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Is an armed society a polite society? Guns and road rage

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Abstract

Background: While concerns about road rage have grown over the past decade, states have made it easier for motorists to carry firearms in their vehicles. Are motorists with guns in the car more or less likely to engage in hostile and aggressive behavior?

Methods: Data come from a 2004 national random digit dial survey of over 2400 licensed drivers. Respondents were asked whether, in the past year, they (1) made obscene or rude gestures at another motorist, (2) aggressively followed another vehicle too closely, and (3) were victims of such hostile behaviors.

Results: Seventeen percent admitted making obscene or rude gestures, and 9% had aggressively followed too closely. Forty-six percent reported victimization by each of these behaviors in the past year. Males, young adults, binge drinkers, those who do not believe most people can be trusted, those ever arrested for a non-traffic violation, and motorists who had been in a vehicle in which there was a gun were more likely to engage in such forms of road rage.

Conclusion: Similar to a survey of Arizona motorists, in our survey, riding with a firearm in the vehicle was a marker for aggressive and dangerous driver behavior.

Keywords: Firearms; Road rage; Aggressive driving

1. Introduction

A car is like a second home, and motorists tend to respond to perceived threats in a territorial fashion. Unfortunately, when another driver makes a mistake, it is often difficult for him to apologize, to signal "excuse me" in a way that can be readily understood. By contrast, cars provide an environment in which individuals may feel safe to display hostility. A car gives the motorist power, protection, easy escape, and anonymity. Not surprisingly, hostile behavior by motorists is relatively common (Whitlock, 1971; Turner et al., 1975; Fong et al., 2001).

The term "road rage" is relatively new, having first been described in the U.S. in the late 1980s (Fong et al., 2001). While the behavior is inconsistently defined (Smart and Mann, 2002; Dula and Geller, 2003), making indecent gestures at other drivers and following aggressively are almost unanimously considered types of "road rage" (Joint, 1995; Wells-Parker et al., 2002; Miller et al., 2002; Smart et al., 2003). Until quite recently, studies focusing on the characteristics of road rage perpetrators were rare (Smart and Mann, 2002); in the past few years they have been the subject of a number of a empirical inquiries (Dukes et al., 2001; Wells-Parker et al., 2002; Miller et al., 2002; Asbridge et al., 2003). Our study uses a national survey to further examine risk factors for road rage perpetration and victimization.

Over the past two decades, 23 states have made it easier for residents to legally carry firearms on their person and in their vehicles (Rosengart et al., 2005). It is estimated that over eight million Americans carry guns in their vehicles each month (Hemenway, 2004).

One claim about gun carrying is that "an armed society is a polite society". While a Google search of that exact quote in October 2005 yielded over 33,000 hits, no one seems to have explained precisely what the phrase means, and empirical evidence concerning its validity is minuscule. We examine one specific aspect of the potential association of armed individuals and polite individuals—whether motorists with guns in the car tend to be more or less polite, and secondarily, whether these motorists are more or less likely to be victimized by impolite drivers. An earlier study by the senior authors found that, among Arizona drivers, gun carrying motorists were more likely, rather than less likely, to act rudely and aggressively (Miller et al.,

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2002). The present study investigates whether or not that result holds true at the national level.

2. Methods

In the spring of 2004, the Harvard Injury Control Research Center commissioned Fact Finders, Inc., a social science research firm in Albany, NY, to conduct a national random-digit-dial telephone survey. Using techniques developed by Waksberg (1978), telephone numbers were randomly selected to include households with both listed and unlisted numbers. The random digit-dial technique is designed to ensure an equal, unbiased probability of inclusion in the sample of all households with a single telephone line. Once a telephone number had been randomly selected for inclusion in the survey sample, as many as 10 repeat phone calls were made to screen the selected household. Respondents were told that all their answers were completely confidential, and neither names nor addresses were recorded.

To ensure that the sample would be representative not only at the national but also the state level, the number of interviews designated for each of the states was determined by that state's population relative to the total population of the United States based on 2000 Census figures. Instead of interviewing the adult who answered the phone or who happened to be home at the time of the call, the study was designed to select a household adult chosen at random. In practice, this meant alternately asking to speak with a man or woman living in the household. If there was no person of the requested gender living in the household, the initial respondent was interviewed.

