


ORIGINAL ARTICLE

Determining who military service members deem credible to discuss firearm safety for suicide prevention

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Abstract

Objectives: To examine rankings of credible sources for discussing secure storage within a representative sample of firearm-owning service members, and examine how combinations of demographic variables impact the ranking of credible sources.

Methods: The probability-based sample was collected with the help of Ipsos. Participants were US service members who owned a firearm at the time of the survey ($n = 719$).

Results: The total sample ranked service members, Veterans, and members of law enforcement as the most credible sources and faith leaders, casual acquaintances, and celebrities as the least credible sources. Black men ranked the NRA as a highly credible source whereas Black females ranked the NRA as one of the least preferred sources. Regardless of political preference, those who lived in non-metropolitan rural environments ranked members of law enforcement as highly credible sources. Those who lived in non-metropolitan rural and urban settings and identified as liberal ranked the National Shooting Sports Foundation as a highly credible source.

Conclusions: Law enforcement officers, military members, and Veterans are ranked as highly credible sources by most subgroups of firearm-owning service members. Leveraging these voices in firearm safety conversations is necessary, may increase adherence to secure storage recommendations, and ultimately reduce suicide.

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KEYWORDS

firearms, military service members, secure firearm storage, suicide prevention

INTRODUCTION

Suicide is the leading cause of death in the United States (US) military (Armed Forces Health Surveillance Center (AFHSC), 2014) and 60% of Active Duty, 66% of Reserve, and 79% of National Guard suicide deaths are by firearm (Department of Defense, 2019). Secure firearm storage (e.g., locked, unloaded) may reduce the risk of suicide (Grossman et al., 2005). In line with this, means safety – rendering a method for suicide less lethal or available – and has been shown to be effective with methods that are both highly lethal and available. Abroad, means safety has reduced suicide rates among military members. The Israeli Defense Force saw a 40% reduction in the suicide rate among young service members when they did not allow them to take firearms home on leave (Lubin et al., 2010). In the US military, 93% of active-duty service members and 100% of the reserve component died by suicide using personally owned firearms in 2020 (Department of Defense, 2020). Thus, an emphasis on securing firearms may represent a pivotal step toward reducing military suicides.

Although research indicates that secure firearm storage may reduce suicide risk (Grossman et al., 2005), many firearm-owning service members do not engage in secure storage (Anestis, Bryan, et al., 2021). The discrepancy between the potential life-saving value of secure storage and the actual frequency speaks to a disconnect between data-driven information and the cost-benefit analysis utilized by firearm owners in deciding how to store firearms. Along these lines, researchers have suggested that effective messaging on this topic may be vital to increasing the uptake of secure storage (Barber & Miller, 2014). Research has begun to examine ways to increase the effectiveness of firearm safety messages by examining both message content and messenger identity. In terms of message content, Pallin and colleagues found that firearm owners prefer the term “firearm” rather than “gun.” Additionally, firearm owners prefer that conversations on limiting access to firearms be framed around identity, trust, and voluntary and temporary storage (Pallin et al., 2019). Another study found culturally specific firearm messaging and suicide prevention information to be associated with the greatest likelihood of taking steps to secure firearms (Marino et al., 2018).

A more extensive area of research has examined who firearm owners deem credible to discuss firearm safety

for suicide prevention. Based largely on self-report, these studies have produced relatively consistent results regarding the voices most trusted by firearm owners, albeit in largely civilian samples. Two nationally representative samples of firearm owners found law enforcement and military members to be the most credible and celebrities and physicians to be the least credible (Anestis, Bond, et al., 2021; Crifasi et al., 2018). The Anestis et al study¹¹ extended upon previous research by examining racial subgroups of firearm owners and found Black firearm owners ranked law enforcement officers, family members, and military members as the most credible sources. However, although on average Black firearm owners generally ranked law enforcement officers as credible, their rankings were more variable than those of White firearm owners, resulting in a worse mean credibility score (Anestis, Bond, et al., 2021). With respect to military affiliation, the authors did not find any differences between civilian and military credible source rankings. Although informative, firearm owners' ranking of credible sources was only examined via univariate demographic analyses (e.g., race) rather than considering the intersectionality of multiple aspects of identity. As such, it remains plausible that differences in perceived credibility exist among communities of firearm owners – military or civilian – and messaging may need to be adapted to address those discrepancies.

