

The Universal Pursuit of Safety and the Demand for (Lethal, Non-Lethal or No) Guns

Marcella Alsan, Stanford
Joshua Schwartzstein, HBS
Stefanie Stantcheva, Harvard

July 2025
NBER SI Economics of Crime

One Word: How Does/Would Owning a Gun Make You Feel?

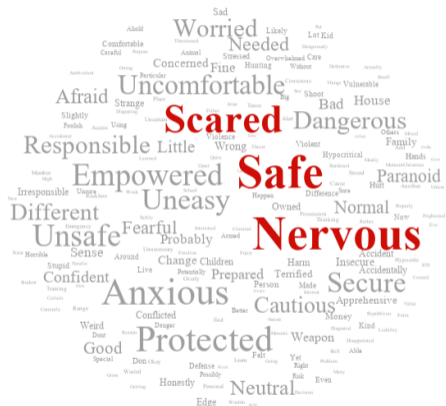


Word Cloud: Non-Gun Owners



Notes: Word clouds generated from open-ended responses. Gun owners were asked: “In one or two words, how does owning a gun make you feel?”. Non-gun owners were asked: “In one or two words, how would owning a gun make you feel?”. Word size is proportional to response frequency.

Word Cloud: Non-Gun Owners Vs. Gun Owners



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Not owning

Questions

- ① Why do people hold such different views about personal lethal firearm ownership?
- ② How malleable are these views?

Our Paper: What We Do and Contributions

- Explores **motivations** behind sharply different views on guns:
 - ▶ Why do some people own guns while others do not? Explore the “why” and “why not?”
- Leveraging an **original large-scale survey of lethal firearm owners (LFAO) and non-owners (NO) (interested and not)**
 - ▶ Comprehensive questions on preferences, needs, values, beliefs, backgrounds, and behaviors.
- An organizing framework (formal in the paper; visual today)
- **Experimental information treatments** that speak to the safety-possibilities frontier (safety-producing technologies):
 - ▶ Highlighting private costs of gun ownership (health & legal)
 - ▶ Introducing a new **a non-lethal alternative** “Byrna.”

What is Byrna?



- Non-lethal self-defense weapon that fires kinetic or chemical projectiles (e.g., pepper rounds).
- Uses CO₂ cartridges to propel .68 caliber projectiles.
- Does not penetrate the body, but can cause pain and temporary incapacitation.
- Designed to resemble and handle like a handgun but typically does not require a firearm license in many U.S. states.
- Effective range of 60 feet (18m), farther than pepper sprays or stun guns.
- Already used by law enforcement in various settings (special models)

Related Literature

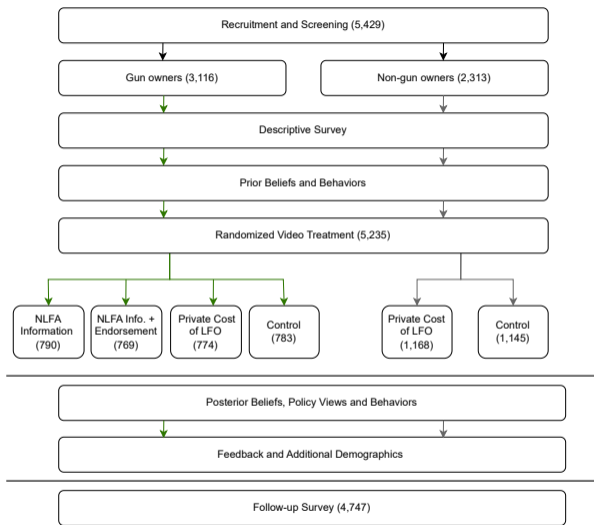
- **Descriptive analysis of America's gun owners:**
 - ▶ Cook and Ludwig (1996) – “Americans are ambivalent about guns: they fear them and at the same time feel safer possessing them.”
 - ▶ Studies build on Cook and Ludwig's with more sophisticated text analysis. E.g., Boine et al. (2022) – describes 6 types of owners with latent class analysis (Also see Yamane 2022, Kelley and Ellison 2021; Kleck and Kovandzick 2009; ...).
- **Citizens' views on LFA regulation & treatments to impact those views:**
 - ▶ Clips of school shooting coverage. (Dixon et. al. 2020; Robbers 2005; Parker et al 2017a, b)
 - ▶ Target misconceptions regarding other gun-owners' support for regulation, mild effects on support for stricter policies. (Dixon et al 2020; Susmann et al 2022)
- **Estimates of the externalities associated with firearm use**
 - ▶ Cook et al (2025) contingent valuation approach: WTP \$744 p.a. for 20% ↓ in violence.
 - ▶ Rosenberg (2024) causal estimates of the health externalities from LFA ownership
- **Estimating the demand for lethal firearms**
 - ▶ Moshary et al. 2025; Armona and Rosenberg 2024; and Rosenberg 2025.

Roadmap

- ① Survey and Sample
- ② Demand for Safety and Non-Lethal Firearms
- ③ Organizing Framework
- ④ Experimental Effects: Informing Respondents About the Cost of Lethal Firearms or Non-Lethal Alternatives
- ⑤ Discussion

Survey and Sample

Survey Overview

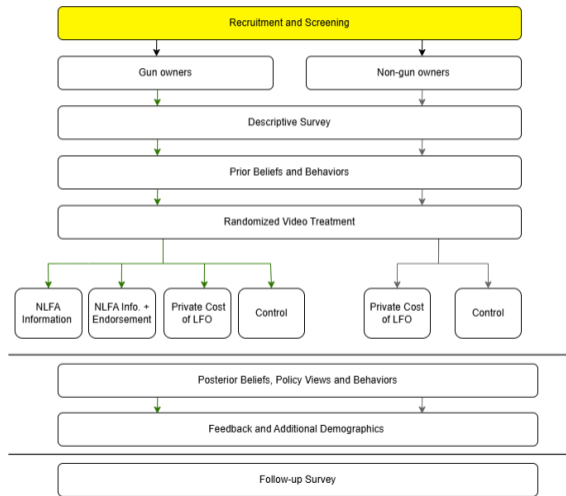


Balance Table LFAOs

Balance Table Non-Owners

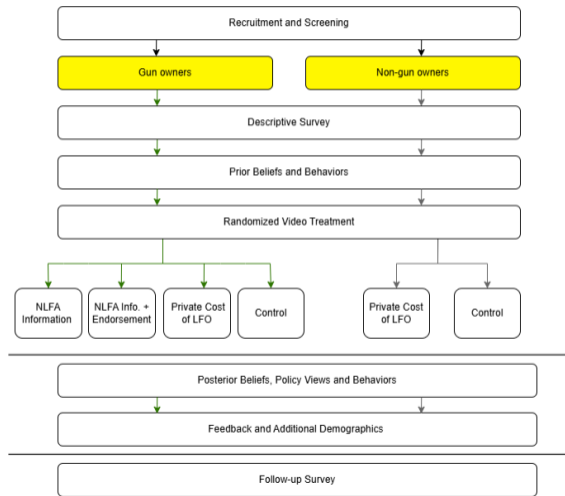
Recruitment and Screening (I)

- Participants recruited from Prolific.
- Quota sampling to mirror U.S. population on gun-ownership status
 - ▶ Quotas
- Embedded attention and comprehension checks to ensure high-quality responses.
 - ▶ Attention check
- The survey can be visited [here](#).
- The Full Questionnaire can be found [here](#).
- Survey duration: 38 min (mean), 33 min (median).



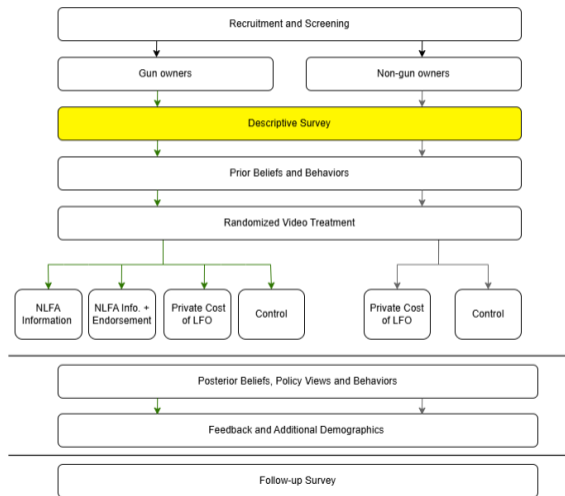
Recruitment and Screening (II)

- Obfuscated recruitment: participants ticked all items they personally owned from a list ▶ Recruit
 - ▶ One option was “Gun”.
- Direct firearm ownership question: “How many guns do you currently own?” ▶ Ownership
- Respondents with inconsistent answers excluded from analysis.
 - ▶ 197 participants in total (3% of recruited participants).



Descriptive Survey

- Demographics
- Models of guns
- Reasons to own (not own) a firearm
 - ▶ Reasons
- Identity: network, family tradition
- Self-view, feelings, emotions
 - ▶ Feelings
- Self-defense and safety
- Personal rights and freedoms
- Community defense
- Externalities



Prior Beliefs and Behaviors

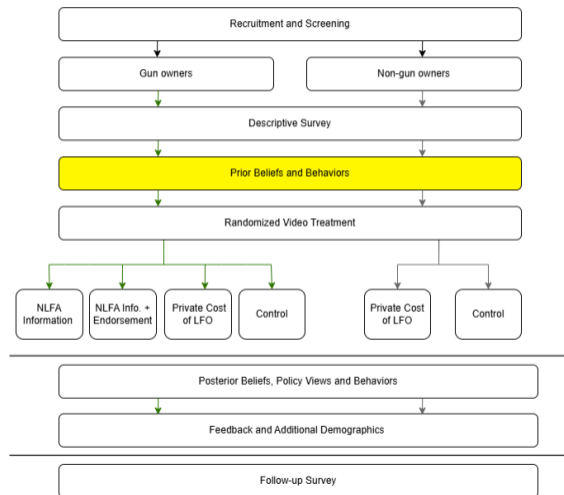
- Beliefs

- ▶ Prior knowledge on NLFAs*
- ▶ Worried about health risks of LFA for self and others
- ▶ Worried about legal risks of LFA

- Behaviors

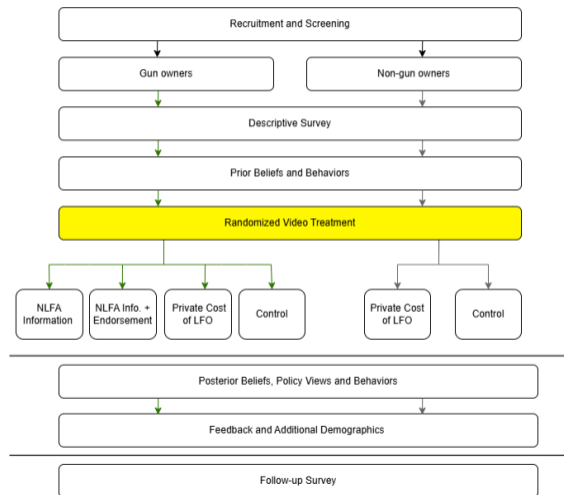
- ▶ Storage of weapons
- ▶ Carrying
- ▶ Shooting range and competitions
- ▶ Hunting
- ▶ Activism and subscriptions

**Question asked at the end of the survey to prevent priming participants.*



Randomized Video Treatment

- **Gun owner** respondents randomized to:
 - ▶ NLFA Information
 - ▶ NLFA Information + Endorsement
 - ▶ Private Cost of LFA
 - ▶ Control
- **Non-gun owner** respondents randomized to:
 - ▶ Private Cost of LFA
 - ▶ Control



