in a range of offenses, which included violent offenses such as aggravated and other assault, in a study of arrests in Ohio from 1890 to 1976.

More recent research has examined annual data on the gender gap in arrests rates from 1960 to the mid-1990s and has concluded that some significant narrowing was found in the gender gap in arrests for some property and violent crimes during this period (Heimer, 2000; O'Brien, 1999). Two very recent studies that examined arrest data from 1980 to the early years of the twenty-first century revealed a significant narrowing in the gender gap in arrests for some violent offenses (Steffensmeier et al., 2005, 2006). The examination of data covering the crime boom and bust of the 1990s is important and thus is necessary for assessing changes in the gender gap.

The reports that the gender gap in arrests for violent crime is narrowing may indeed represent a change in female behavior in recent decades, and researchers have offered a few explanations for this change. Perhaps the most well-known argument is the liberation hypothesis, which asserts that as women gain social power and freedoms, they are subject to fewer informal controls and should have more opportunities to commit crime and violence (e.g., Adler, 1975; Austin, 1982; Hunnicutt and Broidy, 2004; Simon, 1975). A second hypothesis is the economic marginalization argument, which contends that the economic circumstances of poor, uneducated women have worsened in comparison with their male counterparts in recent decades; this result should be linked to greater increases in women's than in men's offending rates during periods of increasing crime and smaller declines in women's rates during the recent crime bust (see Baskin and Sommers, 1998; Box and Hale, 1984; Heimer, 2000; Heimer, Wittrock, and Ünal, 2006). Although these hypotheses may suggest somewhat different patterns of change in the gender gap in violent offending, both focus on explaining changing patterns of female and male *behavior*.

An alternative scenario is that the relative violent behavior of females and males has changed little, and the narrowing gender gap in arrests occurs because of changing societal definitions of violence (e.g., Steffensmeier et al., 2005, 2006). This argument suggests that changes in perceptions of violence manifest themselves in ways that lead to a reduction in the gender gap in violence as measured by official police data but result in little change in the gender gap in actual violent behavior. According to this viewpoint, strides toward decreasing inequality of women and men, or more general decreases in the public's tolerance of violence, may have

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shaped the way that police view female offending, and they may have become increasingly likely to view women's violence as problematic. These circumstances could lead to increasing arrests for women's behavior that previously would not have resulted in arrest, or to a "charging up" of offenses that in the past would have resulted in charges for a less serious crime (e.g., Steffensmeier et al., 2006), as when crimes that previously would have been charged as simple assaults were increasingly charged as aggravated assaults, inflating these rates over time (see also Blumstein, 2000; Rosenfeld, 2007). In addition, domestic violence, which may not have been viewed as "violence" or as worthy of reporting to the police in earlier years, may have increasingly come to the attention of the criminal justice system in more recent years and may have been more likely to result in arrest. For example, mandatory arrest policies in domestic violence cases may have led to more arrests of women over time as the arrest of both parties in domestic violence cases increased (Chesney-Lind, 2002; Miller, 2001; Steffensmeier et al., 2006). These practices would result in a narrowing of the gender gap in arrests because female rates would presumably increase more than male rates. In this case, any narrowing of the gender gap in arrests could be an artifact of changing criminal justice practices (Steffensmeier et al., 2005, 2006).

The key question is whether changing views of violence and criminal justice system measurement of violence account for the narrowing of the gap between female and male arrest rates for violence over time, or whether differences in behavior have occurred among female and male offenders. This debate can be assessed by examining trends in victims' reports of the sex/gender of offenders in violent incidents reported in the NCS and NCVS, which have used consistent definitions of violent incidents over time and are unaffected by changing criminal justice system policies. The NCS and NCVS ask respondents about whether specific behaviors have occurred, and typically the responses are used by researchers to code incidents using the official definitions of violent crimes in the Federal Bureau of Investigation's (FBI) UCR. Respondents are not asked to report whether they were a victim of "aggravated assault," "robbery," or "violence," but rather they are asked, through a series of questions, about the elements of possible incidents of violence that they have experienced. Therefore, changes over time in respondents' perceptions of the meaning of the words "aggravated assault," "violence," and so on should not influence rates of particular violence offenses coded from victims' reports of the specific elements of their victimization. Earlier research by Hindelang (1979) used cross-sectional data to show that the proportions of female and male offenders in UCR arrests and NCS reports of violent offenders were comparable. However, this study did not assess female-to-male violent offending rates over time.

One difficulty in assessing change in the relative involvement of women and men in offending over time is that the NCS was redesigned in 1992, when it became the NCVS. As we describe in detail below, creating a long-term series from the data requires specific adjustment procedures (see Lynch, 2002; Rand, Lynch, and Cantor, 1997). We follow these procedures to link the NCS and NCVS and generate a national-level time series of the reported sex of offenders in aggravated assaults, robberies, and simple assaults. These trends allow us to assess the state of the evidence about changes in the gender gap in violent offending for the period 1973–2005. We do not assess the gender gap in rape and sexual assault offending because we have found that these crimes have remained overwhelmingly dominated by male offenders over the past three decades. In addition, because it is impossible to rely on victims' reports in cases of homicide, we do not perform comparable analyses of the gender gap in male and female homicide offending.

### ESTIMATING MALE AND FEMALE OFFENDING RATES USING THE NCVS

To obtain measures of male and female offending rates using the NCS and NCVS, researchers must make a series of methodological decisions, each of which can affect the rate estimates and perhaps the trends in those rates. Fortunately, it is possible to assess the impact of these decisions on assessments of the gender gap in offending by comparing the rates and trends obtained using the various estimation strategies. Below, we outline the issues that must be considered when estimating gender-specific trends in offending and assess the effects these issues have on the rates and trends.

As most criminologists know, the NCS/NCVS have been used to gather self-report survey data about persons' experiences with violence and other forms of victimization continuously since 1973.<sup>1</sup> Persons who respond positively to a series of cues concerning possible incidents of attempted or completed violence during the screening process are subsequently asked a series of questions about the incident.<sup>2</sup> After completion of the interview,

1. Using a nationally representative sampling frame, interviews are conducted with persons ages 12 years and older in each sampled household. The annual sample size has varied over the years, ranging from approximately 275,000 interviews in the early years of the NCS to 134,000 interviews in the 2005 NCVS. Persons and households are selected for participation on the basis of census information rather than on random-digit dialing procedures, which may produce biased samples. Person-level response rates have been very high, which ranged from 96 percent in 1973 to 84 percent in 2005.
2. Incidents are limited to those that have occurred within the past 6 months. The greatest changes in the survey over time were the new and expanded set of cues

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the answers to the incident questions are used to place the eligible incidents into crime type categories and to exclude ineligible events.<sup>3</sup> Detailed questions about the incident occur in the following order during the interview: the number of times the incident occurred, when and where the incident took place, the nature of the incident (e.g., threatened or completed), weapon use by the offender, whether and how the victim was injured and whether subsequent medical care was needed, whether the victim took protective actions during the incident, whether bystanders or others were present, whether the victim knows anything about the offender, whether the crime was committed by only one or more than one offender, whether the offender(s) was male or female, the estimated age of the offender(s), whether the offender(s) was a member of a street gang or under the influence of alcohol or drugs, the victim's relationship to the offender(s), and the race of the offender(s).<sup>4</sup> Once incidents are coded into the crime type categories of interest, appropriately weighted counts of these incidents or victimizations are used as the numerators in the estimation of crime rates.<sup>5</sup>

The simplest way to examine whether the gender gap in violent offending has changed over time is to use the tables available in the NCS and NCVS printed reports to plot the percent female involvement in single-offender violent incidents and the percent of any female involvement in multiple-offender violent incidents (see, e.g., U.S. Department of Justice, 1977).<sup>6</sup> Our compilation of these reports is displayed in figure 1, which shows that these simple percentages have increased over time. In 1976, the first year for which these percentages are available in printed reports, approximately 11 percent of single-offender violent incidents were reported to have been committed by a female, whereas about 19 percent of multiple-offender violent incidents involved at least one female offender. By 2005, these proportions had increased to about 20 percent and 26 percent, respectively. Of course, these percentages do not take into account any compositional changes in violent crime types that may have

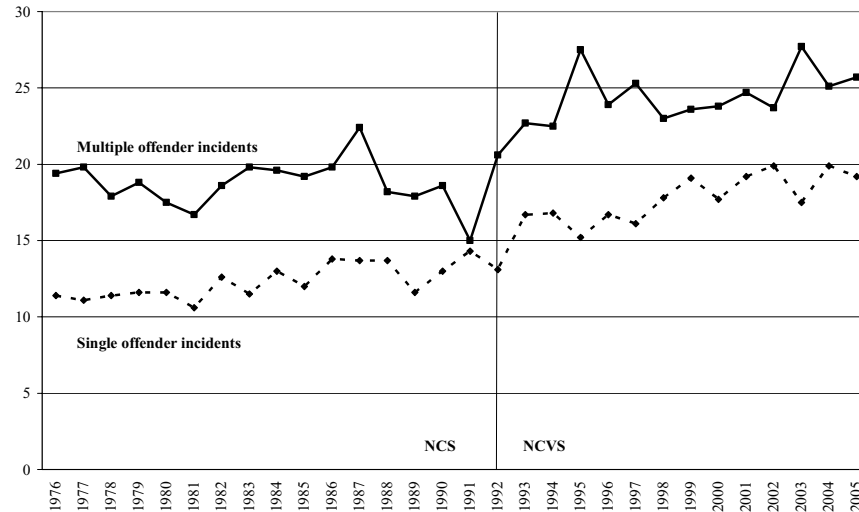
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introduced with the NCVS redesign. The screening and incident report questionnaires can be found at the following Web address: [www.ojp.usdoj.gov/bjs/cvict.htm#ncvs](http://www.ojp.usdoj.gov/bjs/cvict.htm#ncvs).

