Trauma & Turnout: The political consequences of traumatic events

Wayde Z.C. Marsh
PhD Candidate in Political Science
University of Notre Dame
wmarsh1@nd.edu

Abstract

How do traumatic experiences shape individuals' political behavior? Political scientists have investigated the ideological shifts caused by natural disasters and terrorist attacks, but no work to date has investigated the political consequences of such events using the framework of psychological trauma. In this study, I develop a theory of post-traumatic political response that explains how traumatic events affect voter turnout. To test this theory, I identify the effects of three different types of traumatic events: Black Church arson attacks, mass shootings, and natural disasters. I find that a traumatic event decreases turnout in the next presidential election by 0.5-3.7 percentage points, but Black social identity conditions this effect–church arsons mobilize Black voters. Finally, I find that closer temporal proximity to an election increases the likelihood of a mobilizing effect.

Please do not cite without author's permission.

*The author is grateful to Geoffrey C. Layman, Jeffrey Harden, Christina Wolbrecht, David E. Campbell, and Dave Peterson for their very helpful comments on previous versions of this manuscript. Special thanks to Dave Campbell for sharing turnout data.

In June 2015, the world watched in horror as news broke of a tragic mass shooting at Charleston's Mother Emanuel African Methodist Episcopal Church. Black parishioners welcomed a white man into their Wednesday night prayer service before he began shooting, ultimately killing nine worshipping members of Mother Emanuel's congregation. In response, party elites and social interest group leaders across the political spectrum condemned this as an act of terrorism against the Black community. Every major news network covered the event, sharing survivor accounts of the horrific attack and documenting the devastating loss of life as well as the reverberations of trauma the attack instilled in Black Americans across the country. But, could a mass tragedy such as this intimidate the communities they target out of voting or could it mobilize them?

Mother Emanuel has, since its founding in 1817, been a symbol of Black hope and the struggle for Black equality. According to prior studies in psychology, it is likely that an attack on such a symbolic and meaningful institution would impact the psychological health and thus behavior of those with a geographical and/or social identity tie to the church. This suggests that this event is likely to have traumatized many Black Charlestonians, perhaps impacting their political behavior. From 2012 to 2016, overall turnout in Charleston County increased about two percentage points from 45.4% to 47.1%, but is this change in turnout related to this traumatic event? Further, would the effect be different for White and Black Charlestonians?

In recent years, a number of high profile tragedies, such as terrorist attacks, school shootings, and natural disasters have both traumatized Americans and had profound aggregate-level political effects. Yet, the politics of trauma remain under-theorized and under-examined by scholars. Due to the massive growth in access to the internet, the 24-hour news cycle, and the plethora of social media platforms, as well as climatic and cultural changes, mass exposure to news about traumatic events is becoming increasingly common. As a result, what was once considered "extraordinary politics" is becoming the new "ordinary politics" as the public thinks of traumatizing events in increasingly political terms (Atkeson and Maestas,

2012).

While previous research examines the effects of major terrorist attacks (Davis and Silver, 2004; Davis, 2009; Huddy et al., 2005; Huddy and Feldman, 2011; Hersh, 2013), mass shootings (Barnes et al., 2008; Hassell, Holbein, and Baldwin, 2020), and natural disasters (Healy and Malhotra, 2009; Gasper and Reeves, 2011; Atkeson and Maestas, 2012; Fowler and Hall, 2018), the plethora of psychological forces at play create a rich, but confusingly complex tapestry of explanations. In all of this work, the role of trauma in explaining political behavior is often omitted or deemphasized. Largely, this is because it is difficult to isolate the causal effects of trauma, which one cannot ethically manipulate randomly. But, in leveraging the exogenous nature of certain types of mass tragedies, it may be possible to begin identifying the effect of trauma on political behavior.

As exposure to traumatic events increases with the nationalization of many traumatic events, post-traumatic psychological responses among the mass public likely play an increasingly important role in American politics. In particular, traumatic events may create a democratic problem. If traumatic events induce a mass stress response, individuals affected by the event may not participate in politics. Studies confirm that poor health decreases participation in politics and that healthier people are better represented in the U.S. (Ojeda and Pacheco, 2019; Pacheco and Ojeda, 2020). This is, in and of itself, a major concern for American democracy. Even more troubling, however, is the fact that trauma is experienced more often by certain groups than by others. Black Americans, women, and lower socio-economic status individuals bear the greatest burden of trauma exposure and are more likely to develop more severe and long-lasting stress responses to this exposure (de Jong et al., 2001; Hatch and Dohrenwend, 2007; Muldoon, 2013; Dyb et al., 2014; Muldoon et al., 2017; Cowden Hindash et al., 2019; Muldoon et al., 2020). Identifying the effect of traumatic events on voter turnout, therefore, is a crucial component in measuring the health of American democracy–if traumatic events do decrease turnout, is it driven by those most likely experiencing stress reactions, who also already wield the least power in American politics?

In this article, I develop an individual-level theory of post-traumatic political response to mass tragedies. I then derive empirical predictions from this theoretical framework about the effect of a traumatic event on voter turnout, conditioned by geographic proximity, shared salient social identity, and temporal proximity. Using county-level census and turnout data, individual-level census data on voter turnout, and records of Black Church arson, mass shooting, and natural disaster occurrence, I test these three predictions in U.S. presidential elections from 1976-2016. These analyses support by theory of post-traumatic political response. I find that traumatic events decrease turnout in the next election by about 0.5 to 3.7 percentage points, a substantively significant effect. I also find evidence consistent with the claim that Black social identity increases the likelihood of turning out to vote in counties that have experienced a Black Church arson attack. Finally, I find that the closer a traumatic event occurs to an election, the more likely it is to increase turnout, but as it occurs further in advance of an election, it has a more depressive effect. I conclude that traumatic events have a demobilizing effect in American elections, through the mechanism of post-traumatic stress-demobilization responses, but that Black social identity provides important resiliency resources through the mechanism of post-traumatic growth-mobilization responses. This study combines a variety of data sources to investigate the effects of three mass tragedies on American political behavior, finding evidence that these traumatic events have important political consequences.

The Politics of Tragedy

Devastating hurricanes, tornadoes, wildfires, and earthquakes, terrorist attacks, mass shootings, sexual violence, civil war, environmental displacement–these mass tragedies seem ever present in contemporary American society. Such mass tragedies are not necessarily new challenges previously avoided by human society, though climate change, increasingly non-restrictive gun laws, and the expansion of terrorist organizations and terrorism as a foreign

policy tactic all may increase the occurrence of such politically-relevant traumatic events. For example, according to the Federal Emergency Management Agency (FEMA), there were no more than 56 federally declared disasters in the U.S. in any given year before 1995 (going back to 1953, when FEMA records begin). Since 1995, however, that number has hovered around 100 disasters with a high of 241 in 2011. Although part of this increase may be the effects of political considerations in the declaration of disasters, this seems to suggest an increase in the number of mass tragedies over time.

Regardless of any absolute increase in the occurrence of events, there is unquestionably an increase in the coverage of such events and, relatedly, an increase in the political attention paid to them. Accordingly, two conceptually distinct, but related processes relevant to the politicization of traumatic events have occurred nearly simultaneously over the past several decades: 1) the nationalization of media that exposes a broader range of Americans to traumatic events more regularly and 2) changes in expectations of government responsibility.

The consistent shocks to the American political system from these occurrences are rooted in the contemporary American public's increased and consistent exposure to them. The expansion of traditional media, the rapid growth in access to the internet and social media, the development of cable news networks, and the nationalization of politics have created a news environment in which Americans consistently face tragic news of traumatic events (Barnes et al., 2008; Metzl and MacLeish, 2015). A prime example is Hurricane Season, which only affects one part of the country but is featured in prime-time programming on national news networks for several months.

Beyond this increase in news coverage and thus increased exposure, expectations of government to intervene in response to traumatic events have changed over time, and continue to change for different types of traumatic events. The norm that political leaders respond to these events in order to build solidarity in the wake of tragedy has increased in recent decades and expanded to events beyond foreign wars (Hawdon and Ryan, 2011; Campbell, 2000). In contemporary American politics, this norm expects political elites, especially pres-

idents and governors, to respond to a wide variety of traumatic events. In past eras, however, this expectation centered mostly around executives' immediate response to military threats to national security (Sturm, 1949; Mueller, 1973; Norrander and Wilcox, 1993; Azari, 2013), what Alexander Hamilton called "energy in the executive" in *Federalist 70*. With the Great Depression and Franklin D. Roosevelt's New Deal, this expectation of government responsibility for threats to national security expanded to economic crises. As Franklin D. Roosevelt spurred the federal government toward greater responsibility for economic crises (Sturm, 1949; Brownlow, 1949), public expectations about government responsibility expanded to a growing collection of traumatic events. This broadening of government involvement has made traumatic events increasingly political, and perhaps partisan.

Mass tragedies increasingly command the attention of political elites and of the mass public. Intuitively, then, we may expect that these exogenous traumatic shocks to the American political system leave important changes in their wake. Political scientists have already begun identifying the negative and positive political outcomes of such events for the mass public. For example, previous research finds large increases in rates of PTSD diagnoses and post-traumatic stress responses in the wake of the 9/11 terrorist attacks (Schuster et al., 2001; Silver et al., 2002; Ford et al., 2003). Possibly related was a substantial conservative ideological shift (Jost et al., 2003; Bonanno and Jost, 2006; Bateson, 2012), with declining support for civil liberties as a result of elevated threat and mortality salience (Davis and Silver, 2004; Davis, 2009; Huddy et al., 2005; Huddy and Feldman, 2011). Another study finds that the events of 9/11 caused greater political activism and advocacy among victims' family members (Hersh, 2013). But, this research concerns only one type of mass tragedy. Further, what are the effects of traumatic events on a more consequential political outcome, voting?

Because of changing expectations of government responsibility, the role of blame has become increasingly important to understanding the effects of traumatic events. Blame matters particularly in the context of this study because it can affect turnout. In the wake

of Hurricane Katrina, for example, scholars investigated the role of news coverage in shaping to the public's deliberation regarding blame (Atkeson and Maestas, 2012). In particular, as the news media and policy demanders (activists and social interest group leaders) frame events in particular ways, the American public expects the government to respond to fix ongoing events and to enact policies to either prevent or decrease the likelihood of future similar events or to limit their detrimental impact. Similar patterns of blame arise in the wake of mass and school shootings in which the public expects the government to intervene to prevent future loss of life (Barnes et al., 2008).

Some scholars go so far as to identify a "myopic rationality," which leads voters to blame and thus electorally punish incumbent elected officials for any such event which impacts the voter, regardless of the incumbents' ability to prevent or aid recovery from the event (Achen and Bartels, 2016; Heersink, Peterson, and Jenkins, 2017)–though other work questions some of these findings (Fowler and Hall, 2018; Healy and Malhotra, 2009). Other research contends, for example, that voters reward governors who seek federal assistance and punish presidents who reject these requests (Gasper and Reeves, 2011). In short, increased exposure to traumatic events along with changing expectations of government responsibility for responding to traumatic events may increase general exposure to trauma. But, these mechanisms of exposure also typically frame events so as to blame some group of elected officials (usually the executive or a political party) for a failure to prevent or effectively respond to the event. Such blame processes can impact vote choice and attitudes, suggesting that it may also affect the decision to vote at all.

Previous research on the political consequences of mass tragedies, therefore, finds evidence of rightward ideological shifts as well as inconclusive dynamics of punishing elected officials for such events. The present study asks a question about the most important political behavior, voting: Do traumatic events cause a decrease in turnout? While Hersh (2013) identifies an increase in political participation among family members of 9/11 victims, it is unclear whether this pattern applies to other traumatic events. Further, studies of single

types of traumatic events' electoral effects may be susceptible to contamination from practical impediments. That is, after a natural disaster, for example, infrastructure challenges may make it physically difficult for voters to get to a polling place or they may be displaced and unable to vote absentee. I develop a theory of post-traumatic political response, therefore, which identifies the conditions in which traumatic experiences encourage or discourage participation in elections. In identifying the effect of Black Church arson attacks, mass shootings, and natural disasters on voter turnout as well as the conditioning roles of social identity and temporal proximity to an election, this study empirically measures the heretofore unidentified role of trauma in electoral behavior.

A Theory of Post-Traumatic Political Response

While previous work has identified some of the important political consequences of terrorist attacks, mass shootings, and natural disasters, this study brings all three together to identify the causal effect of traumatic events on American electoral behavior. Each of these events are major tragedies in American society, but it is trauma that links them all together as one type. To clarify this claim, I develop a theory of post-traumatic political response. To do so, I define trauma and traumatic events, examine post-traumatic psychological responses, and identify the specific post-traumatic political responses I expect for the types of events under investigation.

What is Trauma?

Trauma is a contested and perhaps overly-employed term in American news, scholarship, and ordinary language. The concept of psychological trauma was developed and is maintained by those treating survivors of trauma and represents a particular type of trauma. Even still, psychologists debate the definition of "trauma" and what its effects might be on human behavior (Weathers and Keane, 2007; Wakefield, 2016). Despite these ongoing debates,

working backwards from the diagnostic criteria from clinical psychology provides a useful and workable definition for this study.

The *Diagnostic and Statistical Manual of Mental Disorders', fifth edition* (*DSM-V*) entry for diagnosing post-traumatic stress disorder[1] requires "actual or threatened death, serious injury, or sexual violence," thereby excluding stressful events that are typically not an immediate threat to life or physical safety such as divorce, job loss, or other psychosocial stressor events (APA, 2013). In this study, therefore, trauma is the experience of reasonably perceived threat of or actual death or serious violence. By extension, traumatic events are events in which there is a reasonably perceived threat of death or serious violence or actual experience of death or serious violence during the event or in its immediate aftermath.

Post-Traumatic Responses

When an individual experiences a traumatic event, the cognitive schemata that individual uses to understand how the world works and is structured are broken. In the wake of a traumatic event, survivors must reconstruct these schemata and two psychological responses, stress and growth/resilience, are the primary means to begin this process.

Post-traumatic stress is the most commonly discussed psychological response to traumatic stimuli, but it is a relatively rare reaction. Post-traumatic stress reactions include many negative psychological responses, including: distressing memories and nightmares of the event, dissociative reactions (flashbacks), distress upon seeing symbols of the event, avoidance behaviors, memory lapses, increased distrust of others, self-blame, negative emotions (fear, anger, guilt, shame), decreased participation in social activities, and isolation and detachment (APA, 2013). These are all indicators of poor health and poor health can decrease the likelihood of a voter turning out to vote (Lyon, 2021). Such negative psychological and physical symptoms characteristic of post-traumatic stress should then manifest politically as decreased trust in government, estrangement from social and political networks

[1] In this study, I intentionally avoid using language of "disorder"–see section B in the supplementary information for more.

and activities, and increased role of negative emotional states in political decision-making. For the present study, the most important political consequence of post-traumatic stress political response is demobilization, whereby through increased interpersonal and governmental distrust and estrangement from social and political networks, individuals who have experienced a traumatic event are less likely to participate in politics, namely voting.

Post-traumatic growth/resilience is defined as "positive psychological changes experienced as a result of the struggle with traumatic or highly challenging life circumstances" (Calhoun and Tedeschi, 1991; Tedeschi et al., 2018). This is a process by which people create individualized versions of the basic cognitive categories that help them interpret experiences of trauma and to understand their self, future, and world in light of this experience (Tedeschi et al., 2018; Janoff-Bulman, 1992). Surviving trauma can build resilience and motivate action through hope, an appreciation for life, and a stronger ability to relate to others (Tedeschi et al., 2018), especially when a social identity is made salient through the traumatic experience (Muldoon et al., 2020). This response should manifest itself politically as an increased engagement in social and political activities, greater trust in others and in government, and reliance on more positive emotions in political decision-making. Most important for this study is that post-traumatic growth political response should mobilize voters, causing an increase in turnout. This should be especially likely when social identity is made salient so as to provide resources to allowing relation to others and hope.

Who Experiences Trauma?

