Historical prevalence of slavery predicts contemporary American gun ownership

Nicholas Buttrick

Princeton University

Jessica Mazen

University of Virginia

Author Note:

Nicholas Buttrick, School of Public and International Affairs, Princeton University; Jessica Mazen, Department of Psychology, University of Virginia. Correspondence concerning this article should be directed to Nicholas Buttrick, School of Public and International Affairs, Princeton University, Robertson Hall, Princeton, NJ 08544-1013. E-mail: buttrick@princeton.edu

Abstract

American gun-owners, uniquely, view firearms as a means of keeping themselves safe from dangers both physical and psychological. We root this belief in the experience of White Southerners during Reconstruction - a moment when a massive upsurge in the availability of firearms coocurred with a worldview threat from the emancipation and the political empowerment of Black Southerners. We show that the belief-complex formed in this historical moment shapes contemporary gun culture: the prevalence of slavery in a Southern county (measured in 1860) predicts the frequence of firearms in the present day. This relationship holds above and beyond a number of potential covariates, including contemporary crime rates, police spending, degree of racial segregation and inequality, socioeconomic conditions, and voting patterns in the 2016 Presidential election; and is partially mediated by the frequency of people in the county reporting that they generally do not feel safe. We further show that these beliefs track Southern patterns of migration, as social connection to historically slaveholding counties predicts county-level gun ownership, even outside of the South.

Public Significance Statement

We root the distinctly-American belief that guns keep a person safe in the backlash to the historical period known as Reconstruction in the wake of the American Civil War - a moment when a massive increase in the availability of firearms coincided with a destabilization of White politics in response to the emancipation and empowerment of Black Americans. We show that the historical prevalence of slavery in a county predicts present-day frequency of firearms, and outside the South, we show that social connection to historically slaveholding counties predicts

firearm ownership. In understanding the historical roots of contemporary gun attitudes, we can come to better understand the uniqueness of American gun politics.

Introduction

There are more firearms in American civilian hands (an estimated 393 million firearms) than there are Americans (an estimated 330 million people); over 45% of all the civilian-owned weapons in the world are owned by the 5% of the world population that is American (1). Firearm-owners in America are distinct in how they think about their weapons: over two-thirds report that they own a gun, at least in part, to keep themselves safe (2). Despite these beliefs, gun ownership is, in fact, hazardous, with studes showing that ownership doubles the likelihood that someone in the household will die in a violent homicide and triples the likelihood of a death by violent suicide (3); while offering little-to-no protection against assailants (4, 5). These risks are understood by citizens of comparable nations, where people are more likely to think of firearms as dangerous than as safe (6-8).

Why do so many Americans look to their firearms for safety? According to the Coping Model of Protective Gun Ownership, gun-owners use guns symbolically as an aid to manage psychological threats stemming from their belief that the world is a dangerous place from which society will not protect them (9, 10). American gun owners are more likely than non-gun-owners to believe that the world is dangerous (11) and that institutions of order, such as government or police, are unable or unwilling to keep them safe (12, 13). These beliefs trigger worries in gun owners concerning their fundamental needs, including their safety (14), their control and self-efficacy (15), and their place in society (16). Guns, in turn, become more salient to owners when core identities are threatened (17-19). Gun owners use their weapons to defend against all these meaning-threats (20), with owners more likely to believe that a gun keeps them safe (2), keeps them in control (21), and keeps them belonging to important social groups (22, 23). In experimental work, researchers find that those who come from gun-owning households find literal

solace in the presence of a weapon: when hooked up to a shock generator, they respond with less physiological reactivity when holding a non-firing pistol than when holding a control object or even the hand of a friend (while non-gun owners find the gun-holding experience to be more threatening; 24).

Where does this culturally-unique belief that guns can be an effective coping mechanism come from? Cross-national survey work and historical evidence demonstrate that the belief that guns keep one safe is not inherent to the object itself. While gun ownership was fairly-common in the early American republic, guns were generally handcrafted, not particularly accurate, and used more as a utilitarian tool for hunting and pest control than as a symbol of protection (25). Even as late as the 1840s and 1850s, the market for guns was relatively undeveloped: without the demand from European nations fighting intracontinental wars, most of the manufacturers of the era, such as Remington, Colt, and Winchester would have gone bankrupt (or actually did) due to low domestic demand (26).

The Civil War changed this picture radically. The end of the war and the demobilization of over half a million men, with their guns, left America as one of the most heavily-armed societies in the world (26). To give a sense of the sheer number of weapons, a letter to *The Nation* in 1883 noted, acidly, that the Alabama State Auditor's report for 1881 estimated that all the mechanical tools and farming implements in the state were together worth significantly less than the deadly weaponry owned by Alabamans (27).

This flood of weapons hit the South at an especially fraught moment. Historians and sociologists have argued that the destruction of the chattel slavery system in the South and the subsequent political and economic empowering of the previously-enslaved Black population created an unstable system in which the political power of White elites was under existential

threat, leading to a calculated backlash designed to maintain as much of that power as possible (28, 29). As part of this so-called Redemption, White political leaders in the South built a platform around the ideas that the Northern "carpetbaggers" and their Black political constituency were incompetent, corrupt, and malicious, leaving the New South a dangerous place uninterested in keeping White southerners safe - instead, the South needed to return to Home Rule, and, barring that, needed armed paramilitary organizations such as the Klu Klux Klan to maintain order where the government was unable to (30-32).

White Southerners, then, felt threats to their safety, to their political control, and to their very identity. It likely didn't help that the postwar South was, in fact, an unusually murderous place, with White men killing each other all throughout the sociodemographic spectrum - a contemporaneous estimate put the muder rate in the South as approximately 18 times greater than in New England, almost entirely driven by White-on-White or White-on-Black crime (33). But even beyond worries about their physical safety, White Southerners seemed to turn to their weapons as a means of dealing with this new world, especially when it came to political intimidation (34).

We argue, then, that the abolition of slavery in 1865 - when a massive increase in firearms ownership co-occurred with a racially motivated promotion of the notion that the world is a dangerous place which government is unable to protect against - provides the genesis of the belief that guns are protective and can be used as coping mechanisms. White Southerners used their arms to reinforce the then-dominant social structure, protecting themselves against threats to their safety, to their political control, and to the existing social compact and racial hierarchy.

One might expect that this complex of worries would have been especially-concentrated in areas that had a particularly-high degree of enslavement, as these would have been the areas that

had the greatest degree of upheaval after Emancipation, and which worked hardest to retain White control over large now-freed Black populations (35, 36). Previous work has found that this revanche was powerful enough to be maintained intergenerationally, with contemporary residents of counties with higher rates of historical enslavement more likely to identify as conservative and more likely to report both implicit and explicit racial animus (37, 38). If the social pressures of Emancipation on White Southerners helped to create modern protective firearms culture in a similar manner, then we would expect those areas with a higher degree of enslavement before the Civil War to today show greater generalized worries about safety (even after controlling for objective measures of crime and policing), and as a result, have higher rates of firearms ownership.

Researchers have posited other roots for American gun culture. An additional explanation for a particularly Southern origin for gun culture places its beginnings in the Southern 'culture of honor:' Psychologists have argued that the Southerners formed enduring norms that stressed the importance of maintaining a reputation for belligerence and responding swiftly and aggressively to threats - i.e. preserving one's honor - as a means of protecting oneself in a world of weak centralized authority (39). A culture that places the responsibility for security in the arms of individual actors, and that lionizes the display of the potential for overwhelming retaliatory force would seem primed to seek out firearms as a means for protection, and researchers, in fact, have explicitly linked Southern patterns of protective firearms to the Southern culture of honor (40).

Other scholars have placed the roots of American gun culture in the residue of the Frontier. According to this account, firearms were needed to protect oneself in the Wild West, and this independent frontier spirit helped to popularize firearms throughout the nation, setting the template through which future generations understood the utility of a gun (41, 42).

We set out to test whether Southern history of slavery helps to explain the creation of a worldview that motivates contemporary American gun ownership. We examine whether county-levels of historical enslavement predicts contemporary weapons ownership in those counties, even after controlling for other sociopolitical residues that researchers have associated with American slavery, such as increased conservatism (37); increased ethnic fractionalization and increased crime (43); differential rates of education and income inequality along racial lines (44, 45); lower income (46); and decreased labor productivity (47). Additionally, we test the explanation that Southern patterns of gun ownership are explained by the Southern culture of honor.