Posterior Beliefs, Behaviors and Policy Views

• Beliefs

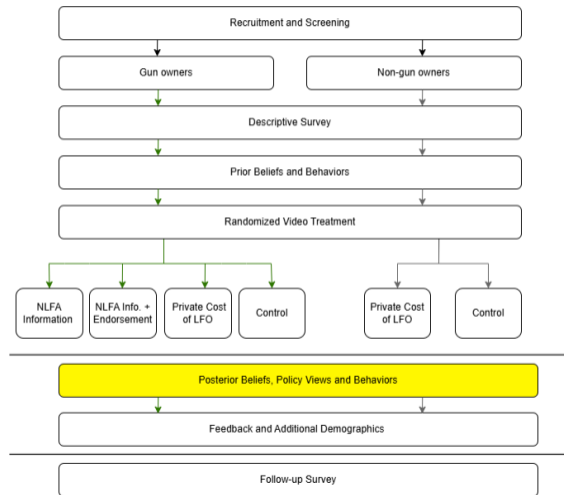
- ▶ Worried about health risks of LFA
- ▶ Worried about legal risks of LFA
- ▶ Non-lethal firearms as alternatives
 - ▶ Good Replacement
 - ▶ Incapacitate but not kill

• Behaviors

- ▶ Safe storage
- ▶ Multiple-price-list elicitation
 - Gun safe ▶ MPL
 - Byrna ▶ MPL

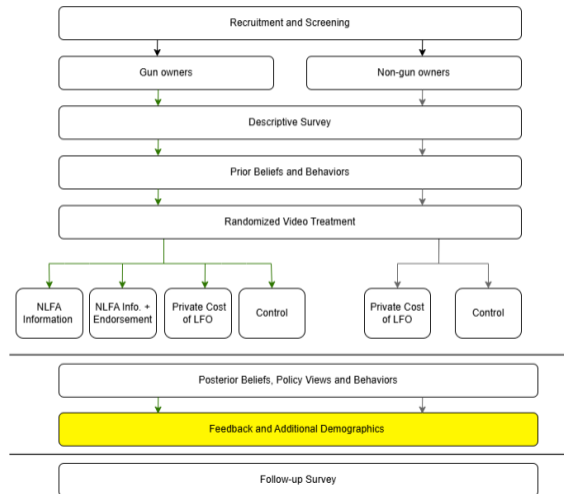
• Policy views and real stakes

- ▶ Non-lethal ▶ Real Stakes
- ▶ Lethal ▶ Real Stakes



Feedback and Additional Demographics

- Additional Demographics
- Feedback
 - ▶ Open-ended feedback
 - ▶ Open-ended purpose
 - ▶ Bias
- Additional information about Byrna

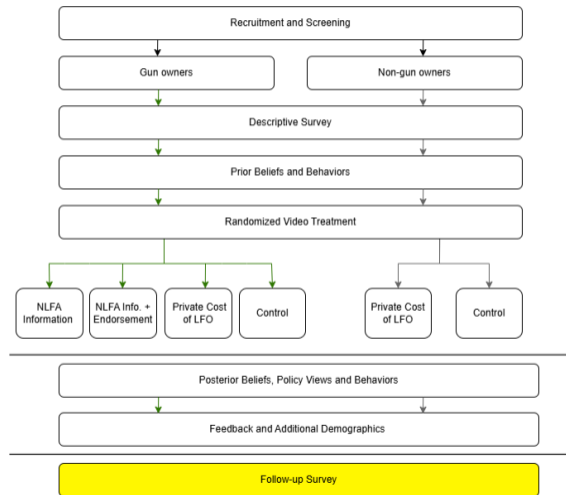


Data Quality

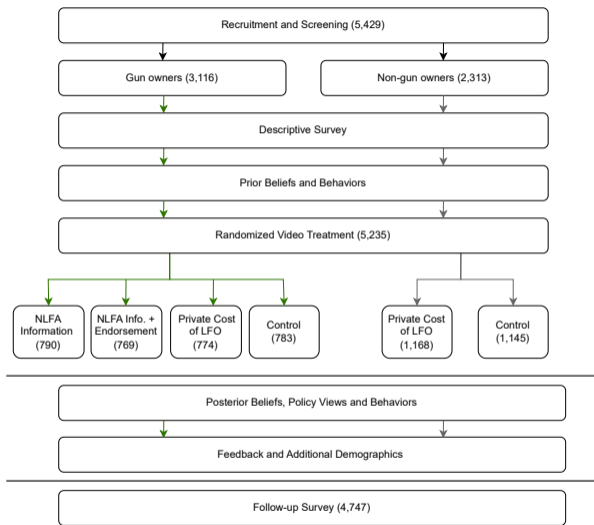
- **Attention checks**: Trick question, failed by 5.7% of respondents
- **Obfuscated recruitment** to avoid selection on the topic
- **Attrition** is low ($\approx 2\%$) and not differential wrt gun ownership or other characteristics.
- Correlation between self-reported policy views and **real-stakes questions**.
 - ▶ Lethal
 - ▶ Non-lethal
- **Perceived bias** and feedback: not biased $\approx 75\%$; left-wing biased $\approx 20\%$.
10% negative feedback due to survey length mainly.
- **Validation survey**: List experiment to test for social desirability bias; prediction exercises; gun games; additional questions.

Follow-up Survey

- Two weeks after the main survey.
- Sections:
 - ▶ Storage of Weapons
 - ▶ Beliefs
 - Worried about health risks of LFA
 - Worried about legal risks of LFA
 - Non-lethal firearms as alternatives
 - ▶ Multiple price list elicitation
 - Safe
 - Byrna
 - ▶ Policy views
 - Non-lethal
 - Lethal



Survey Overview



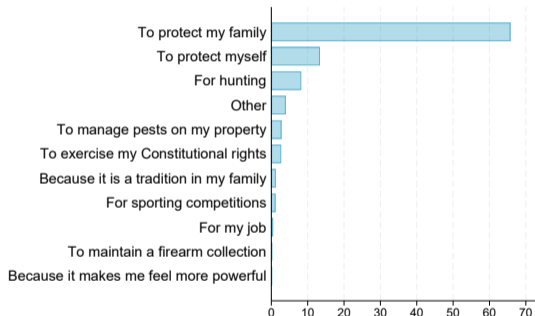
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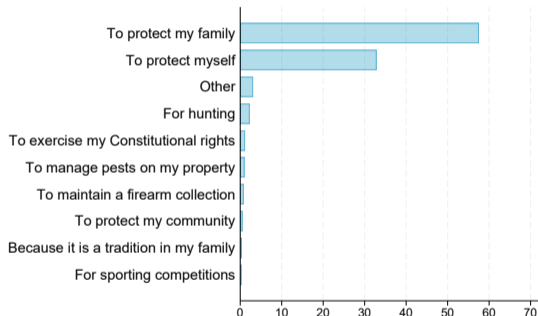
Demand for Safety and Non-Lethal Firearms

Safety is a Primary Reason for Owning and Acquiring a Lethal Firearm

(a) Lethal Firearm Owners ▶ Question



(b) Non-Owners ▶ Question



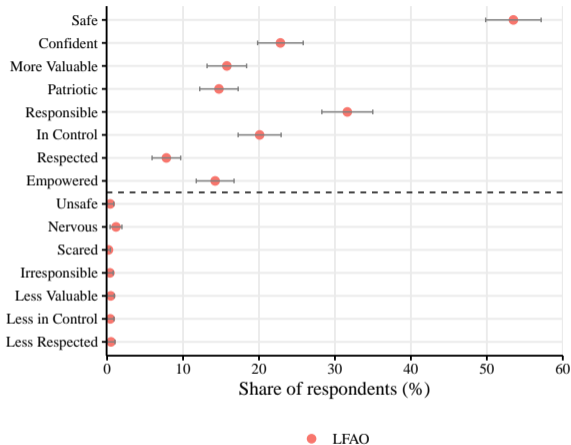
Social desirability bias? List experiment from validation survey confirms these shares.

▶ List experiment

▶ Predictions

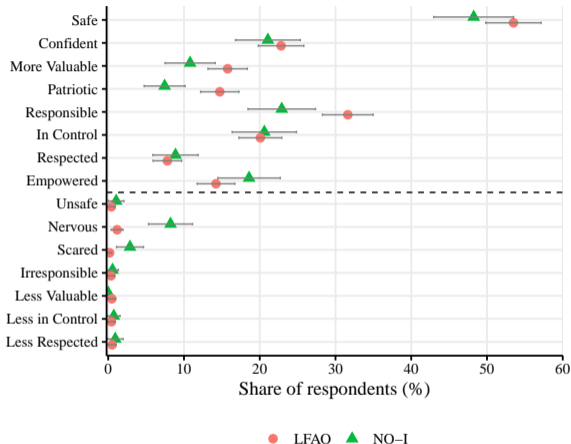
▶ All important reasons

Feelings Attached to (Idea of) Owning a Gun Differs Across Gun Ownership Status



Notes: The figure illustrates respondents' attitudes toward owning or potentially owning a lethal firearm, by firearm ownership status. The survey question asked: "To what extent does/would owning a gun make you feel:" with response options: No extent, Some extent, A moderate extent, and A great extent. The figure presents the share of respondents who answered "A great extent." Restricted to control group participants.

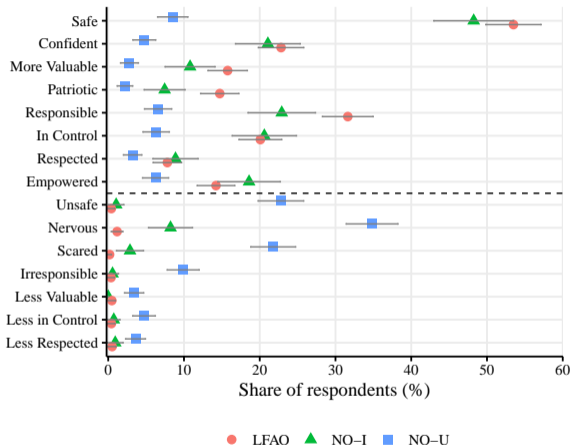
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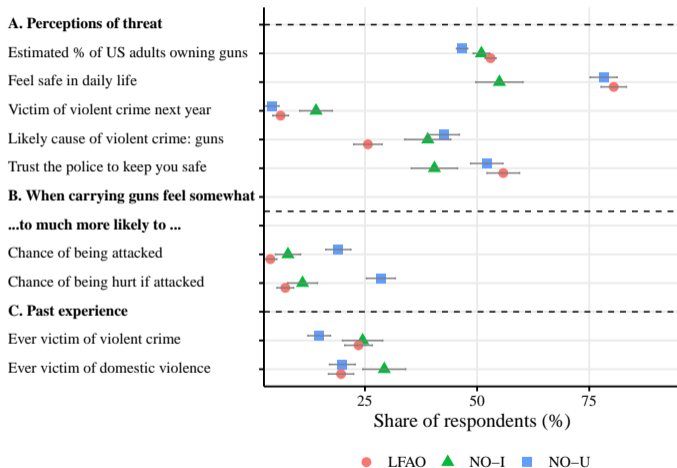
Feelings Attached to (Idea of) Owning a Gun Differs Across Gun Ownership Status

► Question



NO-I look more like LFAOs

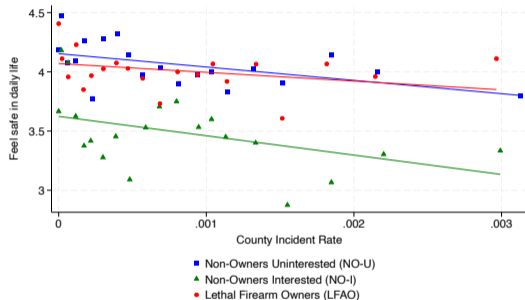
Owners and Non-Owners Have Relatively Similar Ideas About Whether Guns Will Help in Case of Attack



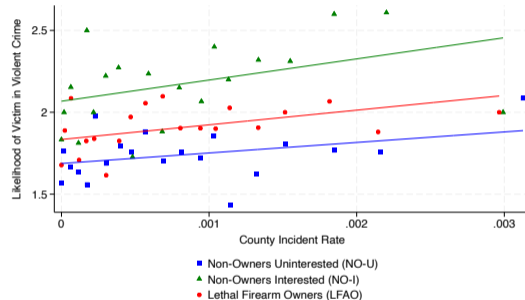
NO-I feel the least safe; NO-U somewhat more likely to say guns will increase chance of being attacked or hurt. It seems that these are not key differences.

