

Supplemental Information

DETAILED SURVEY METHODS

Study Design

The GfK Group (formerly Knowledge Networks; www.gfk.com) was contracted by Northeastern University (principal investigator, M.M.) to conduct the National Firearms Survey, which aimed to examine firearm ownership and use in the United States. The survey was conducted in a sample from KP, an online research panel that is representative of the entire US population.

KP Details

Panel members are randomly recruited through probability-based sampling, and households are provided with access to the Internet and hardware if needed. GfK recruits panel members by using address-based sampling methods (previously, GfK relied on random-digit dialing methods). After initially accepting the invitation to join the panel, participants are asked to complete a short demographic survey (the initial profile survey), and the answers allow efficient panel sampling and weighting for future surveys. Completion of the profile survey allows participants to become panel members, and as in the past, all respondents are provided the same privacy terms and confidentiality protections. For our survey the profile rate was 63.8%, defined as $((\text{Profile Completes}) / ((\text{Profile Complete} + \text{Partial Profile Complete}) + (\text{Profile Refusals} + \text{Profile Noncontacts} + \text{Other Profile Cases})))$.

Once household members are recruited for the panel and assigned to a study sample, they are notified by e-mail for survey taking, or panelists can visit their online member page for survey taking (instead of being contacted by telephone or postal mail). To assist panel members with their survey-taking, each individual has a personalized “home page” that lists all the surveys that were assigned to him or her and have yet to be completed.

Additional documentation regarding KP sampling, data collection procedures, weighting, and issues relating to institutional review board approval are available at the following online resources:

- <http://www.knowledgenetworks.com/ganp/reviewer-info.html>;
- [http://www.knowledgenetworks.com/knpanel/docs/knowledgepanel\(R\)-design-summary-description.pdf](http://www.knowledgenetworks.com/knpanel/docs/knowledgepanel(R)-design-summary-description.pdf); and
- <http://www.knowledgenetworks.com/ganp/irbsupport/>.

Sampling

The parent survey used for this study entailed a target population comprised of adults 18 years or older who fell into 1 of 3 groups: gun owners, nongun owners living in a home with a gun, or nongun owners living in a nongun-owning household. An additional target population was veterans (who could fall into any of the 3 groups above). To sample this population, GfK targeted respondents who met the criteria above in GfK profile surveys and reconfirmed their gun ownership and veteran status within the survey.

The study specific survey had the following 3 stages: (1) initial screening for gun ownership and veteran status, (2) the main survey conducted in April 2015, which included study-eligible respondents (gun owners and nongun owners), and (3) a 7 question supplemental survey in November 2015, targeting all gun owners identified in the April survey (pertinent to this study, questions related to the timing of their last firearm acquisition; an additional 2 questions concerned firearm theft). To qualify for the main survey, a panel member must have been aged 18 years or older and not currently serving on active duty in the US Armed Forces.

Data Collection

Survey pretesting occurred in March 2015, with administration of the final survey in April 2015. Potentially eligible panel members received a notification e-mail letting them know that a new survey was available for them to take. No description of the survey content accompanied the invitation. This e-mail notification contained a link that sent them to the survey questionnaire. No login name or password was required. After 3 days, automatic e-mail reminders were sent to all nonresponding panel members in the sample. Participants completed the main survey in a median of 14 minutes.

KP Sample Weighting

GfK structures recruitment for the KP with the goal of having the resulting panel represent the adult population of the United States with respect to a broad set

of geodemographic distributions as well as particular subgroups of hard-to-reach adults (for example, those without a landline telephone or those who primarily speak Spanish). For selection of general population samples from KP, GfK uses an equal probability of selection method design by weighting the entire KP to the benchmarks from the latest March supplement of the US Census Current Population Survey (www.census.gov/cps/data/). The geodemographic dimensions used for weighting the entire KP typically include sex, age, race, ethnicity, education, census region, household income, home ownership status, metropolitan area, and internet access. By using these weights as the measure of size for each panel member, in the next step a probability proportional to size procedure is used to select study specific samples. Application of the proportional to size procedure methodology with the above measure of size values produces fully self-weighting samples from KP, for which each sample member can carry a design weight of unity.

Study-Specific Poststratification Weights

Once the study sample was selected and fielded and all the survey data

were edited and made final, design weights were adjusted for any survey nonresponse (to the initial and to the supplemental survey) as well as any under- or overcoverage imposed by the study-specific sample design. For this study, the following strata of gun ownership from weighted KP data and veteran status from the 2014 veteran supplemental survey of the Census Current Population Survey were used for the raking adjustment of weights:

- sex, by age (18–29, 30–44, 45–59, 60–69, or ≥70 years);
- census region (Northeast, Midwest, South, West) by metropolitan area (yes or no);
- sex, by veteran status (yes or no);
- age (18–29, 30–44, 45–59, 60–69, or ≥70 years), by veteran status (yes or no);
- race or Hispanic ethnicity (white and Non-Hispanic, African American and Non-Hispanic, other and Non-Hispanic, ≥2 races and Non-Hispanic, or Hispanic), by veteran status (yes or no);
- census region (Northeast, Midwest, South, West), by veteran status (yes or no);
- metropolitan area (yes or no), by veteran status (yes or no);
- education (less than high school, high school, some college, bachelor

or greater), by veteran status (yes or no);

- household income (<\$25 000, \$25 000–<\$50 000, \$50 000–<\$75 000, or ≥\$75 000), by veteran status (yes or no);
- Internet access (yes or no), by veteran status (yes or no);
- Veteran serving year (<2, 2–3, 4–9, or ≥10 years); and
- Armed Services branch (Air Force, Army, Coast Guard, Marines, or other, or Navy).

An iterative proportional fitting (raking) procedure was used to produce final weights aligned with respect to all strata simultaneously. In the final step, calculated weights were examined to identify and, if necessary, trim outliers at the extreme upper and lower tails of the weight distribution. The resulting weights were then scaled to the sum of the total sample size of all eligible respondents.

We report the study “completion rate” for our survey based on the formula developed by Callegaro and DiSogra²⁶ for response rates calculated applicable to Web panels. The study completion rate was identified as $((\text{Study Completes}))/((\text{Study Completes} + \text{Study Partial Completes}) + (\text{Study Refusals} + \text{Study Noncontacts} + \text{Other Study Cases}))$.