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Author manuscript

Int Rev Psychiatry. Author manuscript; available in PMC 2024 October 31.

Published in final edited form as:

Int Rev Psychiatry. 2021 November ; 33(7): 593–597. doi:10.1080/09540261.2021.1901669.

Gun purchasing behaviours during the initial phase of the COVID-19 pandemic, March to mid-July 2020

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Abstract

We sought to characterize gun and ammunition purchasing during the initial phase of the COVID-19 pandemic using a nationally representative sample of U.S. adults. We fielded a survey using NORC's Amerispeak Panel between 7 and 22 July 2020 (survey completion rate = 91.1%, N = 1337). We used survey-weighted data to calculate the proportion of adults who purchased a gun during this time period and types of guns and amount of ammunition purchased. Between March and mid-July 2020, 6% of adults purchased a gun and 9% bought ammunition. Of those purchasing a gun, 34% were first-time purchasers. Among those purchasing ammunition, 19% reported purchasing more than usual in response to the COVID-19 pandemic while 27% purchased less than usual. An estimated 6,451,163 adults bought guns for the first time between March and mid-July 2020. Increases in gun purchasing, particularly among first-time gun owners, could pose significant short- and long-term implications for public health.

Keywords

COVID-19; firearms; public opinion

Introduction

The COVID-19 pandemic and co-occurring nation-wide civil unrest have exacerbated economic and social stressors in the United States. Concerns about illness, employment, finances and other uncertainties have been reported (McGinty, Presskreischer, Anderson, et al., 2020; McGinty, Presskreischer, Han, et al., 2020; Xiong et al., 2020). Periods of heightened political uncertainty or potential threat to personal safety have been previously

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Disclosure statement: CKC, EEM, DWW and CLB contributed to the study conceptions and design. JAW conducted data analysis. All authors contributed to the interpretation of data and drafting and revising of the manuscript. All authors reviewed and approved the final submission.

shown to be associated with time-limited spikes in gun purchasing (Depetris-Chauvin, 2015; Liu & Wiebe, 2019). An analysis of background check completed in March 2020 estimated a 42% surge in gun purchases at the start of the pandemic in the USA (Lang & Lang, 2020), a surge in purchases that persisted to the time of this writing (year-end 2020) (FBI, 2020). Background cheques can be a useful proxy for gun purchases, but cannot directly estimate total guns purchased or provide information about what share of firearm purchasers were first-time *versus* repeat gun buyers. First-time purchasers may be less familiar with firearm safety practices, such as safe storage, handling and use. Prior work characterizing gun purchasing behaviours during the pandemic thus far have been restricted to a single state (California) (Kravitz-Wirtz et al., 2020) or used a non-representative sample (Lyons et al., 2021). The purpose of this study was to characterize gun and ammunition purchasing behaviours during the initial phase of the COVID-19 pandemic using a representative sample of U.S. adults.

Methods

We conducted a nationally representative survey examining gun and ammunition purchasing behaviours among U.S. adults from March to mid-July 2020. The *Johns Hopkins COVID-19 Civic Life and Public Health Survey* wave 2 was fielded using NORC's AmeriSpeak Panel between 7 and 22 July 2020. The AmeriSpeak Panel utilizes NORC's area probability sample which covers 97% of U.S. households. Surveys were administered online. The survey completion rate was 91.1% for a total sample of 1337 respondents. NORC provided survey weights which were used to adjust for survey non-response and known selection deviations to generate a nationally representative sample. This study was reviewed and deemed exempt by the Johns Hopkins Bloomberg School of Public Health Institutional Review Board.

To establish personal gun ownership, we asked, 'do you happen to have in your home or garage any guns or revolvers?' and, if yes, 'do any of these guns personally belong to you?' To ascertain purchases since March, we asked, 'have you bought one or more guns since the COVID-19 pandemic began in the U.S. in March 2020?' Respondents could select 'no' or 'yes' to purchasing one or more handguns, rifles or shotguns, with multiple selections permitted. If yes, we asked, 'have you personally ever owned a gun prior to this purchase?' For ammunition, we asked, 'have you bought ammunition since the COVID-19 pandemic began in the U.S. in March 2020?' Affirmative responses specified whether purchased quantities were typical, 'more than usual in response to the COVID-19 pandemic,' or less than usual.

We calculated the proportion of adults who reported purchasing a gun since March 2020, the type of gun purchased, and whether this was their first purchase. Analyses were conducted on survey weighted data using the *svy* command in Stata version 16.1 (StataCorp LLC, College Station, TX) to generate nationally representative estimates.