A study by Bond et al. (2022) partially addressed this concern by utilizing latent class analyses to determine subgroups of firearm owners, and then examining who each class deemed credible to discuss firearm storage for suicide prevention. Among all classes, law enforcement, family members, and the American Foundation for Suicide Prevention were ranked as highly credible. This study was novel in that it examined heterogeneous subgroups of firearm owners that exist based upon multiple aspects of their identity, but here again, the sample was largely civilian and the classes were based upon aspects of firearm ownership (e.g. type and number of firearms owned) rather than demographics.

The favorability of law enforcement as a messenger was again highlighted in a recent study utilizing an experimental design to examine the impact of messenger identity and message content on openness to specific firearm storage practices among firearm-owning service members (Anestis et al., 2022). These results – which were derived from the same data source as the current study – had the advantage of focusing specifically on a military sample;

however, the results did not speak to intersectionality. To better understand how the intersection of multiple demographic factors impacts the perception of credible sources, the present study examined how the intersection of race and sex, which have previously been examined independently and been associated with differences in firearm ownership and storage habits (Cleveland et al., 2017; Farah et al., 1999), impacts the ranking of credible sources.

Although previous studies are informative, they utilize mainly civilian samples and largely treat firearm owners as a homogenous group. Given the military's high rate of firearm suicide deaths with personally owned firearms, understanding who subgroups of firearm-owning service members deem credible to discuss firearm storage is important. The present study seeks to examine rankings of sources on secure storage within a representative sample of firearm-owning service members. Additionally, this study builds upon previous research by combining demographic variables (race and sex) to assess subgroups within the US military. Lastly, we examined predicted probabilities to explore the extent to which different groups differ in their likelihood of deeming specific sources the most credible to discuss firearm storage. Findings from this study may positively impact the effectiveness of secure storage messaging for service members.

METHODS

Participants and procedures

Participants were US service members who owned a firearm. Participants were recruited from KnowledgePanel (KP) and partnered opt in panels by Ipsos. Members of KP were recruited through e-mail and screened to ensure they met inclusion criteria (current service member and firearm owner) ($n = 719$). Opt-in participants identified as being potentially eligible for the study were assigned the survey and asked to opt in to complete eligibility screening. KP calibrated the opt-in sample using the KP sample source ($n = 45$) to ensure consistent representation between the different recruitment approaches. A majority of the sample were active duty (75%) and all five branches of the Armed Forces were represented (Table S1). Data were collected over approximately 3 weeks in December 2021 and January 2022. More information regarding sampling, weighting, and calibration procedures can be found in Anestis et al. (2022).

Informed consent was obtained from all participants and the study was approved by the Institutional Review Board and the US Army Medical Research and Development Command, Office of Research Protections, Human Research Protection Office (HRPO).

Measures

Demographic variables were derived from KP member profiles. Demographic items for opt-in participants utilized the same wording used in KP profiles. Rurality was coded from participant zip codes. Specifically, data from the US Census Bureau was used to code the population density of each zip code. Consistent with the thresholds from the US Census Bureau, ZIP codes were coded as non-metropolitan rural (population density < 500 people per square mile), metropolitan rural (population density between 500 and 2499), or urban (population density = 2500+). Participants were able to identify with multiple racial identities (White, Black, Native American/Alaskan Native, Asian, and Other), and therefore it is possible that participants were included in multiple racial categories. Participants who identified one of their races as White were included in the analyses conducted among white individuals; and this methodology was used for all racial groups.

Participants were asked to rank order 20 different individuals and groups based on who they believed would be best at providing messages to firearm owners about secure firearm storage for suicide prevention. The list was adapted from previous studies (Anestis, Bond, et al., 2021; Bond et al., 2022; Crifasi et al., 2018). Participants ranked ordered the list from best (1) to worst (20). To build upon previous research, the present study included a made-up suicide prevention organization (American Suicide Prevention Association). Bond et al. (2022) found that the American Foundation for Suicide Prevention (AFSP) was ranked as a highly credible source among all subgroups of firearm owners. Given that all other prevention-based organizations were ranked low in that study, there were questions as to whether individuals ranked AFSP as credible because they perceive the organization itself as credible or if the fact that it specifically mentions "suicide prevention" in its name resulted in it being ranked highly, since firearm owners were asked to rank the sources they perceived as credible to discuss secure firearm storage for suicide prevention. This study will further examine this question by (1) examining the ranking of AFSP, and (2) comparing the ranking of AFSP with the fabricated suicide prevention organization that includes "suicide prevention" in its name.

