Differences Between New and Long-Standing US Gun Owners: Results From a National Survey

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Objectives. To quantify the proportion of current US gun owners who are new to owning firearms and compare new versus long-standing gun owners with respect to their firearms and firearm-related behaviors.

Methods. We performed a cross-sectional analysis of a nationally representative probability-based online survey conducted in 2015 in the United States. We defined new gun owners as current firearm owners who acquired all of their firearms within the past 5 years, but who lived in a home without a gun at some time over the past 5 years. We defined long-standing firearm owners as all other current gun owners.

Results. New gun owners represented 10% of all current US adult gun owners. In addition to being younger than long-standing gun owners, new gun owners were more likely to be liberal, own fewer guns, own handguns, own guns only for protection, and store guns in a safe manner.

Conclusions. Gun ownership is dynamic, with approximately 1 million Americans becoming new gun owners each year.

Public Health Implications. Clinical guidelines should be updated to explicitly endorse re-evaluating household firearm status at regular intervals. (*Am J Public Health.* 2018;108: 871–877. doi:10.2105/AJPH.2018.304412)

See also Galea and Vaughan, p. 856; and the Gun Violence Prevention Section, pp. 858–888.

Compared with gun owners in the 1990s, gun owners today own more guns, especially handguns, and are more likely to own guns for protection (rather than hunting).[1,2] The extent to which this shift is attributable to new owners being different from long-standing gun owners, or to changes among long-standing owners the longer they own firearms, or both, is not known. In fact, no previous survey research has quantified the proportion of current gun owners who are new to owning firearms; described in what ways, if any, Americans who recently became gun owners differ from long-standing gun owners; or examined, with respect to the stock and flow of firearms, how the US civilian gun stock is distributed across new, compared with long-standing, gun owners. For example, previous research[1–4] has generally found that firearms are most likely to be owned by White men who live in rural areas, are middle-aged or older, have a middle to higher income, grew up with guns in the home, and live in the Southern or Midwestern regions of the country. In addition, this research has found that a majority of gun owners store firearms unlocked, own both handguns and long guns, and own 3 or more guns. No study to date has, however, examined the extent to which these characterizations of US firearm owners apply equally to those who have owned firearms for a long period of time versus those who are new to gun ownership.

We addressed these knowledge gaps by estimating, for the first time, the proportion of current gun owners who at some point within the past 5 years did not live in a home with a gun but have since acquired firearms (new firearm owners), and compared them and their firearms with all other firearm owners (long-standing firearm owners) and their firearms. Quantifying the dynamic nature of firearm ownership and describing who new gun owners are and how they store their household guns may help clinicians and public policymakers focus attention on groups of Americans that might otherwise be overlooked under the assumption that becoming a gun owner is a rare event, or if new gun owners are assumed to look a lot like long-standing gun owners.

METHODS

Data came from a Web-based nationally representative survey and a brief follow-up of gun owners who responded to the primary survey. The surveys were designed by coauthors Azrael and Miller, and were conducted by the survey firm Growth for Knowledge (GfK). The initial survey, conducted in April 2015, focused on gun ownership and use, and the second, conducted in November 2015, ascertained when the most recent firearm was acquired.

Respondents to the April 2015 survey were drawn from GfK's KnowledgePanel, an online panel of approximately 55 000 US adults (aged ≥ 18 years) selected on an ongoing basis to ensure samples representative of the US adult population. All panel members except those serving on active duty in the US armed forces were eligible for the April 2015

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survey. Firearm owners and veterans were oversampled. Of the 7318 panel members invited to complete the survey, 4165 started and 3949 completed the survey (response rate 54.6%, participation rate 94.8%). In the April 2015 survey, 2072 respondents were identified as gun owners by first asking all respondents: "Do you or does anyone else you live with currently own any type of guns?" Respondents who answered affirmatively (n = 2933) were then asked: "Do you personally own a gun?" Of the 2072 gun owners identified in the April survey, 1880 remained in GfK's KnowledgePanel in November 2015 and were invited to participate. Of these 1880, 1613 completed the survey (85.8%). Respondents were not provided a specific incentive for completing either survey, although GfK does offer a modest rewards system through which respondents can accumulate points for completing surveys and then redeem them for merchandise, cash, or sweepstakes participation. GfK provided the investigators with final survey weights that combined presample weights with study-specific poststratification weights to account for oversampling and for survey nonresponse so that estimates from the surveys are representative of US adults aged 18 years or older in 2015.

