



Firearms and the Family: Risks, Behaviors, and Beliefs Among Missouri Parents

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

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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.

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EXECUTIVE SUMMARY

In May 2023, Missouri Foundation for Health (MFH) conducted the Missouri Firearm Attitudes and Behavior Study (MFABS) of over 1,800 Missouri adults to understand firearm-related beliefs, attitudes, perceptions, and behaviors within the state with the intent of informing firearm injury prevention efforts. This report characterizes attitudes and behaviors related to firearm injury prevention among parents who personally own firearms or who live in a household with a firearm.

Key Trends Related to Firearm Attitudes and Behaviors

- The proportion of firearm owners who are parents is roughly equal to the proportion of firearm owners who are not parents, and most firearm owners say that their reason for owning a firearm is for protecting themselves or their loved ones. Because of this, many firearm-owning parents report storing at least one firearm unlocked and loaded.
- **Implications:** Rates of firearm ownership for parents and non-parents are comparable to national rates (34% of parents nationwide),¹ and most firearm owners in the United States say that protection is their primary motivation for firearm ownership.² However, having firearms in the house can increase the risk of other potential dangers, such as children unintentionally injuring themselves with a firearm.³ Storing firearms unlocked and loaded firearms increases the risk of both unintentional and intentional injuries among children in the home.⁷ Therefore, to reduce the risk of unintentional injuries to children in homes with firearms, it is essential to work with firearm-owning parents to develop harm reduction strategies and interventions that prevent firearm access by non-owners, including children. For some, this may include storing firearms locked and unloaded with ammunition stored separately, which has been found to significantly reduce the risk of harm.⁸⁻¹¹
- Most firearm owning parents do not want their child to have access to a firearm if they were thinking about suicide. However, 5.5% of parents reported that their child personally accesses and controls their own firearm, and roughly one in ten firearm owning parents are not comfortable with talking to their child about their mental health.
- **Implications:** Most youth in the United States who die by suicide use a firearm belonging to a family member. It is, therefore, critical to limit access to firearms among youth experiencing suicidal ideation through evidence-based interventions such as lethal mean safety counseling.^{4,5} Parents who allow their child access to a firearm or who own firearms themselves should have access to suicide prevention resources and information including access to programs that empower parents with strategies for talking to their children about mental health and suicide, and tools for developing plans of how to temporarily limit youth access to lethal means, including firearms.

DATA CONSIDERATIONS

Firearm-related beliefs and practices 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 survey platform and confidentiality was assured to increase the chance that respondents give honest answers to the survey questions. Caution should be used when interpreting results of the MFABS, as they reflect the views of respondents and may not fully capture all the nuance within the experiences, attitudes, and beliefs of other Missourians.

INTRODUCTION

Missouri currently ranks seventh in the United States for firearm death rates, encompassing a wide range of causes including interpersonal violence and suicide by firearm.¹³ In 2022, 1,489 firearm-related deaths were documented in Missouri.¹² Between 2013 and 2022, Missouri saw a 68% increase in the firearm-related death rate, which is almost twice as large as the national increase of 36%.¹³ Firearms are the leading cause of death for children and teens nationally and, specifically, in Missouri. From 2013 to 2022, the state has experienced a disproportionate increase of almost 131% in firearm death rate among youth¹⁴ aged 14 - 24. There is also large racial disparity in the youth firearm death rate. Black youth living in Missouri are 8.5 times more likely to die from firearm injuries than their white peers.¹⁵

Missouri Foundation for Health (MFH) and its partners conducted the MFABS to gain insight into the beliefs, attitudes, and behaviors related to firearms among Missourians, with the goal of informing the development and implementation of effective firearm injury prevention policies and practices. This report presents key findings from the MFABS, focusing on firearm injury prevention attitudes, including concerns about child firearm access, and behaviors, such as firearm storage patterns, among parents and other adults who have a firearm in the home. This report can serve as a basis for designing evidence-based firearm injury prevention strategies that resonate with parents who both own and do not own firearms. Moreover, the report underscores the significance of demographic and community-level differences in firearm-related beliefs and behaviors, highlighting the need for fair and tailored firearm injury prevention efforts that effectively address the needs of diverse populations.

METHODS

Results presented in this report come from the MFABS, conducted by Gallup on behalf of MFH in May 2023. All participants were recruited by Address Based Sampling (ABS) methodology. All residential addresses in Missouri were available to be sampled and selected at random. Gallup selects households at random, and because all households in Missouri have an equal and known probability for selection, the ABS method produces a representative sample of Missouri households. Gallup implemented a cross-sectional web- and paper-based survey, which resulted in a sample of 1,849 Missouri adults (Mean Age = 50.4, SD = 17.5; 48.7% male; 82.8% white, non-Hispanic; 10.4% Black, non-Hispanic; 9.8% veterans) and 658 (36.3%) firearm owners. See Table 1 for more information about the study sample. Statistical weighting was used to ensure that the survey data and trends represent the firearm-related beliefs, attitudes, and behaviors of Missouri adults. Weights were assigned to each respondent to account for differential non-response (selection bias), and weights were computed using age, gender, race, ethnicity, educational attainment, metropolitan area (No, Yes), household income, homeownership status, and gun ownership status. Benchmarks for these variables came from the Current Population Survey data, U.S. Census Bureau's American Community Survey, and RAND (for gun ownership rates). Weights were utilized for most analyses with the exception of sub-sample analyses (e.g., analyses of only firearm owners). While most survey questions were closed-ended (multiple choice), a few open-ended questions (written answers) were used in the survey to gain deeper insights about firearm-related beliefs and practices among Missourians. Data analysis involved characterizing firearm-related beliefs and attitudes among Missouri adults using summary statistics (e.g., proportions, cross-tabulations). We also computed logistic regression analysis to identify individual and contextual factors that are related to firearm-related attitudes, beliefs, and practices. Lastly, the majority of these questions were adapted from the National Firearms¹¹ Survey and the National Survey of Firearm-owning Parents and Youth.¹⁶

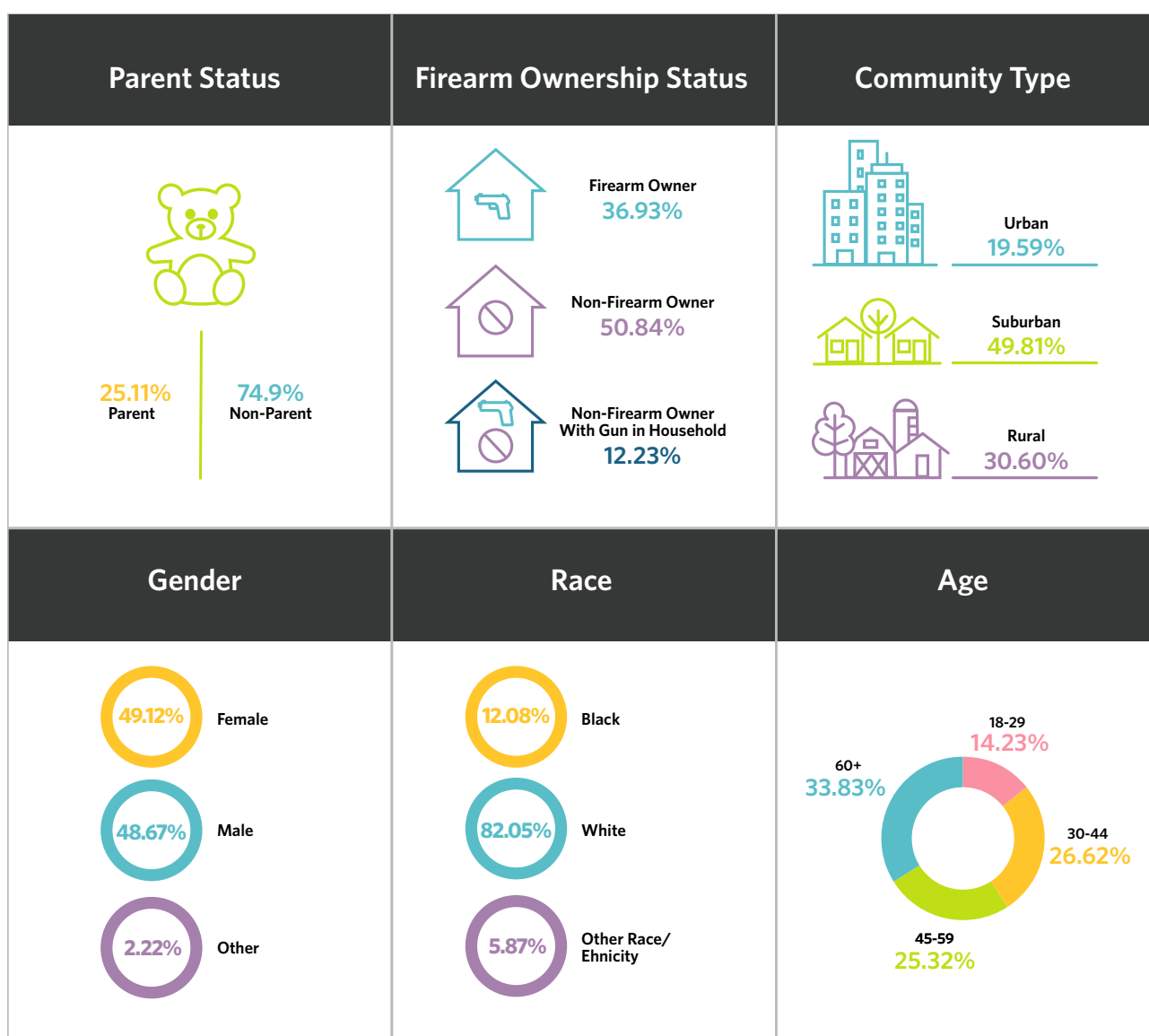
CHARACTERISTICS OF RESPONDENTS OF THE MISSOURI FIREARM SURVEY

Overall makeup of survey respondents

The Missouri Firearm Attitudes and Behavior Study (MFABS) respondents represent the diverse demographic and contextual backgrounds of Missourians. The survey included similar percentages of respondents identifying as male (48.7%) and female (49.1%), along with a small percentage of respondents identifying as non-binary and/or transgender (2.2%). Most respondents identified as non-Hispanic white (82.1%), while smaller percentages identified as non-Hispanic Black (12.08%) or as other, Asian, or Hispanic (5.87%; Other Race/Ethnicity). A considerable proportion of respondents were 60 years or older (33.8%) and lived in rural (30.6%) or suburban areas (49.8%). One in four respondents had at least one child under the age of 18 living at home (25.1%), while nearly half of the respondents (46%) did not have children living at home but had children regularly visiting their home. Finally, 36.9% of respondents were firearm owners while 12.3% of non-owners lived in a household with a firearm but did not personally own a gun.