We then examine whether the diffusion of this Southern belief complex helps to explain gun-ownership patterns across the entire country. As people migrated out of the South, did they bring their beliefs about the protective power of their firearms with them? Or alternately, is contemporary nationwide American gun culture better understood as a legacy of the migration from American Frontier? We measure the dispersion of people out of the South by utilizing the geographic locations of every friendship pairing on Facebook, measuring whether U.S. counties that are, today, more tightly socially connected to the areas of the South that had higher historical rates of enslavement (and are therefore more likely to have friends and family in the South) are themselves likelier to own a weapon, above and beyond social connection to other gun-owning parts of the country or connection to areas that comprised the Frontier.

Results

Measuring Weapons Ownership

The United States does not formally track the number of weapons held by its population. To identify the county-level distribution of firearms in the United States, we use a tragic, but

well-validated proxy measure: the percentage of suicides in the county that are committed with a firearm (48-51). Prior work validating this measure suggests that where gun ownership rates, as assessed by the General Social Survey or the International Crime Survey, are known, rates of suicide by firearm correlate with this objective measure $r = .87$ at the city level, $r = .92$ at the state level, and $r = .95$ cross-nationally (50), with the correlation at the county level not statistically distinguishable from an exact correlation measured with sampling error (49). Data on firearm suicides come from the CDC All-County Compressed Mortality Files, which record the death of every U.S. resident. Our data covers the years 2009-2016, and are aggregated at the county level.

Historical Rates of Enslavement and Gun Ownership

As our measure of the historical patterns of enslavement in the South, we use population data from the 1860 Census - the last census before the Civil War, which enumerated both enslaved and free Americans - with county boundaries updated by (45). As this dataset did not include the slave state of Missouri, we supplement with county-interpolated data for Missouri from (37). "Southern" counties are defined as those where people were enslaved in 1860, including in states such as Kentucky, Maryland, and Delaware that were part of the Union (see Figure 1). As predicted, we find a relationship between the proportion of slaves in a county and the present-day ownership of firearms (1,509 counties), $b = 0.034$ [0.0030, 0.066], $se = 0.016$, $t(1451) = 2.14$, $p = .032$, $B = 0.07$ [0.01, 0.13]. Controlling for two classes of demographics, one set used by (37) Acharya et al (2016) to covary out socioeconomic differences between counties in 1860 (such as population, land quality, accessibility of rail and waterways, and the proportion of the county that was free Black); and one based on contemporary differences between the counties (such as the poverty rate, degree of segregation, Black/White education disparities, income inequality, crime rate, spending on the police, votes for Donald Trump in the 2016 election, and the tightness of

state gun laws; 1,123 counties in total), the proportion of slaves in a county still predicts the present-day ownership of firearms (indeed, the relationship is stronger), $b = 0.13$ [0.081, 0.19], $se = 0.027$, $t(1014) = 4.86$, $p < .001$, $B = 0.30$ [0.18, 0.42]. See Figure 1.

What about the prediction that Southern gun ownership is driven by a culture of honor? When we test the predictive effects of the ruggedness of the county within the South (operationalized as the standard deviation of altitudes within the county, with more variability indicating greater ruggedness) as a proxy for the counties most likely to develop strong honor cultures (see 52, 53 for a similar operationalization), we find that the power of ruggedness to predict county-level gun ownership is present, but weaker than for the intensity of slavery: prediction without covariates, $b = 0.018$ [0.0057, 0.29], $se = 0.0060$, $t(1405) = 2.92$, $p = .004$, $B = 0.08$ [0.03, 0.13]; with all covariates (including controlling for the prevalence of slavery in the county, $b = 0.018$ [0.0072, 0.031], $se = 0.0061$, $t(1065) = 3.10$, $p = .002$, $B = 0.09$ [0.03, 0.15]. See Table 1 for standardized coefficients for all models and all covariates.

As a robustness check, we restricted our gun-ownership proxy to just suicides committed by non-Hispanic Whites. The all-demographic gun ownership proxy used above and the White-only proxy are highly-correlated at the county level, $r(3,212) = .915$ [.91, .92], $p < .001$, and we find that our relationship in Southern counties between the intensity of historical enslavement in a county and the present-day ownership of firearms by Whites is largely unchanged: without covariates (1,509 counties), $b = 0.052$ [0.020, 0.085], $se = 0.017$, $t(1422) = 3.14$, $p = .002$, $B = 0.10$ [0.04, 0.16]; with all covariates (1,123 counties), $b = 0.068$ [0.014, 0.12], $se = 0.028$, $t(991.9) = 2.38$, $p = .017$, $B = 0.15$ [0.03, 0.27]. See SI for the full regression tables from the White-only models, as well as models restricted to counties with greater than 25,000 people (following the gun ownership identification strategy of 50).

The Mediating Role of Feeling 'Unsafe'

Coping models of protective gun ownership suggest that people own firearms as a means of dealing with perceived threats that make them feel threatened or unsafe in their environment (9, 10). We examined, therefore, whether areas in the South with a history of more intense enslavement have present-day residents who feel more unsafe, and whether this feeling of safety mediates the relationship between historical patterns of enslavement and present-day gun-ownership.

To measure current-day feelings, we used data from the Gallup Daily Tracking Poll, which uses random-digit dialing to survey roughly 1,000 Americans daily about their psychological state and well-being. Data comes from the years 2008-2017, aggregated at the county level. In the analyses below, we restrict our sample to those counties with at least 100 responses in our dataset, though we report models with all counties in the SI.

As predicted, we find, controlling for both our 1860 and contemporary covariates (1,044 counties in total), that counties in the South with a history of more intense enslavement are less likely to feel safe in the present day, b = -0.0044 [-0.0051, -0.0035], se = 0.0042, t(956.3) = -10.27, $p < .001$, B = -0.49 [-0.59, -0.40], and that lacking this sense of safety predicts gun ownership, b = -7.49 [-11.17, -3.58], se = 1.96, t(1012) = -3.83, $p < .001$, B = -0.15 [-0.23, -0.07] , with safety mediating the relationship between counties with a higher proportion of slaves and present-day gun ownership, average mediation = .032 [.015, .051], $p < .001$; direct effect, b = .11 [.057, .16], $p < .001$, total effect, b = .14 [.090, .19], $p < .001$. Using those same controls and counties, we find that the ruggedness of a county in 1860 does not predict contemporary feelings of safety in those counties (p = .83), and that feelings of safety therefore do not mediate a relationship between the ruggedness of a county in 1860 and the present-day distribution of

firearms, $p = .80$. See the SI for tests of two alternate mediators: contemporary daily feelings of anger, and sense of self-respect (operationalized as feeling like one is able to use one's strengths daily). We find no evidence for either mediator.

Importantly, we find that the relationship between safety-threat and gun-ownership behavior is largely restricted to Southern states. Comparing Southern states with non-Southern states and controlling for our contemporary set of covariates (2,308 counties), we find that for states in the South, counties that collectively report feeling less safe have greater rates of gun-ownership, marginal trend: $b = -7.67$ [-11.15, -4.19], $B = -0.13$ [-0.19, -0.071], while for non-Southern states, there is no relationship between county-level feelings of safety and gun ownership: $b = 0.62$ [-3.05, 4.28], $B = 0.010$ [-0.052, 0.073]; interaction: $b = -8.29$ [-12.38, -4.13], $se = 2.11$, $t(2283) = -3.93$, $p < .001$, $B = -0.14$ [-0.21, -0.07]. See Figure 2. Restricting our gun-ownership proxy to Whites does not change our conclusions. See SI for the full regression tables, as well as models without controls, models using all counties, models restricted to White gun owners, and models restricted to counties with more than 25,000 people.

Social Diffusion of Firearms/Safety Beliefs

We next sought to understand how the belief that guns keep one safe may have diffused throughout the broader United States. As Southerners migrated out of the South, they may have brought their beliefs with them. Migration does not totally sever ties with the places that one comes from, and so there should still be some degree of social connection between the counties that people migrated to and the counties that they migrated from. If patterns of migration were to explain the diffusion of gun culture out of the South throughout the United States, we would expect that counties throughout the country with deeper social ties to areas of historically-intense enslavement would therefore be more likely to own firearms. To measure the degree of

social-connectedness, we used data from the Facebook Social Connectedness Index, which measures the density of friendship ties between every county in the United States. We constructed an enslavement-connection index for each county by multiplying the strength of social connection to each other county by the intensity of enslavement in the connected county, and then summing up all the products. We also constructed a parallel index, measuring the strength of social ties to counties that have more firearms in the present day, as a way of testing whether patterns of gun ownership are better understood as arising from contemporary social transmission (as opposed to our historical explanation). All indices were log-transformed to address skewness.

