Fear and Loathing in St. Louis: Gun Purchase Behavior as Backlash to Black Lives Matter Protests

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Abstract

How do Black civil rights protests affect Americans' gun ownership decisions? Using a novel dataset of gun-related web searches in combination with geocoded protest data, we examine the effects of the 2020 Black Lives Matter protests on Americans' intent to purchase firearms. We find a clear relationship between geographic proximity to BLM protests and firearm purchase web searches, but a null relationship between these searches and proximity to re-opening protests. We then examine racial attitudes of would-be gun buyers using users' web search histories and find that users exposed to racially conservative narratives had significantly larger spikes in gun purchase interest during the 2020 BLM protests than did other comparable searchers. These results suggest that Black civil rights protests can serve as a catalyst for gun purchases among Americans with racially conservative beliefs.

In 2020, Mark and Patricia McCloskey sparked controversy after footage of the St. Louis couple aiming guns at Black Lives Matter protesters surfaced online. The McCloskeys were not the only Americans inspired to bear arms in the summer of 2020. As Black Lives Matter protests swept the nation, they were followed by a substantial rise in Americans' gun purchases. In this paper, we examine the role of gun purchase as a response to perceptions of racialized threat posed by Black civil rights protests.

For many Americans, gun ownership is a form of political behavior. More racially resentful Americans have higher levels of gun ownership (Filindra, Kaplan and Buyuker 2020; O'Brien et al. 2013) and more support for gun rights (Filindra and Kaplan 2016). For white Americans in particular, gun ownership has long functioned as a signal of virtuous citizenship in certain communities, where men are expected to protect their community against the danger of racialized others (Filindra 2021). While it is difficult to disentangle causality of gun ownership and anti-government beliefs, scholars have found that gun owners are more likely to join militia groups (O'Brien and Haider-Markel 1998) and less likely to trust the federal government (Jiobu and Curry 2001). Gun ownership itself forms a powerful social identity (Lacombe, Howat and Rothschild 2019) that provides psychological benefits beyond the mere utility of owning a gun.

To explore the relationship between Black civil rights protests and gun purchasing behavior, we combine a novel dataset of searches for purchases of guns, ammunition, and visits to shooting ranges with protest data related to the 2020 Black Lives Matter protests. Gun purchase searches serve as a valid measure of gun purchases, as they are highly correlated with federal gun background checks. The use of web search data allows us to measure gun purchase ideation at a highly temporally and geographically granular level - we can determine when and where searchers were interested in purchasing guns, and examine the role of events, geography, and web search history in spurring these purchases.

We find a clear relationship between county-level BLM protest incidence and increases

in 2020 gun purchase searches relative to the same date in 2019. We also find that searchers located closer to a BLM protest during late May and early June 2020 had a larger increase in same-day gun purchase searches relative to searchers who were located far away from a protest. We find a relationship between gun purchase behavior and residence in a county with anti-COVID re-opening protests in April and May 2020.

We also argue that Americans with more racially conservative attitudes are more likely to purchase guns in response to protests than those with less racially conservative attitudes. To estimate web search users' racial attitudes, we look at their previous web searches related to media consumption and perceptions of Black criminality. While some of our evidence suggests that these patterns are driven by white Americans, our data does not have a measure of searcher race, and historically violent responses to Black protest have not been limited to white Americans (Abelmann, Lie and Abelmann 2009; Mohl 1990).

Using this data, we find that searchers who had recently searched for conservative media had larger BLM spikes in gun purchases as compared to searchers who had searched for other kinds of news media. Similarly, we find that searchers who had search interest in "black crime", especially in crimes with a Black perpetrator and a white victim, show a larger increase in gun purchase searches than searchers with interest in a placebo term ("hunting license"). These patterns are fundamentally different than those that occurred during the early-COVID-19 spike in gun purchase searches, where most groups of searchers had similarly-sized increases in gun purchase searches. This suggests that the BLM protests had a unique effect on searchers with interest in racially conservative narratives relative to other high-stress events.

This article is structured as follows. The next section focuses on theoretical perspectives around civil rights protests and gun ownership. The third section introduces a theory of racial threat gun ownership and explains our hypotheses. The fourth section describes our methodology. The fifth characterizes the relationship between proximity to BLM protests and gun purchase. The sixth section examines the search data evidence for the link between racial conser-

vatism and gun purchase ideation. The final section discusses the implications of our results.

Gun Ownership, Civil Rights Protests, and Racial Attitudes

This paper speaks to several different literatures on protest, racial attitudes, and gun ownership within political science, and adds to these literatures in three key ways:

First, studies of mass response to civil rights protests tend to focus on public opinion and voting behavior. A number of studies in this domain focus on the role of protest in generating policy concessions, either through mobilizing voters, forcing the hand of elites, or both. Lee (2002) argues that protests during the civil rights movement mobilized white Northern public opinion in favor of civil rights by generating sympathetic media coverage. Reny and Newman (2021) finds for a similar opinion-mobilizing effect of the 2020 BLM protests, at least in the short term. Mazumder (2018) finds that public opinion change among whites engendered by the 1960's civil rights movement has had long-lasting effects. Wouters and Walgrave (2017) extends this attitudinal analysis to the opinions of elected representatives, and finds that protests can shift elite opinion by providing cues about public preferences.

A key question within this literature is whether violent protests spark backlash among voters. Wasow (2020) argues that non-violent civil rights protests are more successful at "seeding" the media agenda and public opinion in favor of protesters' preferred frames, while violent protests have the opposite effect. On the other hand, Enos, Kaufman and Sands (2019) finds that the 1992 Los Angeles Riots increased support for education spending among both white and Black voters. While this literature examines the short- and long-term effects of protests on policy support among some whites, it does not focus on gun purchasing or violence as a backlash to protests.

We contribute to the literature on mass response to protest by studying gun purchase behavior as a form of backlash to civil rights protests. While the majority of gun owners are law-

abiding citizens, gun purchase behavior is important in the protest context, as it can signify a willingness to engage in intimidation or violence against protesters. The vast majority of people willing to engage in intimidation or violence against protesters are unlikely to end up in a position to do so, so measures of actual violent incidents likely dramatically undercount the potential for violence.

Second, studies of violent response to protest generally examine state repression, rather than violent backlash by ordinary citizens. Within sociology, a literature on protest policing examines the role of protest size (Earl and Soule 2006), protest violence (Earl, Soule and McCarthy 2003), and protest organization (Davenport and Eads 2001) on violent repression by the state. Several studies explicitly examine the relationship between protest racial composition and violent state repression. Earl and Soule (2006) argues that state repression against protests by marginalized populations is more common because these populations have less resources with which to hold authorities accountable. Davenport, Soule and Armstrong (2011) argues that greater police violence against Black protesters is the result of heightened police perception of the threat posed by Black protesters specifically. In 2020, violence against 2020 BLM protesters was not confined to state repression. Gun purchases rose across the country, armed vigilantes were present at BLM protests, and there were numerous anti-BLM shooting and car-ramming incidents. We add to this literature by examining the ways in which non-state actors can contribute to violent repression of Black civil rights protests.

Finally, while the literature on racial attitudes and gun ownership shows that racially conservative whites are more likely to become gun owners (Filindra, Kaplan and Buyuker 2020; Gearhart et al. 2019; O'Brien et al. 2013), the process by which racial attitudes are converted into gun ownership remains underexplored. In what circumstances does racial conservatism trigger a gun purchase? We argue that Black civil rights protests are one such instance, where attitudes towards the likelihood of Black violence can motivate a gun purchase among racially conservative individuals.

A Theory of Black Protest-Driven Gun Purchasing

Prior literature has found that proximity to some threatening events, such as mass shootings, increases support for gun control (Newman and Hartman 2019). Other studies have found null effects (Rogowski and Tucker 2019; Zhang and Kelly 2021). Here, we explain why we expect an increase in gun purchasing specifically in response to Black civil rights protests, as opposed to other stressful or threatening events. We consider three mechanisms through which racially conservative Americans are motivated to purchase guns as a response to Black Lives Matter protests.

In the US, Black protest events are regularly perceived as more violent than protests attended by whites, regardless of the actual level of violence at any given type of protest. This results in greater police presence and action at protests (Davenport, Soule and Armstrong 2011). Media coverage plays a particularly important role in societal perceptions of protest, as few people actually attend the protest or experience it firsthand. About 6-10% of Americans surveyed reported participating in the 2020 BLM protests (Buchanan, Bui and Patel 2020). While this is a very large number of people in an absolute sense, it also means that it is likely that the vast majority of Americans who were aware of BLM protests did not gain this awareness through personal participation.

The 2020 Black Lives Matter protests were widely portrayed in the media as violent, despite actually being generally non-violent. Described as a "mob", protesters were accused of burning and looting American cities. BLM protesters were portrayed as vicious, violent, and destructive to both life and property. Media coverage portraying BLM protesters as violent was relatively widespread. Reid and Craig (2021) compares the national media coverage of the BLM protests to that of the re-opening protests, and finds that the BLM protests were more likely to be framed as a threat to public interests. Right-wing media commentators claimed

that the BLM movement "wants to come and take your house away from you"[1], that protesters believe that "everyone in a motor vehicle is an agent of white supremacy"[2], and that they "literally want to kill you and destroy everything that is your life" [3]. One piece of online misinformation claimed that BLM protesters were planning violent attacks on suburban communities and "white [neighbor]hoods"[4]. Framing of the 2020 BLM protests as violent substantially decreased support for the movement (Kilgo and Mourão 2021; Mourão and Kilgo 2021).

Most of the literature on racial attitudes and gun purchasing behavior focuses exclusively on the responses of white Americans. However, multiple studies have found anti-Black attitudes among both Latinos (Krupnikov and Piston 2016; Segura and Valenzuela 2010) and Asian-Americans (Tokeshi 2021) in the US. George Zimmerman, a white Hispanic man, shot and killed an unarmed Black 17-year old, Trayvon Martin, in 2013. During the 1992 riots in Los Angeles, armed Korean-Americans clashed with Black protesters (Dreams 1995). While the majority of American gun owners are white men[5], gun purchasing behavior in response to BLM that is driven by anti-Black attitudes may occur not only in white Americans, but in Asian-Americans and Latinos as well.

The first mechanism by which racially conservative Americans are motivated to purchase guns in response to BLM protests is through fear of violence. Black Americans are regularly portrayed as violent and criminal in media coverage (Mendelberg 2017; Gilliam Jr et al. 1996; Covington 2010). Portrayals of Black Americans as criminal can lead other Americans to view them as disproportionately threatening. Correll et al. (2007) finds that exposure to news articles about Black criminal suspects substantially increased racial bias in a threat-perception

[1]Former Mayor of New York City and President Trump's personal lawyer Rudy Giulani, https://www.mediamatters.org/black-lives-matter/right-wing-media-vilify-black-lives-matter-movement-grows

[2]Top rated news host Tucker Carlson on Fox News, https://www.mediamatters.org/tucker-carlson/tucker-carlson-its-total-hoax-people-are-protesting-police-brutality-and-racism

[3]Radio host Michael Berry, https://www.mediamatters.org/michael-berry/radio-host-michael-berry-we-have-people-country-who-literally-want-kill-you

[4]https://www.adl.org/disinformation-antifa-planning-violent-attacks-on-white-suburbs

[5]According to Pew Research Center, 61% of gun owners are white men(https://www.pewresearch.org/politics/2013/03/12/section-3-gun-ownership-trends-and-demographics/)

context. After reading the article, participants were asked to participate in a video game simulation where the goal was to "shoot" armed suspects and not shoot unarmed ones. The "Black criminal" media condition significantly increased the mistaken "shooting" of unarmed Black individuals in the simulation. Subsequent studies found that this effect is stronger for civilians than for police officers (Correll et al. 2014). This increase in threat perception persists even when there are no weapons involved. Wilson, Hugenberg and Rule (2017) finds that people are more likely to perceive young Black men as physically larger and more threatening than similarly-sized young white men.

We argue that racialized media coverage of Black Lives Matter protests as a violent threat increased fear of violence and crime at the hands of the protesters, which then motivated some Americans to purchase guns. Scholars have found that fear of crime is a powerful motivator of gun ownership (Holbert, Shah and Kwak 2004; Wallace 2015). The effect of news coverage of BLM protests is especially powerful for racially conservative Americans, who are already more likely to stereotype Black people as violent and criminal (Hurwitz and Peffley 1997), and who respond more strongly anti-Black media messages (Mendelberg 2017). As a result, framing of Black Lives Matter protests as violent increases fear of crime among racially conservative Americans, and this in turn increases gun purchasing behavior.

The second mechanism through which Black civil rights protests increase gun purchases among racially conservative Americans comes from gun ownership as as expression of virtuous citizenship. Filindra (2021) argues that gun ownership by whites in the US has historically served as a form of *ascriptive republicanism*, where "deserving" citizens believe that are tasked with the duty of defending their communities from harmful outsiders. In this context, "deservingness" is allocated on the basis of race and gender. Black Americans are considered not worthy of participating in the community's defence, so their gun ownership is viewed as a form of deviance, rather than virtue (Filindra 2021). This is deeply intertwined with the form of threat that racially conservative Americans felt from the BLM protests. Perceptions of BLM protests

as incursions by violent outsiders mobilize gun ownership among racially conservative Americans.

