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Firearms Training Among Missourians: **A Missouri Firearms Survey Report**



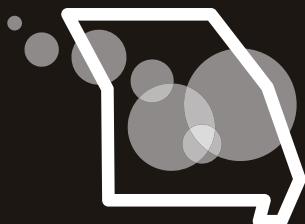
**INSTITUTE FOR FIREARM
INJURY PREVENTION**
UNIVERSITY OF MICHIGAN

September 2023

**Prepared by the University of Michigan
Institute for Firearm Injury Prevention and
Missouri Foundation for Health**

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*Missouri Foundation
for Health*

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Acknowledgements: This report reflects the contributions of Missouri Foundation for Health and their partners for sharing their wisdom and co-creating this timely and important report. We would especially like to acknowledge Jessi LaRose, MPH and Megan Simmons, PhD for their ongoing support and partnership, which enabled the development of this report.

About the University of Michigan's Institute for Firearm Injury Prevention: The Institute for Firearm Injury Prevention at the University of Michigan fosters collaboration among researchers in disciplines ranging from the social sciences and the arts to engineering and public health to formulate and answer critical questions about firearm injury prevention. Learn more at firearminjury.umich.edu.

About Missouri Foundation for Health: Missouri Foundation for Health is building a more equitable future through collaboration, convening, knowledge sharing, and strategic investment. Working in partnership with communities and nonprofits, MFH is transforming systems to eliminate inequities within all aspects of health and addressing the social and economic factors that shape health outcomes. Learn more at mffh.org.

Recommended Citation: : Lee, D. B., Simmons, M. K., Crimmins, H. M., Portugal, J., Zimmerman, M., & Carter, P. M. (2023). Firearm Training Among Missourians: A Missouri Firearms Survey Report. University of Michigan & Missouri Foundation for Health.

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EXECUTIVE SUMMARY

In July of 2020, Missouri Foundation for Health (MFH) conducted the Missouri Firearms Survey (MFS) of over 1,000 Missouri adults to understand firearm-related beliefs, attitudes, perceptions, and behaviors within the state. The purpose of this report is to characterize attitudes and experiences with formal firearms training among Missouri adults, including firearm owners. We identify **key trends and implications for research and practice** in this topical report below:

Key Trends Related to Firearm Attitudes and Behaviors

- Most Missouri adults (83%), including firearm owners (72.9%), supported the idea that everyone should receive firearms safety training prior to buying their first gun.
 - **Implications:** Requiring firearm training for first time firearm purchasers is well-accepted among Missouri adults, including firearm owners. In national studies, firearm safety training prior to owning a firearm was viewed positively.¹¹ However, little is known about where people prefer to obtain firearms training. Public health practitioners could partner with firearm owners to design and implement training programs that integrate firearm injury prevention concepts and address common misconceptions around accessibility. Firearm training providers could be a credible messenger for this information.
- Sixty percent of Missouri firearm owners received formal firearm training. Among them, people who identified as male, veterans, those who own a firearm for protection, urban residents, and concealed carry permit holders were more likely to receive formal firearms training. It's noteworthy that most firearm owners received their most recent firearms training over 5 years ago.
 - **Implications:** While the majority of firearm owners received formal firearms training, some demographic groups were more likely to receive this training than others. This signals the need for credible messengers to promote firearm safety training for those in rural areas, parents, and veterans. Further, most firearm owners received training more than 5 years ago, which indicates the need to make continued training opportunities accessible and normalized. This could be done by providing incentives or through communications campaigns co-created with the firearm-owning community.²⁵⁻²⁶
- The most commonly reported type of formal firearms training included safe handling of firearms (31.8%), preventing firearm accidents (28.1%), and safe storage of firearms (27.7%). The least reported was suicide prevention (9.7%).
 - **Implications:** Some topics, like firearm suicide risk and prevention, are generally under-represented in firearm safety training programs. Not including firearm suicide prevention is a missed opportunity to save lives - suicide by a firearm is the most common method of firearm death in the U.S. and in Missouri. Convening public health professionals, physicians, firearm owners, law enforcement, and other community partners can facilitate identification of the most pressing firearm safety needs (e.g., firearm suicide) and the best ways to address these needs through firearm safety training programs. It may also help identify barriers to providing such information from a variety of perspectives. Additionally, the content and effectiveness of existing training programs in preventing firearm injury is understudied and an important area for future research. Public health practitioners and the firearm owning community could work together to create a curriculum that meets the needs of diverse firearm owning communities.

DATA CONSIDERATIONS

Firearms and firearm ownership are highly divisive topics in the United States. As a result, some survey respondents may feel pressure to respond in a way that they think is socially acceptable. Lack of trust and skepticism may also prevent people from disclosing that they own firearms. Despite this limitation, questions were asked using a web-based platform and confidentiality was assured to enhance the likelihood of respondents providing truthful answers to the survey questions. Caution should be used when interpreting results of the MFS, as they reflect the views of respondents and may not fully capture the nuance of experiences, attitudes, and beliefs of other Missourians.