Among current gun owners who completed both surveys, we differentiated new gun owners from long-standing gun owners by using 2 questions defined a priori as pertaining to the 5 years before the survey: one about continuity of household firearm exposure (from April 2015 survey: "In the last 5 years, was there any time that you lived in a home that did not have any guns?") and one about when they most recently acquired a firearm (from November 2015 survey: "Thinking about the gun you most recently acquired, approximately when did you acquire it?"). We classified respondents as "new gun owners" if in the past 5 years they had both (1) lived in a home without a gun and (2) acquired their most recent gun within these same 5 years. All other current gun owners were classified as long-standing gun owners. We excluded respondents who refused or did not know the answer to questions regarding continuity of household firearm exposure (n = 47) or timeframe of their most recent firearm acquisition (n = 15) from primary analyses. We conducted sensitivity analyses that characterized these excluded respondents as "new owners" and then, separately, as "long-standing owners."

Except for the timeframe of their most recent firearm acquisition, respondents were characterized according to data from the April 2015 survey. We compared new and long-standing gun owners on more than 20 characteristics: gender (male or female); age (18–24, 25–44, 45–64, or ≥ 65 years); race (White, Black, or other); region (Northeast, Midwest, South, or West); urbanicity—"Which best describes the community that you currently live in?" (urban, suburban, or rural); marital status (married or living with a partner vs not married nor living with a partner); household size (1, 2, or ≥ 3); age of youngest child in household (none, 0–12, or 13–17 years); political views (liberal, moderate, or conservative); grew up in a home with a gun (yes, no, or don't know); formal firearm training experience (yes or no); number of guns (1, 2, or ≥ 3); type of guns owned (handgun only, long gun only, or both); where most recent firearm was acquired (purchased from store, gun show, family or acquaintance, pawnshop, online, or other, or nonpurchase transfer); underwent background check with most recent gun acquisition if acquisition occurred within past 2 years (yes, no, or don't know); number of reasons for gun ownership (1 or >1); reasons for gun ownership (protection, hunting, sporting, collection, or other); gun storage broadly characterized (any gun unlocked, yes or no; any gun unloaded, yes or no); gun storage more finely characterized into mutually exclusive categories (any gun both loaded and unlocked, all guns unloaded and locked, or all other storage practices); possess concealed carry permit (yes or no); and carried loaded handgun on person in past 30 days (yes or no).

We used bivariate and age-adjusted logistic regression models to examine the relationship between new gun ownership status and these measured characteristics. We excluded respondents from analyses for questions they did not answer. We conducted sensitivity analyses in which extreme responses were assigned to all respondents who refused to answer a given question and compared these with primary analyses.

To examine the association between new gun owner status and firearm storage behaviors, we ran unadjusted and adjusted logistic regression models. We selected covariates included in multivariate models on the basis of earlier literature that has identified correlates of particular firearm storage practices[5–7] and included the gun owner's age, formal firearm training experience, reasons for gun ownership, type of guns owned (handgun only, long gun only, or both), and the presence and age of the youngest child in the gun owner's household.

We conducted all analyses with the Stata IC 14 SVY suite (StataCorp LP, College Station, TX), with use of appropriate weighting commands (using the weight variable provided by GfK) to generate national estimates and following the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines for reporting. We report the weighted percentages and 95% confidence intervals (CIs).

RESULTS

Of current gun owners, 12.3% (95% CI = 10.4%, 14.5%) reported that they had lived in a home that did not contain firearms at some point during the past 5 years; 77.3% (95% CI = 69.2%, 83.8%) of these reported that their most recent firearm acquisition occurred within the past 5 years. Accordingly, by our definition of new gun owner, we estimate that 9.5% (95% CI = 7.8%, 11.5%) of current US adult gun owners were new gun owners in 2015 (Table 1).[2] Of the 1613 gun owners who completed the follow-up survey, 31 (1.9%) could not be classified as a new or long-standing gun owner as they did not know either the date of their most recent acquisition or whether they lived in a home without a gun at some point in the last 5 years. Sensitivity analyses (not shown) that characterized all 31 respondents first as new owners, then, separately, as long-standing owners, produced results that did not differ materially from those we reported in primary analyses.