The final mechanism by which response to BLM protests motivates gun purchase is through the status threat posed by a movement in opposition to police violence against Black Americans. Some positive media coverage and political responses to the BLM protests can be viewed by racially conservative white Americans as a threat to their dominant status. Racial status threat theories argue that racial conflict can arise as a form of status competition as dominant group members fight to protect their group's social and economic status (Blumer 1958). These theories argue that racial prejudice among whites is one manifestation of status threat posed by people of color (Bobo and Hutchings 1996). Racial status threat encourages a wide variety of prejudiced behaviors among whites, including expression of racial bias (Craig, Rucker and Richeson 2018), support for anti-immigrant policies (Brader, Valentino and Suhay 2008) and more punitive criminal justice policies (King and Wheelock 2007), hate crimes (Green, Strolovitch and Wong 1998), and agreement with explicit racial appeals (Christiani 2021). When these theories describe "racial threat", they are describing abstract threats posed by people of color, that arise from a number of sources such as economic, cultural, political or social competition (Citrin et al. 1997). While threat posed by Black people to whites in these theories is rarely perceived as violent, it has often generated a violent anti-Black response among whites (Tolnay and Beck 1995). Guns can serve both a psychological and very literal function in reaffirming white dominance that has been threatened by a widespread protest movement.

While the relationship between Blackness and racial status threat can be more complicated for non-white groups, scholars have found that some Latinos, especially Latino immigrants engage in racial distancing (McClain et al. 2006; Marrow 2009), where they derogate Black Americans as a way of gaining social status. Latino or Asian-Americans who purchase guns in response to BLM may do so as another form of racial distancing.

We focus on two variables, *threat salience* and *threat intensity*, as key forces that shape

gun purchase behavior in response to BLM protests. The first variable, *threat salience*, refers to the perceived probability that a threatening event will have a tangible personal effect. Multiple studies show that people who are geographically proximate to a social or political event experience a stronger impact on their political behavior (Newman and Hartman 2019; Enos, Kaufman and Sands 2019; Wallace, Zepeda-Millán and Jones-Correa 2014). Newman and Hartman (2019) notes the unique 'focusing' quality of geographically proximate events at eliciting personal threat, which can then lead to political action. In addition to perceptions of personal threat, which stimulate the 'fear of violence' motivation for gun purchase, we argue that perceived threats to the *community* from BLM protesters stimulate both the 'virtuous citizenship' and 'racial status threat' motivations for gun purchase. Perceived threats to the community from dangerous outsiders lead to an expectation of gun ownership as a performance of civic duty, and the ability to threaten Black protesters with guns can serve to reinforce racial status hierarchies at a moment when they are under threat. The role of proximity to BLM protests in motivating gun purchase behavior leads to the first hypothesis:

H1: People who are located geographically closer to BLM protests are more likely to purchase guns than those that are more distant

Next, we focus on *threat intensity*, which we define as the expected magnitude of the negative effects from a threatening event. Threat intensity is influenced by the characteristics of both the protest and the viewer. We argue that the racialized nature of BLM protests sharply increased their threat intensity relative to that of other protests due to both the negative media coverage of the protests as well as racial conservatives' beliefs that Black Americans are disproportionately violent. As a result, we expect that comparable protests in the same timeframe will *not* elicit the same response, as they have very low threat intensity to people threatened by BLM protests. This results in our second hypothesis:

H2: Proximity to the re-opening protests in April - May 2020 will have no effect on gun purchases

Our final hypothesis focuses on the role of racial attitudes in increasing threat intensity. As discussed previously, racially conservative Americans are more likely to view Black Americans as dangerous. As a result, we expect that Americans who show interest in racially conservative narratives will have am especially strong increase in gun purchase decisions during the BLM protests. While scholars have noted a consistent relationship between racial conservatism and gun ownership (Filindra, Kaplan and Buyuker 2020), we argue that this relationship will be strengthened during the BLM protests. This yields our third hypothesis

H3: Americans who show interest in racially conservative narratives will have especially large increases in gun purchase interest during the BLM protests

Empirical Approach

In this section, we will briefly discuss the data we use in order to test our hypotheses. Table 1 describes the sources of our data, as well as their temporal availability. More details about our methodology are available in the appendix A1. We provide demographic data about Bing searchers in Appendix A.1.8. According to survey data, Bing users tend to skew older, more Republican, and more racially resentful than Google users.

The paper contains two main analyses. The first analysis focuses on the temporal and geographic distributions of cross-sectional search data to test the role of geographic proximity on gun purchase behavior to test H1 and H2. The second analysis uses longitudinal search data to test H3 by establishing the relationship between user search history and gun purchasing behavior.

Table 1: Data Summary

Dataset	Measures	Availability
Bing Search Data	Gun Purchase Searches	1/1/19 - 10/1/20
Google Trends Data	Aggregate Google Data	1/1/19 - 10/1/20
Gun Background Checks	Monthly Gun Background Checks	1/1/19 - 10/1/20
Protest Counts	Info about BLM and Reopen Protests	1/1/20 - 10/1/20
Longitudinal Bing Search Data	Search Interest and Media Consumption	1/1/20 - 10/1/20

Search Data Measures Gun Purchase Behavior

We rely on web search data as the measure of gun purchase behaviors. Web search data is used by social scientists in a wide variety of applications, such as estimating consumer goods purchase (Vosen and Schmidt 2011), measuring disease incidence (Lampos et al. 2021), and understanding political behavior (Street et al. 2015). Web search data is highly correlated with real world behaviors - for example, aggregated search data is able to predict economic consumption more accurately than the survey-based Consumer Confidence Index (Vosen and Schmidt 2011).

There is a clear and strong relationship between gun purchase searches and FBI background checks. Background checks, which are necessary to complete a gun purchase in the US, are a measure of attempted (but not necessarily completed) gun purchases. We were able to validate our gun purchase search measure by comparing monthly Bing gun purchase searches by state with per-capita gun background checks from the FBI[6]. Figure 1 plots this correlation by month for 46 out of 50 states[7]. For these states, the correlation between the proportion of

[6]Background check data is available at `https://www.fbi.gov/file-repository/nics_firearm_checks_-_year_by_state_type.pdf/view`

[7]The remaining 4 states (KY, UT, IL, IN) conduct a large number of permit re-checks which make up the vast majority of background checks in the state, limiting the utility of gun background checks as a measure of gun purchase behavior

gun purchase searches and the per-capita number of background checks ranges from 0.61 to 0.93. Over half the states have a correlation greater than 0.8. Gun purchase searches can thus be described as an accurate measure of gun purchases.

We use Bing search data to measure gun purchase ideation. Bing is a search engine that commands 33 percent of the desktop search market share in the United States, with 5 billion searches per month [8]. In order to measure gun purchase ideation, we count web searches that include at least one term from "gun","guns","shotgun", or "shotguns" and at least one term from "buy", "shop", "sale", "online", "store", "near me", "dealer", "price"[9]. For the remainder of the paper, we refer to these queries as gun purchase searches.

To measure search interest in ammunition, we look at searches for "ammo" or "ammunition", referred to as ammunition searches.

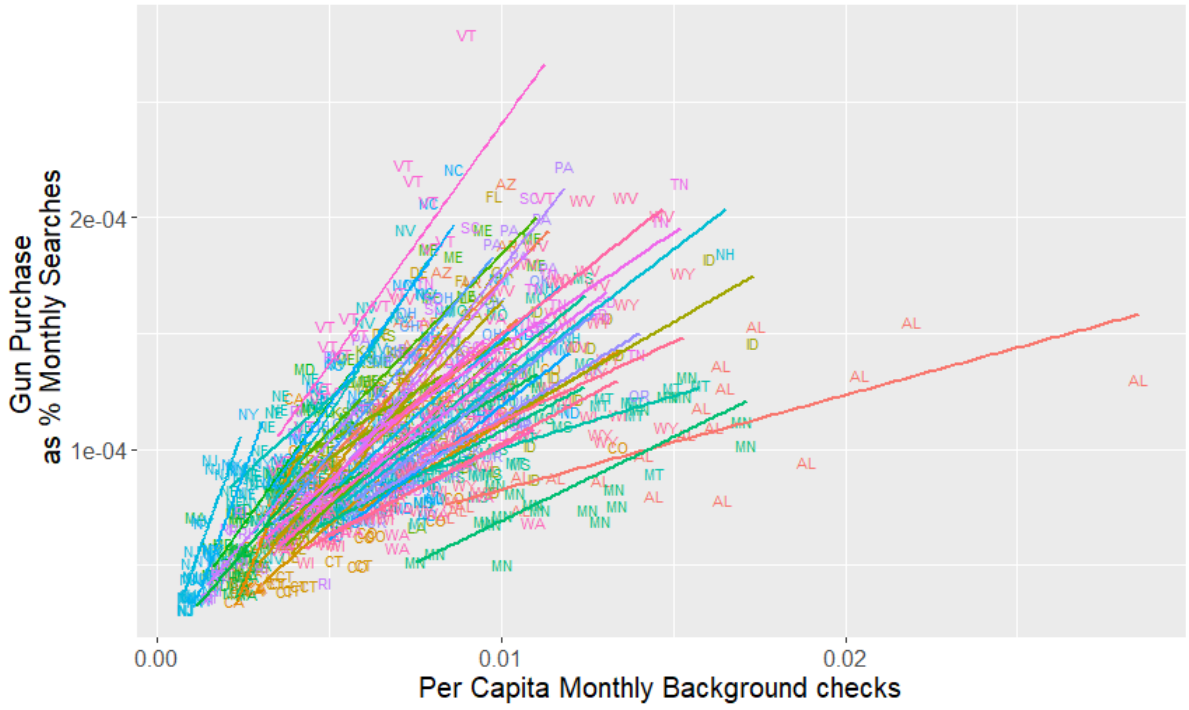
To measure visits to gun ranges or other training, we count searches that include at least one term from "gun","guns", "shotgun" or "shotguns" and at least one term from "range", "training", "course*", or "class*". These are referred to as gun range searches. We refer the searches from these three categories in aggregate as gun searches.

Gun purchase searches are the main focus of this paper because we are able to validate them with background check data. There is no similar data to validate ammunition or gun range searches, so these two groups of searches serve as a robustness check and the results of their analyses are presented in the appendix. For all analyses, the results are very similar for all three types of searches that we measure. Figure 2 shows that search patterns on Bing in 2020 mirror those on Google. Both Bing and Google show dramatic spikes in gun purchase searches in mid-March and late May of 2020. The Bing data shows that in addition to these dramatic spikes, the baseline number of gun purchase searches in 2020 was substantially higher than gun purchase searches on the same date in 2019.

[8] https://gizmodo.com/microsoft-bings-us-market-share-is-wildly-underestimat-1798053061

[9] We omit a handful of queries that are either news driven or driven by Bing's Trending Topics feature - for a list of these queries, please see Appendix A.1.3.

Figure 1: Correlation Between Monthly Gun Purchase Searches and Monthly Background Checks by State



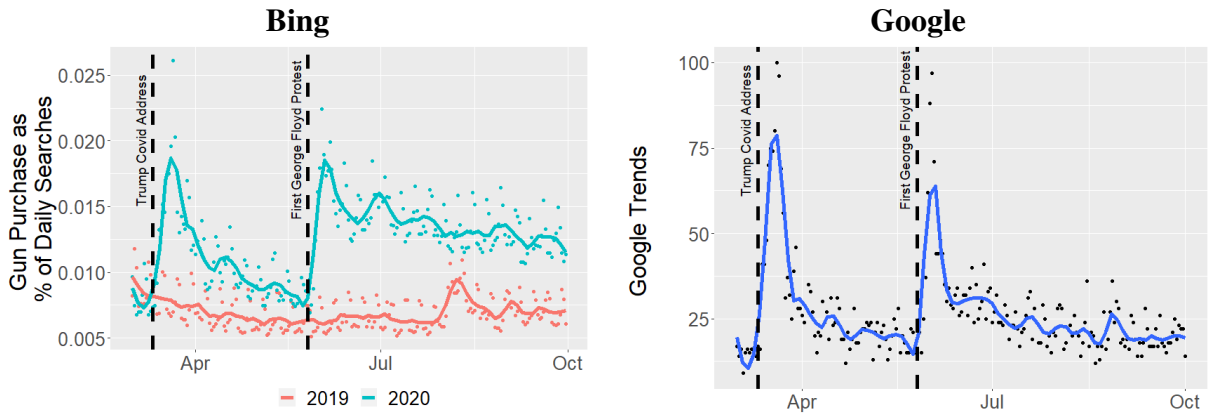
Notes: Monthly background checks are strongly correlated with monthly Bing gun purchase searches (2019-2020). Each line represents one state. Plot does not include KY, UT, IN, or IL, as the vast majority of background checks in these states are gun permit re-checks, which do not stem from new gun purchases.

Determining Protest Topic and Location

We obtained data on protest topics and locations from CountLove, an organization that documents protests in the United States by scraping news coverage[10]. To identify Black Lives Matter protests, we use all protests labelled as "Racial Injustice" that occur between May 26, 2020 and October 1, 2020. To identify re-opening protests, we look at protests before June 1, 2020 that are labelled as "Against regulation; Coronavirus". We use the Google Maps API to calculate the distance between these protests and the searchers in our data set (more information in Appendices A.1.1 and A.1.2)

[10]Data can be downloaded at https://countlove.org/faq.html

Figure 2: 2020 Gun Purchase Searches (US)



Notes: Google and Bing gun purchase searches showed similar gun search patterns. Each point represents the searches for one day. Both Google Trends and Bing searches surged on the same dates during the beginning of the coronavirus pandemic and the BLM protests. Google Trends data shown is for the search query "buy gun".