INTRODUCTION

Firearm safety training provides an ideal opportunity for disseminating evidence-based firearm injury prevention information and practice. Despite this, consistent guidelines and/or national standards for the content of firearm training programs do not exist. Most training programs operate independently, covering only a subset of topics including safe handling and storage of a firearm. Most states require firearm owners to show proof of training on aspects of firearm operation as a part of getting a license for purchase or a concealed carry permit.¹ Missouri is not one of those states, as purchasers do not need a permit to carry a firearm in most public places, whether concealed or otherwise.² However, Missouri firearm owners who chose to obtain a concealed carry permit must show proof of taking a firearm safety course (with live shooting practice) and going through the National Rifle Association online course on firearm safety.³

Researchers found, in an audit of twenty firearm safety classes, that over 90% of formal firearms training includes content on how to safely load and unload a firearm, keeping your finger off the trigger, and being aware of the target and the environment in which it exists.⁴ More than 50% of classes included information on how to operate a safety, clearing jams, and storing firearms unloaded/locked when not in use. Most classes encouraged firearm ownership, public firearm carriage, and using a firearm in self-defense against other people.⁴ Suicide prevention and domestic violence received the least coverage in these programs (10% of classes). Notably, only 10-15% of classes presented statistics on firearm injury and death.⁴ This is notable because firearm suicide is the leading cause of firearm fatalities nationally.⁵

The majority of formal firearms training programs audited focused on the use firearms for self-defense (69%; e.g., when and how to utilize a firearm if attacked). However, less than half of the firearms training programs audited covered alternative options for self-defense such as decision-making in crisis or de-escalation (e.g., verbally de-escalating a situation).⁴ Moreover, in separate studies, formal firearms training programs were not associated with safe storage practices such as storing firearms locked and/or unloaded.⁶⁻⁹ The absence of association might result from existing training programs focusing exclusively on the firearm safety risks related to mishandling, unauthorized access, and negligence, and not including the risk of intentional self-harm. Many of these programs promote firearms ownership for self-defense and emphasize external dangers, thereby encouraging firearm owners to store their firearms more accessibly.

The MFS provides insight into how Missouri firearm owners perceive the importance of firearm safety training, and how they engage with these training programs including the type of training received. Understanding these beliefs and practices can aid public health researchers and practitioners in integrating research and evidence-based practices to inform firearm safety programs. In addition, knowledge about firearm training engagement can help identify gaps and needs related to firearm safety training for firearm owners and non-firearm owners in Missouri.

As previously presented in the [introductory report](#), the MFS asked participants to identify the type of firearm they own, the primary reason they own each type of firearm, and demographic and contextual information for these firearm owners. Additionally, the Introductory Report provides demographics for non-firearm-owning respondents, which we separate into two groups: those who do not own a firearm but live in a household with a firearm and those who do not own a firearm and do not live in a household with a firearm.

METHODS

Results presented in this report come from the MFS which was conducted by Ipsos on behalf of MFH in July and August of 2020. The MFS was an online survey of 1,045 Missouri adults; 37% of whom reported personally owning firearms. Statistical weighting was used to ensure that the survey data and trends represent firearm-related beliefs, attitudes, and behaviors of Missouri adults (age 18 or older). Additionally, firearm-owning and rural Missourians were oversampled to generate reliable insights about their firearm-related beliefs, attitudes, and behaviors. Specifically, 388 Missouri adults identified as a firearm owner, 158 identified as non-firearm owner living in a household with a firearm, and 499 identified as a non-firearm owner living in a household without a firearm. While most survey questions were close-ended (multiple choice), a few open-ended questions (written answers) were also utilized in the survey to gain deeper insights into firearm-related beliefs and practices among Missourians. Data analysis involved summarizing attitudes and behaviors related to formal firearms training. To provide context to the survey results, we also examined whether attitudes and behaviors varied based on individual (e.g., veterans vs. non-veterans), family (e.g., people who grew up with firearms in the home), and community characteristics (e.g., perceptions of neighborhood safety). Additional information about sampling, weighting, and data analysis is included in Appendix A in the Introductory Report (See: Lee, D. B., Simmons, M. K., Rauk, L., Crimmins, H. M., Portugal, J., Carter, P. M., & Zimmerman, M. (2022). [Understanding Firearm Beliefs and Practices Among Missourians: An Introduction to the Missouri Firearm Survey](#).

Missourians broadly agree that people should have firearms training before buying their first gun.

ATTITUDES RELATED TO FIREARM SAFETY TRAINING

An overwhelming majority of MFS respondents (83%) agreed that everyone should have firearms safety training before buying their first gun. As shown in Figure 1, 72.82% of firearm owners were likely to agree with this statement. Further, a higher percentage of non-firearm owners who live in a household with a firearm (87.96%) and without a firearm (89.09%) agreed with this statement.*

Firearms are especially dangerous and are the most lethal method of suicide, with nearly 90% of firearm suicide attempts ending in death. For comparison, the next most lethal method for completed suicides is overdose/poisoning which has a considerably lower fatality rate (2%).⁷ In Missouri, firearms are the leading means of death by suicide (60%), followed by suffocation (<30%), and poisoning (<20%).⁸