Figure 1

Demographics of MFABS respondents

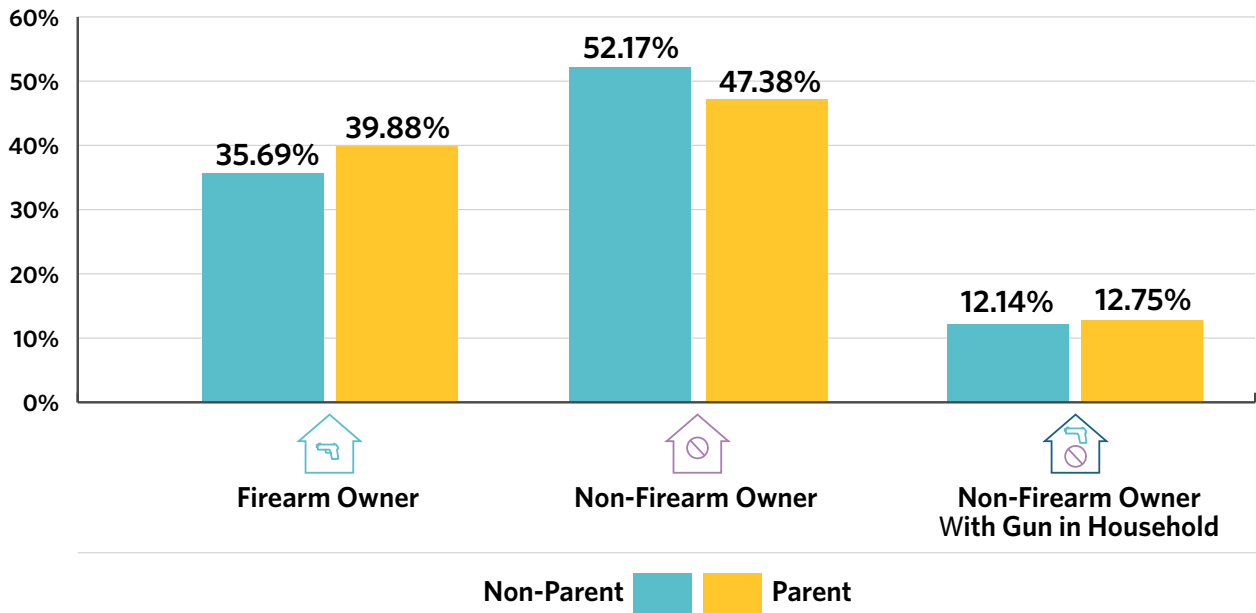


Firearm ownership and parental status

Over half of parents (52.6%) have a firearm present in their home, regardless of ownership status. Among firearm owners, around 40% identified as parents, while 36% indicated they did not have children (Figure 1). The proportion of respondents who lived in a home with a firearm, but did not personally own one, was similar for parents and non-parents. Moreover, among firearm owners who are not parents or guardians, 70% reported that children occasionally visit their homes. Similarly, among non-firearm owners who live in households with a firearm and are not parents or guardians, 74% reported that children occasionally visit their homes.

Figure 2

Demographics of MFABS respondents



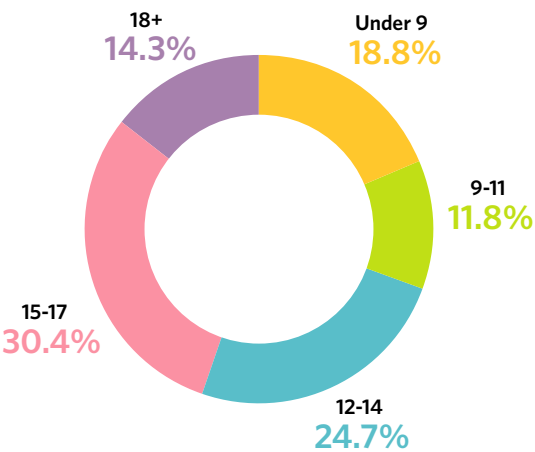
Among firearm-owning parents, 79.1% said protecting themselves and their loved ones from others is their primary reason for firearm ownership, compared to 72.7% of firearm owners who are not parents or guardians. Furthermore, when asked, “Do you view yourself as a protector?” 91.6% of firearm-owning parents and 96.6% of firearm owners who are not parents or guardians agreed with this statement (See Proactive Behaviors to Prevent Youth Firearm Injuries section for firearm storage behaviors).

Firearm ownership among children

The survey also explored ownership and possession of firearms among children in the home. Around 5.5% of parents who own firearms reported that they allow their child to have control and access over their own firearm. Among children who have control over their own firearm, 85.7% of the children were younger than 18 and over half (55.3%) of children were 14 years old or younger (Figure 3).

Figure 3

Age of youth who have access to and control of a firearm



Missouri Data in Context

The rate of parent firearm ownership in Missouri is higher compared to a nationally representative sample of US adults. In Missouri, our findings indicate that 39.9% of parents report owning a firearm, with an additional 12.7% reporting the presence of a firearm in their home that they do not personally own. In a nationally representative study of U.S. adults - that is, the National Firearm Attitudes and Behavior Study (NFABS)¹⁷ - 34.4% of parents reported owning their own firearms and 13.2% reported the presence of a firearm in their home that they do not own. Thus, 47.6% of parents across the U.S. had a firearm in their home, regardless of ownership status, while 52.6% of Missouri parents reported having a firearm in their home.

Although federal law prohibits youth under age 18 from buying certain firearms, Missouri law does not prohibit youth from having firearms with parental consent. Though data about firearm ownership among children in the United States is lacking, we can draw comparisons by examining the rate of parents reporting that they allow their child to have control and access to a firearm and firearm carriage by children under the age of 18. In Missouri, the rate of parents reporting that their child is allowed access and control of a firearm (5.5%) closely mirrors a 2021 national survey¹⁸ which found that 5% of high school boys and 1.8% of high school girls in the United States reported having control over a gun on at least one day out of the last year, excluding days for hunting or sport.

Although protection remains the primary motivation for firearm ownership across all parental statuses, a slightly higher percentage of firearm-owning parents (79.1%) reported protection as their primary reason for ownership compared to non-parents (72.7%). Another recent study outside of Missouri found 92.3% of participants with children in their home cited family protection as their primary reason for owning a firearm, compared to 68.6% of participants without children.¹⁹ Our findings, along with other studies,^{19,20} suggest that firearm-owning parents believe firearms can make their homes safer.

Implications for Research and Practice

Many individuals have children visit their homes, sometimes on a daily or weekly basis, making firearm safety a critical concern for everyone, regardless of whether they are parents. As a result, some questions in this report are asked of all participants, regardless of whether they have children living in the home, to account for potential child visitors. Owning a firearm for protection is a common reason cited by gun owners. However, in households with children, the presence of an easily accessible firearm introduces potential risks for both unintentional and intentional youth firearm injuries. Parents may store firearms in more accessible ways for protection, but doing so can have grave consequences if a child gains unauthorized access. Half of unintentional firearm injury deaths among children and adolescents occur in the home, with the most common trigger being incidents where a firearm is handled or shown to another person.²¹

Parents, even more so than non-parents, may feel a heightened responsibility to protect their families. Therefore, firearm injury prevention strategies for firearm-owning parents should focus on motivating behavior change by reinforcing family safety values, such as preventing unintentional injuries and restricting child access to firearms. For instance, parents who believe locked firearm storage interferes with personal protection could benefit from learning about alternative storage options, such as smart storage devices that allow quick access for adults while preventing easy access for children. In addition to the individual level, community- and neighborhood-level crime prevention strategies are also necessary, such as restoring and remediating distressed or abandoned properties.²² These efforts can improve perceptions of safety and reduce the need that young urban parents may feel to own a firearm for family protection.

Integrating a parent's reasoning for owning firearms into prevention messaging and activities could improve uptake of behaviors that reduce risk of firearm-related injuries. For example, appealing to firearm-owning parents' desire to protect their children may make temporarily limiting children's access to guns during mental health crises more acceptable. Alternative strategies for home security and firearm storage methods that limit child access to firearms in the home may be more effective for parents who feel a heightened responsibility to protect their family.

Additionally, further research is needed to explore trends among children who own or have control of their own firearms at the state and national levels. Although children under the age of 18 may not purchase firearms under federal law,²³ Missouri law allows children to possess firearms with parental permission. Research should examine the reasons why children are given permission to maintain control of their own firearms (such as hunting, sport, or family collections), how those firearms are stored and handled, and what firearm- and safety-related attitudes, beliefs, and behaviors are common among children who maintain control of their own firearms. Family-based firearm injury and death interventions would benefit from research on the explicit and implicit messages parents give children about firearm use and safety.²⁴ Public health efforts could consider leveraging the relationships between children who maintain control of their own firearms and their parents to create risk reduction messages that address the family unit more effectively.