Longitudinal Search Data Measures Interest and Media Consumption

User search histories provide a wealth of information about a searchers' political beliefs. Scholars have found that user search histories can accurately describe user interests and predict engagement with news articles (Tan, Shen and Zhai 2006; Tamine-Lechani, Boughanem and Zemirli 2006; Bai et al. 2017).

In order to understand the types of people who are buying guns at any particular point in time, we examine gun purchase searches among users who have also searched for specific other terms that correlate with partisanship and racial attitudes. We focus on two sets of queries: media consumption searches, and searches for crimes committed by Black people.

Media consumption can serve as both proxy for overall political ideology[11] and also as a proxy for racial attitudes. Furthermore, Nielsen data shows that Fox News viewership is 94%

[11] While scholars have found varying degrees of selective exposure among the general population (Peterson, Goel and Iyengar 2021), the literature is in agreement that many news sources are consumed primarily by conservatives, while others by liberals, allowing news consumption to serve as a proxy

white and only 1% Black [12], suggesting that Fox News consumption can serve as both a proxy for race in addition to proxying for ideology.

We argue that the spike in gun purchase searches during the Black Lives Matter protests is a form of backlash against the protests, rather than an increase in searches by the protesters themselves. To test this, we examine the proportion of searchers who searched for a media outlet who then made a gun purchase search within 24 hours after their initial media search. That is, if 20 out of 100 people who searched for MSNBC on June 1, 2020 made a gun purchase search within 24 hours after their search for MSNBC, the proportion measured would be 0.2. This allows us to measure the relationship between media consumption and gun purchase searches over time. We conduct our analysis across both traditional cable news (Fox, CNN, and MSNBC) as well as more niche outlets that appeal to specific ideological bases, grouped into liberal, centrist, and conservative outlets[13].

Our second set of search terms is more closely related to racial narratives. In order to proxy for racial conservatism, we examine users who have search interest in crime committed by Black people. As an aggregate, these users are likely tohave a higher level of racial conservatism than other Bing searchers, as concerns about Black crime among whites are associated with higher levels of racial conservatism (Hurwitz and Peffley 1997; Skogan 1995; John and Heald-Moore 1996). We examine searches that include the word "black" and one or more of the following words: "crime*", "criminal*", "kill*", "murder*", "violent", and "violence". We manually remove queries that are not relevant to crimes committed by Black people (for example, "white on black crime"). For a list of queries that were removed, please see Appendix A.1.3. The first column of Table 2 shows the top 10 queries for the Black crime measure. We also specifically examine searches for crimes committed by a Black perpetrator where the victim is white by examining the subset of Black crime searches that contain the word "white". The top 10 searches of this subset are presented in the second column of Table 2.

[12] https://www.newsweek.com/fox-news-white-audience-immigration-1067807

[13] List of news outlets derived from Pew Center - for more details, see Appendix A.1.4. News outlets are grouped by Pew estimates of the ideology of their consumers

As a placebo, we examine users who have expressed search interest for the string "hunting license". We chose this placebo for two reasons. First, hunters are more likely to be Republican than Democratic[14], so any differences we see in gun purchase interest among hunting license and Black crime searchers are likely to be attributable to differences outside of partisanship. Second, hunters are by definition comfortable with guns. This means that if anxiety-inducing events merely activate gun purchase searches among gun owners, hunting license searchers should have some of the largest increases in gun purchase searches during both the early COVID-19 period and the BLM protests. In order to test the relationship between racial conservatism and BLM gun purchase behavior, we examine whether Black crime searchers have a greater increase in gun purchase searches during BLM than hunting license searchers despite the latter group's partisanship and high affinity for guns.

Both Black crime and hunting license searches are several orders of magnitude rarer than media searches. Due to this difference, we examine the gun purchase behavior of users who have searched one of these terms at any point in the dataset (1/1/2020 - 10/1/2020). As a robustness check, we also examine the subset of searchers who made one of these searches prior to the onset of the 2020 BLM protests.

[14] According to 2016 General Social Survey Data, 32% of Strong Reps either hunt or are married to a hunter, as compared to 6% of Strong Dems

Table 2: Top 10 Search Queries

Black Crime (All)		**Black Crime (White Victim)**	
Query	% Searches	Query	% Searches
black on black crime statistics 2019	2.65	black on white crime	5.10
black on white crime	0.92	black on white violence	1.04
black on black crime	0.76	whites killed by blacks	0.93
how many black on black murders 2019	0.59	black on white crime statistics	0.86
black crime statistics	0.33	black on white crime 2019	0.60
black on black murder statistics 2019	0.28	black on white crimes	0.46
black on black homicide rate	0.26	black on white murders	0.45
black on black murders 2019	0.24	blacks killing whites	0.44
black on black crime statistics	0.21	black on white crime stats	0.36
black on black homicides 2019	0.21	black on white murders 2019	0.36

Notes: Searches for Black crime were focused on crimes with Black perpetrators. % of searches shows the query as a percentage of all searches for black crime (or black crime with a white victim), not as a percentage of all Bing searches.

Results: Proximity to a BLM Protest Increased Gun Searches

To test the relationship between geographic proximity and gun purchase, we look at the geographic dispersal of gun searches on dates with BLM protests. Our main objective is to determine whether areas with BLM protests had an especially large increase in gun searches over the previous year, as compared to areas with no protests.

The 2020 BLM protests were not randomly assigned. The likelihood of a BLM protest in any given area is related to a number of factors, many of which are likely to be correlated with local levels of gun ownership. In order to account for this, we compare the difference between county-level gun searches on the same date in 2019 and 2020 in areas with and without BLM protests in 2020 [15].

To test the proximity hypothesis, we aggregate protests by county and measure the proportion of searchers per county who engage in gun purchase searches [16]. This allows us to include county and date fixed effects, as well as interacting the fixed effects with year. Our

[15] Holding the date constant across years also allows us to account for things like seasonality around hunting seasons

[16] We limit our analysis to gun searches on the same date as the protest. Gun searches in May-June 2020 very closely follow the number of BLM protests. Please see Appendix A.1.5 for more details

model is a binomial logit on the proportion of searchers in County X on Date Y who made a gun purchase search. The model is described below:

$$DV \sim \beta_0 + \beta_1 \text{Year 2020} + \beta_2 \text{Protests} + \beta_3 \text{Year 2020 x Protests} + \text{County FE} + \text{Calendar Date FE} + \text{Year 2020 x County FE} + \text{Year 2020 x Calendar Date FE} + \varepsilon$$

The dependent variable is binomially distributed, with each user who made a gun purchase search counting as a success and any user who used Bing but did not make a gun purchase counting as a failure. Our main coefficient of interest is β_3, which measures the interaction between 2020 BLM protests and the year 2020. The first specification uses the number of protests in County X on Date Y, while the second specification uses a binomial variable that is 1 if there was a protest in County X on Date Y and 0 otherwise. Standard errors are clustered by county.

This regression compares gun purchase searches that were made in the same county on the same calendar date (e.g. June 2) in 2019 and 2020. Our use of county-year fixed effects allows us to account for county-level changes in gun purchasing behavior that occurred between 2019 and 2020 that were unrelated to the protests. The calendar date-year fixed effects allow us to approximate the effects of national events on gun purchasing behavior. If there was a spike in national news attention on June 2, 2020 that resulted in a large increase in gun purchasing behavior across the entire US, it would be absorbed by that set of fixed effects. This ensures that we are capturing the effect of the protest.

The results of our model are presented in Table 3. In both specifications, counties that has a BLM protest on Date X also had a large increase in gun purchase searches on Date X. Counties with large numbers of BLM protests also had fewer gun purchase searches in 2019 relative to counties with fewer or none. The finding that more county-level BLM protest activity is correlated with larger increases in gun purchase searches provides strong support for H1, which argues that proximity to BLM protests motivates gun purchase behavior.

Table 3: BLM Protests and Same-Day Gun Purchase Searches (County-level Regression)

	Dependent variable:	
	Gun Purchase	Gun Purchase
Num Protests in County	-0.020^{**} (0.009)	
Year 2020 x Num Protests in County	0.093^{***} (0.011)	
Protest Dummy		-0.004 (0.005)
Year 2020 x Protest Dummy		0.054^{***} (0.012)
Year 2020	X	X
County FE	X	X
County FE x Year 2020	X	X
Date FE	X	X
Note:	*p<0.1; **p<0.05; ***p<0.01	

Notes: Counties with BLM protests had a spike in same-day gun purchase searches. Year 2020 was treated as a fixed effect by the feglm() function used to estimate the model. Regressions are binomial logit, with standard errors clustered at the county level.

Next, we examine the re-opening protests in April and May 2020. The re-opening protests were notable for the number of guns carried by the protesters[17], and received substantial amounts of media coverage. If people were threatened by the possibility of violent protest[18], we ought to see a similar spike in gun purchase searches among people who were located close to a re-opening protest.

In Table 4, we replicate the county-level analysis for the re-opening protests. As predicted by H2, there is no relationship between re-opening protests and gun purchases.

In the Appendix, we do three additional analyses and robustness checks to confirm our results.

First, in Appendix A2, we examine the effect within the 100km radius of a protest on 5/29 - 6/15 (the time period with the most protest activity). We find that on average, people who

[17] see, for example: https://www.npr.org/2020/05/14/855918852/heavily-armed-protesters-gather-again-at-michigans-capitol-denouncing-home-order

[18] Some of the protests were described as violent and threatening, and some resulted in protester arrests. A government official working on Hawaii's COVID-19 response cautioned, "If we let the economy go the way itâs going, I feel there will be significant civil unrest that could lead to civil disobedience and, worst case, civil disturbance and rioting,â (https://www.washingtonpost.com/nation/2020/05/13/protest-violence-coronavirus/)

Table 4: Re-opening Protests and Same-Day Gun Purchase Searches (County-level Regression)

	Dependent variable:	
	Gun Purchase	Gun Purchase
Num Protests in County	−0.012 (0.016)	
Year 2020 x Num Protests in County	−0.021 (0.019)	
Protest Dummy		−0.005 (0.023)
Year 2020 x Protest Dummy		−0.042 (0.028)
Year 2020	X	X
County FE	X	X
County FE x Year 2020	X	X
Date FE	X	X
Note:	*p<0.1; **p<0.05; ***p<0.01	

Notes: Counties with re-opening protests had no spike in same-day gun purchase searches. Year 2020 was treated as a fixed effect by the feglm() function used to estimate the model. Regressions are binomial logit, with standard errors clustered at the county level.

searched from 0 - 10 km from where the 2020 protest occurred had 210% as much gun purchase search interest as people at the same distance did in 2019, as compared with 190% for people who searched from 40 - 100 km away from the protest. This result also shows that our findings are not driven by long-tail outliers. For re-opening protests, the null result replicates in the distance analysis as well.

Second, we perform a placebo test. In Appendix A.3.1, we replicate the results lagging the dependent variable (gun purchase searches) by 30 and 60 days (eg comparing gun searches in early April and early May to protests on the same date in June). As expected, this relationship is null - after controlling for fixed effects and covariates, protests had no relationship with gun searches conducted 30 and 60 days prior.

Third, we replicate the county-level and distance results for ammunition and gun range searches in Appendix A.3.2. For BLM protests, the results for ammunition searches are very similar to gun purchase searches, though the results for gun range searches are weaker. For re-opening protests, the null result between protests and searches also replicates.

These results provide strong support for the H1, which argues that people who live closer to a BLM protest are more likely to search for guns than people who live further away. As predicted by H2, there were no increases in gun purchases around the re-opening protests, which suggests that the racialized nature of the BLM protests played a role in the gun purchase spike.