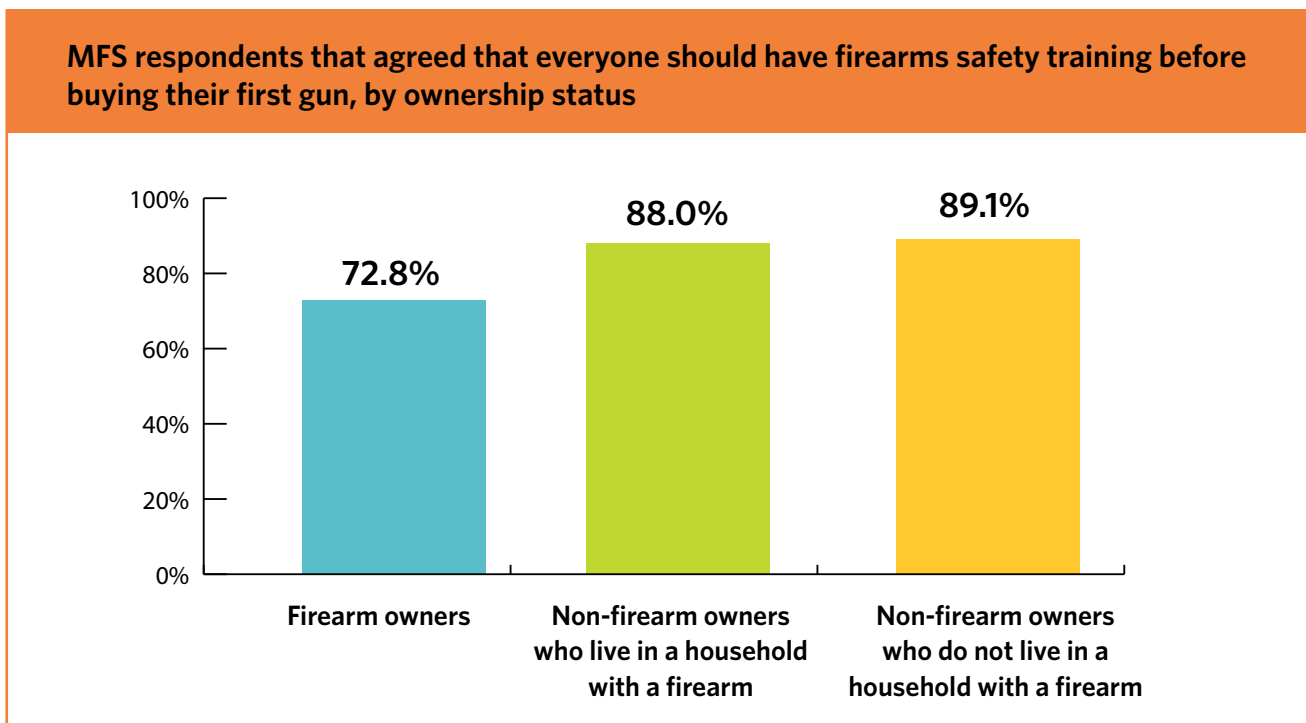


Figure 1

We also examined individual, family, and community level factors related to beliefs about whether people should receive firearm safety training prior to purchasing their first firearm (see Table 1). People who identified as male, firearm owners, and individuals living in rural areas were less likely to agree that individuals should undergo firearm safety training before buying their first firearm. In contrast, adults ages 30 and older, individuals with at least some college education, urban residents, those concerned about violence in their neighborhood, and those who have received formal firearms training were more inclined to support this viewpoint.

* Agreement with the statement on firearm safety training and firearm ownership status were significantly associated: $2(2) = 44.01, p < .001$

Everyone should have firearms safety training before buying their first gun.[†]

Less likely to agree	More likely to agree
<ul style="list-style-type: none"> Male Firearm owner Rural 	<ul style="list-style-type: none"> 30 years of age or older Some college or higher[‡] Urban Expressed fear of neighborhood violence Received formal firearms training with or without a suicide prevention training

Table 1

Missouri Data in Context: In a national survey administered by Pew, 92.6% of firearm owners, 94.3% of non-firearm owners living in a household with a firearm, and 97.8% of non-firearm owners not living in a household with a firearm reported that taking a firearm safety course is important and essential.¹⁰ Akin to findings from the MFS, firearm owners and non-owners both supported firearm safety training for first time gun buyers. These findings collectively indicate that most individuals find firearm safety training programs to be an important mechanism for preventing firearm injuries. Although there was broad support for training prior to owning a firearm, there are no such requirements for first time firearm owners in MO.

Implications for research and practice: MFS respondents widely agreed that first time firearm owners should have firearm safety training before owning their first gun. The general acceptability of this idea could allow public health practitioners to capitalize on the expectation of responsible firearm ownership. Firearm owners may be more open to learning firearm injury prevention information through training programs. That said, no national standards or requirements exist for firearm training in the US, nor do widespread evaluations of the efficacy of existing trainings.¹¹ Research suggests that the impact of firearms training on preventing firearm injury and death largely depends on the content of the training (e.g., safe use, storage) and number of firearm owners who modify their firearm-related behaviors as a result of the information learned from the training.¹ There is an opportunity for public health practitioners and other community partners to work with firearm training providers to identify gaps in training programs and implement comprehensive evaluation studies. Additionally, firearm training providers are likely trustworthy messenger of safety information commonly cited to reduce firearm injury and death, such as safe firearm storage.¹⁴

[†] For all logistic regression models in this report, predictors included factors including gender (0 = female, 1 = male), age groups (0 = 18-29 years old, 1 = 30-44 years old, 2 = 45-59 years old, 3 = 60+ years old), racial/ethnic group identity (0 = White, 1 = Black, 2 = Hispanic and races/ethnicities other than white), educational attainment (0 = less than high school or graduated high school, 1 = completed some college or an Associate degree, 2 = completed a Bachelor's degree or higher), veteran status (0 = not a veteran, 1 = veteran), firearm ownership status (0 = not a firearm owner, 1 = non firearm owner, but gun in household, 2 = firearm owner), formal firearm training (0 = No training, 1 = formal training), community type (0 = suburban, 1 = rural, 2 = urban), grew up with a firearm in the home (0 = no, 1 = yes), fear of neighborhood violence (0 = never afraid to 4 = always afraid), children present in the household (0 = no, 1 = yes). For predictors with more than 2 categories (e.g., community type, educational attainment), variables were dummy-coded and the category corresponding to "0" was the reference group. For models estimated on firearm owners only, we did not include firearm ownership status as a predictor as these variables have a variance of zero.

