



Portrayals of gun violence victimization and public support for firearm policies: an experimental analysis

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Abstract

Objectives This study examines how characteristics of victims and types of incidents described in a media account of gun violence affect public support for three categories of policies that regulate firearms.

Methods A randomized experiment with a sample of US public ($N=3410$).

Results Victim race, particularly if the victim was Black, was a strong predictor of less public support for all tested categories of firearm regulation. Respondents were less supportive of policies to address gun suicide or accidents and more supportive of policy solutions to mass shootings, compared to street-level gun homicides. Depictions of victim gender, mental illness, prior incarceration, and age were less salient to support across categories of firearm regulation, compared to race and type of incident.

Conclusions Media coverage of gun violence has heterogenous effects on public support for firearm regulation and may influence support for policies aimed at reducing specific types of gun violence.

Keywords Firearm policy · Gun violence · Victims · Public attitudes · Experiment

Introduction

Gun violence is a pressing social problem and one of the most divisive political issues in the USA. Its human toll is massive: firearm injuries are a leading cause of death in the USA, accounting for approximately 35,000 deaths each year (Goldstick et al., 2019; Kochanek et al., 2016) and more than 120,000 injuries that affect

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individual and community health (Kaufman et al., 2020; Lee, 2012; Rich, 2009; Semenza & Stansfield, 2021a, b; Sharkey, 2010). Public attitudes toward firearm regulation are influenced by diverse factors including fear of crime, cultural worldview, religious affiliation, political ideology, and racial prejudice (e.g., Carlson, 2015; Filindra & Kaplan, 2017; Merino, 2018; Newman & Hartman, 2019; Semet & Ansolabehere, 2011). A robust understanding of the factors that influence public support for firearm regulation is critical for establishing a politically viable approach to reducing gun violence.

Support for gun violence reduction policies is also informed by media that selectively covers different types of gun violence. For instance, media coverage typically focuses heavily on the rarest types of gun violence—mass shootings—while giving less attention to far more common forms of gun violence, such as firearm suicides (Drexler, 2016). Gender and racial stereotypes perpetuated by media outlets that portray victims as typically White and female, compared to perpetrators as Black and male, may also influence opinions on firearm policies (Carlson, 2015, 2020; White et al., 2021). Such coverage, in conjunction with individual political and cultural considerations, shapes public attitudes and the political wherewithal to enact policies to reduce gun violence (McGinty et al., 2013).

Research on public attitudes toward firearm policies, however, remains limited in at least two ways. First, research on media coverage of crime tends to focus on particular narratives or framings of gun violence without connecting the content of this coverage to public attitudes on firearm policy (McGinty et al., 2014, 2016; Schildkraut et al., 2018). Second, the research that does investigate public attitudes toward gun policies with respect to media framing often restricts its focus to exceedingly rare mass or school shootings (Guo et al., 2021; Jose et al., 2021; Semenza & Bernau, 2022), ignoring more common types of shootings such as suicides, accidents, and street-level homicides. This same focus on mass shootings is present in prior experimental research on gun violence and public attitudes (Kantack & Paschall, 2020; Schutten et al., 2020). To date, no experimental research considers how victim portrayal and types of shooting incidents influence support for different types of firearm policies.

In order to investigate this issue, we employ a randomized survey experiment with a sample of the US public to examine how gun violence type (e.g., street crime, suicide, accident, or mass shooting) and victim characteristics affect public support for various categories of firearm policies. Following a review of the literature and a description of our experimental design, we detail results that show the type of gun violence and the race of the victim portrayed in media accounts substantially influence support for firearm policies. We conclude with a consideration of these findings for mobilizing support for firearm regulation to reduce gun violence in the USA.

Selective framing of gun violence in media

Media portrayals of crime and violence rely on framing devices to enable broad audiences to quickly understand the core information of a given story (Castells, 2013; Goffman, 1974). Typically, the framing process requires combining information into

“interpretive packages” that allow readers or watchers to quickly identify a problem, place blame for that problem, and then draw conclusions about how to address it (Baranauskas & Drakulich, 2018; Gamson & Modigliani, 1989). This process can, however, lead to information distortion that misrepresents empirical reality. Such is the case in coverage of crime and crime victims. For instance, Black suspects are less likely to have their names shown or shared alongside facial images (Oliver, 2003), and reporting frequently implies a lack of innocence or morality on the behalf of Black victims (Parham-Payne, 2014). Conversely, news media and popular media overrepresent Whites—especially women—as victims of violent crime (Britto et al., 2007; Dixon et al., 2003; Parrott & Parrott, 2015). White women also receive more sympathetic media portrayals than Black and Latina female victims (Slakoff & Brennan, 2020), and women of color who are reported missing garner less media attention than their White counterparts (Conlin & Davie, 2015; Slakoff, 2020; Slakoff & Fradella, 2019).

Framing distortions of race and gender also occur in media coverage of gun violence. In coverage of mass shootings, for example, events with higher casualties and perpetrators that are young, ideologically motivated, and Middle Eastern receive far more coverage than other shootings (Silva & Capellan, 2019). White men are also more commonly framed as sympathetic characters, whereas Black and Latino men are cast as inherently violent (Duxbury et al., 2018). Early research on media coverage of homicides (most of which are committed with firearms) found that White female victims received significantly more coverage than minority victims (Pritchard & Hughes, 1997; Weiss & Chermak, 1998). White et al. (2021) confirmed this racialized pattern in Chicago, finding that recent media coverage on homicides in Chicago—90% of which were committed with a firearm—focused more on homicide victims in White neighborhood than those in Black ones. When minority victims were covered, they were less likely than White victims to be discussed as multifaceted, complex people.

