# INSURGENT STRATEGO:
# HOW REBELS INFLUENCE THE PUBLIC DURING CIVIL CONFLICT

By

Caleb Lucas

A DISSERTATION

Submitted
to Michigan State University
in partial fulfillment of the requirements
for the degree of

Political Science – Doctor of Philosophy

2021

**ABSTRACT**

INSURGENT STRATEGO:
HOW REBELS INFLUENCE THE PUBLIC DURING CIVIL CONFLICT

By

Caleb Lucas

Rebel groups rely on civilians to achieve victory in civil conflict. The public's attitudes determine their ability to realize key aims, such as extracting vital information, coercing support, and mobilizing new fighters. However, numerous strategic considerations encourage rebels to use violence against civilians. More so, rebel groups also face battlefield losses and political setbacks that can damage their reputation among non-combatants. I explore how rebels navigate the tension that results from these dynamics in this dissertation. Overall, I argue that rebels influence the public's attitudes using intentional messaging and violence. My theory suggests rebel media can effectively shape how the public perceives an organization and be used to distract from bad behavior or losses to the government. It can also justify and contextualize attacks that might otherwise be considered offensive. However, I argue that tactical considerations still restrain rebel behavior and that they generally attempt to conduct violence when the payoffs are high and the costs are relatively low.

I argue in the first empirical chapter that civilians partly rely on rebel propaganda to inform their beliefs about a conflict. This is because credible information about a conflict's warring parties and their attributes is difficult for civilians to obtain, as misinformation, rumors, and selective news coverage are common in civil conflicts. Rebels understand this and provide ostensible evidence that indicates their organization is strong relative to the government in their media outlets. I expect civilians to update their beliefs partly based on this information due to their information disadvantage. I estimate a difference-in-differences model that exploits the sudden introduction of a rebel group's radio station between two representative survey waves and demonstrate that exposure to rebel media can increase perceptions of a group's strength.

I explore the functional use of propaganda in the second empirical chapter. Specifically, I argue that rebels use media to distract their supporters from tactical setbacks and to refute narratives

of the conflict that are unfavorable to them. By deploying messaging approximate to events that could cause reputational harm, rebels *attempt* to reshape public perceptions of their organization. Consistent with this, I show that rebel groups in Syria respond to battlefield losses by publishing more propaganda. Additionally, I demonstrate through two case studies that rebels provide evidence of military strength while losing territory to the government and information about their governance activities when targeting civilians.

The third empirical chapter examines the logic that rebel groups employ when deciding whether to conduct violence. I specifically examine the use of terrorism during religious holidays. I argue multiple incentives exist that encourage violence on these days. For example, attacks on holy days allow terrorists to signal their religiosity and impose extra terror on their targets. Rebels can decrease possible blowback from their own supporters for violating these days by framing their violence as divinely inspired in official propaganda. Governments understand these days are triggers for violence though and increase security surrounding them. However, their ability to do this is limited by the length of the holiday due to resource constraints and practical concerns. I demonstrate that the probability of an attack occurring on holidays that last a few days or less is lower than on non-holidays and provide evidence this is because state security is at its peak. I also show that holidays that last weeks have a higher likelihood of witnessing a terror attack than non-holidays, which I argue is because they are more difficult to protect and still provide payoffs to terror groups.

This dissertation consequently broadly investigates how rebel groups attempt to influence the public during civil conflict through both propaganda and violence. I argue throughout that rebels are calculating actors that seek to maximize their ability to use violence while minimizing possible sanctions for that behavior. In doing so, I demonstrate propaganda meaningfully affects civilian attitudes. More so, I provide evidence that rebels understand the benefits of propaganda and attempt to use it to their advantage. However, I also show that tactical choices made by the government can limit the behavior of rebel groups, influencing their ability to benefit from propaganda.

*For my family*

## ACKNOWLEDGEMENTS

This dissertation would not exist without the incredible effort of a great deal of people that encouraged, supported, taught, and pushed me throughout graduate school. It is my privilege to thank them for their contribution to my education and this document.

I would like to start by thanking my committee: Jakana Thomas, Benjamin Appel, Jeffrey Conroy-Krutz, and Shahryar Minhas. In particular, Jakana Thomas' mentorship, prodding of my ideas, and methodological critique were critical to my growth as a scholar and shaped how I think about political violence. I am especially grateful for her role in not only facilitating this dissertation, but also my education. Benjamin Appel taught my first substantive course in graduate school, an excellent introduction to the field, and several additional courses that helped develop my perspective on international relations. He consistently provided critical feedback and excellent motivation, along with levity as needed. Jeffrey Conroy-Krutz offered advice and input that enabled my fieldwork in Lebanon and provided exceptional instruction in a variety of research designs. Shahryar Minhas cultivated my understanding of computational approaches to social science research along with a range of associated methods. I am grateful for his constant willingness to think through problems, ability to offer creative solutions, and eagerness to provide feedback. Relatedly, this dissertation would not exist without the support of Emily Beaulieu Bacchus. She inspired my interest in politics as an undergraduate at the University of Kentucky and nurtured my understanding of the field.

I am also grateful to the incredible people that comprise my department. A number of professors beyond my committee provided mentorship, support, and feedback throughout the years. This includes Matt Grossmann, Nazita Lajevardi, Cory Smidt, and many others. The department itself provided generous financial support for my research, which enabled this dissertation. I was also privileged to be surrounded by excellent students throughout graduate school, including Thomas Bentley, Nicolas Bichay, Elizabeth Brannon, Lora DiBlasi, Kevin Greene, Jonathan King, Alex Mardon, Christina Scheller, Jessica Schoenherr, and Nate Smith, among others. Thank you all for

your friendship, feedback, and motivation.

Finally, I owe the most to my family and am proud to dedicate this dissertation to them. First, to my spouse. Her support – and encouragement to pursue graduate school – enabled this dissertation and the completion of my PhD. I sincerely could not have done it without her. She endured the hardships of graduate school with me – gracefully accepting my late work nights (though with gentle nudges to get some sleep) and the stress that is bundled with earning a PhD. She has been my biggest fan through frantic deadlines, successes, and failures. Second, to my daughter Nora. Born shortly after my comprehensive exams, she inspired me to complete this dissertation. Third, to my parents. They imbued me with the sense of curiosity that prompted the questions this dissertation addresses and the desire to solve puzzles that motivated me to finish it. Fourth, to my brother. Having already completed his doctorate, he was able to commiserate with me about the stresses of graduate school and celebrate the successes. I am deeply grateful for his friendship.

## TABLE OF CONTENTS

## LIST OF TABLES

## LIST OF FIGURES

# CHAPTER 1

# INTRODUCTION

Civil war represents a contest for not just the control of territory, but also of people. Indeed, Kilcullen calls the civilian population the "center of gravity" in a conflict because their support is essential to stay in the fight and ultimately achieve victory (Kilcullen 2011, 8). While the military capabilities of belligerents might define the nature of fighting, the ability to influence the public ultimately dictates the winner of a civil war. As the NATO International Security Assistance Force (ISAF) Counterinsurgency Commander's Guidance states, "[t]he conflict will be won by persuading the population, not by destroying the enemy."[1] Scholarship regarding conflict reflects this dynamic, finding that attitudes towards rebel groups and their ability to establish legitimacy determine the outcome of a conflict (Kalyvas 2006; Podder 2014; Terpstra 2020).

However, while rebel groups are reliant on the civilian population, they also often commit violence against civilians for a variety of reasons and suffer setbacks on the battlefield that might encourage the public to question their ability to effectively combat the government (Wood and Kathman 2014; Thomas 2014; Kalyvas 2006; Leventolu and Metternich 2018). This dissertation helps make sense of this dynamic by examining the tension that groups face between committing violence that is both provocative and terrorizing while ensuring they do not alienate their supporters. I argue that groups generally attempt to conduct violence when the payoffs are high, but exposure to civilian sanctions is low. When they do deem it necessary to employ tactics like terrorism, I argue they rely on propaganda campaigns to manipulate civilian attitudes in order to frame their actions. Rebel groups strategically publicize different types of content in conjunction with their use of violence to contextualize battlefield losses and justify the use of indiscriminate violence. In isolation, they attempt to use propaganda to influence civilian attitudes at large to improve their position in the conflict. I consequently argue that civilian attitudes are dynamic and susceptible to strategic messaging. I examine a variety of datasets, including national surveys and original

[1] https://www.nato.int/isaf/docu/official_texts/counterinsurgency_guidance.pdf

collections of propaganda, and deploy regression analysis along with case studies to study the ways that rebel groups seek to influence civilians through violence and propaganda.