[‡] In the logistic regression model, "Some college" and "college or higher" were assessed separately, and both variables were found to be significant. For the sake of concise reporting, we have combined them under the label "Some college or higher" in Table 1.

It is also notable that individuals afraid of being hurt by violence in their neighborhood were more likely to believe that firearm safety training should be required for first time firearm owners. It may be that these participants view formal firearms training as a method to learn defensive firearm use (e.g., quick access) while also learning strategies to prevent firearm injuries. Among this group, it is particularly important for firearms trainings to address the dangers firearms pose within the home and common misconceptions around the danger of using firearms for self-defense.^{15-16, 22-24}

Lastly, since the attitude presented in the MFS only relates to first time firearm owners, the responses might not represent the firearm owner's attitude towards further firearm training for themselves.¹⁷ More research is needed to understand attitudes around firearm safety training for current firearm owners, such as refresher sessions to update them on new technologies or strategies for safe storage. Additionally, understanding what topics firearm owners find most valuable in training may shed light on motivations for training and where additional work may be needed to tailor information about firearm suicide and interpersonal violence to ensure it is well-received.

Many Missourians with personal or household access to firearms reported not having received firearm training.

FIREARM SAFETY TRAINING EXPERIENCE

One in three MFS respondents received formal firearms training (32.5%). Significantly more firearm owners reported receiving firearm training (60.1%), compared to non-owners. Roughly 16.5% of all non-owners had received firearms training, regardless of whether they lived in a household with a firearm about 16.5%) (See Figure 2).[§]

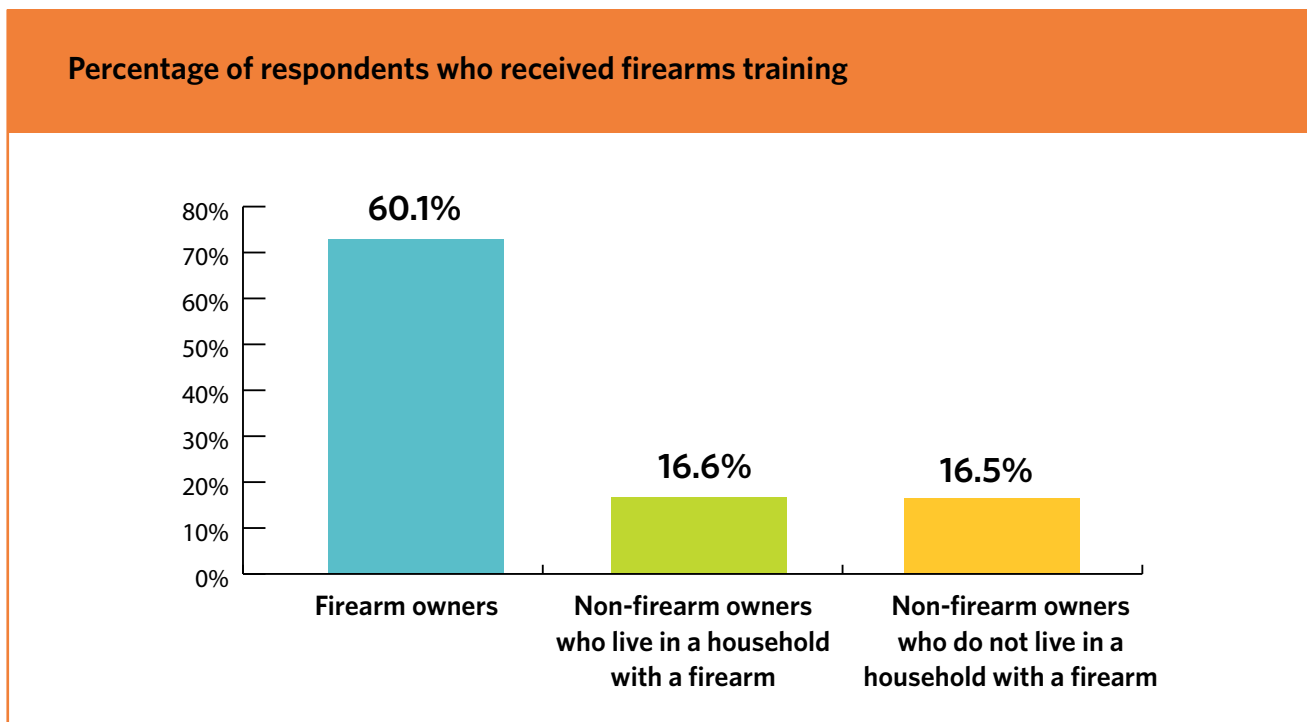


Figure 2

[§] Receipt of firearm safety training and firearm ownership status was significantly associated: $\chi^2(2) = 28.34, p < .001$.