When a traumatic event occurs, an individual experiencing the event may (or may not) experience trauma and respond with stress or growth/resiliency responses, or some combination of both. The stress and growth/resilience responses to traumatic events not only impact the individual experiencing the event, but also family and friends of survivors, those witnessing the event, and even individuals who have a personal (or social identity) connection either to the primary victim(s) of the event or the geographical or cultural location

of the event. Social psychological studies of post-traumatic stress responses in the wake of various traumatic terrorist and warfare events around the world find that individuals who had lived in the geographical area experiencing the event, had family in the area, or some other close personal tie to the area, displayed post-traumatic stress symptoms (Nader et al., 1993; Pfefferbaum et al., 2000; Pfefferbaum, 2001). Further studies find that even exposure to such traumatic events on television can cause post-traumatic stress responses when viewers have a psychological attachment to the geographical area impacted (Pfefferbaum et al., 2001; Schuster et al., 2001; Silver et al., 2002; Ahern et al., 2002; Schlenger et al., 2002).

Beyond the traumatizing impact on individuals directly experiencing the traumatic event, their close friends and family members, witnesses, and those with close personal ties to the victim group or area, traumatic events often trigger those who have previously experienced trauma in one of the above listed ways. Studies of veterans, refugees, and immigrants confirm that traumatic events of similar type, in the locations where their trauma was first activated, or with other similarities reactivate or "trigger" those previous post-traumatic responses, even if there was no adverse stress response to the initial traumatic exposure (Long, Chamberlain, and Vincent, 1994; Elliott, 1997; Kinzie et al., 2002).

Further, research shows that even if one is not present during the actual traumatic event, strong connections to the location experiencing the event can cause a post-traumatic stress response or, if one has previously experienced such trauma, trigger that traumatic stress (Pfefferbaum et al., 2000; Pfefferbaum, 2001), even if an individual witnesses the events or the aftermath on television (Pfefferbaum et al., 2001). Extensive social psychological research finds that trauma is not distributed equally across the population, but instead is structured by social identity. Racial-ethnic minorities, women, and lower socio-economic status individuals are more likely to experience traumatic events, and are more likely to develop stress responses to traumatic stimuli (Muldoon, 2013; World Health Organization, 2011). But, it is also the case that social identity can increase the likelihood of growth/resiliency responses to trauma.

Traumatic events have long-term and wide-reaching effects on an exponentially increasing number of people, especially in an age of social media and 24-hour news cycles. Advances in social media translate to increased opportunities for exposure to videos, pictures, and stories of trauma, which may expand the scope of viewers who may be traumatized or more likely have their trauma reactivated. And so, there are both mobilizing and demobilizing forces pressing on this increasingly growing subset of the American population, but the type of event also structures which post-traumatic responses those who have experienced a traumatic event will express.

Identifying Politically-Relevant Traumatic Events

As stated above, a traumatic event is an event that causes a near-death experience, sexual violence, or serious harm and manifests as either post-traumatic stress or post-traumatic growth responses. Such a definition includes many different types of events, but not every type of traumatic event will be politically relevant. I therefore propose three criteria for a traumatic event to be politically-relevant and thus follow the patterns I propose of post-traumatic political response. Meeting any one of these criteria make a traumatic event politically relevant, though some may meet more than one.

First, a traumatic event must be an event that by law or historical precedent demands a governmental response of some measurable quantity. This criteria would make traumatic events such as major natural disasters, which are threats to public safety and economic stability, under the purview of the executive branch, and have a precedent of major governmental response, politically-relevant.

Second, a traumatic event must be of a scale and severity so as to make a governmental response imperative. Major natural disasters fulfill this criteria because they inflict a massive toll both in the number of lives they claim and in the economic cost the communities hit by them incur in damages and in stalled economic activity.

Finally, a traumatic event may become politically-relevant if it is made so by policy

demanders. This criteria makes events such as mass shootings, the murder of unarmed black men, and cultures of sexual violence against women politically-relevant traumatic events. On their own, these events are tragic and traumatic, but not necessarily politically-relevant on face value as they often do not inflict a death or economic toll as prolonged and great as that of large natural disasters such as to warrant an executive response, nor do they generally fall under the purview of the government, aside from being isolated criminal justice concerns. Policy demanders reveal these events' political relevance, however, when they teach the mass public about the underlying, systemic patterns that characterize such events across time and space. That is, when policy demanders such as Black Lives Matter draw connections between racism and policing practices or when #MeToo draws connections between misogynistic and abusive work, domestic, and legal norms and the incredibly high rates of sexual violence against women, these traumatic events become politically-relevant.

Cases

In this study, I restrict empirical analysis to three different types of persistent traumatic events in American society: Black Church arson attacks, mass shootings, and natural disasters. In the case of each, large numbers of survivors perceive the threat of death or serious violence, the events are public, under the legal or publicly-expected purview of government responsibility, or especially salient or wide-spread with policy demanders revealing political relevance. The population of traumatic events is much larger, but this initial study provides a foundation for empirical analysis of other types of events. I elaborate on these cases further in the supplementary information, section A.

Black Church arson attacks are a particularly heinous event in American history and society. These attacks are politically-relevant traumatic events because they are crimes (and thus threats to public safety); terrorist attacks, intended to traumatize Black Americans; and because policy demanders teach the American public of their political relevance. In this case, it is also important to note that these attacks are not simply done out of rage or hatred,

but are very clear in their target (Black Americans) and in their explicitly political message (stop demanding political, social, and economic equality that threatens white dominance).

Gun violence is a growing problem in the U.S., a problem made especially evident in mass shootings. Mass shootings are less tied to a particular social identity than are Black Church arson attacks, but are likewise public and (relatively) rare. While gun violence is a common and persistent problem in the United States, mass shootings, which cause at least three deaths and occur in public places, are few in number, but large in traumatic reach. As with Black Church arson attacks, mass shootings are politically-relevant traumatic events because policy demanders have played a role in making these events politically-relevant and are crimes that represent public safety concerns.

Finally, natural disasters are a persistent and, due to climate change, increasingly serious concern in American life. Such events affect massive numbers of Americans and cause loss of life, physical harm, destruction of property and infrastructure, and displacement. Further, such events cause millions and sometimes billions of dollars in economic damage and lost economic activity. As such, these events are politically-relevant traumatic events because of their clear trauma-inducing effects and their incredibly wide reach of lives threatened or lost.

Expectations

The type of traumatic event structures expectations about the post-traumatic psychological (and thus political) response. Post-traumatic stress (PTS) is most likely to occur and most likely to have more severe health and behavioral effects when a traumatic event is interpersonal and intentional, meaning that the event occurs between people (a car accident versus a tornado) and that the individual perpetrating the event is doing so on purpose (a mass shooting versus a car accident) (Santiago et al., 2013; Matthieu and Ivanoff, 2006; Van der Velden et al., 2006). While natural disasters are least likely to cause severe and increasing post-traumatic stress-demobilizing responses as they are not defined by human

violence, intention, or negligence, they are still tragic and uncontrollable events that increase uncertainty.

Social psychologists have consistently found these post-traumatic stress responses among those in close geographical proximity to the event (Nader et al., 1993; Pfefferbaum et al., 2000; Pfefferbaum, 2001; Pfefferbaum et al., 2001). While I expect the effects to be particularly pronounced for Black Church arson attacks and mass shootings, because of the above findings about interpersonal-intentional traumas, I expect to see similar (though dampened) effects after natural disasters as well. This is because in all three events, living in close geographic proximity to the site of the event increases threat and fear perceptions as it is more likely that an individual in that geographical area may live near the location, may be at or near that location regularly, could have reasonably been a victim of the event, or may personally know a victim. As such, my first hypothesis about *geographic proximity* is:

Traumatic events will decrease turnout in the next election among those within close geographic proximity (county) of the event. (H1)

Post-traumatic growth-mobilization (PTG) responses, however, are likely to form when there is a strong social identity attachment for survivors to form with one another. Traumatic events can consolidate community or social identities (Hutchison, 2010; Drury, Cocking, and Reicher, 2009; Muldoon and Lowe, 2012), but the simple fact of having a strong identity can contribute to personal strength, empathy, and appreciation for life, among other post-traumatic growth/resilience outcomes in the wake of a traumatic event, especially when one's group provides coping resources (Antonovsky, 1979; Benight and Harper, 2002; Benight, 2004; Jetten, Haslam, and Haslam, 2012; Muldoon et al., 2017). The resources for such connection, which leads to post-traumatic growth-mobilization should be most prevalent in the case of Black Church arson attacks.

The Black Church is a crucially important and unique social and religious organization that holds a particularly important place in understanding Black turnout, especially in the South (Vedlitz, Alston, and Pinkele, 1980; Murphy, 2000; McClerking and McDaniel, 2005;

McDaniel, 2008, 2013; Gates Jr., 2021). Because of this, the Black Church is a main source of social support for many Black communities. This support is important in the development of post-traumatic growth responses through resiliency (Brown, 2008). The unique history of oppression of Black individuals in the United States and the explicitly racialized and political nature of Black Church arson attacks indicates that Black social identity should have a strong conditioning effect in the form of a "boomerang effect" (Lodge and Taber, 2013). That is, Black Church arson attacks are typically done to send a strong and threatening message to Black Americans attempting to stop them from acquiring equal rights and status and yet, the shared social identity and the social support it provides increase the likelihood of a post-traumatic political growth/resiliency-mobilization response. This leads to my second hypothesis about *shared social identity*:

Traumatic events will increase turnout in the next election among those with shared social identity of the primary survivors of the event. (H2)

Temporal proximity is also an important component for understanding the effects of traumatic events on post-traumatic stress and post-traumatic growth responses. Studies in psychology and psychiatry find that there are multiple trajectories of post-traumatic stress symptoms such that overtime after traumatic exposure, individuals may experience no change, an increase, or a decrease in both post-traumatic stress responses and post-traumatic growth/resiliency responses (Dickstein et al., 2010; Self-Brown et al., 2013; Lowe et al., 2014; Osofsky et al., 2015). These trajectories and rates vary in likelihood by the type of traumatic event and the social mediators at play (Dickstein et al., 2010; Self-Brown et al., 2013; Lowe et al., 2014; Bryant et al., 2015; Osofsky et al., 2015). For example, natural disaster trauma survivors most often demonstrate a chronic, but consistent, PTS trajectory or a decreasing PTS trajectory (Osofsky et al., 2015). Other studies find that individuals who have suffered interpersonal-intentional traumatic events experience an increase in PTS symptoms over time after the event, while individuals who experience non-intentional traumatic events tend to experience a decrease in PTS symptoms over time after the event (Van der Velden et al.,

2006).

In other words, when the event is intentional, as Black Church arson attacks and mass shootings are, post-traumatic stress-demobilizing responses should not only persist as time goes on, but increase, while unintentional traumatic events, as in the case with natural disasters, should engender a decrease in post-traumatic stress-demobilizing responses over time. Important in decreasing PTS responses and increasing PTG/resiliency responses is the availability of social resources (e.g. social support) (Lowe et al., 2014). When an election is proximal to a traumatic event, it provides survivors with those social resources that may promote a PTG response and limit PTS responses. That is, when a traumatic event is shortly before an election, because of changing expectations of government, political elites are more likely to speak about the event and provide necessary social and economic resources to impacted communities, or at least promise to send resources. As such, the closer an event is to an election, it should provide the social resources necessary to increase the likelihood of a post-traumatic growth mobilization political response. On the other hand, when a traumatic event occurs further in advance before an election, there is less incentive for political elites to respond as robustly and even if they do, there is time for the provision of social and economic resources to decline. This means that as the event is further in advance of an election, it is more likely that the declining access to social and economic resources drives a post-traumatic stress-demobilization political response.

I, therefore, have different expectations about the effects of temporal proximity based on the specific type of traumatic event. In the case of Black Church arson attacks and mass shootings, the post-traumatic political response should be one of demobilization, and notably demobilization that increases over time as post-traumatic stress reactions increase in the time after the event. Natural disasters (because they are not interpersonal and intentional), however, should see a decrease in post-traumatic stress-demobilization because post-traumatic stress responses decrease over time, leading to the third hypothesis about *temporal proximity*, broken into three parts:

The closer a Black Church arson attack or mass shooting event is to an election, the more likely it is to cause a mobilizing effect. ($H3_a$)

The further a traumatic event is from an election, the more likely it is to cause a demobilizing effect. ($H3_b$)

The demobilizing effects of natural disasters should decrease over time. ($H3_c$)

Empirical Design

Data

To identify the political consequences of traumatic events, I utilize time-series cross-sectional data at the county-level from 1976 to 2016 and at the individual-level from 1992-2016. Previous social psychological work identifies a strong post-traumatic stress response among those in close geographic proximity to a traumatic event. The smallest geographical unit with consistently accurate turnout estimates is the county-level. I therefore focus the analysis testing the first and third hypotheses on county-level data.

I also use the U.S. Census Bureau's Current Population Survey, Voter Supplement to identify individual-level trends to test my second hypothesis. While the CPS data are not representative at the county-level, they are representative at the state-level and provide a very large sample of respondents. Due to this large sample, I am able to identify a large state-representative sample of respondents who are affected and not affected by traumatic events in each election year period.

To identify the occurrence of traumatic events (the treatment variable) and turnout at the aggregate-county and individual levels (the dependent variables of interest) I combine various county-level data sets. I acquire a database of county-level turnout from 1976 to 2016, by combining total vote data from David Leip's Presidential Election Atlas, Congressional Quarterly, and the U.S. Census Bureau with voting age population (VAP) from the U.S. Census Bureau. To identify individual-level turnout, I use the aforementioned CPS.

I identify the occurrence of traumatic events at the county-level for both the county-level and individual-level analysis. That is, in the individual-level data, I consider an individual respondent treated if in that four-year election cycle, their county of residence experiences one of the three traumatic events.

To identify the occurrence of traumatic events, I utilize a variety of sources. First, my analysis of the impact of Black Church arson attacks uses events listed in the National Church Arson Task Force's final report in 2000, which identifies the location of all Black Church arson attacks committed between 1995 and 2000. I limit the analysis to this period due to the highly politicized nature of the attacks as well as the disproportionate number of attacks on Black Churches relative to other houses of worship. While such events have occurred before and after, my analysis is limited to the 1995 to 2000 time period, meaning I can identify the impact of these traumatic events on elections in 1996 and 2000. There are 268 Black Church arson incidents in this time range.

Next, I use Mother Jones' U.S. Mass Shootings database to identify mass shootings from 1982 to 2016. There are several mass shooting databases and Mother Jones' uses perhaps the most stringent criteria for identifying mass shootings. This database defines mass shootings as single incidents that occur in a public place and result in four or more victims killed by the attacker from 1982 to 2012 and three or more victims killed from 2013 onwards (in keeping with a change in the federate mandate which changes the threshold for investigations into mass shooting events).[2]

Finally, I use the Federal Emergency Management Agency (FEMA)'s disaster declarations database to identify natural disasters. The data spans back to 1953 with FEMA's first disaster declaration, but county-level data is not available before 1964. To parallel the other data in the analysis, the dataset includes all disaster declarations (major disaster declarations, fire management, and emergency declarations) from 1976 to 2016. Further, this

[2]As a robustness check, I run the same analysis on the Stanford Mass Shootings in America (MSA) Database. The analysis estimates effects of similar magnitude and in the same direction (negative), though the estimates are not statistically significant. In section C in the supplementary information, I explain the differences between the databases and in section D, I provide results of analysis using the MSA data.

represents a conservative test as some counties affected by natural disasters, but who did not apply for and/or receive FEMA aid, will not be included in these data. This is likely to be a small amount of cases as these data include both individual and region-wide disaster declarations and the scope of cases included is quite wide.

Methods

As there are multiple trade-offs to using different methods with time-series cross-sectional data, I employ three different analyses to identify the effect of Black Church arson attacks, mass shootings, and natural disasters on electoral outcomes at the county-level. Due to the bracketing relationship between generalized two-way fixed effects and lagged dependent variable models (Angrist and Pischke, 2009; Ding and Li, 2019), I use both as upper and lower boundaries of the true expected effect of the treatment–the average treatment effect on the treated (ATT). I further test the robustness of these results with an additional time-series cross-sectional matching technique in section D in the supplementary information.

In the lagged dependent variable models, I also include cumulative treatment variables (Blackwell and Glynn, 2018). These variables are counts of the number of each traumatic event type. The inclusion of the cumulative treatment variables controls for dosage (the number of traumatic events a county experiences up to the time of the election) in the lagged DV model, for additional robustness.

