Changes in US Mass Shooting Deaths Associated With the 1994-2004 Federal Assault Weapon Ban: Analysis of Open-Source Data

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Review of Methodology

The Violent Crime Control and Law Enforcement Act of 1994, which barred the manufacturing and unpermitted, civilian use of select semiautomatic weapons and large capacity magazines went into effect in 1994 and expired in 2004. That 10-year window was used by the authors as a single-arm, pre-post observational study to study the degree to which that regulatory action was effective in light of more recent calls to employ similar strategies to reduce the frequency of mass shootings.

This analysis employed figures from three open-source and readily-accessible data sets produced by the news outlet *Mother Jones*, the *Los Angeles Times* newspaper, and Stanford University. Data on mass shootings that occurred between the years 1981 and 2017 could easily be extracted from those sources. The authors subsequently noted that these three sources have provided the data-specific backbone of a multitude of previous studies to indicate their validity and appropriateness for incorporation beyond the traditional citations included within the document itself.

In conducting this research, the analysis' authors contextualized their calculations for the year rates of mass shootings by measuring them against the background of a per annum accounting of total firearm homicide deaths as a proportion. The same was done again, save for in proportion to the United States population thereafter. Using linear regression models for rates, incorporating a Poison model for counts, and including a year variable to control for trend, the research team was able to compare the period of the 1994 to 2004 ban to non-ban years.

Summary of Findings

With a confidence interval of 95% that the value should fall between 82.8% and 88.9%, the authors found that a total of 85.8% of the 501 fatalities associated with mass shootings that they examined were wrought by an assault rifle, meaning that that weapon classification described the gun used to kill 430 individuals across 44 separate incidents of mass shootings.

The research team is able to establish a link between an assault weapons ban akin to the one that was included in the Violent Crime Control and Law Enforcement Act of 1994 and preventative or controlling measures for mass shooting deaths. The findings included in this report effectively constitute the documentation of such a link. This renders an affirmative answer to the question of whether or not such an assault weapons ban is an effective or productive strategy for curbing mass shooting deaths.

Finally, a growing portion of the firearm-related homicides in the United States are those that are connected to mass shootings. The linear regression model meant to control for the yearly trend was used to indicate that the 10-year window from 1994 to 2004 that saw the Violent Crime Control and Law Enforcement Act of 1994 in effect was associated with a statistically significant nine fewer mass shooting deaths per 10,000 firearm homicides. What is more, casualties that were the byproduct of a mass shooting were a full 70 percent less likely to happen during the effective life of the Violent Crime Control and Law Enforcement Act of 1994.

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