Feelings of Safety Correlated with Reality, Higher for LFAO & NO-U

(a) Feeling of safety



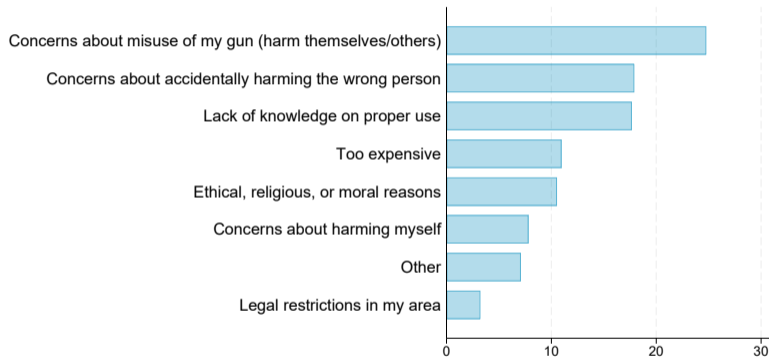
(b) Perceived risk of violent crime



Notes: Bin scatter plots show relationship between risk perception and county-level violent crime incidence. Feelings of safety (left panel, on a 5-point scale from “very unsafe” to “very safe”) and perceived likelihood of being a victim of violent crime (right panel, 5-point scale from “Very unlikely” to “Very likely.”) Violent crime incidence is calculated using FBI Uniform Crime Reporting (UCR) data, defined as the number of violent crimes—Murder and Non-Negligent Manslaughter, Forcible Rape, Robbery, and Aggravated Assault—divided by the county population. Equal-sized county bins based on their crime incidence rates, and each dot represents the average perception within a bin.

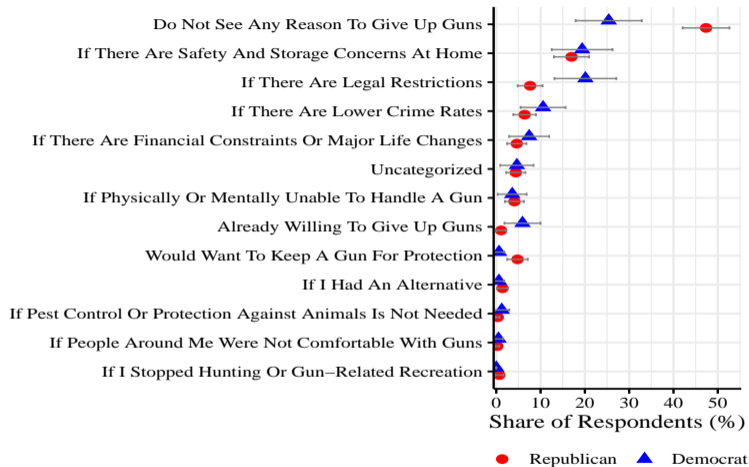
Non-Owners are Concerned With Harms Attached to Gun Ownership

► Question



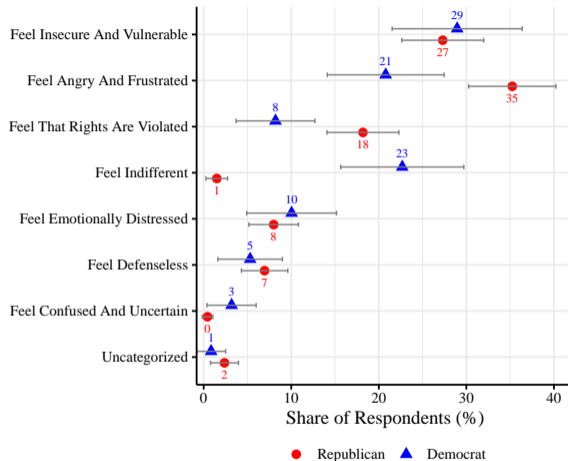
Notes: This figure shows the share among non-owners who rated each reason as the most important for why they do not own a lethal firearm. Restricted to control group participants.

Owners See Few Reasons to Give Up Guns But Some Consider Harms



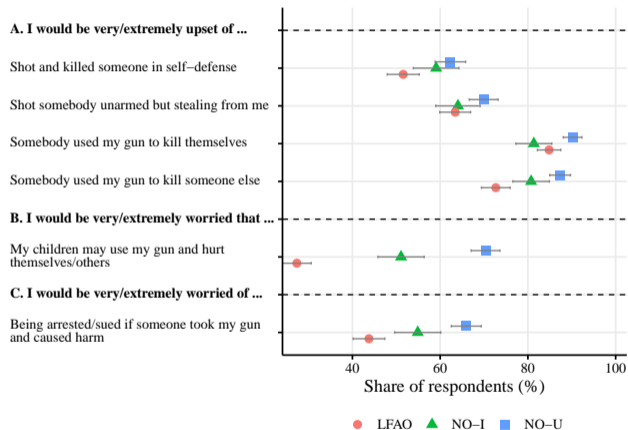
Notes: This figure displays the distribution of topics in responses from LFAOs to the question: “What specific factors, if any, would prompt you to consider no longer owning guns?”. Restricted to control group participants.

How Would You Feel if Your Gun Was Taken Away?



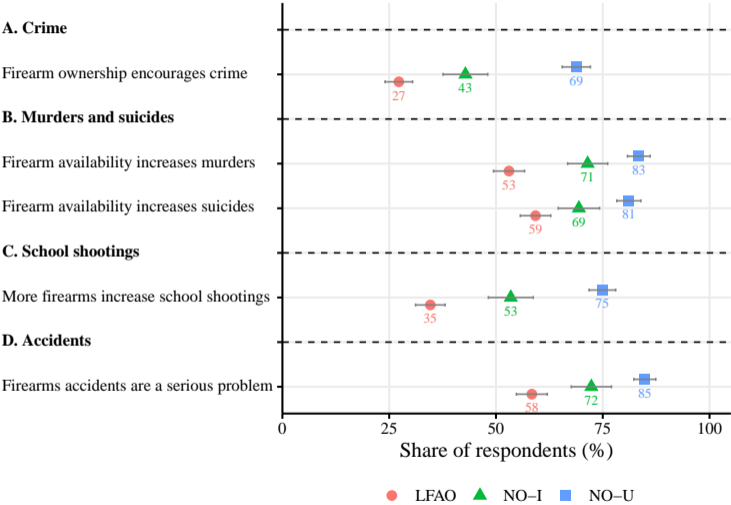
Notes: This figure displays the distribution of topics in responses from LFAOs to the question: “In one or two words, how would you feel if your gun was taken away?”, for Democrat and Republican LFAOs. Restricted to control group participants.

Owners Perceive Lower Chance of Private Harms from Guns Than Non-Owners



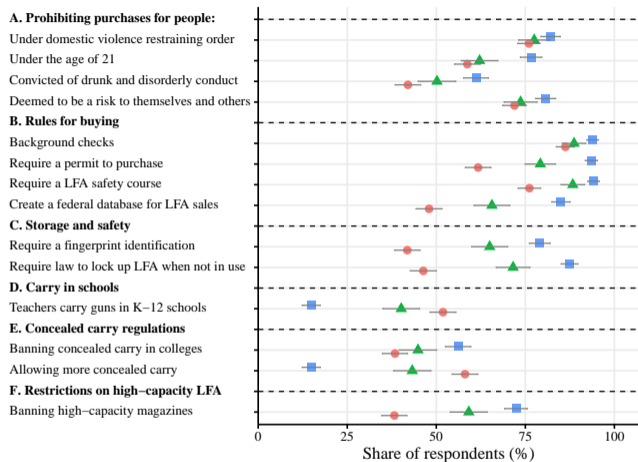
Notes: This figure displays the share of respondents who reported feeling very upset or extremely upset and very worried or extremely worried about various scenarios involving the private costs of firearms, by firearm ownership status. Each scenario was rated on a 4-point scale, from 1 (Not upset at all/Not worried at all) to 4 (Extremely upset/Extremely worried). Restricted to control group participants.

Owners Perceive Lower Chance of Social Harms from Guns



Notes: This figure displays the share of respondents who hold specific perceptions on the items listed in the rows, by firearm ownership
Alsan & Schwartzstein & Stantcheva The Universal Pursuit of Safety July 2025 NBER SI Economics of Crime

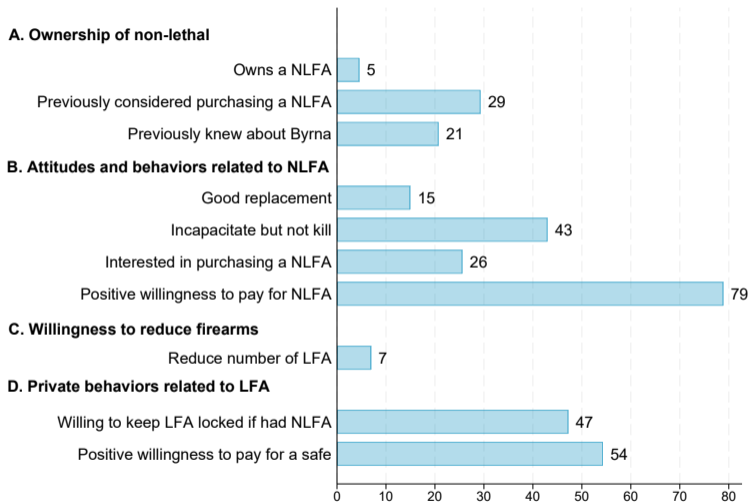
Owners and Non-Owners Have Different Policy Views Re: Guns



● LFAO ▲ NO-I ■ NO-U

Notes: This figure illustrates respondents' views on policies related to lethal firearms, by firearm ownership status. Support for each policy was measured on a 5-point scale ranging from 1 ("Strongly oppose") to 5 ("Strongly support"). The figure displays the share of respondents who expressed "Somewhat support" and "Strongly support" to each policy. Restricted to control group participants.

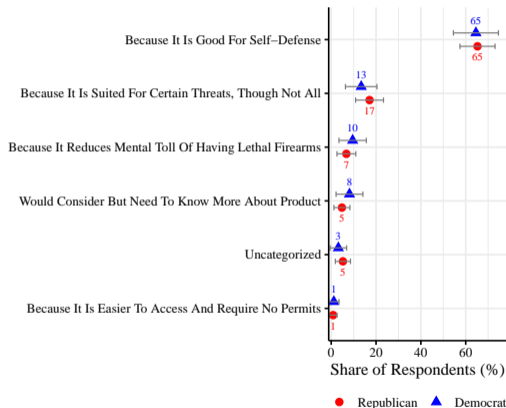
Gun Owners Largely Haven't Considered NLFAs



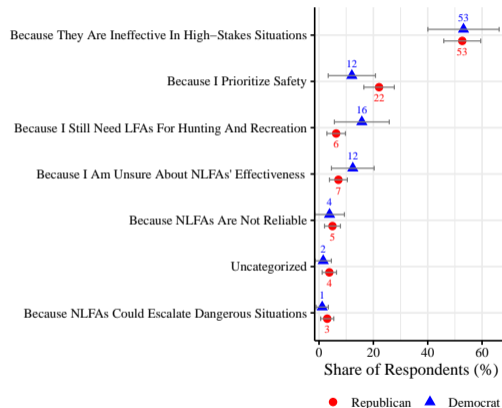
Notes: This figure displays the distribution of LFAO's responses to the items listed in the rows. Restricted to control group participants.

Why Are Non-Lethal Firearms Good or Bad Replacements?

(a) Why is NLFA a good replacement for LFA?

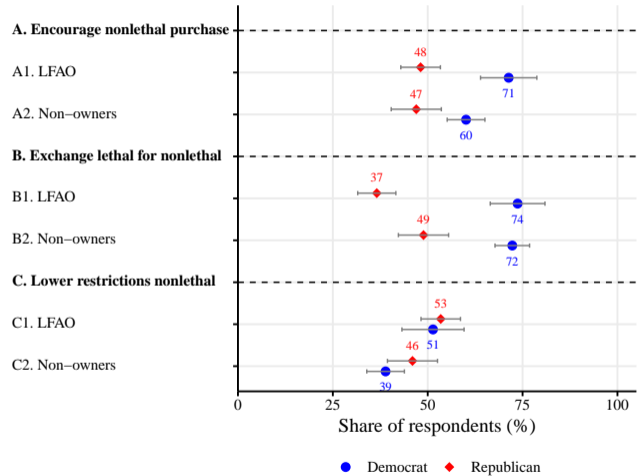


(b) Why is it a bad replacement?



