

Do Mandatory and Recommended Arrest Laws Decrease Female Homicide Rates?

by Kari Points and Celeste Richie¹

Abstract

This paper examines the effect of mandatory and recommended arrest laws on female homicide rates (as a proxy for domestic violence rates). The analysis includes a panel regression on female homicide rates for all 50 U.S. states plus Washington DC from 1981 to 2005. The results show recommended arrest laws reduce domestic violence slightly. Mandatory arrest laws either increase female homicide rates or have no effect. This may be because mandatory arrest laws shift the victim's locus of control away from the decision of whether to press charges to the decision of whether to contact the police at all.

Introduction

Although states have implemented mandatory and recommended arrest laws widely across the US in an effort to decrease domestic violence, it is unclear whether these laws have the intended effect. We asked whether mandatory and recommended arrest laws decrease female homicide rates at a state and national level. Female homicide rates are a good proxy for domestic violence rates, because most female homicide victims are murdered by an intimate partner, and homicides are almost perfectly reported. The assumption exists that arrest laws help to curb domestic violence rates; however, some research has shown that mandatory arrest laws, in particular, may have the perverse effect of increasing domestic violence rates. It is important to understand the impact of these arrest laws in determining whether to maintain, modify, scale up, or scale back the laws.

Our results are consistent with existing research showing that mandatory arrest laws have the effect of raising female homicide rates. Conversely, recommended arrest laws have the effect of slightly lowering female homicide rates. We drew our conclusions from National Center for Health Statistics (NCHS), CDC annual mortality data files for 1981 to 2005.² Harvard economics professor

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² National Center for Health Statistics (NCHS), CDC annual mortality data files. <http://www.cdc.gov/ncipc/wisqars/fatal/help/datasources.htm#6.2>.

Radha Iyengar's 2007 study, "Does the Certainty of Arrest Reduce Domestic Violence?" used much of the same data, and our results reveal similar trends.³

What Are the Effects of Arrest Laws?

Mandatory domestic violence arrest laws were adopted state by state starting in 1987. These laws require police officers to make a warrantless arrest when responding to a domestic violence report. Recommended domestic violence arrest laws were adopted state by state starting two years later, in 1989. These laws instruct but do not require officers to make a warrantless arrest when responding to a domestic violence report.⁴

By 2005, 23 states had implemented either mandatory or recommended arrest laws. The remaining 28 states may consider adopting these laws in the future. The policy implications are grave, considering human lives are at stake, especially when some research indicates the laws may actually increase the rate of female homicides. Therefore, it is imperative to determine the true impact of these arrest laws.

Because arrest laws were adopted at the state level, we assumed that if the laws had some effect on female homicide rates, a change in those rates would be seen following the implementation of either type of arrest law. Although female homicide rates decreased overall from 1981 to 2005, by analyzing all 50 states plus DC, we were able to control for national trends in homicide rates.

The dependent variable in our study is the female homicide rate per 100,000 residents from 1981 to 2005. We use the female homicide rate as a proxy for domestic violence because 61% of female homicide victims in the United States are the wives or intimate partners of their murderers.⁵ As of 2005, 15 states (including Washington DC) had mandatory arrest laws, 8 states had recommended arrest laws, and 28 states had no laws, allowing us to compare states with and without each type of law. To analyze the effects of arrest laws on female homicide rates, we ran a regression to determine the coefficient for each type of law, based on the following equation:

³ Radha Iyengar. "Does the Certainty of Arrest Reduce Domestic Violence? Evidence from Mandatory and Recommended Arrest laws." NBER Working Paper No. 13186. June 2007. http://people.rwj.harvard.edu/~riyengar/mandatory_arrest.pdf.

⁴ Ibid.

⁵ "When Men Murder Women." Violence Policy Center analysis of FBI Supplementary Homicide Report data. September 2004. <http://www.ncadv.org/files/whenmenmurderwomen2004.pdf>.

$$H = \alpha + \beta_1(\text{state}) + \beta_2(\text{year}) + \beta_3(\text{mandatory}) + \beta_4(\text{recommended}) + E. \quad ^6$$

We also plotted the average female homicide rate across time for states that currently have mandatory laws, recommended laws, or no laws, standardizing the year of implementation across states.