New and long-standing gun owners did not differ statistically across most characteristics including gender, race, region, urbanicity, marital status, whether they grew up in a gun-owning household, and whether they had formal firearm training (Table 1). New and long-standing gun owners did differ, however, in terms of their age, household

TABLE 1—Characteristics of Current Adult Gun Owners by Duration of Firearm Ownership: United States, 2015

Characteristics	New Gun Owners,[a] % (95% CI)	Long-Standing Gun Owners,[b] % (95% CI)	Unadjusted OR[c] (95% CI)	Age-Adjusted OR (95% CI)
Gender				
Male	64.3 (53.2, 74.0)	72.7 (69.8, 75.5)	0.7 (0.4, 1.1)	0.6 (0.4, 1.0)
Female	35.7 (26.0, 46.8)	27.3 (24.5, 30.2)	1.5 (0.9, 2.4)	1.5 (1.0, 2.5)
Age, y				
18–24	13.2 (6.7, 24.3)	3.6 (2.3, 5.5)	5.6 (3.3, 9.6)	NA
25–44	56.0 (45.5, 65.9)	26.7 (23.9, 29.7)	1.9 (1.2, 3.0)	NA
45–64	21.7 (15.3, 29.8)	44.1 (41.1, 47.1)	0.4 (0.3, 0.7)	NA
≥ 65	9.2 (5.3, 15.6)	25.6 (23.2, 28.2)	0.3 (0.2, 0.5)	NA
Race				
White	75.6 (64.3, 84.2)	82.1 (79.1, 84.7)	0.7 (0.4, 1.2)	0.6 (0.3, 1.1)
Black	8.4 (4.0, 16.7)	7.1 (5.4, 9.3)	1.2 (0.5, 2.7)	1.8 (0.8, 4.1)
Other	16.0 (8.8, 27.3)	10.8 (8.7, 13.3)	1.6 (0.8, 3.2)	1.4 (0.7, 2.9)
Region				
Northeast	14.6 (9.0, 23.0)	12.4 (10.5, 14.5)	1.2 (0.7, 2.2)	1.3 (0.7, 2.4)
Midwest	27.9 (19.7, 37.9)	23.5 (21.1, 26.0)	1.3 (0.8, 2.0)	1.1 (0.7, 1.8)
South	41.6 (31.6, 52.3)	43.4 (40.3, 46.4)	0.9 (0.6, 1.4)	1.1 (0.7, 1.7)
West	16.0 (9.2, 26.2)	20.8 (18.4, 23.4)	0.7 (0.4, 1.4)	0.7 (0.3, 1.2)
Urbanicity				
Urban	14.9 (8.4, 25.0)	16.7 (14.5, 19.1)	0.9 (0.5, 1.7)	1.0 (0.5, 1.8)
Suburban	48.4 (38.0, 58.8)	49.0 (46.0, 52.1)	1.0 (0.6, 1.5)	0.9 (0.6, 1.5)
Rural	36.8 (27.4, 47.2)	34.3 (31.4, 37.2)	1.1 (0.7, 1.7)	1.1 (0.7, 1.8)
Marital status				
Married or living with partner	65.3 (54.2, 74.9)	72.0 (68.9, 74.8)	0.7 (0.5, 1.2)	0.9 (0.5, 1.6)
Not married nor living with partner	34.7 (25.1, 45.8)	28.0 (25.2, 31.1)	1.4 (0.8, 2.2)	1.1 (0.6, 1.9)
Household size				
1	21.0 (13.3, 31.5)	18.8 (16.4, 21.5)	1.1 (0.6, 2.0)	1.6 (0.9, 2.8)
2	27.8 (20.1, 37.1)	44.6 (41.7, 47.7)	0.5 (0.3, 0.7)	0.7 (0.4, 1.1)
≥ 3	51.2 (40.8, 61.6)	36.5 (33.6, 39.6)	1.8 (1.2, 2.8)	1.0 (0.6, 1.7)
Age of youngest child in household				
No children	60.7 (49.9, 70.6)	74.2 (71.4, 76.9)	0.5 (0.3, 0.8)	0.9 (0.5, 1.6)
0–12 y	33.0 (23.6, 43.9)	18.7 (16.4, 21.4)	2.1 (1.3, 3.5)	1.1 (0.6, 2.1)
13–17 y	6.3 (2.9, 12.9)	7.0 (5.6, 8.9)	0.9 (0.4, 2.0)	0.8 (0.3, 1.9)
Political views				
Liberal	27.9 (19.1, 38.8)	12.8 (10.9, 15.1)	2.6 (1.6, 4.4)	2.7 (1.6, 4.6)
Moderate	36.2 (26.6, 47.0)	41.6 (38.6, 44.7)	0.8 (0.5, 1.3)	0.8 (0.5, 1.3)
Conservative	35.9 (26.7, 46.4)	45.6 (42.5, 48.6)	0.7 (0.4, 1.0)	0.7 (0.4, 1.0)
Grew up in a home with a gun				
No	24.9 (17.4, 34.2)	19.5 (17.1, 22.1)	1.4 (0.9, 2.2)	1.6 (1.0, 2.6)
Yes	69.9 (60.1, 78.2)	78.1 (75.3, 80.6)	0.7 (0.4, 1.0)	0.5 (0.3, 0.9)
Don't know	5.2 (2.1, 12.1)	2.4 (1.6, 3.7)	2.2 (0.8, 6.0)	3.3 (1.1, 9.9)
Firearm training				
No	41.2 (31.3, 51.9)	38.0 (35.0, 41.0)	1.1 (0.7, 1.8)	1.2 (0.8, 2.0)
Yes	58.8 (48.1, 68.7)	62.0 (59.0, 65.0)	0.9 (0.6, 1.4)	0.8 (0.5, 1.3)