We find that the degree of social connectedness with counties that had high rates of historical enslavement predicts gun ownership above and beyond the county's degree of social connectedness with other counties that have high rates of contemporary gun ownership (using 3,213 counties), $b = 1.03$ [0.33, 1.89], $se = 0.39$, $t(763.02) = 2.83$, $p = .005$, $B = 0.11$ [0.03, 0.19]. Additionally controlling for our set of contemporary covariates (using 2,609 counties), we still find that connectedness to counties with high rates of historical enslavement predicts contemporary gun ownership above and beyond connection to other counties with high levels of contemporary gun ownership, $b = 2.31$ [1.51, 3.16], $se = 0.42$, $t(310.7) = 5.55$, $p < .001$, $B = 0.26$ [0.17, 0.36]. See Table 2 for standardized coefficients for all models and all covariates.

One alternate model of American gun culture places its locus in exposure to the norms of the Frontier (e.g. 42). We therefore additionally test whether present-day social connectedness to counties that spent more time as part of the American frontier instead explains the pattern of contemporary gun ownership. To measure the "frontierness" of a county from 1790-1890 (1890 being the date of the official 'closing of the frontier,' per the U.S. Census), we use a measure from (54) that tracks the number of years that a county was both geographically close to the frontier

(the line dividing counties with more than two people per square mile from those less densely populated) and was itself populated with fewer than six people per square mile. We then constructed a social connectedness index to these counties matching the social-connection indices above.

We find that social connection to a frontier county does not help to explain current trends in firearm ownership - in a model predicting gun ownership from social connectedness to counties with high rates of historical enslavement, counties with high rates of historical frontier exposure, and counties with high rates of contemporary gun ownership (using 3,213 counties in total), we find that rates of historical enslavement predicts present day gun ownership, $b = 1.39$ [0.41, 1.89], $se = 0.40$, $t(794.7) = 2.76$, $p = .006$, $B = 0.11$ [0.03, 0.19]; whereas rates of historical frontier exposure does not, $b = 0.068$ [-0.58, 0.72], $se = 0.33$, $t(3163.4) = 0.21$, $p = 0.84$, $B = 0.00$ [-0.04, 0.04]. Additionally controlling for our set of contemporary covariates (2,609 counties) does not change this pattern of results, as connectedness with counties with high rates of historical enslavement still predicts contemporary gun ownership, $b = 2.27$ [1.47, 3.12], $se = 0.42$, $t(3123) = 5.44$, $p < .001$, $B = 0.26$ [0.17, 0.35]; while rates of connectedness with counties with high rates of frontier exposure does not, $b = 0.32$ [-0.24, 0.89], $se = 0.29$, $t(1614) = 1.12$, $p = .26$, $B = 0.02$ [-0.02, 0.06]. See Table 2. Conclusions from models restricted to the White-only proxy do not differ, see the SI.

To ensure that our measures of connectedness do, in fact, predict gun ownership behavior outside of the South, we reran the models above, restricted to just those counties where no people were enslaved in 1860. We find that social connection to counties with high rates of historical enslavement still predicts gun ownership behavior in non-slave-owning counties, above and beyond social connection to gun-owning areas or social connection to areas that had high

historical rates of frontier exposure (1,704 counties in total), $b = 2.85$ [0.91, 4.78], $se = 0.99$, $t(1628.6) = 2.88$, $p = .004$, $B = 0.08$ [0.03, 0.14]; a relationship that holds when additionally controlling for our set of contemporary covariates (1,341 counties), $b = 2.46$ [0.48, 4.52], $se = 1.04$, $t(692.2) = 2.36$, $p = .019$, $B = 0.08$ [0.01, 0.15]. See Table 2 for all models. Results are directionally consistent when restricting to the White-only gun ownership proxy. See SI for models restricted to the White-only proxy, and counties greater than 25,000 people.

Finally, we investigated whether the degree to which feelings of safety predict gun ownership is moderated by how connected people in that county are to counties with high rates of historical enslavement. We find that it is: the more connected a county is to a county that had high rates of historical enslavement (controlling for patterns of social connectedness to counties with high rates of contemporary gun ownership, and our set of contemporary covariates, and restricting the sample to counties with at least 100 respondents to the Gallup Daily Tracking Poll; 2,308 counties in total), the more likely that low ratings of felt safety predicted high levels of gun ownership: at one standard deviation above the mean, marginal trend: $b = -7.71$ [-11.04, -4.38], $B = -0.13$ [-0.19, -0.075]; while counties with less of a connection to counties with high rates of historical enslavement did not show any relationship between felt safety and gun ownership: at one standard deviation below the mean, marginal trend: $b = 2.94$ [-0.82, 6.71], $B = 0.051$ [-0.013, 0.12], interaction: $b = -3.68$ [-5.08, -2.28], $se = 0.72$, $t(2282) = -5.14$, $p < .001$, $B = -.09$ [-0.13, -0.06]. Conclusions are unchanged when using the White-only gun-ownership proxy. See Figure 3, and see SI for the full regression tables, models using the White-only gun-ownership proxy, models using all counties, models without controls, and models restricted to counties greater than 25,000 people.

Discussion

Where does American protective gun culture come from? We argue that this globally-unique complex of beliefs - that weapons help one to cope with threats both physical and psychological - has its roots in the attempts of Southern Whites to regain social and political power after Emancipation. We find that the county-level intensity of enslavement in 1860 predicts present-day rates of gun ownership, including when restricting to a proxy measuring the ownership of Whites, and that this relationship is partially mediated by feelings of threat by residents of those counties. This relationship holds above and beyond a number of potential covariates, including contemporary crime rates, police spending, degree of racial segregation and inequality, the proportion of the county that is currently Black, the socioeconomic conditions of the county (including poverty and unemployment rates), and voting patterns in the 2016 Presidential election. Importantly, given our hypothesis about the Southern roots of the belief that guns keep one safe, we find that county-level feelings of threat only predict county-level gun ownership within former slave-owning counties. Contemporary protective weapons ownership is not limited to the South, of course, and to explain the geographical distribution of firearms in America, we show that U.S. counties that are more closely socially-connected with those counties that had greater rates of enslavement are themselves more likely to armed, even controlling for the social-connectedness of weapon-owning counties more generally. These findings are not limited to the geographic boundaries of the South, as the degree of social connection to counties with higher rates of historical enslavement predicts the prevalence of firearms in non-Southern counties.

We examined two additional explanations for American protective gun culture, one that identified these beliefs as arising from the Southern culture of honor, and one that argues that

these beliefs evolved from the experience of the American frontier. We find some evidence for the culture-of-honor propositions: the ruggedness of a county in 1860 (as a proxy for the counties that would be most likely to form honor cultures) does predict current-day gun ownership, albeit less strongly than historical patterns of enslavement. However, we find no evidence for a frontier-dispersion narrative, with social connectedness to counties with more frontier experience not predicting gun ownership. This lack of evidence may not come as a surprise to those historians who have argued that "frontier gun culture" was largely a revisionist account, motivated by the later advertising agencies of the gun manufacturers (26) or by a political and intellectual culture searching the past for a unifying national mythology (55).

There are clear limitations to the current work, largely due to the reluctance of the United States government to track rates of firearms ownership. Because the use of a proxy is required to estimate firearm ownership rates, we have a limited ability to disambiguate weapons ownership by factors such as demographic characteristics, especially for particular demographics that make up smaller minorities within a county. There are, for example, likely not enough Black gun suicides in most counties to allow us a clearer picture of Black gun ownership throughout the country. This general reluctance to ask about weapons ownership in national surveys additionally means that we are only able to track beliefs at the county-level, not within individual respondents (though see e.g. 37, 38 for evidence of the validity of county-level aggregation of individual psychological variables).

The Southern roots of American protective gun culture might help to illuminate the finding that American gun rights are often coded as something exclusively for and about White Americans, both explicitly and implicitly (59, 60), and that gun laws are often selectively used to prevent Black Americans, specifically, from owning guns (61). This was clear even in the

immediate aftermath of the Civil War, where White politicians in the South, aided by institutions such as the Klu Klux Klan, actively worked to disarm any Black freedmen who may have acquired a weapon during the war, while allowing White soldiers to keep their weapons (62).