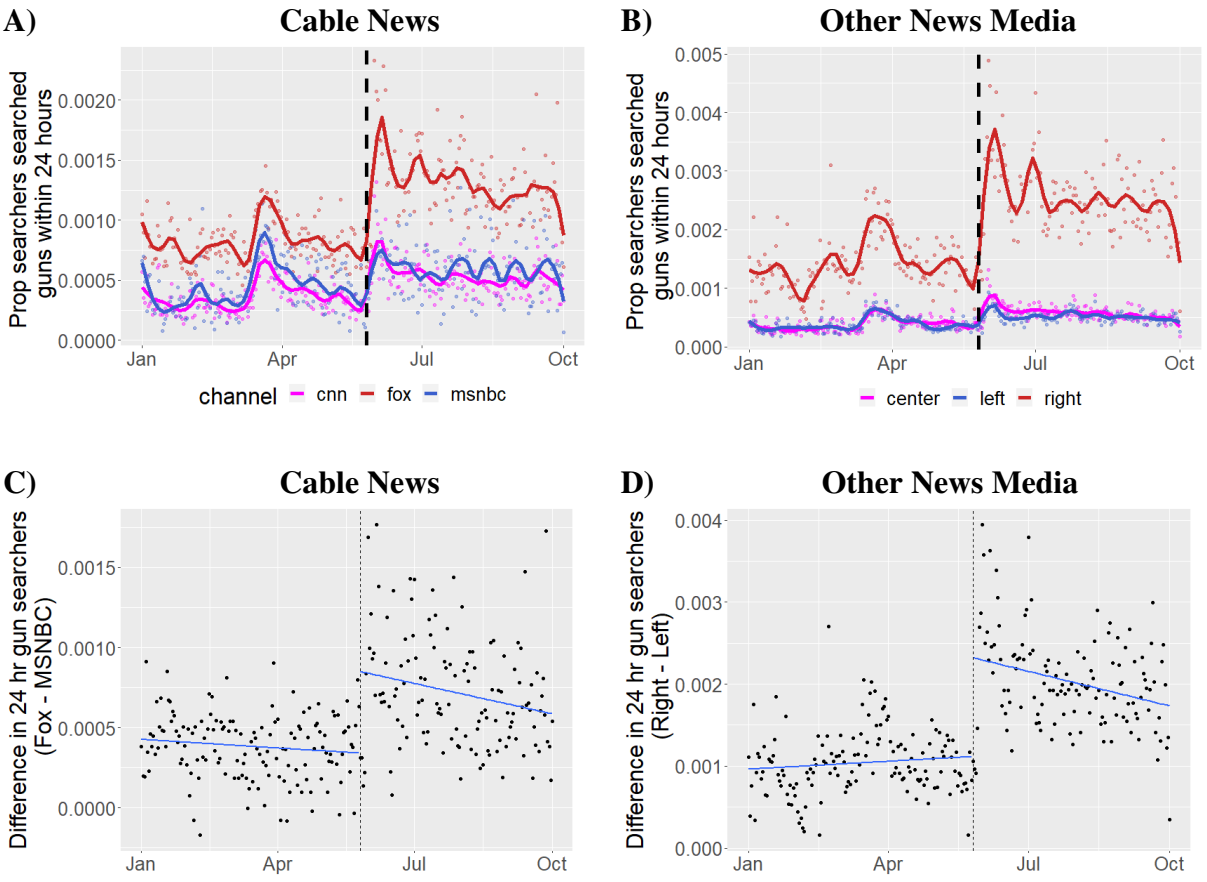
Gun Searches Spiked Among Racially Conservative Searchers

This section examines the search data evidence that racial conservatives were more likely to respond to the BLM protests by purchasing guns. The objective of this analysis is to test whether the search patterns of users with prior interest in racially conservative narratives diverged significantly from those of other users during the BLM protests, and to compare this pattern to search patterns during prior time periods, including the COVID-19 gun purchase spike.

We begin by exploring the relationship between media consumption and gun purchase searches. Media searches are reasonably common - according to our data, on any given day, around 3% of searchers made at least one search for one of the media outlets listed by Pew (Appendix A.1.4). Survey respondents who watch Fox News are more likely to be white and to hold racially conservative attitudes (see Appendix A.1.7), so we expect that if racial conservatism is driving gun purchase behavior, we would see a larger jump in gun purchase searches among Fox News and conservative media consumers than among other media consumers. While a Fox news/conservative media effect alone is not sufficient to show that exposure to racially conservative narratives is correlated with 2020 gun purchase, it is a good starting point for our analysis.

We examine the relationship between media consumption and gun related searches between January 1 and October 1 2020. This allows us to compare the relationship for both the COVID-19 gun spike and the BLM gun spike. The first row of Figure 3 shows proportion of

Figure 3: Gun Purchase Searches by Media Consumption



Notes:
Panels A and B: Conservative media consumers had a much sharper increase in gun purchase searches during BLM than they did during the early COVID-19 period. The difference is especially striking in contrast with other media consumers. Dashed vertical line is 5/26. Smoothed lines are LOESS.
Panels C and D: Each point is the difference in gun purchase searches between Conservative and Liberal media consumers on a single date (difference between Red and Blue line from Panels A and B). There is a clear discontinuity at 5/26 (Dashed vertical line). Lines in Panels C and D are OLS.

media searchers on any given day who made a gun related search within 24 hours after their original media search. As expected, Fox News and other conservative media consumers had more search interest in guns than did MSNBC, CNN, centrist, or liberal media consumers.

The key pattern emerging from Panel A of Figure 3 is that among cable news consumers,

the gun search spike was similar across all three news channels during the COVID-19 gun spike, but substantially larger for Fox news during the BLM spike. Consumers of Fox, MSNBC, and CNN had a similar increase in their interest in guns during the early COVID-19 crisis. However, Fox News consumers had substantially greater increase in gun interest during BLM than other cable news consumers.

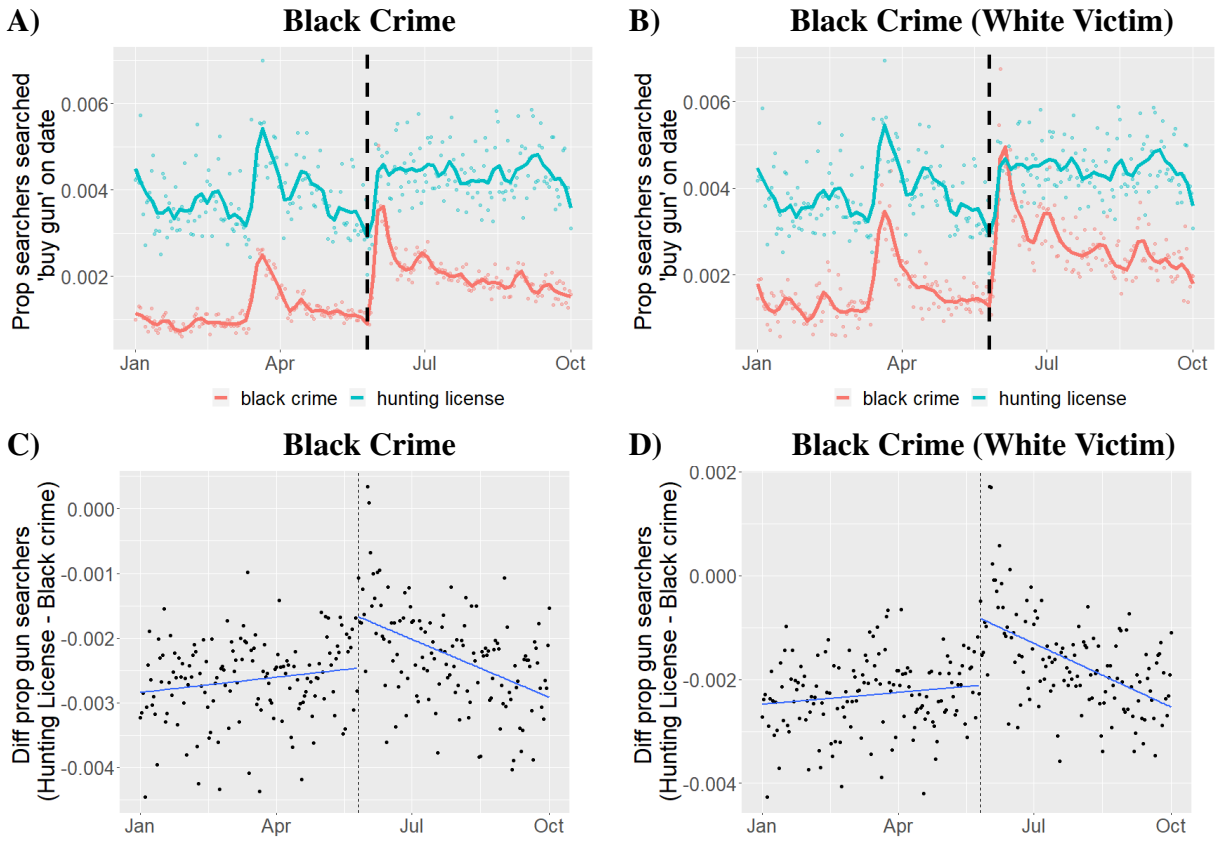
Panel B of Figure 3 shows a similar pattern for consumers of other news media. In the case of non-cable media, news consumers of non-cable right-leaning media (which included outlets like the Daily Caller, Breitbart, and the Rush Limbaugh Show) had much higher baseline gun interest and larger spikes in gun search interest during the early COVID-19 crisis than did consumers of other left or center-leaning media. For center- and left- leaning non-cable media, their increase in gun searches during the early COVID-19 crisis was proportional to increase in interest for cable media consumers. However, the increase for gun searches from right-leaning media consumers was substantially greater and longer-lived during the BLM spike than during the early COVID-19 spike.

We analyze these relationships more formally as a discontinuity at 5/26/2020. The expectation is that if racial attitudes have an influence on gun purchase searches, we should see an increase in difference between the two groups during the 2020 BLM protests.

Panels C and D Figure 3 plot the difference between the conservative and liberal media consumers' gun purchase searches. The plot shows a clear discontinuity at 5/26 for both the cable news consumers and the other news consumers for gun purchase searches. Taking conservative media consumption as a proxy for racial conservatism (relative to liberal media consumption), these results provide strong support for H3.

We perform two additional analyses in the Appendix. First, in Appendix A.4.1, we replicate these findings for ammunition and gun range searches, and find that they hold across those two sets of search terms as well.

Figure 4: Gun Purchase Searches by Search Interest in Black Crime



Notes:
Panels A and B: Black Crime searchers had a much sharper increase in gun purchase searches during BLM than they did during the early COVID-19 period. Their increase during the beginning of the BLM protests is much larger than that of hunting license searchers. Dashed vertical line is 5/26. Smoothed lines are LOESS.
Panels C and D: Each point is the difference in gun purchase searches between Hunting License and Black Crime on a single date (difference between Blue and Salmon line from Panels A and B). There is a clear discontinuity at 5/26 (Dashed vertical line). Lines in Panels C and D are OLS.

Second, we test for the significance of this discontinuity in Appendix A.4.2, and find that the discontinuities plotted in Figure 3 are highly statistically significant. Compared to liberal news/MSNBC consumers, conservative news and Fox consumers had a significantly higher spike in gun purchase searchers.

We then turn to a more explicit measure of racially conservative narratives. Conservative

and liberal media consumers differ in many ways, so while the differences in Figure 3 are suggestive, they may be the result of any number of non-racial reasons. To more closely examine the relationship between guns and interest in racially conservative narratives, we look at the daily gun purchase searches of individuals who had searched for a set of terms about Black people and crime between 1/1/2020 and 10/1/2020, and compare them to daily gun purchase searches of individuals who had searched for 'hunting license' during the same time period[19].

While these searches are substantially rarer than the media searches, they are also more precise. Both groups of searchers are likely to be conservative politically and may have prior interest in guns, but Black crime searchers have shown interest in an anti-Black stereotype. In aggregate, Black crime searchers likely hold more racially conservative views than hunting license searchers. Searches for Black crime allow us to further test H3, which argues that Americans with interest in racially conservative narratives are more likely to buy a gun in response to BLM protests. We also examine a subset of those queries that explicitly specify the perpetrator as black and the victim as white (approximately 20% of all queries).

Panel A of Figure 4 plots the proportion of Black Crime and Hunting License searchers who made a gun purchase search on any given date. Panel B plots a similar analysis for searchers who had searched for crimes committed by Black people that had a white victim. While all groups of searchers had a similar increase in gun purchase searches during the early COVID-19 spike, both sets of anti-black searchers had approximately an approximately 3.5 - 4x larger increase in gun purchase searches during the BLM spike than did hunting license searchers. The effects are especially pronounced for searchers who had searched for crimes where Blacks were the perpetrators and whites were the victims. Panels C and D show the difference in gun purchase searches between Hunting License and Black Crime searchers, further highlighting the discontinuity.

In the Appendix, we perform three additional analyses and robustness checks. First, in Ap-

[19] A very small number of searchers fell into both categories. We remove them from the data, but including them makes no substantive difference in the results

pendix A.4.3 we replicate the discontinuity results for ammunition and gun ranges, and find similar results.

Second, we examine a more limited time frame for Black Crime and Hunting License searches to ensure that our results are not being driven by increased media attention to race and the criminal justice system during the Black Lives Matter protests. In Appendix A.4.4, we limited our analysis to users who searched for Black crime searches prior to the BLM protests, and compare them to people who searched for 'hunting license' during the same time period (Jan 1 - May 25, 2020). The results are virtually identical to those in the full dataset.

Finally, we statistically analyze these relationships as a discontinuity at 5/26/2020 in Appendix A.4.5. As in the media analysis, we see a clear discontinuity in the search patterns, with Black Crime searchers experiencing highly significantly sharper increase in gun purchase searches after 5/26 than Hunting License searchers.

These findings show strong support for H3. Consumers of conservative media and Black crime searchers both had a much larger increase in their gun purchase searches during the BLM protests relative to other groups. However, the same pattern did not hold during the COVID-19 gun purchase spike, suggesting that the racial nature of the protests shaped these gun purchasing decisions.

Conclusion

We find that Black civil rights protests can mobilize gun purchase among Americans. We find that searchers located in counties with a BLM protest were more likely to search for guns than were searchers without. BLM protests were unique in this regard - distance from re-opening protests had no appreciable effect on gun purchase searches. These findings are robust to alternative specifications and to placebo checks.

We also find a consistent relationship between interest in racially conservative narratives and gun purchase behavior during the BLM protests. Conservative media consumers and people who searched for Black crime had substantially larger increases in gun purchase searches during BLM protests than did other media consumers or hunting license searchers. However, almost all groups had similar increases in gun purchase searches during the early COVID-19 spike, it is clear that something unique motivated the higher rate of gun purchase searches among conservative media and “black crime" searchers during BLM.