These fixed effects and lagged DV models represent my main analysis of the effect of traumatic events on turnout (to test the geographical proximity and temporal proximity hypotheses–*H1* and *H3*). County-level turnout is the dependent variable in these models and the treatment variable for *H1*, testing the effect of geographic proximity, is whether or not a traumatic event occurred in the county in the four-year presidential election cycle. For *H3*, testing the effect of temporal proximity, I run the same models with the same dependent variable but with four different treatment indicators: when the traumatic event occurs within three months, within six months, within the election year, and within two years

of the presidential election. To account for important within-state differences not captured by the fixed effects, I include the percentage of the county population that is Black, the total population, and median household income. See section C for a more thorough discussion of these controls.

Finally, in order to test *H2*, regarding the effect of shared Black social identity, I utilize a two-way fixed effects model with an interaction between Black social identity and treatment exposure–this is the coefficient estimate of interest. The dependent variable is whether or not the respondent voted. I use linear regression because this does not drop groups where the dependent variable is all zeros or all ones and thus estimates the effect on the whole sample rather than the ATT on a subset of the sample, avoiding unnecessary introduction of bias (Beck, 2020).[3] The model controls for variables known to influence turnout: gender, education, and income and includes two-way county-year fixed effects.

Results

Geographic Proximity

Table 1 provides the results of the generalized two-way fixed effects models. I find that the estimated effect of experiencing an arson attack on turnout is statistically and substantively significant at -0.013. This estimate reflects a 1.3 percentage point decrease in turnout for counties that experienced an arson attack on a Black Church. This effect size is enough to potentially impact the results of an election, as previous research finds such a shift is important, especially in close elections (Hansford and Gomez, 2010). I also find a substantively significant demobilizing effect of mass shootings at -0.018, reflecting a 1.8 percentage point decrease in turnout for counties that experienced a mass shooting. This estimate is not statistically significant at the $p < 0.05$ level, but is at the $p < 0.10$ level. While the estimate for the effect of natural disasters on turnout is not statistically significant, it is in

[3]See section C for further explanation of the use of linear regression in this case.

the right direction with a coefficient of -0.001. These results consistently demonstrate that traumatic events have a demobilizing effect in that turnout decreases in the next election for counties that experienced one of these traumatic events. Further, I hypothesize that arson and mass shootings, which are interpersonal and intentional will cause especially strong post-traumatic stress-demobilizing political responses compared to natural disasters, for which I find evidence in these results.

Table 1: Effect of Traumatic Event on Turnout, Generalized Two-Way Fixed Effects (county-year) Difference-in-Differences Estimates

	Arson	Mass Shooting	Natural Disaster
Experience Traumatic Event	-0.013* (0.003)	-0.018 (0.010)	-0.001 (0.001)
% of County Pop.Black	-0.109 (0.062)	-0.110 (0.062)	-0.111 (0.062)
Total Population	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)
Med. Household Income	0.000* (0.000)	0.000* (0.000)	0.000* (0.000)
Fatalities		0.002* (0.001)	
Injured		0.000 (0.000)	
Year Fixed Effects	Yes	Yes	Yes
County Fixed Effects	Yes	Yes	Yes
Observations	23,952	23,953	23,952
R^2	0.015	0.015	0.015
Adj. R^2	-0.120	-0.121	-0.121
F-statistic	81.914* (df = 4; 21,051)	53.703* (df = 6; 21050)	79.53* (df = 4; 21051)

County-clustered standard errors in parentheses.
$*p < 0.05$

Table 2 provides the results from the lagged dependent variable models for the effect of arson attacks, mass shootings, and natural disasters on presidential election turnout. In these models, I find a statistically and substantively significant estimate for the effect of arson attacks on turnout with a coefficient of -0.037, translating to a 3.7 percentage point decrease in turnout for counties experiencing an arson attack. Counties experiencing a mass shooting experience a 0.6 percentage point decrease in turnout, though the estimate is not statistically distinguishable from zero. Finally, the model estimates a statistically significant 0.5 percentage point decrease in turnout for counties that experienced a natural disaster. Though, as indicated above, this is counties that experience a natural disaster and received FEMA aid afterwards, which should have minimized post-traumatic stress reactions and

thus is a conservative estimate of the effect of natural disasters on turnout.

Table 2: Effect of Traumatic Event on Turnout, Lagged Dependent Variable Analysis Results

	Arson	Mass Shooting	Natural Disaster
Experience Traumatic Event	-0.037* (0.006)	-0.006 (0.009)	-0.005* (0.001)
Lagged Turnout	0.794* (0.006)	0.796* (0.006)	0.796* (0.006)
Cumulative Event Treatment	-0.007 (0.004)		-0.000 (0.000)
Fatalities		0.002 (0.001)	
Injured		-0.000 (0.000)	
Intercept	0.121* (0.003)	0.119* (0.003)	0.121* (0.003)
Observations	24,179	24,179	24,179
R^2	0.639	0.638	0.638
Adj. R^2	0.639	0.638	0.638
F-statistic	14270* (df = 3; 24,175)	10630* (df = 4; 24,174)	14210* (df = 3; 24,175)

There are no counties that experience more than one mass shooting, so there is no cumulative event treatment included for this model.
$*p < 0.05$

Altogether, these results provide consistent evidence that arson attacks cause a decrease in turnout of between 1.3 and 3.7 percentage points. I find less consistent, yet still convincing evidence that mass shootings and natural disasters decrease turnout by 0.6 to 1.8 percentage points and 0.1 to 0.5 percentage points, respectively, for counties experiencing such events. Notably, I never find a statistically significant post-traumatic growth-mobilization effect. Instead, I find consistent evidence confirming my hypothesis about the demobilizing effects of traumatic events and this mechanism's potential for creating a serious democratic problem.

Shared Social Identity

While data limitations before 2008 restrict my ability to measure turnout for Black voters at the county level, the individual-level analyses allow me to identify the post-traumatic political response of Black Americans in the wake of Black Church arson attacks. Black voters are more likely to be disproportionately impacted by all traumatic events, but Black Church arson attacks are a special case that allow me to identify how social identity conditions post-traumatic political response. Because Black Americans are the primary targets of this traumatic event and it is interpersonal and intentional, they could exhibit higher post-

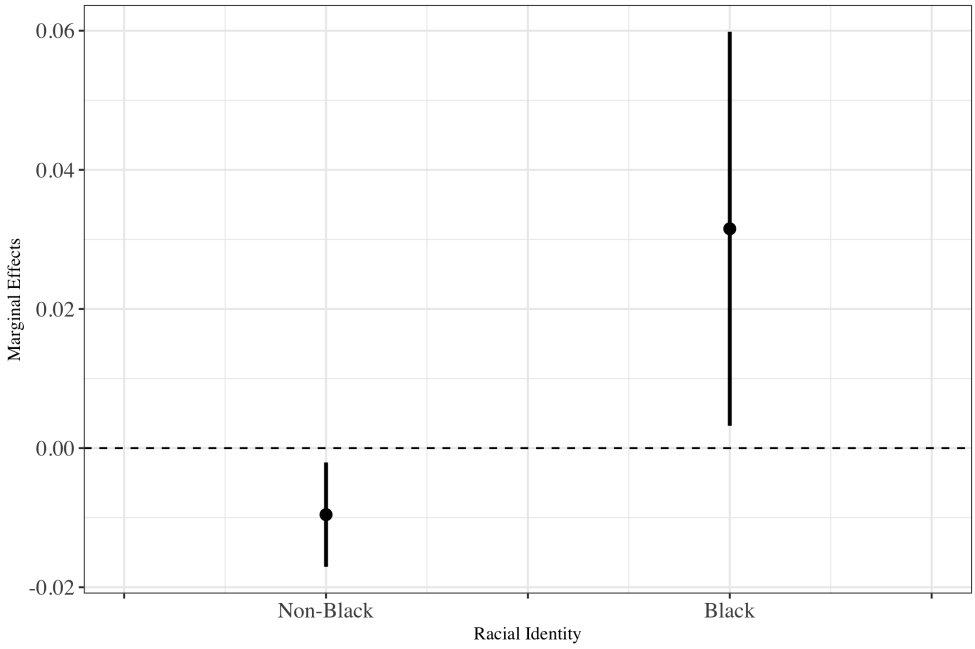

Figure 1: Black Social Identity Conditions the Effect of Black Church Arson Attacks on Voting

traumatic stress-demobilizing responses. But, because of the central role of Black social identity in these horrific events, the Black community within each county provides survivors with the resources to demonstrate post-traumatic growth/resilience political responses. I theorize that the social and political support provided by Black social identity should cause a post-traumatic growth/resilience political response, when the event makes Black social identity salient. In short, I should find an increase in turnout among Black Americans living in counties that experienced a Black Church arson attack.

I find support for *H2* in figure 1, which plots the marginal effects of a Black Church arson attack on voting with 95% confidence intervals, varied by racial identity. A table of full results of the two-way fixed effects model is in table 6 in the supplementary information. The figure shows that while the arson attacks have an overall post-traumatic stress-demobilizing effect on non-Black voters (perhaps a "white guilt" effect), I find a post-traumatic growth/resiliency-mobilization political response among Black voters. These results provide support for *H2* that when a traumatic event makes a social identity salient,

post-traumatic growth/resiliency-mobilization responses are more likely among the group that share this salient social identity with the primary targets/survivors. These results confirm the well-established resiliency of Black Americans (Brown, 2008), but they also identify the political consequence of Black resiliency in the face of direct threats to Black civil and religious rights and personal safety: when certain Whites threaten the Black community with traumatic events, Black voters are mobilized to vote.

Temporal Proximity

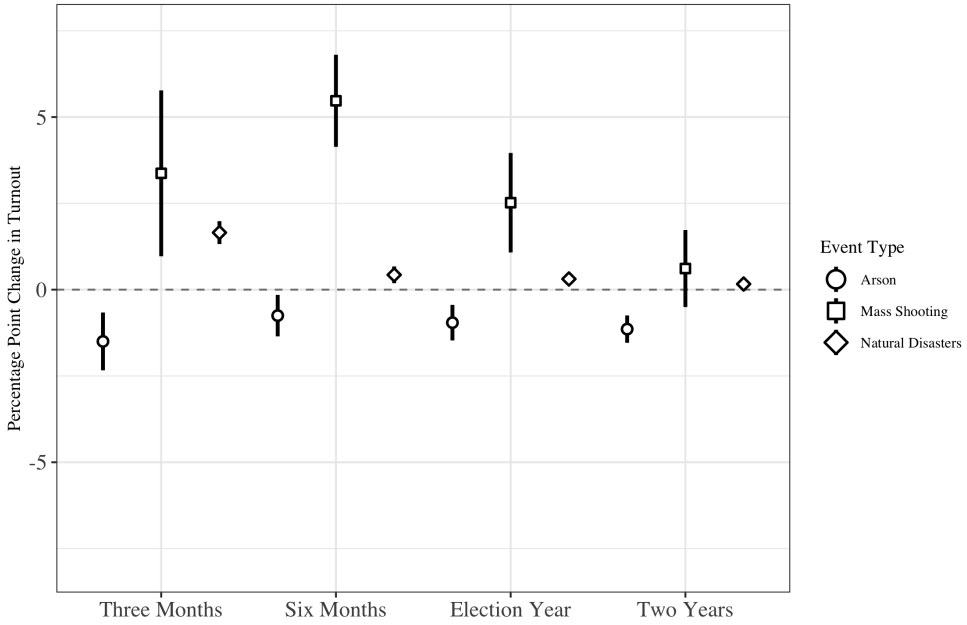

Figure 2: Proximity of Traumatic Event Effect on Turnout, Difference-in-Difference Estimator

Figures 2 and 3 plot the coefficient estimates and 95% confidence intervals of the two-way (county-year) fixed effects and lagged dependent variable models testing the effect of temporal proximity of a traumatic event to a presidential election on turnout. To test the effects of temporal proximity, I run the same fixed-effects and lagged DV models four times each, where the treatment is if the traumatic event occurs within three months, six months, within the election year, or within two years of an election.

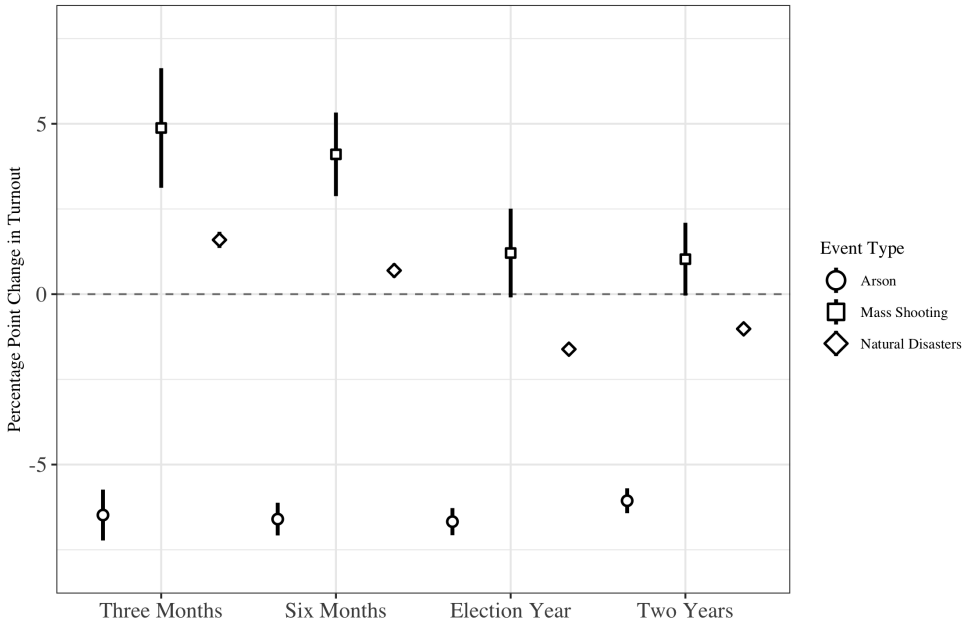

Figure 3: Proximity of Traumatic Event Effect on Turnout, Lagged Dependent Variable Models

Social psychological research tells us that we should expect that post-traumatic stress reactions get worse over time and these figures demonstrate just such a pattern, providing partial support for $H3_a$, partial support for $H3_b$, and unconvincing evidence for $H3_c$. The results demonstrate a consistent demobilizing effect of Black Church arson attacks, regardless of the event's proximity to a presidential election. But, a general pattern confirming $H3_a$ and $H3_b$ appears for both mass shootings and natural disasters: events that occur close to an election have a mobilizing effect, but this decreases overtime, eventually reverting to the mean and, in the case of natural disasters, becoming demobilizing events. While mass shootings follow this general trend, the small number of cases that fall in these time cuts warrant caution in deriving clear and decisive evidence of this patterns. Instead, I find that natural disasters fit this pattern, Black Church arson attacks exhibit consistent post-traumatic stress-demobilizing effects over time, and that more data is needed to confirm the findings for mass shootings, though these initial findings fit with prior social psychological work and with the patterns of natural disasters.

Conclusion

Traumatic events decrease voter turnout in American presidential elections. In particular, this study finds that geographic proximity, shared salient social identity, and temporal proximity condition and shape aggregate and individual responses to traumatic events. In the wake of Black Church arson attacks, mass shootings, and natural disasters, affected individuals' voting behavior is characterized by post-traumatic stress-demobilization responses, whereby voters in affected counties turnout to vote at significantly lower rates. Further, Black social identity provides important resources that encourage post-traumatic growth/resilience-mobilization responses among Black Americans. Finally, temporal proximity conditions the effect of traumatic events such that the closer to an election a traumatic event occurs, the more likely it is to drive a mobilization response, while the further in advance of an election it is, the more likely it is to revert to the mean or drive a demobilization response.

My theory of post-traumatic political response helps to theoretically disentangle the role of trauma on political behavior and my empirical tests confirm a net negative effect, with exceptions for the conditioning effect of social identity and time. Importantly, the effects of traumatic events are enduring and substantial. Further, because of prior research on the unequal burden of trauma and post-traumatic stress responses, these findings also insinuate that the demobilizing force of trauma in American politics is likely to create further barriers to political equality for Black Americans, women, and lower socioeconomic individuals, unless social resources are made salient or available. That is, in the wake of a traumatic event, policy demanders who make social identities salient provide resources that drive a post-traumatic growth/resilience response and may counteract a post-traumatic stress response that would depress and demobilize those most likely to be cut out of the democratic process. Likewise, government can increase aid to communities to help bolster social resources through social identity formation and solidification in the framing of events and through provision of physical and economic resources for recovery. As traumatic events have always been a feature of human life, it is unlikely that these demobilizing trends will resolve themselves.