Specifically, in the second chapter of this dissertation, I examine whether propaganda can meaningfully impact civilian attitudes during conflict. Is it easily dismissed or can it influence public opinion? I argue that rebel propaganda represents an important source of information for civilians during conflict because credible information is difficult for civilians to obtain in such contexts (Greenhill and Oppenheim 2017; Silverman 2019; Silverman, Kaltenthaler, and Dagher 2021). In an effort to understand their environment given the difficult of isolating unbiased information, civilians update their opinions partly based on information in rebel propaganda, which often contains ostensible evidence supporting a narrative that the rebels create. To test this, I estimate the effect of propaganda on civilian attitudes in Afghanistan by exploiting the sudden availability of the Taliban's official radio channel in Kabul. I combine this information with survey data from NATO's Afghanistan Nationwide Quarterly Assessment Research (ANQAR) program to assess possible differences in perceptions of the Taliban's strength directly before and after possible exposure to their radio channel. The results suggest that, after controlling for possible confounding factors using a difference-in-differences model, exposure to rebel propaganda can substantively *improve* perceptions of a group's strength, which is a critical aspect of a conflict. This finding suggests more research is needed that examines how civilians update their attitudes using factors such as rebel media, as existing work assumes civilians base their attitudes on mostly complete and dispassionate information.

In the third chapter, joint with Jakana Thomas,[2] we examine two related dynamics of rebel propaganda production that build on the finding from the prior chapter that rebel media matters. First, we study what affects variation in the amount of media rebels publish. Second, we explore the *content* of propaganda to better understand what rebels share to influence the public. We argue that rebel groups use their media channels to counteract possible adverse reactions to negative events such as civilian killings or battlefield setbacks. By publishing media that reframes these

[2]We collaborated on the conceptualization of the project, but I executed it.

events in their favor or distracts from them entirely, rebels attempt to mitigate the possibility of public sanctions for their bad behavior and influence the narrative of their battlefield losses. Using an original dataset of social media posts by rebel groups involved in the Syrian civil war, we demonstrate that groups publish more media after suffering losses to the government. We argue this is because groups attempt to distract their supporters from these setbacks. Further, through two case studies that exploit discrete events and compare propaganda before and after them, we provide direct evidence for the theory and a rich exploration of exactly how groups distract their supporters and reframe their losses.

The fourth chapter explores how armed groups can use these media advantages to their benefit on the battlefield, broadly construed. Specifically, I study the incidence of terrorism on religious holy days. Of course, violence during these periods risks offending a group's pious supporters. However, terror groups that espouse a religious ideology routinely commit violence during periods holy to them. I make sense of this by demonstrating these groups have a number of tools at their disposal that not only allow them to limit civilian sanctions for bloodshed on these dates, but instrumentalize them in a way that produces a net benefit. In particular, I argue that they can use propaganda to strategically frame their attacks during holy periods as being divinely ordained and enhance their legitimacy as a religious organization.

Governments understand they are triggers for violence though and increase security surrounding them. However, the government's ability to do this is limited by the length of the holiday due to resource constraints and practical concerns. I consequently expect the probability of an attack occurring on holidays that last a few days or less to be lower than on non-holidays since state security is at its peak. However, holidays that last weeks are more difficult to protect. They should therefore have a higher likelihood of witnessing an attack than non-holidays. Data from all countries in the Arab League along with those with large populations of Muslims support my theory. I provide evidence for the mechanism (counter-terrorism) by examining all available news articles published in Arabic by the Syrian Arab News Agency and demonstrate the findings extend beyond Islam by showing similar patterns during the Jewish calendar. This demonstrates that propaganda can

enable violence that might otherwise be limited, but those choices are still constrained by tactical considerations such as the government's counter-terrorism efforts.

This dissertation consequently broadly investigates how rebel groups attempt to influence the public during civil conflict through both violence and propaganda. I argue throughout that rebels are calculating actors that seek to maximize their ability to use violence while minimizing possible sanctions for that behavior. In doing so, I demonstrate propaganda meaningfully affects civilian attitudes. More so, I provide evidence that rebels understand the benefits of propaganda and attempt to use it to their advantage. However, I also show that tactical choices made by the government can limit the behavior of rebel groups, influencing their ability to benefit from propaganda.

# CHAPTER 2

# MERE PUFFERY OR CONVINCING CLAIMS? REBEL PROPAGANDA AND CIVILIAN PERCEPTIONS OF GROUP STRENGTH

## 2.1 Introduction

Existing research argues rebel strength is central to understanding civil conflict, as it influences dynamics such as the use of violence against civilians (Wood 2010), negotiations between belligerents (Clayton 2013; Thomas 2014), and the ability of rebels to recruit new members (Sawyer and Andrews 2020). At the same time, scholars recognize that governments fighting insurgencies struggle to assess the capabilities of rebel groups and use battlefield engagements and intelligence gathering to accomplish this (Salehyan 2007; Lewis 2020). However, the way in which *civilians* develop their perceptions of rebel strength largely remains unexplored. This is despite research demonstrating these perceptions shape critically important outcomes such as public support for concessions, civilian mobilization, and the willingness of civilians to share information with rebels (Kalyvas 2006; Bueno de Mesquita 2013; Leventolu and Metternich 2018; Sawyer and Andrews 2020).

Existing studies assume that public perceptions of a rebel group's capabilities are a function of their observed behavior and track their *actual* capabilities (e.g. Leventolu and Metternich 2018), a critical assumption that is untested. I argue that *claims* of military capabilities and strategic messaging in official rebel media influences civilian perceptions of a group's strength and its position in the war. This is because civilians are relatively blind to the actual military capabilities of belligerents in conflict, as they are not privy to the same information as the government (Hultman 2007) nor able to effectively sift through conflicting public accounts of the conflict (Driscoll and Maliniak 2016; Silverman, Kaltenthaler, and Dagher 2021).

Indeed, civilians have relatively little information about belligerent capabilities beyond rebel media, which is commonly used to boast about capabilities, aside from infrequent reports of

battlefield engagements. The details of these engagements are often disputed or delivered with some level of doubt (Schon 2021). Research demonstrates civilians struggle to obtain reliable information during civil conflicts (Greenhill and Oppenheim 2017; Silverman 2019; Silverman, Kaltenthaler, and Dagher 2021). I argue rebels exploit this environment by providing ostensible evidence of their capabilities and through strategic messaging in their official media. This bolsters the public perception of their ability to continue waging war against the state. Their claims may or may not be consistent with their actual strength. As such, a misalignment is therefore possible between civilian perceptions and actual rebel strength.

I assess the effect of exposure to rebel propaganda during conflict by exploiting the plausibly random introduction of the Taliban's radio station, Voice of Sharia, in the Kabul area during May 2018. Their broadcast started after being offline in the area for nearly two decades and no specific event appeared to precipitate the reintroduction of the station and the sudden availability of its propaganda. The North Atlantic Treaty Organization (NATO) fielded its Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey directly before and after the Voice of Sharia went on air in 2018.[1] I use difference-in-differences to estimate the effect of the radio broadcast on civilian attitudes in Kabul and find that it immediately improved the public's perception of the group's strength. Multiple falsification tests rule out possible alternative explanations for this finding. More so, I provide descriptive evidence that this effect is due to content within the broadcast that conforms to my theoretical expectations of how rebel groups use media.

This study contributes to our understanding of civilian attitude formation in civil conflict. While existing research recognizes that civilian attitudes are dynamic (Kalyvas 2006), there is little research that examines how factors beyond battlefield events and social service provision affects them. Scholars commonly assume ethnicity predicts support, yet there is substantial within-group variation in attitudes. Some of this can likely be explained by how groups employ violence and services, but many civilians are not directly targeted by violence and do not live under the control

[1]I thank the Combating Terrorism Center at the United States Military Academy in West Point, particularly Amira Jadoon and Duncan Walker, for access to the Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey data along with the team at NATO that manages the data.

of an armed group. My theory suggests media is an important component of this process.

## 2.2 Media Effects during Conflict

Recent research suggests rebel groups employ media strategically during civil conflict (Abrahms, Beauchamp, and Mroszczyk 2017). For example, Jones and Mattiacci (2019) provide evidence that rebels use Twitter as a means to conduct public diplomacy. Studying a group in Libya, they demonstrate that when the organization clarified their political ambitions and highlighted atrocities committed by the Libyan government they were more likely to receive US cooperation and assistance. Similarly, Zeitzoff (2018) finds that armed actors, Hamas and Israel specifically, respond to the social media information environment by changing their behavior on the battlefield. Reactions to their tactical choices affect future decisions about what to do. More broadly, scholars demonstrate rebel groups use media to legitimize their political platform (O'halloran et al. 2019), mobilize supporters (Loyle and Bestvater 2019), and raise funds (Benigni, Joseph, and Carley 2017).