Notes: These figures respectively display the distribution of topics in responses from LFAOs to the follow-up open-ended questions: “Why do you consider non-lethal firearms like Byrna to be a decent/good/complete replacement?” and “Why do you consider non-lethal firearms like Byrna to be not much of a replacement/not a replacement at all?”

Policy Views on NLFAs



Notes: This figure illustrates LFAO and non-owners' views on policies related to non-lethal firearms, by political leaning. Restricted to control group participants

Summing Up

Lethal firearm owners and non-owners appear to share a **common objective: to be safe**

However, they have **different views about whether guns make them safer**

- Owners appear to attach greater weight to protective benefits
- Non-owners appear to attach greater weight to private and social harms
- Interested non-owners appear to fall in-between and feel especially unsafe

Policy preferences similarly differ across gun owners and non-gun owners

Most gun owners **haven't considered purchasing non-lethal firearm alternatives**

Organizing Framework

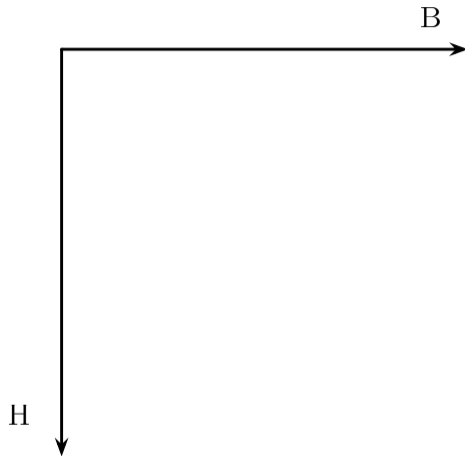
Outline of Framework

All households demand safety but differ in how they think about producing it

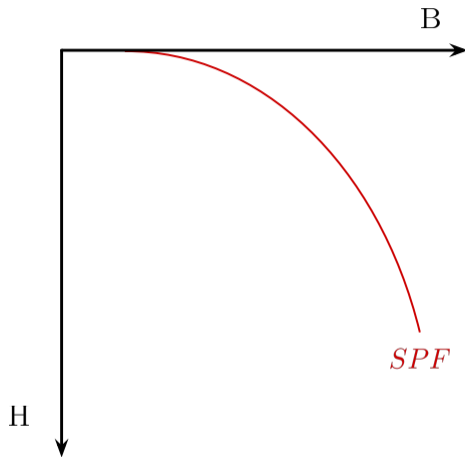
People differ in their choices of firearms for several reasons

- Heterogeneity in underlying **preferences**, needs, values: utility function
- Heterogeneity in **beliefs** about which tools deliver the most net safety: **perceived safety-possibilities frontier (SPF)**
 - ▶ SPF could be heterogeneous or homogeneous across people
 - ▶ Perceptions of the SPF(s) can be accurate or biased
 - ▶ Actual or perceived frequency or intensity of encounters requiring lethal force
 - ▶ Actual or perceived differences in harms vs. protective benefits of firearms
 - ▶ Differences in knowledge or beliefs about options such as NLFAs
- Fundamental preference disagreement might imply few levers to change choices.
- Heterogeneity in views about the SPF suggests levers such as our experimental treatments could influence beliefs and behavior

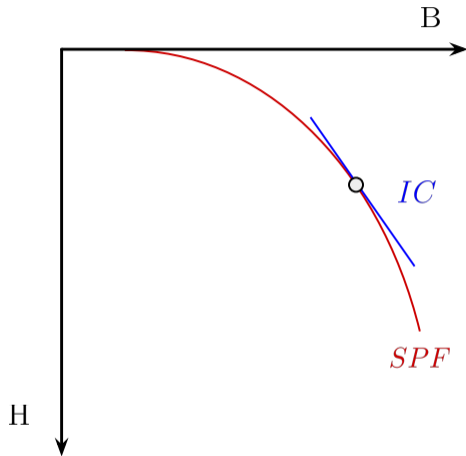
Trading Off Net benefits B and Harms H from Different Firearms



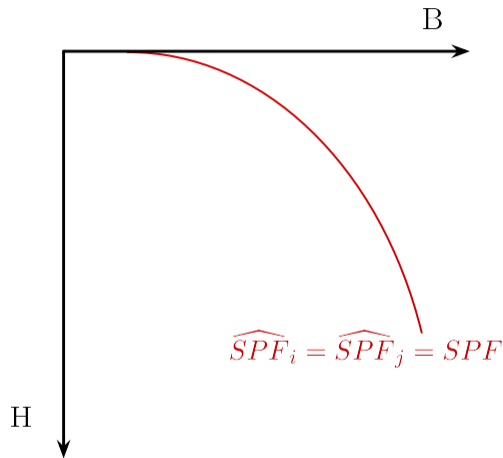
The Safety-Possibilities Frontier (SPF) Shows Efficient Combinations



People Select Firearm Ownership based on Preferences and Beliefs

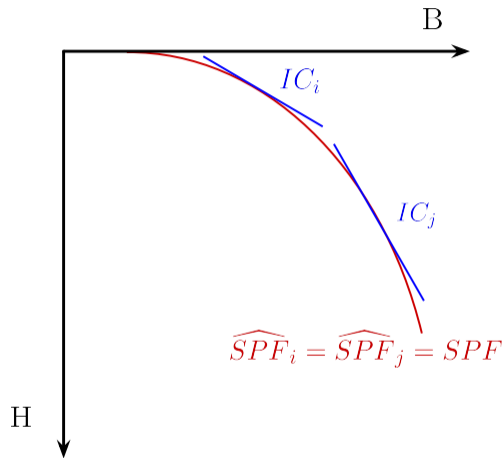


Pure Preference-Driven Demand for Guns



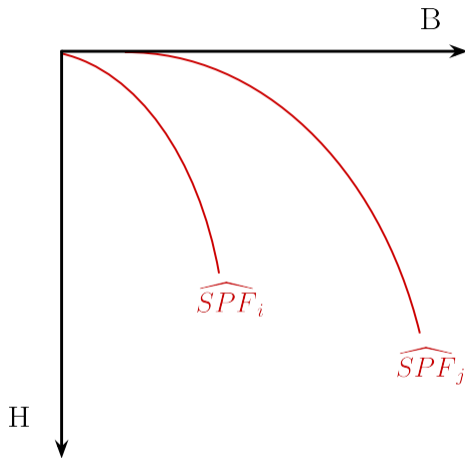
SPF homogeneous across people & perceptions are accurate.

Pure Preference-Driven Demand for Guns (II)



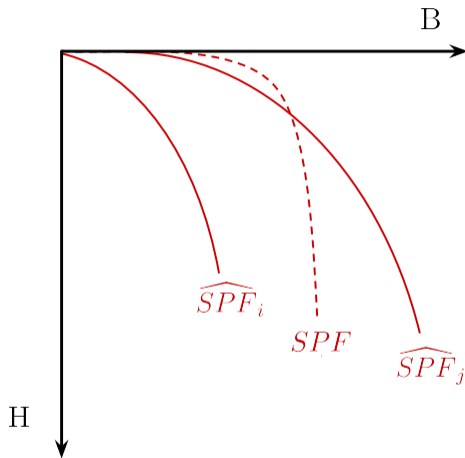
Agent j values protective benefits more than i , ready to accept more harms.

Pure Belief-Driven Demand for Guns



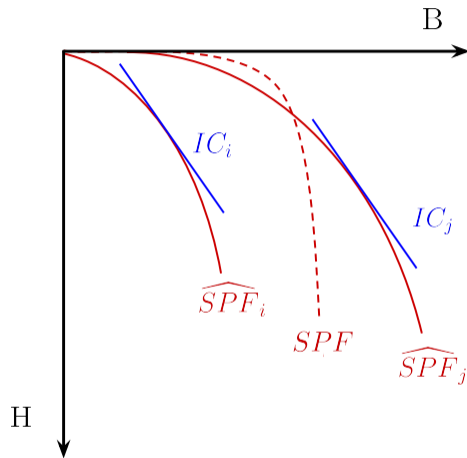
People might perceive different SPFs

Pure Belief-Driven Demand for Guns (II)



SPFs might differ from true SPF (note, in general, SPFs could be heterogeneous).

Pure Belief-Driven Demand for Guns (III)



Even with the same preferences, people will choose different points.

Informing Respondents About the Cost of Lethal Firearms or Non-Lethal Alternatives: Experimental Effects

Private Cost of Lethal Firearm Ownership – Information Treatment

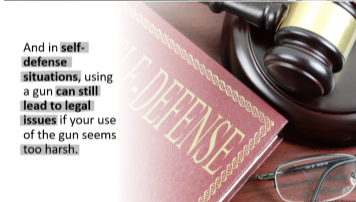
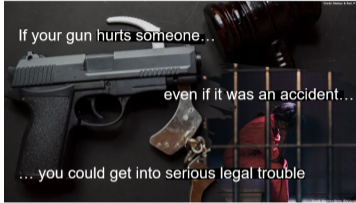
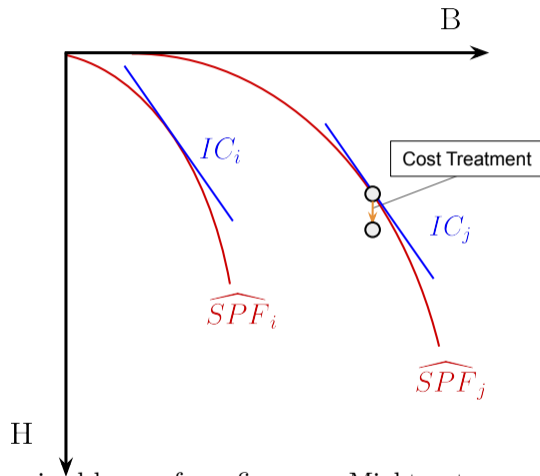


Illustration of the Private Cost of Firearms Information Treatment



Should weakly increase perceived harms from firearms. Might not move respondents who already knew information or put low weight on harms.

Treatment Effects Summary: Private Cost of Firearms Information

- **Treated Lethal Firearm owners:**

- ▶ More worried about arrest
- ▶ More willing to keep LFA locked if had NLFA
- ▶ Less willing to purchase another LFA
- ▶ More supportive of policies encouraging safe storage and safety
- ▶ Real-stakes effect: more willing to sign petition urging for restrictions on guns & donate to charity fighting gun violence

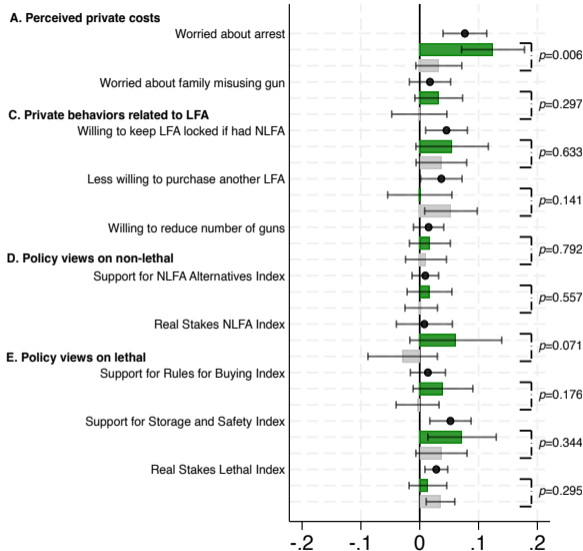
- **Treated Non-owners:**

- ▶ More worried about arrest and health costs
- ▶ More support for NLFA-friendly policies (& willing to sign petition)
- ▶ More supportive of policies encouraging safe storage and safety & restrictions on buying

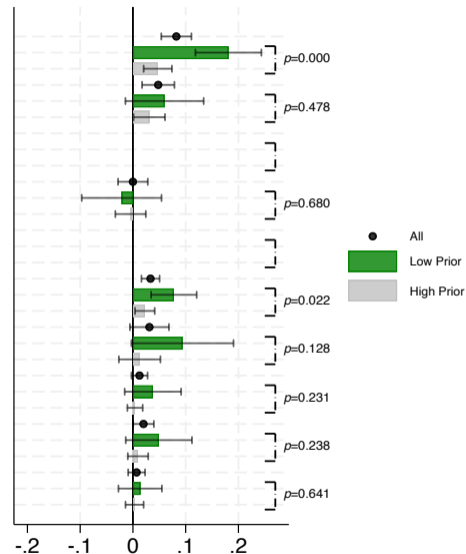
- **Verdict:**

- ▶ Treatment conveyed valuable info on legal risks, which people might not have known.
- ▶ Increase in support for policies restricting guns & personal safety behaviors for LFAOs.