The implications of these findings are substantial. First, an increase in gun purchases by racial conservatives may lead to greater threat of violence against Black Americans. As a result, violent backlash against BLM protests may serve to further underscore the message of the BLM movement by highlighting the ways in which Black Americans are at risk of racially motivated violence. While police killings of Black Americans were a major focus of the BLM movement, the movement also protested violence against Black Americans by civilians such as Ahmaud Arbery and Trayvon Martin. Second, the overall increase in guns has a number of negative effects. Gun owners have higher levels of gun accidents (Hemenway 2011), suicide (Miller and Hemenway 2008; Hemenway 2011), homicide (Braga et al. 2020), and other violence (Duggan 2001). Asher and Arthur (2022) finds that the increase in gun purchases in 2020 led to a substantial increase in homicides.

Our results point to several further avenues for research. First, more research into the role of media in gun purchasing decisions is necessary. Previous studies (Lee 2002; Wasow 2020) have argued that the media plays a causal role in raising support for Black civil rights protests. It is likely that a similar relationship exists between media coverage, perception of protests as threatening, and gun purchases. Second, 2020 was an extraordinary year in American history on multiple fronts. It is unknown whether other Black civil rights protests generated the same results, or if the unique circumstances created the spike in gun purchases. Third, the relationship between different measures of racial conservatism and gun purchases is worth exploring

further. Our results confirmed prior studies' findings about gun owners having higher levels of racial conservatism, but did not focus on the effects of different types, such as racial resentment or Old Fashioned Racism. More research disentangling the effects of different forms of racial conservatism is necessary.

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Online Appendix

Contents

A.1 Methods

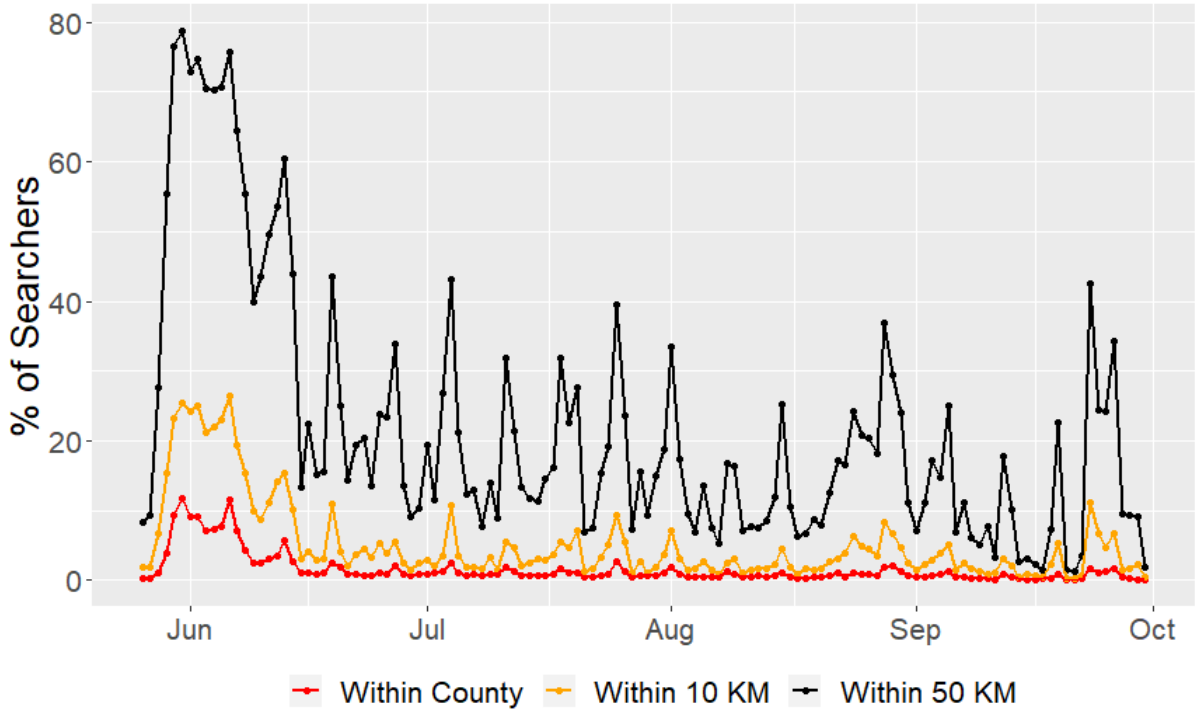
A.1.1 Geolocation of Protests

While CountLove provides the topic of the protest and the name of the town/city and state, it does not provide exact latitude and longitude co-ordinates. In order to generate these, we turn to the geocode function of the ggmap function, which uses the Google Maps API to assign a latitude and longitude to a location name. This means that our protest co-ordinates are not the exact co-ordinates at which the protest occurred, but rather the center of the city/town in which it took place. We obtain searcher location derived from the IP address, and then use the protest and searcher locations to calculate the Haversine distance between the two. When measuring distance to closest BLM protest, we only included searches and protests within the contiguous 48 US states. As we show in Appendix A.1.2, we find that most searchers were not located in a county with a protest. On the two days with the most protest activity, only 11% of searchers had a protest in their county.

A.1.2 Distribution of Searchers' Distance to Protest

While there were 7,733 BLM protests between 5/26 and 10/1 according to our data, only a relatively small proportion of searchers were located close to a protest. Figure A1 plots the proportion of searchers in our dataset that were located in the same county, within 10km, and within 50km of a BLM protest on that date. On the two days with the most protest activity, only about 11% of searchers in our dataset were located in a county that contained a protest. Similarly, on those same days, only about 25% of searchers were located within 10km of a BLM protest. These numbers tapered off very quickly after the period of peak protest activity (5/29 - 6/15). After 6/15, the proportion of searchers located within the same county as a protest never exceeded 3%, and the proportion located within 10km never exceeded 10% (and rarely exceeded 5%).

Figure A1: Searchers' Exposure to BLM Protests



Notes: While most searchers were located within 50km of a BLM protest during the period of highest protest activity (5/29 - 6/15), relatively few were within 10km or within the same county. On the two days with the most protest activity (5/31 and 6/6), only about 11% of searchers were located in a county with a protest, and only about 25% were located within 10km of a protest.

A.1.3 Omitted Queries

Queries matching the following strings were omitted from each of the dependent variables. They were omitted either because they were not related to gun purchase behavior, or because they were autosuggested to searchers as one of Bing's trending topics.

Buy Gun: "walmart strike gun sales | buyback | overseas gun sales easier | alabama dealership gun bible flag | coronavirus | covid | range"

Queries matching the following strings were removed from the "black crime" set of queries,

along with strings more than 75 characters long[20]:

"police | unarmed | nonviolent | odysseus | dahlia | jog | mold | plague | serial killer | clint black | black pink | black panther | black bear | black man killed | cop | black butler | black hearted | black bean | porn | ants | cop | black widow | trump supporter | sabbath | black death | black light | officer | black seed | black lives matter| killing the black body | cop | black noir | black lightning | black rock | michelle alexander | pushout | decriminaliz | sirius black | full only english only | black ant | black dolly | mobs of white citizens | national association of blacks in criminal justice | covid | poor black criminals are nigers poor white criminals are white trash get it | black cat | killer queen | dalah | mamba | frank black | neil degrasse tyson | black power | white on black | trevor noah | blacks killed by whites"

[20]Extremely long strings were virtually always the result of searchers copy-pasting long blocks of text verbatim into the search bar, such as homework questions, and accounted for only 10% of the original queries

A.1.4 Pew Media Outlets

We used the following non-cable media outlets from the Pew Media Polarization Study (Available here: https://www.journalism.org/2020/01/24/media-polarization-methodology/):

Left-leaning audience: Vox*, Huffpost, Time*, The Hill*, Vice*, The Guardian, New York Times, NPR, Politico, Washington Post, BBC, Buzzfeed, PBS, Newsweek, Business Insider

Center-leaning audience: Wall Street Journal, NBC News, Univision, USA Today, ABC News, CBS News, New York Post

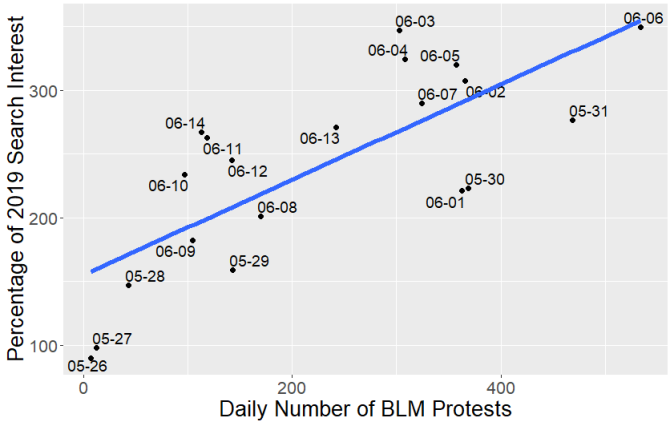
Right-leaning audience: Washington Examiner, Daily Caller, Sean Hannity (radio show), Rush Limbaugh (Radio Show)

*Vox, Vice, Time, and The Hill were removed from the data because queries containing these strings are highly likely to be unrelated to the news outlets.

A.1.5 Correlation Between N Protests and Same Day Gun Searches

There is a clear correlation between the number of daily BLM protests and the numbers of same-day gun purchase searches relative to that date in 2019 (R = 0.75). Figure A2 plots this relationship. While in general, the number of gun purchase searches is substantially higher in 2020 than in 2019, the numbers were especially large for the dates with a large number of BLM protests. This suggests that same-day gun purchase searches are an appropriate measure of protest impact.

Figure A2: Relationship Between Number of Daily BLM Protests and Same-Day Gun Purchase Searches (5/26 - 6/15)



Notes: Dates with a large number of BLM protests in late May and early June 2020 had substantially higher gun purchase search rate than the same date in 2019.

A.1.6 Predicted Probability Plot

To generate the relative predicted probability plot in Figures A8 and A9, we did the following:

1. For BLM: Limited the data to searchers who used Bing at least once in the specified calendar dates in 2019 or 2020. For Re-opening: Limited the data to searchers who used Bing at least once in 2019 or 2020 on a calendar date that had more than 25 protests in 2020.

2. Limited the data to searchers who were within 100km of a protest on any given day. For example, if you were within 100km of a protest on 6/2/2020, but not 6/3/2020, you would be included in the data on 6/2/2020 and 6/2/2019, but not 6/3/2020 or 6/3/2019.

3. Binned the distance to nearest protest variable by 10s (so 0-9km, 10-19 km etc)

4. Fit a model of the following form:

$$\begin{aligned} DV \sim & \beta_0 + \beta_1 \text{Protest Distance Bin} + \beta_2 \text{Year 2020} + \beta_3 \text{Year 2020 x Protest Distance Bin} \\ & + \beta_4 \text{City Distance} + \beta_5 \text{Year 2020 x City Distance} + \text{State FE} + \text{Calendar Date FE} \\ & + \text{Calendar Date x Year 2020} + \varepsilon \end{aligned}$$

Where the DV was the same as in the corresponding equation in the body of the paper. The model itself is nearly identical to the model presented in the equation, except for the addition of date fixed effects, which are necessary because we are pooling the results of several dates instead of running the regression individually on each date.

5. Used the model to predict probabilities for gun purchase searches in 2019 and 2020. The covariate values used to predict probabilities were the mean and modal values in the dataset, although altering them does not substantially change the plot:

For BLM: City Distance = 55.32km

State = California

Date = 5/31

For Re-opening:

City Distance = 43.73km

State = California

Date = 5/1

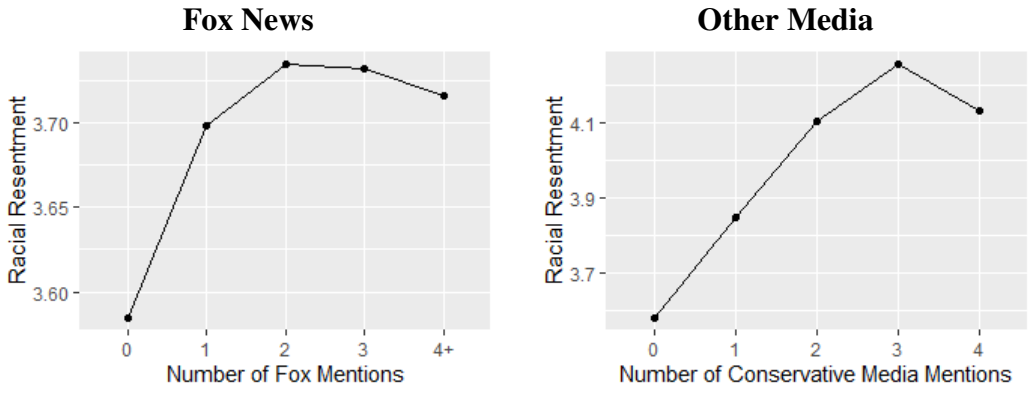
A.1.7 Fox News/Conservative Media Racial Conservatism

In Figure 3, we use Fox News and other conservative media consumption as a rough proxy for racial conservatism. Here, we use 2020 ANES data to show that this measure is valid. The 2020 ANES asks respondents to list the media sources that they used to follow the 2020 presidential campaign. Respondents had 8 opportunities to name a Fox News show or the Fox News website: Hannity (Fox), Tucker Carlson Tonight (Fox), The Five (Fox), The Ingraham Angle (Fox), The Story with Martha MacCallum (Fox), Special Report with Bret Baier (Fox), Fox and Friends (Fox), www.foxnews.com

They also had 4 opportunities to mention other conservative news programs listed by Pew: The Sean Hannity Show (radio), Rush Limbaugh (radio), Breitbart News Network (breitbart.com), Daily Caller (dailycaller.com)

Figure A3 plots the mean racial resentment for Republicans (including leaners) on the 2020 ANES by media consumption. These findings show that conservative media consumption serves as a reasonable proxy for racial conservatism.