And so, it is incumbent upon social interest groups and political elites to control what is in their control and provide more resources to increase post-traumatic growth-mobilizing responses and decrease post-traumatic stress-demobilizing responses.

Future research should identify the role that policy demanders and party elites play in promoting post-traumatic growth/resilience political responses in the wake of traumatic events that would otherwise cause post-traumatic stress-demobilization political responses through their framing of events such as the killing of George Floyd. Further, more research is needed to identify the internal dynamics of mobilization and demobilization, as it may be the case that certain events may drive a decrease in voting, but an increase in other forms of social and political participation. Finally, future research should investigate the role of trust and social group attachment in the wake of traumatic events and how these might mediate post-traumatic political responses of mobilization and demobilization.

In 1996, then-Assistant Attorney General for Civil Rights, Deval L. Patrick called the rising number of attacks on Black Churches in the 1990s an "epidemic of terror." At the time, it was unclear whether such attacks were a part of a larger white supremacist conspiracy or a disorganized, but no less concerning, racist copy-cat effect. At the heart of the subsequent Department of Justice investigations into the attacks was whether or not these attacks constituted a threat not only to religious liberty, but to fundamental civil rights, a concern voiced by the NAACP (Fletcher, 1996). This study finds that not only are Black Church arson attacks a civil rights violation and a threat to religious liberty, they are more fundamentally a threat to political rights and equality. While shared social identity conditions the post-traumatic stress demobilizing effect among Black Americans, driving a post-traumatic growth/resiliency-mobilizing effect in response to Black Church arson attacks, the long-term implications of such repeated traumas is unclear. American democracy has relied for too long on the resiliency of Black Americans. If American democracy is to survive, therefore, party elites and policy demanders must utilize the mechanisms available to them to provide the necessary social, political, and economic resources for those who carry the heaviest burden

of trauma.

References

Achen, Christopher H., and Larry M. Bartels. 2016. *Democracy for Realists*. Princeton, NJ: Princeton University Press.

Ahern, Jennifer, Sandro Galea, Heidi Resnick, Dean Kilpatrick, Michael Bucuvalas, Joel Gold, and David Vlahov. 2002. "Television Images and Psychological Symptoms After the September 11 Terrorist Attacks." *Psychiatry* 65 (4): 289–300.

Allison, Paul D. 1999. "Comparing Logit and Probit Coefficients Across Groups." *Sociological Methods & Research* 28 (2): 186–208.

Angrist, Joshua D., and Jörn-Steffen Pischke. 2009. *Mostly Harmless Econometrics*. Princeton, NJ: Princeton University Press.

Antonovsky, Aaron. 1979. *Health, Stress, and Coping*. San Francisco, CA: Jossey-Bass Publishers.

APA. 2013. *Diagnostic and Statistical Manual of Mental Disorders*. Fifth ed. Arlington, VA: American Psychiatric Association.

Atkeson, Lonna Rae, and Cherie D. Maestas. 2012. *Catastrophic Politics: How Extraordinary Events Redefine Perceptions of Government*. New York: Cambridge University Press.

Azari, Julia R. 2013. "Presidential Mandates and the Leadership Dilemma: William J. Clinton, George W. Bush, and Barack Obama." In *The Presidential Leadership Dilemma*, ed. Julia R. Azari, Lara M. Brown, and Zim G. Nwokora. Albany, NY: SUNY Press.

Baetschmann, Gregori, Kevin R. Staub, and Rainer Winkelmann. 2015. "Consistent estimation of the fixed effects ordered logit model." *Journal of the Royal Statistical Society* 178 (3): 685–703.

Barnes, Michael D., Carl L. Hanson, Len M.B. Novilla, Aaron T. Meacham, Emily McIntyre, and Brittany C. Erickson. 2008. "Analysis of media agenda setting during and after Hurricane Katrina: Implications for emergency preparedness, disaster response, and disaster policy." *American Journal of Public Health* 98 (4): 604–610.

Bateson, Regina. 2012. "Crime victimization and political participation." *American Political Science Review* 106 (3): 570–587.

Beck, Nathaniel. 2020. "Estimating Grouped Data Models with a Binary-Dependent Variable and Fixed Effects via a Logit versus a Linear Probability Model: The Impact of Dropped Units." *Political Analysis* 28: 139–145.

Benight, Charles C. 2004. "Collective Efficacy Following a Series of Natural Disasters." *Anxiety, Stress, & Coping* 17 (4): 401–420.

Benight, Charles, and Michelle Harper. 2002. "Coping Self-Efficacy Perceptions as a Mediator Between Acute Stress Response and Long-Term Distress Following Natural Disasters." *Journal of Traumatic Stress* 15 (3): 177–186.

Blackwell, Matthew, and Adam N. Glynn. 2018. "How to Make Causal inferences with Time-Series Cross-Sectional Data under Selection on Observables." *American Political Science Review* 112 (4): 1067–1082.

Bonanno, George A., and John T. Jost. 2006. "Conservative shift among high-exposure survivors of the september 11th terrorist attacks." *Basic and Applied Social Psychology* 28 (4): 311–323.

Brown, Danice L. 2008. "African American Resiliency: Examining Racial Socialization and Social Support as Protective Factors." *Journal of Black Psychology* 34 (1): 32–48.

Brownlow, Louis. 1949. *The President and the Presidency*. Chicago: Public Administration Service.

Bryant, Richard A., Angela Nickerson, Mark Creamer, Meaghan O'Donnell, David Forbes, Isaac Galatzer-Levy, Alexander C. McFarlane, and Derrick Silove. 2015. "Trajectory of post-traumatic stress following traumatic injury: 6-year follow-up." *The British Journal of Psychiatry* 206: 417–423.

Calhoun, Lawrence G., and Richard G. Tedeschi. 1991. "Perceiving Benefits of Critical Life Problems: Recollections of Grief." *Omega* 20: 265–272.

Campbell, Christopher. 2000. "Social Structure, Space and Sentiment: Searching for Common Ground in Sociological Conceptions of Community." In *Research in Community Sociology*, ed. D. Chekki. Stamford, CT: JAI Press.

Cowden Hindash, Alexandra H., Callan Lujan, Meghan Howard, Aoife O'Donovan, and Anne Richards. 2019. "Gender Differences in Threat Biases: Trauma Type Matters in Posttraumatic Stress Disorder." *Journal of Traumatic Stress*.

Davis, Darren W. 2009. *Negative Liberty: Public Opinion and the Terrorist Attacks on America*. New York: Russell Sage Foundation.

Davis, Darren W., and Brian D. Silver. 2004. "Civil Liberties vs. Security: Public Opinion in the Context of the Terrorist Attacks on America." *American Journal of Political Science* 48 (1): 28.

de Jong, Joop T.V.M, Ivan H. Komproe, Mark Van Ommeren, Mustafa El Masri, Mesfin Arya, Noureddine Khaled, Willem van de Put, and Daya Somasundaram. 2001. "Lifetime Events and Posttraumatic Stress Disorder in 4 Postconflict Settings." *Journal of the American Medical Association* 286 (5): 555–562.

Dickstein, Benjamin D., Michael Suvak, Brett T. Litz, and Amy B. Adler. 2010. "Heterogeneity in the Course of Posttraumatic Stress Disorder: Trajectories of Symptomatology." *Journal of Traumatic Stress* 23 (3): 331–339.

Ding, Peng, and Fan Li. 2019. "A Bracketing Relationship between Difference-inDifferences and Laged-Dependent-Variable Adjustment." *Political Analysis* 27 (4): 1–11.

Drury, John, Chris Cocking, and Steve Reicher. 2009. "Everyone for Themselves? A Comparative Study of Crowd Solidarity Among Emergency Survivors." *British Journal of Social Psychology* 48 (3): 487–506.

Dyb, Grete, Tine K. Jensen, Egil Nygaard, Oivind Ekeberg, Trond H. Diseth, Tore Wentzel-Larsen, and Siri Thoresen. 2014. "Post-traumatic Stress Reactions in Survivors of the 2011 Massacre on Utøya Island, Norway." *The British Journal of Psychiatry: the Journal of Mental Science* 204: 361–367.

Elliott, Diana M. 1997. "Traumatic Events: Prevalence and Delayed Recall in the General Population." *Journal of Consulting and Clinical Psychology* 65 (5): 811–820.

Fletcher, Michael A. 1996. "U.S. Investigates Suspicious Fires at Southern Black Churches." *Washington Post*: A03.

Ford, Carol A., J. Richard Udry, Karin Gleiter, and Kim Chantala. 2003. "Reactions of young adults to September 11, 2001." *Archives of Pediatrics and Adolescent Medicine* 157 (6): 572–578.

Fowler, Anthony, and Andrew B. Hall. 2018. "Do Shark Attacks Influence Presidential Elections? Reassessing a Prominent Finding on Voter Competence." *Journal of Politics* 80 (4): 1423–1437.

Gasper, John T., and Andrew Reeves. 2011. "Make It Rain? Retrospection and the Attentive Electorate in the Context of Natural Disasters." *American Journal of Political Science* 55 (2): 340–355.

Gates Jr., Henry Louis. 2021. *The Black Church: This is Our Story, This is Our Story.* New York: Penguin Press.

Greene, William. 2002. "The Bias of the Fixed Effects Estimator in Nonlinear Models.". people.stern.nyu.edu/wgreene/nonlinearfixedeffects.pdf.

Hansford, Thomas G., and Brad T. Gomez. 2010. "Estimating the Electoral Effects of Voter Turnout." *American Political Science Review* 104 (2): 268–288.

Hassell, Hans J.G., John B. Holbein, and Matthew Baldwin. 2020. "Mobilize for Our Lives? School Shootings and Democratic Accountability in U.S. Elections." *American Political Science Review* 114 (4): 1375–1385.

Hatch, Stephani L., and Bruce P. Dohrenwend. 2007. "Distribution of Traumatic and Other Stressful Life Events by Race/Ethnicity, Gender, SES, and Age: A Review of the Research." *American Journal of Community Psychology* 40 (3-4): 313–332.

Hawdon, James, and John Ryan. 2011. "Social Relations that Generate and Sustain Solidarity after a Mass Tragedy." *Social Forces* 89 (4): 1363–1384.

Healy, Andrew J., and Neil Malhotra. 2009. "Myopic voters and natural disaster policy." *American Political Science Review* 103 (3): 387–406.

Heersink, Boris, Brenton D. Peterson, and Jeffery A. Jenkins. 2017. "Disasters and elections: Estimating the net effect of damage and relief in historical perspective." *Political Analysis* 25 (2): 260–268.

Hellevik, Ottar. 2009. "Linear versus logistic regression when the dependent variable is a dichotomy." *Quality & Quantity* 43: 59–74.

Hersh, Eitan D. 2013. "Long-term effect of September 11 on the political behavior of victims' families and neighbors." *Proceedings of the National Academy of Sciences of the United States of America* 110 (52): 20959–20963.

Hoffman, Kelly M., Sophie Trawalter, Jordan R. Axt, and M. Norman Oliver. 2016. "Racial bias in pain assessment and treatment recommendations, and false beliefs about biological

differences between blacks and whites." *Proceedings of the National Academy of Sciences of the United States of America* 113 (16): 4296–4301.

Huddy, Leonie, and Stanley Feldman. 2011. "Americans Respond Politically to 9/11: Understanding the Impact of the Terrorist Attacks and Their Aftermath." *American Psychologist* 66 (6): 455–467.

Huddy, Leonie, Stanley Feldman, Charles Taber, and Gallya Lahav. 2005. "Threat, anxiety, and support of antiterrorism policies." *American Journal of Political Science* 49 (3): 593–608.

Hutchison, Emma. 2010. "Trauma and the Politics of Emotions: Constituting Identity, Security and Community after the Bali Bombing." *International Relations* 24 (1): 65–86.

Janoff-Bulman, Ronnie. 1992. *Shattered Assumptions: Towards a New Psychology of Trauma*. New York: Free Press.

Jetten, Jolanda, Catherine Haslam, and S. Alexander Haslam. 2012. *The Social Cure: Identity, Health, and Well-Being*. London: Psychology Press.

Jost, John T., Jack Glaser, Arie W. Kruglanski, and Frank J. Sulloway. 2003. "Political Conservatism as Motivated Social Cognition." *Psychological Bulletin* 129 (3): 339–375.

Kinzie, David J., James K. Boehnlein, Crystal Riley, and Landy Sparr. 2002. "The Effects of September 11 on Traumatized Refugees: Reactiviation of Posttraumatic Stress Disorder." *The Journal of Nervous and Mental Disease* 190 (7): 437–441.

Lodge, Milton, and Charles S. Taber. 2013. *The Rationalizing Voter*. New York: Cambridge University Press.

Long, Nigel, Kerry Chamberlain, and Carol Vincent. 1994. "Effect of the Gulf War on Reactivation of Adverse Combat-Related Memories in Vietnam Veterans." *Journal of Clinical Psychology* 50 (2): 138–144.

Lowe, Sarah R., Sandro Galea, Monica Uddin, and Karestan C. Koenen. 2014. "Trajectories of Posttraumatic Stress Among Urban Residents." *American Journal of Community Psychology* 53: 159–172.

Lyon, Gregory. 2021. "The Conditional Effects of Health on Voter Turnout." *Journal of Health Politics, Policy and Law* 46 (3).

Matthieu, Monica, and André Ivanoff. 2006. "Treatment of Human-Caused Trauma: Attrition in the Adult Outcomes Research." *Journal of Interpersonal Violence* 21 (12): 1654–1664.

McClerking, Harwood K., and Eric L. McDaniel. 2005. "Belonging and Doing: Poliitcal Churches and Black Political Participation." *Political Psychology* 26 (5): 721–734.

McDaniel, Eric L. 2008. *Politics in the Pews: The Political Mobilization of Black Churches*. Ann Arbor: University of Michigan Press.

McDaniel, Eric L. 2013. "The Black Church and Defining the Political." *Politics, Groups, and Identities* 1 (1): 93–97.

Metzl, Jonathan M., and Kenneth T. MacLeish. 2015. "Mental Illness, Mass Shootings, and the Politics of American Firearms." *American Journal of Public Health* 105 (2): 240–9.

Mood, Carina. 2010. "Logistic Regression: Why We Cannot Do What We Think We Can Do, and What We Can Do About It." *European Sociological Review* 26 (1): 67–82.

Mueller, John E. 1973. *War, Presidents and Public Opinion*. New York: John Wiley & Sons.

Muldoon, Orla T. 2013. "Understanding the Impact of Political Violence in Childhood: A Theoretical Review Using a Social Identity Approach." *Clinical Psychology Review* 33 (8): 929–939.

Muldoon, Orla T., Khagendra Acharya, Sarah Jay, Kamal Adhikari, Judith Pettigrew, and Robert D. Lowe. 2017. "Community identity and collective efficacy: A social cure for

traumatic stress in post-earthquake Nepal." *European Journal of Social Psychology* 47: 904–915.

Muldoon, Orla T., and Robert D. Lowe. 2012. "Social Identity, Groups, and Post-Traumatic Stress Disorder." *Political Psychology* 33 (2): 259–273.

Muldoon, Orla T., Robert D. Lowe, Jolanda Jetten, Tegan Cruwys, and S. Alexander Haslam. 2020. "Personal and Political: Post-Traumatic Stress Through the Lens of Social Identity, Power, and Politics." *Political Psychology*.

Murphy, Larry G., ed. 2000. *Down by the Rivrside: Readings in African American Religion*. New York: New York University Press.

Nader, Ko, Robert S. Pynoos, La Fairbanks, M Alajeel, and A Alasfour. 1993. "A Preliminary Study of PTSD and Grief Among the Children of Kuwait Following the Gulf Crisis." *British Journal of Clinical Psychology* 32: 407–416.

Norrander, Barbara, and Clyde Wilcox. 1993. "Rallying Around the Flag and Partisan Change: The Case of the Persian Gulf War." *Political Research Quarterly* 46 (4): 759–770.

Ojeda, Christopher, and Julianna Pacheco. 2019. "Health and Voting in Young Adulthood." *British Journal of Political Science* 49 (3): 1163–1186.

Osofsky, Joy D., Howard J. Osofsky, Carl F. Weems, Lucy S. King, and Tonya C. Hansel. 2015. "Trajectories of post-traumatic stress disorder symptoms among youth exposed to both natural and technological disasters." *Journal of Child Psychology and Psychiatry* 56 (12): 1347–1355.