Description of Homicide Data

Our data source is the Centers for Disease Control and Prevention's annual mortality data files (1981-2005), which are produced by the National Center for Health Statistics. We generated data reports using WISQARS (Web-based Injury Statistics Query and Reporting System), an interactive database provided by the CDC that creates customized reports of injury data, including homicide. The system is robust in that it allows users to request disaggregated data by state, sex and year as well as other variables.

Variables

Our report's unit of observation is the state crude female homicide rate per 100,000 residents from 1981 to 2005. This rate is our dependent variable. We use two sets of fixed-effects variables to control for state and year, as well as independent indicator variables for the mandatory arrest law and the recommended arrest law. We also included an error variable to account for minor variation not captured in the rest of our equation. See Appendix I for a sample table of definitions and summary statistics.

Internal validity of key variables

In this quasi-experiment, the observable qualities of the control group (states with no statutory change) compared to the treatment groups (states that passed mandatory or recommended arrest laws) are statistically equivalent, because we controlled for variation across states by including a fixed-effects variable for each state.

We do not possess a process evaluation that allows us to comprehensively assess whether the intervention was implemented according to plan. In general, police officers have considerable discretion when responding to a crime report. In those states with recommended arrest laws, officers retain the ability to use their discretion in deciding whether to make an arrest. In the case of states with mandatory arrest laws, the domestic violence arrest rate depends on factors

⁶ H = female homicide rate per 100,000 residents; α = constant; β_1 = state coefficient; β_2 = year coefficient; β_3 = mandatory law coefficient; mandatory = mandatory law indicator variable; β_4 = recommended law coefficient; recommended = recommended law indicator variable; E = error term

including officer training and education about the new laws, as well as the robustness of compliance mechanisms implemented when the law went into effect and the degree to which officers are held accountable.

Because we possess federal female homicide rates for all 50 states plus DC, attrition is not a concern for this study. A murder victim cannot opt out of becoming part of homicide statistics. Although there could be individuals who move from one state to another because of changes in domestic violence arrest laws in an effort to either avoid arrest or take advantage of protection from domestic violence, self-selection seems likely to be minuscule.

External validity of variables

Inference of these results to other circumstances is complex due to differences between states. Nonetheless, the longevity of the time-series data (25 years), the inclusion of all 50 U.S. states plus Washington, DC, and the breadth of experimental data across states that vary by region, population, crude homicide rate, income per capita and other factors strengthen the notion that results may successfully be implemented elsewhere, at least domestically.

Data limitations

Due to technical limitations on data extraction from WISQARS, we were unable to customize our age range to exclude girls from our homicide rate calculations. Limiting the age range to females 15 and older would have been desirable because it would have added precision to our data by ruling out young girls who would most likely not have been married to or romantically involved with their murderers. As a result, our results may be less likely to reveal more the nuanced effects of statutory changes on domestic violence incidence.

