



Gun violence prevention policy: Perceived and actual levels of gun owner support

Kathleen L. Grene^{*}, Amani S. Dharani, Michael B. Siegel

Department of Public Health and Community Medicine, Tufts University School of Medicine, Boston, MA, USA

ARTICLE INFO

Keywords:

Gun violence prevention policy
Health policy
Firearm violence
Misperceptions
Addressing mis- and dis-information

ABSTRACT

Gun violence prevention is often viewed as polarizing, although gun owners actually support many gun safety policies. The aim of this paper was to investigate the relationship between gun owners' perceptions of other gun owners' support for gun policies and their own individual support for such policies. NORC at the University of Chicago, which uses a panel of adults recruited through probability sampling, conducted an online/phone survey of 1,078 adult gun owners. Respondents were asked about their individual support for seven gun safety policies and their perceptions of other gun owners' support for those policies. We used two-sample t-tests and multivariate logistic regression analyses to explore the relationship between perceived and individual support.

We found that gun owners underestimated fellow gun owners' support for gun violence prevention policy, especially if they personally opposed that policy. Gun owners' perception of fellow gun owners' support for a policy was significantly associated with the likelihood of individual support for that policy for all laws examined. These findings have important implications for correcting misperceptions of the level of gun owner support for gun safety policies as well as conducting and targeting educational campaigns to respond to and correct media misinformation.

1. Introduction

Gun violence is a critical public health issue in the United States, claiming the lives of over 45,000 people per year. (Centers for Disease Control and Prevention, 2022) Proposed strategies to lower gun violence are often controversial due to a perceived intractable divide between gun owners and non-gun owners. This polarization has been promulgated by the media but is not supported by facts (Barry et al., 2019; Stone et al., 2022; Siegel and Boine, 2020; The Consensus on Guns. Bloomberg.com, 2018).

Previous surveys reveal that the majority of gun owners support common firearm policies, despite publicly opposing gun violence prevention (GVP) legislation. (Siegel and Boine, 2020; The Consensus on Guns. Bloomberg.com, 2018; Inc, 2017) For example, a 2019 national survey of gun owners reported that 75% supported universal background checks but only 7% of these gun owners publicly supported such legislation. (Siegel and Boine, 2020) Surveys also reveal that there is widespread misperception about the degree of gun owner support for major GVP policies (Barry et al., 2019; Dixon et al., 2020). A 2020

opinion survey on gun policy among US adults found that both gun owners and non-gun owners underestimate gun owners' support for key GVP policies by as much as 31% (Dixon et al., 2020).

While studies have shown that gun owners underestimate other gun owners' support for GVP policies, it is not known whether this underestimation is related to a gun owner's personal support for these policies, which we sought to understand. What is known is that correcting misperceptions about gun owners' public opinion on gun safety policy holds value. (Dixon et al., 2020; Susmann et al., 2022) A 2020 experimental study out of the Ohio State University found that correcting misperceptions regarding gun owner support for GVP policies resulted in higher levels of both private and public support for these policies. (Dixon et al., 2020) A 2022 experimental study from the same research team found that correcting misperceptions about gun owner support for firearm violence prevention policies "leads to greater perceptions of identity overlap between gun and non-gun owners, greater willingness to work with each other to promote gun safety policies, and less negative affect towards each other." (Susmann et al., 2022) There is also a body of conceptual theory from the political science literature suggesting that

^{*} Corresponding author at: Department of Public Health and Community Medicine, Tufts University School of Medicine, 136 Harrison Avenue, Boston, MA 02111, USA.

E-mail address: kathleen.grene@tufts.edu (K.L. Grene).

<https://doi.org/10.1016/j.pmedr.2023.102324>

Received 1 May 2023; Received in revised form 11 July 2023; Accepted 12 July 2023

Available online 17 July 2023

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correcting misperceptions regarding public support for a policy may increase policy support and make people more likely to express their views publicly (Chambers et al., 2006; Mendoza et al., 2014; White et al., 2009; Mackie et al., 1990; Geiger and Swim, 2016; Schroeder and Prentice, 1998). These studies demonstrate that pluralistic ignorance—inaccurate perceptions of the opinions of others—has a chilling effect on people’s willingness to speak out publicly on issues and may adversely affect both individual opinions and behavior (Geiger and Swim, 2016; Schroeder and Prentice, 1998).