Note. CI = confidence interval; NA = not applicable; OR = odds ratio.

[a]Lived in a home without a gun at some point within past 5 years (2010–2015) but have since acquired all of their guns.

[b]Acquired at least 1 gun more than 5 years ago (before 2010) or lived in a home with a gun persistently for the past 5 years, or both.

[c]Odds of a given row characteristic among new gun owners divided by odds of that same row characteristic among long-standing gun owners.

size, presence of children, age of youngest child, and political views. New owners were younger than long-standing owners: slightly more than two thirds of new gun owners (69.2%; 95% CI = 52.2%, 90.2%) were younger than 45 years, while slightly fewer than one third of long-standing gun owners were younger than 45 years (30.3%; 95% CI = 26.2%, 35.2%). New gun owners lived in larger households: 51.2% reported living in a household with 3 or more people (95% CI = 40.8%, 61.6%) compared with 36.5% (95% CI = 33.6%, 39.6%) of long-standing gun owners. New gun owners had younger children: 33.0% lived with a child aged 12 years or younger (95% CI = 23.6%, 43.9%), compared with 18.7% (95% CI = 16.4%, 21.4%) of long-standing gun owners. Of note, neither the positive association between household size and being a new gun owner nor the positive association between being a new gun owner and having younger children remained in age-adjusted analyses.

Although a plurality of new gun owners identified as moderate (36.2%; 95% CI = 26.6%, 47.0%) and a plurality of long-standing owners identified as conservative (45.6%; 95% CI = 42.5%, 48.6%), new gun owners were more likely to identify as liberal (27.9%; 95% CI = 19.1%, 38.8%) compared with long-standing gun owners (12.8%; 95% CI = 10.9%, 15.1%).

On average, new gun owners reported owning fewer guns than did long-standing gun owners: 2.2 (95% CI = 1.8, 2.7) guns per new owner, compared with 5.4 (95% CI = 4.8, 6.1) guns per long-standing owner (Table 2). Whereas approximately half of new gun owners (52.2%; 95% CI = 41.7%, 62.6%) reported owning a single gun, only about a quarter of long-standing gun owners reported owning only 1 gun (24.3%; 95% CI = 21.7%, 27.1%). New gun owners were more likely than long-standing gun owners to own only handguns (44.2%; 95% CI = 34.1%, 54.8%, compared with 22.8%; 95% CI = 20.2%, 25.6%, respectively). New gun owners were less likely than were long-standing gun owners to own both handguns and long guns: 35.7% (95% CI = 26.3%, 46.4%) of new gun owners compared with 57.2% (95% CI = 54.1%, 60.2%) of long-standing gun owners. New and long-standing gun owners did not differ with respect to where they acquired their most recent firearm or whether the acquisition involved a background check.