3. In most published reports, the Bureau of Justice Statistics (BJS) relies on FBI definitions of crimes. However, analysts may create their own crime classifications to reflect their research questions.
4. Narrative comments are also recorded by the interviewer. However, these narratives are not part of the public use data.
5. BJS excludes series incidents and crimes that involve respondents that occurred outside of the United States from the numerators of their victimization rates.
6. Although questions about the sex of the offender(s) were asked beginning with the first administration of the survey in 1973, the first table to present this information appeared in the 1976 report (see U.S. Department of Justice, 1977 and subsequent volumes).

occurred over time, or the 1992 NCVS redesign which might affect the comparability of the percentages across the NCS and NCVS years. Nonetheless, the general increases in these published percentages provide initial evidence that the gender gap in violent offending may have decreased some over the past three decades.

**Figure 1. Percent Female Involvement in Single- and Multiple-Offender Incidents of Violence**



Source: U.S. Department of Justice, Bureau of Justice Statistics, Criminal Victimization in the United States, for years 1976–2005.

To examine the gender gap in more detail, the public-use NCS and NCVS data files can be used to develop crime-specific rates of male and female offending.<sup>7</sup> But before the rates for the NCS and NCVS periods can be estimated, researchers must decide how to handle multiple-offender incidents and how to count offending in “series” victimizations (i.e., multiple incidents of a similar nature, which the victim cannot describe separately in detail to the interviewer). If these aspects of violent crime incidents have changed over time, then estimates of the gender gap in offending may have been affected as well. Researchers must also decide

7. We used NCS and NCVS data from ICPSR data sets 7635, 8608, 8864, and 4699 for our estimations (see U.S. Department of Justice, Bureau of Justice Statistics, 1973–1983, 1979–1987, 1986–1992, 1992–2005). For additional information about the process of rate estimation using the NCVS, see [www.icpsr.umich.edu/NACJD/NCVS/](http://www.icpsr.umich.edu/NACJD/NCVS/).



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how to adjust the rates derived from the NCS years to make them comparable with those of the NCVS period. The adjustments to the NCS may affect conclusions about changes in the gender gap across the 1973–2005 period, but they will not affect the trends within the NCS or NCVS periods.

## SINGLE- VERSUS MULTIPLE-OFFENDER INCIDENTS

If all the violent incidents reported by victims involved just one offender, then the calculation of male and female violent offending rates would be relatively straightforward. In this instance, the male (or female) violent offending rate would be equal to the number of incidents in which the offender was reported to be male (or female) divided by the number of males (or females) in the population. However, a substantial proportion of violent incidents involve multiple offenders. In 2005, for example, approximately 16 percent of simple assaults, 28 percent of aggravated assaults, 42 percent of robberies, and 17 percent of rapes and sexual assaults involved more than one offender (Bureau of Justice Statistics, 2007). Multiple-offender incidents make it more challenging to produce male and female offending estimates because victims of such incidents are not asked to provide separate counts of male offenders and female offenders. Instead, victims of these incidents are asked to report the number of offenders and, subsequently, whether the offenders were “all male,” “all female,” or “both male and female.” If the victim reported that they were “both male and female” and that there were more than two offenders, they are then asked whether they were “mostly male,” “mostly female,” or “evenly divided.”

The number of male and female offenders involved in multiple-offender incidents can be estimated in several ways. In many cases, one can use the victim’s estimate of the number of offenders to produce weighted estimates of male and female offenders.<sup>8</sup> If two offenders were involved, it is relatively easy to use the questionnaire items to count the number of male and female offenders. If three offenders were involved, then one can assume that the response “mostly male” means that two of the offenders were male and one was female. If four offenders were involved, it is still possible to estimate the number of male and female offenders (e.g., “mostly male” probably means that there were three males and one female offender). But if five or more offenders are involved, then the

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8. The victim did not provide an estimate of the number of offenders in about 3 percent of all violent incidents.

response categories do not allow one to estimate easily how many offenders should be counted as male or female.<sup>9</sup> In 2005, approximately 28 percent of all multiple-offender incidents were reported to involve five or more offenders. In addition, in some of these incidents, victims reported relatively large numbers of offenders (e.g., 12, 30, or 50). Researchers must decide whether such reports should be taken at face value, capped at some maximum (e.g., as 5 or 10 offenders), or treated as outliers and excluded from the estimates.

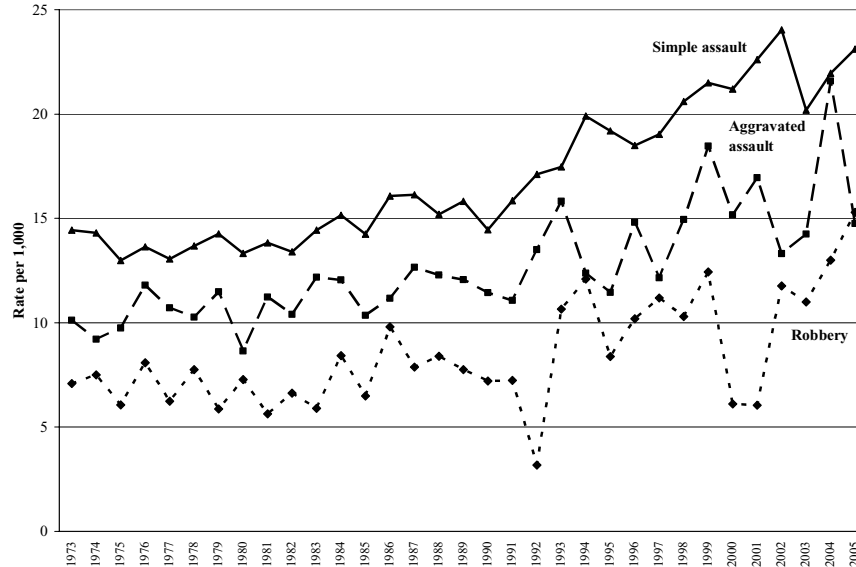
To examine how the handling of single- and multiple-offender incidents might affect estimates of male and female violent offending and the gender gap in offending, we estimated several sets of gender-specific rates. In our first analyses, we estimated and examined crime-specific male and female trends in single-offender violent incidents only. We begin with an assessment of these incidents to determine whether changes in female involvement in violence occurred that go beyond the role of secondary offenders.<sup>10</sup> The proportion of all violent incidents that are committed by single offenders has increased slightly over time, and it would be important to know whether changes in the gender gap were being driven by changes in the mixture of incidents in which females were acting alone or with other offenders.

Figure 2 shows our estimates of the percentage of single-offender incidents of robbery, aggravated assault, and simple assault that involved female offenders. For each of these types of violence, we find a general upward trend in the percentages indicating some closing of the gender gap in single-offender incidents. The more rare the crime is, the greater the degree of fluctuation in the pattern. However, for each crime type, we find that the proportion of these incidents committed by female offenders approximately doubled from 1973 to 2005. Thus, over the past three decades, victims report that female offenders constitute a greater proportion of those violent incidents in which an offender is acting alone.

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9. For example, if there were five offenders and the victim stated that they were “mostly male,” this could mean that there were with three males and two females, or four males and one female. Obviously, the greater the number of offenders, the more problematic this issue becomes.
  10. In these analyses of single-offender incidents, we weight incidents from the NCS years by crime type to make them comparable with those from the NCVS years. Details about our weighting of NCS data are discussed in a subsequent section of this article. We count series incidents as one incident for reasons that are also discussed.

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**Figure 2. Percent Female Involvement in Single-Offender Incidents of Violence by Crime Type**



Before estimating male and female rates of offending that combine single- and multiple-offender incidents, we examined multiple-offender incidents in more detail to determine whether the average number of offenders and the gender balance in multiple-offender incidents has changed over time in ways that might affect conclusions about the gender gap. These analyses (not presented) found little change over time in the median number of offenders per multiple-offender incident. The median number of offenders was found to be three for all but two of the years in the series (in which the median was two). We also found that the percent of multiple-offender incidents involving “only males” showed some small decreases over time. Conversely, the percent of multiple-offender incidents involving “only females” or “mixed sex” offenders showed small increases over time. We found that most of these small changes in the gender composition of multiple-offender incidents occurred during the early 1980s.<sup>11</sup>

11. One recent assessment of gender and offending uses the NCS and NCVS data to assess changes in the gender gap in *juvenile* violent offending (Steffensmeier et al., 2005). Because of this, we note additional problems that arise when using the data to estimate male and female rates of juvenile violent offending in appendix A.