Media framing also influences which types of shootings receive coverage in the first place. News media covers mass shootings more often than other types of gun violence, including accidents, suicides, and street-level homicides that disproportionately take place in disadvantaged communities of color (Meindl & Ivy, 2017). Stories of mass shootings, committed most often by non-Hispanic white men in the USA (Fox et al., 2021; Smart & Schell, 2021), are regularly connected by the media to mental illness, firearms access, terrorism, and the influence of violent entertainment (Silva, 2021). In contrast, news media often ignores incidents of gun violence involving Black men altogether (Mingus & Zopf, 2010; Parham-Payne, 2014; Weiss & Chermak, 1998). In a comparative case study of rural and urban school shootings, for example, rural school shootings involving White perpetrators and victims received more news coverage overall and focused on sympathetic portrayals of the victims. In contrast, urban incidents, which involved Black perpetrators and victims, focused on accountability and punishment (Menifield et al., 2001).

From framing to policy support: victim race, gender, and type of shooting incident

The selective framing of gun violence is especially important considering research showing that media coverage affects public support for crime-related policies. For instance, consumption of news and entertainment media about crime predicts support for punitive criminal justice policies, sentencing decisions, and perceptions of the criminal justice system's effectiveness (Roche et al., 2016; Britto & Noga-Styron, 2014; Grabe & Drew, 2007). Similarly, the media's framing of gun violence can shape individuals' support for firearm policies (Guo et al., 2021). Experimental research has shown that exposure to news stories of mass shootings predicts support for a ban on large-capacity magazines, restricted firearm access for people with severe mental illness, and universal background checks (Jose et al., 2021; McGinty et al., 2013). Viewing crime shows is associated with opposition to firearm policies and the belief that firearms prevent crime (Dowler, 2002), while exposure to media critical of gun violence increases support for firearm policies (Robbers, 2005).

Unfortunately, existing research provides limited insight into how gun violence incidents that vary along characteristics, such as shooting type or victim demographics, might differentially affect support for firearm policy. Since a victim's race and gender can shape their portrayal as sympathetic or worthy of protection (Peelo et al., 2004; Slakoff, 2020), variations in these characteristics of gun violence victims could plausibly affect support for firearm policies as means of reducing gun violence with varying types of victims. Although there has been little research regarding how the race of gun violence victims influence public policy support, prior research demonstrates that racial resentment and racist ideologies predict opposition to firearm regulation (Filindra & Kaplan, 2016, 2017; O'Brien et al., 2013) and support of politicians opposed to stronger firearm regulations (Schutten et al., 2022). Relatedly, news stories involving Black victims, and specifically Black men, are often deemed to be "routine" or less important as compared to stories involving White victims or women (Hemenway & Nelson, 2020; Mingus & Zopf, 2010; Weiss & Chermak, 1998). Members of the public may therefore be less willing or able to connect with Black and male victims and, resultantly, be less likely to feel strongly about addressing violence for these victims through strengthened firearm policies (Bjornstrom et al., 2010; Eschholz et al., 2003; Pritchard & Hughes, 1997).

Media coverage of gun violence victims may also differentially affect firearm policy support based on the type of incident being covered (Chiricos & Eschholz, 2002). For instance, the marathon coverage of mass and school shootings in news media could lead to increased threat salience for viewers, signaling that these types of shootings can happen anytime to anyone, despite the fact that they are exceedingly rare events (Newman & Hartman, 2019; Semenza & Bernau, 2022). Since mass shootings are far more likely to be covered in the news and are often accompanied by discussions of firearm regulation (Jashinsky et al., 2017), exposure to coverage of these incidents may lead more people to consider supporting particular policies.

Compared to mass shootings, street-level homicides may be perceived as “everyday” acts of violence that happen to “other people” in disadvantaged places and, therefore, not considered applicable to the lives of typical viewers or particularly relevant for revising firearm policy. On the other hand, these shootings may trigger greater threat salience if shooting victims are Black and framed as a threat to larger society (Parham-Payne, 2014). Similarly, suicides may be viewed as tragic incidents that happen to others but are not likely to happen to viewers themselves, even though these represent the most common type of gun violence (Kochanek et al., 2016). Indeed, since most suicides are not reported by the media save for particularly sensational or celebrity-related suicides (Sisak & Varnik, 2012), these incidents may be less salient for viewers when considering support for firearm policies. Likewise, reporting of firearm accidents often focus on unintentional child firearm injuries in the home and frequently do not report on gun ownership or criminal charges against owners (Faulkenberry & Schaechter, 2015). This may render accidental shootings less salient for viewers when it comes to policy considerations to reduce gun violence than other types of shootings.

Additional considerations for victim depictions and firearm regulation

We anticipate that depictions of victim race and gender, as well as the type of shooting incident, are likely salient factors in influencing public support for firearm policies. However, there are likely additional considerations related to the portrayal of victims’ mental health, previous criminal justice contact, and age that may influence public support for firearm regulation. First, evidence suggests that the portrayal of mental illness can influence public opinion on firearm restrictions (McGinty et al., 2013). Mental illness is viewed by the public as one of the primary causes of interpersonal violence, especially in instances of mass shootings, even though mental illness plays a limited causal role in most such shootings (Fox & Fridel, 2016; Skeem & Mulvey, 2020). In fact, people with severe mental illness are far more likely to be the victims of interpersonal violence, rather than the perpetrators (Teplin et al., 2005; Thornicroft, 2020).

Yet, the public may interpret instances of violence differently depending on whether a victim has a mental illness. Although media portrayals often depict people with mental illness as violent perpetrators, research shows the victims of violent crime who have a mental illness are frequently portrayed as especially vulnerable, helpless, or child-like (Frankham, 2020; Olstead, 2002). As such, people may be more likely to support firearm restrictions that protect people with mental illness from becoming victims if they are seen as especially defenseless or unable to protect themselves. On the other hand, the portrayal of a victim’s mental illness may not adequately influence public perceptions of crime victims and resultant policy opinions if mental illness is conflated with violent behavior and, therefore, the perception that individuals with mental illness somehow “deserve” to be victimized (Frankham, 2020). Therefore, stigmatization toward psychiatric diagnoses, which is commonly observed in the USA (Pescosolido, 2013), may render a victim’s mental

illness as less salient to public support for firearm policies compared to other victim characteristics discussed above.