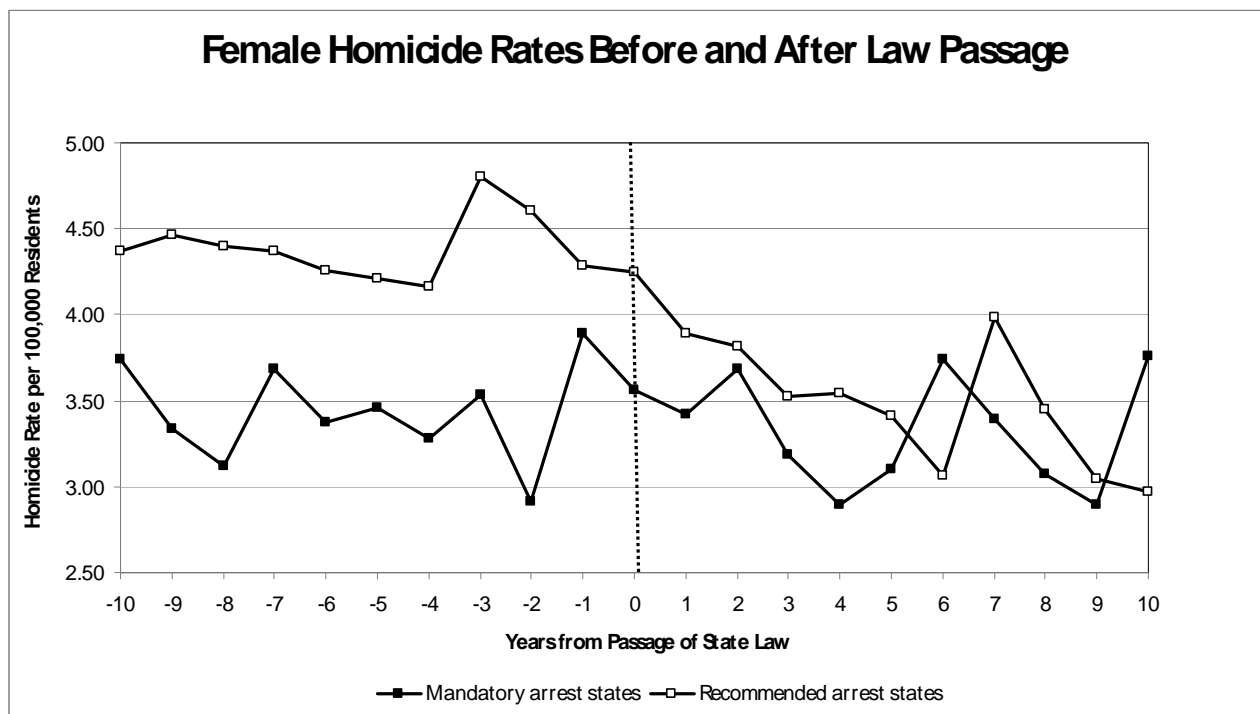
Using female homicide rates as a proxy for domestic violence is not a perfect measure, since 39% of female homicides are *not* committed by the victims' husband or intimate partner, yet these homicides are incorporated into the state crude rates upon which this report is based. A more precise measure would have resulted if we had been able to access data disaggregated by the relationship of the murderer to the victim.

Effects of Arrest Laws Are Statistically Insignificant

Our analysis shows that mandatory arrest laws have the effect of slightly raising female homicide rates, but the increase is not statistically significant. Conversely, recommended arrest laws have the effect of slightly lowering female homicide rates, and this reduction is also not statistically significant. We can conclude that mandatory arrest laws are not an effective domestic violence prevention method; indeed, they may be counterproductive. Our results suggest that mandatory arrest laws should be abandoned or replaced with recommended arrest laws.

Figure 1: "US Female Homicide Rates Before and After DV Laws" shows the change in female homicide rates in those states that implemented either mandatory or recommended arrest laws. By setting the year in which either type of law was implemented in a given state at "0," we standardized the year of implementation across states to illustrate the female homicide rate from 10 years prior through 10 years after implementation. Figure 1 shows an overall downward trend in female homicide rates for states with recommended arrest laws. There is no discernable trend for states with mandatory laws.