We estimated total rates of male and female violent offending (single-plus multiple-offender incidents) using two methods. The first method weighted multiple-offender incidents by the reported number of offenders and the reported gender breakdown. These rates are defined as follows:

$$\text{Male offending rate} = \frac{(\text{N Male Off}_{\text{SO}} + \text{N Male OffEST}_{\text{MO}}) \times 1000}{\text{Number of males ages 12 and above}} \quad (1)$$

$$\text{Female offending rate} = \frac{(\text{N Female Off}_{\text{SO}} + \text{N Female OffEST}_{\text{MO}}) \times 1000}{\text{Number of females ages 12 and above}} \quad (2)$$

where  $\text{N Male Off}_{\text{SO}}$  (and  $\text{N Female Off}_{\text{SO}}$ ) are the number of male (and female) offenders reported in single-offender incidents, and  $\text{N Male OffEST}_{\text{MO}}$  (and  $\text{N Female OffEST}_{\text{MO}}$ ) are the number of male (and female) offenders estimated in multiple-offender incidents.<sup>12</sup> As noted, it may be impossible to determine the number of male and female offenders in incidents when the victim reported five or more offenders; therefore, we decided to cap the gender-specific estimates of offenders at five.<sup>13</sup> Although this technique will make our estimates of the overall number of offenders lower, it allows us to include the maximum number of multiple-offender incidents in which reasonable determinations of the gender of the offender can be made. Given the importance of gender in this analysis, this approach seemed to be the wiser choice.

We compared the estimates using the above method with those based on a simpler method in which we did not weight multiple offender incidents by the number of offenders. These rates were estimated as follows:

$$\text{Male offending rate} = \frac{\text{Number of violent incidents with male offender(s) only} \times 1000}{\text{Number of males ages 12 and above}} \quad (3)$$

$$\text{Female offending rate} = \frac{\text{Number of violent incidents with female offender(s)} \times 1000}{\text{Number of females ages 12 and above}} \quad (4)$$

Similar to equations 1 and 2, these rates also include single- and multiple-offender incidents and capture the extent to which males and females are involved in offending. They constitute unbiased estimates of trends in

12. We use the population ages 12 years and above in the denominator because criminal violent offending below age 12 is very rare and because detailed population totals for persons ages 12 and above can be obtained directly from the data. In addition, these denominators make for more reasonable comparisons between the gender gaps obtained from NCS/NCVS data and UCR arrest data discussed later in this article. We also reestimated the rates based on the male and female populations ages 12 to 64 and found the trends to be identical.

13. In prior research designed to produce juvenile offending estimates, Lynch (2002) caps the number of offenders at 10. Although gender-specific offending rates are affected by this decision, we found that the trend in the gender gap was not affected.

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the gender gap if the proportion of incidents that involve multiple offenders and the gender balance of those incidents has remained fairly stable over time as suggested by our diagnostics of multiple-offender incidents. However, the absolute magnitude of the gender gap produced by these rates will vary from that estimated using equations 1 and 2 to the extent that one gender or another mathematically dominates multiple-offender incidents.

We compared rates based on these two methods for the crimes of robbery, aggravated assault, and simple assault, and we estimated the gender gap using the gender rate ratio (i.e., the female offending rate divided by the male offending rate). Both methods generated the same trend lines that depict the gender gap in violent offending. However, the magnitude of the gender rate ratio is somewhat lower when multiple-offender incidents are weighted as in equations 1 and 2, because males are disproportionately involved in multiple-offender incidents (as they are in single-offender incidents). The difference in the two estimates of the gender gap remained constant over time, because the gender composition of multiple-offender incidents has changed relatively little over the years. Therefore, because the two sets of estimates provided similar conclusions about changes in the gender gap, we use the more parsimonious technique as shown in equations 3 and 4 for estimating the rates used in subsequent analyses in this article. Parsimony is a virtue here because it means that the method required fewer assumptions and calculations, and those assumptions that were made could be tested (e.g., the stability over time of the gender distributions of offenders in multiple offender incidents).

## SERIES VICTIMIZATIONS

Researchers must also decide how to treat series victimizations in their rate estimations. Victimization of a similar nature that occur more than six times during a recall period and for which the victim cannot recall sufficient detail are referred to as series victimizations.<sup>14</sup> To reduce respondent burden, series victims are asked to report the details (including sex of the offender) for the most recent event of the series. Victims' estimates of the number of times the event occurred tend to be rounded approximations that can have substantial influences on overall rates of specific types of crimes (see Planty, 2007; Rand and Rennison, 2005), as well as on gender-specific offending rates. As with multiple-offender incidents, researchers must decide whether victims' estimates about the number of events

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14. During the NCS period, series victimizations were defined by three rather than six incidents. Counting series victimizations as one, three, or six incidents during the NCS period had little effect on the gender gap trends observed within the NCS period.

involved in the series should be taken at face value or capped at some maximum. If these and other aspects of series incidents have changed over time, the treatment of series victimizations could affect trends in male and female offending and estimates of changes in the gender gap in offending.

To assess the role of series incidents on gender-specific rates of offending, we compared the rates and the gender rate ratio for each crime type by counting series events as one incident and by counting such events as six incidents. Series incidents were capped at six because that number is part of the measurement protocol of the NCVS and because “six” is the most commonly occurring estimate provided by victims. Violent victimization is a relatively rare event, and as noted, victims’ estimates of the number of times an event occurred can have substantial effects on crime rates. Classifying such incidents by type of crime when the details are available only for the most recent event in the series is also problematic.<sup>15</sup> For example, the most recent event in a series may be classified as a simple assault, whereas several of the earlier occurrences may have been aggravated assaults (assaults with weapons or serious bodily injury). Thus, weighting series incidents by the respondent’s estimate of the number of incidents has the potential to introduce much error within and across crime types.<sup>16</sup>

In our analysis of this issue, we found that the proportion of all incidents that were reported as series events has declined some over time and that these declines affected male and female offending trends similarly. As a result, weighting series incidents as one versus six victimizations had little impact on changes in the gender gap in offending over time. Therefore, to minimize estimation error in the trends, we decided to treat series incidents using the simpler approach, in which series incidents are counted as one rather than six occurrences. This technique ensures that series incidents are included in our analyses of gender and violent offending while minimizing errors in the estimate of the number of incidents in a particular series report.

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15. If the victim can provide details about each incident in the series, then all incidents will be counted. It is only when the victim does not do so that the experience is classified as a series incident and details about the last incident are gathered.
  16. When Biderman and Lynch (1991) weighted the NCS counts by the victim’s estimate of the number of incidents in the series, the rates became much higher and unstable over time. They attributed this instability to imprecision of victims’ estimates of the number of incidents in the series, especially in those rare series with extremely high numbers of incidents. Planty (2007) found similar effects on NCVS crime rate trends that included series incidents.

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## WEIGHTING FOR THE EFFECT OF THE 1992 REDESIGN

One final challenge for assessing trends in female and male offending over time is the fact that the NCS was redesigned in 1992 when it became the NCVS. The NCS and NCVS data can be used to create a single time series, but doing so requires specific adjustment procedures that take into account the break in the series and weight the NCS data in ways that are informed by research on the effects of the methodological and content changes to the survey. Several authors including Rand, Lynch, and Cantor (1997); Kindermann, Lynch, and Cantor (1997); and Lynch (2002) describe the appropriate procedures for estimating long-term trends using the NCS and NCVS. In recent research, Steffensmeier et al. (2005: 369, see footnote 5) and Steffensmeier et al. (2006: 95, see footnote 6) state that they are following the approach outlined in Lynch (2002); however, details in these articles suggest that the authors used an alternative method to make the two series comparable.<sup>17</sup>

The accepted method for weighting the data takes advantage of the fact that the redesigned NCVS instrument was phased into data collection over an 18-month period. Because both the NCS and NCVS questionnaires were being administered simultaneously during these months, differences in the rates generated by the two instruments can be attributed to the differences in the questionnaires rather than to temporal changes in crime that may have occurred during this period. Crime-specific (and subgroup-specific) estimates from the NCVS interviews are compared with the same

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17. Steffensmeier et al. (2005) state that they combined data from additional years of the surveys to create the weights used on the NCS data. Their formula for the weights is denoted as follows:  $(n_{92} + n_{93} + n_{94}) / (n_{90} + n_{91} + n_{92})$  (Steffensmeier et al., 2005: 369, footnote 5; 2005: 380; 2006: 87, figure 2). The authors suggest that they include data from the additional years to increase the statistical power of the NCVS/NCS ratio tests, and to handle “the methodological ‘noise’ in survey administration that occurred during the transition year” (2005: 369). It is not clear to us what this “noise” refers to, but it is true that the inclusion of data from additional years will increase the sample size used in the ratio tests. Unfortunately, it also confounds temporal changes in crime with those attributable to the changes in the survey design. The inclusion of additional years would not be a problem if there had been no temporal changes in violence during the period 1990 to 1994 (see appendix B for further detail). But external sources of data on the two forms of violence believed to be most reliably measured in UCR data show that there were temporal changes in violence during the 1990 to 1994 period. According to the UCR, homicide and robbery rates peaked in 1991, and declined 8 percent and 19 percent, respectively, by 1994 (FBI, 1997; Fox and Zawitz, 2008). The weights used by Steffensmeier et al. (2005, 2006) are not provided, but their footnotes suggest that their weighting strategies may underestimate the effect of methodological changes in the survey. Specifically, decreases in crime over the period 1992–1993 will result in making the adjustment ratio for the change in the survey design too small.

set of estimates from the simultaneously administered NCS interviews; where significant differences are found, the ratio of the two estimates can be used to weight the NCS data to make them comparable with data from the later NCVS years.

