

Evidence of Background Checks in an Online Firearms Marketplace



Coleman Drake, PhD,¹ Ashley M. Hernandez, MSPH,² Yang Liu, PhD,³ Adam H. Schwartz, PhD,²
Maria E. Sundaram, MSPH, PhD⁴

INTRODUCTION

Injuries and deaths from firearms are increasingly recognized as a public health crisis in the U.S.¹ Studies investigating whether background check requirements reduce firearm-related homicide and suicide have been inconclusive,² though some studies suggest these requirements may be effective at reducing firearm deaths.^{3,4} Currently, federal regulations require that firearm dealers with a federal firearms license conduct a background check before sales.^{5,6} However, although some states require private sellers to conduct a background check, federal regulations do not require private sellers to conduct background checks.⁷ In the last decade, online firearms marketplaces for private sellers have emerged, potentially allowing buyers to circumvent background checks by purchasing firearms through a private sale.⁸ One such popular website is Armslist.com. The objective of this study is to identify the number and percentage of firearm listings in which sellers on Armslist.com indicate they are seeking evidence of some form of a background check from a buyer before the purchase of a firearm.

METHODS

The authors used a web-scraping algorithm in Python to identify private firearm sale listings on Armslist.com. The title, date of listing, firearm type, and listing description were identified from all postings, and postings with irrelevant category keywords or phrases (e.g., *paintball* or *want to buy*) were excluded. The listing description is a text box in which sellers provide details on their listings. To be as inclusive as possible, listings were defined as displaying evidence of a background check if they included at least 1 of the following terms: *concealed carry weapon*, *concealed carry license*, *federal firearm license*, *permit to purchase*, *background check*, *license*, *permit*, or other terms and acronyms associated with background checks (Table 1). R, version 3.5.0 was used for all analyses beyond web-scraping. The study was deemed exempt from review by the University of Minnesota IRB, as all information is publicly available and was therefore not considered human subjects research.

RESULTS

The algorithm identified 4.90 million relevant active listings with original posting dates between July 14, 2008 to June 25, 2018. The 3 most commonly observed firearm categories were handguns ($n=2,367,586$; 48.34%), rifles ($n=1,636,194$; 33.41%), and shotguns ($n=411,276$; 8.40%). Overall, 460,628 listings (9.40%, 95% CI=8.56%, 10.24%) displayed evidence of a background check (Table 1). The proportion of listings with evidence of background checks for handguns, rifles, and shotguns were 12.72% (95% CI=11.78%, 13.65%), 7.57% (95% CI=6.82%, 8.31%), and 5.98% (95% CI=5.30%, 6.65%), respectively. Listings categorized as “National Firearm Act” (NFA) included firearms such as machine guns and short-barreled shotguns that are controlled under this act. Among 8,588 NFA listings, 10.99% (95% CI=10.11%, 11.87%) displayed evidence of a background check.

DISCUSSION

This study found that 9.4% of the 4.90 million active firearm listings on Armslist.com as of June 2018 displayed evidence of a background check. Conducting a background check on firearm buyers is not a federal requirement for private firearm sales. However, individuals who are ineligible to purchase a firearm from federal firearms license dealers or under state background check laws may circumvent these regulations by purchasing a firearm in a private sale where information about their

From the ¹Department of Health Policy and Management, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, Pennsylvania; ²University of Minnesota School of Public Health, Minneapolis, Minnesota; ³London School of Hygiene and Tropical Medicine, Faculty of Epidemiology and Population Health, London, United Kingdom; and ⁴Emory University Rollins School of Public Health, Atlanta, Georgia

Address correspondence to: Coleman Drake, PhD, Department of Health Policy and Management, Graduate School of Public Health, University of Pittsburgh, A664 Public Health, 130 De Soto Street, Pittsburgh PA 15261. E-mail: cdrake@pitt.edu.

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Table 1. Number and Percentage of Advertisements Displaying Evidence of a Background Check^a

Gun category	Total listings by category, n (%)	Number of listings displaying evidence of background check, n (%)	Percentage displaying evidence of background check, % (95% CI)
Handguns	2,367,586 (48.34)	301,061 (12.72)	12.72 (11.78, 13.65)
Rifles	1,636,194 (33.41)	123,790 (7.57)	7.57 (6.82, 8.31)
Shotguns	411,276 (8.4)	24,578 (5.98)	5.98 (5.3, 6.65)
Gun ^b	266,996 (5.45)	5,553 (2.08)	2.08 (1.68, 2.48)
Tactical	79,469 (1.62)	612 (0.77)	0.77 (0.52, 1.02)
Antique	52,493 (1.07)	3,343 (6.37)	6.37 (5.69, 7.05)
Reloading	47,624 (0.97)	143 (0.3)	0.3 (0.15, 0.46)
Muzzle	33,057 (0.67)	888 (2.69)	2.69 (2.23, 3.14)
NFA ^c	8,588 (0.18)	944 (10.99)	10.99 (10.11, 11.87)
Total	4,897,472	460,628	9.4 (8.56, 10.24)

^aData were scraped from Armslist.com between May 4, 2018 to June 29, 2018. SD of the proportion is obtained through repeated resampling (5,000 × 5,000). Displaying evidence of a background check is defined as displaying at least 1 of the following terms: “concealed carry weapon” (CCW); “concealed carry license” (CCL); “federal firearm license” (FFL); “permit to purchase” (P2P/PTP); “background check”; “license”; “permit”; “concealed handgun permit” (CHP); “concealed weapon permit” (CWP); “concealed carry permit” (CCP); “concealed carry deadly weapon” (CCDW); “permit to carry” (PTC).

^bGun is a catch-all category for listings without a specified category.

^cNFA stands for National Firearms Act and refers to several types of machinery falling into a category defined by this act. These types are: machine guns, short-barreled rifles, short-barreled shotguns, suppressors (i.e., silencers), and destructive devices. Licensure to purchase NFA firearms is required under the federal law.

eligibility to own a gun is not required.^{8,9} This may reduce the effectiveness of background check policies. This analysis indicates that the number of online sales that have the potential to be misused in this way is substantial. Furthermore, though the purchase of NFA firearms requires licensure under the NFA,¹⁰ only 11.4% of NFA listings displayed evidence of a background check. As a result, it is possible that the purchasing of these weapons without legally required licensure may be facilitated by online marketplaces such as Armslist.com.

Limitations

The authors acknowledge 4 limitations. First, Armslist.com is not necessarily representative of other similar online websites (e.g., Gunbroker.com). Second, this study did not observe listings that were removed before data collection. Third, it did not examine whether the legality of sellers' behavior aligns with state laws (e.g., permitless concealed carry). Fourth, the authors did not observe whether sellers require a background check at the point of sale.

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Coleman Drake, PhD and Ashley M. Hernandez, MSPH contributed equally.

The study was deemed exempt from review by the University of Minnesota IRB, as all information is publicly available. YL had full access to all of the data in the study and was responsible for the primary data analysis. MS was responsible for obtaining confirmation from the University of Minnesota IRB that no oversight

was needed for this analysis. AH, CD, YL, AS, and MS contributed to the scientific direction and writing of this manuscript.

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