Figure A3: Conservative Media Consumption and Racial Resentment (Republicans Only)



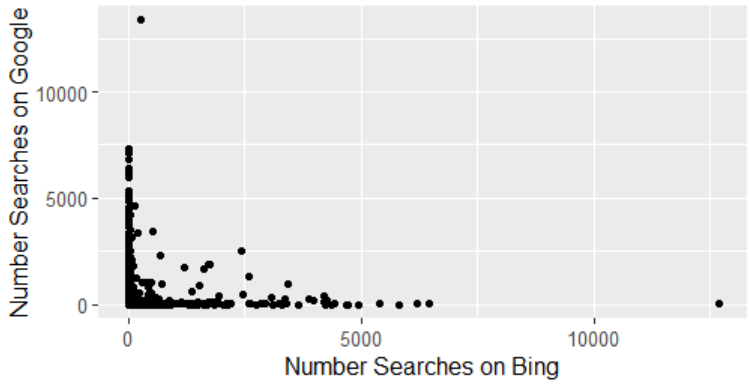
Notes: Republicans who report watching more Fox News shows and/or other conservative media outlets tend to score higher on the racial resentment measure than Republicans who do not consume these outlets.

A.1.8 Bing Demographic Data

While Microsoft publishes only limited statistics about Bing users, we are able to compare Bing users with Google users using web browsing data from Peterson, Goel and Iyengar (2021). This data tracked the web browsing behavior between 8/1/2016 - 11/07/2017 of 1076 respondents who completed a survey. In this section, we compare the demographics profiles of Bing users with the demographic profiles of Google users from the survey.

In general, both Google and Bing were popular websites among the survey respondents. Among the respondents, 31% used only Google, 16% used only Bing, and 44% used both search engines at least once. Figure A4 shows the distribution of users by number of Bing and Google searches they conducted during this time period.

Figure A4: Google and Bing Usage



Notes: Both Bing and Google were popular search engines among survey respondents, though most respondents had a clear preference between the two.

Google was overall a more popular search engine than Bing - 68% of respondents who used a search engine used Google more often than Bing (we will refer to these as "preferred Google"), while 32% used Bing more often than Google ("preferred Bing"). 92% of the Bing searches in the sample came from users who preferred Bing, and 97% of Google searches came from users who preferred Google. As a result, when we describe the characteristics of Bing and Google

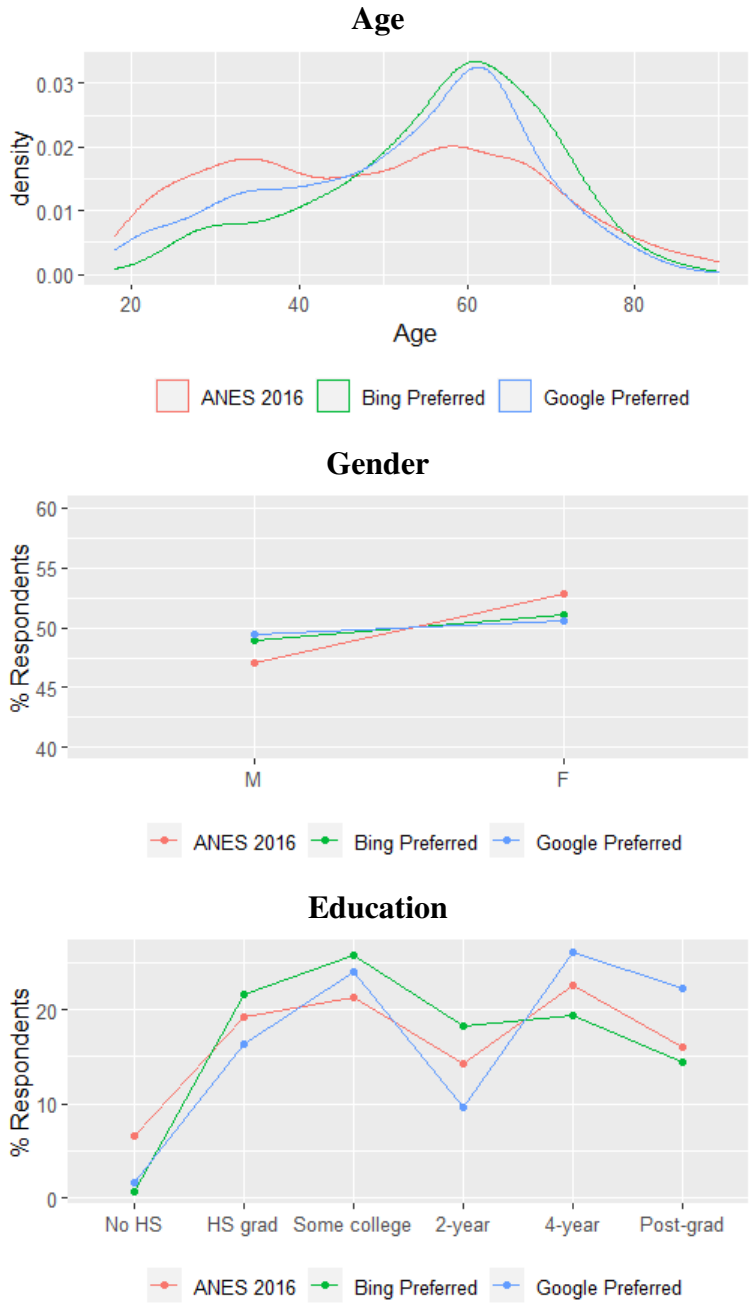
users in the sample, we will focus on those who preferred the search engine, rather than all users who used a search engine or the users who used one search engine exclusively. Our main comparison group will be the 2016 American National Election Studies survey.

Figure A5 shows the age, gender, and education distributions of the users who preferred Bing, those who preferred Google, and the ANES 2016. In general, Bing preferred users were older than Google preferred users and were less likely to have a college degree. In the Peterson, Goel and Iyengar (2021) data, the age skew was substantially older than that of the ANES for both the Bing and Google users.

Figure A6 shows the partisan and vote choice breakdown of users who preferred Bing and those who preferred Google. Bing-preferring users were substantially more likely to be Strong Republicans than were Google-preferring users. Furthermore, Bing-preferring and Google-preferring users differed substantially in their 2016 vote choice: Google-preferring users chose Clinton 65% of the time, while Bing-preferring users chose Trump 55% of the time.

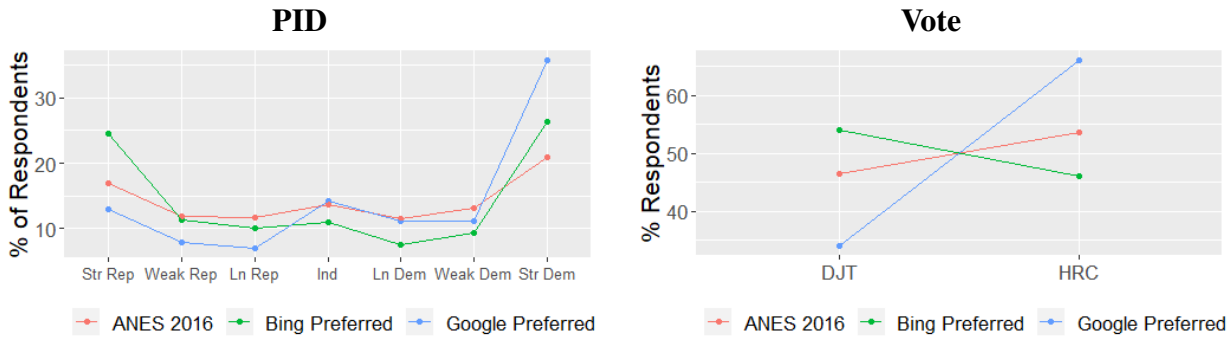
Finally, Figure A7 shows the racial breakdown and racial attitudes of the three different groups of survey respondents. All three groups of respondents were overwhelmingly white. However, there were serious differences in their racial resentment scores. The modal Bing-preferring user scored very high on the racial resentment scale (a 4 or 5), while the modal Google-preferring user scored very low (1 or 2). Both groups of respondents were overwhelmingly white, so these differences cannot be explained by a larger number of people of color who prefer Google, suggesting that they show a real difference in racial attitudes among white people in the two groups.

Figure A5: Demographics



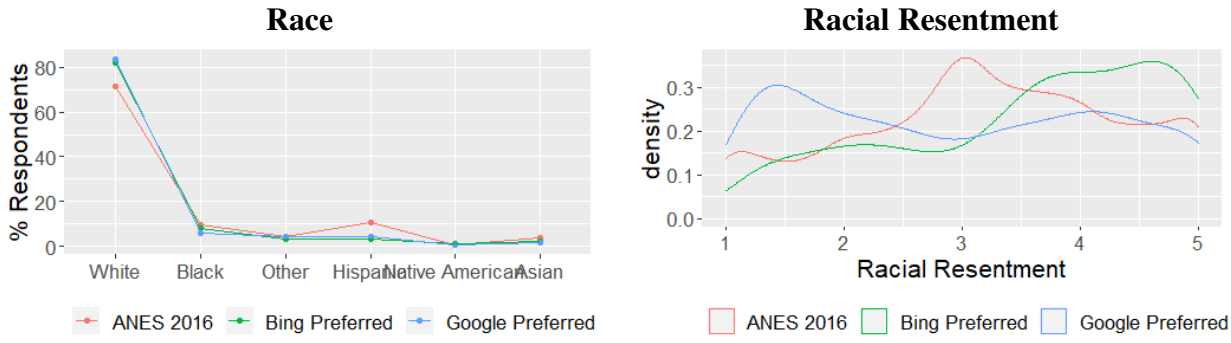
Notes: Bing and Google users had some similarities to the 2016 ANES. Bing users were older than Google users on average, and Google users were more likely to have at least a 4-year college degree.

Figure A6: Partisanship



Notes: Bing-preferring users were more likely to vote for Donald Trump and more likely to identify as Strong Republicans than either Google-preferring users or ANES 2016 respondents.

Figure A7: Race and Racial Attitudes



Notes: While all three groups of survey respondents were overwhelmingly white, Bing-preferring respondents were substantially more racially resentful than ANES 2016 respondents and especially more resentful than Google-preferring users.

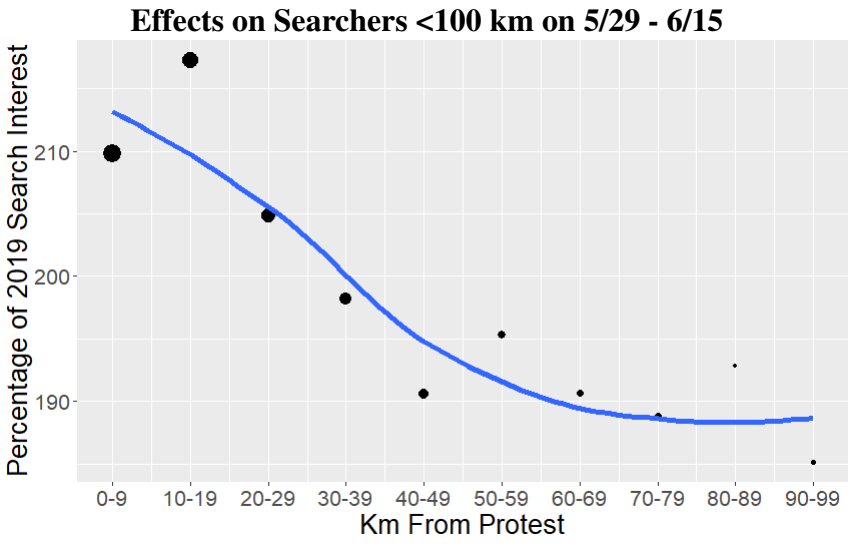
A.2 Additional Analyses - Distance w/in 100km

In Figure A8, we present the predicted probability of gun search in 2020 relative to gun search on the same date in 2019[21] by distance to closest protest on 5/29 - 6/15. We find that on average, people who lived 10 - 19 km from where the 2020 protest occurred had 210% as much gun purchase search interest as people at the same distance did in 2019. Overall, 5/29 - 6/15 was a period of record search interest in gun purchases, as demonstrated by Figure 2, and people across the US had dramatically more gun interest on those dates in 2020 than in 2019. However, this effect was substantially larger among searchers who were located close to a BLM protest than those who lived farther away.

Next, we turn to re-opening protests. Figure A9 reinforces the null finding expected by H2, as it shows that on the dates with the largest number of re-opening protests (>25 protests), searchers located closer to a protest were no likely to make gun purchase searches than searchers located farther away.