If the use of weapons as a coping mechanism has its roots in an exclusionary, anti-Black regime, it may be no surprise that racial resentment predicts opposition to gun control in White Americans (59); that leadership of the Gun Owners of America, a major gun-rights organization, grounded their movement in an explicitly White-supremacist ideology (63); that racially-resentful White Americans become *more* supportive of gun control when informed that Black Americans are arming themselves faster than Whites (60); that in areas with more non-White people, study participants have a lower threshold to shoot Black targets in a shooter-bias paradigm (64); and that racism is associated with an increased likelihood of gun ownership among Whites (65).

Contemporary American gun politics are an international outlier. American gun laws are far more lax than other developed nations (66), and opposition to the laws that do exist is often grounded in the belief that guns provide safety to their owners (67). We argue that this belief in the protective power of weapons was crystallized during the fight of White Southerners to reclaim their privileges after the collapse of the slaveholding society precipitated by the loss of the Civil War. The American psychology around protective weapons ownership, in other words, is not an accident - we argue that it is a belief system grounded in and formed by a response to one of the signal events of American history.

Materials & Methods

Data Sources

Data for the historical prevalence of slavery in Southern counties come from (45). Data for enslavement in the state of Missouri, along with the 1860 covariates come from (37), and can be found at https://dataverse.harvard.edu/file.xhtml?persistentId=doi:10.7910/DVN/CAEEG7/IAHLGX&version=1.0. In the Southern counties where the (45) and (37) slavery datasets overlap, the correlation between their two slightly-differeing approaches to updating county borders in order to match contemporary divisions is quite high: $r(1276) = .988$ [.986, .989]. Data on county-level firearm suicides comes from the CDC All-County Mortality Files (see https://www.cdc.gov/nchs/data_access/cmf.htm for access). Data from the Gallup Daily Tracking Poll can be accessed through Gallup Analytics. Educational information comes from the 2016 5-Year American Community Survey. 2016 presidential voting patterns come from the Atlas of U.S. Presidential Elections (https://uselectionatlas.org/). Data on police spending comes from the 2017 U.S. Census State and Local Government Finance Datasets (https://www.census.gov/data/datasets/2017/econ/local/public-use-datasets.html). Data on the social connectedness of counties comes from the Facebook Connectome (https://data.humdata.org/dataset/social-connectedness-index). Data on county-level exposure to the frontier comes from (54). Gun law data comes from the 2013 state ratings of (68). All other contemporary covariates come from (69); the codebook can be found at https://opportunityinsights.org/wp-content/uploads/2018/04/online_table4-2.pdf). Due to data-use agreements with the CDC and the Gallup Organization, we are unable to share our raw data files.

Analytic Approach

All analyses were conducted in R. We constructed multilevel regression models, nesting counties within states, using the *lme4* and *lmerTest* packages. Mediation models similarly nested

counties withins states, using the *mediation* package. Measures based on the rate of suicide by firearm, and on the Gallup Daily Tracking Poll were created by aggregating data within county, collapsing across years. Social-connecteness indices were constructed for each county by summing up the products of the degree of connectedness to each other county and the prevalence of either slavery, contemporary gun ownership, or frontier exposure in the connected country, depending on the index For models that contain both county-level intensity of slavery and the contemporary county-level proportion of Black residents, we enter in the residual of contemporary Black population not explained by historical patterns of slavery, as, due to trends in population migration, the two variables correlate very strongly (r = .77 [.75, .79]). See https://osf.io/sgc9a/?view_only=964cd503a6db42d6b29947f9680b4573 for all analysis scripts.

Acknowledgments

The authors would like to thank Tim Wilson, Jazmin Brown-Iannuzzi, Sophie Trawalter, Nicole Shelton, Erin Westgate, Charlie Ebersole, Samantha Heintzelman, Gerald Higgenbotham, and Joy Losee for their feedback.

Author Contributions

NB & JM conceived the study and designed the analyses. NB conducted the main analyses and drafted the manuscript. JM revised the manuscript. Both authors approved of the final draft.

References

1. A. Karp. *Estimating global civilian-held firearms numbers*. (Small Arms Survey, 2018).

2. K. Parker, J. Horowitz, R. Igielnik, B. Oliphant, A. Brown. *America's complex relationship with guns.* (Pew Research, 2017).

3. A. Anglemyer, T. Horvath, G. Rutherford. The accessibility of firearms and risk for suicide and homicide victimization among household members. *Ann. Inter. Med.,* **160**, 101–110 (2014).

4. D. Hemenway, S. J. Solnick. The epidemiology of self- defense gun use: Evidence from the National Crime Victimization Surveys 2007–2011. *Prev. Med.,* **29**, 22-27. (2015).

5. M. Planty, J. L. Truman. *Firearm violence, 1993–2011 (Special report, NCJ 241730)*. U.S. Department of Justice. Retrieved from http://www.bjs.gov/content/pub/pdf/fv9311.pdf (2013).

6. C. A. Cooke. Young people's attitudes towards guns in America, Great Britain, and Western Australia. *Aggressive Behav.,* **30**, 93–104 (2004).

7. J. E. Puddifoot, C. A. Cooke. Representations of handguns by young adults in the US and UK. *J. Community Appl. Soc. Psychol.,* **12**, 256–270 (2002).

8. S. Syropoulos, A. Rivera-Rodriguez, A Gómez, A. Baka, S. Cros, F. A. Martel, J. Rottman. Deadly but protective: Americans' unique perception of weapons. *J. Peace Psychol*. DOI: 10.1037/pac0000507 (2020).

9. N. Buttrick. Protective gun ownership as a coping mechanism. *Perspect. Psychol. Sci.,* **15**, 835-855 (2020).

10. N. P. Leander, W. Stroebe, J. Kreienkamp, M. Agostini, E. Gordjin, A. W. Kruglanski. Mass shootings and the salience of guns as means of compensation for thwarted goals. *J. Pers. Soc. Psychol.,* **116**, 704–723 (2019).

11. J. A. Shepperd, G. Pogge, J. E. Losee, N. P. Lipsey, L. Redford. Gun attitudes on campus: United and divided by safety needs. *J. Soc. Psychol.,* **158**, 615–624 (2018).

12. E. L. Glaeser, S. Glendon. Who owns guns? Criminals, victims, and the culture of violence. *Am. Econ. Rev.,* **88**, 458–462 (1998).

13. T. D. Warner, C. R. Thrash. A matter of degree? Fear, anxiety, and protective gun ownership in the United States. *Soc. Sci. Quart.,* **101**, 285-308 (2020).

14. W. Stroebe, N. P. Leander, A. W. Kruglanski. Is It a Dangerous World Out There? The Motivational Bases of American Gun Ownership. *Pers. Soc. Psychol. Bull.,* **43**, 1071–1085 (2017).

15. D. Freeman, R. P. Bentall. The concomitants of conspiracy concerns. *Soc. Psych. Psych. Epid.,* **52**, 595-604 (2017).

16. A. Kohn. *Shooters: Myths and realities of America's gun cultures*. (Oxford University Press, 2004).

17. A. Filindra, N. J. Kaplan, B. E. Buyuker. Racial resentment or sexism? White Americans' outgroup attitudes as predictors of gun ownership and NRA membership. *Sociol. Inq*., **91**, 253-286. (2021).

18. F. C. Mencken, P. Froese. Gun culture in action. *Soc. Probl.,* **66**, 3-27 (2019).

19. T. Steidley, D. Trujillo. Status politics and the political influences of concealed handgun license demand in Texas. *Sociol. Quart.,* 1-25. (2020).

20. T. D. Warner, S. Ratcliff. What guns mean: Who sees guns as important, essential, and empowering (and why)? *Sociol. Inq.* (2021).

21. S. Shepherd. A. C. Kay. Guns as a source of order and chaos: Compensatory control and the psychological (dis)utility of guns for liberals and conservatives. *J. Consum. Res.,* **3**, 16-26 (2018).

22. J. D. Carlson. *Citizen-protectors: The everyday politics of guns in an age of decline.* (Oxford University Press, 2015).

23. M. J. Lacombe, A. J. Howat, J. E. Rothschild. Gun ownership as a social identity: Estimating behavioral and attitudinal relationships. *Soc. Sci. Quart.,* **100**, 2408-2424 (2019).

24. N. Buttrick, S. Medina-Devilliers, X. Wang. "'A true friend with six hearts:' Holding a firearm helps gun-owners deal with the threat of electric shock." Princeton University, Princeton, NJ. (2021).