Treatment Effects on LFAO



Treatment Effects on Non-Owners



Non-Lethal Fireram – Information Treatment



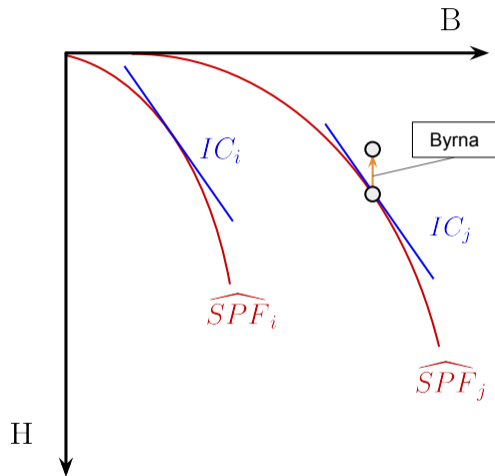
Byrna was created by gun owners who wanted a non-lethal, reliable option for self-defense and nothing on the market fit the bill.

Byrna non-lethal firearms were developed to provide protection from a distance of up to **60 feet** and are used by over 300 police departments nationwide.

The Byrna product has **over 850 reviews** and an average rating of **4.5/5 stars** on Amazon.



Illustration of the Non-Lethal Firearm Info Treatment



Non-Lethal Firearm Endorsement and Information Treatment



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Illustration of the Non-Lethal Firearm Info & Endorsement Treatment

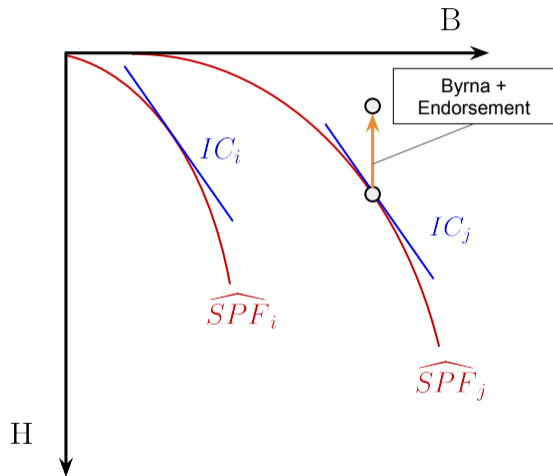
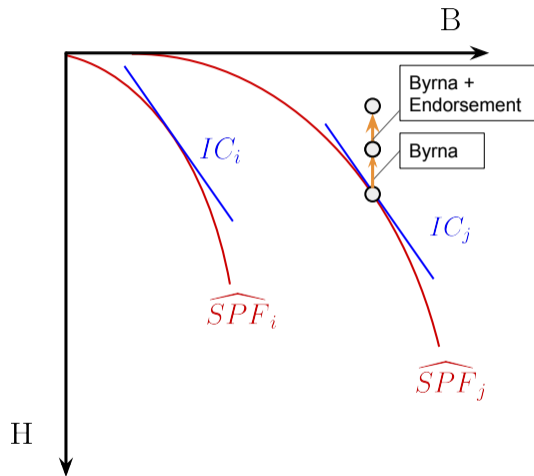


Illustration of the Non-Lethal Firearm Treatments



Treatment Effects: Non-Lethal Firearms Info & Endorsement

- **LFAOs who see the information treatment:**

- ▶ More likely to consider NLFA a good replacement, prefer to incapacitate rather than kill, interested in purchasing an NLFA.
- ▶ More willing to keep LFAs locked, less willing to purchase more LFAs.
- ▶ Support for policies pro-NLFAs

- **LFAOs who see the information & endorsement treatment:**

- ▶ All the effects above, with larger magnitudes. Plus more effects:
- ▶ Increased WTP to pay for NLFA from MPL
- ▶ More supportive of restrictive gun policies including real-stakes (petition & donation)

- **Verdict:**

- ▶ Providing info about an alternative that shifts people's safety-possibility frontier is effective in changing views and, potentially, behaviors.
- ▶ Endorsement by someone who "knows about guns" & shares safety concern is even more effective.

NLFA Info. Treatment Effects

A. Perceived private costs

Worried about arrest



Worried about family misusing gun



B. Attitudes and behaviors related to NLFA

NLFA is a good replacement for LFA



Prefer to incapacitate rather than kill



Interested in purchasing a NLFA



Positive Willingness to Pay for NLFA



C. Private behaviors related to LFA

Willing to keep LFA locked if had NLFA



Less willing to purchase another LFA



Willing to reduce number of guns



D. Policy views on non-lethal

Support for NLFA Alternatives Index



Real Stakes NLFA Index

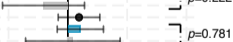


E. Policy views on lethal

Support for Rules for Buying Index



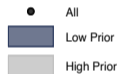
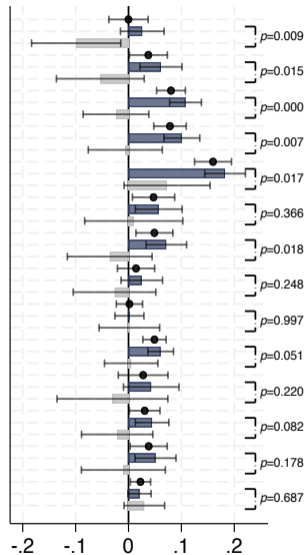
Support for Storage and Safety Index



Real Stakes Lethal Index



NLFA Info. + Endorsement Effects



Mechanisms: Treatment Effects on Why NLFA Considered Good or Bad Replacement

	NLFA Information			NLFA Information + Endorsement		
	Main	Low prior	High prior	Main	Low prior	High prior
Because it is easier to access and require no permits	0.014*** (0.005)	0.009** (0.004)	0.031* (0.018)	0.012** (0.005)	0.015*** (0.006)	-0.000 (0.010)
Would consider but need to know more about product and its reliability	0.012 (0.011)	0.014 (0.013)	0.002 (0.018)	0.015 (0.011)	0.016 (0.013)	0.011 (0.019)
Because it reduces mental toll of having/using lethal firearms	0.005 (0.009)	0.008 (0.010)	-0.006 (0.022)	0.006 (0.009)	0.009 (0.010)	-0.005 (0.022)
Because it is suited for certain threats, though not all	0.031* (0.016)	0.031* (0.018)	0.027 (0.035)	0.069*** (0.017)	0.082*** (0.020)	0.020 (0.034)
Because it is good for self-defense	0.075*** (0.024)	0.094*** (0.027)	0.000 (0.054)	0.070*** (0.024)	0.092*** (0.027)	-0.014 (0.054)
Because NLFAs could escalate dangerous situations	0.001 (0.006)	0.001 (0.006)	0.003 (0.018)	-0.006 (0.005)	-0.007 (0.005)	-0.006 (0.017)
Because NLFAs are unreliable	-0.005 (0.007)	-0.013* (0.007)	0.024 (0.021)	-0.008 (0.007)	-0.011 (0.008)	0.004 (0.017)
Because I still need LFAs for hunting and recreation	-0.024** (0.010)	-0.025** (0.012)	-0.021 (0.016)	-0.024** (0.010)	-0.026** (0.012)	-0.014 (0.018)
Because I am unsure about NLFAs' effectiveness	-0.020* (0.012)	-0.026* (0.014)	0.005 (0.022)	-0.027** (0.011)	-0.040*** (0.013)	0.022 (0.024)
Because I prioritize safety and do not want to take risks	-0.014 (0.016)	-0.016 (0.018)	-0.006 (0.033)	-0.002 (0.017)	-0.011 (0.019)	0.028 (0.036)
Because they are ineffective in high-stakes situations	-0.069*** (0.023)	-0.073*** (0.025)	-0.052 (0.051)	-0.092*** (0.022)	-0.111*** (0.025)	-0.025 (0.052)

► Persistence of the effect

Follow-up: Treatment Effects of Providing Information on Non-Lethal Firearms on LFAO, With and Without Endorsement

	NLFA Information			NLFA Information + Endorsement		
	Main (all)	Main (FU only)	Follow-up (all)	Main (all)	Main (FU only)	Follow-up (all)
Worried about arrest	0.001 (0.057)	0.030 (0.062)	-0.004 (0.056)	-0.000 (0.057)	-0.007 (0.061)	0.002 (0.056)
Worried about family misusing gun	0.057 (0.055)	0.060 (0.059)	-0.007 (0.052)	0.113** (0.055)	0.129** (0.059)	0.038 (0.053)
NLFA is a good replacement for LFA	0.295*** (0.057)	0.288*** (0.062)	0.077 (0.060)	0.321*** (0.056)	0.328*** (0.060)	0.109* (0.060)
Prefer to incapacitate but not kill	0.238*** (0.063)	0.225*** (0.069)	0.066 (0.069)	0.314*** (0.063)	0.322*** (0.068)	0.178*** (0.067)
Interested in purchasing a NLFA	0.740*** (0.107)	0.768*** (0.116)	0.320*** (0.112)	0.959*** (0.107)	1.000*** (0.116)	0.512*** (0.113)
Positive Willingness to Pay for NLFA	0.037* (0.021)	0.040* (0.023)	0.024 (0.021)	0.047** (0.020)	0.061*** (0.022)	0.046** (0.020)
Willing to keep LFA locked if had NLFA	0.177** (0.072)	0.149* (0.078)	0.038 (0.077)	0.196*** (0.071)	0.202*** (0.077)	0.119 (0.077)
Less willing to purchase another LFA	0.034* (0.018)	0.025 (0.019)	0.013 (0.018)	0.014 (0.018)	0.007 (0.019)	0.007 (0.018)
Support for NLFA Alternatives Index	0.031*** (0.011)	0.030** (0.012)	0.016 (0.013)	0.049*** (0.011)	0.050*** (0.012)	0.029** (0.013)
Support for Rules for Buying Index	-0.003 (0.015)	-0.001 (0.016)	0.000 (0.016)	0.031** (0.015)	0.033** (0.016)	0.031* (0.016)
Support for Storage and Safety Index	0.019 (0.018)	0.018 (0.019)	0.014 (0.019)	0.038** (0.018)	0.038** (0.019)	0.035* (0.020)

Follow-up: Treatment Effects of the Private Cost of Lethal Firearm Ownership Treatment on All Respondents

	Lethal firearms owners			Non-owners		
	Main (all)	Main (FU only)	Follow-up (all)	Main (all)	Main (FU only)	Follow-up (all)
Worried about arrest	0.230*** (0.044)	0.221*** (0.046)	0.159*** (0.045)	0.247*** (0.044)	0.238*** (0.046)	0.085* (0.045)
Worried about family misusing gun	0.053 (0.054)	0.047 (0.058)	0.020 (0.053)	0.144*** (0.047)	0.131*** (0.050)	0.018 (0.048)
Willing to keep LFA locked if had NLFA	0.182** (0.072)	0.159** (0.079)	0.060 (0.079)	-	-	-
Less willing to purchase another LFA	0.037** (0.018)	0.025 (0.019)	-0.004 (0.018)	-0.000 (0.014)	-0.004 (0.015)	-0.006 (0.015)
Willing to reduce number of guns	0.060 (0.052)	0.056 (0.057)	0.024 (0.058)	-	-	-
Support for NLFA Alternatives Index	0.010 (0.012)	0.003 (0.013)	-0.008 (0.013)	0.033*** (0.009)	0.033*** (0.009)	0.022** (0.009)
Support for Rules for Buying Index	0.014 (0.015)	0.014 (0.017)	0.013 (0.017)	0.012 (0.008)	0.012 (0.008)	0.001 (0.008)
Support for Storage and Safety Index	0.052*** (0.018)	0.058*** (0.020)	0.033* (0.020)	0.020** (0.010)	0.017 (0.011)	0.015 (0.011)

Safe storage ownership

Discussion

Starting Questions


- ① Why do people hold such different views about personal lethal firearm ownership
- ② How malleable are these views?