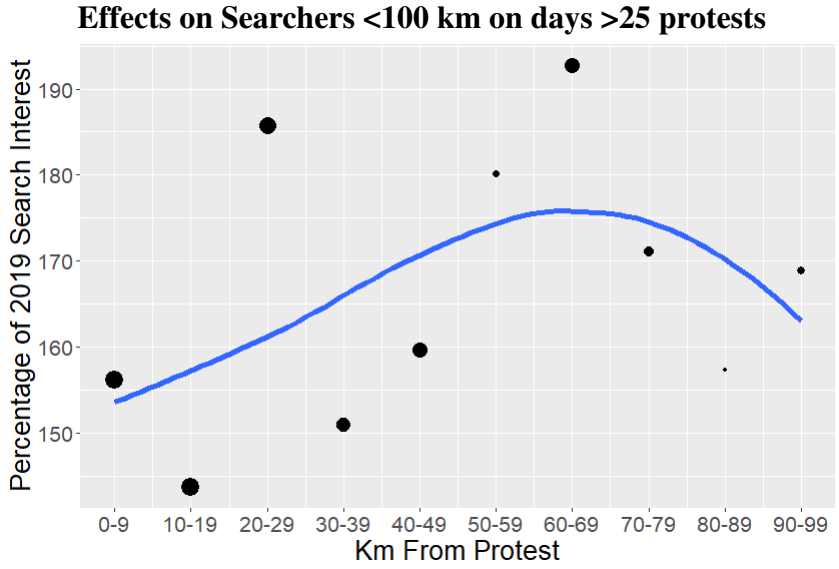
[21] for methods, see Appendix A.1.6

Figure A8: Effects of Distance to BLM Protests on Same-Day Gun Purchase Searches



Notes: Figure A8 shows the proportion of daily gun searches relative to 2019 by distance to nearest protest on that date. Searchers located closest to the protests had the largest increase in gun purchase searches. Blue line is a LOESS line.

Figure A9: Effects of Reopening Protests on Same-Day Gun Purchase Searches



Notes: This plot replicates the analysis for Figure A8 for re-opening protests. The effect of re-opening protests on gun purchase searches is clearly null. Blue line is a LOESS line.

A.3 Additional Analyses - County Level

Here, we present the county level results for ammunition and gun range searches for both BLM and re-opening protests, as well as a 30-day and 60-day lagged robustness check for the BLM results in the main body of the paper.

A.3.1 Lag Robustness Check

Here, we do a placebo test on the results presented in Table 3 by lagging the dependent variable by 30 days and by 60 days. This analysis looks at the relationship between protests on Date X and the increase in gun purchase searches between 2019 and 2020 on Calendar Date X - 30 (or - 60). The expectation is that the result of this test should be null, as BLM protests cannot influence gun purchase searches 30 or 60 days in the past. As expected, we find a null relationship between BLM protests and lagged gun purchase searches, presented in Table A1.

The interaction between the number of protests and the year 2020 is not significant for either regression, as expected. The protest dummy x 2020 on the 60 day lag is not significant, either. While the protest dummy x 2020 interaction is marginally significant for the 30 day lag, this is likely due to repeat protest activity in areas with large volumes of protests. For example, if county X has a very large number of protests on June 1, leading to a large spike in gun purchase searches on June 1, and then a smaller number of protests on July 1, the regression would pick up the gun purchase searches on June 1.

A.3.2 County Level Ammo and Gun Range Results

In Table A2, we re-run the model presented in the body of the paper (Table 3) using ammunition and gun range searches as our dependent variables. The results for ammunition are very similar

Table A1: BLM Protests and Same-Day Ammunition and Gun Range Searches (County-level Regression)

	30 Day Lag		60 Day Lag	
	Gun Purchase	Gun Purchase	Gun Purchase	Gun Purchase
Num Protests in County	-0.017*** (0.006)		0.041 (0.026)	
Year 2020 x Num Protests in County	0.002 (0.006)		−0.009 (0.031)	
Protest Dummy		−0.043*** (0.012)		0.019 (0.075)
Year 2020 x Protest Dummy		0.024* (0.014)		−0.024 (0.094)
Year 2020	X	X	X	X
County FE	X	X	X	X
County FE x Year 2020	X	X	X	X
Calendar Date FE	X	X	X	X
Calendar Date FE x Year 2020	X	X	X	X
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This is a replication of Table 3 in the body of the paper, lagging the gun purchase DV by 30 days and by 60 days. As expected, the interaction between the protest variable and 2020 is not significant.

to the results for gun purchases - the interaction between protests and 2020 is positive and statistically significant. However, the interaction for protests and 2020 is not statistically significant for gun range searches.

Table A3 replicates the analysis presented in Table 4 for the re-opening protests. In general, there was no increase in ammunition or gun range searches in counties with re-opening protests, further evidence for H2.

Table A2: BLM Protests and Same-Day Ammunition and Gun Range Searches (County-level Regression)

	Dependent variable:			
	Ammo	Ammo	Gun Range	Gun Range
Num Protests in County	−0.011 (0.013)		0.023*** (0.008)	
Year 2020 x Num Protests in County	0.042*** (0.014)		0.009 (0.008)	
Protest Dummy		−0.031*** (0.011)		0.025 (0.016)
Year 2020 x Protest Dummy		0.073*** (0.013)		0.018 (0.022)
Year 2020	X	X	X	X
County FE	X	X	X	X
County FE x Year 2020	X	X	X	X
Calendar Date FE	X	X	X	X
Calendar Date FE x Year 2020	X	X	X	X
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This is a replication of Table 3 in the body of the paper. Counties with BLM protests had a spike in same-day ammunition (but not gun range) searches. Year 2020 was treated as a fixed effect by the feglm() function used to estimate the model. Regressions are binomial logit, with standard errors clustered at the county level.

A.4 Additional Analyses - Longitudinal Search

Here, we present replications of the longitudinal search analysis for ammunition and gun range searches. We also perform a robustness check where we replicate Figure 4 from the body of the paper, limiting Black Crime searchers to those who searched for Black Crime prior to the BLM protests. Finally, we present a statistical analysis of the discontinuity from Figures 3-4 in the paper.

A.4.1 Ammo and Gun Range Media Analysis

Figure A10 replicates Figure 3 from the body of the paper with ammunition and gun range searches. We see a very similar pattern among conservative media consumers for these searches as with the gun purchase searches, further supporting H3.

Table A3: Reopening Protests and Same-Day Ammunition and Gun Range Searches (County-level Regression)

	Dependent variable:			
	Ammo	Ammo	Gun Range	Gun Range
Num Protests in County	−0.018 (0.013)		0.006 (0.036)	
Year 2020 x Num Protests in County	0.111**(0.048)		−0.019 (0.044)	
Protest Dummy		−0.004 (0.020)		0.024 (0.051)
Year 2020 x Protest Dummy		0.054 (0.048)		−0.033 (0.058)
Year 2020	X	X	X	X
County FE	X	X	X	X
County FE x Year 2020	X	X	X	X
Calendar Date FE	X	X	X	X
Calendar Date FE x Year 2020	X	X	X	X
Note:				*p<0.1; **p<0.05; ***p<0.01

Notes: This is a replication of Table 4 in the body of the paper. Counties with reopen protests did not have a spike in same-day ammunition (but not gun range) searches. Year 2020 was treated as a fixed effect by the feglm() function used to estimate the model. Regressions are binomial logit, with standard errors clustered at the county level.

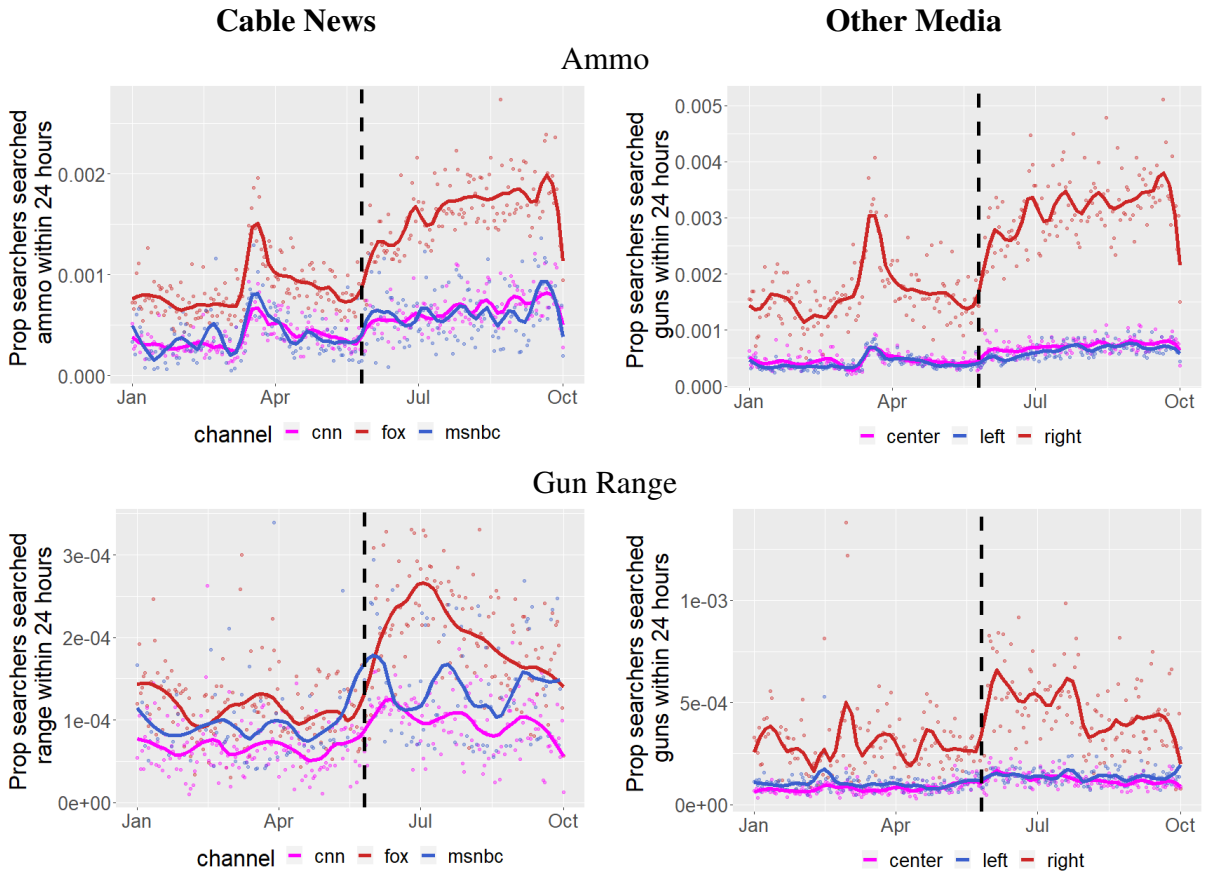
A.4.2 Discontinuity Regressions - Media

To test the significance of this discontinuity, we estimate a model of form:

$$DV \sim \beta_0 + \beta_1 \text{Media Consumption} + \beta_2 \text{Post 5/26} + \beta_3 \text{Post 5/26 x Media Consumption} + \beta_4 \text{Date} + \text{Day of Week FE} + \varepsilon$$

The dependent variable is binomially distributed, with each searcher who searched for media source X on date Y counting as a trial. Each trial counted as a success if the searcher made a gun-related search within the 24 hours following their media search, and a failure otherwise. Our covariate of interest is the β_3 coefficient measuring the interaction between the post-5/26 searches and Fox News/conservative media searchers. The reference groups in these regressions are the MSNBC/liberal media searchers, so this interaction measures the differential response of the two groups to the 5/26 discontinuity. Standard errors are clustered by date.

Figure A10: Ammo/Gun Range Searches by Media Consumption



Notes: Searches for ammunition and gun ranges followed similar patterns to gun purchase searches. Conservative media consumers experienced an especially large jump in these searches during the BLM searches, relative to other media consumers.

Table A4, which plots the results of this model, shows a highly significant discontinuity in gun purchase searches at 5/26, especially among consumers of conservative media. While gun purchase searches increased among consumers of liberal media (the baseline in the model), the interaction term for Post x conservative media is positive and highly significant, which means that conservative media consumers had an especially large increase.

Table A5 replicates the results of Table A4 for ammunition and gun range searches.

Table A4: Effects of 5/26 Discontinuity on Gun Purchase Searches by Media Search History

	Media:	
	Cable	Other Media
Post	0.359*** (0.087)	0.295*** (0.076)
Fox Users	0.591*** (0.038)	
Fox x Post	0.167*** (0.056)	
CNN Users	−0.179*** (0.035)	
CNN x Post	0.061 (0.056)	
Right-lean Media		1.205*** (0.052)
Right-lean Media x Post		0.381*** (0.056)
Center-lean Media		0.024 (0.017)
Center-lean Media x Post		0.091*** (0.027)
Date	−0.001 (0.0004)	0.0001 (0.0004)
Day of Week FE	X	X
Constant	2.265 (7.507)	−10.324 (8.14)
Note:	*p<0.1; **p<0.05; ***p<0.01	

Notes: This table quantifies the discontinuity in gun purchase searches among liberal, centrist, and conservative media searchers. The discontinuity plotted in Figure 3 is statistically significant, signifying that gun purchase search patterns for liberal and conservative media consumers diverged substantively at the BLM protests.

A.4.3 Ammo and Gun Range Black Crime Analysis

Figure A11 replicates Figure 4 from the body of the paper with ammunition and gun range searches. We see a very similar pattern among Black Crime searchers for gun range searches as with the gun purchase searches, further supporting H3. Ammunition searches do not show the same pattern.