Beyond mental illness, factors such as prior criminal justice contact or incarceration may also shape how the public perceives victims of gun violence and support for stricter firearm regulation. For instance, individuals who have prior contact with the criminal justice system (e.g., arrest or incarceration) may be seen as less worthy of sympathy or protection despite their victimized status (Rade et al., 2016). In this case, the public may not support stronger firearm regulations because the victims are perceived as “bad guys,” while stronger firearm regulation is supposed to protect “good guys.” Indeed, this kind of binary thinking related to “good guys” versus “bad guys,” especially when it comes to the use of firearms, has been demonstrated especially among gun owners and those who support reduced firearm regulation (Carlson, 2015; Stroud, 2012).

Finally, the age of a victim of gun violence may affect how people perceive the need for stricter firearm regulation. For instance, children or adolescents may be perceived as more innocent and worthy of saving than adults, especially in instances of mass shootings that take place in schools (Semenza & Bernau, 2022). Merry (2018) demonstrates that both gun control and gun rights organizations often focus their policy narratives on younger victims, albeit with different political messaging, to reinforce support for particular firearm policies. As such, people may support firearm regulation in response to the news of child or juvenile victims but be less willing to support the same changes to regulation when victims are portrayed as adults. The depicted age of victims may be especially salient for how people consider firearm policies that regulate gun carrying, storage, and usage rather than regulations at the point of purchase since federal law requires people be at least 18 years old to buy a rifle or shotgun and 21 years old to purchase any other firearm including handguns (Bureau of Alcohol, Tobacco, Firearms, and Explosives, 2022). Since these additional factors may all shape how people perceive victims of gun violence and respond with support for various firearm policies, it is critical to consider these aspects alongside the victim’s race and gender, as well as the type of shooting incident.

Current study

Insight into public support for firearm regulation at the national level can offer a road map for policy makers attempting to navigate the contentious gun policy environment (Barry et al., 2019; Burstein, 2003). To that end, this study seeks to generate a better understanding of the factors that influence support for firearm policies, with particular attention to gun violence victim characteristics and the particular type of gun violence under consideration. We employ a randomized experiment using vignettes to test the effect of gun violence framing on public support for firearm policy. We examine a range of gun violence types, including street-crime, accidents, suicide, and mass shootings, to ascertain how the type of gun violence framed affects public support for various categories of policies. Additionally, we assess how support for firearm policies varies based on selectively framed demographic

characteristics of gun violence victims. Thus, based on the above framework, we offer the following hypotheses to guide our analysis:

H1: Respondents exposed to vignettes with male victims of gun violence will be less likely to support firearm regulation policies than those exposed to vignettes portraying female victims.

H2: Respondents exposed to vignettes with gun violence victims of color (Black, Hispanic, Asian) will be less likely to support firearm regulation policies than those exposed to vignettes portraying White victims.

H3: Respondents exposed to vignettes depicting mass shootings will be more likely to support firearm regulation policies than those exposed to vignettes portraying street-level homicides.

H4: Respondents exposed to vignettes depicting suicides and accidental shootings will be less likely to support firearm regulation policies than those exposed to vignettes portraying street-level homicides.

H5: Respondents exposed to vignettes depicting victims with mental illness will be more likely to support firearm regulation policies than those exposed to vignettes portraying victims without mental illness.

H6: Respondents exposed to vignettes depicting victims who have been previously incarcerated will be less likely to support firearm regulation policies than those exposed to vignettes portraying victims who have not been previously incarcerated.

H7: Respondents exposed to vignettes depicting adult victims will be less likely to support firearm regulation policies than those exposed to vignettes portraying juvenile victims.

Method

Participants

This study draws on a national quota sample of US adults (age 18 and above) demographically balanced on marginal distributions of gender, race, education, and geographic region based on census percentages in the USA as requested from the opt-in survey company Qualtrics Panel. Given the number of independent variables in the current study, the additional manipulations utilized in the vignettes for a larger inquiry, and the desire to detect small effects ($f=0.10$) while minimizing error and maximizing confidence in statistical estimates ($\alpha=0.01$, $\text{power}=0.95$), an a priori power analysis indicated that a sample of at least 3330 respondents was needed for sufficient power for the current study.

Complete or partial responses were collected from 3922 individuals; a total of 512 participants were eliminated from data collection because they failed to complete the survey, correctly answer embedded honesty and attention check items or failed a manipulation check on the content of the survey. Participants who failed these items were not allowed to complete the full survey and were eliminated from the study during collection. Ultimately, Qualtrics Panel collected complete responses

from 3410 participants. All participants were paid by Qualtrics Panel (compensation per completed survey was US \$4.42).

Study procedure and design

This study utilized a fully crossed, randomized experiment with contrastive vignettes (Alferes, 2012) to test how unique combinations of characteristics of gun violence and its victims affect public support for three unique categories of gun policies. Completion time for the online survey experiment was approximately 25 min. An honesty and attention check, as well as a manipulation assessment, were included in the survey experiment to maximize data quality. We pretested the vignettes before data were collected in a pilot study of about 50 participants, which was conducted to ensure readability and that there were no discrepancies with data quality.

All participants were first asked to provide informed consent. Basic demographics, including age (continuous variable), race (five categories: White non-Hispanic, Black/African American, White Hispanic, Asian, Other), gender (two categories: male, female), geographic location (four categories: South, West, Midwest, Northeast), and education (seven categories (high school graduate or less; some college; Associate's degree; Bachelor's degree; Master's degree; Doctoral degree; Professional degree (J.D., M.D.)), were collected at the beginning of the survey to screen participants for representativeness quotas.