Data analytic approach

Descriptive statistics were run to determine differences in the rankings of credible sources. Additionally, descriptive statistics were used to determine differences overall and based on self-identified race. Subsamples were identified

to examine differences in rankings. As a final step, predicted probabilities determined the likelihood that participants (accounting for race and sex) would rank specific groups (e.g., Law Enforcement Officers) as the most credible source (Table S2).

RESULTS

Total sample rankings

The total sample ranked service members, Veterans, and members of law enforcement as the most credible sources and faith leaders, casual acquaintances, and celebrities as the least credible (Table 1). Findings remained consistent when the sample was stratified by race for those who identified as white or 'Other'. However, participants who identified as Black ranked law enforcement, military Veterans, and the National Rifle Association (NRA) as the top three sources. Among individuals who identified as Native American/Alaskan Native, firearm manufacturers, service members, and Veterans were ranked as the top sources. Lastly, respondents who identified as Asian ranked family members, service members, and Veterans as the most credible sources.

Subsample rankings

Active-duty service members identified members of law enforcement as highly credible sources. Further, participants serving in the Navy and Air Force ranked family members as a highly credible source, and participants serving in the Coast Guard ranked the NRA in the top three (Table 2).

Differences in ratings were noted between Black males and females. Black males ranked the NRA as a highly credible source whereas Black females ranked the NRA as one of the least preferred. Black females ranked the American Suicide Prevention Association (a fictional suicide prevention organization), medical professionals, and the American Foundation for Suicide Prevention as highly credible sources (Table 3).

Predicted probabilities

Overall, those who identified as white had a significantly higher probability of ranking service members ($p < 0.05$) and Veterans ($p = 0.01$) as the most credible sources (29 and 31%, respectively) than all other racial groups (Table S2). Between female and male respondents, females had a 16% higher probability ($p = 0.01$) of ranking military

service members (38 vs. 22%) and males had a 7% higher probability of ranking the NSSF (11% vs. 4%) as the most credible sources; of note, the probability of ranking NSSF higher did not reach statistical significance ($p = 0.08$). See Table S3 for rurality and political differences in ranking of credible sources.

DISCUSSION

This study sought to extend research on credible messengers for secure firearm storage by examining who US service members deem credible. Overall, law enforcement, current military personnel, and military Veterans were ranked as highly credible sources. This is consistent with prior work, which has repeatedly shown these to be credible sources among firearm owners (Anestis et al., 2022; Anestis, Bond, et al., 2021; Bond et al., 2022; Crifasi et al., 2018). The consistency of these findings across numerous studies in conjunction with the present study, adds to the body of literature and suggests that leveraging these three voices in secure firearm storage messaging is necessary.

While those deemed credible by service members largely resembled those from prior studies conducted in civilian samples, several unique findings emerged. Specifically, when looking at differences across the military branches, the family emerged as the third-ranked for those in the Air Force and Navy, whereas the NRA was the third highest-ranked source for the Coast Guard. One reason for this finding may be the demographic differences across branches of the military. For example, in this study, the Navy had the greatest percentage of those who identified as Alaskan Native/American Indian and participants in the Air Force were more racially diverse. Therefore, it may be that in communities with a greater emphasis on family, family is viewed as a credible source due to systematic differences in social structure and community interactions. Indeed, rankings based on race indicated that those who identified as Alaskan Native/American Indian, Asian, or another race ranked family higher than those who identified as White. Within the Coast Guard, the NRA was among the top three credible sources. The sample size for this group was small ($n = 23$) and as such interpretations should be made with caution as this finding may be spurious. However, one explanation may be that the study participants who identified as members of the Coast Guard had the greatest percentage of individuals identifying as conservative (78.1% identified as highly or somewhat conservative). It may be that conservative individuals are more likely to perceive the NRA as credible. Although our data do not allow for a clear understanding of why this would be, it may be that conservative individuals—whether

TABLE 1 Full sample and racial differences in ranking of credible sources.