Reinforcing the finding that rebel groups use media strategically, a writer for one of Hezbollah's outlets told me in a personal interview that "media is more important than firepower [during conflict]."[2] They explained that media outlets are vital tools to contextualize battlefield activity, promote a group's strength, and justify a group's actions as pursuing important political goals. More generally, referring to the Lebanese effort spearheaded by Hezbollah to expel Israel after it occupied the country during the civil war, a Lebanese Army General stated that "the camera broke the Israeli strength more than weapons."[3] Despite these findings, scholars have yet to construct a theory concerning how rebel media campaigns influence attitudes towards belligerents in a conflict.

There is also evidence that wartime media can have substantively meaningful effects on not only civilian attitudes, but behavior as well (Della Vigna et al. 2014; Armand, Atwell, and Gomes 2020). In particular, Yanagizawa-Drott (2014) uses village-level data from the Rwandan Genocide to show

[2]Interview with Hezbollah writer, Beirut Lebanon, July 2019

[3]Interview with Lebanese Army General, Beirut Lebanon, June 2019

that areas exposed to a radio program that encouraged violence suffered significantly more deaths during the conflict than areas that did not receive the signal. The station, RTLM, broadcasted hate messages designed to stimulate violence against Tutsis and their ultimate extermination. Yanagizawa-Drott demonstrates that approximately 10% of the overall violence is attributable to the RTLM radio station, suggesting that their hate-filled rhetoric meaningfully influenced the conflict.

Taken together, these findings demonstrate two important features of media and conflict. First, it is clear that rebels understand the utility of media and strategic communication. They routinely employ various forms of media in pursuit of a variety of tactical aims. Second, wartime media can substantively impact attitudes and influence civilian behavior. The argument I develop in this paper draws on both of these findings and contends that rebel media can change how civilians perceive rebel capabilities.

## 2.3 The Importance of Rebel Strength

Rebel strength is an unobservable attribute (Leventolu and Metternich 2018). However, fights with the government and attacks against the public can reveal critical information regarding this latent attribute and enable an estimation of rebel strength, especially relative to the government (Fearon 1995; Leventolu and Metternich 2018). Scholars argue that the strength that civilians assign to the rebels is a critical aspect of conflict, as it influences a variety of important outcomes. Leventolu and Metternich (2018) argue that all rebel groups start relatively weak and must convince the public they are strong to create dissatisfaction with the government and consequently a coalition broad enough to effectively force the government to negotiate and ultimately provide concessions. Similarly, Bueno de Mesquita (2013) argues that rebel strength is an essential component of how organizations decide between waging conventional verse irregular war and the ability of a group to mobilize. If the public perceives a rebel group is strong, the group can recruit sufficiently to fight the government using conventional means. Conversely, relatively weak rebels are unable to

mobilize the public and must resort to irregular tactics.

Scholars also connect rebel strength to civilian support for rebels more broadly. For example, civilians during conflict prioritize their personal safety and rationally crease the likelihood of personal violence through cooperating with belligerents when optimal (Kalyvas 2006). Building on this, Rueda (2017) argues that relatively high perceptions of military strength in isolation is unable to elicit compliance by civilians, but strength alongside the credible threat of violence against them will encourage the sharing of critical information. Using a similar logic, Sawyer and Andrews (2020) argues that rebels with reputations for both being strong and willing to use violence can force compliance. In a case study exploring this dynamic in Nicaragua, Sawyer and Andrews (2020, 885) state that "few options [other than compliance] existed for civilians who did not support the Sandinistas," as the group threatened civilians with violence or death.

### 2.3.1 Civilian Perceptions of Rebel Strength

Scholars assume, both implicitly and explicitly, that civilians have objective and mostly complete information about rebel strength in order to inform their assessment of rebel capabilities and inform their decisions that follow from it. For example, Leventolu and Metternich (2018, 584) argue that "[s]ociety learns about the true value of [rebel strength] via Bayesian updating of beliefs after observing success or failure of rebel activities." The study implicitly assumes the public observes rebel activities and does not include other factors that might influence civilian perceptions of rebel strength.

Similarly, while Bueno de Mesquita (2013, 343) argues that "changes in the populations perception of the rebel organizations capacity can change both the level of mobilization and the tactic used" – reinforcing the importance of *perceptions* of rebel strength – capacity in the model is a reflection of actual rebel strength and observable behavior. Rueda (2017, 1635) argues civilian support is essential for rebel success and, quoting British Colonial Secretary Oliver Lyttelton, states that "You cannot win the war without the help of the population" and you accomplish that by waging war with "propaganda and armed forces." However, Rueda's model of civilian cooperation

parameterizes rebel strength, but does not integrate any possible variation in perceptions of it emanating from factors such as propaganda.

However, civilians in conflict zones typically *do not* have have objective information about rebel activity and inhabit environments rife with contested accounts of events and biased news sources (Silverman, Kaltenthaler, and Dagher 2021).[4] Driscoll and Maliniak (2016) describe a "fog of war" effect where civilian accounts of a conflict are factually divergent from what actually occurred due to conflicting accounts of what happened. Indeed, civilians in civil conflicts typically have an information disadvantage relative to the government and rebels. Credible news reporting is typically scarce, information regarding events in one province often does not travel across the country, and concerns related to ensuring personal safety likely trump thoughtful information engagement with the news. Perhaps because of these factors, civilians in conflict zones commonly believe rumors, misinformation, and misperceive key events (Greenhill and Oppenheim 2017; Silverman 2019).

I argue that rebel groups exploit the civilian information disadvantage to improve public perceptions of their strength due to the resulting strategic benefits detailed above. I expect rebel groups to employ propaganda that benefits their position in the conflict to accomplish this. Functionally, I principally expect rebel groups to do this in two ways. First, I expect rebels to boast about their *claimed* capabilities in their propaganda. Understanding the relative distribution of power within the context of a civil war is important to civilians, as they use it to predict possible settlements and to gauge the credibility of threats to their personal safety. However, beyond reports of possibly sporadic fighting and publicly reported rebel losses, civilians are unable to accurately measure rebel capabilities and struggle to gauge how they compare to the government's strength. Claims that rebels make regarding their organization, including the number of fighters and their armaments, can consequently be effective at changing public perceptions of their strength. I argue civilians update their perceptions as they see and hear 'evidence' of rebel power in propaganda. Of course,

[4]Conversely, governments have relatively more information about the rebel groups they are fighting and consequently a more accurate understanding of their capabilities. This is because direct engagements, more complete information, and military intelligence allow better estimation of latent strength (Fearon 1995; Hultman 2007; Lewis 2020).

the claims might not align with the group's *actual* capabilities. Civilians, however, are unable to effectively verify this information.

Second, I argue rebels use propaganda to craft a narrative of the conflict that centers their purported victories and overall success at achieving their goals. By emphasizing these things, and highlighting the government's failures, they increase their salience and the public's perceptions of their role in the conflict. In combination with disparaging messages regarding the government's inability to govern or protect the public, propaganda can increase perceptions of a group's strength *relative to* the government's. This updating can consequently occur even if no battlefield engagements take place.

Rebel groups routinely employ propaganda to make appeals regarding these two topics. For example, rebels commonly use official media to not only explain the purpose and intent of their use of violence, but also to justify it using frames that are likely to resonate among their audience. Messages regarding martyrdom that are promoted by Islamist groups exemplify this dynamic. Honoring their deceased fighters as martyrs engages the public in a practice that implicitly recognizes their fight against the government as not only spiritual, but existential. This process can play an important role in cultivating public sympathy.

It is not surprising that rebel-produced media is consumed widely by civilians during conflict. Civil conflicts are political environments in flux and civilians, at an information disadvantage, seek data about the groups fighting for power. I expect rebel groups to intentionally spread and promote their media and civilians to consume it in an effort to inform themselves about events vital to their country's future. More so, statements by rebel groups regarding power and capabilities are likely to become stories in and of themselves and widely consumed or discussed, regardless of a civilian's personal ideology. The result of this is a possible *misalignment* between actual rebel capabilities and public perceptions of those unobservable traits. I derive a testable hypothesis from this theoretical logic. I expect that, due to civilians' information disadvantage and the ability of rebel groups to provide information regarding their *claimed* capabilities in propaganda, exposure to rebel propaganda increases an individual's perceptions of a rebel group's strength.