Next, participants were told they would read a short article. They were then presented with a fictional newspaper article, visually formatted as an *Associated Press* article that stated that the Metropolitan Police has released a statement on an incident of gun violence which occurred the previous day. The newspaper article vignette indicated that, according to police, a specific individual had been shot and killed as a victim of an act of gun violence. Additional materials regarding the full text of the vignettes are found in this study's Supplemental Material.

Independent variables

Different aspects of the victim's demographics and the type of gun violence incident were manipulated across vignettes. This resulted in a $2 \times 4 \times 4 \times 3 \times 2 \times 2$, fully crossed experimental design, representing the six independent variables in this research:

1. Victim gender (2): male = 0, female = 1
2. Victim race (4): White = 1, Black = 2, Latino = 3, Asian = 4
3. Type of gun violence incident in which the person was victimized (4): street-level homicide = 1, mass shooting = 2, suicide = 3, accident = 4
4. Age of the victim (3): juvenile/16-years-old = 1, younger adult/23-years-old = 2, older adult/60-years-old = 3
5. Mental illness of the victim (2): article does not mention that the victim has a mental illness = 0, article mentions that the victim has a mental illness = 1

6. Previous incarceration of the victim (2): article does not mention that the victim was previously incarcerated = 0, article mentions that the victim was previously incarcerated = 1.

Outcome variables

All participants were presented with the names and descriptions of twelve firearm policies implemented across various jurisdictions in the USA (Morrall et al., 2018). Regardless of the vignette manipulations, participants were asked to rate each policy on a scale from 0 (not at all supportive) to 100 (completely supportive) to indicate how much they supported each as an effective way to reduce the incidence of gun violence described in their newspaper article. To ensure that participants read the description of the policies, each policy was presented on a separate page with a forced timer that prevented participants from moving on to the next page in the survey before thirty seconds. Descriptions provided for each policy were directly patterned from RAND's *Gun Policy in America* report (Morrall et al., 2018) (see Supplemental Material).

Morrall et al. (2018) indicates that the twelve individual policies encompass the following three major categories of firearm policies important to policy debates across the USA: (1) policies that restrict who may legally own, purchase, or possess firearms; (2) policies that regulate firearm sales and transfers; and (3) policies that regulate the legal use, storage, or carrying of firearms. As such, participants' ratings of twelve different individual firearm policies were used to create three, multi-item-averaged composite scores for each of these three firearm policy categories. We performed a factor analysis that supported the division of these twelve policies into the three composite categories detailed below and described by Morrall et al. (2018). The results of this analysis are available upon request. Thus, this study examined three main outcome variables:

1. Support for firearm policies that regulate who may legally own, purchase, or possess firearms (4 items; Cronbach's alpha = 0.82): participants' ratings of support for background checks, prohibitions associated with mental illness, minimum age requirements, and surrender of firearms by prohibited possessors.
2. Support for firearm policies that regulate firearm sales and transfers (5 items; Cronbach's alpha = 0.88): participants' ratings of support for bans on the sale of assault weapons and high-capacity magazines, lost or stolen firearm reporting requirements, licensing and permitting requirements firearm, sales reporting and recording requirements, and waiting periods.
3. Support for firearm policies that regulate legal use, storage, or carrying of firearms (3 items; Cronbach's alpha = 0.83): Ratings of restrictions on concealed carry laws, child-access prevention laws, and gun-free zones.

Detailed demographic variables

In addition to the collection of participants' basic demographics at the beginning of the survey, they were also given an extended demographic questionnaire based on other variables known to be connected to support for firearm regulation, so we

could also potentially control for these in our models. These included military service (current or previous military service = 1, no military service = 0); Protestantism (identified as Protestant = 1, did not identify as Protestant = 0); political ideology (continuous from extremely liberal (0) to extremely conservative (7)); whether the respondent or a loved one has been victim of a violent crime (yes = 1, no = 0); community type (urban = 1, suburban = 2, rural = 3); whether the respondent believes guns make things safer in relation to crime control (yes = 1, no = 0), suspicion of the government as untrustworthy/ineffective (average of four measures; $\alpha = 0.887$, see Table 1); and income (thirteen groups; available upon request).

In order to assess participants' ownership, use, and experiences with guns, participants were asked selected items from the 2015 National Firearms Survey (see Azrael et al., 2017). Participants were asked about their gun ownership and use including: whether they owned one or more handguns (yes = 1, no = 0), if they owned one or more long guns (yes = 1, no = 0), if they or someone they know have ever used a gun in self-defense (yes = 1, no = 0) and NRA membership (yes = 1, no = 0).

Analysis plan

We examined how victim demographics and the type of gun violence (five independent variables: gender of victim, race of victim, age of victim, whether the victim had a mental illness, whether the victim had been previous incarcerated, and type of gun violence) affect public support for three categories of firearm policies (three continuous outcome measures) using ordinary least square (OLS) regression models. After checking that data met the assumptions of OLS, we estimated main and interaction effects of the vignette manipulations using linear regression models that regressed support for each outcome variable on the independent variables. This approach resulted in three models, one for each category of firearm policy. Based on our hypotheses, we used White, female, juvenile, no mental illness, no previous incarceration, and street-level homicides, respectively, as reference categories in all three models.

As general support for gun policy is often affected by a variety of individuals' demographic characteristics and their ownership, use, and experiences with guns, we also ran all models with the demographic control variables mentioned above that have been previously associated with predicting public support for gun policies. In these models, income and education were not included as controls in the same models because they were strongly correlated ($r = 0.81$). Since education has been found to be a more salient predictor of gun policy support than income (Kleck et al., 2009; Wolpert & Gimpel, 1998), only education was included as a control in these models, while all other control variables were statistically distinct from each other (bivariate correlations of control variables are also available upon request). None of the main or interaction effects of these models changed significantly when run with these controls. As such, the most parsimonious models, without control variables, are presented here in tabular form and in the text. Models run with all control variables are available in the study's Supplemental Material.