This paper is also guided by social norms theory, especially the idea that injunctive norms affect people’s attitudes, opinions, and behaviors (Schroeder and Prentice, 1998). This theory has been used in many areas of public health; for example, college students’ perceptions of the prevalence of alcohol use among their peers was found to have a strong influence on their drinking behavior, and some interventions to reduce alcohol use among young adults is based on correcting the widespread misperception that drinking among college students is much more common than it actually is (Schroeder and Prentice, 1998).

We sought to add to the existing literature by examining a possible relationship between an individual’s support for a given policy and their perception of other gun owners’ support for the same policy. We did this by measuring what individual gun owners perceived to be the percentage of gun owners who support various gun safety policies and relating that to their own opinions of those policies. Finding such a relationship does not prove causation and a few explanations are possible: (1) Ignorance of in-group policy support could be causing opposition to that policy; or (2) Gun owners may simply perceive that other gun owners share their opinions. Nevertheless, knowing that there is a relationship between gun owners’ perceptions regarding public opinion and their own opinions—regardless of the direction of the relationship—would be valuable to public health practitioners and policy makers because it would help them to target corrective educational campaigns to those who have the greatest misperceptions. We know from previous research that gun owners as a whole underestimate their in-group’s level of support for GVP policies. This study aims to determine which gun owners underestimate this support and takes a granular approach by looking at seven different gun policies at each of 10 levels of perceived support among other gun owners for each policy.

2. Methods

2.1. Study population

In May 2022 we conducted a nationwide survey of 1,078 adult gun owners. The survey was conducted by NORC at the University of Chicago (NORC), which uses a panel of adults recruited through probability sampling. The survey participants were members of the NORC AmeriSpeak panel, a pre-recruited internet panel of approximately 50,000 people. This study was deemed by the Institutional Review Board of Tufts University School of Medicine to be exempt from human subjects review because the researchers did not collect or possess any personally identifiable data.

A total of 11,101 panel members were invited by e-mail to complete a screening to determine if they were eligible to take the survey. Respondents who reported that they owned a gun were deemed eligible and were invited to take the survey online or by telephone. We first asked, “Do you currently own one or more guns?” which was followed by subsequent questions about how many of each type of firearm they owned (pistols, revolvers, rifles, shotguns). Of the 11,101 panelists invited, 2,656 finished the screener questions. Of those, 1,137 were eligible to participate in the survey, among whom 1,078 completed the survey. The screener completion rate was 23.9% and the survey completion rate was 94.8%, yielding an overall survey response rate of 22.7%.

2.2. Sample representativeness

Of the 1,078-gun owners in our sample, a small majority were male, the largest age group was 60 years and above, and just under 60% of respondents completed high school (Table 1). The demographic findings resemble national gun owner statistics, such as the National Firearms Survey of 2021, which surveyed 15,450 gun owners (English, 2021).

The data were statistically weighted by NORC to account for the following factors: (1) the initial probability of panel member selection into the panel; (2) panel recruitment nonresponse; (3) poststratification of the recruited panel to match population benchmarks; (4) selection probabilities for the study sample; and (5) survey nonresponse. NORC provided the researchers with study-specific final weights that were applied in all analyses to generate estimates that apply to the national population of gun owners. The use of these weights helps make the sample representative of all gun owners.

2.3. Study measures

Survey questions were developed with input from gun owners and leaders of gun rights organizations, and by reviewing previous published and unpublished gun owner surveys. Input from gun owners was solicited to ensure that gun owners were comfortable with the wording of the survey questions and policies and would understand the questions and terminology. The survey was statistically powered to measure: (1) gun owners’ support towards GVP policies; and (2) the level of support gun owners perceived other owners to have toward these policies. The survey questionnaire can be found in the supplemental file labeled “Survey Instrument.”