Some Answers

- ① Why do people hold such different views about personal lethal firearm ownership →


*In part because they have different **beliefs** about the safety-possibilities frontier (SPF) given available technologies*

- ② How malleable are these views? →

Beliefs about the SPF appear malleable: e.g., firearm owners are open to revising their estimate to incorporate non-lethal alternatives 

Appendix

Discussion: Some Follow-Up Questions

- If gun owners care so much about safety
 - ▶ why don't they already know about and demand options like Byrna?
 - ▶ why don't gun manufacturers have an incentive to create safer guns?
- Do beliefs about the SPF impact gun ownership or is it the other way around?
 - ▶ The fact that interested non-owners' beliefs are similar to owners' beliefs suggests the former channel
- More broadly, what are factors that influence different views of the SPF across gun-owners and non-gun owners? What role do emotions play? 

Word Cloud: Non-Gun Owners Vs. Gun Owners



Notes: Word clouds generated from open-ended responses. Gun owners were asked: “In one or two words, how would you feel if your gun was taken away?”. Non-gun owners were asked: “In one or two words, how does not owning a gun make you feel?”. Word size is proportional to response frequency.

Survey and Sample

Which of the following do you personally own? Select all that apply.

Please select **all options** that apply to you:

- ☐ Car
- ☐ Motorcycle
- ☐ Electric scooter
- ☐ Bicycle
- ☐ ATV
- ☐ RV
- ☐ Motorboat
- ☐ Sailboat
- ☐ Gun
- ☐ Jet
- ☐ Home security system
- ☐ Safe
- ☐ None of the above

Figure: Obfuscated recruitment

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Survey and Sample

Please note that all your responses are anonymous and will not be tracked.

How many guns do you currently own?

☐ 0

☐ 1

☐ 2 to 3

☐ 4 to 5

☐ 6 to 7

☐ 8 to 9

☐ 10 or more

Figure: Direct personal firearm ownership question

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Survey and Sample

To what extent is each of the following an **important reason** for you to own a gun?

	Not important at all	Slightly important	Moderately important	Very important	Extremely important
To manage pests on my property	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To protect my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To protect my community	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To protect myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not important at all	Slightly important	Moderately important	Very important	Extremely important
To exercise my Constitutional right	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To maintain a gun collection	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because it's a tradition in my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For hunting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not important at all	Slightly important	Moderately important	Very important	Extremely important
For sporting competitions	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
For my job	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Because it makes me feel more powerful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please specify	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="text"/>					

Figure: Reasons for owning a gun

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Survey and Sample

What specific things, if any, would prompt you to consider not owning guns anymore?

In one or two words, how would you feel if your **gun was taken away**?

Figure: Not owning a gun

Survey and Sample

To what extent does **owning** a gun **make you feel**:

	To no extent	To a little extent	To a moderate extent	To a great extent
Safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patriotic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsafe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irresponsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less in control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent would **NOT being able to own** a gun **make you feel**:

	To no extent	To a little extent	To a moderate extent	To a great extent
Safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patriotic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsafe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irresponsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less in control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Figure: Feelings about gun ownership

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Survey and Sample

When deciding where to dine out, people often check online reviews to make an informed choice. We want to know which restaurant review websites are most trusted. We also want to know if people are paying attention to the question. To show that you've read this much, please ignore the question and select Yelp and Zagat as your two answers.

When choosing a restaurant, which is the one review website you would visit first?

☐ OpenTable

☐ TripAdvisor

☐ Google Reviews

☐ Zagat

☐ Uber Eats

☐ Yelp

☐ Chowhound

☐ Grubhub

☐ The Infatuation

Figure: Attention checks

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Survey and Sample

Instructions

You will have to make several decisions by completing one list. Each row of the list will present two payment options:

The payment option **on the left** will involve you receiving **\$5 as a bonus payment**, which you'll get if you select this option.



The payment option **on the right** will always involve getting a **discount on a RPNB Biometric Safe**.



The amount of the discount will increase from \$5 to \$90 as you proceed down the rows of the list. In the first row, you'd be able to purchase the RPNB Biometric Safe at a \$5 discount (bringing the total price to roughly $\$100 - \$5 = \$95$) and in the last row you'd be able to purchase a RPNB Biometric Safe at a \$90 discount (bringing the total price to roughly $\$100 - \$90 = \$10$).

Your task is to decide which payment option you prefer on each row.

By participating in this survey, you are automatically entered into a lottery. If you win the lottery, one row from this list will be randomly selected. The payment option you select on that row would then be distributed to you free of charge.

Figure: Multiple price list task instructions

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Survey and Sample

Below are two quick questions to check your understanding:

If you chose the option **on the left** in the randomly selected row, what would happen?

☐ I would get a discount on a RPNB Biometric Safe.

☐ I would receive some amount of money as a bonus payment.

If you chose the option on the **right** in the randomly selected row, what would happen?

☐ I would get a discount on a RPNB Biometric Safe.

☐ I would receive some amount of money as a bonus payment.

Figure: Understanding questions

Survey and Sample

Please indicate **which payment option you prefer on each row**.

(Note that you cannot click on the submit button until you have selected an answer.)



Which option do you prefer?

Bonus payment of \$5 <input type="radio"/>	A \$5 discount, bringing the price of the RPNB Biometric Safe to \$95 <input type="radio"/>
---	--

Which option do you prefer?

Bonus payment of \$5 <input type="radio"/>	A \$22 discount, bringing the price of the RPNB Biometric Safe to \$78 <input type="radio"/>
---	---

Which option do you prefer?

Bonus payment of \$5 <input type="radio"/>	A \$39 discount, bringing the price of the RPNB Biometric Safe to \$61 <input type="radio"/>
---	---

You will now make a similar sequence of decisions, but you will not be paid based on these decisions. The payment option on the left would involve you receiving \$5 as a bonus payment. The payment option on the right would now involve you getting a discount on a Byrna legal non-lethal firearm, roughly valued at \$410.

(Note that you cannot click on the submit button until you have selected an answer.)



Which option would you prefer?

Bonus payment of \$5 <input type="radio"/>	A \$5 discount, bringing the price of the Byrna legal non-lethal firearm to \$405 <input type="radio"/>
---	--

Which option would you prefer?

Bonus payment of \$5 <input type="radio"/>	A \$86 discount, bringing the price of the Byrna legal non-lethal firearm to \$324 <input type="radio"/>
---	---

Figure: Multiple price list tasks

Survey and Sample

Do you oppose or support an **information campaign encouraging the purchase of non-lethal firearms** instead of lethal firearms?

☐ Strongly oppose

☐ Somewhat oppose

☐ Neither oppose nor support

☐ Somewhat support

☐ Strongly support

Do you oppose or support a program that would allow gun owners to **exchange their lethal firearms for non-lethal firearms**?

☐ Strongly oppose

☐ Somewhat oppose

☐ Neither oppose nor support

☐ Somewhat support

☐ Strongly support

By taking this survey, you are automatically entered into a **lottery** to win 90 dollars. In a few days, you will know whether you have been selected in the lottery. The payment will be made to you in the same way as your compensation for this survey, so no further action is required on your part. Should you be selected in the lottery, you can **donate a part of this additional compensation to one or both of the following charities:**

Everytown for Gun Safety Support Fund, which has a proven track record in advocating for responsible gun ownership and community safety. It works towards reducing the impact of gun violence and supporting victims.

Second Amendment Advocacy Foundation, which is dedicated to defending responsible gun ownership, safeguarding Second Amendment rights, and promoting lethal firearm safety.

Should you win the lottery, please enter your donation amount using the slider below.

0 9 18 27 36 45 54 63 72 81 90

Everytown for Gun Safety Support Fund

Second Amendment Advocacy Foundation

Figure: Policy views and real stakes questions

Survey and Sample

Have you heard about Byrna legal non-lethal firearms before the survey?

☐ Yes

☐ No

Do you feel that this survey was biased?

☐ Not biased

☐ Yes, left-wing biased

☐ Yes, right-wing biased

Figure: Prior knowledge of Byrna and feedback

Correlation between Self-Reported policy views and Real-stakes questions on Lethal Firearms

	Donations		Petitions	
	Gun Safety	2nd Amendment	Limit LF	Uphold LF right
Panel A: Lethal firearm owners	(1)	(2)	(3)	(4)
Prohibiting Purchases Index	2.485 (2.304)	-4.493 (2.833)	0.293*** (0.066)	-0.127* (0.066)
Support for Rules for Buying Index	12.052*** (1.684)	-3.820 (3.041)	0.664*** (0.048)	-0.259*** (0.063)
Support for Storage and Safety Index	13.321*** (1.844)	2.384 (2.032)	0.621*** (0.043)	-0.136** (0.055)
Opposition to Carry in Schools	3.626** (1.670)	-3.711** (1.810)	0.373*** (0.050)	-0.263*** (0.052)
Support for Concealed Carry Regulations Index	7.383*** (2.146)	-5.190** (2.487)	0.597*** (0.054)	-0.441*** (0.065)
Support for Restrictions on High-Capacity LF	7.465*** (1.625)	0.092 (1.831)	0.474*** (0.041)	-0.203*** (0.047)
Observations	783	780	783	783
Panel B: Non-owners				
Prohibiting Purchases Index	-2.941 (2.219)	-6.125*** (1.583)	0.198*** (0.049)	-0.069 (0.050)
Support for Rules for Buying Index	6.994*** (2.501)	-10.804*** (3.074)	0.781*** (0.063)	-0.274*** (0.081)
Support for Storage and Safety Index	4.412* (2.398)	-4.553** (2.247)	0.614*** (0.053)	-0.187*** (0.063)
Opposition to Carry in Schools	3.810** (1.810)	-4.796*** (1.381)	0.338*** (0.043)	-0.316*** (0.044)
Support for Concealed Carry Regulations Index	3.646 (2.358)	-8.406*** (1.728)	0.502*** (0.049)	-0.470*** (0.052)
Support for Restrictions on High-Capacity LF	4.087** (1.612)	-7.289*** (1.396)	0.299*** (0.042)	-0.199*** (0.043)
Observations	1145	1135	1145	1145

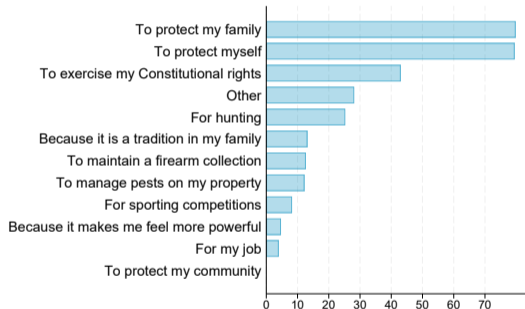
Correlation between Self-Reported policy views and Real-stakes questions on Lethal Firearms

	Petition promote NLF	Petition swap LF for NLF
Panel A: Lethal firearm owners		
Support for Non-Lethal Alternatives Index	1.131*** (0.058)	1.131*** (0.060)
Observations	782	783
Panel B: Non-owners		
Support for Non-Lethal Alternatives Index	0.781*** (0.063)	0.755*** (0.065)
Observations	1145	1145

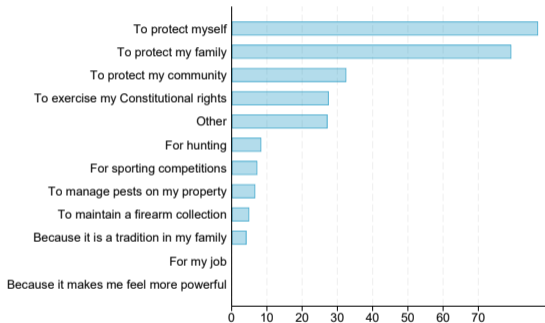
Notes: This table reports the results of linear regressions estimating the correlation between the support for non-lethal firearm alternatives index and willingness to sign two real-stakes petitions to support NLFs. Panel A presents results for lethal firearm owners and Panel B for non-owners. The first column “Petition promote NLF” measures support for a petition encouraging the promotion by the Federal Government of non-lethal self-defense tools. The second column “Petition swap LF for NLF” captures support for a petition to promote a swap program of lethal firearms for non-lethal alternatives. Petition responses are binary (1 = Yes, 0 = No). The Support for Non-Lethal Alternatives Index aggregates normalized responses to three policy questions on NLF support. Regressions include controls for age, income, education, political affiliation, race, and gender. Estimates were obtained using a weighted sample to ensure a representative sample of the U.S. gun owner and non-gun owner populations. Robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Share Saying These Reasons are Very or Extremely Important

(a) Why do you own a gun? (LFAO)



(b) Why would you acquire a gun? (NO)



Notes: These figures present the share of respondents saying that a reason is “very important” or “extremely important” in their decision of (a) owning a gun (for gun owners), (b) acquiring a gun (non gun owners).