**Hypothesis 1** *Exposure to a rebel group's propaganda increases perceptions of that rebel group's strength.*

## 2.4 Empirical Approach

I test my hypothesis regarding the relationship between rebel propaganda and civilian attitudes by examining the effect of exposure to the Taliban's official radio channel Voice of Sharia. Testing this sort of relationship is difficult because it is unclear whether correlation between support for a rebel group and consumption of its propaganda is due to pre-exposure feelings or the effect of media. In order to identify an effect in the presence of this endogenous relationship, I exploit the plausibly random introduction of the Taliban's radio station Voice of Sharia in the Kabul area during May 2018. This came after about two decades of the channel being unavailable in the area. No specific event, battlefield victory, or political development appeared to precipitate the reintroduction of the station and the sudden availability of its propaganda. I therefore treat its timing as plausibly random.

The North Atlantic Treaty Organization (NATO) happened to field two waves of their Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey surrounding this event, one directly before and one directly after.[5] They fielded wave 39 of the national quarterly survey during February-March and wave 40 during the end of May. The Taliban started their broadcast in Kabul on May 5. I exploit these series of events, which produce survey data from two periods (pre and post radio broadcast) and among two groups (radio listeners and non-listeners), to identify the effect of the Taliban's propaganda on civilian attitudes. I specifically use difference-in-differences (DiD) to estimate an effect and examine survey respondents exclusively in the Kabul area due to the radio broadcast's sudden introduction there. I provide greater detail concerning the empirical approach in the remainder of this section.

[5]I thank the Combating Terrorism Center at the United States Military Academy in West Point, particularly Amira Jadoon and Duncan Walker, for access to the Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey data along with the team at NATO that manages the data.

### 2.4.1 Study Context

Afghanistan provides an excellent environment to explore the effect of rebel propaganda on civilian attitudes for two reasons. First, Afghans overwhelmingly rely on radio as a news source. Indeed, 70% of Afghans report using the radio to obtain information.[6] During the ANQAR waves analyzed in this study, 50% of respondents in Kabul – the area I analyze in this study – reported that they listen to the radio to learn about the news. Perhaps because of this, the Taliban employ this medium to spread their propaganda. They operate a network of radio towers that broadcast their official station throughout the country. However, after the Taliban's tower in Kabul was dismantled in the early 2000's, individuals in the area could not receive their programming. As such, because radio is such an important medium for information and because of its long absence in Kabul, this context consequently provides a test of the effect of the Taliban's renewed propaganda efforts in the area on the civilian population.

Second, there is relatively little internet penetration in the country. It ranks in the bottom 20 of internet users by population among all countries.[7] A great deal of Afghans are illiterate and do not read print media. The World Bank reports that only 43% of Afghans over the age of 15 are able to read.[8] These factors decrease the likelihood that individuals are exposed to information beyond what they hear on the radio. It simplifies measurement issues related to rebel groups delivering propaganda across multiple mediums, such as newspapers, radio, and a television station. This is a common feature of civil conflicts across the globe. Instead, possibly due to the characteristics of their local audience, the Taliban largely focus their domestic media efforts on their official radio station (Voice of Sharia). This is further compounded by the group's extremely conservative religious beliefs, which led them to ban television entirely when they controlled the country from 1996-2001.

[6] Asia Foundation Survey of the Afghan People Dataset, 2019

[7] https://data.worldbank.org/indicator/IT.NET.USER.ZS?most_recent_value_desc=false

[8] https://data.worldbank.org/indicator/SE.ADT.LITR.ZS?locations=AF

### 2.4.2 Measuring Propaganda Exposure

The Taliban began broadcasting their radio in the Kabul area for the first time in almost two decades on May 5, 2018. The group uses the Voice of Sharia station to communicate news, religious decrees, and speeches by its leaders. It was the group's primary mouthpiece between 1996-2001 when they governed the country, as the Taliban religiously opposes forms of media like television. However, when the United States invaded in 2001, they immediately bombed the towers that broadcast the signal and temporarily halted Voice of Sharia's operations. However, through renovations and aggressively capturing other towers, the group put the program back in place. This appears particularly to be the case over the last five years or so. The radio program is currently used to frame the group's actions and share news from the Taliban's perspective. It also promotes the Taliban's radical version of Islam.

I determine possible exposure to this broadcast in Kabul using information from the ANQAR survey. While no question asks whether an individual began listening to the Taliban's station or whether they had a close friend or family member that did, a question does enable measuring whether they listen to the radio more broadly:

- *What source/Where from do you get news and information about what is going on?*

Enumerators recorded that respondents answered this question with a variety of sources, such as the television or a newspaper. If the respondent mentioned 'radio' while answering this question, I categorize the individual as being in the treatment group because they were actively listening to the radio and suddenly had the opportunity to tune into Voice of Sharia. Of course, simply listening to the radio does not necessarily suggest the individual listened to the Taliban's signal. However, this liberal categorization of the treatment group creates possible bias that makes it *harder* to detect an effect in the direction of the hypothesis. This is because it possibly places individuals that are actually in the control into the treatment condition. That is, individuals that listen to the radio, but exclusively to the BBC or local channels, are possibly analyzed as if they were treated when they in reality were not exposed to the broadcast.

I visualize the number of respondents across days in each wave of the ANQAR survey that listen/don't listen to the radio in figure 2.1. The day the Taliban started their broadcast is marked with a dotted line. Individuals that reported using the radio to get news and information are shaded teal while those that did not are shaded red. The proportions are roughly the same between the two waves.

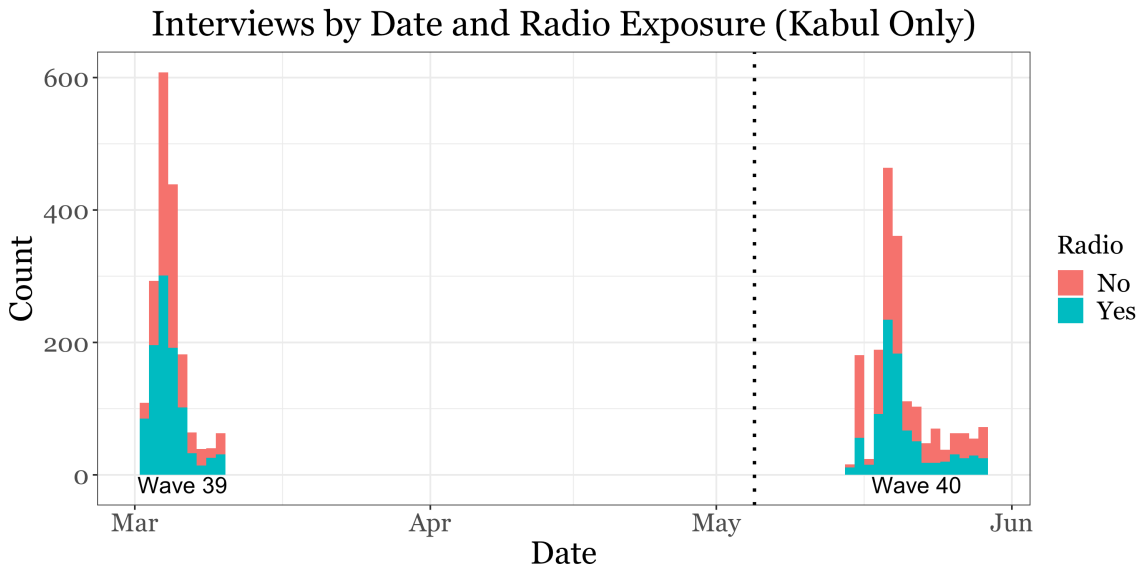


Figure 2.1 The figure displays the number of respondents in the ANQAR survey that reported they do/do not use the radio to get news and information. The dotted line represents the introduction of the Taliban's radio broadcast.

Did all individuals that listen to the radio in Kabul have the *opportunity* to listen to the broadcast? While the exact location of the tower is unknown, the signal is reportedly strong and blankets the city.[9] I verify this by estimating the approximate extent of the tower's propagation to ensure that the signal likely covered the entire city and that all residents had the ability to receive it. To do this, I use the Terrain Analysis Package (TAP) terrestrial radio frequency propagation software.[10] TAP is used by organizations such as the United States Army, United States Navy, Russian Navy, and United Nations Peacekeeping Missions across Africa to measure the extent and strength of radio

[9]Data provided to me from FMList.com, a global database of radio stations maintained by experts, notes the signal is 'quite strong.'