Among firearm owners, specifically, higher proportions of respondents who identified as male (64.6%) had received formal firearms training, compared to those who identified as female (51.5%) (see Figure 3).^{**} Veterans received firearms training in greater proportions (85.5%) compared to non-veterans (54.3%).^{††} A comparable percentage of firearm owners who own their firearm for protection against other people (64.6%) or for other reasons (e.g., hunting, shooting sports; 61.7%) received firearms training.^{‡‡} Likewise, the percentage of firearm owners who received firearm training was comparable across rural (56.05%), suburban (61.07%), and urban areas (64.93%).^{§§} Finally, firearm owners with concealed carry weapon permits were more likely to receive firearms training (96.49%) than those without this permit (43.66%).^{***}

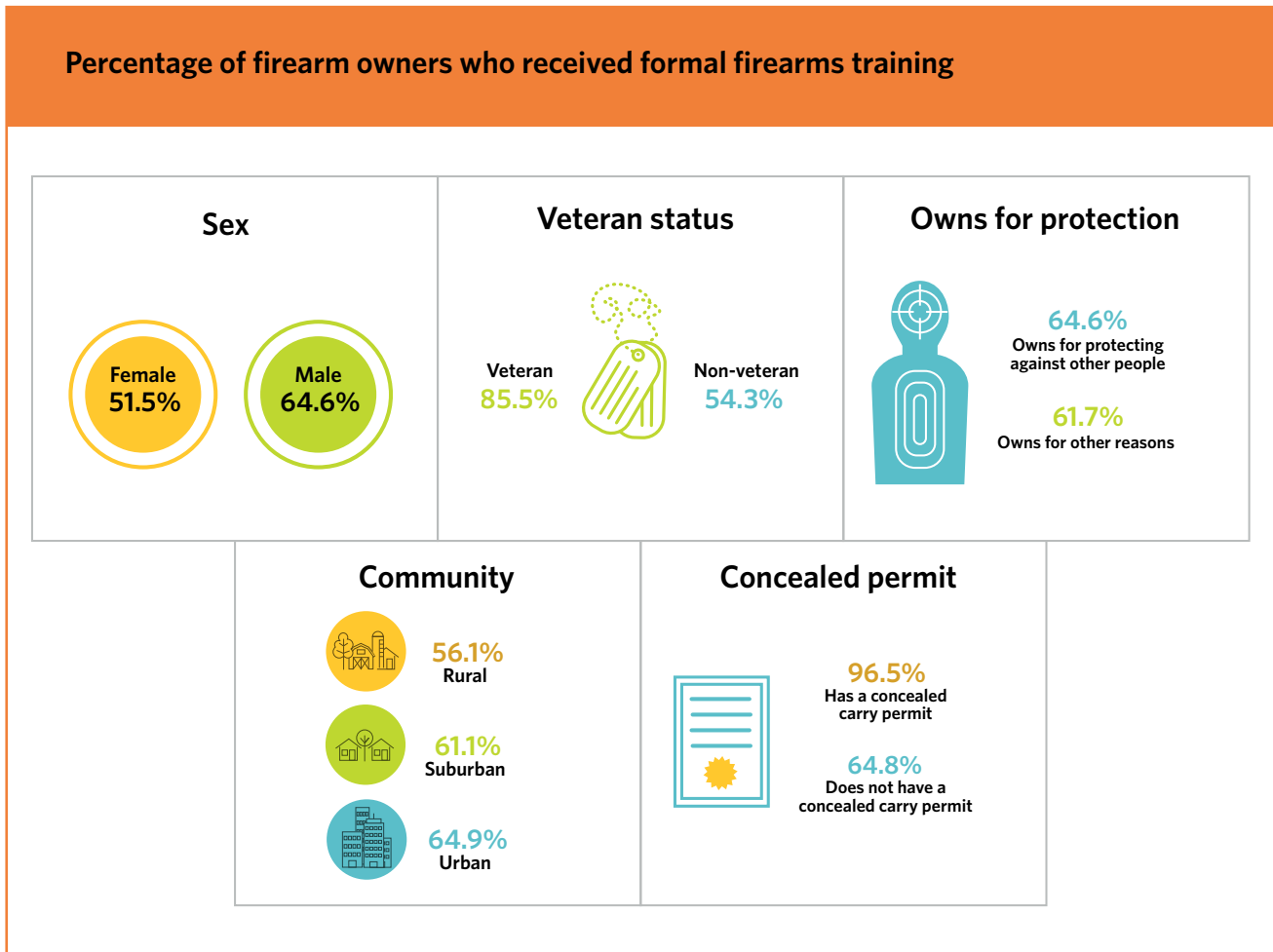


Figure 3

^{**}Among firearm owners, receipt of firearm safety training and gender was significantly associated: $\chi^2(1) = 6.64, p < .01$.

^{††} Among firearm owners, receipt of firearm safety training and veteran status was significantly associated: $\chi^2(1) = 23.26, p < .001$.

^{‡‡} Among firearm owners, receipt of firearm safety training and motivation for ownership was not significantly associated: $\chi^2(1) = .11, p = .73$.

^{§§} Among firearm owners, receipt of firearm safety training and community type was not significantly associated: $\chi^2(2) = 2.09, p = .35$.

^{***} Among firearm owners, receipt of firearm safety training and concealed carry weapon permits was significantly associated: $\chi^2(1) = 92.03, p < .001$.

Of those who had received firearms training, the majority of firearm owners (60.5%), non-owners with a firearm in their household (65.7%), and non-owners without a firearm in the household (83.1%) had last received firearms training more than five years prior to taking the survey (Figure 4).