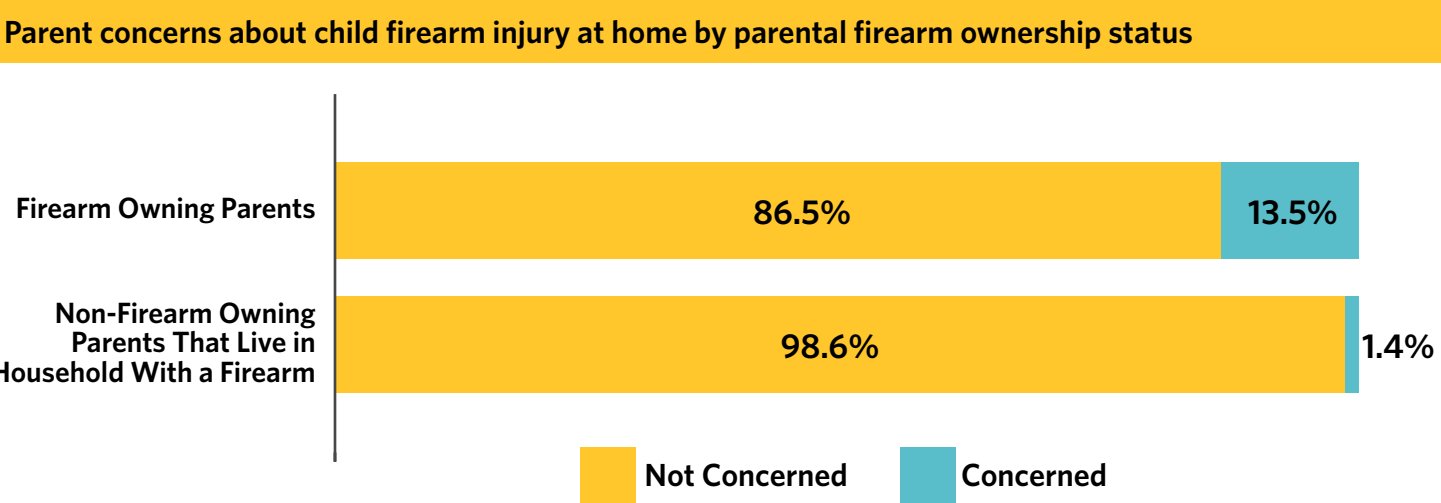
PERCEPTIONS ABOUT FIREARM ACCESS AND SAFETY AMONG CHILDREN

The MFABS assessed parental concerns about firearm injuries, their trust in their child’s ability to avoid firearms, their beliefs on allowing firearm access if their child had suicidal thoughts, and their comfort discussing mental health and suicide risks with their child.

Parental concern about child firearm injury

Parents were asked whether they were concerned that their child may potentially get hurt or injured by a firearm while in their home. A higher percentage of parents who own firearms (13.5%) compared to non-owners who have a firearm present in the home (1.4%) expressed concerns about the possibility of injury resulting from firearms (see Figure 4).

Figure 4



Demographic factors, community types, and firearm-related behaviors and attitudes influenced how concerned firearm-owning parents were about the risk of their child being injured by a firearm at home. As shown in Table 1, parents who were older than 29 years, those who grew up in a home with a firearm, people who stored any firearm unlocked and/or loaded, and those who had younger children in the home were significantly more likely to be concerned about the possibility of their child being harmed by a firearm while at home. In contrast, those experiencing higher levels of parenting stress and those whose children have undergone firearms safety training expressed lower levels of concern about their child being injured by a firearm at home. No other factors were found to be statistically significant predictors of concern about firearm injury among children at home.

Table 1^a

Factors associated with concerns about child firearm injury at home among firearm-owning parents

	Less Likely to be Concerned	More Likely to be Concerned
Age		
30-44		✓
45-59		✓
60+		✓
Race		
Black		
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		
Ownership for Protection		
Guns in Household Growing Up		✓
Stores Firearm Unlocked and/or Loaded		✓
Belief That Firearm in the Home Increases Suicide Risk		
Experiencing High Levels of Parenting Stress	✓	
Child Has Firearms Training	✓	
Age of Youngest Child		✓

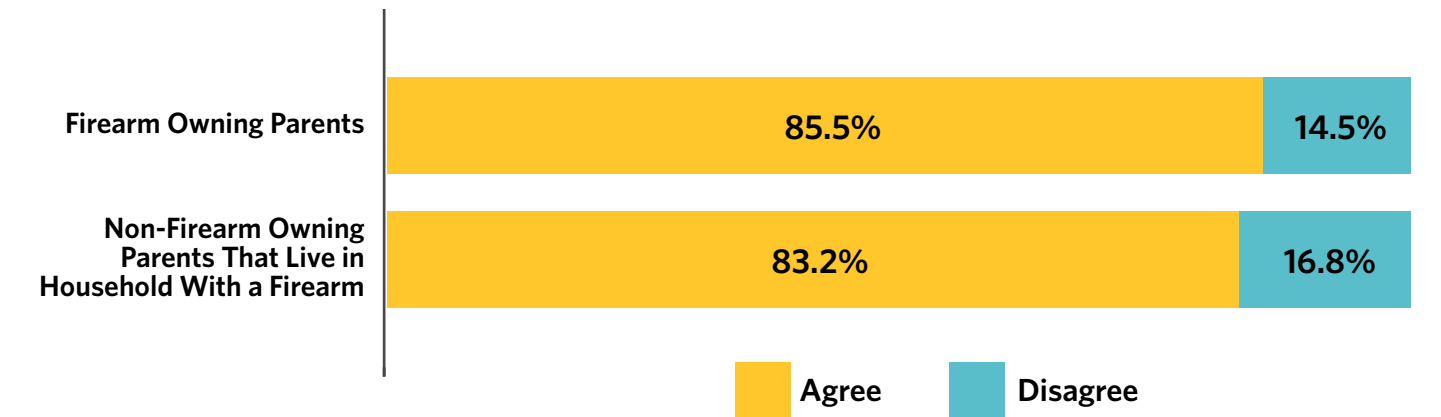
^aFor this logistic regression models in this report, predictors included factors including gender (0 = female, 1 = male), age groups (0 = 18-29 years old, 1 = 30-44 years old, 2 = 45-59 years old, 3 = 60+ years old), racial/ethnic group identity (0 = White, 1 = Black, 2 = Other Race/Ethnicity), community type (0 = suburban, 1 = rural, 2 = urban), firearm ownership for protection (0 = No, 1 = Yes), grew up with a firearm in the home (0 = no, 1 = yes), firearm storage pattern (0 = locked and unloaded, 1 = unlocked and/or loaded), access to firearm and suicide risk at home (0 = strongly disagree - 4 = strongly agree), parenting stress (1 = Never - 5 = Always), child firearms training (0 = No, 1 = Yes), and age of youngest child (0 = 0 - 5 years old, 1 = 6 - 10 years old, 2 = 11 - 14 years old, 3 = 15- 17 years old). For categorical predictors (e.g., age, gender, and community type), variables were dummy-coded and the category corresponding to "0" was the reference group. Analytic sample consists of firearm owning parents only. An alpha criterion of .05 was used to determine statistical significance.

Parental confidence that child would avoid firearm if found at home

Parents were also asked whether they felt confident that their child would avoid a firearm if they found one in their home. The vast majority of firearm owning parents (85.5%) reported feeling confident that their child would avoid a firearm if they found one in the home. A similar level of confidence was expressed by parents who do not own firearms but live in a household where a firearm is present (83.2%).

Figure 5

Confidence that a child would avoid firearms at home by parental firearm ownership status



Several factors influenced whether firearm-owning parents felt confident their child would avoid a firearm if they found one at home. Specifically, Black firearm-owning parents were significantly more likely to feel confident that their child would avoid firearms in the home if found compared to white firearm-owning parents. Additionally, parents whose children had received firearms training were also more likely to express confidence in their child's ability to avoid firearms if discovered at home (see Table 2). No other factors were found to be statistically significant predictors of confidence that one's child would avoid firearms at home.

Table 2^b

Factors Associated with Confidence that Your Child Would Avoid Firearms if Discovered at Home Among Firearm-Owning Parents