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List experiment 1: My number one reason for owning guns is safety

	LFAO		Non Owners	
	Control	Treated	Control	Treated
N of respondents	80	90	71	72
Mean N statements	3.60	4.27	3.77	4.36
p-value (diff.)	0.000		0.000	

Notes: This table presents the results of List Experiment 1 for both gun owners and non-gun owners. “Control” respondents saw only the list of non-sensitive items, while “Treated” respondents saw the same list plus the sensitive item “My number one reason for owning guns is safety.” “N of respondents” indicates the sample size in each cell. “Mean N statements” shows the average number of items participants agree with in the list. A two-sample t-test was performed separately for each ownership status to evaluate $H_0 : \mu_{\text{Treated}} - \mu_{\text{Control}} = 0$.

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List experiment 2: My number one reason for owning guns is because it gives me a feeling of power

	LFAO		Non Owners	
	Control	Treated	Control	Treated
N of respondents	83	87	71	72
Mean N statements	3.59	3.64	3.82	3.94
p-value (diff.)	0.773		0.449	

Notes: This table presents the results of List Experiment 2 for both gun owners and non-gun owners. “Control” respondents saw only the list of non-sensitive items, while “Treated” respondents saw the same list plus the sensitive item “My number one reason for owning guns is because it gives me a feeling of power” “N of respondents” indicates the sample size in each cell. “Mean N statements” shows the average number of items participants agree with in the list. A two-sample t-test was performed separately for each ownership status to evaluate $H_0 : \mu_{\text{Treated}} - \mu_{\text{Control}} = 0$.

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Prediction of the reasons to own a lethal firearm

Reason	Actual	LFAO Pred.	Diff	NO Pred.	Diff
To manage pests on my property	2%	2.8%	0.001	2.7%	0.010
To protect my family	65%	29.0%	0.000	25.8%	0.000
To protect my community	0%	5.2%	0.000	5.6%	0.000
To protect myself	15%	23.1%	0.000	25.6%	0.000
To exercise my Constitutional rights	3%	9.5%	0.000	9.1%	0.000
To maintain a gun collection	1%	3.8%	0.000	4.5%	0.000
Because it's a tradition in my family	1%	4.0%	0.000	3.4%	0.000
For hunting	7%	11.5%	0.000	11.1%	0.000
For sporting competitions	1%	3.6%	0.000	3.7%	0.000
For my job	0%	4.1%	0.000	4.5%	0.000
Because it makes me feel more powerful	0%	3.3%	0.000	3.9%	0.000

Notes: Respondents were asked to predict the percentage (0–100) of lethal firearm owners who would list each reason as their most important reason for owning a gun. The *Actual* column reports the true share of gun owners who selected each reason in the main survey. *GO Pred.* and *NGO Pred.* report the mean predictions made by gun owners and non-gun owners, respectively. The *Diff* columns display the p-values from tests of the difference between each group's mean prediction and the actual share. For each group, a one-sample t-test was conducted to evaluate $H_0 : \mu_{Pred} - Actual = 0$, where μ_{Pred} is the group's mean predicted share.

Persistence of the Effect of the NLFA Information and Endorsement Treatments on Open-ended Answers about NLFAs

	NLFA Information			NLFA Information + Endorsement		
	Main (all)	Main (FU only)	Follow-up (all)	Main (all)	Main (FU only)	Follow-up (all)
Because it is easier to access and require no permits	0.014*** (0.005)	0.013** (0.006)	0.001 (0.004)	0.012** (0.005)	0.010* (0.005)	0.004 (0.005)
Would consider but need to know more about product and its reliability	0.012 (0.011)	0.008 (0.011)	-0.002 (0.009)	0.015 (0.011)	0.021* (0.012)	0.001 (0.010)
Because it reduces mental toll of having/using lethal firearms	0.005 (0.009)	0.006 (0.010)	0.001 (0.010)	0.006 (0.009)	-0.000 (0.010)	-0.011 (0.009)
Because it is suited for certain threats, though not all	0.031* (0.016)	0.030* (0.017)	0.022** (0.017)	0.069*** (0.017)	0.076*** (0.019)	0.040 (0.018)
Because it is good for self-defense	0.075*** (0.024)	0.062** (0.026)	0.029 (0.026)	0.070*** (0.024)	0.060** (0.026)	0.039 (0.026)
Because NLFAs could escalate dangerous situations	0.001 (0.006)	0.005 (0.006)	0.011 (0.006)	-0.006 (0.005)	-0.007 (0.005)	0.002* (0.005)
Because NLFAs are unreliable	-0.005 (0.007)	-0.006 (0.008)	0.012 (0.008)	-0.008 (0.007)	-0.012 (0.008)	0.008 (0.007)
Because I still need LFAs for hunting and recreation	-0.024** (0.010)	-0.021* (0.011)	-0.009 (0.012)	-0.024** (0.010)	-0.024** (0.011)	0.009 (0.013)
Because I am unsure about NLFAs' effectiveness	-0.020* (0.012)	-0.020 (0.012)	-0.015 (0.012)	-0.027** (0.011)	-0.024* (0.012)	-0.009 (0.013)
Because I prioritize safety and do not want to take risks	-0.014 (0.016)	-0.007 (0.017)	-0.025 (0.019)	-0.002 (0.017)	0.005 (0.018)	-0.039 (0.018)
Because they are ineffective in high-stakes situations	-0.069*** (0.023)	-0.074*** (0.024)	-0.035 (0.025)	-0.092*** (0.022)	-0.097*** (0.024)	-0.052 (0.025)

Question posed to Gun-Owners: “Which One of these Most Important?”

You said these are very or extremely important reasons for you to own a gun.
Which one is the **most important**?

- ☐ To manage pests on my property
- ☐ To protect my family
- ☐ To protect my community
- ☐ To protect myself
- ☐ To exercise my Constitutional rights
- ☐ To maintain a gun collection
- ☐ Because it's a tradition in my family
- ☐ For hunting
- ☐ For sporting competitions
- ☐ For my job
- ☐ Because it makes me feel more powerful

Notes: Participants were asked: “You said these are very or extremely important reasons for you to own a gun. Which one is the most important?”. The list of reasons displayed to each respondent was based on each participants’ own answers to the question about their reasons for owning a gun.

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Question posed to Non Gun-Owners: “Which One of these Most Important?”

You said these are very or extremely important reasons for you to acquire a gun. Which one is the **most important**?

- ☐ To manage pests on my property
- ☐ To protect my family
- ☐ To protect my community
- ☐ To protect myself
- ☐ To exercise my Constitutional rights
- ☐ To maintain a gun collection
- ☐ Because it's a tradition in my family
- ☐ For hunting
- ☐ For sporting competitions
- ☐ For my job
- ☐ Because it makes me feel more powerful

Notes: Participants were asked: “You said these are very or extremely important reasons for you to acquire a gun. Which one is the most important?”. The list of reasons displayed to each respondent was based on each participants’ own answers to the question about their reasons for owning a gun.

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Non-lethal firearms as alternatives: Good Replacement

Do you consider legal non-lethal alternatives such as the Byrna to be a **replacement** for a standard, lethal firearm?

☐ A complete replacement

☐ A good replacement

☐ A decent replacement

☐ Not much of a replacement

☐ Not a replacement at all

Notes: Participants were asked: “Do you consider legal non-lethal alternatives such as the Byrna to be a replacement for a standard, lethal firearm?”.

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Non-lethal firearms as alternatives: Incapacitate but not kill

To what extent to do you disagree or agree with the following statement: I prefer a firearm that is able to incapacitate someone temporarily but not kill them

☐ Strongly disagree

☐ Disagree

☐ Neither disagree nor agree

☐ Agree

☐ Strongly agree

Notes: Participants were asked: “To what extent to do you disagree or agree with the following statement: I prefer a firearm that is able to incapacitate someone temporarily but not kill them”.

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Real Stakes: Non-Lethal

Now, we would like to ask you about two **petitions** that we will send to the federal government. When the survey is complete, we will send the results to **Congress**, informing them what **share** of people who took this survey were willing to support each petition. You will not be asked to provide your name and your answer will remain anonymous.

Would you like to sign the following petition?

*We, the undersigned, urge the Federal Government to promote and prioritize the use of **non-lethal self-defense tools** to protect the safety of all U.S. citizens. We believe that encouraging the adoption of non-lethal alternatives is crucial to **reducing violent incidents and preventing unnecessary fatalities**. By doing so, we can ensure a safer and brighter future for our children.*

☐ Yes

☐ No

Notes: Participants were asked to sign two petitions. The first petition is shown above. The second petition is based on the question: “Would you like to sign the following petition? We, the undersigned, urge the Federal Government to implement and promote a lethal firearms swap program to protect the safety of all U.S. citizens. We believe that encouraging citizens to exchange firearms for non-lethal self-defense tools is crucial to reducing violent crimes and preventing accidental deaths. By doing so, we can ensure a safer and brighter future for our children.” Responses for both petitions are: (1) “Yes” and (0) “No.”

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Real Stakes: Lethal

By taking this survey, you are automatically entered into a **lottery** to win 90 dollars. In a few days, you will know whether you have been selected in the lottery. The payment will be made to you in the same way as your compensation for this survey, so no further action is required on your part. Should you be selected in the lottery, you can **donate a part of this additional compensation to one or both of the following charities:**

Everytown for Gun Safety Support Fund, which has a proven track record in advocating for responsible gun ownership and community safety. It works towards reducing the impact of gun violence and supporting victims.

Second Amendment Advocacy Foundation, which is dedicated to defending responsible gun ownership, safeguarding Second Amendment rights, and promoting lethal firearm safety.

Should you win the lottery, please enter your donation amount using the slider below.

0 9 18 27 36 45 54 63 72 81 90

Everytown for Gun Safety Support Fund



Second Amendment Advocacy Foundation



Notes: Donation questions are shown above. Petitions: Petition to limit lethal firearms ownership: “Would you like to sign the following petition? We, the undersigned, urge the Federal Government to limit and restrict lethal firearms ownership to protect the safety of all U.S. citizens.” Petition to uphold firearm rights: “Would you like to sign the following petition? We, the undersigned, urge the Federal Government to preserve and uphold the right to firearms ownership to empower the safety of all U.S. citizens.” Response options for both petitions were binary: Yes or No.