Pacheco, Julianna, and Christopher Ojeda. 2020. "A Healthy Democracy? Evidence of Unequal Representation Across Health Status." *Political Behavior* 42: 1245–1267.

Pfefferbaum, Betty C. 2001. "The Impact of the Oklahoma City Bombing on Children in the Community." *Military Medicine* 166 (12 Supplement 2): 49–50.

Pfefferbaum, Betty C., Robin H. Gurwitch, Nicholas B. Mcdonald, Michael J.T. Leftwich, Guy M. Sconzo, Anne K. Messenbaugh, and Rosemary A. Schultz. 2000. "Posttraumatic Stress Among Young Children After the Death of a Friend or Acquaintance in a Terrorist Bombing." *Psychiatric Services* 51 (3): 386–388.

Pfefferbaum, Betty C., Sara Jo Nixon, Rick D. Tivis, Debby E. Doughty, Robert S. Pynoos, Robin H. Gurwitch, and David W. Foy. 2001. "Television Exposure in Children after a Terrorist Incident." *Psychiatry* 64 (3): 202–211.

Santiago, P N, R J Ursano, C L Gray, Robert S. Pynoos, and D Spiegel. 2013. "A Systematic Review of PTSD Prevalence and Trajectories in DSM-5 Defined Trauma Exposed Populations: Intentional and Non-Intentional Traumatic Events." *PLoS ONE* 8 (4): 59236.

Schlenger, William E., Juesta M. Caddell, Lori Ebert, B. Kathleen Jordan, Kathryn M. Rourke, David Wilson, Lisa Thalji, J. Michael Dennis, John A. Fairbank, and Richard A. Kulka. 2002. "Psychological Reactions to Terrorist Attacks: Findings From the National Study of Americans' Reactions to September 11." *Journal of the American Medical Association* 288 (5): 581–588.

Schuster, Mark A., Bradley D. Stein, Lisa H. Jaycox, Rebecca L. Collins, Grant N. Marshall, Marc N. Elliott, Annie J. Zhou, David E. Kanouse, Janina L. Morrison, and Sandra H. Berry. 2001. "A national survey of stress reactions after the September 11, 2001, terrorist attacks." *New England Journal of Medicine* 345 (20): 1507–1512.

Self-Brown, Shannon, Betty S. Lai, Julia E. Thompson, Tia McGill, and Mary Lou Kelley. 2013. "Posttraumatic stress disorder symptom trajectories in Hurricane Katrina affected youth." *Journal of Affective Disorders* 147 (1–3): 198–204.

Silver, Roxane Cohen, E. Alison Holman, Daniel N. McIntosh, Michael Poulin, and Virginia Gil-Rivas. 2002. "Nationwide longitudinal study of psychological responses to September 11." *Journal of the American Medical Association* 288 (10): 1235–1244.

Sturm, Albert L. 1949. "Emergencies and the Presidency." *Journal of Politics* 11 (1): 121–144.

Tedeschi, Richard G., Jane Shakespeare-Finch, Kanako Taku, and Lawrence G. Calhoun. 2018. *Posttraumatic Growth: Theory, Research, and Applications*. New York: Rutledge.

Van der Velden, Peter G., Linda Grievink, Rolf J. Kleber, Annelieke N. Drogendijk, Albert-Jan R. Roskam, Frans G.H. Marcelissen, Miranda Olff, Mariel L. Meewisse, and Berthold P.R. Gersons. 2006. "Post-Disaster Mental Health Problems and the Utilization of Mental Health Services: A Four-year Longitudinal Comparative Study." *Administration and Policy in Mental Health and Mental Health Services Research* 33 (3): 279–288.

Vedlitz, Arnold, Jon P. Alston, and Carl Pinkele. 1980. "Politics and the Black Church in a Southern Community." *Journal of Black Studies* 10 (3): 367–375.

Wakefield, Jerome C. 2016. "Diagnostic Issues and Controversies in DSM-5: Return of the False Positives Problem." *Annual Review of Clinical Psychology*: 12105–12132.

Weathers, Frank W., and Terence M. Keane. 2007. "The Criterion A Problem Revisited: Controversies and Challenges in Defining and Measuring Psychological Trauma." *Journal of Traumatic Stress* 20 (2): 107–121.

World Health Organization. 2011. Estimated total deaths by cause, sex, and WHO Member State, 2008. Technical report Geneva, Switzerland: .

Appendix

A Cases

Below, I elaborate on the three specific cases I choose to analyze in this study: Black Church arson attacks, mass shootings, and natural disasters.

Black Church arson attacks are a particularly heinous event in American history and society. There have been at least three major waves of arson attacks on Black Churches: the 1950s-1960s, the 1990s, and 2008 to present day. The attacks rarely cause fatalities or even injuries as most attacks are symbolic and economic attacks, meaning that they occur when the churches are empty. But, the attacks are terrorist attacks, intended to traumatize members of the church as well as Black Americans more generally. These events are also political in that they are not simply done out of rage or hatred, but are very clear in their target (Black Americans) and in their political message (stop demanding political, social, and economic equality that threatens white dominance).

A traumatic experience is an exposure to a certain type of social experience that often arises in the context of groups or in which an individual's membership in particular groups is salient, for example war, natural disasters, or terrorism (Muldoon et al., 2020). The role of social groups, therefore, is important not only in identifying the distribution of trauma, but also in understanding responses to traumatic events. In this regard, Black Church arson attacks are an important case because they are clear traumatic events, whose impact extends beyond the parishioners of that church and to other Black Americans in the community who do not attend that church or who may not be Christian at all. These attacks are politically-relevant because of their political purpose explained above, but also because they are crimes, which the government has a legal and publicly-expected responsibility to investigate. Finally, they are politically-relevant because policy demanders (The National Association for the Advancement of Colored People and the Southern Christian Leadership Council) taught the

American public of their political relevance as threats to public safety, religious liberty, and civil rights.

Gun violence is a growing problem in the U.S., a problem made especially evident in mass shootings. While the number is disputed, mass shootings are increasingly occurring in the United States and each event causes a chain reaction of traumatic exposure. Mass shootings are less tied to a particular social identity than are Black Church arson attacks, but are likewise public and (relatively) rare. While gun violence is a common and persistent problem in the United States, mass shootings, which cause at least three deaths and occur in public places, are few in number, but large in traumatic reach. Policy demanders (The March for Our Lives and Everytown for Gun Safety) draw connections for the public, and they represent public safety concerns (and are crimes), meaning they fall under the purview of governmental response.

Finally, natural disasters are a persistent and, due to climate change, increasingly serious concern in American life. Such events affect massive numbers of Americans and cause loss of life, physical harm, destruction of property and infrastructure, and displacement. Further, such events cause millions and sometimes billions of dollars in economic damage and lost economic activity. As such, these events are politically-relevant traumatic events because of their clear trauma-inducing effects and their incredibly wide reach of lives threatened or lost.

B Theoretical Elaboration

Much of the literature and common conversations in the media and everyday life regarding trauma are in connection with Post-Traumatic Stress Disorder. But, there are several issues with the terminology of "disorder" in the context of this study. First, the study focuses on identifying the aggregate trends of response to traumatic events, rather than with the designation of a psychological disorder. Second, and more importantly, the study seeks to

avoid passing any normative judgment on individuals' reactions to traumatic stimuli, instead taking the approach common in psychology and psychiatry of seeing reactions on a scale of post-traumatic stress (PTS) (Summerfield, 2001; Muldoon et al., 2020). In so doing, the study avoids classifying any reaction to a traumatic event as "disordered." Finally, there is a growing literature focused on identifying the positive reactions to traumatic events beyond resilience known as post-traumatic growth (Tedeschi and Calhoun, 1996; Tedeschi, Park, and Calhoun, 1998; Park et al., 2008; Shakespeare-Finch and Enders, 2008; Shakespeare-Finch and Barrington, 2012; Tedeschi et al., 2018). This provides the other half of the PTS scale and illustrates that there are a wide variety of non-mutually exclusive responses to a traumatic event, but outside a clinical diagnostic setting, it is inappropriate to categorize any as disordered. And so, in this study, I stick to language of post-traumatic stress (PTS) and post-traumatic growth (PTG)/resilience, avoiding language of disorder altogether.

C Explanation of the Data

C.1 Mass Shootings Data

The Mother Jones U.S. Mass Shootings database only includes events with three or more independent sources that confirm the incident and it does not include what are considered "more conventional crimes," by which they mean shootings related to armed robbery or gang violence, and do not include domestic violence incidents. This definition is much stricter than many other commonly used databases, such as Stanford University's Mass Shootings in America Database, which includes shootings with no deaths.

Scholars and journalists debate the definition of mass shootings and thus which cases to include in databases tracking the patterns of such events, resulting in wildly different counts for the total number of mass shooting events (Hassell, Holbein, and Baldwin, 2020). And yet, I opt for the Mother Jones database, which sticks most closely with the Congressional Research Service and the Federal Bureau of Investigation's definition. These events are also

likely to have the most potent traumatic effect, meaning it allows me to more precisely isolate the effect of a deadly mass shooting as a traumatic event on turnout. Further, for this study, the feasibility that those in the surrounding community are impacted matters. That is, a post-traumatic response is more likely among a larger group of individuals when the event could have reasonably involved or impacted more people. Gang-related or domestic mass shootings are, therefore, less likely to have as large a reach.

C.2 Natural Disasters Data

Because the FEMA database includes a wide range of disasters, I limit the analysis in this study to natural (non-anthropogenic, at least not directly anthropogenic) disasters: coastal storms, droughts, earthquakes, wild fires, toxic algae blooms in coastal waters, flooding, hurricanes, mudslides, snow storms, tornadoes, tsunamis, typhoons, and volcano eruptions. There are other means by which to identify counties affected by natural disasters, yet FEMA provides the most accurate and comprehensive data on this question.

C.3 Additional information on Control Variables

In the generalized two-way fixed effects models, I include controls for the percentage of the county population that is Black, the total population, and median household income. I do this because these variables ensure I account for important within-state differences between counties not captured by the fixed effects. In particular, these three variables account for important factors that could possibly influence turnout, especially as it relates to traumatic events. As Black Americans disproportionately experience trauma and experience more severe post-traumatic stress reactions from any given traumatic experience (Muldoon et al., 2020), including the percentage of the county population that is Black accounts for the changes to turnout as a result of Black population. Counties with larger populations and with higher median household income are likely to have more resources to prepare for traumatic events before they happen and receive greater attention and more resources in the wake of

traumatic events, meaning that we might expect these variables to influence the effect on turnout. In the fixed effects model for mass shootings I also include controls for the number of fatalities and the number of individuals injured (neither include the shooter) as these are likely to influence the traumatic response and thus turnout.

C.4 Justification of Linear Regression for Dichotomous DV

Interpretation of linear regression specifications requires weaker assumptions of functional form and while logististic specifications are also appropriate for binary outcome models (Angrist and Pischke, 2009), linear specifications produce unbiased and reliable estimates of a variable's average effect (Hellevik, 2009; Hoffman et al., 2016; Allison, 1999; Greene, 2002; Mood, 2010; Baetschmann, Staub, and Winkelmann, 2015). As such, I utilize the straightforward, reliable and unbiased estimates of the variable's average effect, calculated by using a linear regression estimator or the ATT.

C.5 Descriptive Data

Descriptive evidence in figure 4 indicates that counties that experienced arson attacks did have lower levels of turnout than those that did not. On the other hand, figures 5 and 6 illustrate very slight differences between counties that did and did not experience mass shootings and natural disasters, respectively. More precise analysis is required to establish a causal effect, though the initial descriptive comparison shows that there might be a slightly lower turnout for counties experiencing Black Church arson attacks and natural disasters. When considering turnout, a slight difference is an important one. For perspective, even a one percentage point increase in turnout can have impressive effects on electoral outcomes, whereby such a change in turnout interacts with incumbency and partisan composition of the county to alter party support drastically (Hansford and Gomez, 2010).

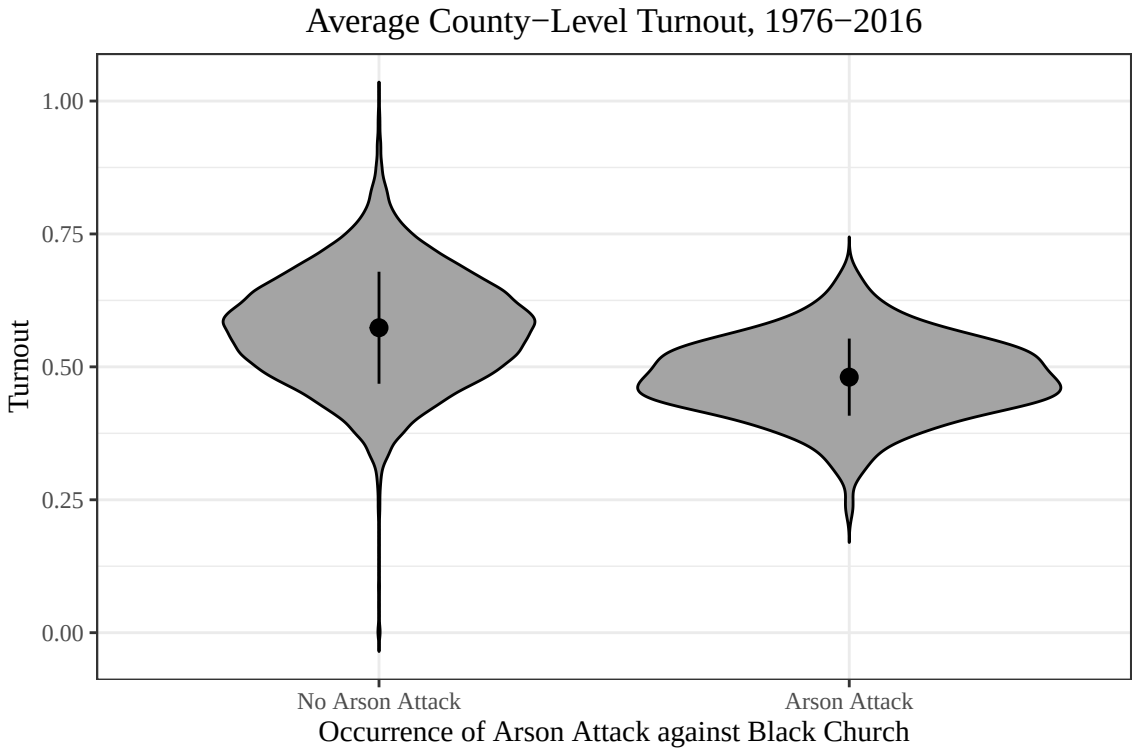

Figure 4: Distribution of turnout rates for all counties 1976-2016 by Arson Attack Experience

D Robustness Checks

D.1 Time-Series Cross-Sectional Matching

To further test the robustness of my results, my secondary analysis for the geographic proximity hypothesis utilizes a new time-series cross-sectional matching technique proposed by Imai, Kim, and Wang (2020), which provides a more reliable process of matching with time-series cross-sectional data (McQueen, 2021). Building off of synthetic control (Abadie, Diamond, and Hainmueller, 2011) and generalized synthetic control methods (Xu, 2017), this method relaxes the parallel trends assumption and requires fewer pre-treatment periods than synthetic control methods by using within-county-over-year and within-year-across-county variation (Imai, Kim, and Wang, 2020; McQueen, 2021). In this approach, the process creates a matched set for each treated observation, refines it through a weighting method, and then computes the difference-in-differences estimator, which is the average treatment effect