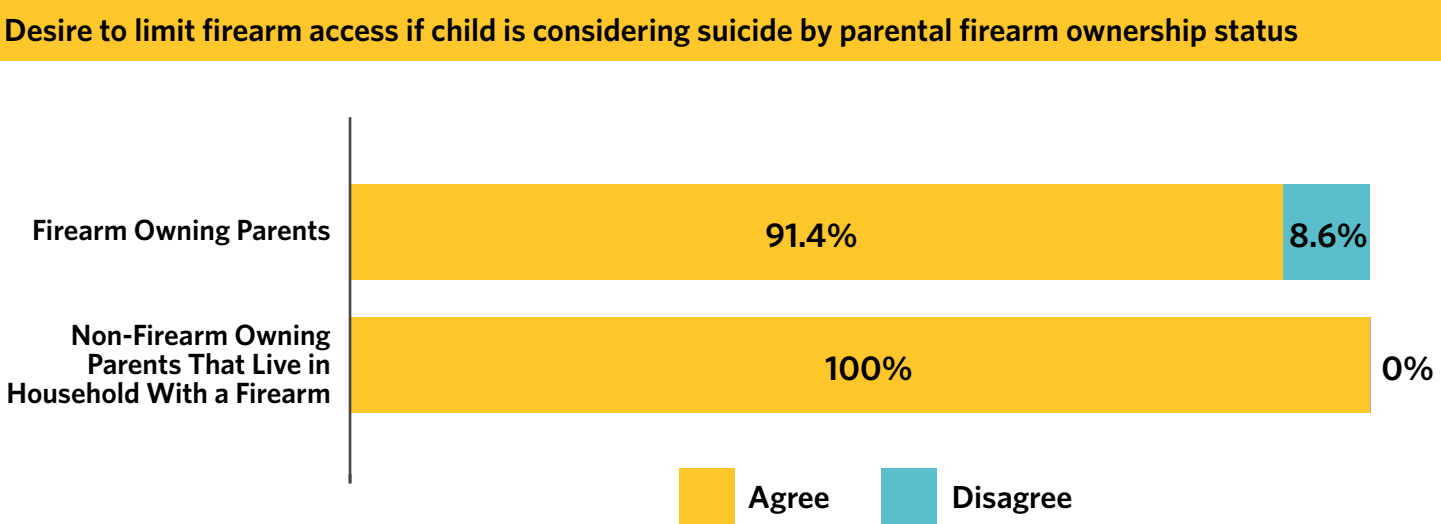
	Less Likely to Agree	More Likely to Agree
Age		
30-44		
45-59		
60+		
Race		
Black		✓
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		
Ownership for Protection		
Guns in Household Growing Up		
Stores Firearm Unlocked and/or Loaded		
Attitude About Firearm Injury and Mental Health Crisis		
Parenting Stress		
Child Has Firearms Training		✓

^bFor this 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 = Other Race/Ethnicity), community type (0 = suburban, 1 = rural, 2 = urban), firearm ownership for protection (0 = No, 1 = Yes), grew up with a firearm in the home (0 = no, 1 = yes), firearm storage pattern (0 = locked and unloaded, 1 = unlocked and/or loaded), attitude about firearm injury and mental health crisis (0 = strongly disagree - 4 = strongly agree), parenting stress (1 = Never - 5 = Always), and child firearms training (0 = No, 1 = Yes). For categorical predictors (e.g., age, gender, and community type), variables were dummy-coded and the category corresponding to "0" was the reference group. Analytic sample consists of firearm owning parents. An alpha criterion of .05 was used to determine statistical significance.

Child mental health and firearm access

Parents were also asked whether they felt confident that their child would avoid a firearm if they found one in their home. The vast majority of firearm owning parents (85.5%) reported feeling confident that their child would avoid a firearm if they found one in the home. A similar level of confidence was expressed by parents who do not own firearms but live in a household where a firearm is present (83.2%).

Figure 6



Of the factors that influence this attitude among firearm owning parents, Black parents were significantly more likely to express reluctance for their child to have access to firearms if their child was considering suicide compared to white parents. Additionally, firearm-owning parents whose children had received firearms training were also more likely to express reluctance to their child having access to firearms if they were contemplating suicide (see Table 3). No other factors significantly predicted parental attitudes toward firearm access among children if they are experiencing suicidal thoughts.

Table 3^b

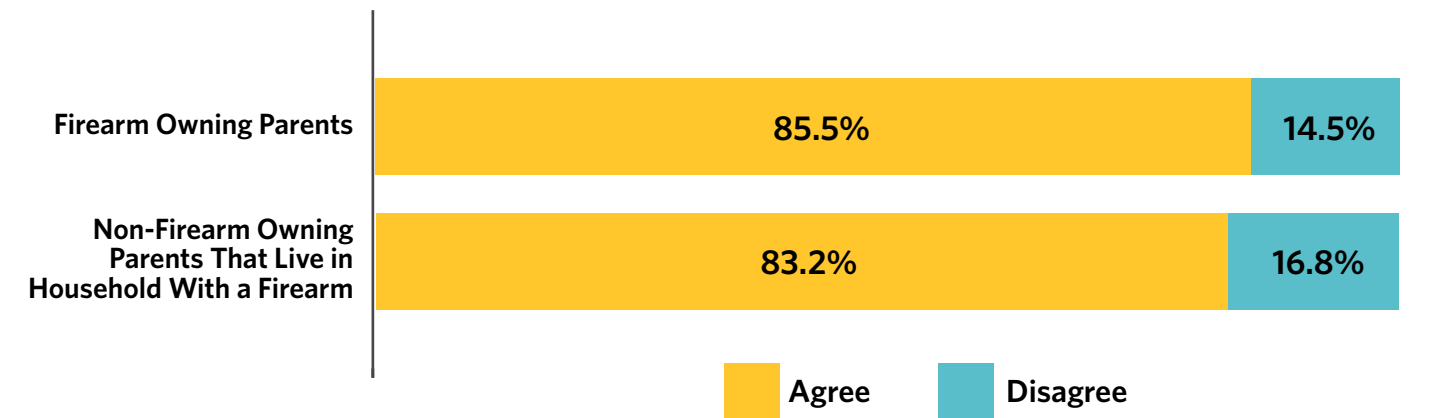
Factors associated with parent's desire to limit firearm access at home if child is considering suicide

	Less Likely to Agree	More Likely to Agree
Age		
30-44		
45-59		
60+		
Race		
Black		✓
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		
Ownership for Protection		
Guns in Household Growing Up		
Stores Firearm Unlocked and/or Loaded		
Attitude About Firearm Injury and Mental Health Crisis		
Parenting Stress		
Child Has Firearms Training		✓

Parents were also asked whether they felt confident that their child would avoid a firearm if they found one in their home. The vast majority of firearm owning parents (85.5%) reported feeling confident that their child would avoid a firearm if they found one in the home. A similar level of confidence was expressed by parents who do not own firearms but live in a household where a firearm is present (83.2%).

Figure 7

Factors associated with parent’s desire to limit firearm access at home if child is considering suicide



Among firearm-owning parents, several factors influenced comfort with discussing mental health with their child. Firearm-owning parents who were older than 60 years of age, those who identified as Black or of other non-white races, and those living in urban areas were significantly more likely to report feeling comfortable talking to their child about mental health. Conversely, firearm-owning parents who grew up in a home with a firearm were less likely to report feeling comfortable initiating conversations about mental health with their child (Table 4). No other factors significantly predicted a respondents’ comfort with talking to their child about mental health issues.

Table 4^b

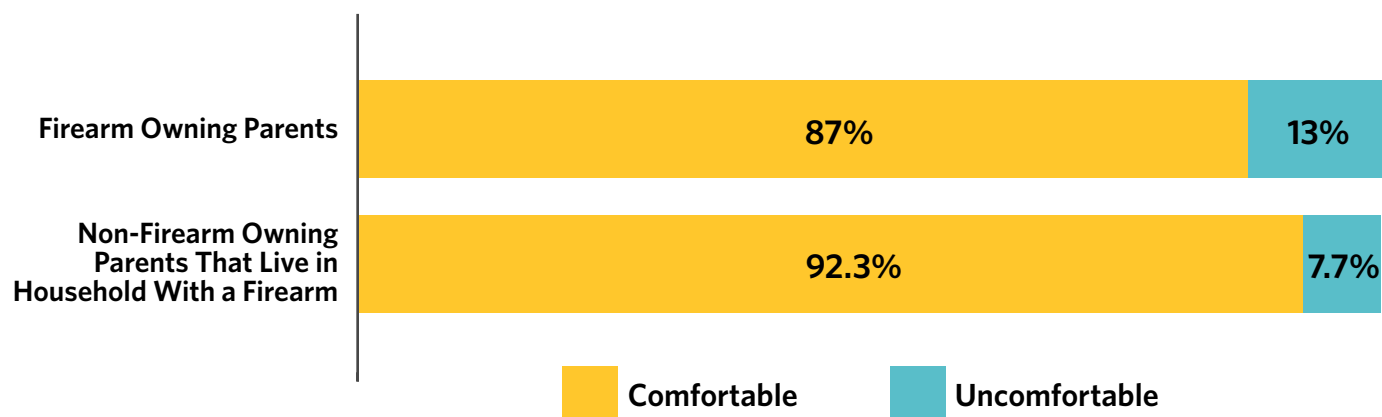
Factors associated with parent's desire to limit firearm access at home if child is considering suicide

	Less Likely to be Comfortable	More Likely to be Comfortable
Age		
30-44		
45-59		
60+		✓
Race		
Black		✓
Other Race/Ethnicity		✓
Gender		
Male		
Community Type		
Rural		
Urban		✓
Ownership for Protection		
Guns in Household Growing Up	✓	
Stores Firearm Unlocked and/or Loaded		
Attitude About Firearm Injury and Mental Health Crisis		
Parenting Stress		
Child Has Firearms Training		

Lastly, firearm owning parents and non-owning parents with a firearm in the home were asked how comfortable they are with asking their child about possible suicidal thoughts. Most firearm owners (87%) and non-firearm owners who live in a home with a firearm (92.3%) indicated comfort around asking their child about whether they had experienced suicidal thoughts or feelings (Table 9).

Figure 8

Comfort with asking children about suicidal thoughts by parental firearm ownership status



Of the factors that influenced this attitude, firearm owning parents who were older than ages 18-29, those who identified as male, and those who grew up in a home with a firearm were significantly less likely to feel comfortable with asking their child about possible suicidal thoughts or experiences. Alternatively, parents who identify as Black and those who live in urban communities were significantly more likely to feel comfortable (see Table 5) with discussing possible suicidal thoughts or experiences with their child. No other factors significantly predicted a respondents' comfort with asking their child if they were having suicidal thoughts.