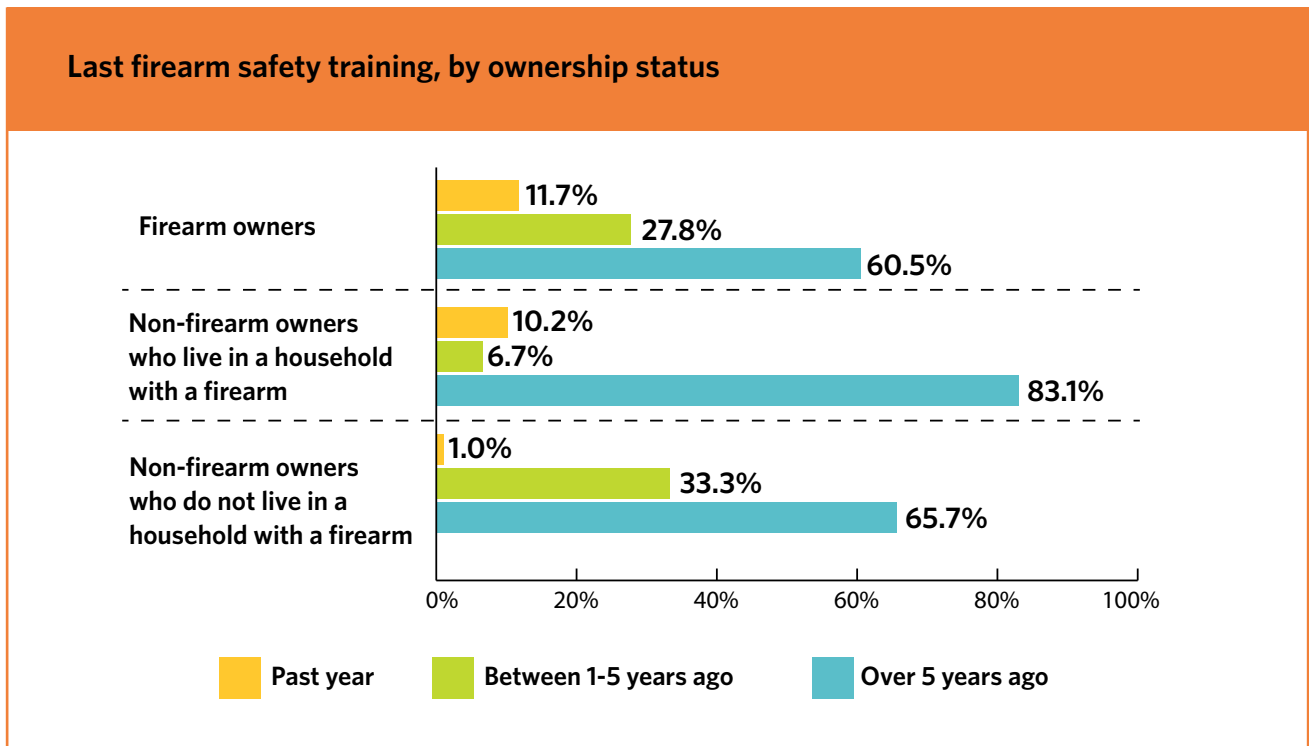


Figure 4

Regarding firearm training requirements, 32.6% of Missouri adults who underwent formal training did so because it was required, while 67.4% chose to take the training voluntarily.

While 32.5% of Missouri adults completed firearms training, there was variation in the type of training received. Among all Missouri adults who had received firearms training, nearly 84% received training that included live shooting, 31.8% received training in safe handling of firearms, 27.7% received training in safe storage of firearms, and 28.1% received training in preventing firearm accidents. In contrast, a fewer percentage of Missouri adults received training in preventing firearm theft (17.7%) and suicide prevention (9.7%). (Figure 5)

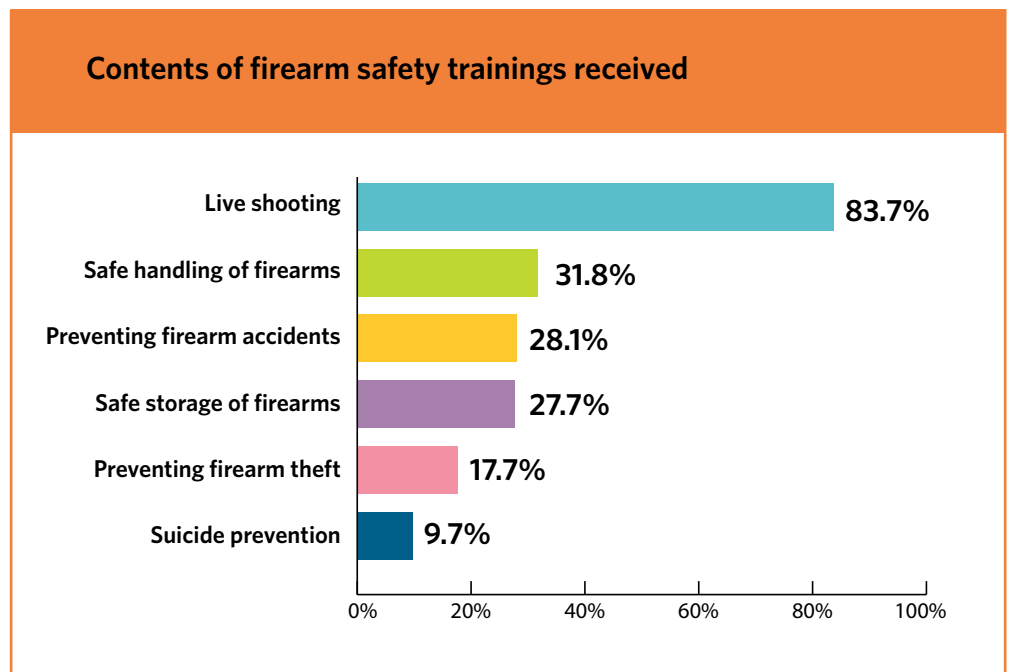


Figure 5

Among respondents who had received firearms training of any kind, those who currently own a firearm had received more comprehensive trainings.