Prior analyses of data from the phase-in period showed that the new questionnaire significantly increased the reporting of victimization and the magnitude of the change varied according to crime type (Kindermann, Lynch, and Cantor, 1997; Rand, Lynch, and Cantor, 1997). Rape reporting increased most, followed by aggravated assault and simple assault. Robbery victimization rates were not significantly greater in the NCVS compared with the NCS.

Although prior research suggests that additional adjustments beyond crime type may not be necessary (e.g., Cantor and Lynch, 2005; Lynch and Cantor, 1996), we assessed whether this was true for gender- and crime-specific rates of offending. We compared the gender-specific offending estimates of robbery, aggravated assault, and simple assault for the NCS/NCVS overlap period and found small but statistically insignificant differences in the NCVS/NCS ratio according to the gender of the offender. Thus, the weights we use for our gender-specific offending estimates for the NCS period are the same for female and male rates and consist of the crime-specific ratios developed in earlier analyses of the design change (e.g., Kindermann, Lynch, and Cantor, 1997).<sup>18</sup> Our offending rates for the NCS period were multiplied by  $w_c$ , where  $w_c = 1.23$  for aggravated assault and  $w_c = 1.75$  for simple assault. Because the NCVS instrument did not generate significantly higher rates of robbery than the NCS instrument, no weights were applied to the NCS robbery estimates.

## SUMMARY

Many methodological decisions are involved in the estimation of offending rates using the NCS and NCVS. Researchers must decide how to treat multiple-offender incidents, how to count series incidents, and how to weight the rates to take into account the effects of the NCVS redesign. For the purposes of assessing changes in the gender gap in violent offending, we found that the simpler estimation procedure outlined above in equations 3 and 4 that emphasized the quality of the available information on gender was preferable and did not alter the trends in the gender rate ratios for violent offending in the NCS and NCVS. In the next section, we present our estimates of male and female violent offending rates and the gender gap in violent offending using the procedures discussed above.

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18. Lynch (2002) similarly found that the NCS adjustment rates for crimes involving juvenile offenders did not vary by gender.



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PATTERNS OF GENDER RATE RATIOS OF  
VIOLENT OFFENDING

We use the NCS/NCVS and the procedures outlined above to create estimates of female and male aggravated assault, robbery, and simple assault offending for the period 1973 through 2005 that are free of criminal justice system bias.<sup>19</sup> Using detailed information on violent incidents, we coded offenses using the criteria employed at the FBI and BJS for classifying the type of incident (see footnote 19). The estimates are for females and males who are 12 years and older and subsume the offending of both adults and juveniles. The trends in aggravated assault and robbery arguably may be the most revealing, as these are the sorts of serious violent offenses that the public and the media have focused on in concerns about women and girls “going wild,” and because these offenses are the least consistent with traditional views of “feminine” behavior. We present the estimates for the various offenses separately rather than aggregating across types to avoid masking potentially interesting differences.

Figures 3 through 5 depict the trends in our estimates for female and male aggravated assault, robbery, and simple assault offending. Each graph depicts female and male rates per 1,000 and gender rate ratios, computed as the female-to-male population-adjusted rate ratios of offending for each year, following the approach by others who studied the gender gap in arrests (e.g., Heimer, 2000; O’Brien, 1999). This measure intuitively captures the relationship between female and male offending rates.<sup>20</sup> For

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19. The NCS/NCVS definition of aggravated assault includes attacks or attempted attacks with a weapon and attacks without a weapon when serious injury results. Serious injury includes “broken bones, lost teeth, internal injuries, loss of consciousness, and any unspecified injury requiring two or more days of hospitalization.” Robbery is defined as a “completed or attempted theft, directly from a person, of property or cash by force or threat of force, with or without a weapon, and with or without injury.” Simple assaults include attacks or attempted attacks without weapons as well as those with less serious injuries (e.g., bruises, cuts, or an unspecified injury with less than 2 days of hospitalization) or no injuries (see, e.g., the appendix in Bureau of Justice Statistics, 2007). These coding definitions are consistent with the FBI’s definitions of these crimes and have remained consistent over the years. More importantly, the victim reports are not plagued by some limitations of police data, such as the fact that most violence does not come to the attention of the police, and recent findings that show changes in the way police respond to less (versus more) serious forms of assault (e.g., Rosenfeld, 2007).
20. The gender rate ratio is a more straightforward way to describe the gender gap than the female percentage of offending. The “female percentage” must also be population adjusted to be accurate and thus must be described not as the “female percentage of total offenses” as the shortcut in terminology suggests, but rather as “the population-adjusted percent of offending incidents accounted for by

the ease of viewing our figures, we superimpose a solid line to highlight the trends in the gender rate ratio over time.

Our discussion emphasizes description of the female and male offending trends, as well as trends in the gender rate ratios of violent offending. NCS/NCVS data are currently available for only a 33-year period, which constitutes a fairly short time series. With so few observations, assessing stationarity is difficult. One could consider using a unit root test (e.g., Augmented Dickey Fuller or Phillips-Perron), but in this small-sample setting, it would have little power to reject nonstationarity. Therefore, we do not put much stock in the results of formal tests of statistical significance in these time series trends. Yet because formal unit root tests have been used in previous analyses of gender rate ratios of crime, we include a brief report of the results of such tests in footnotes for curious readers.

#### AGGRAVATED ASSAULT

As would be expected, our estimates of female and male aggravated assault offending show that males have much higher rates than females. Figure 3 shows that male rates of aggravated assault declined somewhat, from about 23 per 1,000 aggravated assaults in 1973 to about 17 aggravated assaults per 1,000 in 1990 (about a 26 percent decline), before increasing to a rate of over 21 per 1,000 in 1994 (which was still lower than the high levels of the early 1970s). After 1994, male aggravated assault offending began its long-term, sharp decline to reach a low of about 7 per 1,000 in both 2004 and 2005, which represents almost a 67 percent decline over the decade. The net decrease in male aggravated assault offending from 1973 to 2005 was approximately 70 percent.

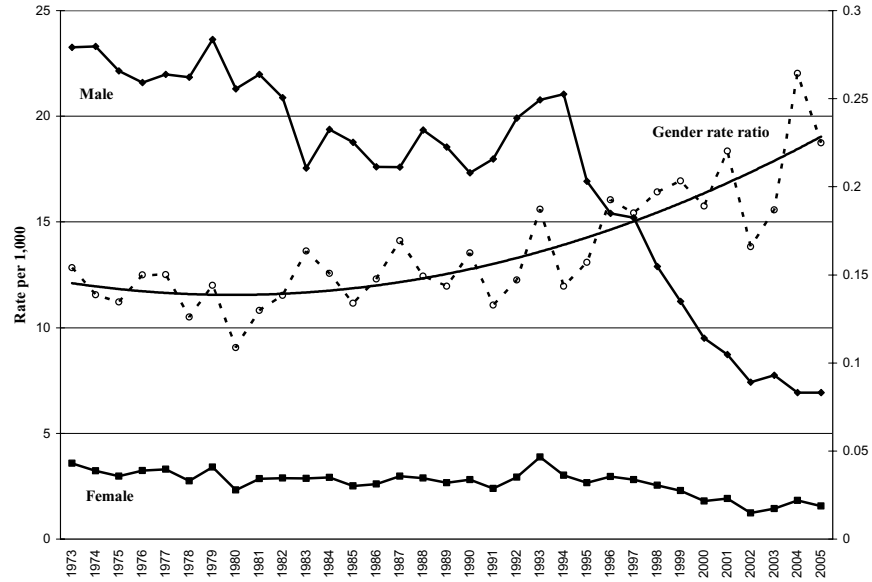
Female aggravated assault offending rates, by contrast, fluctuated between 2 and 4 per 1,000 between 1973 through 1999, after which the rates dropped below 2 per 1,000. The net change in female aggravated assault offending from 1973 to 2005 was 56 percent, which is less than the decline in male offending over the same period.<sup>21</sup> Figure 3 shows that the

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females.” This is because the female and male rate denominators (female and male population) are not equal for all years.

