

Age and Gun Ownership Among Different Types of Guns

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Introduction

- With an estimated 393 million civilian-owned firearms in the United States, there are more guns than people (Small Arms Survey, 2018).
- 48,830 Americans died from guns in 2021, making it the deadliest year on record (National Center for Health Statistics, 2023).
- Gun violence research is widely underfunded.
- Gun owners are more likely to be vigilant towards people of color due to stereotypical assumptions of minority groups being more likely to be involved in crime (Gearhart, 2019).
- In order to best maximize gun violence prevention measures, it is important to understand trends in gun ownership. This includes age and fear of crime.
- Given that this is an underresearched topic, there are not many studies that compare gun ownership among different types of guns.

Research Questions

- To what extent is there an association between age and gun ownership? And would that association vary among different types of guns, particularly shotguns, rifles, and pistols?
- To what extent do motivations for gun ownership, like fear of crime, vary among gun owners of different types of guns?

Methods

Sample

- Respondents (n=3912) were drawn from the 2021 General Social Survey (GSS), a nationally representative sample of adults in the U.S. conducted between March 2021 and August 2021.

Measures

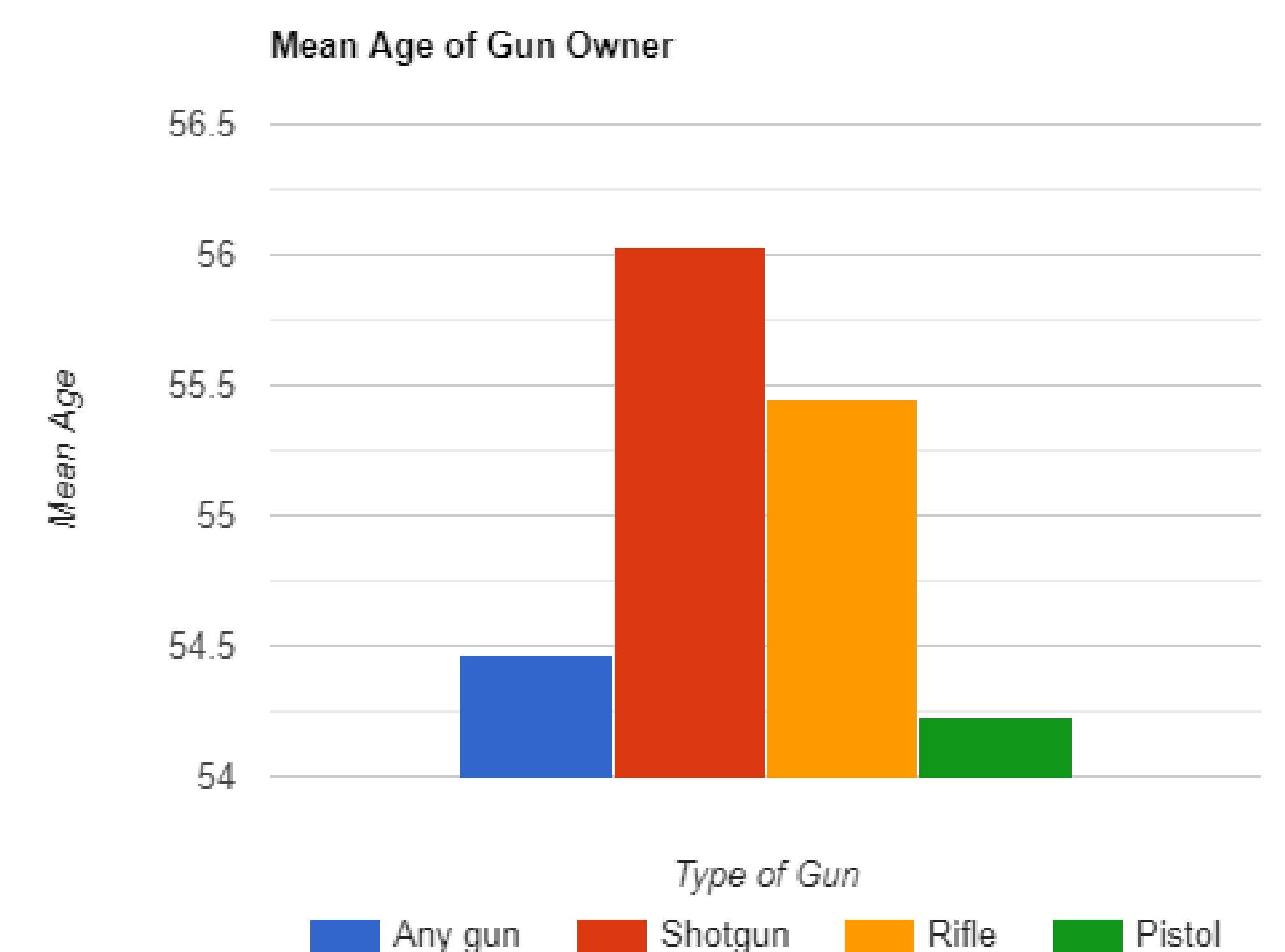
- Gun ownership for any gun, shotguns, rifles, and pistols were surveyed as "yes" or "no," which were coded into a "1" and "0" binary respectively after coding out missing data (i.e. "refused to answer").
- Fear to walk alone at night in the neighborhood (defined by a one mile radius) due to crime was also surveyed in a yes-no binary represented by "1" and "0" after missing data was coded out.
- Age was gathered as a quantitative variable. Everyone in this survey is 18 years or older.