Table 5^b

Factors associated with comfort around asking child about suicidal thoughts

	Less Likely to be Comfortable	More Likely to be Comfortable
Age		
30-44	✓	
45-59	✓	
60+	✓	
Race		
Black		✓
Other Race/Ethnicity		
Gender		
Male	✓	
Community Type		
Rural		
Urban		✓
Ownership for Protection		
Guns in Household Growing Up	✓	
Stores Firearm Unlocked and/or Loaded		
Attitude About Firearm Injury and Mental Health Crisis		
Parenting Stress		
Child Has Firearms Training		

Missouri Data in Context

In Missouri, our study found that 13.5% of parents who own a firearm and 1.4% of parents who have a firearm in the household but are non-owners are concerned about their children potentially being injured with a firearm while in the home. Comparatively, results from NFABS indicate that 8.5% of firearm owning parents across the U.S. are concerned that a child might potentially be injured by a firearm while in the home, which is a rate lower than Missouri.¹⁷ Hence, an overwhelming majority of parents are not concerned about their child being potentially injured by a firearm in the home, even though epidemiological surveillance data at the national-level reveals that 56% of firearm-related deaths in children occur in their own home,²¹ most frequently involving firearms that are stored loaded (74%) and unlocked (76%).²¹

Despite the concerns and data about injury resulting from unsecured firearms, most parents in Missouri express confidence that their child would avoid a gun at home if discovered (84.9%). Nevertheless, several recent national studies^{16,25} reveal a disconnect between parents' and children's reports about access to guns at home. A study using child-parent pairs found that parents often underestimate their child's ability to access a firearm in the home. In the study, 73% of young children reported knowing where household firearms were stored, contradicting the 39% of parents who believed their children were unaware of the storage location.²⁶ This underscores the importance of firearms safety training for children to ensure they understand the dangers of accessing firearms, as well as the need for storing guns unloaded and using items like fingerprint locks, which offer protection from unauthorized firing, even if a child accesses the firearm. This research also emphasizes the importance of addressing the disconnect between parental perceptions and children's reported knowledge of and behavior around firearms. A recent study showed that 34.9% of firearm-owning parents in the United States stored all guns locked and unloaded when they had a child in the home with a history of self-harm factors.²⁷ By contrast, our study found a higher rate of 91.4% of firearm owning parents in Missouri who would limit firearm access to their child if they learned the child was contemplating suicide. Just under 80% of youth in the United States (US) who commit suicide do so with a firearm belonging to a family member, and suicide with a firearm has the highest fatality rate relative to other lethal means.³ In Missouri, 10.6% of gun-owning parents reported feeling uncomfortable talking about their child's mental health, while 13% felt uncomfortable discussing the topic of suicide with their child. This discrepancy is noteworthy, as it reveals a potential gap between the high rate of parents who limit firearm access when their child is suicidal and the lower rate of parents who feel comfortable discussing mental health with their children.

Implications for Research and Practice

Our research suggests that over one in ten firearm-owning parents are concerned about the risk of their child being injured by a firearm in the home. Additionally, over one in ten firearm-owning parents and non-firearm-owning parents living in a home with a firearm believe their child would not avoid firearms if they discovered them at home. The risk of unintentional and intentional firearm injury is several times higher for youth when they live in homes with firearms, especially when they can access firearms.^{8,28} These concerns underscore the need for in-home strategies and parent-child conversations to limit child access to firearms and prevent the likelihood of unintentional and intentional child firearm-related injuries. Interventions can include child-parent dyad conversations about child firearm injury risks and effective storage approaches that limit a child's access to firearms at home. More research, however, is needed to develop effective child firearm injury prevention strategies. For instance, researchers have documented that, in households where parents believed their child could not access firearms, 1 in 5 adolescents reported being able to access a loaded household firearm within five minutes.²⁵ Thus, to develop effective interventions for reducing firearm-related injuries among children, it is imperative to acknowledge the critical role parents play in keeping their children safe and to engage parents around these issues. Understanding how parents think about firearm safety for their young children is an important first step in engaging parents in preventing firearm injury.

Our research also indicates that approximately 10% of firearm-owning parents feel less comfortable asking their children about their mental health, including suicidal thoughts, and are less likely to limit access to firearms if they knew their child was considering suicide. This finding underscores the critical need for firearm injury prevention messaging and safety practices (e.g., firearm training programs) to be tailored to the specific needs of parents. To

achieve this goal, these messages must be developed in partnership with parents and relevant experts, such as mental health professionals. While experts prioritize safe storage practices—such as keeping firearms locked and unloaded, with ammunition locked and stored separately—research should identify barriers to implementing these practices during high-risk periods and craft more effective messaging that aligns with parents’ needs. Given the higher rates of youth firearm injuries in homes with a firearm, messaging and interventions should be tailored to equip parents with the tools to navigate difficult conversations about their child’s mental health, including topics like suicidal ideation. Importantly, alongside firearm safety practices, parents should also be provided with resources to seek professional help (e.g., from a child’s primary care physician) when immediate concerns arise. To develop these tailored messages and interventions, more research is needed to assess parents’ understanding of firearm safety and injury prevention. These findings can inform strategies to effectively engage parents, find gaps or misalignments between parental beliefs and research-based recommendations, and craft messaging that enhances safety for children and adolescents.

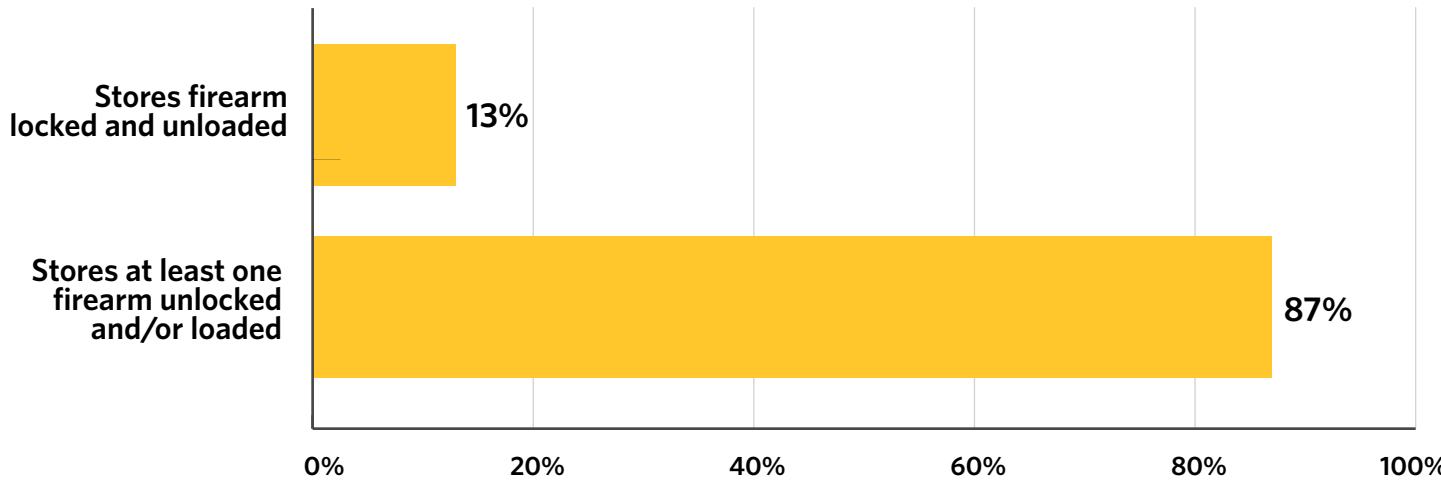
FIREARM STORAGE & PROACTIVE BEHAVIORS TO PREVENT YOUTH FIREARM INJURIES

Firearm storage patterns

Firearm-owning parents were also asked if they stored any of their firearms locked and/or unloaded. Notably, the vast majority (88%) of firearm owning parents said that they stored one or more firearms in their home unlocked and/or loaded (Figure 9).

Figure 9

Firearm storage patterns among firearm owning parents



Demographic and community characteristics played a significant role in deciding whether parents who own firearms stored them unlocked and/or loaded (see Table 6). Specifically, middle-aged parents (i.e., 45-59), Black parents, parents residing in urban areas, and parents afraid of community violence were more likely to store one or more firearms unlocked and/or loaded, compared to younger parents (i.e., 18-29), white parents, those living in rural areas, and those who did not express fear of community violence. No other factors significantly predicted storage patterns.

Table 6^c

Factors associated with firearm storage patterns

	Less Likely to Store Firearm Unlocked and/or Loaded	More Likely to Store Firearm Unlocked and/or Loaded
Age		
30-44		
45-59		✓
60+		
Race		
Black		✓
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		✓
Fear of Community Violence		✓
Ownership for Protection		
Guns in Household Growing Up		

^cFor this 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 = Other Race/Ethnicity), community type (0 = suburban, 1 = rural, 2 = urban), firearm ownership for protection (0 = No, 1 = Yes), and grew up with a firearm in the home (0 = no, 1 = yes). For categorical predictors (e.g., age, gender, and community type), variables were dummy-coded and the category corresponding to "0" was the reference group. Analytic sample consists of firearm owning parents. An alpha criterion of .05 was used to determine statistical significance.

Barriers to storing firearms locked and unloaded

Further, parents who stored a handgun loaded were asked to name the most important reason for this. As shown in Figure 10, most of these parents (72.6%) reported doing so to protect themselves and their family. A minority of parents reported not seeing the need to keep their handguns unloaded if already locked up (4.8%).