Respondents were asked about their general support for seven GVP policies that were selected based on their widespread consideration by state legislatures and evidence of their effectiveness. The policies were described in the survey as follows: (1) prohibiting a person subject to a domestic violence restraining order from having a gun for the duration of the order; (2) prohibiting a person convicted of a crime of domestic violence from having a gun; (3) requiring background checks for every gun sale, including all private sales and at gun shows (universal background checks); (4) temporarily confiscating firearms from people deemed by a judge to be a risk to themselves or others (red flag laws); (5) requiring a permit to purchase or possess any firearm; (6) requiring a permit to purchase or possess any handgun; and (7) requiring a permit to carry a concealed handgun.

A 5-point Likert scale was used for all opinion questions where respondents were asked to indicate their level of support or opposition to the given policy: strongly support, support, neutral, oppose, strongly oppose. We defined support for a principle or a policy provision as being responses of strongly agree and agree (strongly support and support), with the other three responses classified as not supporting that principle or policy. There were no other responses, so all “support” and “do not support” results added up to 100%. We collapsed the Likert scale in our analysis because we found that a dichotomous variable facilitated interpretation.

Next, respondents were asked to select what level of support they perceived gun owners to have toward the seven policies. Specifically, we asked respondents to estimate the proportion of gun owners who they believe support the policy. Responses ranged from 0 to 100% in increments of 10%.

The survey data were weighted to account for panel member and sample selection probabilities, recruitment nonresponse, and survey nonresponse. NORC provided final weights that were applied in all analyses.

2.4. Data analysis

For each policy, we first compared the average perceived level of other gun owners’ policy support between gun owners who supported

Table 1
Demographics of Gun Owner Sample.

	Weighted Percentage (%)	95% Confidence Interval (%)	Sample Size (N)	Unweighted Percentage (%)
Sex				
Male	55.5	(51.8–59.2)	600	55.7
Female	44.5	(40.8–48.2)	478	44.3
Age (years)				
18–29	16.0	(13.2–19.3)	143	13.3
30–44	26.7	(23.7–30.0)	319	29.6
45–59	25.0	(21.9–28.4)	254	23.6
60+	32.3	(28.9–35.8)	362	33.6
Education				
Less than high school	8.1	(5.9–10.8)	53	4.9
High school	28.8	(25.1–32.7)	179	16.6
Some college	30.5	(27.6–33.6)	497	46.1
Bachelor's degree	14.3	(11.7–17.2)	220	20.4
Graduate school	12.5	(10.3–15.1)	129	12.0
Political ideology				
Very liberal	8.3	(6.5–10.5)	88	8.3
Somewhat liberal	7.3	(5.6–9.4)	80	7.6
Moderate	49.0	(40.5–50.3)	502	47.4
Somewhat conservative	18.4	(15.6–21.5)	206	19.4
Very conservative	17.1	(14.5–20.0)	184	17.4
NRA membership				
Member	9.7	(7.7–12.2)	105	10.7%
Non-member	90.3	(87.8–92.3)	878	89.3%

that policy and gun owners who opposed that policy. The significance of these differences was assessed using a two sample *t*-test. To investigate the possibility that any observed differences were attributable to confounding factors, we ran a series of regression analyses. For each policy, the outcome variable was whether an individual supported that policy and the predictor variable was the respondent's perception of the level of support for that policy among other gun owners (on a scale of 0–10 with 0 representing 0% and 10 representing 100%). The regressions controlled for the following factors: age, sex, race, income, political party, political ideology, being a member of the NRA (9.7% of respondents [Table 1]) and being a supporter of the NRA. Statistical analyses were conducted using STATA version 17 (Statacorp, College Station, TX).

3. Results

3.1. Prohibiting gun possession by persons subject to a domestic violence restraining order (DVRO)

Gun owners who oppose prohibiting gun possession by persons subject to a DVRO greatly underestimated fellow gun owner support for it, while those who support it only slightly underestimated fellow gun owners' support for it (Table 2). While the actual level of support for prohibiting gun possession by persons subject to a DVRO was 76.9% (thus 23.1% opposed it), the average perceived level of support for this policy among gun owners who oppose it was 60.0%, and the perceived level of support among gun owners supporting it was 74.1%, which is much closer to the actual average level of support. The level of individual support for this policy increased almost monotonically from 27% to 84% as the level of perceived support increased from 0% to 100% (Fig. 1), a trend observed in all seven policies. The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.23, after controlling for age, race, sex, income, political party and ideology, and being a member or supporter of the NRA (Table 3).