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Feelings about gun ownership

To what extent does **owning** a gun **make you feel**:

	To no extent	To a little extent	To a moderate extent	To a great extent
Safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patriotic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsafe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irresponsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less in control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

To what extent would **NOT being able to own** a gun **make you feel**:

	To no extent	To a little extent	To a moderate extent	To a great extent
Safe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Confident	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
More valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Patriotic	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Responsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Empowered	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Unsafe	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Nervous	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Scared	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Irresponsible	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less valuable to my family	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less in control	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Less respected	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Notes: The survey question asked: “To what extent does/would owning a gun make you feel:” with response options: No extent, Some extent, A moderate extent, and A great extent. The sentiments assessed include: Safe, Confident, More valuable to my family, Patriotic, Responsible, In control, Respected, Empowered, Unsafe, Nervous, Scared, Irresponsible, Less valuable, Less in control, and Less respected.

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Reasons for not owning a gun

To what extent is each of the following an **important reason** for you not to own a gun?

	Not important at all	Slightly important	Moderately important	Very important	Extremely important
Concerns about accidentally harming the wrong person	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns about harming myself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Concerns about someone using my gun to harm themselves or others	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Too expensive	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	Not important at all	Slightly important	Moderately important	Very important	Extremely important
Legal restrictions in my area	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Ethical, religious, or moral reasons	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Lack of knowledge on proper use	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Other: please specify <div></div>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Notes: The survey question asked: “To what extent is each of the following an important reason for you not to own a gun?”, using a 5-point scale ranging from 'Not important at all', 'Slightly important', 'Moderately important', 'Very important', to 'Extremely important'.

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Sample Representativity

	Gun owners		Non-Gun owners	
	Survey	Quota	Survey	Quota
Male	68%	73%	43%	41%
Female	31%	27%	55%	59%
White	85%	87%	66%	66%
Non-white	15%	13%	34%	34%
Age 18-29	15%	13.1%	29%	34%
Age 30-49	50%	51.5%	39%	39%
Age 50-64	35%	35.4%	32%	27%
Income 0-40,000	14%	10.9%	35%	34%
Income 40,000 - 100,000	43%	37.6%	31%	30%
Income 100,000+	43%	51.5%	33%	36%
Midwest	24%	28%	20%	20.2%
East/Northeast	12%	8%	20%	19.2%
South	46%	45%	35%	34.3%
West	18%	19%	24%	26.3%
Republican	45%	42.2%	19%	16.8%
Democrat	20%	17.8%	34%	32.6%
Independent	32%	40%	40%	50.5%

Notes: The table presents the demographic representativeness benchmark comparison between GSS 2022 data, and our sample (pre-reweight), divided by gun ownership status. The percentages shown for each category are based on the respective groups of gun owners and non-gun owners.

Balance Table LFAOs

	Mean	Cost info	Byrna info	Endorsement	p-values		
	(1)	(2)	(3)	(4)	(2)-(3)	(2)-(4)	(3)-(4)
Male	0.733	0.001 (0.022)	-0.008 (0.022)	-0.022 (0.023)	0.684	0.310	0.539
Female	0.263	-0.005 (0.022)	0.006 (0.022)	0.020 (0.022)	0.629	0.266	0.524
White	0.879	-0.016 (0.017)	-0.004 (0.016)	-0.017 (0.017)	0.474	0.956	0.439
Non-white	0.121	0.016 (0.017)	0.004 (0.016)	0.017 (0.017)	0.474	0.956	0.439
Age 18-29	0.126	0.006 (0.017)	0.003 (0.017)	0.011 (0.017)	0.864	0.770	0.643
Age 30-49	0.517	-0.000 (0.026)	-0.001 (0.026)	-0.005 (0.026)	0.971	0.846	0.874
Age 50-64	0.357	-0.005 (0.025)	-0.002 (0.025)	-0.005 (0.025)	0.879	0.997	0.882
Income 0-40,000	0.111	0.023 (0.016)	-0.013 (0.014)	-0.015 (0.014)	0.017	0.011	0.891
Income 40,000 - 100,000	0.356	0.029 (0.025)	0.026 (0.024)	0.026 (0.025)	0.883	0.900	0.983
Income 100,000+	0.533	-0.052 (0.026)	-0.012 (0.026)	-0.011 (0.026)	0.128	0.118	0.958
Midwest	0.295	-0.015 (0.025)	-0.032 (0.025)	-0.015 (0.025)	0.470	1.000	0.471
East/Northeast	0.073	0.018 (0.012)	-0.000 (0.011)	0.009 (0.012)	0.132	0.491	0.425
South	0.445	-0.002 (0.026)	0.025 (0.026)	-0.003 (0.026)	0.310	0.955	0.285
West	0.186	-0.002 (0.021)	0.008 (0.021)	0.008 (0.021)	0.662	0.631	0.965
Republican	0.436	-0.043 (0.026)	-0.027 (0.026)	-0.042 (0.026)	0.526	0.962	0.558
Democrat	0.168	0.012 (0.019)	-0.001 (0.018)	0.006 (0.019)	0.471	0.735	0.705
Independent	0.362	0.033 (0.027)	0.018 (0.026)	0.049 (0.027)	0.572	0.549	0.243
Number of firearms	3.248	-0.079 (0.076)	0.031 (0.079)	0.070 (0.080)	0.164	0.063	0.632
Have safe/cabinet	0.739	-0.021 (0.023)	-0.032 (0.023)	-0.018 (0.023)	0.644	0.902	0.559
Knew Byrna	0.207	0.001 (0.021)	-0.006 (0.021)	0.003 (0.021)	0.724	0.959	0.687
Access in less than a few minutes	0.567	0.029 (0.026)	-0.000 (0.026)	0.032 (0.026)	0.269	0.900	0.218
LFA family misuse concern	1.688	-0.026 (0.054)	0.006 (0.053)	0.052 (0.055)	0.540	0.152	0.399
LFA legal liability concern	2.200	0.104 (0.058)	0.065 (0.058)	-0.003 (0.058)	0.504	0.069	0.253
Not worried about legal concerns	0.376	-0.027 (0.025)	0.002 (0.026)	0.021 (0.026)	0.260	0.065	0.466

Balance Table Non-Owners

	Mean (1)	Coefficient (2)	SE (3)
Male	0.386	0.028	(0.021)
Female	0.592	-0.031	(0.021)
White	0.655	0.011	(0.020)
Non-white	0.345	-0.011	(0.020)
Age 18-29	0.339	0.002	(0.021)
Age 30-49	0.394	-0.008	(0.021)
Age 50-64	0.267	0.006	(0.018)
Income 0-40,000	0.345	-0.010	(0.020)
Income 40,000 - 100,000	0.284	0.031	(0.019)
Income 100,000+	0.371	-0.021	(0.021)
Midwest	0.191	0.021	(0.017)
East/Northeast	0.198	-0.011	(0.016)
South	0.332	0.023	(0.020)
West	0.279	-0.032	(0.019)
Republican	0.164	-0.019	(0.014)
Democrat	0.296	0.006	(0.019)
Independent	0.462	0.004	(0.021)

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Share of respondents owning safety devices

	Gun owners	Non-gun owners	Total
<i>Panel A. Main Survey</i>			
Own a safe storage device	71.73%	-	-
<i>Panel B. Validation survey</i>			
Tasers	20%	10%	15%
Pepper Spray	35%	38%	37%
Gun safe or Gun cabinet	53%	1%	29%
Gun	94%	2%	52%
Home security system	54%	42%	49%
Safe	54%	23%	39%
Double-Lock or Multi-Lock Doors	46%	42%	44%
Security Cameras	67%	55%	62%
Guard Dogs	34%	30%	32%
Window Bars	14%	17%	16%
None of the above	1%	15%	7%

Notes: Panel A presents the share of Main Survey respondents answering “yes” or “no” to the question “Do you own a gun storage device such as a gun safe or gun cabinet?” . Panel B presents the answers from validation survey participants to the question ”Which of the following do you personally own to keep you safe? Select all that apply.”

Worried family use - LFAO

How worried are you that your children or other family members may use your lethal firearm and hurt themselves or hurt others?

☐ Not worried at all

☐ Somewhat worried

☐ Very worried

☐ Extremely worried

Notes: Participants were asked: “How worried are you that your children or other family members may use your lethal firearm and hurt themselves or hurt others?”.

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Worried family use - NO

If you owned a lethal firearm, how worried would you be that your children or other family members may use your lethal firearm and hurt themselves or hurt others?

☐ Not worried at all

☐ Somewhat worried

☐ Very worried

☐ Extremely worried

Notes: Participants were asked: “If you owned a lethal firearm, how worried would you be that your children or other family members may use your lethal firearm and hurt themselves or hurt others?”.

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Worried about arrest - LFAO

How worried would you be of being **arrested or sued** if someone took your lethal firearm and killed or hurt someone else?

☐ Not worried at all

☐ Somewhat worried

☐ Very worried

☐ Extremely worried

Notes: Participants were asked: “How worried would you be of being arrested or sued if someone took your lethal firearm and killed or hurt someone else?”.

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Worried about arrest - NO

If you owned a lethal firearm, how worried would you be of being **arrested or sued** if someone took your lethal firearm and killed or hurt someone else?

☐ Not worried at all

☐ Somewhat worried

☐ Very worried

☐ Extremely worried

Notes: Participants were asked: “If you owned a lethal firearm, how worried would you be of being arrested or sued if someone took your lethal firearm and killed or hurt someone else?”.

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Non-lethal firearms as alternatives: Good Replacement

Do you consider legal non-lethal alternatives such as the Byrna to be a **replacement** for a standard, lethal firearm?

☐ A complete replacement

☐ A good replacement

☐ A decent replacement

☐ Not much of a replacement

☐ Not a replacement at all

Notes: Participants were asked: “Do you consider legal non-lethal alternatives such as the Byrna to be a replacement for a standard, lethal firearm?”.

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Non-lethal firearms as alternatives: Incapacitate but not kill

To what extent to do you disagree or agree with the following statement: I prefer a firearm that is able to incapacitate someone temporarily but not kill them

☐ Strongly disagree

☐ Disagree

☐ Neither disagree nor agree

☐ Agree

☐ Strongly agree

Notes: Participants were asked: “To what extent to do you disagree or agree with the following statement: I prefer a firearm that is able to incapacitate someone temporarily but not kill them”.

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Willing to keep LFA locked if had NLFA

Some people feel better about safely locking away their lethal firearms after learning about effective non-lethal firearms. Others might still be reluctant to lock up their lethal firearms. Would you be more willing to **keep your lethal firearms locked** if you have a Byrna legal non-lethal firearm?

☐ Definitely yes

☐ Probably yes

☐ Might or might not

☐ Probably not

☐ Definitely not

Notes: Participants were asked: “Some people feel better about safely locking away their lethal firearms after learning about effective non-lethal firearms. Others might still be reluctant to lock up their lethal firearms. Would you be more willing to keep your lethal firearms locked if you have a Byrna legal non-lethal firearm?”.

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Willing to reduce number of guns

If you decided to purchase the Byrna legal non-lethal firearm, would you **reduce the number of lethal firearms** you currently own?

☐ No longer hold any firearms

☐ Reduce substantially

☐ Reduce moderately

☐ Reduce slightly

☐ Not reduce at all

Notes: Participants were asked: “If you decided to purchase the Byrna legal non-lethal firearm, would you reduce the number of lethal firearms you currently own?”.

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Interested in purchasing a NLFA

From the scale of 1-7, how willing are you to purchase a non-lethal firearm?
(1-unwilling, 4-undecided, 7-willing)

1 2 3 4 5 6 7

Willingness to purchase a non-lethal firearm



Notes: Participants were asked: “From the scale of 1-7, how willing are you to purchase a non-lethal firearm? (1-unwilling, 4-undecided, 7-willing)”.

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Positive Willingness to Pay for NLFA

You will now make a similar sequence of decisions, but you will not be paid based on these decisions. The payment option on the left would involve you receiving \$5 as a bonus payment. The payment option on the right would now involve you getting a discount on a Byrna legal non-lethal firearm, roughly valued at \$410.

(Note that you cannot click on the submit button until you have selected an answer.)



Which option would you prefer?

Bonus payment of \$5



A \$5 discount, bringing the price of the Byrna legal non-lethal firearm to \$405



Which option would you prefer?

Bonus payment of \$5



A \$86 discount, bringing the price of the Byrna legal non-lethal firearm to \$324



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