Results

Overall, approximately 25% of respondents in our sample owned firearms prior to the beginning of the COVID-19 pandemic in the USA in March 2020. Between March to mid-July 2020, an estimated 6% of U.S. adults reported purchasing a gun (95% CI: 4–8%) and 9% bought ammunition (95% CI: 6–15%). Among those purchasing a gun during this period ($n = 77$), 34% reported that this was their first gun purchase (95% CI: 22–48%) (Figure 1). The most frequently reported type of gun purchased during this time-period were handguns (58% [95% CI: 44–71%]), followed by rifles (33% [95% CI: 21–48%]) and shotguns (18% [95% CI: 10–31%]). Among all gun owners, including first-time gun purchasers, 30% reported purchasing any ammunition between March and mid-July 2020 (95% CI: 19–49%). Among those who reported purchasing ammunition ($n = 127$), 27% reported purchasing less than usual (95% CI: 13–46%), 54% purchased about the same amount (95% CI: 40–67%), and 19% purchased more than usual in response to the COVID-19 pandemic (95% CI: 13–28%). There were no significant differences in amount of ammunition purchased between prior and first-time gun owners (results not shown).

Discussion

We found that approximately 25% of U.S. adults owned firearms prior to the pandemic, which is consistent with other nationally representative samples (Azrael et al., 2017; NORC, 2019). During the initial phase of the COVID-19 pandemic in the USA (March through mid-July 2020), 6% of adults purchased a gun. Thirty-four percent of those purchasing a gun during this time-period were first-time gun purchasers. These findings are consistent with increases in background checks (FBI, 2020) and gun sales in the USA (U.S. Firearms, 2020) as well as findings from a non-representative survey of gun dealers estimating that 40% of gun purchasers in May 2020 were first-time purchasers (Curcuruto, 2020). The 34% first-time gun purchasers translates to an estimated 6,451,163 new gun owners in the USA over a four and a half-month period (95% CI: 3,209,503–9,692,823). This represents an approximate 8% increase in gun ownership among U.S. adults (95% CI: 4–13%) compared to the estimates from a 2019 GALLUP poll (76,610,903 adult gun owners) (Saad, 2019). Additionally, prior research comparing new and long-standing gun owners estimated that approximately 10% of gun owners were ‘new’ (having acquired their guns within the prior 5 years) (Wertz et al., 2018). In contrast, our finding that 34% of gun purchasers during the initial phase of the pandemic were first-time buyers is suggestive of a surge in new gun owners compared to expected levels.

Given the associations between gun ownership and risk of firearm homicide, suicide and unintentional shootings (Miller et al., 2002; Siegel et al., 2013; Wiebe, 2003), increases in overall gun purchasing and first-time gun ownership could have significant long-term implications for public health. This is particularly concerning given the research showing elevated risk of suicide immediately following first handgun acquisition (Studdert et al., 2020). In the context of documented adverse impacts of the COVID-19 pandemic on mental health (McGinty, Presskreischer, Anderson, et al., 2020; McGinty, Presskreischer, Han, et al., 2020; Pfefferbaum & North, 2020; Riehm et al., 2021), increased access to firearms may

in turn elevate risk of suicide for both long-term gun owners and those newly acquiring guns during the pandemic.

In the context of ongoing social distancing requirements, it may remain challenging for individuals to obtain proper training on safe handling, storage and use. To address this need, some gun safety trainers have created virtual courses: asynchronously accessed online videos or live trainings hosted *via* video conferencing platforms (TFB. New NRA Online Gun Safety Classes Now Available for New Shooters, 2020). As vaccination campaigns begin, businesses reopen and social gatherings resume, public health professionals and injury prevention experts should consider gun safety initiatives to be a priority element of COVID-19 recovery efforts. The increases in first-time gun owners suggest that many, at least in the current social and economic contexts, believe that owning a gun will make them safer, despite clear evidence that guns in the home increase the risk of injury and death. Raising public awareness about the risks of unsafely stored firearms in the home and strategies for safe and secure gun storage should receive special emphasis, especially among first-time gun purchasers.

This study had several limitations. Sampling bias could influence these results; however, this threat is minimized by NORC's probability-based sampling procedures (Dennis, 2020). We asked respondents about gun purchasing since the beginning of the COVID-19 pandemic in March 2020, but we did not ask the specific driver for a recent gun purchase. As a result, we could not distinguish purchasing motivations nor who would have bought a gun absent the pandemic or other societal tensions. Future research should explore circumstances and beliefs that influence purchasing behaviours. Additionally, we did not have data on pre-pandemic ammunition purchasing practices. However, we framed our question in the reference to 'normal' purchasing practices to provide context for the purchasing behaviours reported in our study.

Gun sales in 2020 far outpaced those for 2019. Increases in first-time gun purchasers add an additional layer of risk on top of the social and economic stressors associated with the COVID-19 pandemic as well as other ongoing social unrest. Addressing risks associated with these increases in gun ownership by promoting safe and secure gun storage, handling and use should be a priority.