Figure 10

Reasons for storing a handgun loaded

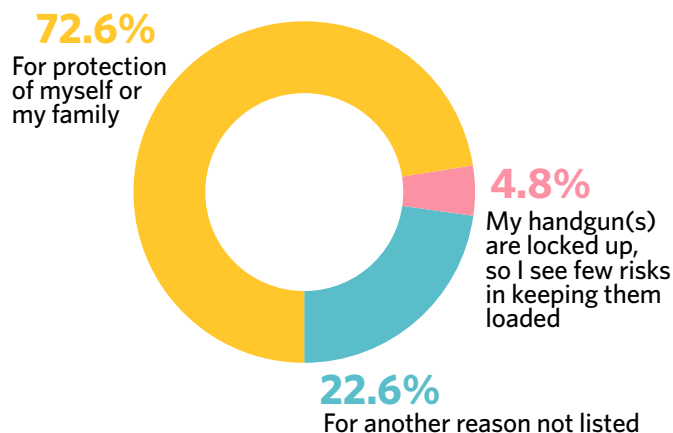


Figure 11

Reasons for storing a handgun unlocked

Moreover, parents who stored a handgun unlocked were asked to name the most important reason for this. Over half of the parents who keep their handguns unlocked indicated that they keep their firearms unlocked to have easier access to it (59.04%) (Figure 11). The second most common response was “Other” (29.2%), and parents said the need to have quick access to their firearm in emergency situations.

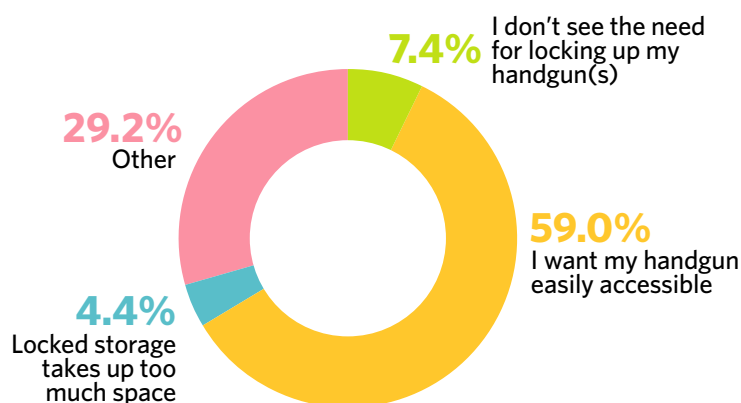


Figure 12

Reasons for storing a long gun loaded

Among long gun owning parents, those who stored a long gun loaded were asked to note the most important reason. Shown in Figure 12, protection of self and family was the most common response (90.5%), followed by dealing with animals in their property (9.5%).

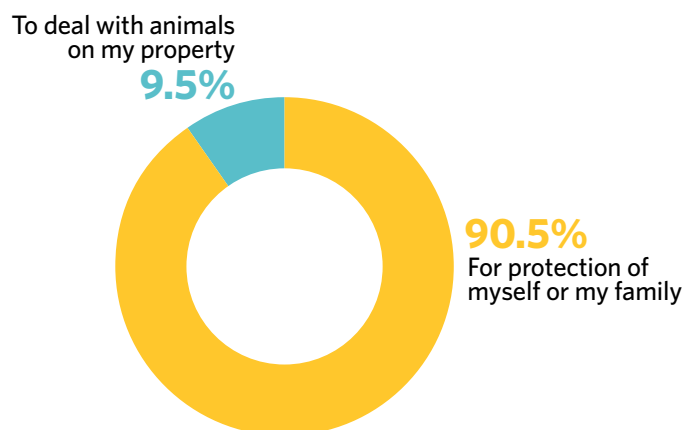
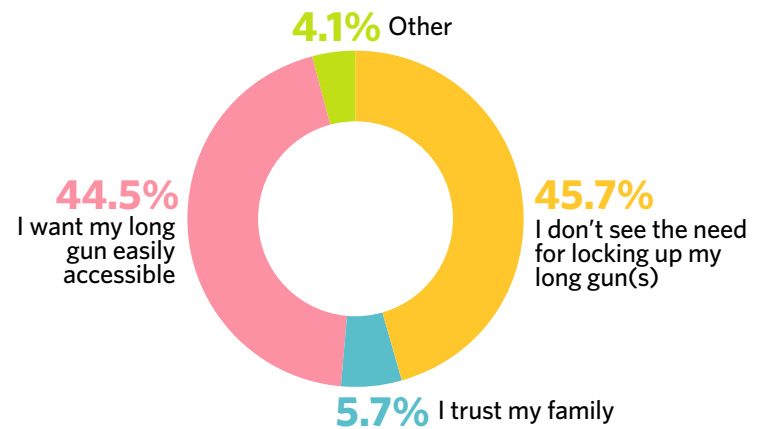


Figure 13

Reason for storing a long gun unlocked



Additionally, parents who stored a long gun unlocked were asked to name the most important reason. The two most often endorsed reasons were not seeing the need to keep long guns locked (45.7%) and to have easy access to their long guns (44.5%) (Figure 13).

Parents who own firearms reported implementing strategies to prevent unauthorized access firearm injuries in the home. These strategies included checking the location of their stored firearms, firearm storage patterns, asking other parents about firearms in their home, and discussing firearm topics with their children. Of note, questions about firearm behaviors (e.g., checking stored firearms, storage patterns) were asked only to firearm-owning parents.

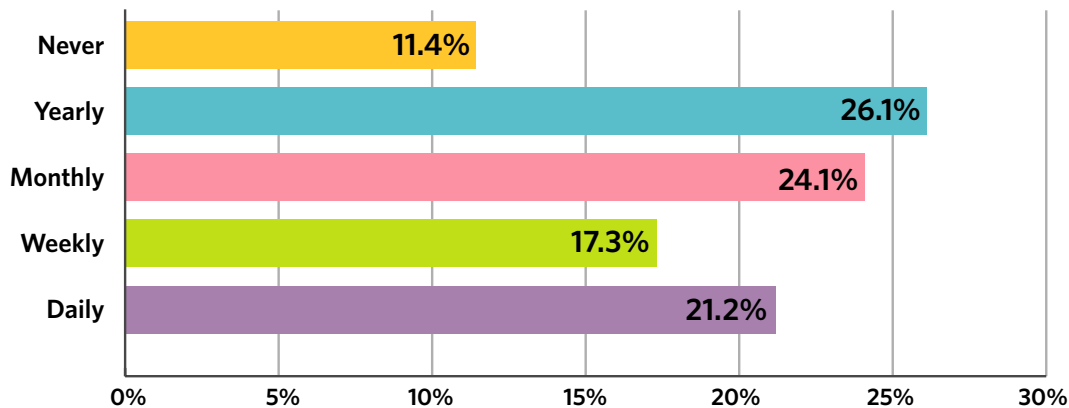
In contrast, questions about comfort with asking other parents about firearms in their home and discussing firearm safety topics with their children were asked to all parents.

Checking on their stored firearms

A large majority of firearm-owning parents had checked on their stored firearms within the past year (88.65%), though there was a wide range in frequency across firearm owning parents (see Figure 14).

Figure 14

Percentage of parent firearm owners who checked on their stored firearms



We examined demographic factors, community types, and firearm-related behaviors and attitudes that influenced whether parents who own firearms checked the location of their stored firearms. As shown in Table 7, firearm owning parents who stored their firearms unlocked and/or loaded were significantly more likely to check the location of where their firearms were stored than those who stored their firearms in other ways. Firearm owning parents who express concerns about their child being injured by a firearm while at home were less likely to check the location of where their firearms were stored. While this finding seems counterintuitive, this could reflect scenarios in which parents are concerned about their children being harmed by firearms in the home because they had not recently checked the location of their firearms. The MFABS employed a cross-sectional design (all respondents

completed the survey once), and it is plausible that the reverse scenario holds true: parents who do not check their firearms do so because they lack concern about their child's safety as it relates to firearms in the home. As discussed in the future directions section of this report, longitudinal data is essential for evaluating the temporal sequence by which these factors may influence one another. No other factors predicted the likelihood of whether the parent checked on their firearm.

Table 7^d

Factors associated with parents' likelihood of checking their firearms

	Less Likely to Check on their Firearms	More Likely to Check on their Firearms
Age		
30-44		
45-59		
60+		
Race		
Black		
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		
Ownership for Protection		
Guns in Household Growing Up		
Stores Firearm Unlocked and/or Loaded		✓
Concerned about child getting hurt by a firearm	✓	
Agree that child would avoid a firearm if found in the home		

Asking other parents about firearms in their home

The majority of firearm owning parents felt comfortable asking other parents whether they keep firearms in the home (80.3%, Table 13), while approximately half of non-owning parents with and without a firearm in the home reported feeling comfortable (54.7% and 47.5%, respectively). As shown in Table 15, Black parents were significantly less likely to feel comfortable with asking other parents about the presence of firearms in their home compared to white parents. No other factors significantly predicted comfort asking other parents about guns in the home.