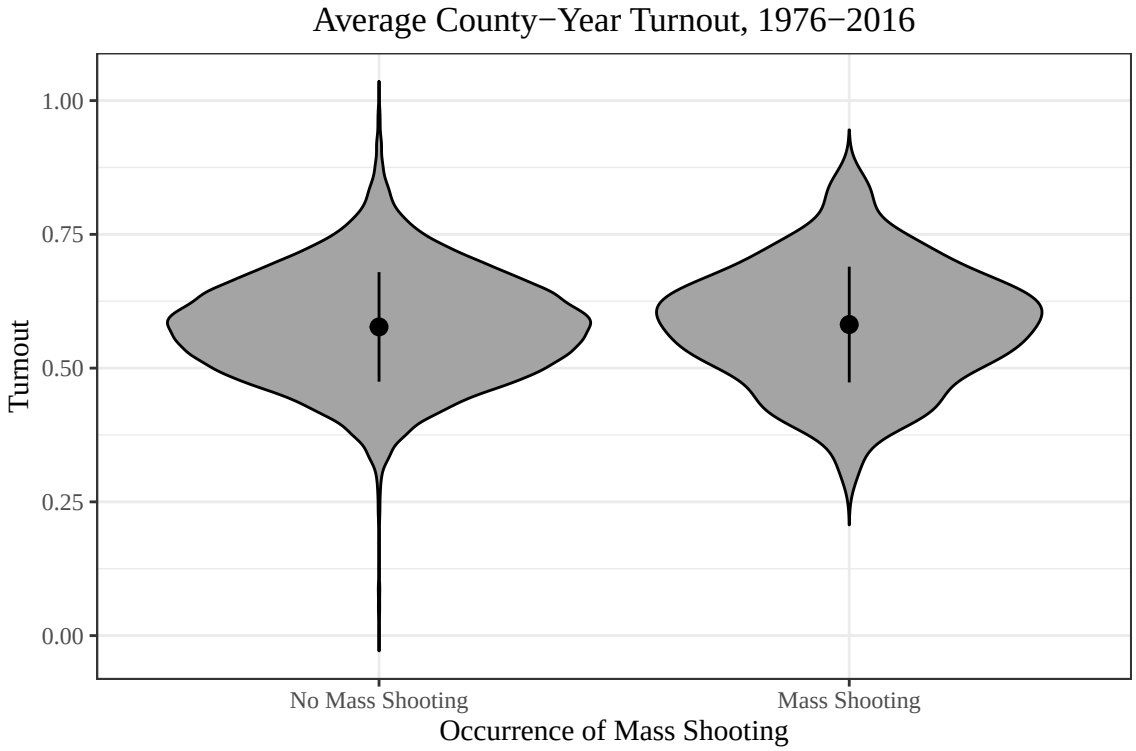

Figure 5: Distribution of turnout rates for all counties 1976-2016 by Mass Shooting Experience

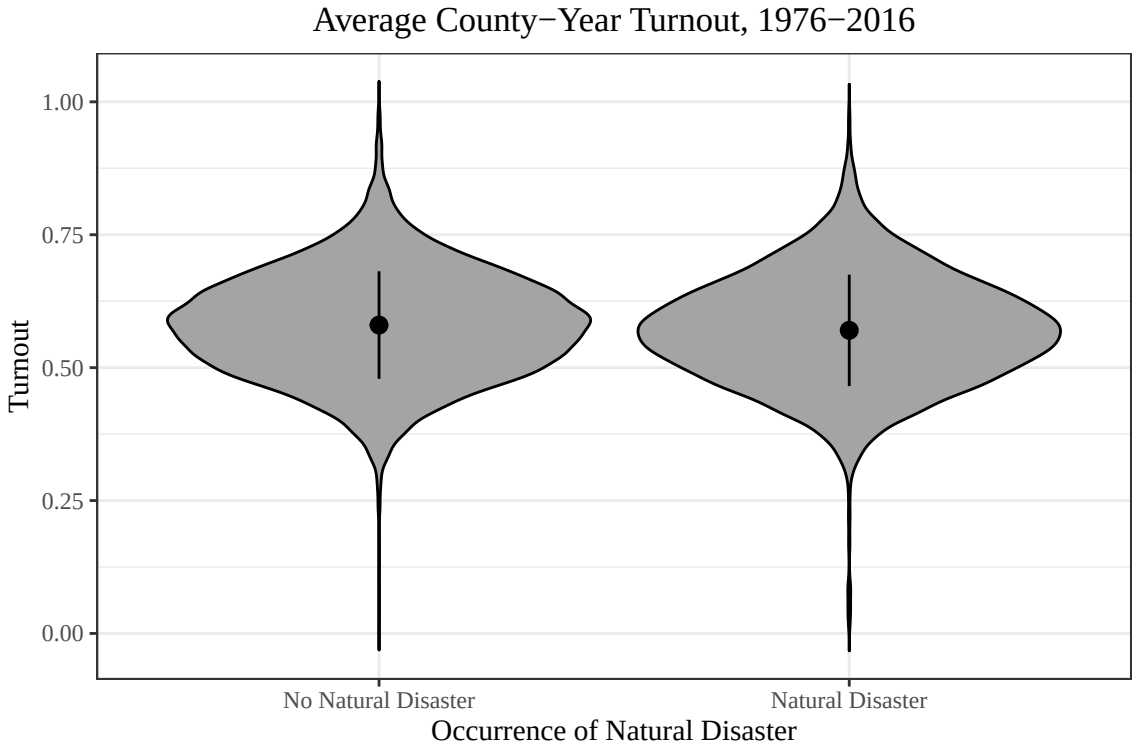

Figure 6: Distribution of turnout rates for all counties 1976-2016 by Natural Disaster Experience

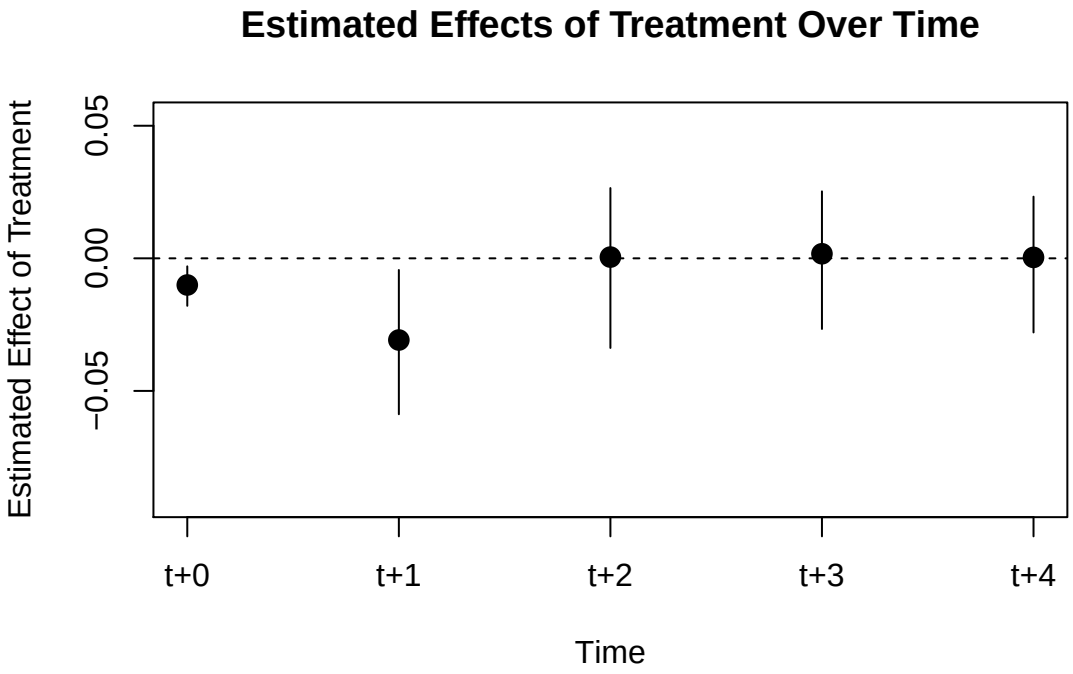

Figure 7: Effect of Arson Attacks on Turnout, U.S. counties 1976-2016

on the the treated (ATT), with model-based standard errors.

To further test the robustness of these findings and identify long-term effects of traumatic events on voter turnout, I implement a time-series cross-sectional matching process. I plot the estimated effects of experiencing an arson attack, mass shooting, and natural disaster for the four election years after the event occurs in figures 7–9. In the case of arson attacks in figure 7, the results confirm a statistically significant estimate, consistent with the magnitude and direction of the effect estimated in the the two-way FEs difference-in-differences and the lagged DV models. In the first election after the event, the model estimates a decrease in turnout of about 3 percentage points and the estimate is statistically different from zero. Interestingly, after an initial decrease, the model estimates increases in turnout in elections after the next election after the event. While none of these estimates are statistically different from zero, the direction implies that after an initial post-traumatic stress-demobilization response, targeted counties experience a post-traumatic growth-mobilization response or a

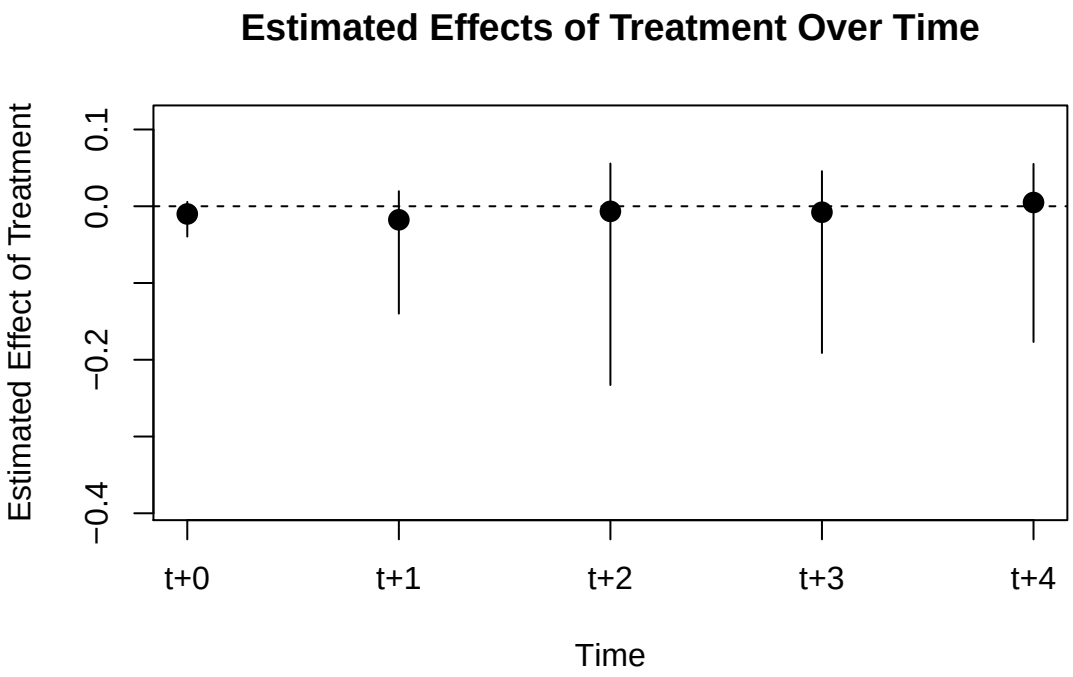

Figure 8: Effect of Mass Shootings on Turnout, U.S. counties 1976-2016

return to the mean, lagged by one electoral cycle.

In figures 8 and 9, I do not find statistically significant results, but the estimate for the effect of mass shootings is in the right direction. There is no clear pattern in the results from the time-series cross sectional matching for the effects of these two events, but combined, the results tell a fairly consistent story. In four of the six models, I find statistically significant results that confirm my hypothesis about traumatic demobilization as a result of arson attacks, mass shootings, and natural disasters. In the matching analysis to test the robustness of these results, I find further confirmation for the effect of arson attacks, though the results are less clear for the effects of mass shootings and natural disasters.

D.2 TSCS Matching Covariate Balancing

Figures 10 through 15 display the covariate balance of matches for each event treatment without and with refinement throughout the lag window. When using matching techniques,

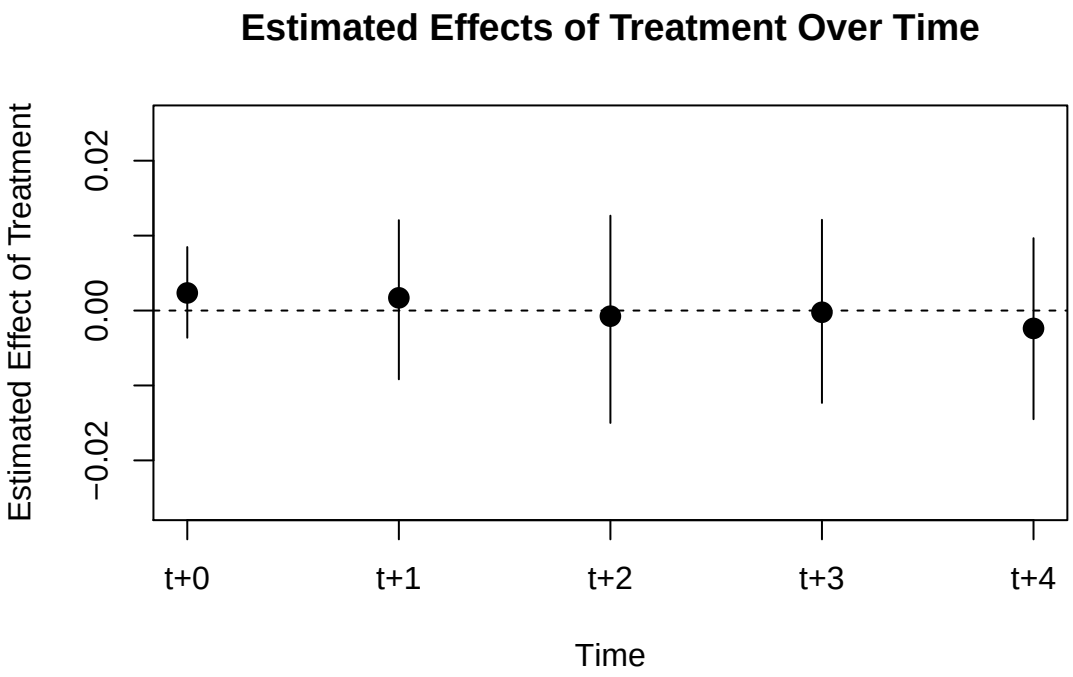

Figure 9: Effect of Natural Disasters on Turnout, U.S. counties 1976-2016

covariate balance is the degree to which the covariate distribution is constant across levels of the treatment variable. Typically, covariate balance helps in causal inference estimation with matching in optimizing matching, assessing the quality of matches, and evidence that the estimated effect from the resulting matching is near the true effect because covariance balance ensures that the estimate, derived from matching, is less sensitive to model misspecification. And so, if the refinement improves covariate balance (thus making the estimates from the matching models more robust) we should see 1) the lines move closer to 0 when moving from the first to the second figure in each pair (for each event) and 2) the lines stay within the -0.2 to 0.2 range across the whole lag window in the second (refined) figure of each pair. The first indicates that the refinement improves the matching and the second that the covariate balance provides assurance that the estimates are less sensitive to model specification. Mahalanobis provided the best covariance balance and so this was the refinement method used in the analysis in the main paper.

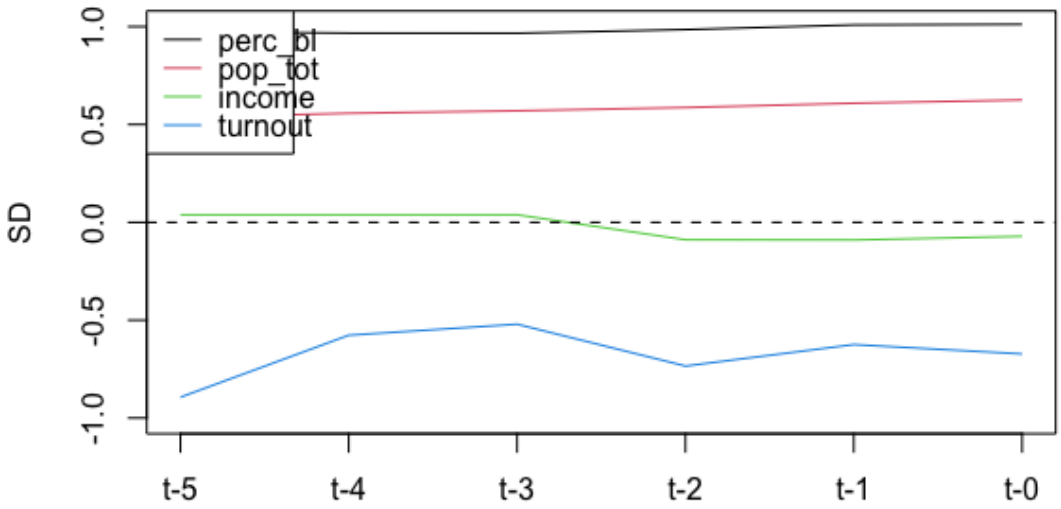

Figure 10: Covariance Balance of Matches with No Refinement, Black Church Arson Attacks Model

If the refinement process produces good covariate balance, the figures would plot lines that remain within the -0.2 to 0.2 standard deviation range throughout the lag window. This is the case for the covariance balance for arson attacks and natural disasters. In each case, the refinement decreases the standard deviation variation of each covariate across the treatment levels throughout the lag window (compare figures 10 and 11 and 14 and 15). Further, the standard deviation in the refined plots are within the -0.2 to 0.2 range for the length of the lag window, indicating the estimates are robust to model misspecification. Due to the small sample size of mass shootings, however, the covariate balance is not reduced to within the preferred -0.2 to 0.2 standard deviation range, see 12 and 13), though the refinement does at least reduce the standard deviation across the lag window. This refinement provided the best improvement of covariance balance relative to other refinement methods (and no refinement methods).