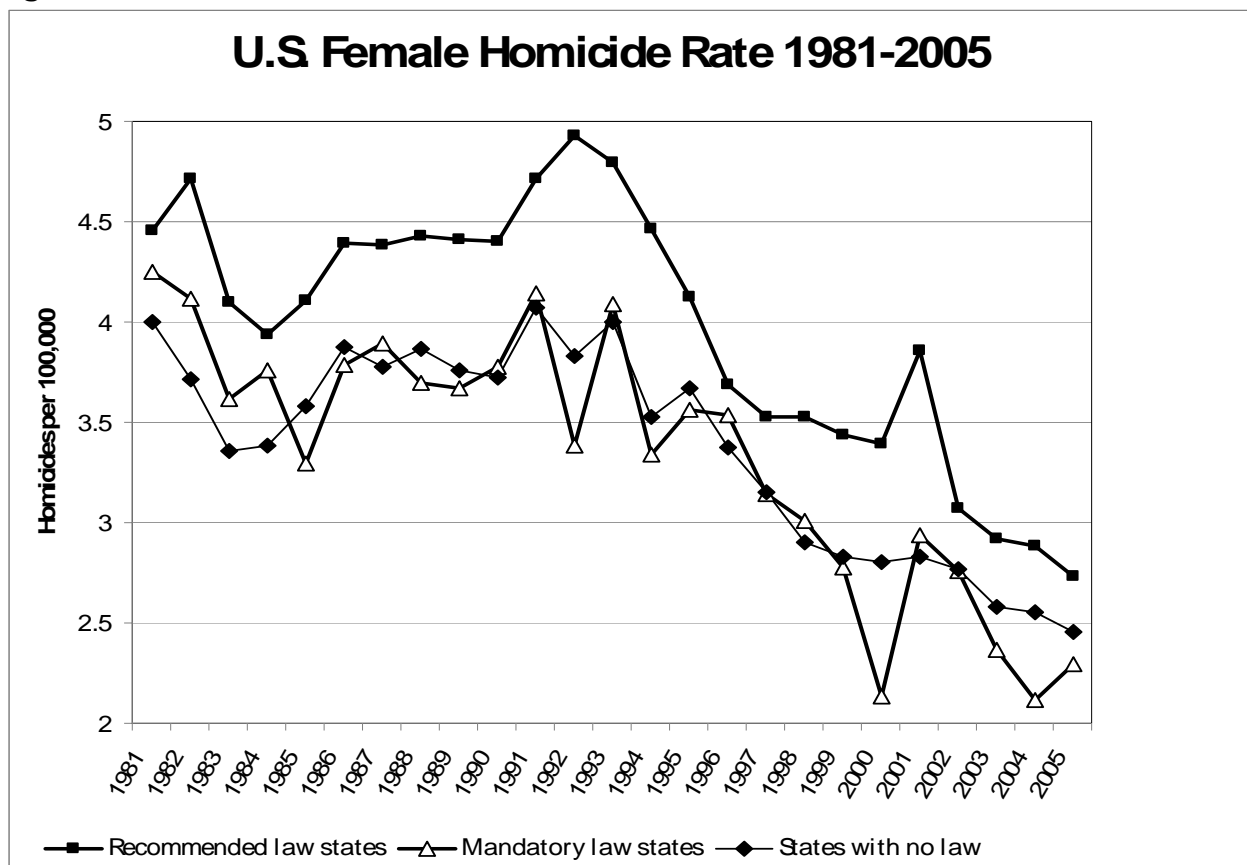
Figure 1



Source: National Center for Health Statistics (NCHS), CDC annual mortality data files

Figure 2: "US Female Homicide Rate 1981-2005" shows the female homicide rate for all states for this 25-year span. States with mandatory, recommended and no arrest laws are disaggregated. Although Figure 2 shows a general downward trend for all states, this trend is a larger phenomenon related to decreasing violent crime incidence in general, not specifically the law implementation. Because implementation varies by type and year, Figure 2 cannot be used to interpret the effects of either law on the female homicide rate. However, Figure 2 does highlight the necessity of considering broader trends in interpreting time-series data.

Figure 2



Source: National Center for Health Statistics (NCHS), CDC annual mortality data files

We also ran a panel regression to determine the coefficient for each type of law, based on the following equation:

$$H = \alpha + \beta_1(\text{state}) + \beta_2(\text{year}) + \beta_3(\text{mandatory}) + \beta_4(\text{recommended}) + E .^7$$

By controlling for fixed effects across all states and years, we were able to further isolate the true effects of each type of law. Table A shows the constant term and coefficients, as well as the 95% confidence interval (CI) and P-value, for each type of law. Although the mandatory law shows an increase in the female homicide rate of 0.12, we can tell from the P-value and the CI that the

⁷ H = female homicide rate per 100,000 residents; α = constant; β_1 = state coefficient; β_2 = year coefficient; β_3 = mandatory law coefficient; mandatory = mandatory law indicator variable; β_4 = recommended law coefficient; recommended = recommended law indicator variable; E = error term

coefficient is not statistically different from zero. The recommended law shows a decrease of 0.14 in the female homicide rate. However, this coefficient is also not statistically different from zero. These results indicate that we cannot reject the null hypothesis that both the mandatory and recommended arrest laws cause no change to the female homicide rate. See Appendix 2 for the full regression analysis.