Funding

Funding for survey data collection comes from the Smart Family Foundation, Johns Hopkins University, Johns Hopkins Bloomberg School of Public Health, the Johns Hopkins University Alliance for a Healthier World's 2020 COVID-19 Launchpad Grant, and the Robert Wood Johnson Foundation. Julie Ward gratefully acknowledges support from the National Institute of Child Health and Human Development [T32-HD 094687]. Funders had no role in the study design, statistical analysis, interpretation of the data, or drafting of this article.

Data availability statement

Data from this survey are being analysed and are not currently available to access.

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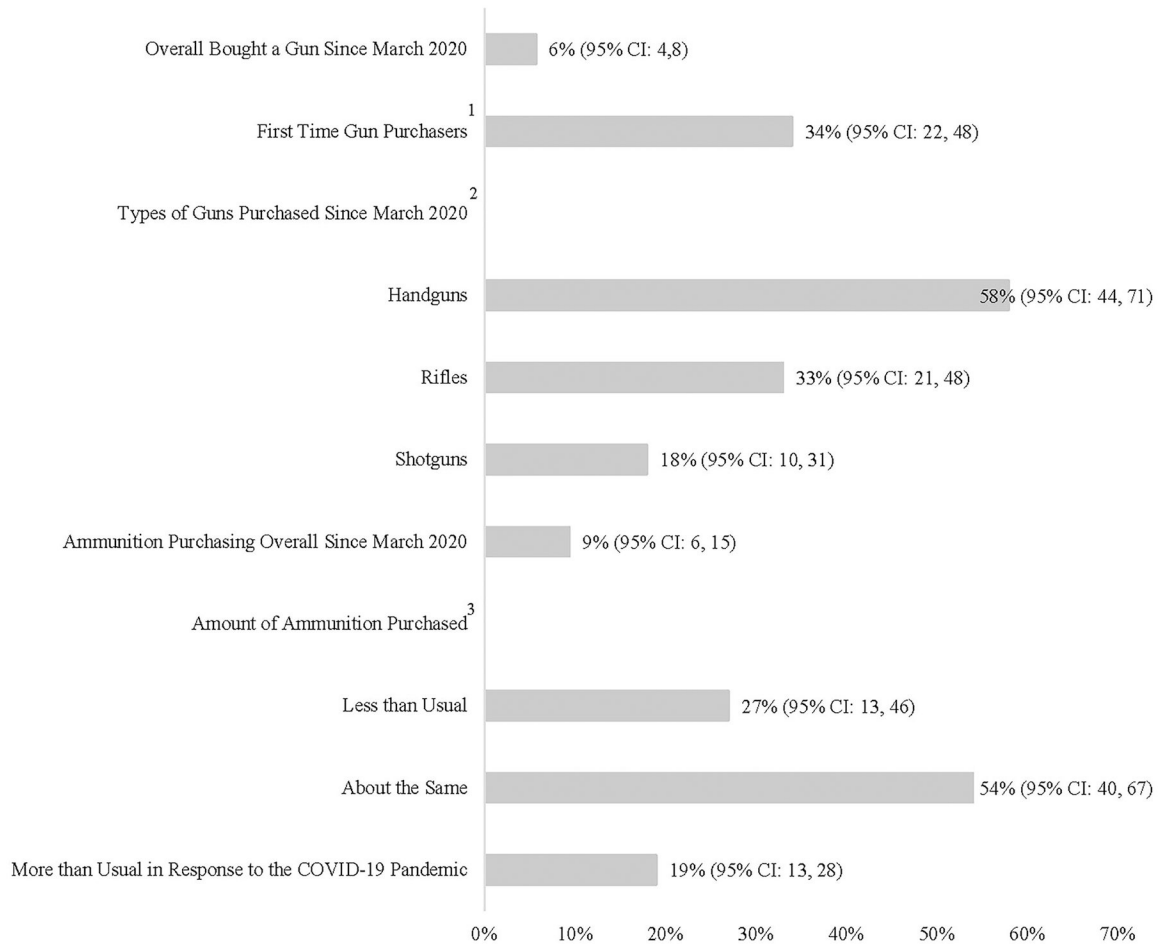


Figure 1. Gun and Ammunition Purchasing Behaviours from March to mid-July 2020 among U.S. adults ($N = 1337$). ¹We calculated first-time gun purchasers ($n = 26$) from the subset of respondents who reported purchasing a gun between March and mid-July 2020 ($n = 77$) who had not previously owned a gun. ²We calculated the types of guns purchased among respondents who reported purchasing a gun between March and mid-July 2020 ($n = 77$) by asking them to ‘Select All that Apply’ to each gun type. Total will sum to more than 100. ³We calculated the amount of ammunition purchased among respondents who reported purchasing any amount of ammunition ($n = 127$) between March and mid-July 2020.