Of new gun owners, 57.4% (95% CI = 46.6%, 67.6%) reported only 1 reason for owning a gun, compared with 38.8% (95% CI = 35.8%, 42.0%) of long-standing gun owners. Protection was the most frequently reported reason for owning a gun among both new (68.6%; 95% CI = 58.0%, 77.6%) and long-standing (69.0%; 95% CI = 66.2%, 71.7%) gun owners. More than a third of new gun owners (37.7%; 95% CI = 28.2%, 48.3%) reported protection being the sole reason they own a gun, compared with only 22.4% (95% CI = 19.8%, 25.2%) of long-standing gun owners. New gun owners were less likely to report owning a gun for hunting, sporting, collection, or any other use compared with long-standing gun owners. There was no appreciable difference between the 2 groups in concealed carry permit prevalence or carrying practices.

In age-adjusted models (Tables 1 and 2), new gun owners were more likely than were long-standing gun owners to be liberal (adjusted odds ratio [AOR] = 2.7; 95% CI = 1.6, 4.6), to not have grown up in home with a gun (AOR = 0.5; 95% CI = 0.3, 0.9), to own only 1 gun (AOR = 3.6; 95% CI = 2.2, 5.7), to own only handguns (AOR = 2.8; 95% CI = 1.7, 4.4), and to own guns for a single reason (AOR = 2.3; 95% CI = 1.5, 3.8), mostly for protection only (AOR = 2.4; 95% CI = 1.5, 3.8).

In crude and multivariate analysis, new gun owners were more likely than long-standing gun owners to store all household firearms unloaded (AOR = 2.1; 95% CI = 1.2, 3.6), and to have no firearm stored loaded and unlocked (AOR = 2.3; 95% CI = 1.2, 4.3; Table 3). New gun owners were not significantly more likely to store all their guns locked compared with long-standing gun owners.

DISCUSSION

We used nationally representative survey data from 2015 to describe, for the first time, the distribution of new versus long-standing owners among current US adult firearm owners. We estimate that 10% of gun owners are new owners, where "new" is defined as having become a gun owner in the previous 5 years. Using data from the current survey, Azrael et al. estimated that there were 55 million US adult gun owners in 2015.[2] Accordingly, over the 5 years before our survey (2010–2015), 5.2 million US adults became new gun owners. Our finding that 10% of current US adult gun owners were new gun owners (and that nearly 15% of gun owners with young children in their household were new to gun ownership) suggests that gun ownership status may be more dynamic than a narrow focus on the concentration of more guns in fewer civilian hands might suggest.[2,4,8,9] In fact, new gun owners own more than 11 million firearms (4.2%; 95% CI = 2.9%, 6.3%) of the 270 million guns in the US civilian gun stock[2] and 16.3% (95% CI = 11.2%, 24.3%) of the 70 million[2] new and used firearms that exchanged hands in the 5 years before the survey (not shown).

New and long-standing gun owners did not differ in their propensity to live in urban areas, to own firearms for protection, or to acquire their most recent firearm in a certain venue, but new gun owners were younger than long-standing gun owners. While the age-related disparity between new and long-standing gun owners explains some observed differences across other characteristics, new gun owners remained significantly more likely than long-standing gun owners to be liberal, to own fewer guns, to own only handguns, and to own guns for a single reason (predominantly protection against strangers), even after we adjusted for age. With respect to firearm storage practices, with adjustment for additional characteristics known to be related to firearm storage practices,[5–7] new gun owners were more likely than were long-standing gun owners to store their household firearms in a safer manner.