Table 1 Sample demographic (N = 3410)

Age	Min: 18 years old, Max: 100 years old	M = 43.60 (SD = 18.18)
Gender	Male	48.74% (N = 1,662)
	Female	51.06% (N = 1,748)
Education	High school graduate or less	34.20% (N = 1,166)
	Some college	26.83% (N = 915)
	Associate degree in college (2 years)	9.94% (N = 339)
	Bachelor's degree in college (4 years)	16.57% (N = 565)
	Master's degree	8.97% (N = 306)
	Doctoral degree	1.73% (N = 59)
	Professional degree (JD, MD)	1.76% (N = 60)
Race	White non-Hispanic	60.37% (N = 2,058)
	Black or African American	12.32% (N = 420)
	Hispanic	18.16% (N = 619)
	Asian	5.84% (N = 199)
	Other	3.31% (N = 113)
	South	37.46% (N = 1,277)
	West	21.85% (N = 745)
	Midwest	22.21% (N = 757)
	Northeast	18.48% (N = 630)
	Urban	30.15% (N = 1,028)
Community type	Suburban	50.00% (N = 1,705)
	Rural	19.85% (N = 677)
	Current or past military service	11.99% (N = 409)
Military service	No military service	88.01% (N = 3,001)
	Yes	12.84% (N = 438)
Identifies as protestant	Yes	87.16% (N = 2,972)
	No	

Table 1 (continued)

If respondent or loved one has been a victim of a violent crime	Yes	16.69% (N=569)
	No	83.31% (N=2,841)
Belief that guns make things safer	Yes	35.13% (N=1,198)
	No	64.87% (N=2,212)
Suspicion toward government as untrustworthy/ineffective from 1 (disagree) to 100 (agree)	1. People in government are too often interested in looking after themselves	Four Item Average: M = 71.46 (SD = 21.55)
	2. A lot of politicians are corrupt	
	3. Government is run by a few big interests who look after their own interests	
	4. We generally cannot trust politicians	
Political ideology	Rated from extremely liberal (0) to extremely conservative (7)	M = 3.92 (SD = 1.86)
Type of gun owned personally	Handgun	29.71% (N=1,013)
	Long gun	18.50% (N=631)
	Yes	7.54% (N=257)
If respondent has or knows someone who has used a gun for defense in the past	No	92.46% (N=3,153)
NRA member	Yes	8.45% (N=288)
	No	91.55% (N=3,122)

Results

Demographic and descriptive results

A total sample of 3410 respondents completed the study. Descriptive information on the sample's demographics and all control variables included in models are shown in Table 1. Analyses revealed no significant demographic differences across vignette conditions. Descriptive statistics for participant support for the three categories of firearm regulation policies across the models' reference categories are found in Table 2.

Main results

Effects for the independent variables and control variables (both standardized and unstandardized regression coefficients, standard errors, p -values), as well as model statistics, are shown in Table 3 for each of the three policy outcomes. Interaction effects for the independent variables on outcomes measures were also examined for each model. There were no significant interaction effects of the independent variables observed for any outcome measure. Due to space limitations and the number of possible interactions, non-significant interaction effects are not reported but are available upon request.

Model 1 shows the effects of the victim's gender, race, age, mental illness, previous incarceration, and type of gun violence on participants' support for firearm policies that regulate who may legally own, purchase, or possess firearms. We found no significant association between victim gender and support for these firearm policies ($b = -1.45$, $SE = 0.95$, $B = -0.026$, $t = -1.52$, $p = 0.126$). There was significantly increased participant support for firearm policies that regulate who may legally own, purchase, or possess firearms when the victim was killed in a mass shooting ($b = 2.89$, $SE = 1.35$, $B = 0.045$, $t = 2.14$, $p = 0.033$), compared to a street-level homicide. There was significantly decreased participant support for firearm policies that regulate who may legally own, purchase, or possess firearms when the victim was identified as Black ($b = -2.86$, $SE = 1.32$, $B = -0.045$, $t = -2.17$, $p = 0.028$) or Hispanic ($b = -2.38$, $SE = 1.33$, $B = -0.040$, $t = -1.79$, $p = 0.046$), compared to White victims.

Model 2 shows the effects of the victim's gender, race, age, mental illness, previous incarceration, and type of gun violence on participants' support for firearm policies that regulate firearm sales and transfers. As in model 1, we found no significant relationship between victim gender and these firearm policies ($b = -2.34$, $SE = 1.23$, $B = -0.032$, $t = -1.90$, $p = 0.057$). There was significantly decreased participant support for firearm policies that regulate firearm sales and transfers if the victim was identified as Black ($b = -3.22$, $SE = 1.30$, $B = -0.048$, $t = -2.48$, $p = 0.013$), compared to White victims, as well as significantly less support when the victim was killed in a suicide ($b = -7.88$, $SE = 1.41$, $B = -0.101$, $t = -5.59$,

Table 2 Average ratings of participant support (*M, SD*) for categories of firearm policies for reference groups, rated from 0 (not at all supportive) to 100 (completely supportive) (*N* = 3410)

Categories of firearm policies	Street-level homicide (<i>M, SD</i>)	Female (<i>M, SD</i>)	White (<i>M, SD</i>)	No mental illness (<i>M, SD</i>)	No previous incarceration (<i>M, SD</i>)	Juvenile (<i>M, SD</i>)
Support for firearm policies that regulate who may legally own, purchase, or possess firearms	54.87 (27.45)	54.06 (27.65)	55.86 (27.96)	53.36 (26.18)	52.68 (28.00)	55.18 (28.19)
Support for firearm policies that regulate firearm sales and transfers	50.47 (28.78)	46.68 (29.98)	48.61 (30.25)	49.55 (29.33)	51.80 (29.02)	49.22 (29.68)
Support for firearm policies regulating legal use, storage, or carrying of firearms	48.89 (30.13)	45.00 (31.19)	46.15 (31.33)	47.81 (32.07)	46.99 (31.76)	45.56 (32.45)