Source	Full sample	White	Black	Native American/ Alaskan native	Asian	Other
	<i>N</i> = 719	<i>n</i> = 515	<i>n</i> = 139	<i>n</i> = 35	<i>n</i> = 48	<i>n</i> = 39
	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)
Law Enforcement	2 (8.03, 5.89)	3 (7.72, 5.77)	1 (8.90, 6.30)	7 (10.30, 5.44)	11 (10.85, 5.77)	3 (7.53, 5.80)
Hunting and Outdoor Organizations	9 (10.55, 5.42)	7 (9.90, 5.20)	16 (11.57, 5.69)	6 (10.05, 5.39)	19 (12.00, 6.44)	15 (12.11, 4.96)
Military Veterans	1 (7.88, 5.56)	1 (7.29, 5.44)	2 (9.23, 5.48)	3 (7.53, 6.23)	3 (8.06, 4.71)	2 (7.48, 6.29)
Current Military Personnel	3 (8.21, 5.59)	2 (7.67, 5.495)	7 (9.88, 5.62)	2 (7.11, 5.33)	2 (7.83, 5.57)	1 (7.40, 5.98)
National Rifle Association	4 (9.63, 5.65)	5 (9.67, 5.744)	3 (9.43, 5.45)	11 (10.65, 4.73)	8 (10.52, 5.56)	4 (7.69, 4.94)
Firearm Manufacturers	6 (10.17, 5.46)	6 (9.79, 5.480)	13 (10.57, 5.14)	1 (7.10, 4.80)	12 (10.87, 5.11)	13 (11.26, 6.16)
Firearm Dealers	7 (10.31, 5.71)	8 (10.34, 5.714)	5 (9.53, 5.97)	5 (8.82, 5.07)	7 (10.41, 5.95)	6 (9.28, 4.54)
Family Members	4 (9.63, 5.81)	4 (9.47, 5.843)	17 (11.59, 5.35)	4 (8.62, 6.95)	1 (5.99, 5.32)	5 (8.98, 4.86)
Hunting and Outdoor Magazines	17 (11.20, 5.33)	16 (11.22, 5.179)	15 (11.55, 5.93)	14 (11.26, 3.42)	9 (10.71, 5.75)	11 (10.68, 4.40)
Casual Acquaintances	19 (13.01, 5.47)	19 (13.23, 5.286)	20 (12.41, 5.65)	12 (11.05, 7.12)	18 (11.94, 5.84)	17 (12.31, 5.28)
Friends or Coworkers	11 (10.63, 5.82)	9 (10.55, 5.825)	14 (10.62, 5.96)	10 (10.62, 6.15)	4 (10.03, 5.77)	7 (9.59, 4.62)
Gun Show Managers or Coordinators	13 (10.70, 5.38)	11 (10.70, 5.377)	6 (9.71, 5.32)	18 (12.29, 4.19)	5 (10.06, 4.078)	16 (12.15, 5.54)
Medical Professionals	16 (11.10, 5.43)	17 (11.32, 5.461)	10 (10.20, 4.74)	15 (11.58, 4.87)	20 (12.36, 4.86)	19 (12.95, 5.79)
Celebrities	20 (13.69, 6.01)	20 (14.23, 6.077)	19 (12.34, 5.54)	16 (11.82, 7.57)	16 (11.91, 6.80)	20 (15.06, 5.49)
Gun Violence Research Centers	10 (10.61, 5.71)	12 (10.79, 5.702)	9 (10.15, 5.97)	8 (10.37, 5.60)	17 (11.92, 5.18)	18 (12.53, 5.58)
National Shooting and Sports Foundation	8 (10.37, 5.40)	10 (10.56, 5.376)	4 (9.44, 5.26)	9 (10.52, 5.20)	10 (10.77, 5.88)	14 (11.52, 5.74)
American Foundation for Suicide Prevention	13 (10.70, 5.46)	13 (10.89, 5.417)	12 (10.38, 5.72)	19 (13.16, 5.00)	13 (10.97, 5.29)	8 (10.05, 6.02)
American Suicide Prevention Association	12 (10.67, 5.91)	15 (11.17, 5.665)	11 (10.29, 6.51)	17 (11.88, 5.70)	15 (11.52, 6.16)	10 (10.60, 6.53)
American Association of Suicidology	15 (10.81, 5.28)	14 (11.09, 5.035)	8 (10.00, 5.51)	20 (14.17, 5.08)	6 (10.25, 6.34)	9 (10.08, 5.40)
Faith Leaders	18 (12.08, 5.54)	18 (12.40, 5.270)	18 (12.18, 6.36)	13 (11.09, 5.32)	14 (11.04, 5.21)	12 (10.72, 4.84)