As firearms are a leading cause of mortality for children, and the way that household firearms are stored modifies this risk to some extent,[10–13] it is encouraging that new gun owners are more likely than are long-standing gun owners to store household firearms safely. Nevertheless, it remains concerning that 2 in 5 new gun owners with children store at least 1 of their guns unlocked, 2 in 5 store at least 1 gun loaded, and fewer than 1 in 3 new gun owners living with children follow the American Academy of Pediatrics' recommendation that all household guns be stored unloaded and locked.[12,14]

TABLE 2—Firearm-Related Characteristics and Behaviors Among Current Adult Gun Owners by Duration of Firearm Ownership: United States, 2015

Characteristics and Behaviors	New Gun Owners, % (95% CI)	Long-Standing Gun Owners, % (95% CI)	Unadjusted OR,[a] (95% CI)	Age-Adjusted OR (95% CI)
Number of guns[b]				
1	52.2 (41.7, 62.6)	24.3 (21.7, 27.1)	3.4 (2.2, 5.3)	3.6 (2.2, 5.7)
2	28.8 (19.9, 39.7)	18.8 (16.5, 21.3)	1.7 (1.1, 2.9)	1.6 (1.0, 2.8)
≥3	19.0 (12.3, 28.1)	56.9 (53.8, 60.0)	0.2 (0.1, 0.3)	0.2 (0.1, 0.3)
Type of guns owned				
Handgun only	44.2 (34.1, 54.8)	22.8 (20.2, 25.6)	2.7 (1.7, 4.2)	2.8 (1.7, 4.4)
Long gun only	20.1 (13.1, 29.6)	20.0 (17.7, 22.5)	1.0 (0.6, 1.7)	0.9 (0.5, 1.6)
Both	35.7 (26.3, 46.4)	57.2 (54.1, 60.2)	0.4 (0.3, 0.7)	0.4 (0.3, 0.7)
Where most recent firearm was acquired				
Purchase				
Store	53.1 (42.5, 63.4)	48.8 (45.7, 51.8)	1.2 (0.8, 1.8)	1.1 (0.7, 1.8)
Gun show	2.6 (0.8, 8.1)	3.0 (2.2, 4.1)	0.9 (0.3, 2.9)	0.7 (0.2, 3.0)
Family/acquaintance	11.7 (6.5, 20.4)	9.4 (7.8, 11.2)	1.3 (0.7, 2.5)	1.4 (0.7, 2.7)
Pawnshop	4.6 (1.4, 13.7)	4.2 (3.1, 5.7)	1.1 (0.3, 3.7)	0.8 (0.2, 2.7)
Online	2.5 (0.7, 8.7)	0.9 (0.5, 1.6)	2.8 (0.7, 11.4)	2.6 (0.4, 18.3)
Other	2.8 (0.5, 14.9)	3.1 (2.3, 4.3)	0.9 (0.1, 5.4)	1.3 (0.2, 7.1)
Nonpurchase transfer	22.7 (15.0, 32.8)	30.6 (27.9, 33.5)	0.7 (0.4, 1.1)	0.7 (0.4, 1.2)
Underwent background check with most recent firearm acquisition				
No	21.0 (11.3, 35.8)	17.8 (13.7, 22.8)	1.2 (0.6, 2.7)	1.4 (0.6, 3.1)
Yes	70.6 (54.6, 82.7)	75.5 (69.7, 80.4)	0.8 (0.4, 1.6)	0.7 (0.3, 1.6)
Don't know	8.4 (2.4, 25.4)	6.7 (4.0, 11.2)	1.3 (0.3, 5.1)	1.1 (0.3, 5.1)
Number of reasons for gun ownership				
Single reason	57.4 (46.6, 67.6)	38.8 (35.8, 42.0)	2.1 (1.4, 3.3)	2.3 (1.5, 3.8)
Multiple reasons	42.6 (32.4, 53.4)	61.2 (58.0, 64.2)	0.5 (0.3, 0.7)	0.4 (0.3, 0.7)
Reasons for gun ownership				
Protection[c]	68.6 (58.0, 77.6)	69.0 (66.2, 71.7)	1.0 (0.6, 1.6)	1.0 (0.6, 1.6)
Only protection	37.7 (28.2, 48.3)	22.4 (19.8, 25.2)	2.1 (1.3, 3.3)	2.4 (1.5, 3.8)
Hunting	20.0 (12.7, 30.1)	43.6 (40.6, 46.6)	0.3 (0.2, 0.6)	0.3 (0.2, 0.5)
Only hunting	3.2 (1.1, 8.7)	6.0 (4.8, 7.4)	0.5 (0.2, 1.5)	0.6 (0.2, 1.6)
Sporting	26.7 (18.6, 36.7)	39.5 (36.5, 42.4)	0.6 (0.3, 0.9)	0.4 (0.3, 0.7)
Only sporting	5.6 (2.7, 11.1)	3.7 (2.8, 4.9)	1.5 (0.7, 3.4)	1.1 (0.5, 2.7)
Collection	8.3 (4.5, 14.8)	23.9 (21.4, 26.6)	0.3 (0.1, 0.6)	0.3 (0.1, 0.6)
Only collection	1.0 (0.2, 4.8)	2.5 (1.7, 3.8)	0.4 (0.1, 2.0)	0.4 (0.1, 2.8)
Other	13.5 (7.6, 22.9)	13.9 (12.0, 16.0)	1.0 (0.5, 1.9)	1.3 (0.7, 2.6)
Only other	9.2 (4.4, 18.5)	5.3 (4.2, 6.8)	1.8 (0.8, 4.2)	2.7 (1.2, 6.3)
Storage				
Any unlocked	49.5 (39.1, 60.0)	63.3 (60.2, 66.3)	0.6 (0.4, 0.9)	0.7 (0.5, 1.1)
Any loaded	36.0 (26.3, 46.9)	46.9 (43.8, 50.0)	0.6 (0.4, 1.0)	0.6 (0.4, 0.9)
Loaded and unlocked	15.7 (9.3, 25.3)	33.1 (30.3, 36.1)	0.4 (0.2, 0.7)	0.4 (0.2, 0.7)
Loaded and locked plus unloaded and unlocked	54.0 (43.4, 64.2)	44.0 (41.0, 47.1)	1.5 (1.0, 2.3)	1.5 (0.9, 2.3)
Unloaded and locked	30.3 (21.5, 40.7)	22.8 (20.3, 25.5)	1.5 (0.9, 2.4)	1.4 (0.8, 2.3)
Among those living with children aged <18 y				
Any unlocked	38.2 (22.7, 56.6)	52.0 (45.5, 58.4)	0.6 (0.3, 1.2)	0.5 (0.2, 1.2)
Any loaded	40.3 (23.9, 59.2)	46.7 (40.4, 53.2)	0.8 (0.4, 1.7)	0.6 (0.2, 1.4)