Table 3 Effects of characteristics of gun crime victims and types of incidents (experimental manipulations) on participant support for three categories of firearm policies (N=3410)

	Model 1			Model 2			Model 3		
	<i>b</i> (SE)	<i>B</i>	<i>p</i>	<i>b</i> (SE)	<i>B</i>	<i>p</i>	<i>b</i> (SE)	<i>B</i>	<i>p</i>
Experimental manipulations									
Male (reference = female)	-1.45 (0.95)	-0.026	0.126	-2.34 (1.23)	-0.052	0.057	-2.17 (1.10)	-0.028	0.073
Incident (reference = street-level homicide)	-	-	-	-	-	-	-	-	-
Mass shooting	2.89 (1.35)	0.045	0.033	1.57 (1.32)	0.022	0.302	1.87 (1.43)	0.027	0.187
Suicide	-0.86 (1.35)	-0.013	0.552	-7.88 (1.41)	-0.101	< 0.001	-7.22 (1.42)	-0.106	< 0.001
Accident	-2.21 (1.34)	-0.034	0.100	-4.32 (1.31)	-0.064	0.001	-4.11 (1.42)	-0.056	0.010
Race (reference = White)									
Black	-2.86 (1.32)	-0.045	0.028	-3.22 (1.30)	-0.048	0.013	-3.36 (1.46)	-0.040	0.033
Hispanic	-2.38 (1.33)	-0.040	0.046	-2.89 (1.37)	-0.037	0.066	-0.60 (1.42)	-0.010	0.689
Asian	0.62 (1.34)	0.009	0.648	-0.70 (1.37)	-0.008	0.689	2.32 (1.43)	0.031	0.127
Mental illness	2.28 (1.33)	0.030	0.086	-0.41 (1.46)	-0.006	0.784	-4.12 (1.41)	-0.047	0.006
Previous incarceration	1.80 (1.27)	0.024	0.187	-1.28 (1.53)	-0.015	0.404	-1.36 (1.44)	-0.017	0.342
Age (reference = juvenile)									
Younger adult	0.16 (1.15)	0.003	0.892	2.20 (1.28)	-0.032	0.063	-3.22 (1.29)	-0.048	0.013
Older adult	-1.11 (1.17)	-0.02	0.340	0.41 (1.20)	0.006	0.778	-4.33 (1.30)	-0.065	< 0.001
Constant	55.04 (1.56)	-	-	53.01 (1.75)	-	-	52.54 (1.64)	-	-

Bolded *p*-values are statistically significant at a minimum level of *p* < 0.05

$p < 0.0001$) or an accident ($b = -4.32$, $SE = 1.31$, $B = -0.064$, $t = -3.30$, $p = 0.001$), compared to a street-level homicide.

Model 3 shows the effects of the victim's gender, race, age, mental illness, previous incarceration, and type of gun violence on participants' support for firearm policies that regulate the legal use, storage, or carrying of firearms. Echoing the results of models 1 and 2, we found no evidence of a significant association between victim gender and support for these policies ($b = -2.17$, $SE = 1.10$, $B = -0.028$, $t = -1.97$, $p = 0.073$). There was decreased participant support for firearm policies that regulate the legal use, storage, or carrying of firearms if the victim was identified as Black ($b = -3.36$, $SE = 1.46$, $B = -0.040$, $t = -2.30$, $p = 0.033$), compared to White victims. There was also significantly less support for this category of firearm policy when the victim was killed in a suicide ($b = -7.22$, $SE = 1.42$, $B = -0.106$, $t = 5.09$, $p < 0.0001$) or an accident ($b = -4.11$, $SE = 1.42$, $B = -0.056$, $t = -2.90$, $p = 0.010$), compared to a street level homicide. Furthermore, there was less support when the victim as identified to have a mental illness ($b = -4.12$, $SE = 1.41$, $B = -0.031$, $t = -2.92$, $p = 0.006$) and when the victim was identified as either a younger ($b = -3.22$, $SE = 1.29$, $B = -0.048$, $t = -2.50$, $p = 0.013$) or older adult ($b = -4.33$, $SE = 1.30$, $B = -0.065$, $t = -3.33$, $p < 0.0001$), as compared to a juvenile victim.

Discussion

We employed a randomized experiment with a national sample of the US public to examine how the depiction of gun violence type (e.g., street crime, suicide, accident, or mass shooting) and victim characteristics affect public support for three categories of firearm regulation policy. Our study produced three key findings. First, we did not find support for H1: the gender of the victim in a vignette describing an incident of gun violence did not significantly influence support for any of the three types of firearm policy. Second, we found substantial support for H2: victim race was a significant predictor across all three categories of firearm regulation policy tested in this study. Third, the type of shooting incident significantly predicted support for certain policies, providing partial evidence for both H3 and H4. In general, we found limited support for H5-H7, largely related to the regulation of legal use, storage, and carrying of firearms.

The lack of support for our first hypothesis, though unexpected, is in line with prior research that shows victim gender does not necessarily influence policy attitudes. For example, Pickett et al. (2013) showed that the perceived gender of sex crime victims does not predict support for more punitive sex crime legislation, even though sex crime is widely understood to uniquely target and harm women (Lynch, 2002). This result might also be explained by limitations in our design. Namely, because we only manipulated victim characteristics in our experimental vignettes rather than or in addition to those of the offender, we are unable to assess any interaction between victim gender and the race/gender of the offender. Though we do not measure support for firearms policies as it relates to punitiveness, specifically, prior research which finds the race and gender of offenders and victims interact to

predict preferences in punishment severity suggests that a similar interaction could affect attitudes toward firearm policy (Curry, 2010). Future research should consider manipulating offender characteristics alongside those of victims to assess these potential effects with regard to gun violence and firearm policies.