To further check the covariate balance, figures 16 through 18 plots the standardized

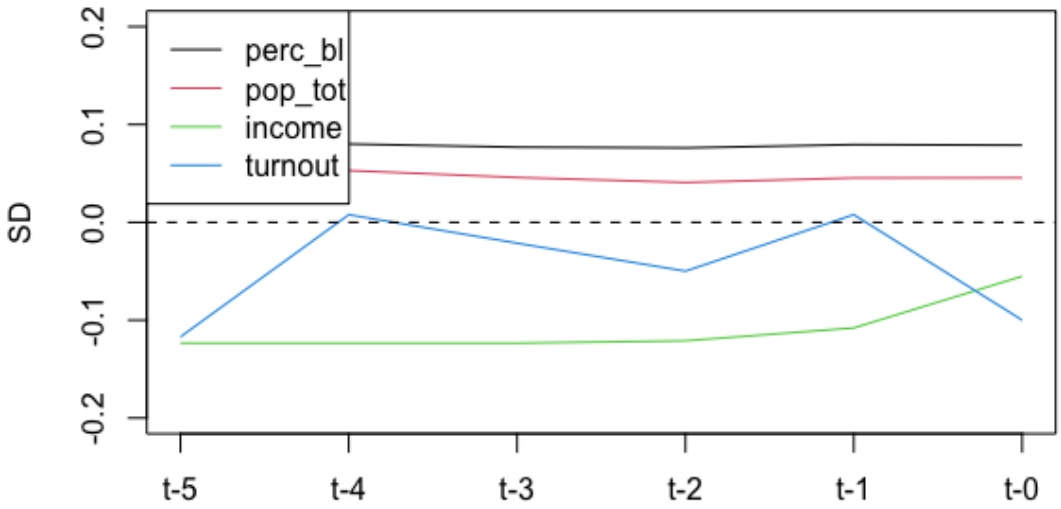

Figure 11: Covariance Balance of Matches with Refinement, Black Church Arson Attacks Model

mean differences (SMD) of covariates before and after refinement. SMD is the difference in the means of each covariate between treatment groups and re-scaled by a standardization factor, which is the standard deviation of the covariate in the treated group (because I am estimating the ATT). Ideally, the standardization factor is consistent before and after matching so that changes in the mean difference are not confounded by standard deviation changes. Good covariance balance is indicated by SMDs close to zero, with values up to 0.1 typically accepted as indicators of good balance (Belitser et al., 2011; Ali et al., 2014; Stuart, Lee, and Leacy, 2013; Zhang et al., 2019).

The figures illustrate that for Black Church arson attacks and natural disasters, refinement adjusts the SMDs to a appropriate level close to 0, see figures 16 and 18. The refinement is less effective in the case of mass shootings, see figure 17.

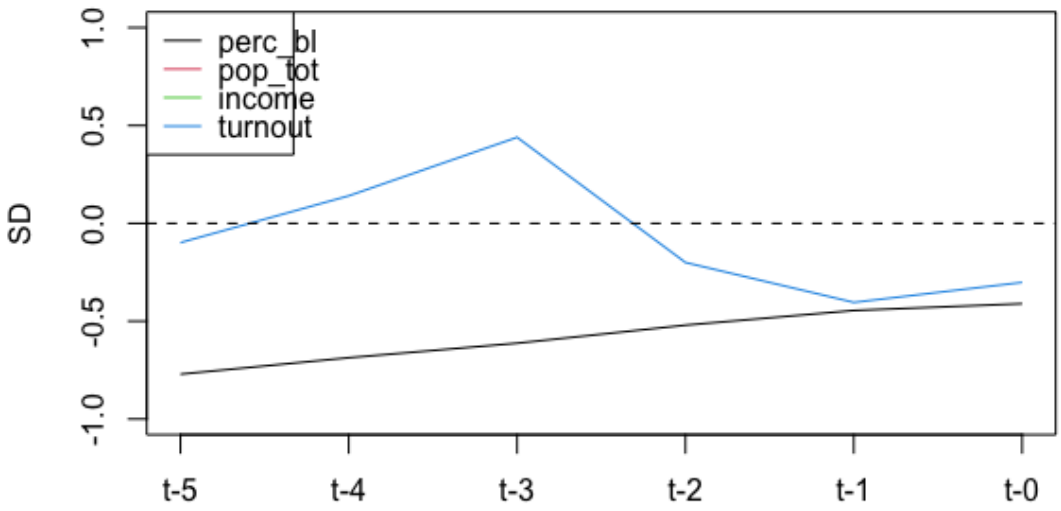

Figure 12: Covariance Balance of Matches with No Refinement, Mass Shootings Model

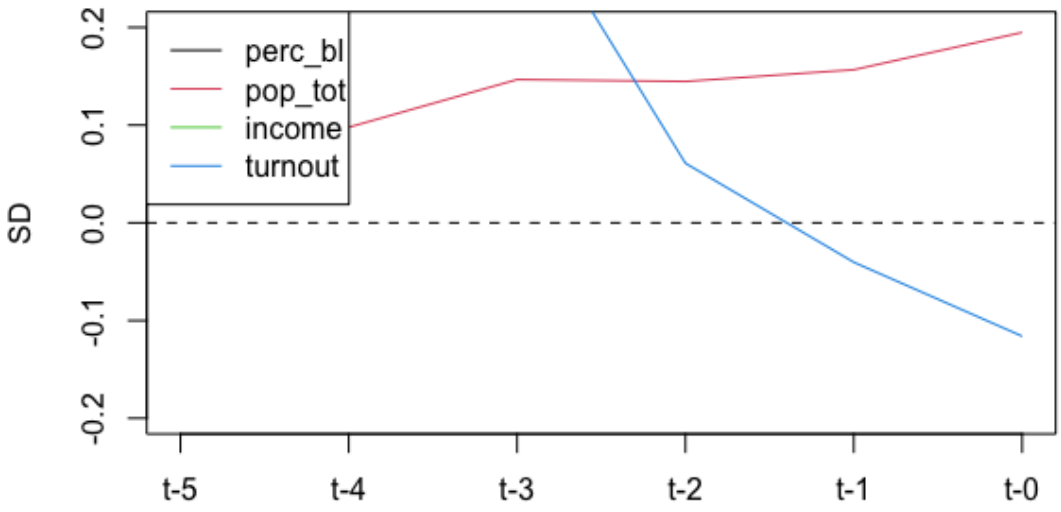

Figure 13: Covariance Balance of Matches with Refinement, Mass Shootings Model

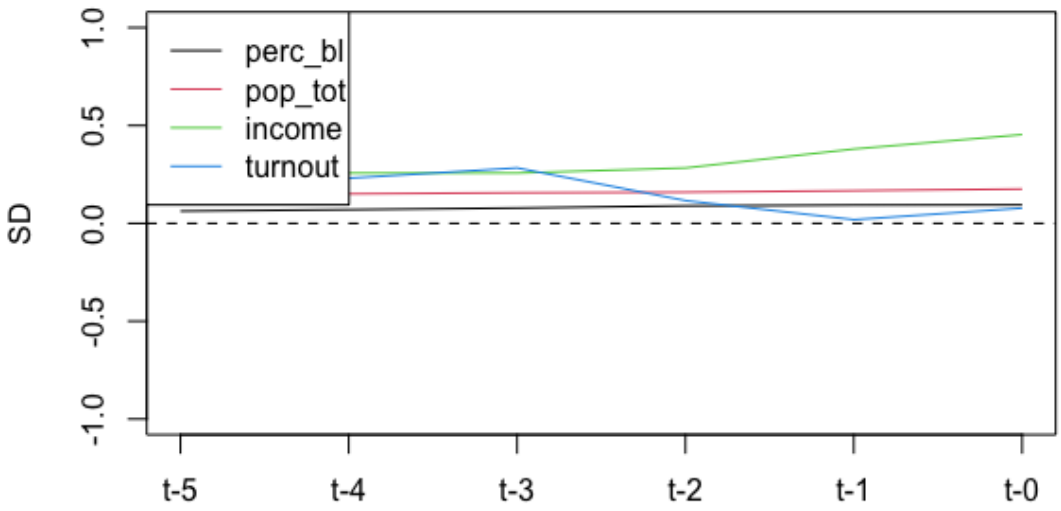

Figure 14: Covariance Balance of Matches with No Refinement, Natural Disasters Model

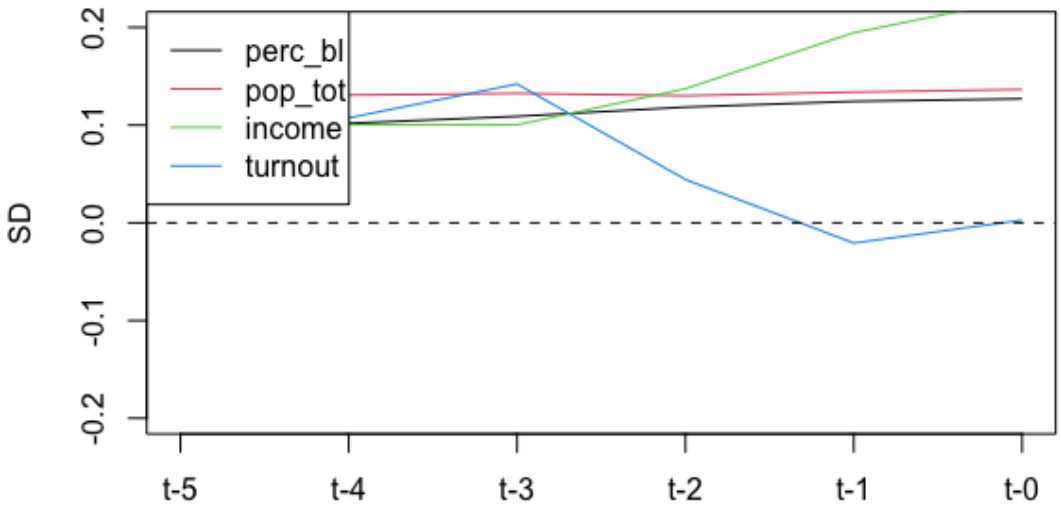

Figure 15: Covariance Balance of Matches with Refinement, Natural Disasters Model

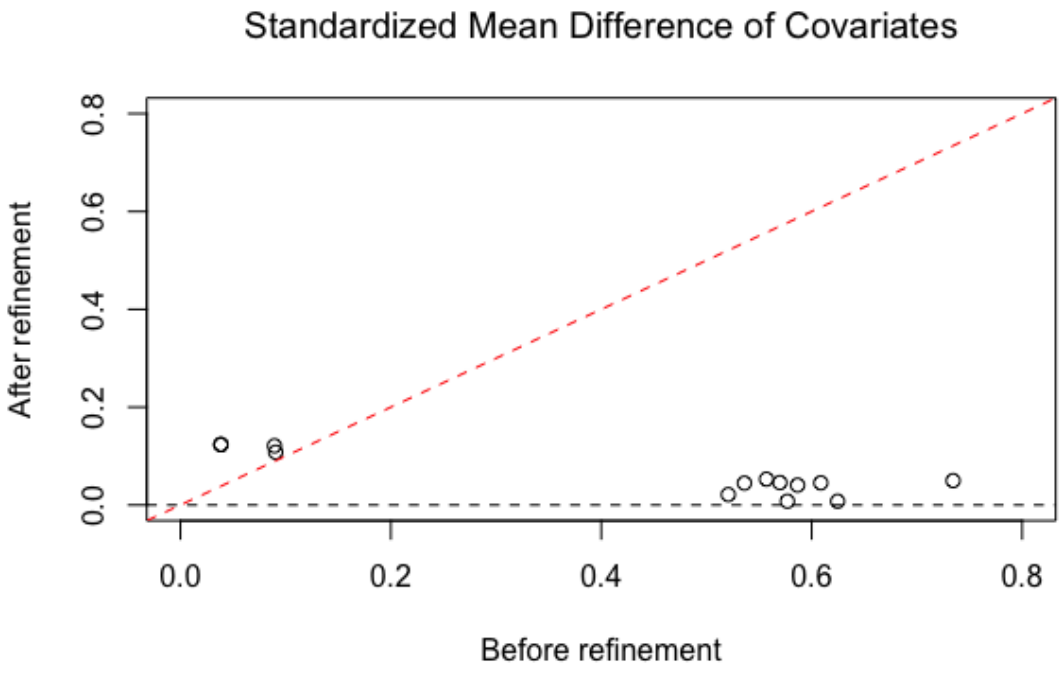

Figure 16: Covariance Balance of Matches Before and After Refinement, Black Church Arson Attacks Model

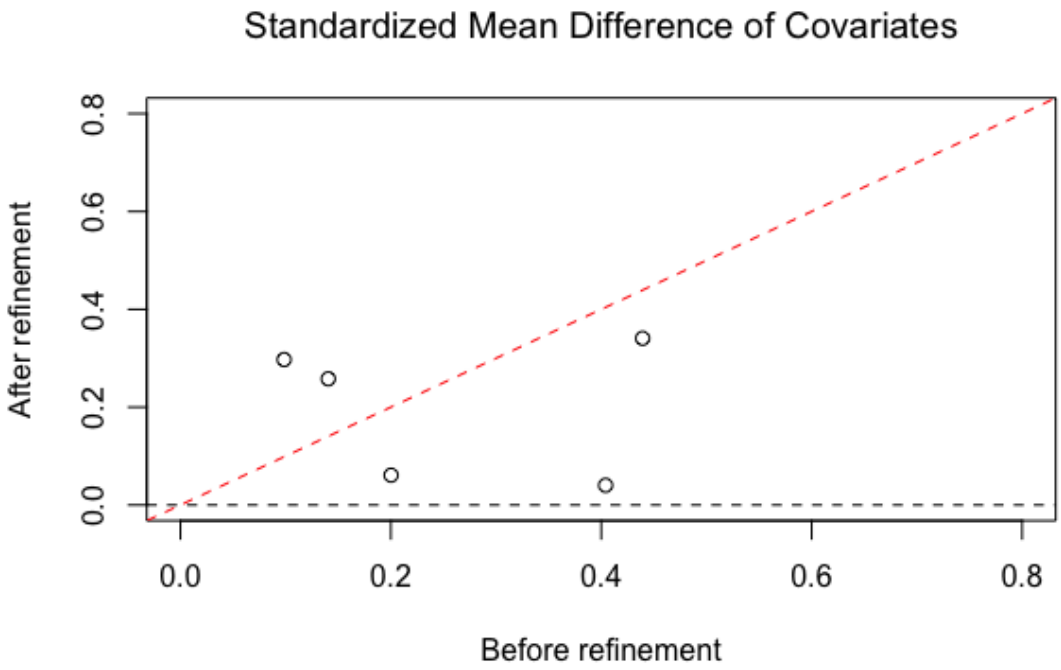

Figure 17: Covariance Balance of Matches Before and After Refinement, Mass Shootings Model

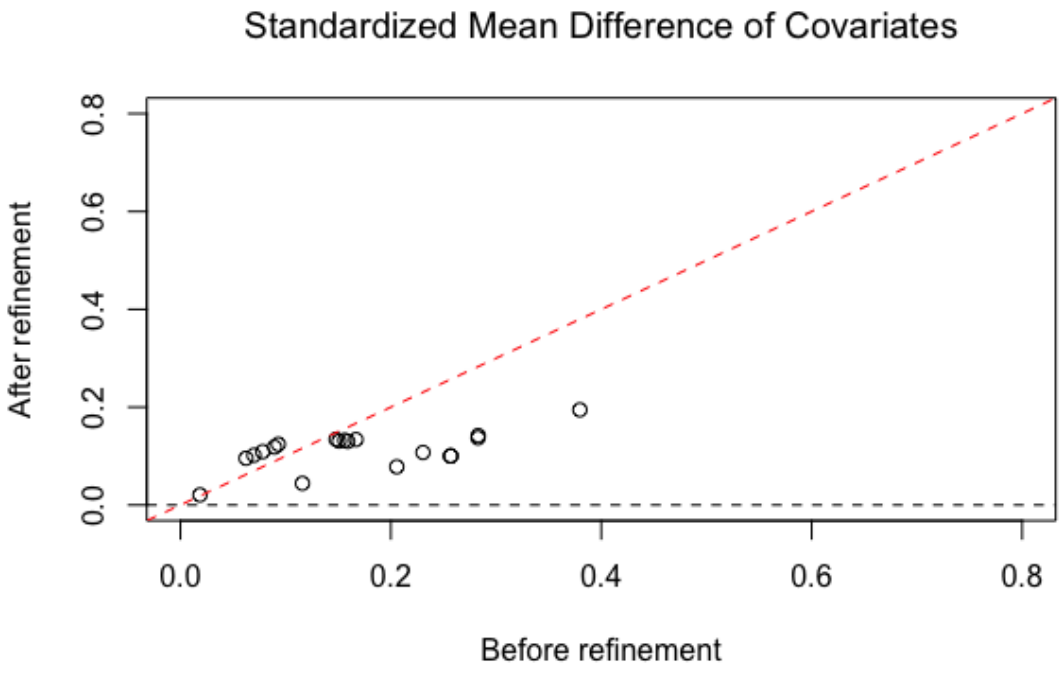

Figure 18: Covariance Balance of Matches Before and After Refinement, Natural Disasters Model

D.3 Testing the Effect of Social Identity

In the main text of the paper, I contend that the effects of social identity will be best detected in the case of Black Church arson attacks. This is because the traumatic event makes racial social identity salient in a way that mass shootings and natural disasters do not. I find and present statistically and substantively significant results in the main text, indicating that Black individuals who are in close geographic proximity to the traumatic event are more likely to turnout to vote in the wake of Black Church arson attacks, while the event appears to demobilize non-Black individuals. One way to test if my theory is correct if to test the same model with mass shootings and natural disasters. If I detect a similar effect, it is not something about the way that a traumatic event primes social identity (as I contend), but rather something about Black voters in general.