21. Although we do not present the standard errors for each NCS and NCVS point estimate displayed in our figures, we estimated the standard errors associated with sampling following procedures established by the Census Bureau and used by BJS in their annual reports whenever rates, or the trends in those rates, are compared. For further details on that process, see pages 6–9 in “Survey Methodology for Criminal Victimization in the United States, 2005” (and earlier years) at [www.ojp.usdoj.gov/bjs/pub/pdf/cvus/cvus05mt.pdf](http://www.ojp.usdoj.gov/bjs/pub/pdf/cvus/cvus05mt.pdf). For each crime type in our analysis, we found that the male–female differences within each year, and the male–female differences in the 1993–2005 trends in those rates (the period in which the gender rate ratio most noticeably changed) were statistically significant at  $p < .05$ . We did not conduct significance tests of year-to-year change within

**Figure 3. NCVS Aggravated Assault Offending by Gender: 1973–2005**



gender rate ratios of aggravated assault offending declined somewhat between the early 1970s and 1980, from .15 in 1973 to about .11 in 1980. However, after this time, the gender rate ratios roughly doubled; these ratios increased to .22 by 2005. This trend parallels the movement in the gender rate ratios shown earlier for single-offender incidents of aggravated assault (see figure 2). In short, we observe evidence of a narrowing of the gender gap in aggravated assault offending, which is counter to the findings reported by Steffensmeier et al. (2005, 2006). The differences between our findings versus those reported by Steffensmeier and his colleagues are not caused by potential disagreements about the usefulness of significance tests in this context.<sup>22</sup> Rather, our estimations show a notable increase in the gender rate ratios, and this pattern is not evident in Steffensmeier et al.'s (2005, 2006) figures for aggravated assault.<sup>23</sup> Again,

gender (e.g., female rates in 2000 compared with 2001) because we are interested in long-term trends.

22. Although we do not put much stock in statistical tests of this relatively short time series, as noted, we conduct these assessments for the curious reader. A unit root test (Augmented Dickey Fuller) indicated that the gender rate ratios in aggravated assault were stationary. Our subsequent analysis (with and without a first-order autoregressive error process included) revealed a significant positive time trend ( $p < .0001$ ) in this series.
23. We had difficulty comparing our offending rates and gender rate ratios with the

the gender gap narrowed not because women became more violent but because male declines were greater than female declines in violent offending between 1973 and 2005.

### ROBBERY

Robbery is often referred to as the most “gendered” crime in that male rates far exceed female rates. Changes in the gender gap in this form of offending therefore would be interesting. Figure 4 makes it clear that male rates of robbery offending far exceed those of females. It also shows that male robbery rates decreased during the early 1970s and then increased in the later 1970s to a series high of 14 per 1,000 in 1981. The male rates then dropped off sharply to about 9 per 1,000 in 1986, before beginning a steady climb to 11 per 1,000 in 1991 through 1994. We note that this increase is much less sharp and the rates are lower than in the spike of the late 1970s and early 1980s. Afterward, male robbery rates decreased dramatically to a low of approximately 4 per 1,000 by 2004 and 2005. The overall decline in male robbery rates from 1973 through 2005 was about 69 percent.

Although female robbery rates are consistently very low, the data show that they fluctuated around 1 per 1,000 from 1973 through the early 1990s, increased some to a peak of 1.6 in 1994, and then declined and oscillated from about .3 to .8 throughout the rest of the series. The overall decrease in female robbery rates from 1973 to 2005 was 37 percent compared with the 69 percent decline in male robbery rates. Clearly, the estimates of the gender rate ratios in the robbery series exhibited more variability because of the relative rarity of female robbery offending, but figure 4 shows a general upward trend in the rate ratios over the period examined. Again, this trend mirrors the increase in the rate ratios observed earlier for single-offender robbery incidents (see figure 2) because the drop in male rates has outstripped the decline in female rates, and this combination results in a narrowing in the gender gap.<sup>24</sup>

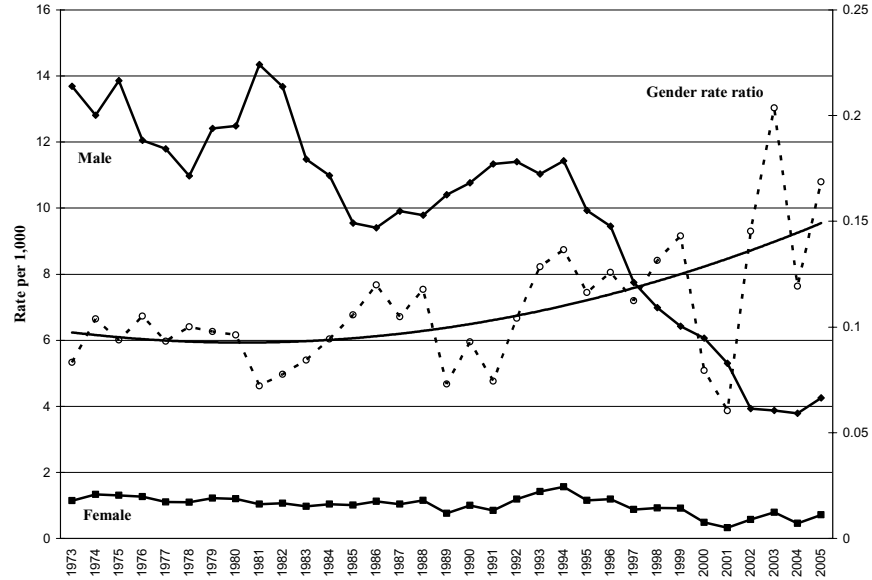
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NCS/NCVS data in the Steffensmeier et al. (2006: 87–8) figures because the scale used to display their rates was compressed. In addition, their figures A and B do not contain data beyond the year 2000. It is possible that we might have observed more similarity in the gender gap trends if the additional estimates for the later years were included in those figures. However, we do not believe this is the case because the combined assault index presented in their figure C (2006: 88) includes data through the year 2003, and in a comparable assault index that we generated for this comparison, we also draw different conclusions.

24. Again, a unit root test (Augmented Dickey Fuller) indicated that the robbery series can be considered stationary, and the positive time trends were found to be statistically significant, both with and without an autoregressive error process included ( $p < .01$ ).

TRENDS IN THE GENDER GAP

**Figure 4. NCVS Robbery Offending by Gender: 1973–2005**

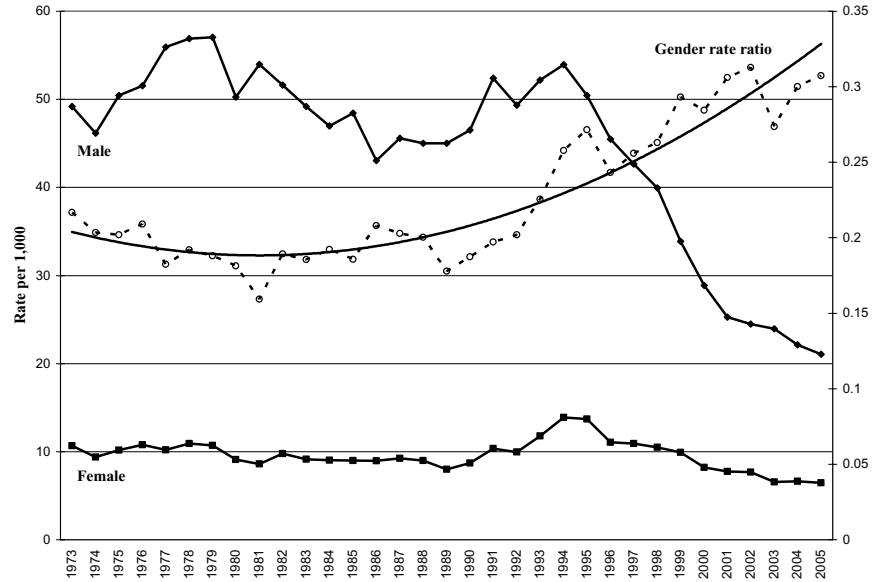


**SIMPLE ASSAULT**

As with aggravated assault and robbery, our estimates of female and male simple assault offending show that males have higher rates than females. Figure 5 shows that male rates of simple assault increased between 1973 (49 per 1,000) and 1979 (57 per 1,000) and then declined to a decade-low point in 1986 (43 per 1,000). Male rates then increased to the 1990s peak of 54 per 1,000 by 1994. Note that this peak is no higher than the peak rates of the late 1970s. After 1994, male rates began the familiar sharp decline of the later 1990s and early 2000s and reached the low of 22 and 21 per 1,000 in 2004 and 2005, respectively. The net decline in male simple assault rates from 1973 to 2005 was 57 percent.

Figure 5 shows that our estimates of female simple assault offending also declined over the period studied, although once again, proportionately less decline occurred for females than in the case of males. Female rates of simple assault offending hovered between 9 and 11 per 1,000 throughout the 1970s and 1980s, and then started to increase in the early 1990s and peaked at almost 14 per 1,000 in 1994 before dropping to the three-decade low of 6.5 per 1,000 in 2005. Overall, female rates dropped about 39 percent between 1973 and 2005; this drop is less than the corresponding 57 percent decline in male simple assault offending. Beginning around 1989–1990, the gender rate ratio (about .18) begins to exhibit a

**Figure 5. NCVS Simple Assault Offending by Gender: 1973–2005**



clear increase, which reached .31 by the end of the series. This increase occurred because female rates increase proportionately more than male rates through 1994, and the rates decline proportionately less than male rates after 1994.<sup>25</sup> As was the case for the other crime types, this trend in the gender rate ratio also matches the trend in the ratio when consideration is limited to single-offender incidents (see figure 2).