3.2. Prohibiting gun possession by persons convicted of a crime of domestic violence

Gun owners who support prohibiting gun possession by persons convicted of a crime of domestic violence perceived fellow gun owner support within one percentage point of actual gun owner support

(79.1% versus 78.0%) (Table 2). On the other hand, gun owners who oppose this policy underestimated fellow gun owners' support, thinking that, on average, just 60.0% of gun owners supported it. The *t*-test performed to assess the significance of differences in perceived support between those who support the policy versus those who oppose it had a *p*-value of <0.0001. The level of individual support for this policy increased from 43% to 88% as the level of perceived support increased from 0% to 100% (Fig. 1). The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.26 (Table 3).

3.3. Universal background checks

Gun owners who support or oppose this policy both underestimated fellow gun owners' support for it (Table 2). Gun owners who oppose universal background checks thought, on average, that only 44.9% of fellow gun owners support such a policy, while actual support is 72.9%. Gun owners who support universal background checks, on average, thought that 66.2% of other gun owners supported it. The *p*-value for the difference of these two averages (perceived support among those who support universal background checks and those who oppose it) was < 0.0001. The level of individual support for this policy increased from 27% to 88% as the level of perceived support increased from 0% to 100% (Fig. 1). The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.30 (Table 3).

3.4. Red flag laws (also known as extreme risk protection orders)

Actual support for red flag laws among gun owners was 69.2%. The average perceived level of gun owner support for this policy among supporters was 75.4%, while among opponents it was just 54.0%. The level of individual support for this policy increased from 16% to 87% as the level of perceived support increased from 0% to 100% (Fig. 1). The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.32 (Table 3).

3.5. Requiring a permit to purchase or possess a gun

Gun owners who support this policy overestimated fellow gun owner support for it: the actual level of support was 47.5%, and gun owners

Table 2
Gun Owners' Perception of Other Gun Owners' Support for Gun Violence Prevention Policies by Individual Support for Those Policies.

Policy	Actual Support, % (95% CI)	Average perceived level of support among other gun owners		Significance of difference between supporters and opponents of policy p-value
		Among Gun Owners who Support Policy, % (95% CI)	Among Gun Owners who Do Not Support Policy, % (95% CI)	
Prohibiting gun possession by persons subject to a domestic violence restraining order	76.9 (73.5–80.0)	74.1 (72.0–76.3)	60.0 (55.2–64.8)	<0.0001
Prohibiting gun possession by persons convicted of a crime of domestic violence	78 (74.7–81.0)	79.1 (76.9–81.2)	62.6 (57.7–67.4)	<0.0001
Universal background checks	72.9 (69.3–76.2)	66.2 (63.6–68.8)	44.9 (40.2–49.4)	<0.0001
Red flag laws (extreme risk protection orders)	69.2 (65.6–72.6)	75.4 (73.0–77.9)	54.0 (49.8–58.1)	<0.0001
Requiring a permit to purchase or possess a gun	47.5 (43.7–51.2)	67.2 (64.0–70.4)	40.7 (37.7–43.7)	<0.0001
Requiring a permit to purchase or possess a handgun	53.9 (50.2–57.6)	66.6 (63.5–69.8)	40.4 (37.0–43.8)	<0.0001
Requiring a permit to carry a concealed handgun	63.9 (60.1–67.4)	73.4 (70.9–76.0)	48.9 (45.0–52.8)	<0.0001

who support the policy thought, on average, that the level of support was 67.2% (Table 2). Gun owners who oppose a permit policy thought the average level of gun owner support for this policy was less than the actual level of support, at 40.7%. The level of individual support for this policy increased from 8% to 78% as the level of perceived support increased from 0% to 100% (Fig. 1). The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.36 (Table 3).

3.6. Requiring a permit to purchase or possess a handgun

Requiring a permit to purchase or possess a handgun was supported by 53.9% of gun owners. Among those who support this policy, they thought that on average 66.6% of gun owners did too, while those who oppose such a policy thought just 40.4% of other gun owners support it. The level of individual support for this policy increased from 13% to 77% as the level of perceived support increased from 0% to 100%

(Fig. 1). The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.35 (Table 3).