We found strong support for our second hypothesis such that respondents presented with a vignette involving a Black victim were significantly less likely to support all categories of firearm policy as compared to those presented with a vignette featuring a White victim. Similarly, respondents shown a vignette with a Hispanic victim were less likely than those presented with a White victim to support for policies related to ownership, purchasing, and possession of firearms (Model 1). That is, respondents typically endorsed stronger firearm policies when exposed to a vignette featuring a White victim. No significant differences in policy support were found when the vignette victim was Asian as compared to a White victim.

Results regarding the race of the victim align with prior research and suggest that the media's choices in gun violence coverage can shape views on firearm policy and influence support for policies in which certain victim populations are affected more than others (see Stabile, 2006). High-profile media coverage of gun violence strongly focuses on White victims of gun violence, in part, because they are not viewed as the modal victims of gun violence (Hemenway & Nelson, 2020; Marvel et al., 2018; Stabile, 2006). Similarly, the lack of media focus on Black victims can affect public opinion and policy support for firearm regulation such that the public may primarily connect support for firearm regulation with acts of violence involving White victims (Altheide, 1997; Bjornstrom et al., 2010; Eschholz et al., 2003; Pritchard & Hughes, 1997). Given research showing that pre-existing racial resentment and racist ideologies influence support specifically for firearm policies (Filindra & Kaplan, 2016, 2017; O'Brien et al., 2013; Schutten et al., 2022), it is possible that members of the public may be more willing to endorse stronger firearm policies in the case of a White victim because they are seen as more sympathetic or "worthier" of protecting. Future work should test this hypothesis directly.

Third, in partial support for our third hypothesis, individuals who viewed vignettes about mass shootings, compared to street-level homicides, showed greater support for gun policies that regulate who can own, purchase, or possess a firearm (Model 1). However, this same pattern did not extend to support for the regulation of firearm sales/transfers or legal gun use (Models 2 and 3). Similarly, we found partial support for our fourth hypothesis, such that those exposed to vignettes describing suicides and accidental shootings showed significantly less support for the regulation of firearm sales/transfers or regulation of legal use, storage, or carrying of firearms, compared to vignettes involving street-level homicides. These incident types, however, did not affect levels of support for regulation of who can own, purchase, or possess firearms (Model 1).

In light of growing attention to the prevention of mass shootings in recent years (McGinty et al., 2013; Metz & MacLeish, 2015), we draw special attention to our findings on the potential policy-specific effects of mass shooting vignettes on gun policy support. In their coverage of mass shootings, media outlets are known to highlight issues of mental illness, loneliness, and alienation when discussing mass shootings. In contrast, these factors are not discussed in the context

of less high-profile, street-level gun violence (Fox & Fridel, 2016; Koper, 2020). This media-fostered association between these types of offender characteristics and mass shootings is likely reflected in the current results and our participants' responses to mass shooting vignettes: those presented with a mass shooting vignette supported policies that regulate who can legally own, purchase, or possess firearms to prevent further mass shootings, but not those regulating firearm sales or concerns around legal use, storage, and carrying. This suggests that the public may believe that policies that prevent certain people from buying a gun as a more appropriate solution to mass shootings than regulations which would affect a wider swathe of the public or the legal use, storage, or carrying of firearms themselves (Frisby, 2017; McDonald, 1999).

On the other hand, respondents were also less supportive of firearm policies as solutions to gun suicides or accidents compared to a street-level gun homicide. This could suggest that participants are more supportive of firearm policies when considering acts of interpersonal violence, rather than intrapersonal violence. This explanation aligns with prior research that shows members of the public do not believe firearm policies that restrict gun ownership and use are effective responses to gun suicides or accidents because they are seen as individualized incidents that cannot be solved with broad regulations (Conner et al., 2018).

Finally, we note rather limited or singular support for our hypotheses related to depictions of victim mental illness, prior incarceration, and age (H5-7). Contrary to our expectations in our fifth hypothesis, respondents were less likely to support policies that regulate the legal use, storage, or carrying of firearms when a victim was depicted as having a mental illness. Although the portrayal of a victim's mental illness may be salient for increased policy support among some respondents, the stigma of mental illness could still potentially lead others to conflate it with violent perpetration, resulting in net-negative support for stronger regulation in our third model. Additionally, we found no statistically significant relationships between the depiction of a victim's prior incarceration and public support for any of the three categories of firearm regulations tested. However, in partial support of our seventh hypothesis, respondents were less likely to support policies that regulate the legal use, storage, and carrying of firearms when victims were portrayed as either younger or older adults, as compared to juveniles. This indicates that the public may be more willing to consider regulations that specifically protect children from becoming the victims of gun violence (Merry, 2018). In general, though, these final vignette manipulations were not nearly as salient across the different types of firearm regulation as victim race and type of shooting incident.

Ultimately, this research has important implications for practice and policy. Vizzard (2000) argues that grassroots mobilization, activism, and support for gun violence prevention efforts rely on the framing of gun policy issues in ways that resonate with the general public. Indeed, the content and messaging aimed toward gaining the support of the US public on gun policies should be tailored to the specific type of gun violence being addressed and the groups most affected by it (Arp et al., 2017; Chapman & Alpers, 2013). Our results support three suggestions for tailoring the content of messaging on gun violence prevention to increase public support for firearm regulation.

First, it is critical for media outlets to closely scrutinize how gun violence victims are portrayed, especially when it comes to victims' race. As we show, depictions of victims of color, especially Black victims, may generate less support for firearm regulations than when victims are White. Coupled with the fact that victims of color are often given less airtime and portrayed less sympathetically than their White counterparts (Carpenter, 2012; Parham-Payne, 2014), it is important for media outlets to take concrete steps to humanize Black gun violence victims. Journalists, news producers, and television writers have a responsibility to portray the tragedy of gun violence victimization in a way that does not devalue the experience of one racial group compared to another. This might include realistic, detailed, and sympathetic coverage of Black victims (as opposed to a sole focus on Black individuals as perpetrators or assailants) to normalize the reality that Black men, women, and children are disproportionately the victims of gun violence in the USA (Kaufman et al., 2021; Weiss & Chermak, 1998). Such steps could help the public better connect with Black Americans as victims and generate stronger support for firearm policies that can reduce gun violence overall (Parham-Payne, 2014).

