

CHARACTERISTICS OF AUTOMATIC OR SEMIAUTOMATIC FIREARM OWNERSHIP IN THE UNITED STATES

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Are people who own semiautomatic or automatic firearms different from the rest of the population in some ways? This article first appeared in the American Journal of Public Health, in the February 1997 issue. The website for the American Journal and its parent organization is <http://www.apha.org>.

ABSTRACT

Objective. This study examined ownership patterns of automatic/semiautomatic firearms in the United States.

Methods. Data were derived from a national random-digit-dialing telephone survey of 800 gun owners.

Results. Sixty percent of gun owners reported owning an automatic or semiautomatic firearm. In comparison with other gun owners, owners of automatics or semiautomatics were more likely to be male, live in the South, own a gun for protection, and have a gun for work. They were also more likely to report binge drinking.

Conclusion. Owners of automatic or semiautomatic firearms differ from other gun owners in several respects, including frequency of binge drinking. (Am J Public Health. 1997; 87:286-288)

INTRODUCTION

The United States has more firearms per capita in civilian hands than any other country in the world. Approximately two thirds of these firearms are long guns, generally fired from the shoulder (rifles and shotguns), and about one third are handguns, designed to be fired with one hand (revolvers and pistols).¹ There are guns that are not firearms (such as pellet guns); in this paper, however, we use the word “gun” to mean “firearm.”

Both long guns and handguns can be semiautomatic; there are semiautomatic rifles and semiautomatic pistols. Automatic and semiautomatic refer to the operation mechanism of a firearm. What distinguishes automatic and semiautomatic firearms is that they can be spray fired. Holding down the trigger of an automatic firearm results in a continuous stream of bullets until the ammunition magazine is emptied. For a semiautomatic firearm, each trigger pull releases a single bullet, loads the next bullet, and permits rapid, sustained firing until the magazine is emptied.^{2,3}

Various studies have examined the ownership of guns and handguns in the United States. To our knowledge, no study has examined patterns of ownership of automatics or semiautomatics. We used data from a national gun survey to determine the extent to which gun owners own automatic or semiautomatic firearms and to examine the characteristics of people who own these weapons.

METHODS

In May and June 1994, under a contract with the Harvard Injury Control Center, Fact Finders Inc conducted a national random-digit-dialing telephone survey of 1200 adults 18 years of age and older. The survey was constructed to ensure that exactly 800 individuals who personally own a gun would be interviewed. Proportional sampling based on state population was performed to ensure a nationally representative sample. As a result of this stratification, gun owners in states with relatively few gun owners were over represented in the sample relative to

gun owners in states where a high percentage of people own firearms. The refusal rate was 27.1%.

The dependent variable was ownership of an automatic or semiautomatic weapon. To investigate the issue of who owns these weapons, we specifically included a question on the survey instrument that asked, "How many of the guns that you own are automatic or semiautomatic firearms?" A priori, we divided respondents into those who owned one or more automatic or semiautomatic weapons and those who owned none. One hundred twenty respondents (15%) answered the preceding question by indicating that they did not know or were not sure. These respondents were excluded from the analysis but were compared with other gun owners in terms of the independent variables.

No established theory suggests the form of the independent variables associated with ownership of automatic or semiautomatic weapons. Alternative forms were tested to determine whether the principal results were sensitive to the way these variables were specified. They were not.

We present the results for our initial, a priori categorization of the independent variables. Virtually all of the variables were dichotomized: gender (male vs female), age (less than 30 old vs 30 years old or older), race (White vs other), education (college degree vs no college degree), whether any children under 18 years were currently in the household, current region of residence (South vs other regions), urbanization (self-reported by respondent as urban, suburban, or rural), urbanization of respondent's residence at 12 years of age (urban vs suburban or rural), whether there was a gun in the household when the respondent was growing up, whether protection was one of the reasons for gun ownership, and whether the respondent owned a gun for work or had carried a gun for work in the past month. The South was defined as Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, Texas, Virginia, and West Virginia.

There is no strong consensus within the alcohol research community on the definition of binge drinking. However, public

health researchers commonly use the Centers for Disease Control and Prevention definition of binge drinking as having five or more drinks on a single occasion. Our binge drinking variable was determined by the response to the question "In the last two months, how times have you had five or more alcoholic drinks on one occasion?" We divided responses into three categories: none, once, more than once.

Multivariate logistic regression was used to estimate the odds ratio of ownership of an automatic or semiautomatic firearm for individuals with a given characteristic (e.g., urban community residence) relative to individuals without that characteristic while simultaneously controlling for the other variables in the model.

RESULTS

Approximately 60% of the gun owners possessed at least 1 automatic or semiautomatic firearm (Table 1). On average, these individuals owned 2.0 automatics or semiautomatics and 5.3 total guns. Gun owners who did not own automatics or semiautomatics possessed, on average, 3.0 guns ($P < .001$).

In the multiple regression, gun owners who were more likely than other gun owners to own an automatic or semiautomatic firearm were men, lived in the South, had lived in an urban community at 12 years of age, owned a gun for protection, and owned or carried a gun for work (Table 1).