[10]I thank SoftWright for access to this software.

and cellular broadcasts.

Using the TAP software, I employ the Longley-Rice model, an irregular terrain model, to estimate the propagation of the Taliban's radio broadcast in Kabul (Longley, A.G. Rice 1968). The model employs information regarding a radio tower, such as its height and power, and the surrounding geography to estimate the geographic extent of its signal. It is the standard for this type of application and commonly used in social science studies examining the extent of radio broadcasts (Conroy-Krutz 2018b). I use FMList.com, a global database of radio stations maintained by experts, to collect available information regarding the tower broadcasting the signal. Other studies that analyze the effect of exposure to radio also rely on FMList, such as Conroy-Krutz (2018b, 2018a), Crabtree and Kern (2018), and Armand, Atwell, and Gomes (2020).

Due to the obvious covert nature of the enterprise, most of the exact details of the tower, its height and power, that is broadcasting are unknown. However, these details have *relatively* little impact on the propagation of a radio frequency in space. Instead, dramatic geographic features are the main determinant of a signal's reach when dealing with towers roughly the size of the Taliban's. Line of sight is consequently one of the best predictors of radio propagation, particularly in areas like Kabul. It lies in a valley so covering the entirety of the urban area is relatively straightforward for most radio broadcasts. Despite this, beyond the exact location, I vary the other necessary variables, power, height, etc, to roughly estimate the extent of the broadcast.

I find the signal very likely covers all of metropolitan Kabul. I visualize the results of one of these signal propagation analyses below in figure 2.2. It assumes the tower is five meters high and uses the Longley-Rice model. The signal reaches areas shaded blue or green (which represent the ability to send/receive or just receive respectively), but not to areas shaded red. Note that the signal easily reaches the entirety of the valley that Kabul lies in, but the mountains surrounding the city restrict its reach to some areas that are farther out.

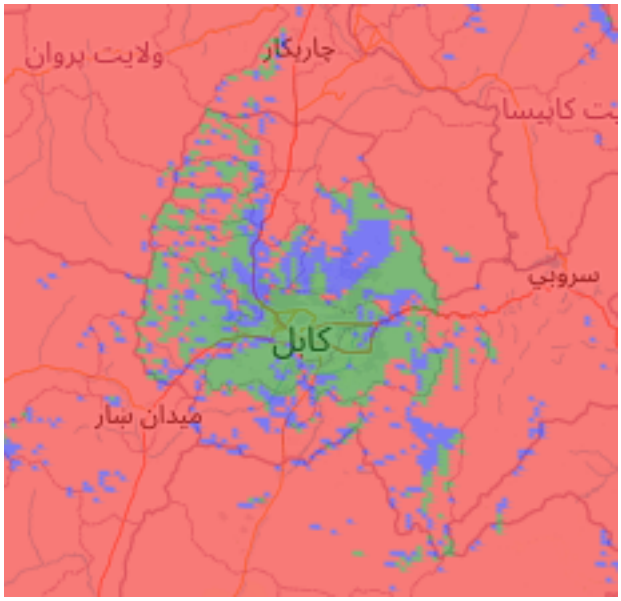


Figure 2.2 The image visualizes the approximate reach of the Taliban's radio tower in Kabul (centered) given that it is five meters high using the Longley-Rice irregular terrain model. The signal reaches areas shaded blue or green (which represent the ability to send/receive or just receive respectively).

### 2.4.3 Measuring Attitudes Towards the Taliban

I measure support for the Taliban using survey responses taken from the North Atlantic Treaty Organization's Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey. I analyze waves 39 and 40, which were fielded by the Afghan Center for Socio-Economic and Opinion Research (ACSOR). ACSOR employs over 1,000 Afghans and conducts face-to-face interviews when fielding the ANQAR survey. The ANQAR data is widely used by units within NATO along with its members to understand public opinion, social issues, and demographics in Afghanistan, particularly as they related to security concerns. The survey includes a battery of demographic controls along with questions that deal with social trust, political positions, media access, security issues, along with a number of other topics. It also asks a range of demographic and social questions, such as the respondent's education, language of choice, family size, etc. I use the following question that deals directly with an individual's opinion of the Taliban's strength:

- *Over the past 6 months, do you think that the Taliban have grown stronger, grown weaker, or remained the same?*

This question directly address respondents' opinions about the group itself and captures some of the broad dynamics of support regarding civilian-nonstate relationships about which extant research theorizes. I expect exposure to propaganda to increase positivity towards the Taliban on this dimensions. The question has three possible outcomes. It allows individuals to respond with *grown stronger, grown weaker, or remained the same*. I analyze this outcome with both continuous and dichotomous measures (where *grown stronger* = 1) and the results are consistent.

Of course, asking someone in Afghanistan about their support for the Taliban remains sensitive. This question should produce a conservative and downward-biased estimate of support for the Taliban because they *directly* inquire about the group. This is beneficial for my analysis. Respondents in Kabul are likely to feel expressing support or endorsing the Taliban is undesirable. This makes it *less* likely for me to find an effect that supports the stated hypothesis.

### 2.4.4 Control Variables

I control for a number of variables to mitigate the possibility of making invalid inferences. The results are consistent with and without their inclusion into the model. I control for respondents' income with a continuous variable with six values. ANQAR asks respondents if their family's monthly income falls into one of ten categories. I combine several to make roughly equivalent categories: '5,000 Afs or less [approximately 55 USD] or less', '5,001 to 10,000 Afs', '10,001 to 15,000 Afs', '15,001 to 20,000 Afs', '20,001 to 25,000 Afs', '25,001 to 40,000 Afs', and 'More than 40,000 Afs [approximately 520 USD]'. I also control for ethnicity, as that can be a predictor of attitudes towards the Taliban and the country's conflict. I use a categorical variable with three values: Tajik, Pashtun, and Other. Beyond that, I include a variable that captures the educational attainment of a respondent. This categorical variable has three levels: 'No formal schooling,' '1st to 12th,' and 'University or Higher.' I also control for age and its square along with the respondent's

gender. The survey provides 'Male' and 'Female' as the only two responses to a question regarding gender. Finally, I also control for the number of recent terror attacks by including the sum of attacks over the past 180 days. I use the Global Terrorism Database to generate this variable.

### 2.4.5 Model

Testing the relationship between attitudes and exposure to media or propaganda is difficult. Observational studies are often plagued by endogeneity and selection effects, as the choice to consume content, given its availability, is generally nonrandom. Data availability issues further compound this issue in the context of civil conflict studies. Indeed, measuring attitudes and plausibly random exposure to propaganda in the presence of political violence is a difficult task.

As discussed, I exploit the timing of the introduction of the Taliban's radio station in Kabul, which coincidentally occurred between two waves of the ANQAR survey, to identify its effect on civilian attitudes. Wave 39 occurred between February 25 - March 9 while wave 40 was implemented between May 15 - May 29. The Taliban started broadcasting their station in Kabul on May 5. These events produce survey data from two periods (pre and post the Taliban's plausibly random radio broadcast) for two different groups (radio listeners and non-listeners). This is consequently an ideal case for difference-in-differences (DiD). This quasi-experimental design compares outcomes between two groups over time, one that received some treatment and another that did not.

I provide the equation used in the main analysis below. $T_g$ is a dichotomous variable indicating whether an observation is a part of the treated group or not. As such, $T_g = 1$ indicates an individual with survey responses that suggest they listen to the radio. $P_t$ indicates the two periods of the study, pre and post the treatment of the Taliban's radio broadcast in Kabul. This variable consequently records whether an individual was part of either wave 39 and 40 of the ANQAR survey. $P_t = 1$ indicates that the individual was surveyed in Kabul during wave 40. $\beta_1$ is consequently the effect being in the two different groups and $\beta_2$ captures the effect of time. $\beta_3$ is. the coefficient on the product of these variables, or the DiD estimate of the treatment effect. $\zeta_4$ is a vector of coefficients on the control variables in $X_{gt}$. As detailed above, these include income, ethnicity, education, age,

age$^2$, gender, and the number of terror attacks over the past 180 days.

$$Y_{gt} = \beta_0 + \beta_1 \cdot T_g + \beta_2 \cdot P_t + \beta_3 \cdot (T_g \cdot P_t) + \zeta_4 \cdot X_{gt} + \varepsilon_{gt}$$

I adjust for the probability weights and account for the survey's design in the model. I also analyze the survey responses from Kabul as a subpopulation of the overall waves' responses. This calculates the standard errors appropriately given that only a part of the overall survey sample is included. However, the results are consistent when no adjustment is made and responses outside of Kabul are ignored in the analysis.