25. J. Lindgren. Fall from grace: Arming America and the Bellesiles scandal. *Yale L. R.* **111**, 2195-2249. (2002).

26. P. Haag. *The gunning of America: Business and the making of American gun culture*. (Basic Books, 2016).

27. X. Y. Z. Letter to the editor. *The Nation*, **914**, 14. (1883, January 4).

28. W. E. B. Du Bois. *Black Reconstruction in America, 1860-1880*. (Free Press, 1935).

29. R. L. Ransom, R. Sutch. *One kind of freedom: The economic consequences of Emancipation*. (Cambridge University Press, 2011).

30. C. Anderson. *White rage: The unspoken truth of our racial divide*. (Bloomsbury, 2017).

31. N. Isenberg. *White trash: The 400-year untold history of class in America*. (Penguin, 2017).

32. C. V. Woodward. *Origins of the New South, 1877-1913*. (Louisiana State University Press, 1951).

33. R. Lane. Murder in America: A historian's perspective. *Crime Justice,* **25**, 191-224. (1999).

34. E. Foner. *Reconstruction: America's unfinished revolution, 1863-1877*. (Harper & Row, 2011).

35. V. O. Key. *Southern politics in state and nation.* (Knopf, 1949).

36. M. J. Kousser. *The Shaping of Southern politics: Suffrage restriction and the establishment of the one-party South, 1880–1910*. (Yale University Press, 1974).

37. A. Acharya, M. Blackwell, & M. Sen. The political legacy of American slavery. *J. Polit.,* **78**, 621-641 (2016).

38. B. K. Payne, H. A. Vuletich, J. L. Brown-Iannuzzi. Historical roots of implicit bias in slavery. *Proc. Natl. Acad. Sci. U.S.A.,* **116**, 11693-11698. (2019).

39. R. E. Nisbett, D. Cohen. *Culture of honor: The psychology of violence in the South.* (Westview Press, 1996).

40. D. Cohen, R. E. Nisbett. Self-protection and the culture of honor: Explaining southern violence. *Pers. Soc. Psychol. B.,* **20**, 551-567 (1994).

41. R. Hofstadter. America as a gun culture. *Am. Heritage,* **21**, 82-85. (1970).

42. D. B. Kopel. *The samurai, the mountie, and the cowboy: Should America adopt the gun controls of other countries?* (Prometheus, 1992).

43. M. Gouda, A. Rigterink. The long-term effect of slavery on violent crime: evidence from US counties. *SSRN,* **2358389**. (2017).

44. G. Bertocchi, A. Dimico. Slavery, education, and inequality. *Eur. Econ. Rev.,* **70**, 197-209 (2014).

45. H. A. O'Connell. The impact of slavery on racial inequality in poverty in the contemporary US South. *Soc. Forces*, **90**, 713-734 (2012).

46. N. Nunn. Slavery, inequality, and economic development in the Americas. In *Institutions and economic performance.* E. Helpman, Ed. (Harvard University Press, 2008), pp. 148-180).

47. K. J. Mitchener, I. W. McLean. The productivity of US states since 1880. *J. Econ. Growth,* **8**, 73-114 (2003).

48. D. Azrael, P. J. Cook, & M. Miller. State and local prevalence of firearms ownership measurement, structure, and trends. *J. Quant. Criminol.,* **20**, 43-62 (2004).

49. P. J. Cook, J. Ludwig. The social costs of gun ownership. *J. Pub. Econ.,* **90**, 379-391 (2006).

50. G. Kleck. Measures of gun ownership levels for macro-level crime and violence research. *J. of Res. Crime Delinq.,* **41**, 3-36 (2004).

51. M. Siegel, C. S. Ross, C. King III. The relationship between gun ownership and firearm homicide rates in the United States, 1981–2010. *Am. J. Public Health,* **103**, 2098-2105 (2013).

52. R. Chu, C. Rivera, C. Loftin. Herding and homicide: An examination of the Nisbett-Reaves hypothesis. *Soc. Forces,* **78**, 971-987 (2000).

53. R. E. Nisbett. Violence and US regional culture. *Am. Psychol.,* **48**, 441-449 (1993).

54. S. Bazzi, M. Fiszbein, M. Gebresilasse. Frontier culture: The roots and persistence of "rugged individualism" in the United States. *Econometrica,* **88**, 2329-2368 (2020).

55. R. Slotkin. *Gunfighter nation: The myth of the frontier in twentieth-century America*. (University of Oklahoma Press, 1998).

59. A. Filindra, N. J. Kaplan. Racial resentment and whites' gun policy preferences in contemporary America. *Polit. Behav.,* **38**, 255-275. (2016).

60. G. D. Higginbotham, D. O. Sears, L. Goldstein. "When irresistible prejudice meets immovable politics: Pitting anti-Black attitudes against gun rights advocacy among White Americans." UCLA, Los Angeles, CA. (2021).

61. A. Winkler. *Gun fight: The battle over the right to bear arms in America.* (W. W. Norton., 2011).

62. C. Anderson. *The Second: Race and guns in a fatally unequal America*. (Bloomsbury, 2021)

63. L. Hagen, C. Haxel (Hosts). The original no-compromisers (No. 5) [Audio podcast episode]. In *No compromise*. National Public Radio. https://www.npr.org/transcripts/923143195 (2020, October 13).

64. Y. Mekawi, K. Bresin. Is the evidence from racial bias shooting task studies a smoking gun? Results from a meta-analysis. *J. Exp. Soc. Psychol.,* **61**, 120-130 (2015).

65. K. O'Brien, W. Forrest, D. Lynott, M. Daly. Racism, gun ownership and gun control: Biased attitudes in US whites may influence policy decisions. *PloS one,* **8**, e77552 (2013).

66. J. Santaella-Tenorio, M. Cerdá, A. Villaveces, S. Galea. What do we know about the association between firearm legislation and firearm-related injuries?. *Epidemiol. Rev.,* **38**, 140-157 (2016).

67. J. E. Losee, G. Pogge, N. P. Lipsey, J. A. Shepperd. "Understanding the political divide in gun policy support." In *Why we are losing the war on gun violence in the United States*. M. Crandall, S. Bonne, J. Bronson, W. Kessel, Eds, (Springer, 2021), pp. 89-106.

68. Law Center to Prevent Gun Violence. *2013 state scorecard: Why gun laws matter*. https://giffords.org/wp-content/uploads/2020/09/2013-Gun-Law-State-Scorecard.pdf (2013)

69. R. Chetty, N. Hendren, P. Kline, E. Saez. Where is the land of opportunity? The geography of intergenerational mobility in the United States. *Q. J. Econ.*, **129**, 1553-1623 (2014).

Figures

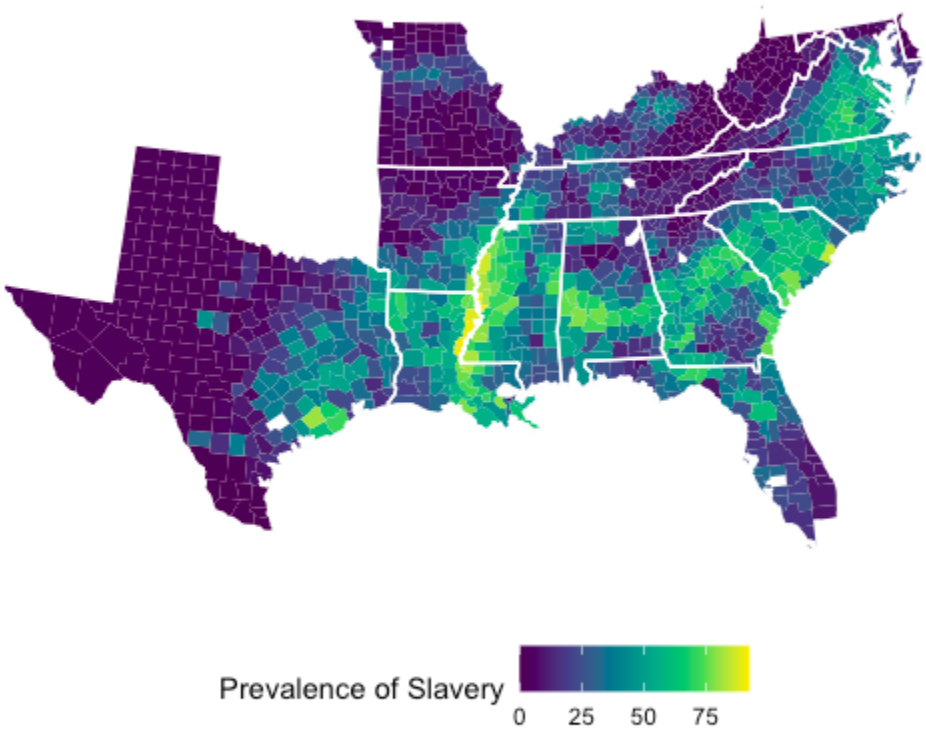

Figure 1 (panel a). Distribution of slavery in the 1860 census, mapped out by county.