Continued

TABLE 2—*Continued*

Characteristics and Behaviors	New Gun Owners, % (95% CI)	Long-Standing Gun Owners, % (95% CI)	Unadjusted OR,[a] (95% CI)	Age-Adjusted OR (95% CI)
Loaded and unlocked	8.7 (2.2, 28.8)	24.5 (19.3, 30.6)	0.3 (0.1, 1.2)	0.2 (0.0, 0.8)
Loaded and locked plus unloaded and unlocked	61.2 (43.2, 76.6)	49.7 (43.3, 56.2)	1.6 (0.8, 3.4)	1.8 (0.8, 4.0)
Unloaded and locked	30.2 (17.1, 47.5)	25.8 (20.6, 31.6)	1.2 (0.6, 2.7)	1.4 (0.6, 3.3)
Do you have a concealed-carry permit?				
No	68.7 (57.7, 77.8)	70.1 (67.2, 72.8)	0.9 (0.6, 1.5)	1.1 (0.7, 1.8)
Yes	31.3 (22.2, 42.3)	29.9 (27.2, 32.8)	1.1 (0.7, 1.8)	0.9 (0.6, 1.5)
Have you carried a loaded handgun on your person in the last 30 days?				
No	82.9 (72.9, 89.8)	78.1 (75.4, 80.5)	1.4 (0.7, 2.5)	1.9 (1.0, 3.5)
Yes	17.1 (10.2, 27.1)	21.9 (19.5, 24.6)	0.7 (0.4, 1.3)	0.5 (0.3, 1.0)

Note. CI = confidence interval; OR = odds ratio.

[a]Odds of a given row characteristic among new gun owners divided by odds of that same row characteristic among long-standing gun owners.

[b]The mean number of guns owned was 2.2 (95% CI = 1.8, 2.7) for new gun owners and 5.4 (95% CI = 4.8, 6.1) for long-standing gun owners.

[c]Of new and long-standing gun owners, 97.0% (95% CI = 90.8%, 99.0%) and 93.8% (95% CI = 91.7%, 95.4%), respectively, who own for protection do so for protection against strangers.