**COMPARING THE NCS/NCVS AND UCR GENDER RATE RATIOS**

We computed gender rate ratios (population adjusted) of UCR arrest rates for 1973 through 2005 to compare results with the gender rate ratios that we computed using the NCS/NCVS data.<sup>26</sup> Figures 6, 7, and 8 show

25. Here a unit root test does not provide enough evidence to reject nonstationarity for the simple assault series. We conservatively took first differences to achieve stationarity and found that a statistically significant trend was not observed in the simple assault series. Again, as we discuss in the text, we maintain that in the current data setting, our graphical displays are more appropriate than the formal significance test results.

26. Data on female and male arrest rates were obtained from unpublished data provided by the FBI. For 1980 through 2005, these rates include arrests of offenders for ages 10 and older; for 1973 through 1979, they cover offenders for ages 11 and older. Because very few crimes are committed by boys or girls younger than 11

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the gender rate ratios in arrests alongside our gender rate ratios of victims' reports of offenders' gender for aggravated assault, robbery, and simple assault. Each of these figures reveals remarkable consistency in upward trends in the gender rate ratios over time.

Earlier, we noted that when we reestimated the offending rates by weighting the multiple-offender incidents by the number of offenders reported by victims, as in equations 1 and 2, we obtained gender rate ratios that exhibited the same *trend* but were of different *magnitudes*. More specifically, the ratios we display in these figures are somewhat higher in magnitude than the ratio obtained when multiple-offender estimates are weighted by the estimated number of offenders, but the trends run parallel to one another. In other words, we observed the same patterns when incidents that involved multiple offenders were weighted by the estimated number of offenders (not shown). Thus, we are confident in the conclusion that the trends in the UCR and NCS/NCVS gender rate ratios both show increases over the 33-year period.

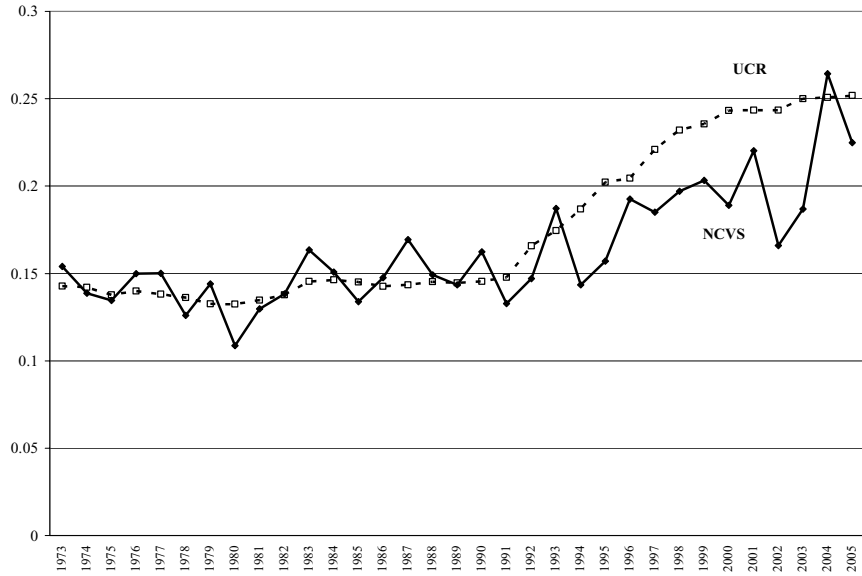
We note, however, that the arrest rates for females and males are not the same as the NCS/NCVS offender rates for the respective gender. We do not show the rates for each gender separately because they can be found in other publications (Steffensmeier et al., 2006), and we concur with these previously published figures. Indeed, we recognize that levels and specific patterns of offending by females and males vary when the UCR and NCS/NCVS data are compared. Our intent here is simply to show that the gender rate ratios of arrests (UCR) for aggravated assaults, robberies, and simple assaults are remarkably similar to the NCS/NCVS gender rate ratios of these same offenses over the period studied. In short, both police-based data and victims' self-reports suggest that the gender gap in violent offending has closed over time; female offending has come to constitute a greater proportion of all aggravated assault, robbery, and simple assault offending over time, in large part because male rates declined more than female rates during the period studied.

Using our estimation procedure and methodological decisions, some differences in trends emerge in the aggravated assault series, with the UCR gender rate ratios showing a slightly more pronounced upward trend than the NCVS gender rate ratios after the middle 1990s (see figure 6). In contrast, the simple assault series reveal somewhat depressed gender rate ratios of UCR arrests in the 1970s as compared with the data from the NCVS (see figure 8). Together, these gender rate ratio patterns suggest

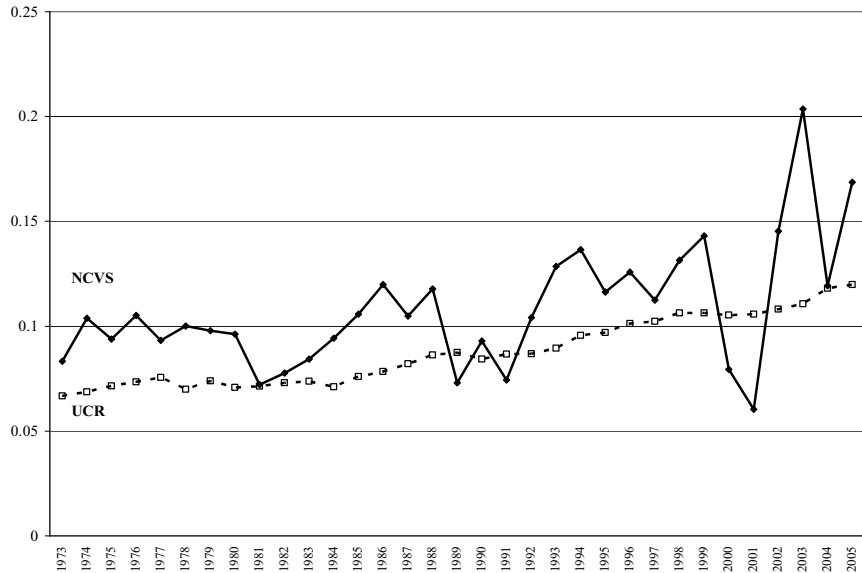
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years, we consider these figures to be comparable with those produced by the FBI for later years. Our trends in female and male UCR arrest rates and our gender rate ratios revealed very similar patterns to those reported by Steffensmeier et al. (2006).

**Figure 6. NCVS and UCR Aggravated Assault Offending Gender Rate Ratios: 1973–2005**



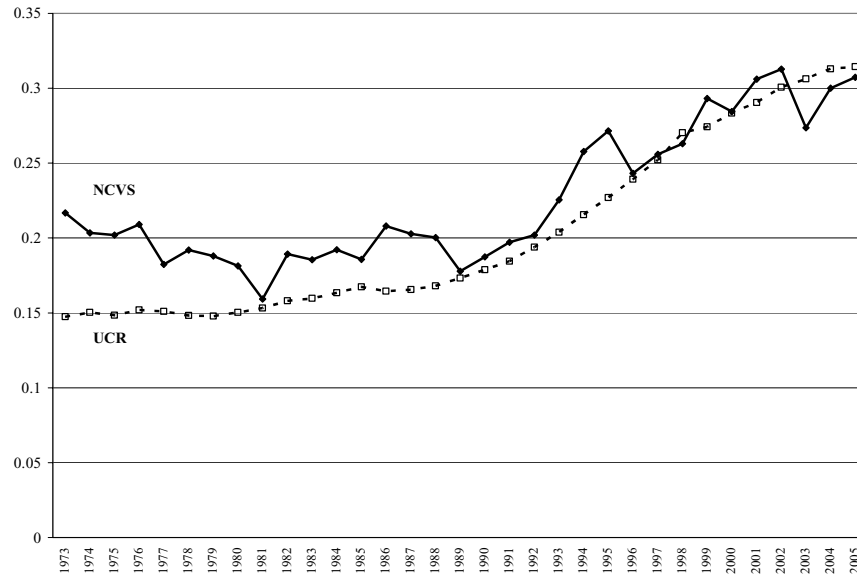
**Figure 7. NCVS and UCR Robbery Offending Gender Rate Ratios: 1973–2005**





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**Figure 8. NCVS and UCR Simple Assault Offending Gender Rate Ratios: 1973–2005**



that there may be some merit to the claim that changes in police arrest practices differentially affected male and female offenders during certain time periods. Of course, the UCR arrest data reflect more than police decision making; they also reflect victims’ willingness to report violence to the police, which may have varied by gender of the offender over time. Future research should determine whether this latter hypothesis has any merit. On balance, we conclude that the UCR and NCS/NCVS gender rate ratio patterns are more similar than different and perhaps remarkably so given the different sources of the data.

CONCLUSION

This article examines whether the gender gap in violent offending has changed over time by using data from the NCS and NCVS; these sources are independent of criminal justice system bias. As noted, researchers generally agree that the UCR arrest data show a narrowing in the gender gap in aggravated assault, robbery, and simple assault offending. Some have claimed that a “new violent female offender” has emerged, whereas others attribute the narrowing to changing police practices. Our findings show that female rates of violent offending have declined over time; clearly, a new violent female offender has not emerged. Moreover, the similarities in the trends in gender rate ratios of offending in the UCR and NCS/NCVS

suggest that the narrowing in the gender gap in nonlethal violent crime does not solely reflect changing police practices, but at least to some extent, this narrowing of the gap reflects relative changes in the behavior of female and male offenders.