Table A

Regression Coefficients for Female Homicide Rate

Female Homicide Rate	Coefficient	Standard Error	t	P> t	95% Confidence Interval
Constant	2.99	0.25	12.2	0	2.51 --> 3.47
Mandatory Law	0.12	0.11	1.06	0.29	-0.1 --> 0.34
Recommended Law	-0.14	0.15	-0.95	0.34	-0.42 --> 0.15

**Note: controlled for state and year*

Source: National Center for Health Statistics (NCHS), CDC annual mortality data files

We also plotted the female homicide rate for the individual states of New York, Georgia, Virginia, California and Texas. We chose these states for their large populations, their geographical diversity, and diversity in the crude female homicide rates. We were interested in determining if the larger regression analysis and observed trends would be visible at the state level. We plotted the female homicide rate alone to show more detail in its variation and then plotted it against the male homicide rate to show any overall trends in violent crimes within the state. Appendix 3 shows all of these charts with some analysis of observed trends.

Policy Implications for Arrest Laws

Recommended arrest laws may aid domestic violence prevention slightly. A cost-benefit analysis could be useful in determining whether recommended arrest laws are a strong policy recommendation to make. Mandatory arrest laws seem to either increase female homicide rates or have no effect at all. Iyengar was able to determine the specific relationship of homicide victims to their murderers, which allowed her to focus on intimate partner homicides of women. Her results showed a strong correlation between mandatory arrest laws and a significant increase in female homicide rates.⁸ It is likely that our results did not show this strong correlation due to our use of all female homicides in our homicide rate calculation.

⁸ Iyengar, 2007.

The assumption behind the laws was that the victim would avoid blame from her intimate partner for the arrest while receiving police protection following an assault. However, mandatory arrest laws shift the victim's locus of control away from the decision of whether to press charges to the decision of whether to call the police. This may result in fewer reports being made, because the victim may calculate that a mandatory arrest will further infuriate the perpetrator, who then may take his aggression out on her. Another reason mandatory arrest laws are a potentially less-than-ideal solution is victims' feelings of guilt regarding their partners' arrest, which may make women more likely to stay in a dangerous situation if they feel their report triggered a mandatory arrest.

Iyengar theorizes that public knowledge of the laws affects the behavior of victims more than the punitive threat of the laws affects the behavior of perpetrators.⁹ If this theory holds true, it may have the perverse effect that victims are less willing to report domestic violence, leading to an increase in female homicides. It may also help to explain the drastic difference in results from randomized experiments, such as the Minnesota Domestic Violence Experiment, to "real life" implementation of laws. The Violence Against Women Act of 1994 used the results of the MDVE to justify funding for pro-arrest state policies, without considering the impact of public knowledge on victim decision making.¹⁰

What is clear is that the high percentage of female homicides committed by a woman's intimate partner indicates that domestic violence remains a great concern, despite overall homicide rate reductions across the nation. A next step might include evaluating the effectiveness of women's shelters/centers and other domestic violence prevention programs. That women are at such a great risk for domestic homicide is a disturbing indicator of larger cultural and societal issues that must be further examined. One implication of our study is that this attempt to influence the perpetrators of domestic violence was unsuccessful and that perhaps resources may be better allocated by focusing on the needs of the victim. Arrest laws are also reactionary, intervening only once domestic violence has already occurred in a home. Proactive measures to prevent domestic violence may be more effective at keeping women safe and alive.

⁹ Ibid.

¹⁰ Ibid.

Appendix I: Table of Definitions and Summary Statistics (2005)

The Effect of Mandatory Domestic Violence Arrest Laws on Female Homicide Rates

All U.S. states plus Washington DC, 2005 (n=51)

Variable	Mean	Standard Deviation	Min	Max
Female homicide rate/100,000 in 2005	2.48	1.14	0.63	6.47
Male homicide rate/100,000 in 2005	9.29	8.37	1.55	58.61
Female homicide rate/100,000 in 1981	4.15	1.90	1.48	11.12
Female homicide rate/100,000 in 2005 in states with mandatory law in place (n=15)	2.40	1.38	1.26	6.47
Female homicide rate/100,000 in 2005 in states with recommended law in place (n=8)	2.73	0.85	1.86	4.47
Female homicide rate/100,000 in 2005 in states with no law in place (n=28)	2.46	1.10	0.63	4.31