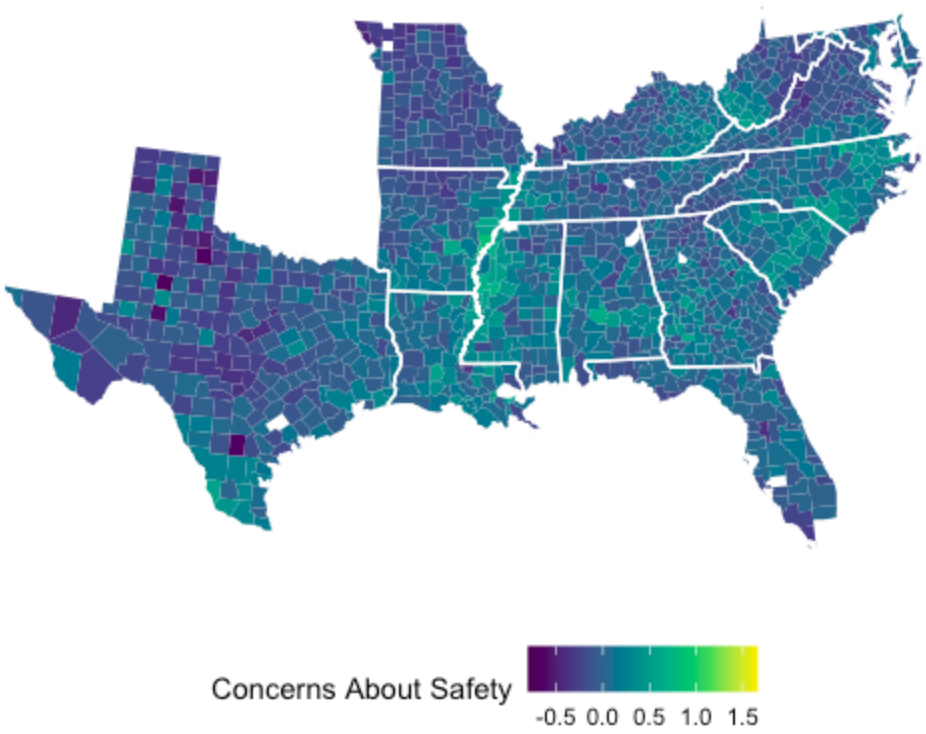

Figure 1 (panel b). Contemporary self-reported worries about safety, as measured in the Gallup Daily Tracking Poll, mapped out by county.

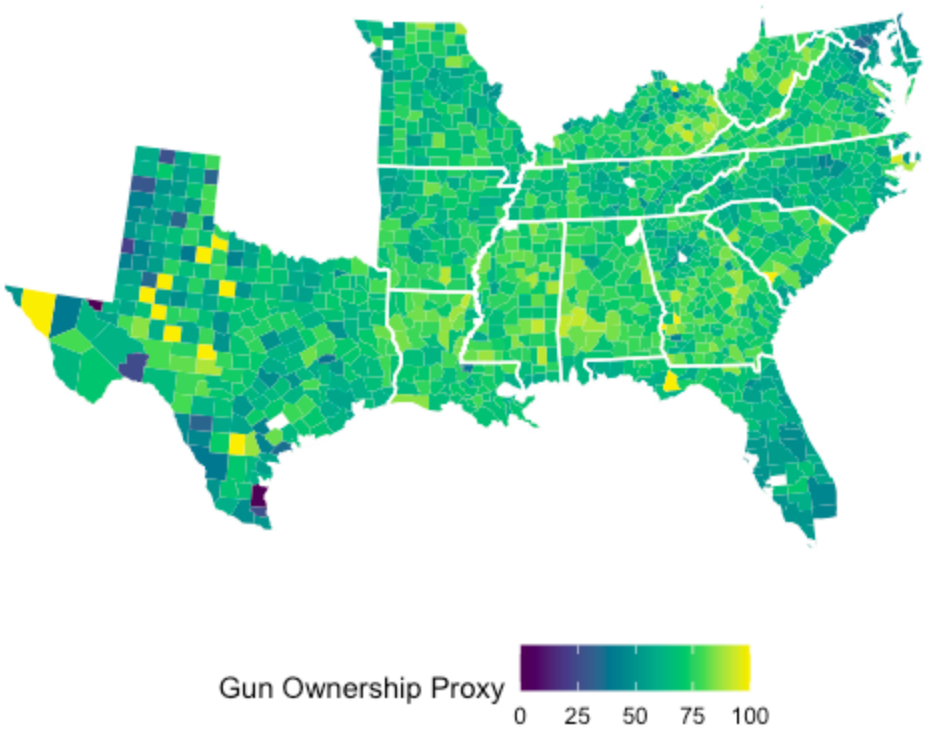

Figure 1 (panel c). Gun ownership proxy (the ratio of suicides using a firearm to total suicides), mapped out by county.

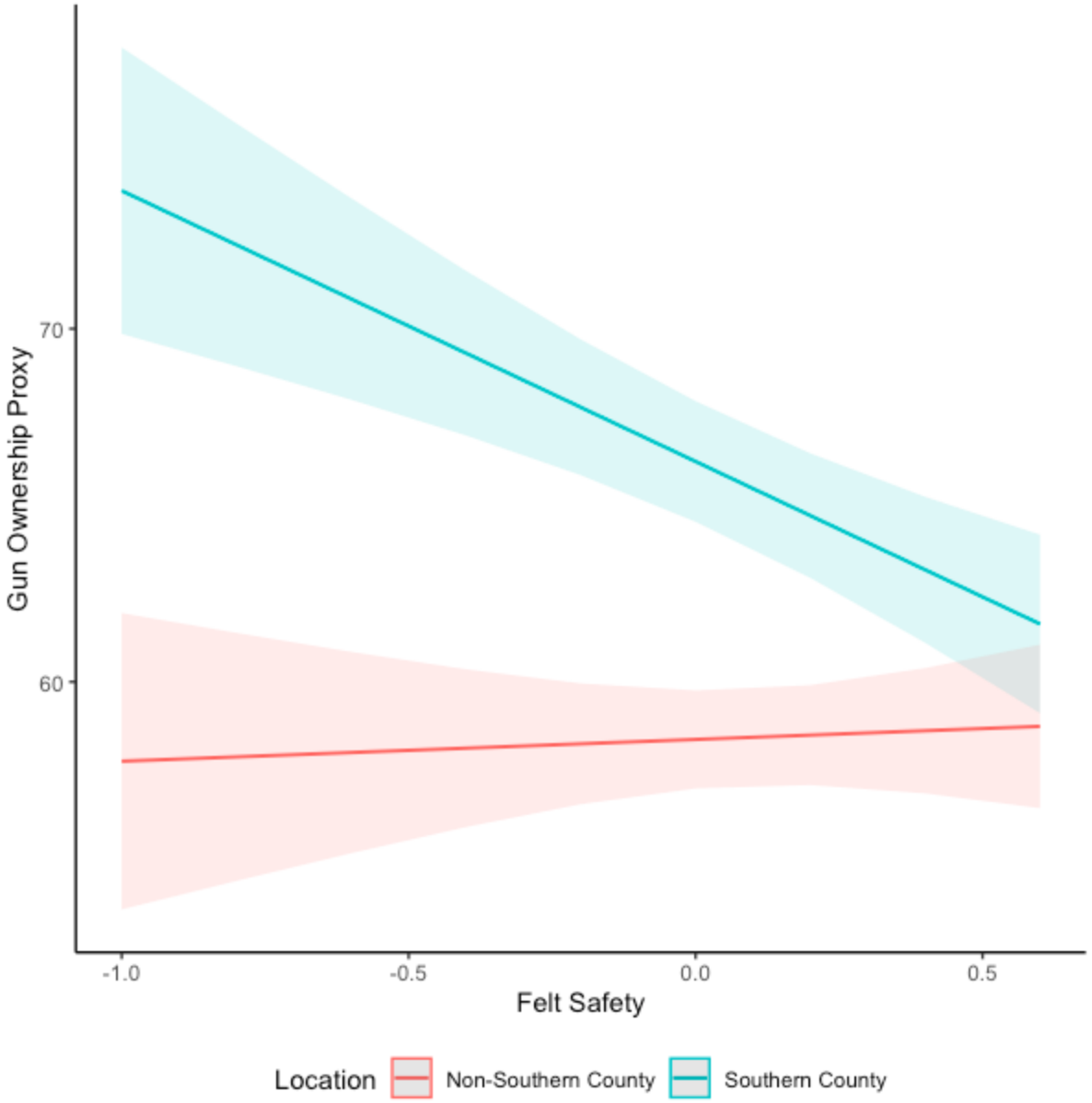

Figure 2. County-level feelings of safety predicting county-level gun ownership, both within Southern counties and without.