The only research to have compared the UCR arrest trends with NCS/NCVS-based offending trends has argued that the closing of the gender gap observed in the arrest data is not observed in the victim-reported data. Steffensmeier et al. (2006) concluded that the closing of the gender gap in arrests was the result of net widening practices rather than any differences in changes in male and female behavior (see also Steffensmeier et al., 2005). In their 2006 analyses that combined juvenile and adult offending, Steffensmeier et al. concluded that “The two sources differ sharply in their representation of gender gap trends in assault” (2006: 86) and that “there is no meaningful or systematic change in the violent offending gender gap” (2006: 90).

Our NCVS findings stand in stark contrast to their findings and conclusions. They do not seem to result from our inclusion of additional years of data (1973–1979 and 2004–2005).<sup>27</sup> Instead, they seem to be based on differences in the estimation of the NCS/NCVS offender rates, although we could not determine exactly how their rates were produced given the information available in the publications. As our article illustrates, many methodological decisions are involved in the estimation of offending rates, and the choices we made are not the only options available to researchers. However, our diagnostics suggested that alternative methods for handling multiple-offender incidents and series incidents did not alter the trend in the gender gap in violent offending in the NCS and NCVS data.

Based on our detailed procedures for using NCVS data on reports of offenders' gender, we find that the gender rate ratios (female to male) of aggravated assault, robbery, and simple assault offending have increased over time, which indicates a narrowing of the gender gap. Moreover, we find that the patterns are similar for single-offender incidents, which suggests that our conclusions are not simply the result of changes in female participation as secondary offenders or accomplices. According to victims' reports, male violent offending has been much higher than female offending, but the gender gap has narrowed because the decreases in male offending between 1973 and 2005 were proportionately greater than the decreases in female offending. Our calculation of the gender rate ratios of UCR arrests are similar to those reported in Steffensmeier et al. (2006).

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27. The findings also do not depart because of use of different statistical tests. Although we do not put much weight on these tests, we also conducted Augmented Dickey Fuller unit root tests and tested NCS/NCVS time trends, and we found different patterns than those reported in Steffensmeier et al. (2006).

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However, our plots of the UCR and NCS/NCVS gender rate ratios (figures 6, 7, and 8) show clearly that the trends based on both of these data sources are increasing over time.

Although the trends in the UCR and NCS/NCVS gender rate ratios are very similar, our analyses also indicate that two time periods warrant additional investigation, in which arrest practices by police and victim's willingness to report female offending to the police may have changed. In the early to mid-1970s, UCR arrest rate ratios for simple assault trended somewhat lower than the corresponding NCS ratios. It may be the case that victims were less likely to report female-offender incidents to the police or the police were less likely to arrest female offenders in cases of simple assault (see figure 8). This finding suggests that during this period, the police may have viewed unarmed assaults by females as less problematic than similar assaults by males. In addition, if victims viewed such incidents as less problematic, then they may have been less likely to report these assaults to the police. However, this slight discrepancy noted for simple assault does not appear for robbery or aggravated assault, and it did not persist beyond the 1980s.

In contrast, after the mid-1990s, the UCR gender rate ratios exhibit a slightly more pronounced upward trend in aggravated assault compared with corresponding ratios based on the NCS/NCVS data. This pattern is consistent with the hypothesis that increased enforcement of violent crime, which includes domestic violence, may have affected females more than males (see figure 6). But this pattern is observed only for aggravated assaults—in other words, those assaults reported by victims to involve weapons or result in serious injury. These UCR and NCVS trend differences are subtle but are noteworthy deviations from the general similarities we find in the gender rate ratios across the two data series. Additional research is needed to determine what these patterns represent. However, our larger conclusion is that the UCR and NCS/NCVS data on aggravated and simple assault and robbery concur that the ratio of female-to-male violent offending has increased over the past three and a half decades.

The comparisons of male and female offending rates that we provide in this article cannot determine what factors are most responsible for the closing of the gender gap; in fact, an analysis of covariates of these trends would be questionable because of the short series ( $N = 33$ ). But they do suggest that hypotheses beyond biases in the criminal justice system are worthy of serious consideration. According to our findings, behavioral changes in male and female violent offending over time must be given more critical attention. We return to this issue after discussing an alternative interpretation of our findings.

Steffensmeier et al. note the possibility that “just as police have become more prone to arrest females for violent misconduct, it also seems likely

that victims have become more prone to identify assailants in NCVS interviews” (2006: 90). Although this hypothesis is plausible, it is impossible to test using the NCVS data or any other data set of which we are aware. The offending trends themselves cannot shed light on this issue because, regardless of whether they show increases, decreases, or stability in the gender gap, it can always be argued that those patterns reflect a hidden and changing willingness of victims’ to report to interviewers violence that is committed by females.

For several reasons, we do not believe that such changes account for the female offending patterns observed in the NCS and NCVS or for the gender gap trends that result from these rates. First, if respondents were failing to remember violent incidents that involve female offenders, it would be reasonable to expect that the changes in the redesigned questionnaire would have prompted greater increases in incidents committed by female offenders because of the increases in memory prompts and the changes in the nature of the cues. However, we found no significant change in rates according to the sex of the offender as a result of the redesigned questionnaire. Second, as we described, questions about the age, gender, and race of offenders come at the end of a long sequence of questions about the incident. By the time the question about the sex of the offender arises, victims have discussed the incident in some detail. If reporting violence committed by females involved more embarrassment and reticence in the past, we should have observed some change in the “don’t know” or “refused” responses to the questions about the sex of the offender(s). We did not observe any notable change in these indicators over the past 33 years. Third, the changes we observed in the gender rate ratio occur in the latter half of the time series, which is later than we would have expected victims’ perceptions of female-perpetrated incidents or willingness to report them to interviewers to have changed. Thus, although this alternative hypothesis is certainly plausible, little empirical evidence exists in the survey or elsewhere to suggest that this phenomenon accounts for our results.<sup>28</sup>

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28. Self-report offending data might be useful for assessing this issue; however, no surveys ask comparable questions using nationally representative samples of males and females of all ages. Steffensmeier et al. (2005) compare the gender gap in two self-report studies of youths to UCR juvenile arrest data and trends derived from the NCS/NCVS. We do not conduct similar juvenile comparisons because it is beyond the scope of this article to address the methodological challenges associated with estimating male and female juvenile offending (see appendix A). Also, the self-report juvenile offending data used in those comparisons (Monitoring the Future and the National Youth Risk Behavior Survey) use questions that are limited in their comparability with the UCR and NCVS definitions and are based on samples (e.g., high-school seniors who are attending school) that are known to exclude many serious violent offenders. The fact that the youth

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Potential explanations for these changes in the gender gap must consider the fact that the NCS/NCVS data show the closing of the gender gap to be driven primarily by larger decreases in male offending and not by notable increases in female offending. Although these patterns by themselves do not indicate support for the liberation or economic marginalization hypotheses, they can be interpreted as consistent with both explanations. For example, as we noted, the liberation argument attributes a narrowing in the gender gap in offending to increased opportunities and to decreased informal social controls for women. The decline in violent offending for both genders makes it difficult to observe the increases in female offending that one would expect from the long-term social changes suggested by the liberation hypothesis. If such factors are operating, we would expect to observe less substantial drops in female relative to male offending in the “crime drop” period, net of other causes of the crime decline. However, if the liberation hypothesis is to be shown as a valid interpretation, it must also be able to explain why the gender gap did not begin to narrow until roughly 1990. Clearly, additional data and theorizing about the timing of the narrowing is needed to determine the viability of this hypothesis.

Similarly, although our data do not allow a definitive test of the economic marginalization explanation, the trends also are consistent with the spirit of the explanation. Specifically, we observe larger declines in male than in female offending, particularly since the early 1990s, which was a period of economic growth in the United States. Indeed, Rosenfeld and Fornango (2007) demonstrate that decreasing robbery (and other crime) rates between 1992 and 2000 were associated with boosts in the economy, as measured by consumer sentiment. If women did not gain as much ground as men did during this period—if the economic marginalization of poor women was at higher levels than that of their male counterparts—then we might expect that women’s offending rates would not drop as much as those of men. Additionally, the late 1990s ushered in substantial retrenchments in welfare assistance to marginalized women, which eroded a significant buffer against economic hardship. This evidence is consistent with an economic marginalization explanation of the decrease in the gender gap in offending; however, the trends in gender-specific offending that would support these conclusions would be very similar to those consistent with the liberation argument. If we could distinguish offenders by social class, we might be able to use the trends themselves to test these alternative explanations. Unfortunately, such data are not available.

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self-report data are relatively trendless during the serious crime increases of the late 1980s and early 1990s suggests that they captured different phenomena.