Figure 15

Comfort with asking other parents about firearms in their homes

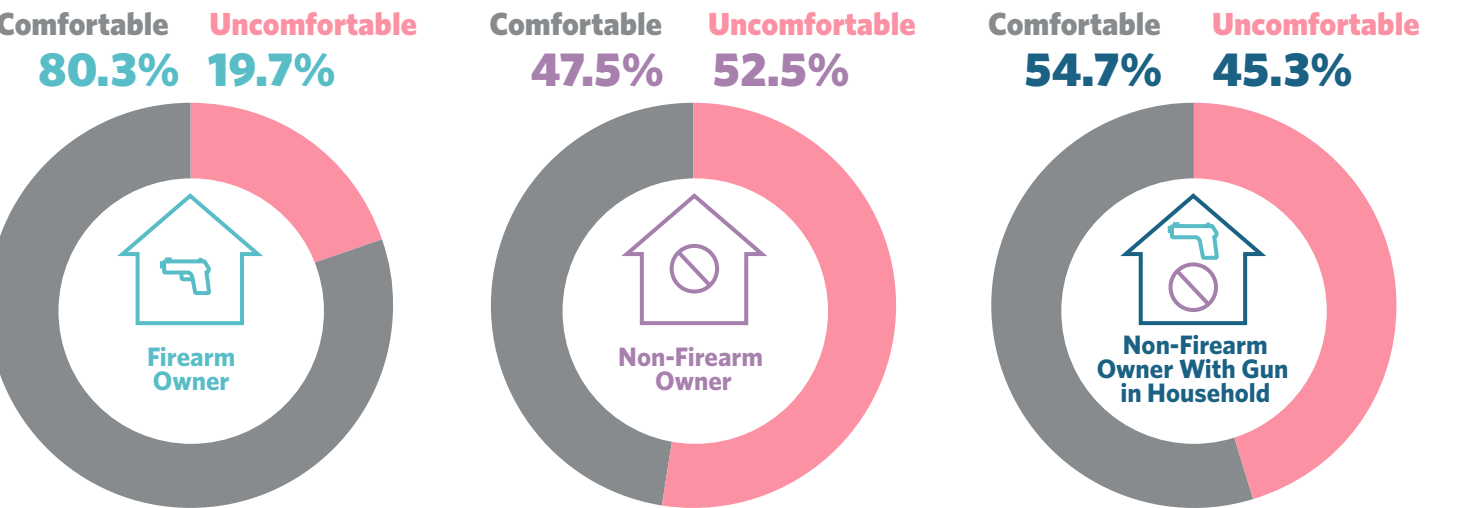


Table 8*

Factors that influence comfort with asking other parents about firearms in their home

	Less Likely to be Comfortable	More Likely to be Comfortable
Age		
30-44		
45-59		
60+		
Race		
Black	✓	
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		✓
Firearm Ownership Status		
Guns in Household Growing Up		
Parenting Stress		

Parents with a firearm in the home – irrespective of ownership or non-ownership – were significantly more likely to ask other parents if there was a firearm in their home (39.7% and 33.4%, respectively) compared to parents without a firearm in the home (25.7%). (See Table 8). On demographic factors, parents older than age 29 were more likely to ask other parents if there was a firearm in their home (See Table 9) compared to those under the age of 29. Additionally, parents who felt comfortable asking other parents about firearms in the home were significantly more likely to ask whether other parents kept a firearm in their home. No other factors significantly predicted whether respondents asked other parents about firearms in their homes.

*For this 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 = Other Race/Ethnicity), community type (0 = suburban, 1 = rural, 2 = urban), firearm ownership status (0 = does not own a firearm, 1 = owns a firearm), grew up with a firearm in the home (0 = no, 1 = yes), and parenting stress (1 = Never - 5 = Always). For categorical predictors (e.g., age, gender, and community type), variables were dummy-coded and the category corresponding to "0" was the reference group. Analytic sample consists of all parents. An alpha criterion of .05 was used to determine statistical significance.

Figure 16

Asking other parents whether they keep firearms in their home (among parents with firearms in the home)

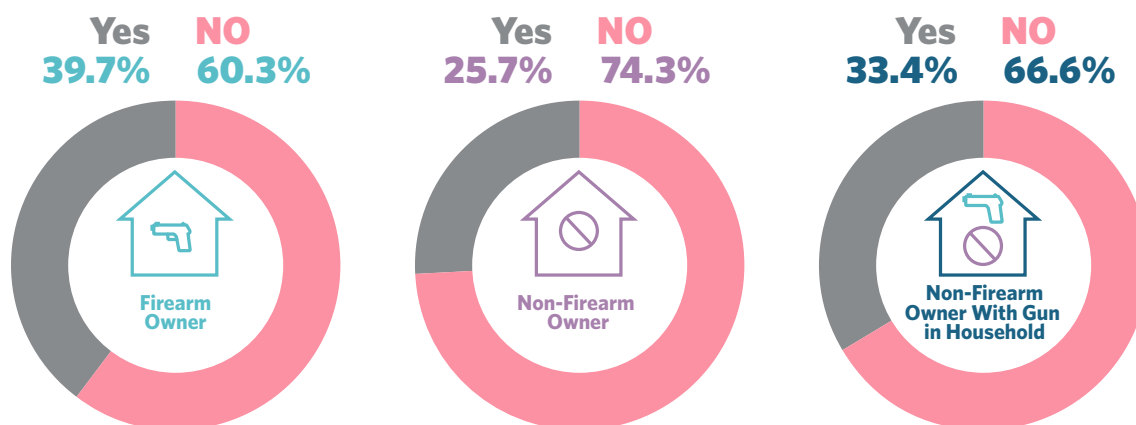


Table 9*

Factors associated with asking other parents whether they keep firearms in their home

	Less Likely to ask Other Parents about Guns in their Home	More Likely to ask Other Parents about Guns in their Home
Age		
30-44		✓
45-59		✓
60+		✓
Race		
Black		
Other Race/Ethnicity		
Gender		
Male		
Community Type		
Rural		
Urban		
Firearm Ownership Status		
Guns in Household Growing Up		
Parenting Stress		
Comfort with asking other parents about whether they keep firearms in the home		✓

Discussing firearm safety topics with children

Finally, parents were asked whether they discussed firearm safety topics with their children. 70% of parents reported that they talked about firearm safety topics with their children (Figure 17).

The most often discussed firearm safety topic related to storing firearms unloaded and locked, followed by discharging a firearm, the necessity of avoiding alcohol or drugs when handling firearms, the separate storage of ammunition from firearms, and the safe carrying and usage of firearms. Topics discussed least often included the use of firearms for self-defense and the specific firearm laws of their state of residence (see Figure 18).

Figure 17

Percentage of parents who discussed firearm safety topics with their children

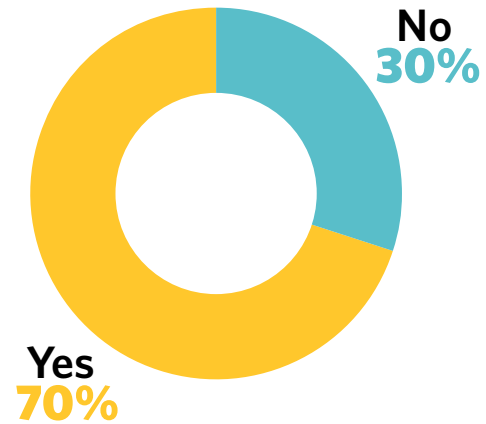
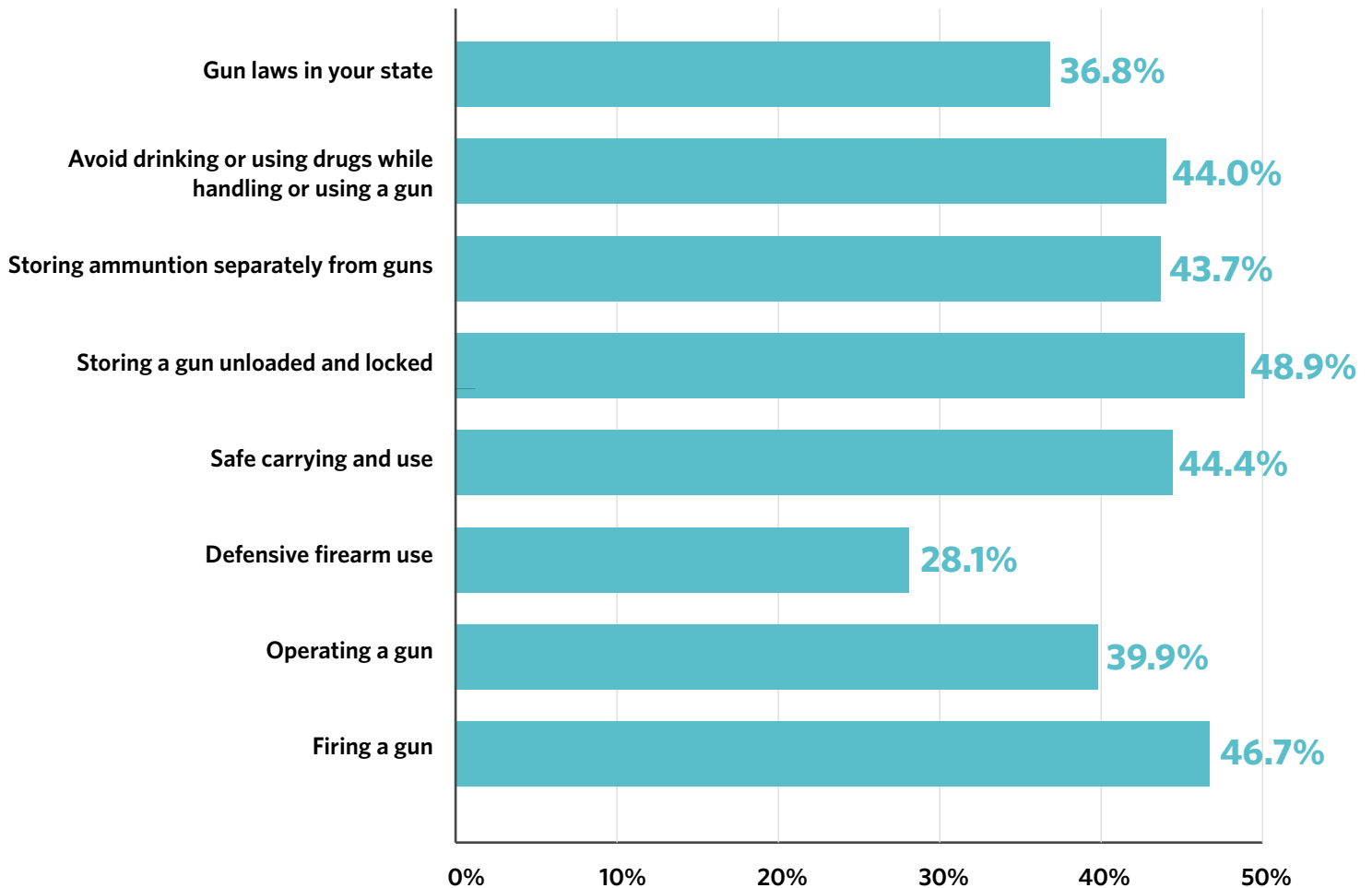