I estimate a series of models to test my hypothesis. As discussed, the outcome I analyze is a survey question asking respondents whether they think the Taliban is getting stronger. The question has three possible responses: *grown stronger, grown weaker, or remained the same*. I analyze the question using both continuous and dichotomous variables. I dichotomize the question such that the two lowest levels are in the reference category and the highest value is the other category. This makes sense, as the dichotomized variable measures whether the surveyed individual responded strictly positively and with no doubts regarding the Taliban's strength. I analyze the dichotomous outcome with both a linear probability model and logistic regression[11] and the continuous variable with linear regression.

### 2.4.6 Results

I provide the regression results that use the survey question that asked respondents whether they think the Taliban is getting stronger in Table 2.1. The difference-in-differences estimator is the product of *Post-Broadcast* and *Radio*. Model 1 reports the linear model results with the dichotomous outcome (not stronger or neutral, stronger), model 2 reports the logit model results with the same outcome, and model 3 reports the results using a linear model with the outcome treated as a continuous

[11] Some complications arise when estimating nonlinear DiD models (Athey and Imbens 2006). However, I provide these results for completeness.

variable. The coefficient on the DiD estimator is positive and significant in all models. This finding supports my hypothesis, which predicted exposure to rebel propaganda increases perceptions of a group's capabilities. Substantively, focusing on model 1, the introduction of Voice of Sharia is associated with a 9.7% higher probability that someone reported the Taliban is getting stronger instead of staying the same or weaker. Given that this increase is attributed to the effect of their radio program, and not on costly battlefield activity, this is substantial and meaningful.

Table 2.1 Is the Taliban Getting Stronger?

| | (1) | (2) | (3) |
|---|---|---|---|
| Outcome: | Dichotomous | Dichotomous | Continuous |
| Model | OLS | Logit | OLS |
| Post-Broadcast | 0.186*** | 0.766*** | 0.312*** |
| | (3.63) | (3.52) | (3.81) |
| Radio | -0.0279 | -0.114 | -0.0537 |
| | (-1.01) | (-0.98) | (-1.11) |
| DiD (Post-Broadcast × Radio) | 0.0972** | 0.414** | 0.165** |
| | (2.36) | (2.35) | (2.40) |
| Ethnicity - Pashtun | -0.0389 | -0.167 | -0.0657* |
| | (-1.61) | (-1.62) | (-1.73) |
| Ethnicity - Other | 0.0501* | 0.214* | 0.0878* |
| | (1.76) | (1.74) | (1.90) |
| Education - 7th to 12th | 0.0145 | 0.0623 | -0.0278 |
| | (0.67) | (0.68) | (-0.80) |
| Education - Uni or Higher | 0.0590** | 0.255** | 0.0177 |
| | (1.98) | (1.99) | (0.36) |
| Education - 1st to 6th | 0.0189 | 0.0802 | 0.00517 |
| | (0.58) | (0.58) | (0.11) |
| Income | 0.0115 | 0.0494 | 0.0226* |
| | (1.45) | (1.45) | (1.78) |
| Age | -0.000400 | -0.00191 | -0.000227 |
| | (-0.14) | (-0.15) | (-0.05) |
| $Age^2$ | 0.00000672 | 0.0000306 | 0.00000751 |
| | (0.19) | (0.21) | (0.13) |
| Female | 0.107*** | 0.455*** | 0.200*** |
| | (3.53) | (3.51) | (3.76) |
| $\text{Lagged Attacks}_{\text{sum(180 days)}}$ | -0.0125 | -0.0531 | -0.0253 |
| | (-0.58) | (-0.58) | (-0.76) |
| Constant | 0.851 | 1.504 | 3.050** |
| | (0.94) | (0.39) | (2.18) |
| Observations | 32382 | 32382 | 32382 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

### 2.4.7 Assessing the Model and Alternate Explanations

I provide five falsification tests of the difference-in-differences model to assess its assumptions and possible alternative explanations for the model's findings. Specifically, I first provide evidence that responses to the survey question I analyze in the main model evolved at constant rates across the groups studied (radio listeners and non-listeners) before the Taliban's radio introduction. These parallel trends are a crucial assumption of the difference-in-differences model. Second, I estimate a model with a placebo outcome– a survey question that should *not* have been affected by the introduction of the radio station. Third, I provide models estimated with additional survey waves beyond the immediate waves before and after the treatment. Fourth, I estimate models using alternate treatment and control groups (sometimes referred to as a placebo test). Fifth, I estimate models that change the timing of the treatment (also sometimes referred to as a placebo test). The results of all these results support the main model, providing additional evidence for my identification strategy.

#### 2.4.7.1 Parallel Trends

A key identifying assumption of the difference-in-differences model is that while the treatment and comparison group may exist at different levels of the outcome, they evolve at constant rates. If so, the comparison group provides a theoretical counterfactual as to how the treated group *may* have evolved in the *absence* of the treatment. Of course, we are unable to observe the counterfactual and therefore are unable to directly test whether the two groups would have continued to trend in the same way post-treatment. Instead, when multiple pre-treatment periods are available, it is appropriate to visually inspect their trends *within the pre-treatment period*. If they differ, perhaps because the comparison group increases while the treatment group decreases, then that is likely evidence against parallel trends. On the other hand, if they appear to evolve at consistent rates, the assumption may be supported.

I visualize these trends in figure 2.3 for the survey question analyzed in the main analysis

with all available ANQAR data. Waves 37 through 39 constitute the pre-treatment period, while waves 40 through 42 are post-treatment. As described above, the two groups (radio listeners and non-listeners) should have roughly parallel trends *before* the intervention for the assumption to be supported. The figure demonstrates both the treatment and comparison groups appear to evolve consistently.

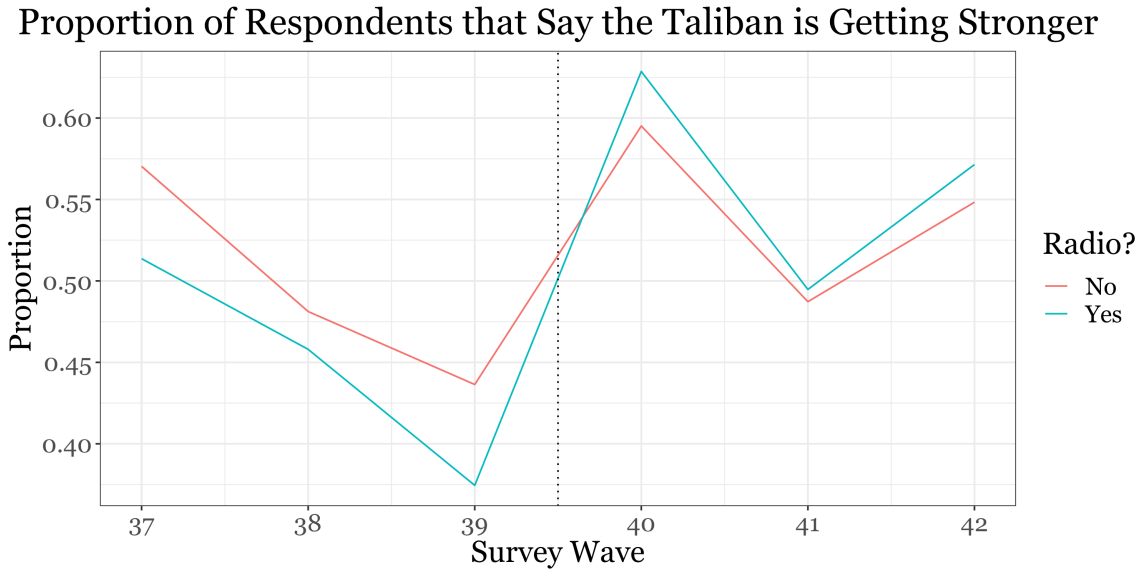


Figure 2.3 The figure displays the parallel trends of responses to the ANQAR survey question regarding whether the Taliban is getting stronger among radio listeners and non-listeners before the introduction of the Taliban's broadcast. The proportion of respondents that stated the Taliban is getting over the past six months is on the y-axis and the survey waves are displayed on the x-axis. The Taliban started their broadcast between waves 39 and 40, which is marked with a dotted line.