Limitations

Our study is subject to several limitations. First and foremost, it is likely we misclassified some gun owners. There are several, albeit unusual, circumstances in which our definition of new and long-standing gun owner might result in some misclassification. One source of possible misclassification is that our measure of household exposure extends only 5 years before the survey. Some of our new gun owners might have owned guns more remotely than 5 years ago, gotten rid of them, and then acquired guns again within the past 5 years. In addition, our classification of long-standing gun owners includes people who may have lived with a gun owner persistently over the past 5 years but did not acquire their own firearm until some time within the past 5 years. And some respondents may be mistaken in their recollection of the exact year they moved into a home with a gun or when they acquired their most recent firearm. Lastly, our cross-sectional survey sheds no light on how, if at all, new gun owners change their firearm-related behaviors the longer they own firearms.

As with findings from all self-reported surveys, our study's results should be interpreted in light of potential inaccuracies attributable to social desirability, recall, and other biases. However, online panel surveys, such as used here, have been shown to reduce social desirability bias and yield more accurate estimates of respondent characteristics than telephone surveys.[15,16] In addition, previous research[17,18] has validated survey responses to firearm questions on random-digit dial surveys, with false denials of gun ownership limited to approximately 10%. Another advantage of online panels is high completion rates for those who begin the survey.[19] Finally, our survey completion rate (54.6%) was higher than rates for typical nonprobability, opt-in, online surveys (2%–16%),[19] higher than those of previous national injury surveys that included questions about firearm ownership,[20,21] and similar to those from other surveys conducted by GfK.[22] Nevertheless, panel members who chose not to participate in our survey may have differed in important ways from panel members who chose to participate.

Public Health Implications

Within the limits of the current survey, we have identified 2 distinct groups of current gun owners. As we characterize "new" gun owners, these gun owners have recently changed their individual (personal) and household firearm status from gun-free to gun-present by virtue of their personal acquisition of firearms. Long-standing gun owners are current gun owners who are not

TABLE 3—Associations Between Select Firearm Storage Practices and New Versus Long-Standing Gun Owner Status: United States, 2015

Storage Practices	New Gun Owners, % (95% CI)	Long-Standing Gun Owners, % (95% CI)	Unadjusted OR[a] (95% CI)	Adjusted OR[b] (95% CI)
All guns locked	51.5 (40.0, 61.9)	36.7 (33.7, 39.8)	1.8 (1.1, 2.7)	1.2 (0.7, 1.9)
All guns unloaded	64.0 (53.1, 73.7)	53.1 (50.0, 56.2)	1.6 (1.0, 2.5)	2.1 (1.2, 3.6)
No guns unlocked and loaded	84.3 (74.7, 90.7)	66.9 (63.9, 69.7)	2.7 (1.5, 4.8)	2.3 (1.2, 4.3)

Notes. CI = confidence interval; OR = odds ratio.

[a]Odds of a given row characteristic among new gun owners divided by odds of that same row characteristic among long-standing gun owners.

[b]Adjusted for age of owner, household size, presence/age of youngest child in household, receipt of formal firearms training, reason for ownership, and type of guns owned.

new gun owners. That is, they have either owned all of their guns for more than 5 years or have persistently lived in a home with a gun over the past 5 years (or both). Despite the aforementioned potential for misclassification, our study nevertheless suggests that thinking about gun owners in this way draws attention to the dynamic nature of household and personal gun exposure. The dynamic nature of firearm ownership, in particular movement into gun ownership by adults who differ in potentially important ways from long-standing gun owners, suggests that medical guidelines that recommend assessing household firearm ownership status and suicide risk should be updated to explicitly endorse doing so at regular intervals. AJPH

CONTRIBUTORS

J. Wertz carried out the initial analyses, drafted the initial article, reviewed and revised the article, and co-drafted the final article. M. Miller co-designed the surveys; co-conceptualized the article; co-drafted, co-reviewed and co-revised the initial article; and co-drafted the final article. D. Azrael co-designed the survey, co-conceptualized the article, and co-reviewed and co-revised the initial article. D. Hemenway and S. Sorenson read, reviewed, and critiqued the initial article draft. All authors approved the final article as submitted and agree to be accountable for all aspects of the work.

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HUMAN PARTICIPANT PROTECTION

The institutional review board of Northeastern University approved this study.

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