Each interview started with an introduction that stated the purpose of the research: to understand "the nation's opinions and experiences on gun ownership and use." Respondents were told that there would be additional questions about aggressive driving and other topics, that the sponsor of the research was the Harvard Injury Control Research Center, and that their participation was important for ensuring a representative sample. Respondents were guaranteed that their participation would remain anonymous.

Of the 4015 telephone numbers that were randomly selected and yielded contact with households that were eligible for the survey, 31% refused to participate. This response rate is comparable to that of other national surveys on firearms (Ludwig et al., 1998; Azrael et al., 2000; Hemenway et al., 2000; Hemenway et al., 2001) and falls within the response rates for most Behavioral Risk Factor Surveillance System firearm modules (CDC, 1998). The initial sample comprised 2770 adults 18 years of age and older living in the United States.

The demographic composition of the sample is similar to that of the adult population described by the 2000 U.S. Census: 51% of our sample is female (versus 51% in the 2000 Census), 37% of our households contain children under 18 years of age (versus 36% in the Census), 79% of our sample is white (versus 75% in the Census), and 19% of our adults are 65 years of age or older (versus 14% in the Census). Our survey contains more people who have a college degree 33% (versus 25% in the Census).

One question asked, "Are you a licensed driver?" ninety-three percent (93%) answered in the affirmative, and were included in the analyses ($N = 2563$). Four questions asked about behaviors which are generally considered to be components of road rage; responses to these questions are the dependent variables in the analyses: In the last 12 months, (1) Has another motorist made obscene or rude gestures at you?; (2) Have you made obscene or rude gestures at another motorist?; (3) Has another motorist aggressively followed your vehicle too closely?; and (4) Have you aggressively followed another vehicle too closely?

One hundred and four (104) respondents did not answer all four of these questions and were excluded from the analyses, leaving 2459 individuals in our final sample. Including those respondents who answered some of the road rage questions, but not others, had no discernible effect on the results.

Independent variables are respondents' (1) gender, (2) age (18–34; 35–59; 60 or older), (3) race (non-white or white), (4) education (high school or less; some college; college), (5) marital status (married/living with intimate or single/divorced/widowed), (6) household income (>$40,000; <$40,000), (7) urbanization (suburban, urban, rural), (8) census region (northeast, midwest, south, west), (9) political identity (liberal, moderate, conservative), (10) driving frequency (>18,000 miles per year; 12,000–18,000; 6000–12,000; <6,000), (11) smoking ("In the last week, have you smoked a pack or more of cigarettes?"), (12) binge drinking ("In the last month, have you had 5 or more alcoholic drinks on any occasion?"), (13) trouble with the law ("Have you ever been arrested for any reason other than a traffic violation?"), (14) trust ("Generally speaking, would you say that most people can or can not be trusted?"), and (15) gun-in-car ("In the last 12 months, how many days were you in a motor vehicle in which there was a gun?). We categorize the gun-in-car question into one or more days versus 0 days.

Since the gun-in-car variable is a focus of the study, for sensitivity analysis we also tried two other categorizations of the variable. One divided the response to the gun-in-car question into four parts (>180 days; 10–180 days; 1–9 days; 0 days). We also combined the gun-in-car question (yes/no) with the response to the question "Do any guns in your home belong to you personally" (yes/no) to create four categories.

Bivariate analysis is used initially to explore the relationship between dependent and independent variables, using the χ^2 test for significant differences in discrete independent variables. In multivariate analyses, logistic regression is used to determine risk factors for road rage.

The Institutional Review Board at Harvard School of Public Health approved this study in 2004.

3. Results

Seventeen percent (17%) of drivers reported having made obscene gestures at other drivers in the past year; 9% reported aggressively following other drivers, and 3.5% reported both behaviors (Table 1). In bivariate analysis, these behaviors were significantly more common among males than females (e.g., 20% obscene gestures versus 14%), younger adults (35% obscene gestures for the 18–34 age group, versus 17% for the 35–59 age group, versus 4% for the elderly) and those who drove more frequently (23% obscene gestures for those who