3.7. Requiring a permit to carry a concealed handgun

Requiring a permit to carry a concealed handgun was supported by 63.9% of gun owners. Among those who support it, they thought that on average 73.4% of gun owners did too, while those who oppose such a policy thought that only 48.9% of other gun owners support the policy. The level of individual support for this policy increased from 14% to 79% as the level of perceived support increased from 0% to 100% (Fig. 1). The odds ratio for individual support of this policy associated with each 10% increment in perceived support among other gun owners was 1.35 (Table 3).

4. Discussion

This study uniquely assessed the relationship between the magnitude of these misperceptions and individual policy support. Our results suggest that gun owners' assessment of fellow gun owners' views on gun safety policy is not always accurate—gun owners tend to underestimate other gun owners' level of support. Misperceptions regarding other gun owners' support for a policy are greatest among those who oppose a particular GVP policy. In fact, our findings demonstrate a near-linear relationship between increasing perceived support for GVP policies and increasing individual support for those policies. This relationship is present for all seven policies examined.

These findings are useful for public health practitioners and policy makers when considering strategies to promote gun policies. If the observed relationship is due to an influence of perceived public opinion on individual policy support, then our findings suggest that correcting misperceptions regarding the level of gun owner support for gun safety legislation could result in increased support for these policies among gun owners. On the other hand, if the observed relationship is simply a reflection of the fact that gun owners tend to assume that other gun owners share their opinions towards gun policy, then this information is still useful because it can help public health practitioners and policy makers target corrective educational campaigns towards the subpopulation of gun owners with the greatest misconceptions. Sharing research-based evidence of gun owners' actual support for policies could help keep an effective policy viable that otherwise would have been assumed to have low gun owner constituency support. This may be reassuring to policymakers who are concerned about constituent backlash on gun safety policy. Finally, the results presented can inform reporting standards on gun owners' attitudes towards GVP policies and help overcome media misinformation about the views of gun owners.

Our major finding—that gun owners in the minority who oppose GVP policies are most likely to underestimate the in-group support for these policies—suggests a false consensus effect. It is important to acknowledge that this could make correcting these misconceptions more difficult because of the possibility that being informed of the minority status of one's opinion may result in a backfire effect, by which being informed that they are in the minority could lead gun owners to strengthen their opinions. For this reason, communications to gun owners to correct misperceptions about gun owner support for GVP policies must be carefully crafted so as not to engender psychological reactance, which would increase the likelihood of a backfire effect.

To situate our findings within the existing body of research, it is important to reference relevant studies that have similarly polled the American public on gun policy. In this regard, (Stone et al., 2022) examined public attitudes (both gun owners and non-gun owners) and measured level of support of gun policy over time, by gun ownership status and political party affiliation. Similarly, (Barry et al., 2019) evaluated trends in gun owners and non-gun owners' support for gun safety policies such as licensing and universal background checks. Given