Firearm ownership status influenced both the overall receipt of training and the kind of firearm training received. Specifically, firearm owners were more likely to undergo various forms of firearm training (see Figure 6). For example, 59.4% of firearm owners received training in safe firearm handling. In contrast, only 16.6% of non-owners with a firearm in their household and 15.5% of non-owners without a firearm in their household underwent similar training. Regarding suicide prevention, the least common form of firearm training, firearm owners were more likely to receive this training (20.7%) compared to non-owners who live in households with (2.5%) or without firearms (3.6%). For more information on MFS respondents that received firearm safety training on suicide prevention, please see [Understanding Suicide-Related Firearm Beliefs and Practices Among Missourians: A Missouri Firearm Survey Report](#).

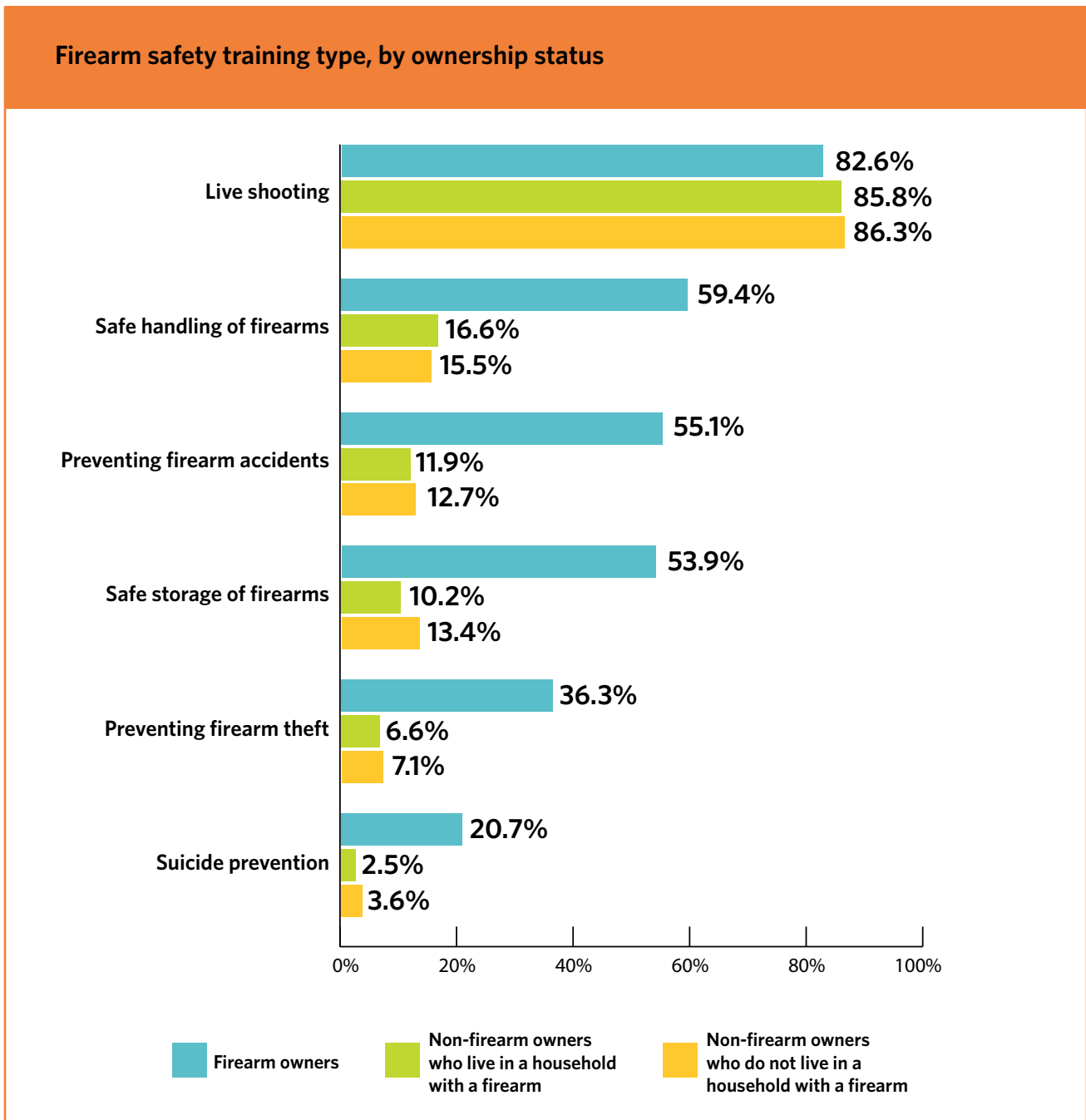


Figure 6

Missouri Data in Context: Rates of firearms training for firearm owners in Missouri are about the same as nationally reported among firearm owners (Missouri = 60%; USA = 61%).¹¹ Still, nearly a third of firearm owners and the vast majority of non-firearm owners living in a home with a firearm report never having received formal firearms training. The low prevalence of training is noteworthy, given that Missouri had the fifth highest rate of firearm fatalities in the US during 2020.¹⁸⁻¹⁹ Including and tailoring firearm safety trainings to non-owners living in households with a firearm could contribute to reductions in firearm injury and death.

Across most demographic groups, firearm training experiences among firearm owners in Missouri are comparable to national firearm owners.¹¹ The two major deviations from national trends were among those who own a firearm for protection and those who possess a concealed carry permit. Nationally, 56.9% of those who own for protection received firearm safety training, compared to Missouri's 64.6%.¹¹ Additionally, 56.9% of concealed carry permit holders in the US completed firearm safety training, whereas 96.5% of concealed carry permit holders in Missouri completed firearm safety training.¹¹ While concealed carry without a permit is allowed in Missouri, many firearm owners opted-in to obtain a concealed carry permit.²⁰ This process, which includes a firearm safety training requirement, could account for the high percentage of completed firearm training among carry permit holders in Missouri.

