

# Effects of Minimum Age Requirements on Violent Crime



**Summary:** Evidence for how minimum age requirements for purchasing or possessing a firearm affect total and firearm homicides is inconclusive.

**W**e identified two studies that examined the effects of minimum age requirements to purchase or possess a firearm on violent crime and met our inclusion criteria.

Rosengart et al. (2005) analyzed state-level data from 1979 to 1998 and examined the effects on violent crime of four types of state laws:

1. restricting handgun purchase to those aged 21 or older
2. restricting private handgun possession to those aged 21 or older
3. limiting the frequency of gun purchases to one gun per 30 days
4. prohibiting the sale of “junk” (cheaply constructed) guns.

The authors controlled for whether a state had a shall-issue (otherwise known as right-to-carry) provision; these results are described in more detail in [our analysis of how concealed-carry laws affect violent crime](#). The authors

## Key Findings

Minimum age requirements for purchasing a firearm have **uncertain** effects on *total* homicides and *firearm* homicides.

Evidence for this relationship is **inconclusive**.

Studies with comparable methodological strengths identified inconsistent evidence for the policy's effect on an outcome, or a single study found only uncertain or suggestive effects. Read more about [how we determined the strength of gun policy analysis research](#).

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found uncertain effects of both types of minimum age laws on total homicide and firearm homicide rates. These models had limited information to use in identifying causal effects of these laws because relatively few states changed one or both laws over the study period; in addition, every state but one that raised its minimum age for possession did so the same year it implemented a minimum purchase age law, making the effects of these laws confounded. Moreover, the statistical model had an unfavorable ratio of covariates to observations (less than one to eight), meaning the model may have been overfit, resulting in estimates and confidence intervals (CIs) that are unreliable indicators of the true causal effects of the laws.

Rudolph et al. (2015) found a significant effect for a decrease in firearm homicides (and an uncertain effect for nonfirearm homicides) associated with the implementation of a law in


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Connecticut that established a requirement to have a permit to purchase a firearm and increased the minimum age of handgun purchase from age 18 to age 21. The firearm homicide rate after passage of both provisions was found to be 63 percent of what would have been expected without them. However, because the law included both policies simultaneously, the effect attributable specifically to the minimum age law cannot be identified. In addition, because only one state in the analysis experienced the law change, the effects of the law are not well identified. The observed reduction in firearm homicides could be due to the law or to other events occurring in Connecticut around the same time the law passed.

The figure below displays the incidence rate ratios (IRRs) and CIs associated with the minimum age requirements examined in these studies.

Minimum age requirements for possessing a firearm have **uncertain** effects on *total* homicides and *firearm* homicides.