Figure 18

Topics parents discussed with their children about firearm safety



Missouri Data in Context

Our study found that a sizable percentage of Missouri parents (88%) store at least one of their guns unlocked and/or loaded. Nationally, we find variation in reporting of gun locking habits among parents. A national sample reports about half of gun-owning parents say that all the guns in their home are kept locked (54%) and unloaded (53%).²⁹ Another study found significantly fewer (20%) of gun-owners with children store at least one gun loaded and unlocked, while 30% store at least one gun unloaded and locked.³⁰ This national sample does not show demographic variation across storage practices (including age, sex, and race), though we do see that gun owners are more likely to store at least one gun loaded and/or unlocked if they own at least one handgun (27%) or own firearms for protection (29%).³⁰⁻³² This aligns with the pattern seen in Missouri, where the fear of community violence predicts that parents who own guns are more likely to keep their firearms unlocked and/or loaded. In terms of safety practices, trigger locks are preferred over cable locks,³³ although there is a need for more research at the national level to explore owner preferences about firearm locks. Furthermore, additional studies are necessary to investigate how often parents check on or change the locations of their firearms to compare with Missouri firearm safety audit behaviors.

While most firearm-owning parents (80.1%) and about half of non-firearm-owning parents in households with firearms (54.7%) reported feeling comfortable asking other parents about firearms in their homes, fewer than one-third of parents take the initiative to ask (32%). Nationally, 26% of gun owners believe it is essential to ask other parents about the presence of guns in the house.²⁹ Discussing the presence of firearms in the home with other parents can enable parents to make informed decisions about their child's safety when they visit other homes, helping to prevent unintentional or intentional firearm injuries. This trend aligns with national findings where 95% of parents find it essential to talk to their own children about firearm safety.²⁹ In comparison, 70% of Missouri parents reported discussing firearm safety topics with their children, suggesting that there is still room for improvement in parental communication about gun safety.

Implications for Research and Practice

Missourians who keep firearms locked and unloaded are more likely to regularly check on their firearms, suggesting a potential link between storage practices and ongoing vigilance about the condition and location of firearms in the home. Firearm training programs should emphasize the importance of proper storage techniques and routine checks on firearms to ensure they stay secure and safe. Existing literature at the national level on these topics is limited, highlighting the need for future research to explore the motivations behind why people check their firearms and what specific actions this behavior entails.

Research into storage patterns should aim to understand not only the reasons behind different storage methods but also which options are most appealing and why. This may involve investigating whether fear of community violence and other crime affects how individuals store their firearms and examining research on how the desire for protection influences the tendency to keep guns loaded and unlocked.³⁴ Additionally, exploring how knowledge of the risks associated with certain storage approaches could affect changes in storage behaviors may offer valuable insights for designing targeted interventions. For firearm owners who prioritize quick access for self-defense, safety measures could include using lockboxes with fingerprint keypads to restrict access by children and unauthorized individuals or employing biometric trigger locks. Additionally, setting up a temporary off-site storage option, such as with firearm retailers, may be advisable when someone in the household is at risk of suicide. It is crucial to balance the legitimate need for protection with secure storage that allows rapid access while preventing unauthorized use, particularly by children. On the other hand, public health messaging and interventions may need to be tailored differently for firearm owners concerned about violence, even when they live in low-crime, safe communities. While the fear of community violence often drives the desire for immediate access to firearms, further research is necessary to understand why individuals in these safe environments feel the need for quick access due to such fears.

From a proactive injury prevention standpoint, especially for parents, efforts should focus on educating them about the importance of regularly checking on firearms, storing them locked and unloaded, and having open conversations with other parents about firearms in their homes. Public health efforts should aim to educate parents in effective strategies for discussing firearm safety with their children and other adults, much like they are for topics such as alcohol, drugs, and safe driving. Collaboration with parents, policymakers, educators, and other key stakeholders is essential for co-creating messaging and implementing interventions that are culturally sensitive and contextually appropriate.

FUTURE DIRECTIONS FOR RESEARCH & PRACTICE

Firearm injury and death is a significant public health concern in the United States, especially among youth. Addressing this crisis requires prevention programs, policies, and research that incorporate the values and expertise of affected communities. The MFABS provides a first look at firearm attitudes, beliefs, and practices, particularly about child firearm injury prevention and safety among Missouri adults from various demographic and contextual backgrounds. To develop effective and equitable firearm injury prevention programs, we recommend the following directions for future research and practice.

Researchers should examine the following:

- Explore and develop high-impact, evidence-based interventions that promote locked and unloaded firearm storage among parents, especially considering that 32-35% of firearm-owning parents in the U.S. currently keep their firearms both locked and unloaded. Finding strategies to increase this percentage is critical for preventing firearm-related injuries and ensuring child safety in homes with firearms, as is promoting harm-reduction aligned storage practices that lower the risk of children accessing firearms and ammunition for people who are resistant to storing firearms locked and unloaded.
- Design interventions and find best practices to help firearm-owning parents and children with firearm access engage in developmentally appropriate conversations about safe coping behaviors during a mental health crisis or emotionally challenging time. The goal is to strengthen positive communication between parents and children, limit access to firearms during high-risk periods, and ensure the child receives the necessary mental health support.
- 5.5% of parents reported having a child with access to and control of a gun and over half of those children were 14 years old or younger. Exploring how parents make decisions around children's access to firearms, as well as when and how children are using and storing their own firearms, is essential for understanding risk of firearm injury and death within these groups. It will also support future activities to reduce risk in the future.

Practitioners should consider the following:

- Develop a "Best Practices" guideline for firearm behaviors in homes with children. This guideline can use evidence-based strategies that emphasizes storing all firearms locked and unloaded, finding harm-reducing methods for storage when locked/unloaded storage is not feasible, modeling safe firearm behaviors around children (e.g., not cleaning loaded gun), and asking about any unsecure firearms in places that children visit.³⁵ Credible messengers for this work are crucial. For some campaigns, partnership with law enforcement officers could be used to deliver the information, as some firearm owners see law enforcement as more credible messengers about safe storage than their child's pediatrician.³⁶ However, this may not be the case for other populations, and care should be taken to ensure the messenger is aligned with the specific population that practitioners hope to reach. This could also be coupled with a program for parents to get free firearm locking devices, which have been found to increase the rate of safe storage.

- During healthcare visits, assess for signs of suicidality and inquire about firearm ownership. Provide counseling sessions for both parents and children, conducted by a physician or healthcare provider, to develop a plan for restricting access to potential means of self-harm or harm to others. Strategies may include recommending the use of gun locks or temporarily transferring firearms to a trusted person outside the home. This counseling method also focuses on fostering a supportive environment where parents feel empowered to take proactive steps in keeping their children safe during a mental health crisis.³⁷
- Develop a program that equips parents with the skills to ask other parents about the presence and storage of firearms in their homes. Despite half of non-firearm-owning parents feeling comfortable discussing firearm safety, only a quarter do so. This program should educate parents on the prevalence of firearm ownership (44% of parents nationwide) and the high rates of unsafe storage practices (78% store firearms unlocked and/or loaded).¹ To make these discussions more comfortable, the program should compare them to other common health and safety conversations, such as those about allergies or the use of bike helmets.³⁸ The program can include training for parents through pamphlets, group practice sessions, and one-on-one sessions with a healthcare provider, teacher, or other community members who work with youth.
- Developing initiatives that equip parents to be more prepared and proactive in checking their children's mental health by reducing stigma, providing training on how to talk to children about mental health and suicide, and educating parents on the signs and symptoms of mental health crises in youth.

LIMITATIONS

We note a few limitations of the MFABS that should be considered when interpreting the results. First, because the MFABS was administered only once, the results of the survey reflect a single point in time. We cannot make causal statements (e.g., community violence causes a more positive attitude about carrying firearms in public places) using this data, nor can we speak to changes in beliefs, perceptions, attitudes, or behaviors over time. Nevertheless, the MFABS can inform actions public health professionals and invested partners in the firearm injury prevention field can take to intervene. Second, as is often the limitation with surveys, results may need to be cautiously interpreted as respondents may feel pressure to respond in a way that they think is socially acceptable or agreeable. However, online surveys, such as the MFABS, have been shown to reduce response biases and yield more accurate estimates of participant characteristics than other survey administration processes, such as telephone surveys.³⁹ Finally, while our survey data presents firearm beliefs, attitudes, and behaviors for Missouri adults, we are unable to summarize the data at the county-level. Thus, future data collection efforts should examine firearm outcomes at the county-level to inform the development of firearm injury prevention programs to account for the specific needs of each county. For example, certain counties may be most affected by firearm homicides, requiring a more robust interpersonal firearm violence prevention response. Another limitation, especially while looking at just firearm owning parents, is insufficient sample size. The study only included 181 firearm owning parents, so further subdividing the group may lead to unstable results. A final limitation is that only parents were surveyed, which is not always an accurate prediction of the behavior of their children if they were to have access to a firearm. Accuracy could be assessed by collecting dyadic (paired) data of parents and their children to understand how they do or do not align. Despite these limitations, results from the MFABS offer deep insight into Missourian's perceptions, practices, and beliefs about firearm-related topics, especially among firearm owning parents. This information is useful for implementing intervention and education strategies tailored to Missouri populations.

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