Although economic marginalization and liberation hypotheses have been the focus of research in this area, other explanations can be offered to account for the changes we observe in the gender gap. One such hypothesis, which is suggested to explain changing patterns in the gender gap in violent victimization, is that the increasing presence of women in public life over recent decades has been associated with a civilizing process that may have restrained male violence to some extent (Lauritsen and Heimer, 2008).<sup>29</sup> This hypothesis builds on feminist theorizing about the movement of women from private to public spheres over time (Walby, 1990) as well as Norbert Elias's (1978 [1939]) discussion of how women's presence in public life may have a civilizing effect by reducing tolerance for interpersonal violence. Applying this idea to changes in the gender gap in offending, the civilizing hypothesis focuses not on the motivations for offending (as does, for instance, the economic marginalization hypothesis) but rather on the ways in which women may be acting as "capable guardians" or as some other form of informal social control in traditionally male dominated environments. For example, as a result of their increased presence in public life and their increased capacity to act as moral change agents, women may have had some effect on the restraint of male violence, which thus may have affected the differences in violent offending rates.<sup>30</sup>

If this process were operating, we would expect to observe declines in male offending in specific locations or activity domains where women's presence has increased. Male offending in the workplace, for example, or in public places should decline more than offending at home or in private places. Such a hypothesis does not deny the importance of motivational factors in accounting for offending or for the general similarities in offending trends for males and females. Instead, we offer it here as a plausible complementary hypothesis about changes in the gender gap that are worthy of exploration in future research. One strength of this hypothesis is that the NCS/NCVS data can be used in future research to study trends in gender-specific offending and victimization rates across different public and private domains.

It is also possible, however, that the declines in male offending may be occurring because changes in public policy have made public domains safer, whereas private domains have not experienced the benefits of these

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29. The nature of the changes in the gender gap in violent victimization shown in Lauritsen and Heimer (2008) are similar to the changes we find in the gender gap in violent offending. This finding is perhaps not surprising given the robust correlation between victimization and offending that is consistently demonstrated in previous research (for a recent review, see Lauritsen and Laub, 2007).

30. See Rosenfeld (2000) for a discussion of the civilizing process and the decline in adult homicide.

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policies. Zero tolerance policing, for example, has little intended effect on crime in private places. To the extent that male offending relative to female offending has taken place in public domains, the increases in safety in public domains should reduce the male offending rate more than the female rate. In this instance, the decrease in male offending is not driven by the civilizing effect of greater female participation in public life. In fact, it is the opposite. It is the persistence of males' disproportionate involvement in public domains that would account for greater decreases in male relative to female offending. Men offend less simply because more of their activity takes place in public places, and over time, steps have been taken to reduce offending in these places.

In a related vein, Messner and Rosenfeld (2007) suggest that the gender gap in offending can be expected to vary over time, specifically as men's and women's engagement with and orientations to the economy and to the family change. Consistent with our findings about male and female offending trends, they note that a narrowing of the gender gap does not require increases in crime rates or female offending, but it may result primarily from changes in men's lives in which the "greater engagement of men in familial roles should reduce their exposure to anomic pressures and lower their criminal involvement to a level more similar to that of women, thereby reducing overall rates of crime" (2007: 99). Thus, although social forces—such as economic circumstances and changes in drug markets—may have resulted in an overall decline of violent crime rates in recent years, men's increasing investment in family roles may augment these forces and produce a greater decline in violent offending for men than for women during this period. As with the economic marginalization and civilizing hypotheses, this proposed mechanism is consistent with our observations and is worthy of future investigation. Although these different theories and hypotheses for changes in the gender rate ratios of offending suggest somewhat different patterns of change in the gender gap, they all assume that the change in gender-specific offending is real and not an artifact.

Some researchers may question the importance of a narrowing of the gender gap in violent offending in the context of the long-term decline in crime. Is the fact that female rates are not dropping off to the same extent as male rates of practical importance? We maintain that it is. Whatever social forces have reduced offending, they have not benefited women and men equally. These patterns, interestingly, are analogous to current trends in deaths from heart disease in western nations. Although these death rates have declined over time, and women's rates have always been lower than men's rates, the gender gap in deaths has narrowed because female rates have not been dropping as quickly as male rates (Lawlor, Ebrahim, and Smith, 2001). Men's health is improving at a faster rate than women's

health, which has been identified as an issue of concern in the medical community. By the same logic, it is important for criminologists to understand why women's nonlethal violent offending did not drop similarly to men's. The significance of the analogy may be emphasized even more by the fact that reductions in women's violent victimization rates similarly have not kept pace with those of men over the past three decades (see Lauritsen and Heimer, 2008).

As with all research, some caveats are in order. First, it is unknown whether our findings about the trends in the gender gap in nonlethal violence will persist in the future. As more recent years of data become available, it is possible that the patterns we observed may change, and that researchers will need to monitor the gender gap. Second, in contrast to our findings about nonlethal violence, the existing data about gender rate ratios of homicide offending shows that they decreased from 1976 to 1990 but remained fairly constant afterward (Bureau of Justice Statistics, 2008). This observation clearly indicates that for certain forms of violence, the gender gap trends differ from those for aggravated assault, robbery, and simple assault. For example, little is known about gender differences in gun offending, and this important topic clearly warrants more research. Third, these analyses do not disaggregate by the nature or situational characteristics of the violence. It is possible that different patterns would emerge if we were to disaggregate by victim-offender relationship to examine intimate partner or stranger violence. Fourth, the patterns we observe may not hold with future disaggregations by offender characteristics, for example, by race, which is also a topic for future research. Many of these issues can be addressed with existing NCS/NCVS data in subsequent analyses.

In conclusion, it seems that our understanding of the gender gap in offending has in some ways come full circle. Over three decades ago, Simon (1975) and Adler (1975) called attention to the idea that the difference between women's and men's offending may have been reduced somewhat over time. Their observations created an ongoing debate that has characterized this literature ever since. Our findings on the gender gap in violent offending—based on NCS/NCVS victim reports that are free of criminal justice bias—clearly show that early suggestions about the gender gap may have some merit in the case of long-term trends in violence. Indeed, it would be remarkable if it were true that the changes in the lives of males and females over the past three and a half decades did not result in at least some changes of the gender gap in offending. It seems that the time has come to move beyond the debate over whether these changes in offending by gender have occurred and focus research efforts on explaining the reasons for differential changes in female and male rates of violent offending.



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### **Appendix A. Estimating Juvenile Rates of Violent Offending with the NCS and the NCVS**

Estimating male and female juvenile rates is not difficult when incidents involve a single offender. If the victim reported that there was only one offender, they are asked, "How old would you say the offender was?" The response categories include "under 12," "12-14," "15-17," "18-20," "21-29," and "30+" years. Thus, if the victim reported that the offender was male and in one of the first three categories, then it is easy to count this incident as involving a lone juvenile male offender. This assumes, of course, that one has faith in victims' abilities to estimate offender's ages and, in particular, to distinguish 16- and 17-year-olds from 18- to 20-year-olds.

But if the incident involved multiple offenders, the problems with counting male and female juvenile offenders can be substantial. In multiple-offender incidents, victims are asked to estimate the age of the youngest offender and the oldest offender (using the same age categories as above) but not the ages of the other offenders. Only for those incidents in which the oldest offender was estimated to be younger than 18 is it possible to then estimate the number of male and female juvenile offenders using the weighting strategy outlined earlier. This strategy can be problematic as a significant number of multiple-offender incidents involve both juveniles and adults (Lynch, 2002). When multiple-offender incidents involve adult and juvenile offenders, as well as male and female offenders, it is impossible to determine whether the juvenile offender was male or female because the questions about the sex and age of the offenders are not linked. For this reason, we believe that the NCVS data are used more effectively for producing gender-specific estimates of offending than for producing age by gender rates. If gender and age specific estimates are the objective, then the analyses should distinguish single- versus multiple-offender incidents, report how mixed-age and mixed-gender incidents are treated in the estimates, and assess the sensitivity of the rates to assumptions made by the estimation procedure.

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**Appendix B. Effects of Using Additional Years of NCS and NCVS Data in Weighting Adjustments**

External sources of data can be used to describe temporal changes in violence during the 1990 to 1994 period and to illustrate the possible effects that those changes might have on weighting adjustments that are derived by using additional years of NCS and NCVS data beyond the phase-in period. According to the FBI, the homicide rates from 1990 to 1994 were 9.4, 9.8, 9.3, 9.5, and 9.0 per 100,000, respectively, whereas the robbery rates were 257.0, 272.7, 263.6, 255.9, and 220.9 per 100,000, respectively (FBI, 1997). Using the weighting formula denoted in Steffensmeier et al. (2005, 2006),  $(n_{92} + n_{93} + n_{94}) / (n_{90} + n_{91} + n_{92})$ , and the assumption that the “true” changes in nonlethal violence are represented by the temporal trends in the homicide data, one would conclude that the NCVS/NCS ratio adjustment would be .98 times the “true” effect attributable to the change in the design. Under the assumption that the “true” changes in nonlethal violence are better captured by trends in the UCR robbery data, the NCVS/NCS ratio adjustment would be .93 times the “true” effect attributable to the change in the design. Existing research has shown that robbery rates were not significantly higher in the NCVS than in the NCS data. Thus, if the UCR robbery trends are accurate, then the application of the above formula would lead one to conclude that the NCVS produced lower rates of robbery than the NCS. The temporal decreases in violence that were likely occurring from 1991 to 1994 could have possibly underestimated the NCS weighting adjustment. However, as noted in the text, the magnitude of the weighting adjustment would not affect the trends within the NCS period or within the NCVS period but would affect instead the linkage of the trend across the two periods