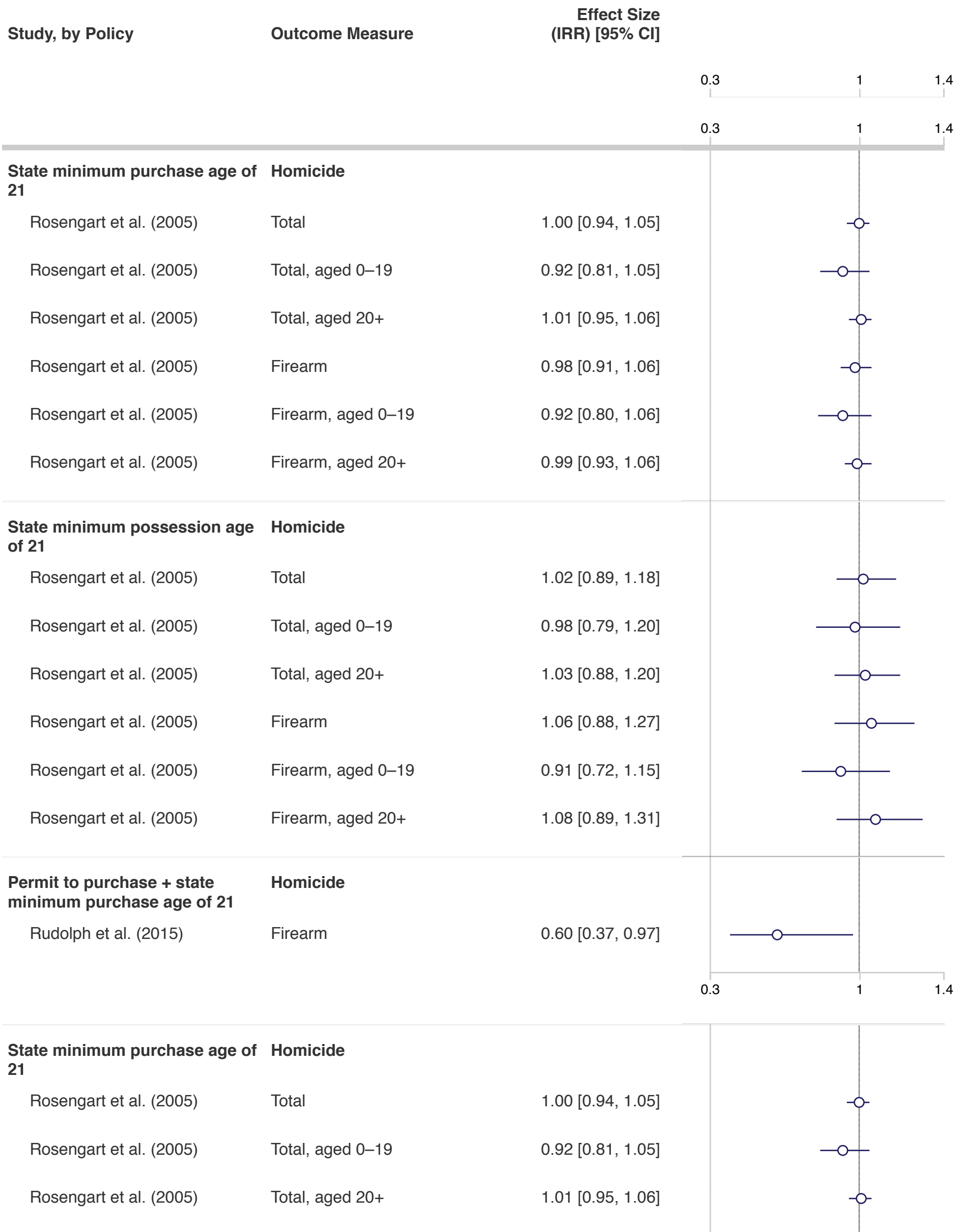
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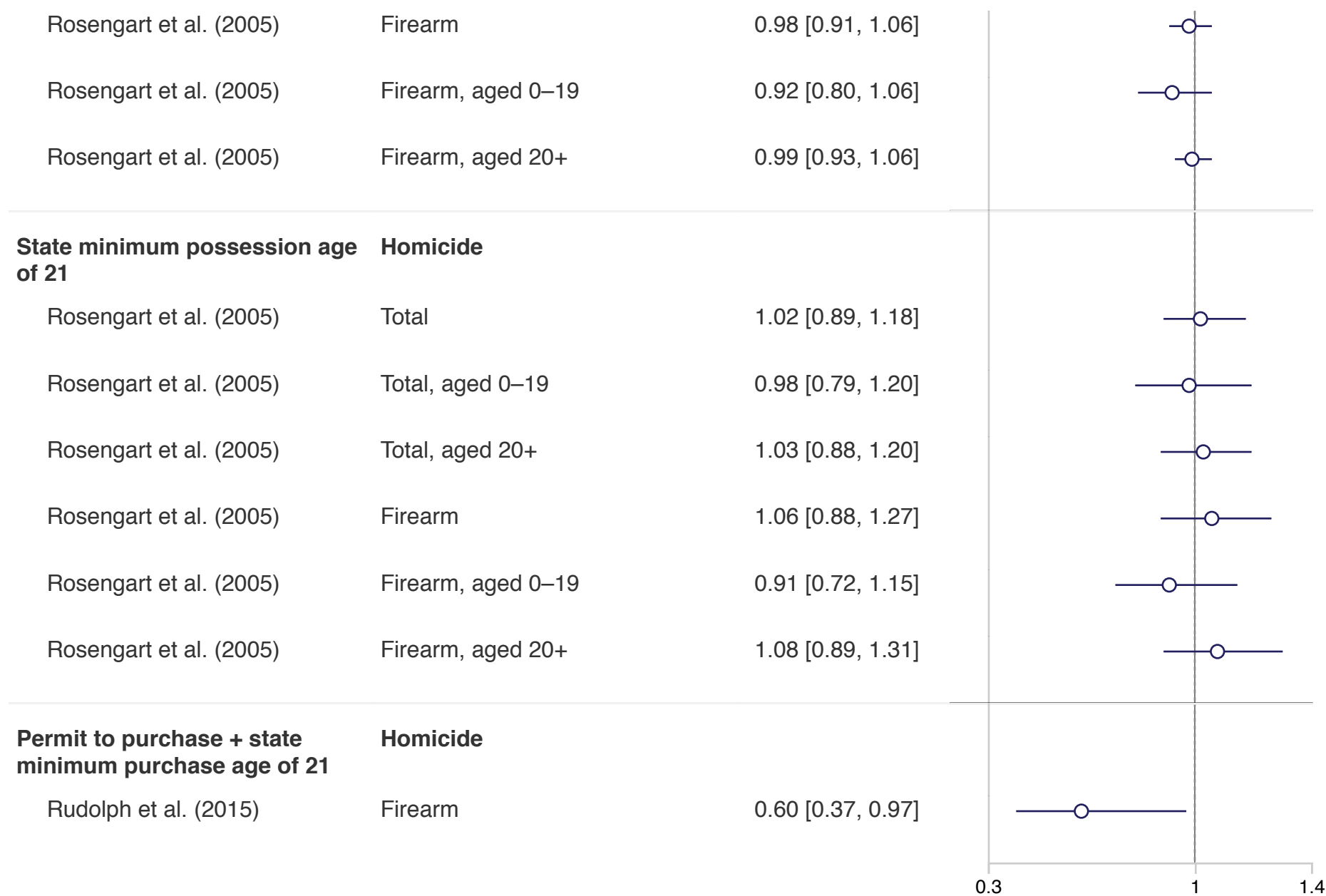
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## Incidence Rate Ratios Associated with the Effect of Minimum Age Requirements on Violent Crime