#### 2.4.7.2 Placebo Outcome

I next test whether questions from the ANQAR survey unlikely to be affected by the Taliban's radio broadcast are significantly associated with the treatment effect. If so, the parallel trends assumption might not be supported. I specifically examine a question that asks respondents how safe they feel when using the ring road, a historic national highway in Afghanistan that runs through Kabul and connects it to other major cities. There are five possible answers to this survey question: completely safe, mostly safe, a little safe, a little unsafe, and very unsafe. Consistent with the main analysis, I estimate models where the outcome is dichotomous (the three lowest categories = 0, the two highest categories = 1) and continuous. I provide the wording of the question below:

> *If you use the ring road, how safe do you feel using this road? Do you feel completely safe, mostly safe, a little safe, a little unsafe, or very unsafe?*

I provide the results from this analysis in table 2.2. The models are constructed in the same way as the main analysis. Again, the coefficient on the product of *Post-Broadcast* and *Radio* is the difference-in-differences estimator. A null finding provides no evidence against the model used in the main paper, whereas a significant finding suggests the setup might be flawed. As table 2.2 demonstrates, the DiD is insignificant across all the models. This provides additional support for the main difference-in-differences model and its comparison groups.

Table 2.2 How Safe Do You Feel Using The Ring Road?

| | (4) | (5) | (6) |
|---|---|---|---|
| Outcome: | Dichotomous | Dichotomous | Continuous |
| Model | OLS | Logit | OLS |
| Post-Broadcast | -0.0135 | -0.107 | -0.137** |
| | (-0.86) | (-0.87) | (-2.27) |
| Radio | 0.0344** | 0.234** | 0.189*** |
| | (2.08) | (2.02) | (3.48) |
| DiD (Post-Broadcast × Radio) | -0.0250 | -0.157 | -0.104 |
| | (-1.22) | (-1.04) | (-1.54) |
| Ethnicity - Pashtun | 0.00578 | 0.0411 | 0.0336 |
| | (0.44) | (0.43) | (0.82) |
| Ethnicity - Other | -0.00357 | -0.0256 | 0.00978 |
| | (-0.25) | (-0.24) | (0.21) |
| Education - 7th to 12th | 0.000412 | 0.00315 | 0.0217 |
| | (0.04) | (0.04) | (0.64) |
| Education - Uni or Higher | 0.0114 | 0.0808 | 0.0361 |
| | (0.79) | (0.78) | (0.85) |
| Education - 1st to 6th | -0.0186 | -0.145 | 0.00195 |
| | (-1.33) | (-1.30) | (0.04) |
| Income | -0.00308 | -0.0224 | -0.0104 |
| | (-0.72) | (-0.71) | (-0.74) |
| Age | -0.00307* | -0.0222* | -0.000139 |
| | (-1.77) | (-1.82) | (-0.03) |
| $Age^2$ | 0.0000341* | 0.000245* | -0.00000901 |
| | (1.67) | (1.73) | (-0.15) |
| Female | -0.0140 | -0.104 | -0.00393 |
| | (-0.86) | (-0.86) | (-0.07) |
| $\text{Lagged Attacks}_{\text{sum(180 days)}}$ | -0.000130 | -0.000973 | 0.00246 |
| | (-0.16) | (-0.15) | (0.95) |
| Constant | 0.240*** | -1.083** | 2.283*** |
| | (4.00) | (-2.46) | (12.89) |
| Observations | 31187 | 31187 | 31187 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

#### 2.4.7.3 Additional Waves

The main model employs the survey waves directly before and after the introduction of the Taliban's radio station in Kabul. I provide models in this section estimated using all available survey waves and demonstrate the results are consistent. Specifically, there are six waves of ANQAR that ask both the radio question and the question regarding whether the Taliban is getting stronger. Three were fielded before the broadcast and three were fielded afterwards. I provide the results in table 2.3. The DiD estimate is significant in all the models and positively signed, as expected. The substantive effect is also similar. Even with a larger number of waves both before and after the ANQAR survey, the results suggest exposure to the radio broadcast increased the probability that a respondent would report the Taliban is getting stronger by about 7.7%.

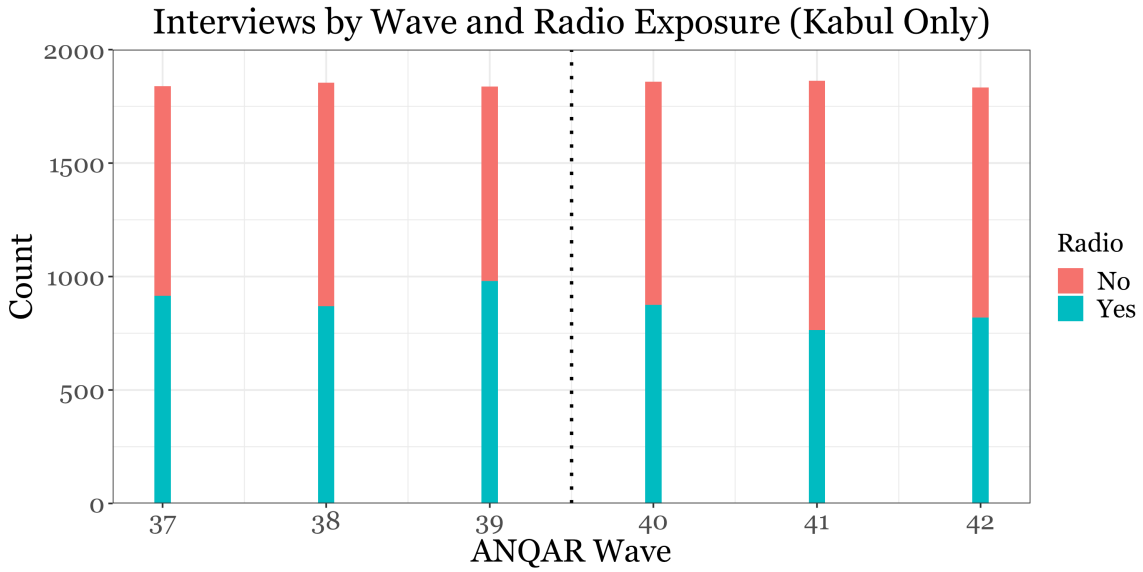


Figure 2.4 The figure displays the number of respondents in the ANQAR survey that reported they do/do not use the radio to get news and information. The dotted line represents the introduction of the Taliban's radio broadcast.

Table 2.3 Is the Taliban Getting Stronger? (All Available Waves)

| | (7) | (8) | (9) |
|---|---|---|---|
| Outcome: | Dichotomous | Dichotomous | Continuous |
| Model | OLS | Logit | OLS |
| Post-Broadcast | 0.0373 | 0.151 | 0.0567* |
| | (1.64) | (1.64) | (1.69) |
| Radio | -0.0346* | -0.139* | -0.0828** |
| | (-1.69) | (-1.67) | (-2.54) |
| DiD (Post-Broadcast × Radio) | 0.0774*** | 0.314*** | 0.155*** |
| | (2.94) | (2.93) | (3.83) |
| Ethnicity - Pashtun | -0.0130 | -0.0528 | -0.0352 |
| | (-0.85) | (-0.85) | (-1.51) |
| Ethnicity - Other | 0.0478** | 0.196** | 0.0762** |
| | (2.48) | (2.47) | (2.56) |
| Education - 7th to 12th | 0.00952 | 0.0390 | -0.0204 |
| | (0.72) | (0.73) | (-0.98) |
| Education - Uni or Higher | 0.0436** | 0.179** | 0.0281 |
| | (2.39) | (2.39) | (0.95) |
| Education - 1st to 6th | 0.00954 | 0.0388 | -0.0201 |
| | (0.56) | (0.56) | (-0.78) |
| Income | 0.00741 | 0.0302 | 0.0159** |
| | (1.58) | (1.58) | (2.08) |
| Age | -0.00143 | -0.00585 | -0.00208 |
| | (-0.77) | (-0.78) | (-0.70) |
| $Age^2$ | 0.0000207 | 0.0000846 | 0.0000296 |
| | (0.94) | (0.94) | (0.82) |
| Female | 0.0694*** | 0.283*** | 0.141*** |
| | (4.15) | (4.12) | (5.07) |
| $\text{Lagged Attacks}_{\text{sum(180 days)}}$ | 0.000862 | 0.00354 | 0.00248 |
| | (0.81) | (0.81) | (1.53) |
| Constant | 0.415*** | -0.349 | 2.098*** |
| | (5.95) | (-1.22) | (19.23) |
| Observations | 33355 | 33355 | 33355 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

#### 2.4.7.4 Alternate Treatment and Control Groups

I next estimate additional difference-in-differences models using fake treatment and control groups, sometimes referred to as a placebo test (Gertler et al. 2016).[12] I do this to provide evidence against the possibility that some unobserved event(s) occurred between waves 39 and 40 (when the broadcast began) that affected attitudes regarding the Taliban's strength among radio listeners specifically because they consumed any or more information regarding that event(s) or have richer knowledge of the conflict more broadly due to their access to information.