broadly supporters of the NRA or not—view the NRA as unlikely to promote secure firearm storage in a manner that threatens their Second Amendment rights. While there are several differences in ranking by branch, law enforcement, military members, and Veterans were highly ranked across branches. Specifically, law enforcement is ranked within the top three most credible sources by all branches, military personnel were ranked within the top three for all branches except the Navy, and Veterans were

ranked within the top three for all except the Air Force and Coast Guard. Even though there are several differences in terms of ranking, these consistencies provide a potential path forward. Specifically, messages created by law enforcement officers can be disseminated as a credible message to all. Additionally, messages delivered by military members can be disseminated to the Army, Air Force, Coast Guard, and Marines. Lastly, messages from Veterans should be provided to the Army, Navy, and Marines. This

TABLE 2 Active-duty branch differences in ranking of credible sources.

Source	Army	Navy	Marines	Air force	Coast guard
	<i>n</i> = 242	<i>n</i> = 97	<i>n</i> = 71	<i>n</i> = 107	<i>n</i> = 23
	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)
Law Enforcement	3 (8.81, 5.88)	2 (7.76, 4.90)	3 (7.53, 5.32)	1 (7.57, 5.79)	1 (5.20, 4.39)
Hunting and Outdoor Organizations	12 (10.47, 5.28)	10 (10.36, 5.55)	17 (12.02, 5.017)	17 (11.79, 4.95)	10 (9.56, 5.513)
Military Veterans	1 (7.87, 5.46)	1 (7.37, 5.08)	2 (7.15, 5.52)	5 (9.56, 5.99)	9 (8.94, 5.040)
Current Military Personnel	2 (8.07, 5.68)	6 (9.56, 5.00)	1 (6.78, 5.51)	2 (8.80, 5.54)	2 (5.95, 4.86)
National Rifle Association	6 (9.40, 5.60)	12 (10.66, 6.26)	5 (9.43, 5.014)	8 (9.69, 0.951)	3 (6.64, 2.959)
Firearm Manufacturers	4 (9.17, 5.11)	7 (9.57, 6.38)	18 (12.14, 5.67)	13 (11.26, 4.93)	16 (13.17, 3.84)
Firearm Dealers	7 (9.92, 6.08)	15 (11.70, 5.41)	6 (9.91, 5.90)	12 (11.17, 5.27)	6 (8.86, 5.63)
Family Members	5 (9.30, 5.97)	3 (8.81, 5.278)	8 (10.16, 5.92)	3 (8.85, 6.30)	7 (8.88, 5.10)
Hunting and Outdoor Magazines	13 (11.07, 5.22)	13 (11.09, 5.03)	12 (11.25, 5.7)	16 (11.43, 5.23)	5 (8.47, 3.83)
Casual Acquaintances	19 (12.74, 5.31)	20 (13.72, 4.79)	20 (13.75, 5.79)	20 (13.11, 5.58)	20 (15.74, 4.66)
Friends or Coworkers	11 (10.45, 5.64)	5 (9.11, 5.33)	4 (8.64, 6.12)	7 (9.60, 5.91)	11 (9.62, 6.62)
Gun Show Managers or Coordinators	10 (10.44, 5.24)	16 (11.88, 5.82)	13 (11.53, 4.24)	10 (10.66, 5.17)	8 (8.81, 4.95)
Medical Professionals	16 (11.45, 5.26)	8 (9.89, 6.05)	16 (11.83, 5.43)	14 (11.28, 5.27)	19 (15.27, 4.63)
Celebrities	20 (13.70, 6.39)	19 (13.10, 6.44)	19 (13.26, 6.64)	19 (12.65, 6.61)	14 (12.68, 7.87)
Gun Violence Research Centers	9 (10.42, 6.00)	3 (8.81, 5.94)	14 (11.66, 5.80)	18 (11.83, 5.17)	12 (11.21, 4.68)
National Shooting and Sports Foundation	8 (9.95, 5.11)	18 (12.37, 5.42)	10 (10.39, 5.99)	4 (8.96, 5.08)	4 (7.73, 4.43)
American Foundation for Suicide Prevention	17 (11.54, 5.65)	9 (10.25, 5.52)	7 (10.02, 4.28)	9 (9.81, 5.69)	13 (11.43, 4.29)
American Suicide Prevention Association	15 (11.34, 5.76)	14 (11.31, 5.69)	9 (10.29, 5.83)	6 (9.58, 6.33)	18 (14.75, 4.62)
American Association of Suicidology	14 (11.32, 5.15)	11 (10.59, 5.51)	11 (10.49, 5.18)	11 (11.10, 5.38)	15 (12.74, 4.46)
Faith Leaders	18 (12.54, 5.69)	17 (12.09, 5.27)	15 (11.80, 4.81)	15 (11.31, 5.92)	17 (14.34, 5.32)