In figures 19 and 20, I present marginal effects plots of the same fixed-effects model presented in figure 1, but with the treatment being mass shootings and natural disasters, respectively. These results confirm that the effect of Black social identity conditions the effect of traumatic events on turnout only in the case of Black Church arson attacks with the interactive coefficient being nowhere near statistical significance.

D.4 Multiple Imputation of CPS Data

Due to moderate missingness in the CPS data, I turn to multiple imputation and run the same model to identify the conditioning effect of Black social identity on voter turnout among respondents living in counties that have experienced a Black Church arson attack. Table 3 contains the results of the model when missing values are multiply imputed using Amelia. I find a statistically significant effect that is in the same direction and of similar magnitude as the effect detected in the model that uses case-wise deletion. Given that multiple imputation with or without an auxilliary variable can perform well under missing-not-at-random up to 30% missingness (Mustillo and Kwon, 2015), these results confirm that missingness does not cause biased results in these data. The results reported in the main paper and below in table

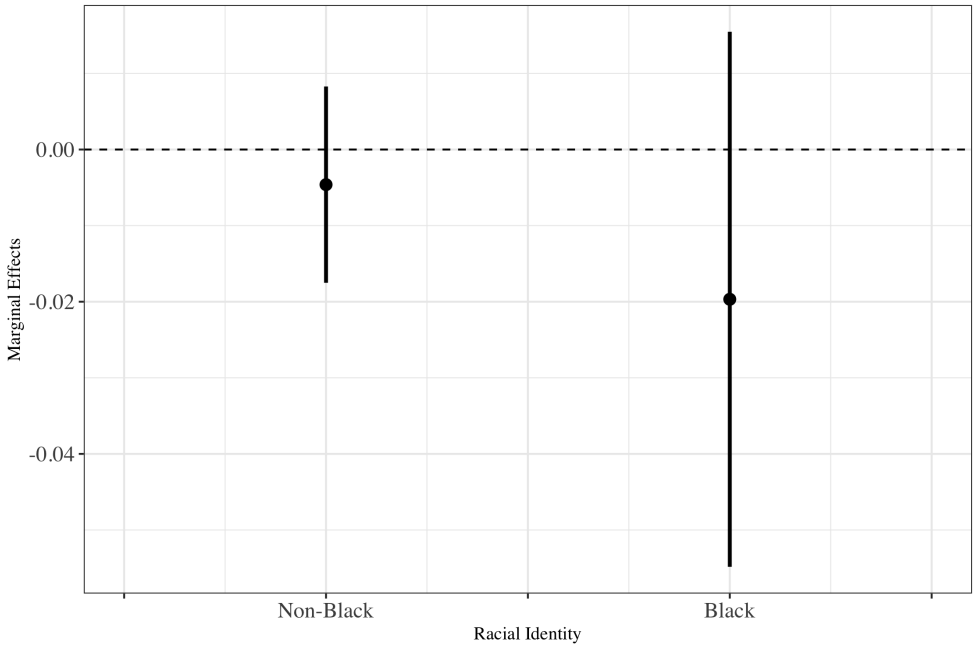

Figure 19: Black Social Identity Conditions the Effect of Mass Shootings on Voting

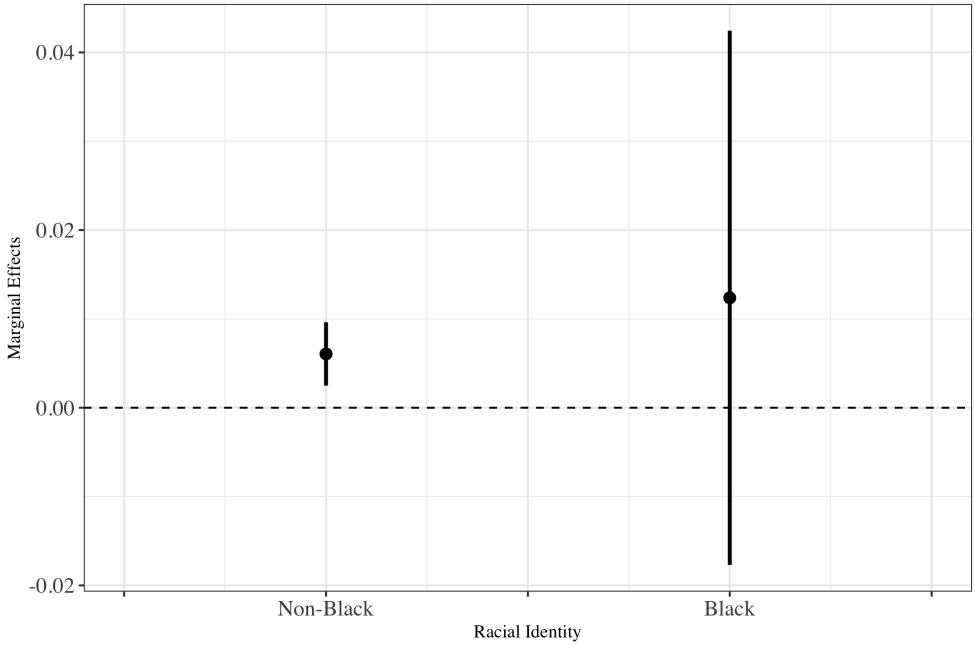

Figure 20: Black Social Identity Conditions the Effect of Natural Disasters on Voting

3 are consistent and demonstrate the same conditioning effect of Black social identity on the effect of Black Church arson attacks on voter turnout at the individual-level.

Table 3: Multiple Imputation to Estimate the Effect of Black Social Identity on Turnout Likelihood, Black Church Arson Attacks

	Vote
Experience Arson Attack	-0.009* (0.003)
Black	0.067* (0.001)
Gender	0.040* (0.001)
Education	0.638* (0.003)
Income	0.235* (0.002)
Experience Arson Attack × Black	0.016* (0.006)
Intercept	0.099* (0.002)
Year Fixed Effects	Yes
County Fixed Effects	Yes
Observations	2,253,167
R^2	0.186-0.189
Adj. R^2	0.186-0.189
F-statistic	3436–3499* (df = 15; 2,253,151)

$*p < 0.05$

D.5 Replicating Results with Alternative Datasets

In table 4, I test the same two-way fixed effects difference-in-difference and lagged dependent variable models that I run on the Mother Jones data on the Stanford MSA data. The MSA data has a much larger N of 441 cases (that I was able to match with county-level turnout data). I find that the models predict strikingly similar effect sizes and both indicate a demobilizing effect with negative coefficient estimates. Neither estimate is statistically significant, but the size and direction are consistent with my findings using the Mother Jones data.

Table 4: Effect of Mass Shooting on Turnout using the Stanford MSA Database

	Turnout (DiD)	Turnout (Lagged DV)
Lagged Turnout		0.380* (0.185)
Experience Mass Shooting	-0.037 (0.046)	-0.038 (0.036)
% of County Pop. Black	-0.215 (0.175)	
Total Population	0.000 (0.000)	
Med. Household Income	0.000* (0.000)	
Fatalities	0.001 (0.000)	
Victims	0.001 (0.004)	
Intercept		0.370* (0.005)
Observations	23,992	24,203
R^2	0.013	0.130
Adj. R^2	-0.123	0.130
F-statistic	44.682* (df = 6; 21,089)	1806* (df = 2; 24,200)

$*p < 0.05$

E Cross-Contamination Checks

Table 5 tests the effects of occurrence of each traumatic event against each other in the same model. In putting each treatment variable in the same model, I test for contamination across the treatments. I find a persistent post-traumatic demobilization effect of Black Church arson attacks and natural disasters, and the coefficients for mass shootings are in the right direction (negative), though not statistically significant. Further, these effect sizes are very similar to (nearly exactly) the effect sizes predicted in the single-treatment models with each event treatment run in its own model. This further confirms the accuracy of my persistent post-traumatic demobilization response findings.

Table 5: Effect of Traumatic Event on Turnout, Lagged Dependent Variable Analysis Results

	Turnout (DiD)	Turnout (Lagged DV)
Lagged Turnout		0.794* (0.006)
Experience Arson Attack	-0.013* (0.003)	-0.046* (0.003)
Experience Mass Shooting	-0.001 (0.008)	0.003 (0.006)
Experience Natural Disaster	-0.001 (0.001)	-0.005* (0.001)
% of County Pop. Black	-0.109 (0.062)	
Total Population	0.000* (0.000)	
Med. Household Income	0.000* (0.000)	
Intercept		0.122* (0.003)
Observations	23,952	24,179
R^2	0.015	0.640
Adj. R^2	-0.120	0.640
F-statistic	54.723* (df = 6; 21,049)	10720* (df = 4; 24,174)

$*p < 0.05$

F Full Results of Shared Social Identity Models

Table 6: Conditioning Effect of Black Social Identity on the Effect of Arson Attacks on Voting

	Vote (DiD)	Vote (Lagged DV)
Lagged Vote		0.278* (0.001)
Experience Arson Attack	-0.010* (0.004)	-0.025* (0.003)
Black	0.070* (0.013)	0.053* (0.002)
Gender	0.042* (0.002)	0.043* (0.001)
Education	0.630* (0.007)	0.575* (0.003)
Income	0.237* (0.007)	0.177* (0.003)
Experience Arson Attack×Black	0.041* (0.015)	0.036* (0.007)
Intercept		-0.040* (0.003)
Observations	841,165	621,143
R^2	0.109	0.640
Adj. R^2	0.109	0.640
F-statistic	129.1* (df = 799; 840,365)	1803* (df = 7; 621,135)

$*p < 0.05$

SI References

Abadie, Alberto, Alexis Diamond, and Jens Hainmueller. 2011. "Synth: An r Pakage for Synthetic Control Methods in Comparative Case Studies." *Journal of Statistical Software* 42 (13).

Ali, M. Sanni, Rolf H.H. Groenwold, Wiebe R. Pestman, Svetlana V. Belitser, Kit C.B. Roes, Arno W. Hoes, Anthonius de Boer, and Olaf H. Klungel. 2014. "Propensity Score Balance Measures in Pharmacoepidemiology: A Simulation Study." *Pharmacoepidemiology and Drug Safety* 23 (8): 802–11.

Belitser, Svetlana V., Edwin P. Martens, Wiebe R. Pestman, Rolf H.H. Groenwold, Anthonius de Boer, and Olaf H. Klungel. 2011. "Measuring Balance and Model Selection in Propensity Score Methods." *Pharmacoepidemiology and Drug Safety* 20 (11): 1115–29.

Hansford, Thomas G., and Brad T. Gomez. 2010. "Estimating the Electoral Effects of Voter Turnout." *American Political Science Review* 104 (2): 268–288.

Hassell, Hans J.G., John B. Holbein, and Matthew Baldwin. 2020. "Mobilize for Our Lives? School Shootings and Democratic Accountability in U.S. Elections." *American Political Science Review* 114 (4): 1375–1385.

Imai, Kosuke, In Song Kim, and Erik Wang. 2020. "Matching Methods for Causal Inference with Time-Series Cross-Sectional Data.".

McQueen, Shannon. 2021. "Pipeline or Pipedream: Gender Balance Legislation's Effect on Women's Presence in State Government." *State Politics & Policy Quarterly*: 1–23.

Muldoon, Orla T., Robert D. Lowe, Jolanda Jetten, Tegan Cruwys, and S. Alexander Haslam. 2020. "Personal and Political: Post-Traumatic Stress Through the Lens of Social Identity, Power, and Politics." *Political Psychology*.

Mustillo, Sarah, and Soyoung Kwon. 2015. "Auxillary Variables in Multiple Imputation when Data Are Missing Not at Random." *The Journal of Mathematical Sociology* 39 (2): 73–91.

Park, Crystal L., Carolyn M. Aldwin, Juliane R. Fenster, and Leslie B. Snyder. 2008. "Pathways to Posttraumatic Growth Versus Posttraumatic Stress: Coping and Emotional Reactions Following the September 11, 2001, Terrorist Attacks." *American Journal of Orthopsychiatry* 78 (3): 300–312.

Shakespeare-Finch, Jane, and Allysa J. Barrington. 2012. "Behavioural Changes Add Validity to the Construct of Posttraumatic Growth." *Journal of Traumatic Stress* 25 (4): 433–439.

Shakespeare-Finch, Jane, and Tracey Enders. 2008. "Corroborating Evidence of Posttraumative Growth." *Journal of Traumatic Stress* 21 (4): 421–424.

Stuart, Elizabeth A., Brian K. Lee, and Finbarr P. Leacy. 2013. "Prognostic Score-Based Balance Measures Can Be a Useful Diagnostic for Propensity Score Methods in Comparative Effectiveness Research." *Journal of Clinical Epidemiology* 66 (8): S84.

Summerfield, Derek. 2001. "The invention of post-traumatic stress disorder and the social usefulness of a psychiatric category." *British Medical Journal* 322: 95–98.

Tedeschi, Richard G., Crystal L. Park, and Lawrence G. Calhoun. 1998. "Posttraumatic Growth: Conceptual Issues." In *Posttraumatic growth: Positive changes in the aftermath of crisis*, ed. Richard G. Tedeschi, Crystal L. Park, and Lawrence G. Calhoun. Mahwah, NJ: Lawrence Erlbaum Associates.

Tedeschi, Richard G., Jane Shakespeare-Finch, Kanako Taku, and Lawrence G. Calhoun. 2018. *Posttraumatic Growth: Theory, Research, and Applications*. New York: Rutledge.

Tedeschi, Richard G., and Lawrence G. Calhoun. 1996. "The Posttraumtic Growth Inventory: Measuring the Positive Legacy of Trauma." *Journal of Traumatic Stress* 9: 455–471.

Xu, Yiqing. 2017. "Generalized Synthetic Control Method: Causal Inference with Interactive Fixed Effects Models." *Political Analysis* 25: 57–76.

Zhang, Zhongheng, Hwa Jung Kim, Guillaume Lonjon, and Yibing Zhu. 2019. "Balance diagnostics after propensity score matching." *Annals of Translational Medicine* 7 (1): 19.