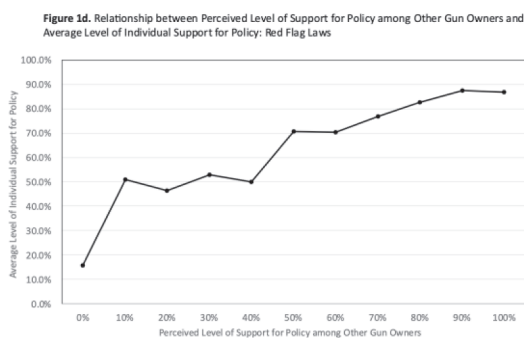
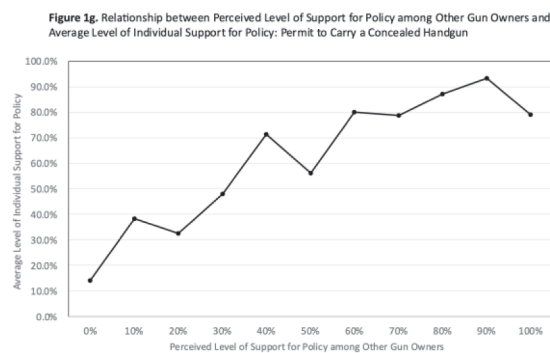
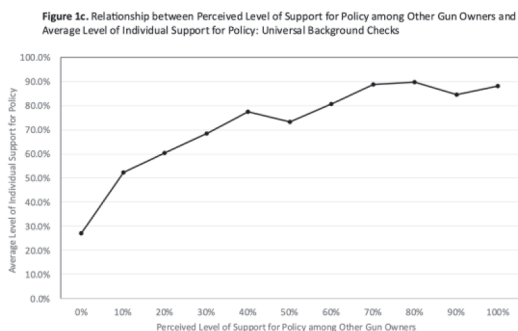
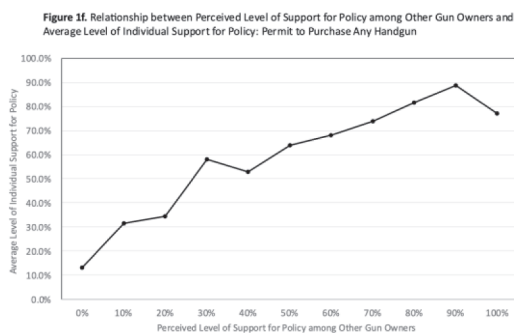
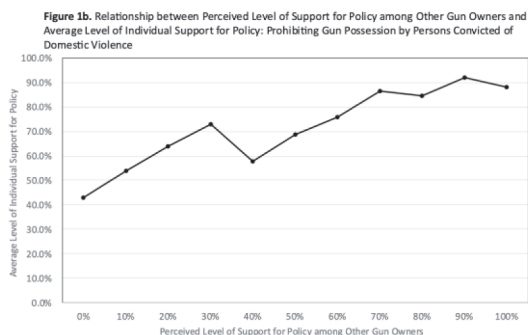
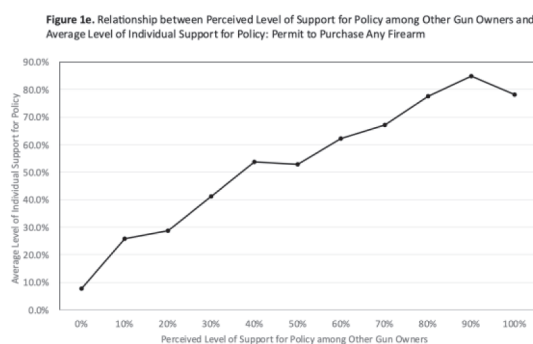
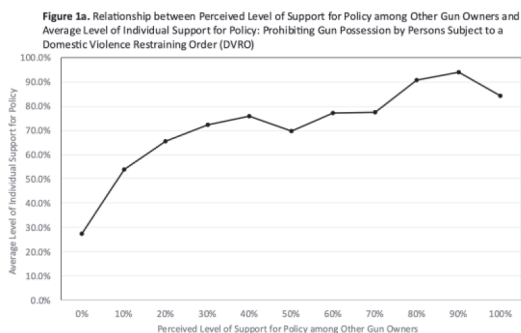


Fig. 1. Relationship between Perceived Level of Support for Policies among Other Gun Owners and Average Level of Individual Support for Policies.

the high level of support among gun owners for a number of common GVP policies, both (Dixon et al., 2020) and (Susmann et al., 2022) explored misperceptions in gun owners’ support for these policies. Building upon this foundational work, our study aimed to understand whether gun owners’ misperceptions of other gun owners’ opinions is related to their own support for, or opposition to, the same policies. Future research should investigate whether correcting the identified misperceptions could result in an increase in overall gun owner support for gun policies.

5. Limitations

There are limitations to this study. First, because this is a cross sectional study, we cannot conclude that if gun owners knew there was a higher amount of support for a policy their support for that policy would increase. Second, our response rate of 23% is a limitation that may impact the representativeness of the population being studied. Third, there were small differences in question wording compared to some previous surveys, limiting comparisons with those surveys. However,

Table 3
Association Between Gun Owners' Perception of Fellow Gun Owners' Support for Gun Violence Prevention Policies and Their Support for the Same Policy (Full Logistic Regression Results).