Results

Mean Age of Gun Owners

- The mean age of gun owners in our sample is 54.47 years.
- Rifle and shotgun ownership mean age were above average. Rifle owners had a mean age of 55.45 years and shotgun owners had the highest with a mean of 56.03 years.
- Between pistol, shotgun, and rifle owners, pistol owners were the only gun owner group that had a mean age below the average gun owner age. Their mean age was 54.23 years.
- Additionally, Analysis of Variance (ANOVA) tests were able to show that the relationship between gun ownership and age ($p=0.02$), shotgun ownership and age ($p<0.01$), rifle ownership and age ($p<0.01$), and pistol ownership and age ($p<0.01$) are all significant relationships due to low p-values.

Figure 1. Mean age of gun owners between shotgun owners, rifle owners, pistol owners, and owners of any gun.



Logistic Regression Analysis

- After controlling for fear of walking alone at night in a neighborhood due to crime, aging one year increases the odds of owning a gun across all gun owner groups (any gun, shotgun, rifle, and pistol owners).
- The relationship between gun ownership and age is of a greater magnitude among gun owner groups with a higher mean age.
- Fear is a moderating variable between guns and age because it affects the strength of their relationship.
- Fear of crime was associated with lesser odds owning a gun across all gun owner groups.
- All of these odds ratios are significant due to low p-values (all under 0.05).

Figure 2. Mean age of gun owners between shotgun owners, rifle owners, pistol owners, and owners of any gun.

	% greater odds of owning a gun after aging one year	% less odds of owning a gun if fearing crime in the neighborhood
Shotgun ownership	1.6%	46.2%
Rifle ownership	1.3%	45.5%
Any gun ownership	1.2%	37.7%
Pistol ownership	1.1%	34.2%

Discussion

- By gun owner group, the mean age of gun owner coincides with both greater odds of owning a gun after aging one year and less odds of owning a gun if fearing crime in the neighborhood. Shotgun ownership has the highest of both of these odds and the highest mean age. This is followed by (in order across all three response variables) rifle ownership, any gun ownership, and pistol ownership.
- While fear of crime is associated with lesser odds of owning a gun, the 12% difference in lesser odds between shotgun ownership and pistol ownership may suggest (with further analysis) that pistol is the gun of choice for those who own guns due to fear of crime in their neighborhood.
- This research fuels the question of what drives younger Americans towards pistol ownership versus other types of guns.
- Gun safety groups may use this data to field more studies and develop gun-specific safe storage practices for different age groups.