[HOW TO READ THIS CHART](#) 





**NOTE:** IRR values marked with empty circles indicate that we identified concerns with the study's methodology, and these concerns are described in the text above. Filled circles indicate that we identified no significant methodological concerns.

## Conclusions

We identified two qualifying studies that examined the effect of minimum age requirements for purchasing or possessing a firearm on total or firearm homicide rates.

*Minimum age requirements for purchasing a firearm.* Rosengart et al. (2005) found uncertain effects of laws making 21 the minimum age to purchase handguns on homicide rates and firearm homicide rates among all age groups. Rudolph et al. (2015) reported a significant effect consistent with minimum age requirements reducing firearm homicide rates, but they could not attribute this effect solely to a minimum purchase age policy because a permit-to-purchase provision was passed concurrently in the one state evaluated. On the basis of these results, and in consideration of the relative strengths of these studies, we find *inconclusive evidence for how minimum age requirements for purchasing a firearm affect total and firearm homicides.*

*Minimum age requirements for possessing a firearm.* Estimates by Rosengart et al. (2005) for

the effect of laws making 21 the minimum age for possession of handguns on total and firearm homicides were uncertain for all age groups examined. Therefore, we find *inconclusive evidence for how minimum age requirements for possessing a firearm affect total and firearm homicides.*

MINIMUM AGE REQUIREMENTS

VIOLENT CRIME

## References

Rosengart, M., P. Cummings, A. Nathens, P. Heagerty, R. Maier, and F. Rivara, “An Evaluation of State Firearm Regulations and Homicide and Suicide Death Rates,” *Injury Prevention*, Vol. 11, No. 2, 2005, pp. 77–83.

Rudolph, K. E., E. A. Stuart, J. S. Vernick, and D. W. Webster, “Association Between Connecticut’s Permit-to-Purchase Handgun Law and Homicides,” *American Journal of Public Health*, Vol. 105, No. 8, 2015, pp. E49–E54.

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## Featured Researcher

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Lea Xenakis is a policy analyst at the RAND Corporation. Her approach to research includes mixed methods, combining qualitative and quantitative methods. Xenakis has participated in over 15 program evaluations and systematic reviews. Her interests are in program development, capacity building,...

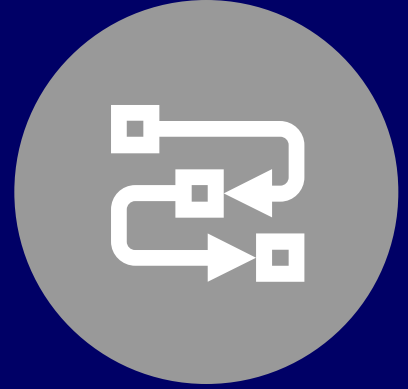
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