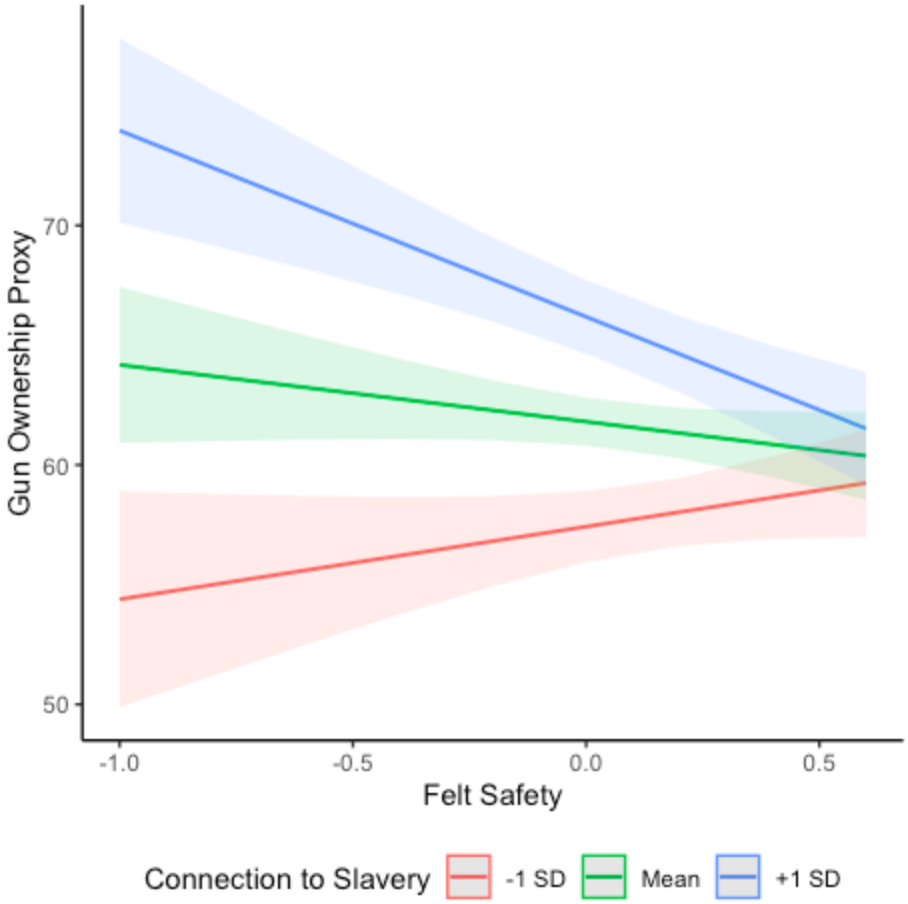

Figure 3. County-level feelings of safety predicting county-level gun ownership in counties with a high degree of connection to counties with a greater history of enslavement (+1 SD), a moderate degree of connection (Mean), and a lower degree of connection (-1 SD).

Tables

Table 1
Predicting County-Level Firearms Ownership from Historical Patterns of Slavery

	Without Controls	Without Controls	1860 Controls	Contemporary Controls	All Controls
Intensity of Slavery	0.07 *		0.22 ***	0.23 ***	0.30 ***
	[0.01, 0.13]		[0.12, 0.32]	[0.15, 0.30]	[0.18, 0.42]
Ruggedness of County		0.08 **	0.06		0.09 **
		[0.03, 0.13]	[-0.00, 0.12]		[0.03, 0.15]
Squared County Longitude			-0.02		-0.08
			[-0.19, 0.14]		[-0.22, 0.06]
Squared County Latitude			0.11		0.02

	[-0.03, 0.26]	[-0.11, 0.15]
Log of County Area	0.17 ***	0.02
	[0.10, 0.24]	[-0.06, 0.09]
Inequality of Land Holdings (1860)	0.08 *	-0.01
	[0.01, 0.14]	[-0.08, 0.05]
Proportion of Farms Under 50 Acres (1860)	0.01	0.09
	[-0.10, 0.12]	[-0.01, 0.19]
Log of County Population (1860)	-0.31 ***	-0.09
	[-0.44, -0.18]	[-0.23, 0.05]

Farm Value per Improved Acre (1860)	-0.14 ***	-0.06 *
	[-0.20, -0.07]	[-0.12, -0.00]
Log of Total Improved Acres (1860)	0.15	0.17 *
	[-0.01, 0.32]	[0.00, 0.33]
Proportion Free Black (1860)	-0.12 **	-0.07
	[-0.19, -0.05]	[-0.14, 0.00]
Rail Access (1860)	-0.10 ***	0.02
	[-0.15, -0.04]	[-0.04, 0.07]
Navigable Waterway Access (1860)	-0.09 **	-0.05

	[-0.15, -0.03]		[-0.10, 0.00]
Proportion with at least a High School Education		0.04	0.04
		[-0.04, 0.12]	[-0.04, 0.12]
Black/White High School Education Ratio		-0.01	0.02
		[-0.06, 0.04]	[-0.03, 0.07]
Residual Proportion Black		0.12 ***	0.22 ***
		[0.05, 0.19]	[0.13, 0.30]
Poverty Rate		0.17 **	0.18 **
		[0.06, 0.28]	[0.07, 0.30]
Racial Segregation		-0.02	-0.04

	[-0.08, 0.04]	[-0.10, 0.03]
Log of Population Density	-0.20 ***	-0.27 ***
	[-0.28, -0.11]	[-0.37, -0.17]
Household Income per Capita	0.06	0.06
	[-0.03, 0.15]	[-0.04, 0.15]
Income Inequality	-0.01	0.01
	[-0.08, 0.05]	[-0.06, 0.07]
Crime Rate	0.01	0.03
	[-0.07, 0.10]	[-0.06, 0.11]
Violent Crime Rate	0.02	-0.01

	[-0.06, 0.10]	[-0.09, 0.08]
Labor Force Participation	-0.03	0.04
	[-0.12, 0.05]	[-0.05, 0.13]
Local Government Expenditures per Capita	-0.06 *	-0.01
	[-0.11, -0.01]	[-0.06, 0.05]
Unemployment Rate	0.06	0.07 *
	[-0.01, 0.12]	[0.00, 0.14]
Social Capital Index	-0.04	-0.03
	[-0.10, 0.02]	[-0.09, 0.03]

Police Spending/Total Wage Expenditures				0.00	0.02
				[-0.06, 0.06]	[-0.04, 0.09]
Proportion Trump Vote, 2016				0.36 ***	0.41 ***
				[0.27, 0.44]	[0.31, 0.51]
Strictness of State Gun Laws				-0.11 *	-0.10
				[-0.20, -0.02]	[-0.20, -0.00]
Counties	1509	1408	1285	1268	1123

*** p < 0.001; ** p < 0.01; * p < 0.05.

Note: All estimates are standardized Betas. 95% confidence intervals are in brackets.