Second, the extensive coverage of mass shootings that has normalized such incidents presents an opportunity to highlight firearm policies that can reduce access to guns and prevent such shootings. Since mass shootings are covered more often and more intensely in media compared to all other types of gun violence (Croitoru et al., 2020), such coverage presents an opportunity to emphasize restrictions on who can purchase firearms, which our findings suggest are especially likely to be supported by members of the public in the context of mass shootings.

Although this policy prescription was the one preferred by individuals who read about a mass shooting in this study, this should not preclude other policy options for addressing gun violence. The alignment between media narratives of individual-level drivers of mass shootings and public preference for prohibiting certain individuals from accessing firearms suggests that media coverage could foster new frames for understanding what drives gun violence and, by extension, how to mitigate it. Rather than an outsized focus on mentally ill perpetrators, for example, media coverage could emphasize how a paucity of regulation on sales/transfers and legal use, storage, and carrying of firearms may contribute to mass shootings.

Third, our results suggest the public may not believe that firearm regulation policies are generally as effective in reducing intrapersonal gun violence (e.g., accidental shootings, suicides), compared to interpersonal shootings. Therefore, content and messaging around gun violence reduction should focus on ways to increase public support for policies that better address these types of shootings. This is especially pertinent for firearm suicides, which make up nearly two-thirds of yearly gun deaths in the USA but receive far less coverage than gun homicides in mainstream media (Kochanek et al., 2016; Siegel & Rothman, 2016). Perhaps unsurprisingly, many people remain unfamiliar with the efficacy of existing firearm policies for reducing firearm suicides, often believing that regulations to prevent suicides are ineffective (Conner et al., 2018). Yet, there is strong evidence that implementing regulations on the sale, possession, storage, and use of firearms, such as permit laws, child access prevention regulations, and sales reporting requirements, can reduce both gun suicides and accidental shootings (Goldstein et al., 2019; Kaufman et al., 2018; Lee

et al., 2013; Zeoli et al., 2019). Media outlets could help garner increased public support for such policies by presenting the public with more accurate information about the prevalence of gun suicides and accidents, as well as the effectiveness of firearm regulation policies for reducing these shootings.

Our study has limitations that provide opportunities for future research. The methods employed in this study, though a common and accepted experimental methodology in criminology (e.g., Berryessa, 2018, 2021; Pickett, 2019), are limited in their ability to fully generalize to real-world contexts. Case in point, although vignettes used in our experiment were both pre-tested and designed to look and read like an actual news story, the careful control of which information was presented in vignettes necessarily excludes other information, such as geographic location or time of day, that are commonly included in real-world news stories. By the same token, though our experiment can speak to the effect of written news stories, the modern media landscape also includes multimedia content transmitted through news media websites, social media, and a vast array of decentralized content producers. Additionally, we asked participants to rate their responses on a scale from 1 to 100 using a slider (i.e., visual analogue scale). However, some research suggests that using more than 4 to 5 response options may affect reliability in attitude measurement (Alwin et al., 2018; Revilla et al., 2014), while other research notes that using sliders to measure attitudes can bias response distributions, lead to higher rates of missing data, and longer completion times (Couper et al., 2006; Matejka et al., 2016; Tourangeau et al., 2013). To assess whether and to what degree such issues have a meaningful effect on our results, this study should be replicated and expanded with different, potentially more detail-rich vignettes, alternative treatments such as videos, audio, and social media posts, measures that do not use visual analogue scales, and variables that restrict responses to fewer options.

Furthermore, data collection through Qualtrics Panel did not allow participants that have failed attention and manipulation checks to finish the survey, and as such, participants who began the survey but failed these checks could and were not included in data analyses. Aronow et al. (2019) and Montgomery et al. (2018) suggest that eliminating respondents who fail these checks could influence the external and internal validity of a study's findings, and that researchers should include respondents who failed these checks in analyses to see if their inclusion may significantly change a study's results (Berinsky et al., 2014). However, as respondents who failed these checks were not allowed to finish the survey per Qualtrics Panel's procedure, we were unable to include those participants' responses in analyses. Thus, it is unclear how the elimination of these participants from data collection may have affected findings presented here, and these results should be replicated with national samples from other sources and through different sampling methods to observe how they might differ from what we have found here.

Finally, although the inclusion of different demographic variables of participants did not affect the results of our models in this study, other individual-level and theoretical variables, such as masculine honor beliefs (Saucier et al., 2018), just world beliefs (Gallant, 2005), self-interest (Pederson et al., 2015), authoritarian personality (Lizotte, 2019), parenthood (Greene et al., 2020), or even childhood bullying (Ray et al., 2021) have been found to be predictive of attitudes toward firearm regulation.

Future research and replication of this study should measure these phenomena as they may be important in fully understanding differences in public support for firearm regulation when considering demographics of gun violence victims.

In conclusion, different characteristics of victims and incidences of gun violence appear to figure into how members of the public form opinions on and support for related gun policies with implications for policymaking, activism, and mobilization related to violence prevention efforts (Barry et al., 2019). Given the enduring toll gun violence takes on communities in the USA and the need for policies to reduce it, it remains vital to examine the social, structural, and individual elements in policy narratives that influence support for firearm policies above and beyond those that have been previously studied (Arp et al., 2017; Merry, 2018; Page & Shapiro, 2010; Spitzer, 2015). Ultimately, strong public support and a common consensus that gun violence must be addressed in a comprehensive manner is necessary to properly mobilize effective policies that will have real-world impact. We strongly encourage researchers to continue investigating a wide range of policy-related and narrative factors that influence variations in public support for effective firearm policies to help inform these efforts.

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