The content covered in training programs mirrors that found elsewhere in the US, with safe handling, storage, and preventing accidents being the most frequently reported.¹¹ Similar to Missouri, suicide prevention was also the least endorsed firearm training topic for non-firearm owners with and without firearms in household in the US.¹¹ An audit of firearm safety classes across multiple states reveals similar trends.⁴

Implications for research and practice: These findings highlight gaps in firearm training and additional areas of focus for firearm training programs. Missouri is one of 42 states that does not have a law in place requiring firearm buyers to complete firearms training before purchase.² Nor does the state have a requirement for training to get a concealed carry permit, though many firearm owners opt to get a permit anyway. Expanding concealed carry and general firearm trainings to include harm reduction practices could be one avenue for reducing unintentional and intentional firearm injuries.¹ Nonetheless, a rigorous evaluation is needed to assess whether concealed carry permits could indeed prevent firearm injury.

Many Missouri firearm owners have not completed any training in over 5 years. Incentivizing additional training may also provide an opportunity to introduce harm reduction techniques to reduce unintentional injury and self-harm. Firearm owners may benefit from "booster" trainings that provide the latest evidence-based information to reduce risk and ensure that safety skills are fresh. Booster sessions could be used to focus on additional content areas tailored to firearm owners' specific needs, such as responsible and safe open carrying, or topics specific to preventing child access to firearms in the home. Notably, training could be leveraged to reach non-owners; it could empower them to be more involved in firearm safety-related decision-making, equip them to safely handle a firearm if necessary, and help them identify signs of mental health crisis in their households.

The MFS did not ask about other topics beyond what is presented in Figure 5. Further research is needed to understand what training topics are covered and in what manner they are presented. Evaluation of firearm safety training programs is needed, to understand if trainings are effective, and for how long trainees retain the information. Expanding and standardizing Missouri's firearm safety curriculum could better inform firearm owners and others of important firearm injury prevention strategies. Meeting firearm owners where they are at, such as in firearm safety classes, could allow for the dissemination of safety information from a credible messenger.

A critical next step for firearm injury prevention is to design, implement, evaluate, and disseminate firearm training programs that raise awareness about the dangers of unauthorized access to firearms and those that emphasize firearm access and storage as it relates to firearm suicide and other types of intentional and unintentional injury. Researchers and public health practitioners should identify the most important firearm safety training needs within firearm owning communities based on firearm owners' preferences while also prioritizing risk mitigation. Existing training programs may benefit from expanding beyond standard safe handling practices to include other areas pertinent to firearm ownership for protection (e.g., the potential risks linked with firearm carriage, conflict de-escalation).

Lastly, firearms safety education need not be limited to in-person classes. Safety information may also be disseminated to firearm owners and their families via other materials. For example, in Utah, researchers worked with firearm advocates to develop a five-minute suicide prevention module that firearm owners go through as a part of the state's concealed carry curriculum.²¹ A similar approach could be utilized for promoting locked and unloaded storage to prevent unintentional injury and suicide. The partnership between firearm advocates and organizations in Utah is encouraging and could potentially be replicated in Missouri.

FUTURE DIRECTIONS FOR RESEARCH & PRACTICE

The need for effective firearm safety training is supported by public health practitioners and firearm advocates. Most firearm owners nationally and in Missouri have received some sort of firearm safety training. The efficacy of existing training programs is largely unknown, content is not standardized across all training programs, and there are no national guidelines for developing firearm safety training curriculums. This is all necessary to capitalize on firearm safety training as a legitimate avenue for firearm injury prevention. To develop effective and equitable firearm injury prevention programs, we recommend the following:

- Given the limited number of standardized firearm training programs, researchers should identify key firearm safety training needs for firearm owning communities. This work is critical to designing firearm training programs that effectively address the specific needs and concerns of these communities.
- Further research is needed to understand what training topics are covered and how training programs are implemented. A Missouri-specific audit of firearm safety training programs could be worthwhile to better understand and ultimately improve the implementation of these training programs.
- Evaluate existing training programs and leverage these results to improve the efficacy of the programs. Public health practitioners and the firearm owning community should collaborate to ensure that the curriculum is acceptable and culturally relevant.
- Future surveys could assess attitudes about firearm training programs more generally. The MFS assessed an attitude related to firearm training for first-time buyers-only and these attitudes may not generalize to other members of the firearm owning community (e.g., those who owned firearms for most of their life).

LIMITATIONS

Limitations related to overall survey methodology are included in the Introductory Report. This report also has several limitations that could be addressed in future research.

- The MFS did not inquire about how often respondents received training, what exactly the curriculum entailed, and how training influenced firearm-related attitudes and behaviors. The MFS data allows us to ascertain whether people received firearms training and the type of training they received. Future surveys should to collect specific information about their training experience (e.g., intensity, content) to better understand people's engagement with firearms training programs.
- Additional attitudes about firearm training could help researchers better understand people's attitudes towards different types of firearm training programs. In particular, it would be useful to understand people's perceptions about periodic firearm training opportunities and how often would be acceptable and what would they want to see covered in the training.
- The MFS did not ask about informal firearm training sources, such as family members, friends, social media, or YouTube. Researchers should evaluate what firearm owners learn from informal training opportunities in relation to traditional training programs. Moreover, researchers should identify who the credible messengers are among different firearm owning communities (e.g., urban residents, veterans).

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