More than 27% of gun owners reported binge drinking at least once in the previous 60 days, and 19% reported binge drinking more than once. After other factors had been held constant, gun owners who reported multiple episodes of binge drinking in the previous 60 days were more likely than other gun owners to own an automatic or semiautomatic (Table 1).

DISCUSSION

Owners of automatic or semiautomatic firearms are different from other gun owners in many respects. They own more guns and are more likely to be male, to be from the South, and to own or carry a gun for work. Perhaps the most interesting finding of

the present study is that owners of automatic or semiautomatic firearms are more likely than other gun owners (even after consideration of age, gender, and nine additional variables) to binge drink frequently.

The association between automatic or semiautomatic firearm ownership and binge drinking is disturbing. As a society, we would prefer that people who own a rapid-fire firearm do not also engage in binge drinking, which reduces inhibitions, impairs judgment, and increases aggressive behavior. While alcohol can increase positive feelings and may, in some situations, reduce the likelihood of violence,⁴ empirical evidence indicates a strong link between alcohol consumption and violent behavior.⁵

Alcohol consumption by younger men increases the likelihood that these individuals will perceive the behavior of others as insulting or challenging.⁶ Alcohol consumption by a stressed individual predisposes that person to violent behavior.⁷ In a self-report study of young male offenders in England, many claimed that alcohol influenced their behavior, leading them to do things they would not do when sober.⁸

Alcohol is a risk factor for domestic violence.⁹ It is also a risk factor for violent crime and for murder. Violent crime rates by geographic area have been directly linked to the area's per capita alcohol consumption.¹⁰

Binge drinking among high school students is a risk factor for fighting and for carrying weapons.¹¹ Binge drinking by college students is associated with other risky behavior.¹²

We do not know why there is a positive relationship between binge drinking and automatic or semiautomatic ownership. We assume that some third variable explains the association, because it is doubtful that binge drinking causes an individual to purchase a certain type of firearm or that owning a particular type of firearm causes one to drink heavily. Perhaps the root cause is an attitude toward risk¹³⁻¹⁵ that, in this instance, leads individuals to take the chance of losing control over their behavior by drinking large quantities of alcohol and also leads them to purchase a more dangerous type of firearm.

Our study has various limitations. The data were all self-reported. The validity of the binge drinking information may be of particular concern. However, reviews of the literature have found that self-reported alcohol consumption measures are reasonably valid (e.g., as compared with blood or breath tests in emergency room populations).¹⁶ Our study was an anonymous telephone survey about guns, with one question near the end on alcohol. Respondents had little reason to believe that a truthful answer would be personally detrimental.

Another potential problem is that 15% of respondents did not know for sure whether they owned an automatic or semiautomatic weapon. Nonresponders may have been unclear about what constitutes an automatic or semiautomatic weapon, may not have had full knowledge of their own firearm collection, or may not have wanted the interviewer to know this one piece of information. We do know that individuals who reported that they did not know the answer to this question were similar in most respects to gun owners who did not own automatics or semiautomatics, except that they were more likely to be female.

Certain data were not collected. We asked respondents only whether they owned an automatic or semiautomatic firearm. We did not ask why they owned such firearms, how often the guns were used, whether the firearms were long guns or handguns, or whether they believed any of their firearms should be classified as assault weapons. We did not ask about automatic and semiautomatics separately. However, since fully automatic weapons in private hands are rare, and owners of fully automatic firearms probably also own semiautomatics, we presumed that most of the respondents were answering in reference to semiautomatics.

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TABLE 1—Factors Associated with Automatic or Semiautomatic Gun Ownership in a National Random-Dial Survey of Gun Owners

	No. Gun Owners	Own Automatic or Semiautomatic Gun, %	Logistic Regression Odds Ratio (95% Confidence Interval) (n = 621)
Overall	680	60	...
Gender			
Male	462	56	1.97 (1.36, 2.86)***
Female	218	47***	
Age, y			
Under 30	124	72	1.45 (0.89, 2.37)
Over 30	555	57**	
Race			
Minority	64	73	1.46 (0.78, 2.75)
White	611	59*	
Education			
College degree	171	62	0.93 (0.63, 1.38)
Less	506	59	
Children under 18 years of age in household			
Yes	256	61	1.04 (0.73, 1.48)
No	408	60	
Lives in southern US			
Yes	194	68	1.75 (1.18, 2.58)**
No	486	57**	
Lives in urban community			
Yes	184	61	0.92 (0.61, 1.39)
No	487	59	
Lived in urban community at 12 years of age			
Yes	213	65	1.53 (1.02, 2.31)*
No	454	58	
Gun in household when growing up			
Yes	546	61	1.31 (0.83, 2.07)
No	131	56	
Owns gun for protection			
Yes	264	66	1.53 (1.07, 2.20)*
No	414	56**	

Owns or carries gun for work			
Yes	48	81	3.80 (1.53, 9.46)**
No	627	58**	
Had more than 5 drinks in one sitting in past 60 days			
No	464	56	
One time	61	61	1.01 (0.56, 1.82)
Two or more times	136	74***	1.89 (1.18, 3.02)**
Note. Significance levels refer to chi-square test. Pearson $\chi^2 = 67.34$ ($P < .001$).			
* $P < .05$; ** $P < .01$; *** $P < .001$.			

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