A.4.4 Pre-BLM Black Crime Gun Purchase Search Robustness Check

In order to ensure that our results are driven by racial attitudes, we perform a robustness check where we replicate the analysis in Figure 4 and Table A4 while limiting the Black Crime searchers

Table A5: Effects of 5/26 Discontinuity on Ammunition and Gun Range Searches (Media)

	Dependent variable:	
	Ammo	Gun Range
Post	0.076 (0.085)	0.725*** (0.107)
Fox Users	0.751*** (0.038)	0.234*** (0.071)
Fox x Post	0.163*** (0.061)	0.123 (0.092)
CNN Users	−0.032 (0.044)	−0.300*** (0.070)
CNN x Post	0.028 (0.066)	−0.049 (0.093)
Date	−0.002*** (0.0005)	
Day of Week FE	X	X
Constant	−57.656*** (5.603)	28.035*** (8.422)

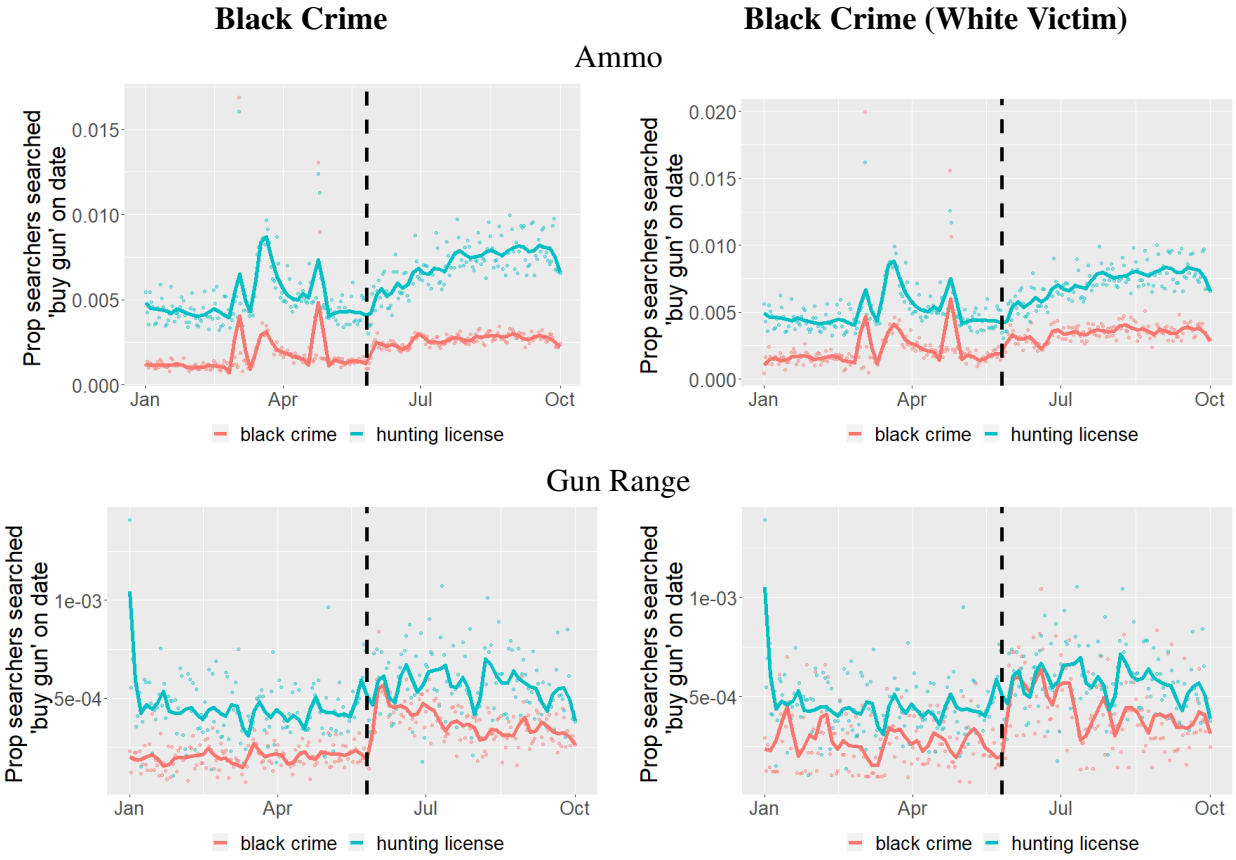
	Dependent variable:	
	Ammo	Gun Range
Post	0.148*** (0.049)	0.389*** (0.070)
Right-lean Media	1.289*** (0.050)	0.875*** (0.076)
Post x Right-lean Media	0.300*** (0.055)	0.353*** (0.085)
Center-lean Media	0.096*** (0.019)	−0.233*** (0.039)
Post x Center-lean Media	0.016 (0.026)	0.123** (0.049)
Date	0.002*** (0.0003)	−0.001 (0.0004)
Day of Week FE	X	X
Constant	−45.761*** (4.807)	0.286 (7.847)
Note:	*p<0.1; **p<0.05; ***p<0.01	

Notes: This Table replicates the results of Table A4 using ammunition and gun range searches as the DV. It table quantifies the discontinuity in ammunition and gun range searches among liberal, centrist, and conservative media searchers. In 3 out of 4 regressions, the discontinuity was statistically significant, signifying that gun search patterns for liberal and conservative media consumers diverged substantively at the BLM protests.

to those who searched for the queries before the 2020 BLM protests (prior to 5/26). These are searchers who showed search interest in crimes committed by Black people before the increased media attention to protests against police violence.

Figure A12 and Table A6 reinforce the results presented in the body of the paper. Searchers who searched for Black Crime before the BLM protests experienced a sharp spike in gun purchase searches at the start of the BLM protests.

Figure A11: Ammo/Gun Range Searches by Black Crime Search Interest



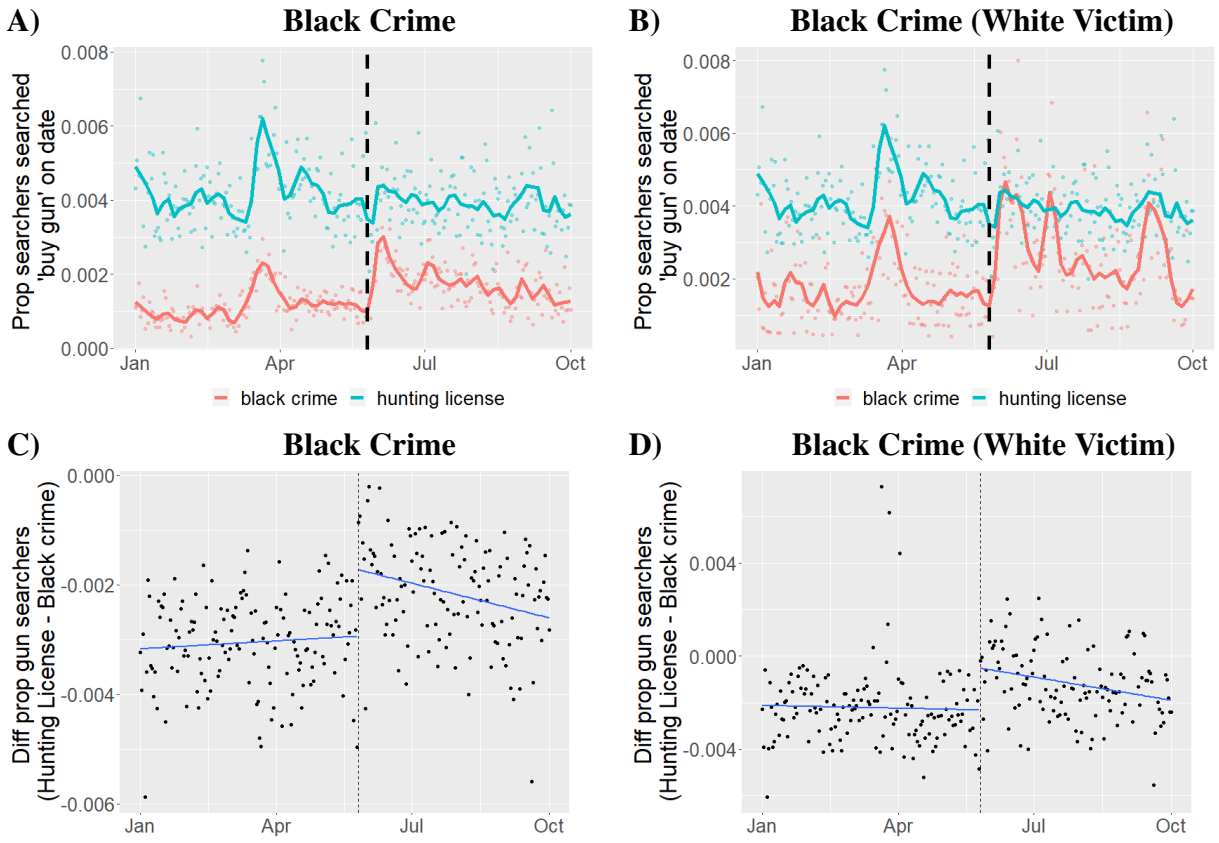
Notes: This plot replicates Figure 4, but for ammunition and gun range searches. Here, we look at the difference in gun searches between people with search interest in hunting licenses versus those with search interest in black crime. There is a clear discontinuity in searches for gun ranges, though not for ammunition.

A.4.5 Discontinuity Regressions - Black Crime

Next, we test the significance of the discontinuity for hunting license vs Black crime searchers. The statistical model used to test this discontinuity is analogous to the one used for the media analysis.

Table A7 confirms that the discontinuity is significant. While hunting license searchers experienced a spike in gun purchase searches at 5/26, as evidenced by the significance on the Post coefficient, the significance of the interaction between Black Crime and Post shows that Black

Figure A12: Gun Purchase Searches by Pre-BLM Search Interest in Black Crime



*Notes:*This figure replicates the results of Figure 4, using only searchers who searched for "Black Crime" before 5/25/2020 in the "Black Crime" category
Panels A and B: Black Crime searchers had a much sharper increase in gun purchase searches during BLM than they did during the early COVID-19 period. Their increase during the beginning of the BLM protests is much larger than that of hunting license searchers. Dashed vertical line is 5/26. Smoothed lines are LOESS.
Panels C and D: Each point is the difference in gun purchase searches between Hunting License and Black Crime on a single date (difference between Blue and Salmon line from Panels A and B). There is a clear discontinuity at 5/26 (Dashed vertical line). Lines in Panels C and D are OLS.

crime searchers had an even larger jump at 5/26 than did Hunting License Searchers. Again, we find a sharp and highly significant discontinuity in the difference between black crime searchers' and hunting license searchers' interest in gun purchase.

Next, we test the significance of the discontinuity for hunting license vs Black crime searchers in the ammunition and gun range searches.

Table A6: Effects of 5/26 Discontinuity on Gun Purchase Searches by Black Crime Search History

	Type:	
	All	White Victim
Post	−0.094** (0.047)	−0.087* (0.046)
Black Crime	−1.271*** (0.027)	−0.739*** (0.071)
Black Crime x Post	0.497*** (0.043)	0.409*** (0.086)
Date	0.0001 (0.0003)	0.0001 (0.0003)
Day of Week FE	X	X
Constant	−7.504 (5.382)	−6.568 (5.245)
Note:	*p<0.1; **p<0.05; ***p<0.01	

Notes: This table is a replication of Table A7, where Black Crime searchers are limited to those who searched for Black Crime before 5/26/2020. As expected, these searchers had a larger increase in gun purchase searches than did hunting licence searchers.

Table A8 confirms that the discontinuity is significant. While hunting license searchers experienced a spike in gun purchase searches at 5/26, as evidenced by the significance on the Post coefficient, the significance of the interaction between Black Crime and Post shows that Black crime searchers had an even larger jump at 5/26 than did Hunting License Searchers. Again, we find a sharp and highly significant discontinuity in the difference between black crime searchers' and hunting license searchers' interest in gun purchase for both the full data and the pre-BLM only searchers.

Table A7: Effects of 5/26 Discontinuity on Gun Purchase Searches By Black Crime Search History

	Search Type:	
	All Black Crime	White Victim
Post	0.198^{***} (0.052)	0.148^{***} (0.043)
Black Crime	-1.147^{***} (0.023)	-0.878^{***} (0.029)
Black Crime x Post	0.417^{***} (0.034)	0.418^{***} (0.040)
Date	-0.001^{*} (0.0003)	-0.0002 (0.0003)
Day of Week FE	X	X
Constant	5.064 (6.174)	-2.669 (4.749)
Note:		*p<0.1; **p<0.05; ***p<0.01

Notes: This table quantifies the discontinuity in gun purchase searches among Hunting License and Black Crime searchers. The discontinuity plotted in Figure 4 is statistically significant, signifying that gun purchase search patterns for the two groups of searchers diverged substantively at the BLM protests.

Table A8: Effects of 5/26 Discontinuity on Ammo and Gun Range Searches

	Dependent variable:	
	Ammo	Gun Range
Post	−0.014 (0.074)	0.396*** (0.067)
Black Crime	−1.071*** (0.066)	−0.751*** (0.037)
Black Crime x Post	0.090 (0.067)	0.365*** (0.050)
Date	0.002*** (0.0005)	−0.001*** (0.0004)
Day of Week FE	X	X
Constant	−51.098*** (8.282)	12.990* (7.384)

	Dependent variable:	
	Ammo	Gun Range
Post	0.004 (0.063)	0.384*** (0.067)
Black Crime	−0.838*** (0.060)	−0.504*** (0.051)
Black Crime x Post	0.106* (0.061)	0.241*** (0.067)
Date	0.002*** (0.0003)	−0.001** (0.0004)
Day of Week FE	X	X
Constant	−48.562*** (6.372)	11.343 (7.657)
Note:		*p<0.1; **p<0.05; ***p<0.01

Notes: Here, we see that the gun purchase and gun range search patterns for hunting license and black crime searchers diverged significantly during the BLM protests. Black crime searchers had a significantly larger jump in gun purchase and gun range searches during the BLM protests than did hunting license searchers.