Policy	Variable	Odds Ratio (95% confidence interval) ^a	
Prohibiting gun possession by persons subject to a domestic violence restraining order (DVRO)	Perception of other gun owners' support	1.23 (1.12–1.34)*	
	Sex: Female (vs. male)	1.45 (0.93–2.27)	
	Age: 60+ (vs. < 60)	2.03 (1.26–3.26)*	
	Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	0.76 (0.33–1.75)1.03 (0.51–2.05)0.73 (0.30–1.80)	
	Income: \$100,000+ (vs. <\$100,000)	1.69 (1.02–2.78)*	
	Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.51 (0.23–1.12)0.70 (0.32–1.54)	
	Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	0.91 (0.40–2.07)0.74 (0.30–1.87)	
	NRA member (vs. non-member)	0.82 (0.44–1.56)	
	NRA supporter (vs. non-supporter)	0.53 (0.31–0.91)*	
	Prohibiting gun possession by persons convicted of a crime of domestic violence	Perception of other gun owners' support	1.26 (1.15–1.38)*
		Sex: Female (vs. male)	1.44 (0.91–2.27)
		Age: 60+ (vs. < 60)	2.85 (1.78–4.56)*
		Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	0.50 (0.23–1.06)1.31 (0.61–2.83)2.01 (0.83–4.86)
		Income: \$100,000+ (vs. <\$100,000)	1.96 (1.18–3.27)*
		Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.38 (0.18–0.81) *0.64 (0.29–1.40)
		Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	1.23 (0.58–2.60)1.07 (0.45–2.54)
		NRA member (vs. non-member)	0.99 (0.51–1.92)
NRA supporter (vs. non-supporter)		0.67 (0.39–1.16)	
Universal background checks		Perception of other gun owners' support	1.30 (1.18–1.42)*
		Sex: Female (vs. male)	1.28 (0.82–1.98)
		Age: 60+ (vs. < 60)	1.12 (0.72–1.74)
		Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	1.06 (0.44–2.55)0.79 (0.38–1.66)1.75 (0.77–3.98)
		Income: \$100,000+ (vs. <\$100,000)	1.74 (1.11–2.73)*
		Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.29 (0.13–0.65) *0.31 (0.15–0.65)*
		Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	0.53 (0.22–1.26)0.53 (0.21–1.39)
		NRA member (vs. non-member)	0.61 (0.34–1.09)
	NRA supporter (vs. non-supporter)	0.62 (0.37–1.02)	

Table 3 (continued)

Policy	Variable	Odds Ratio (95% confidence interval) ^a	
Red flag laws	Perception of other gun owners' support	1.32 (1.22–1.44)*	
	Sex: Female (vs. male)	2.14 (1.39–3.30)*	
	Age: 60+ (vs. < 60)	1.56 (1.01–2.40)*	
	Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	1.20 (0.49–2.97)0.78 (0.36–1.67)1.02 (0.43–2.44)	
	Income: \$100,000+ (vs. <\$100,000)	1.76 (1.10–2.84)*	
	Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.47 (0.23–0.95) *0.44 (0.23–0.84)*	
	Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	0.46 (0.21–1.00) *0.46 (0.19–1.07)	
	NRA member (vs. non-member)	0.48 (0.27–0.88)*	
	NRA supporter (vs. non-supporter)	0.40 (0.25–0.66)*	
	Requiring a permit to purchase or possess a gun	Perception of other gun owners' support	1.36 (1.25–1.47)*
		Sex: Female (vs. male)	1.73 (1.15–2.59)*
		Age: 60+ (vs. < 60)	1.22 (0.82–1.81)
		Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	1.99 (0.82–4.84)0.90 (0.46–1.75)1.12 (0.50–2.49)
		Income: \$100,000+ (vs. <\$100,000)	1.39 (0.90–2.14)
		Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.52 (0.27–1.01)0.42 (0.25–0.73)*
		Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	0.46 (0.26–0.82) *0.49 (0.25–0.98)*
		NRA member (vs. non-member)	0.63 (0.35–1.12)
NRA supporter (vs. non-supporter)		0.52 (0.33–0.81)*	
Requiring a permit to purchase or possess a handgun		Perception of other gun owners' support	1.35 (1.25–1.47)*
		Sex: Female (vs. male)	1.39 (0.93–2.07)
		Age: 60+ (vs. < 60)	1.45 (0.97–2.18)
		Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	1.43 (0.58–3.51)0.61 (0.32–1.17)0.82 (0.36–1.88)
		Income: \$100,000+ (vs. <\$100,000)	1.45 (0.97–2.18)
		Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.50 (0.25–0.98) *0.33 (0.19–0.57)*
		Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	0.57 (0.30–1.06)0.45 (0.22–0.91)*
		NRA member (vs. non-member)	0.63 (0.36–1.09)
	NRA supporter (vs. non-supporter)	0.66 (0.43–1.02)	
	Requiring a permit to carry a concealed handgun	Perception of other gun owners' support	1.35 (1.24–1.47)*