Table 2

Predicting County-Level Firearms Ownership from Social-Connectedness Indices

	Without Controls	With Controls	Without Controls	With Controls	Non-Southern, Without Controls	Non-Southern, With Controls
Slavery Connectedness Index	0.11 **	0.26 ***	0.11 **	0.26 ***	0.08 **	0.08 *
	[0.03, 0.19]	[0.17, 0.36]	[0.03, 0.19]	[0.17, 0.35]	[0.03, 0.14]	[0.01, 0.15]
Gun Connectedness Index	0.46 ***	-0.03	0.46 ***	-0.03	0.59 ***	0.02
	[0.42, 0.51]	[-0.11, 0.05]	[0.42, 0.51]	[-0.11, 0.04]	[0.52, 0.66]	[-0.11, 0.15]
Frontier Connectedness Index			0.00	0.02	0.01	-0.01
			[-0.04, 0.04]	[-0.02, 0.06]	[-0.05, 0.06]	[-0.07, 0.04]

Proportion with at least a High School Education	0.05 *	0.05	0.04
	[0.00, 0.10]	[-0.00, 0.10]	[-0.02, 0.10]
Black/White High School Education Ratio	-0.01	-0.01	-0.01
	[-0.04, 0.02]	[-0.04, 0.02]	[-0.05, 0.03]
Proportion Black	0.11 **	0.10 **	0.06
	[0.04, 0.18]	[0.03, 0.17]	[-0.01, 0.13]
Poverty Rate	-0.04	-0.05	-0.19 ***
	[-0.11, 0.02]	[-0.12, 0.02]	[-0.28, -0.10]
Racial Segregation	-0.10 ***	-0.09 ***	-0.13 ***

	[-0.13, -0.06]	[-0.13, -0.06]	[-0.19, -0.07]
Log of Population Density	-0.27 ***	-0.27 ***	-0.40 ***
	[-0.33, -0.21]	[-0.34, -0.21]	[-0.50, -0.30]
Household Income per Capita	-0.03	-0.03	-0.09 *
	[-0.08, 0.03]	[-0.08, 0.03]	[-0.17, -0.02]
Income Inequality	0.05 *	0.05 *	0.06
	[0.00, 0.09]	[0.00, 0.09]	[-0.00, 0.11]
Crime Rate	0.01	0.01	0.01
	[-0.04, 0.06]	[-0.04, 0.06]	[-0.06, 0.08]

Violent Crime Rate	-0.01	-0.01	-0.06
	[-0.06, 0.04]	[-0.06, 0.04]	[-0.13, 0.02]
Labor Force Participation	-0.03	-0.03	-0.04
	[-0.09, 0.02]	[-0.09, 0.02]	[-0.10, 0.03]
Local Government Expenditures per Capita	-0.02	-0.02	-0.01
	[-0.05, 0.02]	[-0.05, 0.02]	[-0.07, 0.04]
Unemployment Rate	0.10 ***	0.10 ***	0.14 ***
	[0.06, 0.15]	[0.06, 0.15]	[0.08, 0.21]
Social Capital Index	-0.01	-0.01	-0.00

		[-0.07, 0.04]		[-0.06, 0.04]		[-0.07, 0.07]
Police Spending/Total Wage Expenditures		0.01		0.01		0.01
		[-0.03, 0.04]		[-0.02, 0.04]		[-0.03, 0.06]
Proportion Trump Vote, 2016		0.25 ***		0.25 ***		0.18 ***
		[0.20, 0.30]		[0.20, 0.30]		[0.10, 0.26]
Strictness of State Gun Laws		-0.15 ***		-0.15 ***		-0.12 *
		[-0.22, -0.08]		[-0.22, -0.08]		[-0.22, -0.01]
Counties	3213	2609	3213	2609	1704	1341

*** p < 0.001; ** p < 0.01; * p < 0.05.

Note: All estimates are standardized Betas. 95% confidence intervals are in brackets

Online Supporting Information for "Historical prevalence of slavery predicts contemporary American gun ownership"

All tables and figures are available at https://osf.io/3k6dt/?view_only=964cd503a6db42d6b29947f9680b4573. Below are brief descriptions of each table and figure, as well as direct links to each.

SI Table 1: *Predicting County-Level Firearms Ownership from Historical Patterns of Slavery (Models Restricted to Counties with Greater Than 25,000 People).*

This table replicates Table 1 in the main text, restricting the sample to just those counties with greater than 25,000 residents (using the gun-ownership identification criterion of ref. 50).

The table can be found at https://osf.io/qybxp/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 2: *Predicting County-Level Firearms Ownership from Historical Patterns of Slavery (Models Using a White-Only Proxy Variable)*

This table replicates Table 1 in the main text, and SI Table 1 above, restricting firearms-ownership proxy to just suicides-by-firearm committed by a White individual.

The table can be found at https://osf.io/hgwt6/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 3: *Mediation Output*

This table contains the mediation output (*ab* path, *c'* path, and *c* path) for models in the main text (mediating the direct relationship between either slavery or ruggedness and our gun-ownership proxy), plus additional specifications that include restricting the underlying sample of counties to those with greater than 25,000 residents, specifications that use all counties in the sample, and specifications that use all counties and no controls. In addition, this table provides the mediation output for two alternate mediators - the present-day frequency of people in the county feeling much anger in the previous day ("Anger"), and the present-day frequency of people in the county agreeing that they are able to use their strengths every day ("Self Respect"). Both alternate mediators come from the Gallup Daily Tracking Poll.

The table can be found at

https://osf.io/zv6ry/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 4: *Mediation Output (Models Using a White-Only Proxy Variable)*

This table replicates SI Table 3 above, restricting firearms-ownership proxy to just suicides-by-firearm committed by a White individual.

The table can be found at

https://osf.io/7y3m9/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 5: *Predicting a Present-Day Sense of Safety*

This table shows the regression output for the relationship between slavery, geographic ruggedness and present-day feelings of safety (the *a* pathway of the mediations presented in-text). Models include the one presented in the main text, as well as additional specifications that include restricting the underlying sample of counties to those with greater than 25,000

residents, specifications that use all counties in the sample, and specifications that use all counties and no controls.

The table can be found at

https://osf.io/ykn2r/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 6: *Present Day Sense of Safety Predicting County-Level Firearms Ownership*

This table shows the regression output for the relationship between present-day feelings of safety and present-day firearms ownership (the *b* pathway of the mediations presented in-text). Models include the one presented in the main text, as well as additional specifications that include restricting the underlying sample of counties to those with greater than 25,000 residents, specifications that use all counties in the sample, and specifications that use all counties and no controls. In addition, this table shows the same output when the firearms-ownership proxy is restricted to just suicides-by-firearm committed by a White individual.

The table can be found at

https://osf.io/wr6t3/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 7: *The Moderating Effect of Southern-County-Status on the Relationship Between Feelings of Safety and the Gun Ownership Proxy.*

This table provides the full regression output for the moderation of the relationship between present-day feelings of safety and the present-day gun-ownership proxy by Southern-county-status (presented in Figure 2). In addition, the table presents alternate specifications of the relationship, including models using the White-only gun-ownership proxy, models using all counties, models without controls, and models restricted to counties greater than 25,000 people.

The table can be found at

https://osf.io/tm4ay/?view_only=964cd503a6db42d6b29947f9680b4573

For the accompanying **Figure S1**, plotting the shape of the interaction for each model of SI Table 7 (recreating the form of Figure 2), see

https://osf.io/h8kmc/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 8: *Predicting County-Level Firearms Ownership from Social-Connectedness Indices (Models Using a White-Only Proxy Variable)*

This table recreates Table 2 from the main text, restricting the gun-ownership proxy to just suicides-by-firearm committed by a White individual.

The table can be found at

https://osf.io/54btd/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 9: *Predicting County-Level Firearms Ownership from Social-Connectedness Indices (Models Restricted to Counties with Greater Than 25,000 People)*

This table recreates Table 2 from the main text, using specifications that restrict the sample to counties with more than 25,000 residents.

The table can be found at

https://osf.io/at8sb/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 10: *The Moderating Effect of the Slavery Social-Connectedness Index on the Relationship Between Feelings of Safety and the Gun Ownership Proxy.*

This table provides the full regression output for the moderation of the relationship between present-day feelings of safety and the present-day gun-ownership proxy by the Slavery Social-Connectedness Index (presented in Figure 3). In addition, the table presents alternate specifications of the relationship, including models using the White-only gun-ownership proxy, models using all counties, models without controls, and models restricted to counties greater than 25,000 people.

The table can be found at

https://osf.io/mkyga/?view_only=964cd503a6db42d6b29947f9680b4573

For the accompanying **Figure S2**, plotting the shape of the interaction for each model of SI Table 10 (recreating the form of Figure 3), see

https://osf.io/s6h8u/?view_only=964cd503a6db42d6b29947f9680b4573

SI Table 11: *Descriptive Statistics*

This table provides descriptive statistics, and histograms, for all variables.

The table can be found at

https://osf.io/7gjxb/?view_only=964cd503a6db42d6b29947f9680b4573

SI Figure 3: *Correlations*

This figure presents a correlation matrix between all variables.

The figure can be found at

https://osf.io/pgrby/?view_only=964cd503a6db42d6b29947f9680b4573