Note: The sample was restricted to those who reported being an active-duty military service member during the time of the survey. Participants who indicated that they served in the reserve or national guard were not included in these analyses.

results in each branch having a minimum of two messages delivered by credible sources. Therefore, the selection of which message (e.g., law or military member) to provide which service members can be decided based on the demographic characteristics (e.g., race, sex) of the service member.

The present study also examined how the ranking of credible sources differed by race and found, while differences emerged, there were several consistencies. Specifically, those who identified as American Indian/Alaskan Native, Asian, or another race ranked family higher than those who identified as White. Interestingly, those who identified as American Indian/Alaskan Native and those who identified as Asian ranked military members and Veterans as highly credible sources but placed law enforcement as a middle-ranked source. One explanation for this finding may be that Asian and American Indian/Alaskan Native individuals do not rank law enforcement as a highly credible source because they do not view law enforcement as knowledgeable on secure

firearm storage. In line with this, research has found that the majority of firearm-owning law enforcement officers do not store their firearms securely (Bond et al., 2022). Another possibility is that law enforcement may not be seen as trusted members in these communities due to discriminatory policing. Lastly, only 1% of US law enforcement officers are Asian, and 21% identified their race as "other," which includes but is not limited to American Indian/Alaskan Native (DOJ, 2008). Therefore, Asian and American Indian/Alaskan Native individuals may not see themselves or their cultural values reflected within the law enforcement community, resulting in them not being perceived as a highly credible source. On the contrary, the Asian community is better represented within the US military (10%; PEW Research, 2019), and Asian and American Indian/Alaskan Native individuals who serve in the US military may see themselves and their values better reflected by current or former service members, and therefore see them as more credible to discuss secure firearm storage. This indicates that, for American Indian/Alaskan

TABLE 3 Differences by race and sex in ranking of credible sources.