(continued on next page)

Table 3 (continued)

Policy	Variable	Odds Ratio (95% confidence interval) ^a
	Sex: Female (vs. male)	1.42 (0.94–2.16)
	Age: 60+ (vs. < 60)	2.13 (1.39–3.26)*
	Race: Non-Hispanic Black (vs. non-Hispanic White)Hispanic (vs. non-Hispanic White)Other (vs. non-Hispanic White)	1.09 (0.40–2.96)0.82 (0.42–1.61)0.75 (0.31–1.82)
	Income: \$100,000+ (vs. <\$100,000)	1.33 (0.86–2.05)
	Political party: Independent (vs. Democrat)Republican (vs. Democrat)	0.50 (0.24–1.03)0.48 (0.27–0.86)*
	Political ideology: Moderate (vs. Liberal)Conservative (vs. Liberal)	0.44 (0.22–0.89) *0.29 (0.14–0.64)*
	NRA member (vs. non-member)	0.71 (0.40–1.24)
	NRA supporter (vs. non-supporter)	0.62 (0.39–0.99)*

* Indicates that regression coefficient is statistically significant at $p < 0.05$ level. a The outcome variable is support for the policy. The main predictor variable is the respondent's perceived level of other gun owners' support for that policy, on a scale of 0–10, with 0 representing 0% support and 10 representing 100% support. Therefore, the odds ratio for the perceived support variable indicates the increase in odds that a respondent supports a policy associated with each increase of 10% in their perception of other gun owners' support for that policy. All results had a p -value < 0.0001 . The analyses controlled for age, race, sex, income, political party, political ideology, being a member of the NRA, and supporting the NRA.

policy support was similar in our study compared to previous ones. For example, both our survey and that conducted by Stone et al. (Stone et al., 2022) found that 69% of gun owners support red flag laws.

Regarding demographics, our small majority of male respondents (55%) does not mirror all previous studies conducted on gun owners, such as a Pew study which estimated that 64% of gun owners are male (Schaeffer, 2021). However, the percentage of males in our survey is similar to that in a recent study out of Georgetown University, also conducted in 2021, which is the largest survey of firearm owners ever: 16,708 gun owners were surveyed (English, 2021). The ratio of males to females in that study was 1.37, which is within the standard of error of the ratio in our survey sample (1.22). It should be noted that there has been a sharp rise in females purchasing firearms, many as first-time gun owners, and that this trend increased during the COVID-19 pandemic. Finally, the survey was weighted with sex as one of the post-stratification variables, so this should have helped to ensure the representativeness of the sample. Of note, we only surveyed gun owners, so these findings are not generalizable to non-gun owners.

6. Conclusion

The study's findings demonstrate that gun owners tend to underestimate the level of support fellow gun owners have for gun safety policies and that there is a strong relationship between the level of their perceived support for a policy and their own individual support for that policy.

7. Disclosure of ethical compliance

This study was deemed by the Institutional Review Board of Tufts University School of Medicine to be exempt from human subjects review because the researchers did not collect or possess any personally

identifiable data. The authors confirmed that written informed consent was not required because the researchers did not collect or possess any personally identifiable data. All methods were performed in accordance with the ethical standards as laid down in the Declaration of Helsinki and its later amendments or comparable ethical standards.

Funding

This research was funded by 97Percent. The views expressed in this paper do not necessarily reflect those of 97Percent. The sponsor had no role in the study design, the collection, analysis and interpretation of data, the writing of the report, or the decision to submit the article for publication.

Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.pmedr.2023.102324>.

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