Source	White		Black	
	Male	Female	Male	Female
	<i>n</i> = 420	<i>n</i> = 81	<i>n</i> = 101	<i>n</i> = 37
	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)	Ranking (<i>M</i> , <i>SD</i>)
Law Enforcement	3 (7.97, 5.81)	1 (6.42, 5.42)	1 (8.37, 6.46)	9 (10.34, 5.66)
Hunting and Outdoor Organizations	7 (9.94, 5.14)	6 (9.70, 5.57)	16 (12.12, 5.12)	6 (10.10, 6.86)
Military Veterans	1 (6.96, 5.16)	3 (9.00, 6.44)	2 (8.70, 5.44)	13 (10.67, 5.41)
Current Military Personnel	2 (7.91, 5.47)	2 (6.47, 5.50)	7 (9.66, 5.62)	10 (10.47, 5.65)
National Rifle Association	5 (9.51, 5.75)	9 (10.51, 5.68)	3 (8.50, 5.07)	18 (11.97, 5.70)
Firearm Manufacturers	6 (9.63, 5.57)	11 (10.63, 4.94)	8 (9.87, 4.86)	20 (12.48, 5.45)
Firearm Dealers	9 (10.51, 5.80)	5 (9.49, 5.23)	6 (9.31, 6.20)	7 (10.13, 5.32)
Family Members	4 (9.25, 5.80)	10 (10.60, 5.96)	15 (11.67, 4.76)	17 (11.37, 6.77)
Hunting and Outdoor Magazines	14 (11.04, 5.10)	17 (12.18, 5.489)	17 (12.13, 5.90)	5 (9.97, 5.77)
Casual Acquaintances	19 (13.40, 5.32)	18 (12.35, 5.06)	20 (12.81, 5.62)	16 (11.33, 5.69)
Friends or Coworkers	8 (10.29, 5.78)	16 (1.90, 5.92)	11 (10.66, 5.92)	11 (10.49, 6.13)
Gun Show Managers or Coordinators	11 (10.82, 5.45)	8 (10.08, 4.96)	5 (9.19, 5.19)	15 (11.13, 5.51)
Medical Professionals	17 (11.40, 5.38)	13 (10.92, 5.87)	12 (10.74, 4.68)	2 (8.73, 4.63)
Celebrities	20 (14.26, 6.21)	20 (14.08, 5.36)	18 (12.33, 5.48)	19 (12.37, 5.76)
Gun Violence Research Centers	13 (10.99, 5.69)	7 (9.78, 5.70)	9 (10.10, 6.29)	8 (10.29, 5.09)
National Shooting and Sports Foundation	10 (10.79, 5.50)	4 (9.36, 4.55)	4 (9.04, 5.26)	12 (10.53, 5.19)
American Foundation for Suicide Prevention	12 (10.89, 5.38)	12 (10.88, 5.64)	13 (10.79, 5.83)	3 (9.27, 5.32)
American Suicide Prevention Association	16 (11.11, 5.56)	15 (11.45, 6.22)	14 (11.14, 6.42)	1 (8.00, 6.28)
American Association of Suicidology	15 (11.07, 5.05)	14 (11.20, 4.97)	10 (10.20, 5.55)	4 (9.45, 5.42)
Faith Leaders	18 (12.29, 5.29)	19 (12.98, 5.16)	19 (12.64, 6.25)	14 (10.93, 6.59)

Native and Asian military service members, hearing from others who are or have served in the US Armed Forces may help to increase secure firearm storage. Consistent with prior research, rankings from those who identify as White, Black, and Other resemble the rankings from the total sample, with law enforcement, military members, and Veterans being ranked as highly credible (Anestis, Bond, et al., 2021; Anestis, Bryan, et al., 2021). Based on these findings, secure storage messages presented by military members and Veterans may have the greatest ability to be seen as credible by many different racial subgroups of service members.

Additionally, we examined how various intersections of identity are associated with perceptions of credible messengers. Prior research has relied upon univariate examinations of identity characteristics in considering perceptions of credibility, thereby precluding any understanding of how combinations of identity may influence such results. There are a limitless number of combinations of identified factors we could have considered; however, given our sample size and the distribution of demographics, we made selections that best facilitated ready interpretation. When examining

race and sex together, results for White males and females were consistent with prior research, as law enforcement, military Veterans, and current military personnel were the top three sources. However, several differences emerged when examining Black males and females. Black males ranked the NRA among the top sources, which is unique, and as such replication is necessary. However, it is important to note that law enforcement and Veterans were ranked as a highly credible source by Black males. This finding offers further support that creating messages with law enforcement and Veterans would provide highly credible messages that resonate with Black male military members. Even more surprising were the top three rankings among Black women (American Suicide Prevention Association, medical professionals, American Foundation for Suicide Prevention). Given the sample size ($n=37$), this finding should be interpreted with caution. It may be that Black females weigh perceived knowledge of suicide prevention as vital for those who should be messengers on firearm storage. The high ranking of the made-up suicide prevention organization may highlight that Black women are looking to suicide prevention sources for information regarding

secure firearm storage. However, it can be difficult to know what sources and messages are legitimate. Therefore, legitimate suicide prevention sources should work directly with the Black community to provide resources, build trust, and counter misinformation. Black female service members also ranked law enforcement, current military personnel, and military Veterans quite low (9th, 10th, & 13th) relative to their ranking across prior research. For Black females, the experience of racist policing practices (Chaney & Robertson, 2013), and the combination of racism (Coughlin, 2021) and sexism (Sexual Harassment and Gender Discrimination in the Active-Component Army: Variation in Most Serious Event Characteristics by Gender and Installation Risk/RAND, n.d.) they experience in the military may be driving them to rank these sources much lower than other samples. Findings from this study deviate from prior research, which indicated that family was among the top three sources for Black Americans (Anestis, Bond, et al., 2021) This difference may suggest that Black service members view sources for this information differently than Black civilians. Given these results, it is important to replicate the findings among Black Women. Additionally, leveraging the voices of AFSP and physicians may help to ensure the message on secure storage for suicide prevention resonates with Black female service members.

Lastly, we leveraged predicted probabilities to clarify the extent to which certain characteristics were associated with greater odds of listing specific groups as the ideal messenger on firearm storage. These results further highlight that demographic characteristics are not only related to people's top three choices in discussions around secure firearm storage, but also who they believe to be the ideal person in this position. Individuals who identified as White were 16% more likely to rank military members as the top source and 13% more likely to rank military Veterans as the top source, relative to those who identified as another race. Experiences of racism are not uncommon in the military (Coughlin, 2021), and such experiences may prompt those who do not identify as White to not rank military members and Veterans as the ideal source. Males were 16% more likely to rank military members as a top source and 7% more likely to rank the NSSF as a top source relative to females. For females, experiences of sexism in the military may lead to them ranking military members as the top source less often than males. Regarding their preference for the NSSF, although there are no specific demographic characteristics available, much of the marketing on the NSSF website features males. Therefore, it may be that males are more likely to interact with this group and this drives them to rank the NSSF as the top source more often than females. Alternatively, if participants were not aware of who the NSSF is, a greater propensity for males to take part in shooting sports may simply drive them to

rank an organization with the phrase "shooting sports" in their name as more credible. Taken overall, these findings highlight notable differences in who is deemed to be the ideal source in conversations on firearm safety and such information may be important in the selection of who should deliver such information.

Overall, medical professionals were not ranked as highly credible sources to discuss secure firearm storage for suicide prevention among most subsamples. Therefore, although well-intentioned medical doctors may want to be cautious when making broad public health statements about safe gun storage given these findings. However, providers should continue to screen for firearm access and engage in lethal means counseling with patients. The present study did not specifically ask about one-on-one secure firearm storage questions; therefore, it may be that while medical professionals are not viewed as credible sources to discuss secure storage in a large public health campaign, they may be seen as credible by their individual patients. Providers play an important role in assessing for suicide risk, access to firearms, and working with their clients to increase secure firearm storage during a time of crisis.

Findings are not without limitations. First, the sample sizes for many of the subgroups were small and the results require cautious interpretation. Future research needs to examine these associations with larger samples to determine if the results remain consistent. Second, while we sought to examine the intersections of various characteristics, these groups are not comprehensive. For example, the intersection of race and rurality is likely an important consideration as would be the intersection of race, sex, and branch of service. As such further research is needed on the way intersectionalities may influence perceived credibility. Third, while these findings note who service members deem to be credible, it is unknown if using credible sources is more likely to lead to actual behavior change. More research is needed to examine how messengers can be used to facilitate secure storage. Lastly, the analyses used in the present study did not include tests of significance and were limited in their ability to compare sub-populations of firearm owners. Future research that examines sub-populations would provide a notable contribution to the literature.

This study highlights the need for more tailored secure storage messaging. As highlighted through the findings, there are several consistencies in terms of credibility among different subgroups of service members. Specifically, leveraging the voices of law enforcement, military members, and Veterans will ensure that all races, sexes, and branches of military service members can be provided secure firearm storage messages from credible sources. Therefore, developing these secure storage messages will ensure that they resonate with different

subgroups of firearm owners, and speak to their unique needs and experiences is critical for increasing secure firearm storage and reducing firearm suicide rates.

CONFLICT OF INTEREST STATEMENT

The authors have no conflicts of interest to disclose.

DATA AVAILABILITY STATEMENT

Data may be made available upon reasonable request to the corresponding author.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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