I employ two additional questions asked in the ANQAR survey about media consumption to do this: whether respondents get 'news and information about what is going on' from newspapers and from television. If some event/s occurred that affected radio listeners specifically, and not non-listeners, because they were exposed to more information about it, then we should observe a similar change in attitudes at the time of the Taliban's radio introduction among individuals that consume news from newspaper and television compared to individuals that do not. However, if the DiD estimate is insignificant in these additional models, this is evidence that the effect of attitude change during this period is because of differences in radio content *specifically* (e.g. the Taliban's broadcast) and not media consumption broadly.

I use the same procedure employed in the main analysis and estimate a difference-in-differences model that uses a dichotomous variable indicating whether individuals reported using newspapers or television to gather information and news. The results are contained in tables 2.4 and 2.5 respectively. The DiD estimates across all models in both tables are insignificant. Again, this suggests that the effect identified in the main model is *not* a function of media consumption regarding some unobserved event and is instead the result of *radio-specific* content (e.g. the Taliban's broadcast).

[12] I also perform a placebo test that alters the timing of the treatment (Chetty, Looney, and Kroft 2009). See table 2.6.

Table 2.4 Is the Taliban Getting Stronger? (Treated = Television Watchers)

| | (10) | (11) | (12) |
|---|---|---|---|
| Outcome: | Dichotomous | Dichotomous | Continuous |
| Model | OLS | Logit | OLS |
| Post-Broadcast | 0.238*** | 0.986*** | 0.398*** |
| | (5.32) | (5.12) | (5.63) |
| Newspaper | 0.0172 | 0.0707 | -0.0510 |
| | (0.44) | (0.43) | (-0.73) |
| DiD (Post-Broadcast × Newspaper) | -0.00128 | -0.00251 | 0.00385 |
| | (-0.02) | (-0.01) | (0.04) |
| Ethnicity - Pashtun | -0.0386 | -0.164 | -0.0628 |
| | (-1.59) | (-1.59) | (-1.63) |
| Ethnicity - Other | 0.0495* | 0.211* | 0.0855* |
| | (1.74) | (1.72) | (1.84) |
| Education - 7th to 12th | 0.0141 | 0.0605 | -0.0133 |
| | (0.64) | (0.64) | (-0.38) |
| Education - Uni or Higher | 0.0525* | 0.225* | 0.0305 |
| | (1.68) | (1.67) | (0.59) |
| Education - 1st to 6th | 0.0188 | 0.0797 | 0.00990 |
| | (0.58) | (0.58) | (0.21) |
| Income | 0.0120 | 0.0512 | 0.0226* |
| | (1.53) | (1.52) | (1.80) |
| Age | -0.000182 | -0.000801 | -0.000128 |
| | (-0.06) | (-0.07) | (-0.03) |
| $Age^2$ | 0.00000390 | 0.0000167 | 0.00000667 |
| | (0.12) | (0.12) | (0.12) |
| Female | 0.0967*** | 0.411*** | 0.183*** |
| | (3.48) | (3.46) | (3.84) |
| $\text{Lagged Attacks}_{\text{sum(180 days)}}$ | -0.0147 | -0.0625 | -0.0281 |
| | (-0.68) | (-0.68) | (-0.84) |
| Constant | 0.927 | 1.819 | 3.139** |
| | (1.02) | (0.47) | (2.25) |
| Observations | 32416 | 32416 | 32416 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

Table 2.5 Is the Taliban Getting Stronger? (Treated = Newspaper Readers)

| | (13) | (14) | (15) |
|---|---|---|---|
| Outcome: | Dichotomous | Dichotomous | Continuous |
| Model | OLS | Logit | OLS |
| Post-Broadcast | 0.352** | 1.515** | 0.587** |
| | (2.43) | (2.23) | (2.58) |
| Television | 0.0124 | 0.0536 | 0.0499 |
| | (0.13) | (0.13) | (0.31) |
| DiD (Post-Broadcast × Television) | -0.118 | -0.545 | -0.192 |
| | (-0.88) | (-0.87) | (-0.91) |
| Ethnicity - Pashtun | -0.0377 | -0.160 | -0.0646* |
| | (-1.54) | (-1.55) | (-1.68) |
| Ethnicity - Other | 0.0500* | 0.213* | 0.0854* |
| | (1.75) | (1.73) | (1.84) |
| Education - 7th to 12th | 0.0186 | 0.0801 | -0.0198 |
| | (0.87) | (0.88) | (-0.57) |
| Education - Uni or Higher | 0.0583* | 0.250* | 0.0192 |
| | (1.96) | (1.96) | (0.39) |
| Education - 1st to 6th | 0.0205 | 0.0875 | 0.00898 |
| | (0.64) | (0.64) | (0.19) |
| Income | 0.0118 | 0.0506 | 0.0233* |
| | (1.50) | (1.50) | (1.85) |
| Age | -0.0000740 | -0.000292 | -0.000127 |
| | (-0.03) | (-0.02) | (-0.03) |
| $Age^2$ | 0.00000241 | 0.00000983 | 0.00000707 |
| | (0.07) | (0.07) | (0.12) |
| Female | 0.0965*** | 0.410*** | 0.185*** |
| | (3.47) | (3.45) | (3.87) |
| $\text{Lagged Attacks}_{\text{sum(180 days)}}$ | -0.0139 | -0.0587 | -0.0273 |
| | (-0.65) | (-0.64) | (-0.82) |
| Constant | 0.877 | 1.599 | 3.051** |
| | (0.98) | (0.42) | (2.19) |
| Observations | 32416 | 32416 | 32416 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

#### 2.4.7.5 Alternate Timing of Treatment

Finally, I also estimate models that alter the *timing* of the treatment. This is known as a placebo test, as the model is estimated using a variable that codes a treatment that never occurred (Chetty, Looney, and Kroft 2009). A null effect provides additional evidence for the parallel trends assumption, as we should not observe a significant DiD between the comparison groups when no treatment was applied. I estimate two models that serve as placebo tests. The first alters the start of the timing of the treatment by t-1 (applied before the previous wave of the actual treatment) and the second alters it to t+1 (applied after the subsequent wave of the actual treatment). Other than changing the timing of the treatment, the models are otherwise identical to the main model. I provide the results in table 2.6. As expected, the DiD estimate is not significant in either model.

Table 2.6 Is the Taliban Getting Stronger? (Placebo Test)

| | (16) Q177 (Dichotomous) | (17) Q177 (Dichotomous) |
|---|---|---|
| $Placebo_{t-1}$ | -0.0104 | |
| | (-0.42) | |
| DiD ($Placebo_{t-1} \times$ Radio) | 0.0389 | |
| | (1.28) | |
| $Placebo_{t+1}$ | | -0.116 |
| | | (-1.11) |
| DiD ($Placebo_{t+1} \times$ Radio) | | 0.176 |
| | | (1.59) |
| Radio | -0.0252 | -0.0582 |
| | (-0.95) | (-0.80) |
| Pashtun | -0.0142 | -0.0583 |
| | (-0.92) | (-0.94) |
| Other | 0.0480** | 0.193** |
| | (2.45) | (2.43) |
| 7th to 12th | 0.00938 | 0.0396 |
| | (0.71) | (0.73) |
| Uni or Higher | 0.0443** | 0.183** |
| | (2.42) | (2.46) |
| 1st to 6th | 0.00969 | 0.0414 |
| | (0.58) | (0.61) |
| Income | 0.00735 | 0.0290 |
| | (1.59) | (1.55) |
| Age | -0.00128 | -0.00523 |
| | (-0.70) | (-0.70) |
| $Age^2$ | 0.0000194 | 0.0000789 |
| | (0.89) | (0.89) |
| Female | 0.0688*** | 0.278*** |
| | (4.11) | (4.08) |
| $Lagged\ Attacks_{sum(180\ days)}$ | 0.00189* | 0.00830* |
| | (1.87) | (1.65) |
| Constant | 0.387*** | -0.472 |
| | (5.32) | (-1.57) |
| Observations | 33355 | 33355 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

### 2.4.8 Exploring the Mechanism

Does the content of the Taliban's radio broadcast reflect the proposed mechanism – that the group convincingly promotes its strength and capabilities in its official media? I hired a research assistant[13] that lives in an area where the Taliban broadcasts the station to listen to the channel and assess what themes emerged.[14] I provide several direct quotes transcribed by the translator from the broadcast that illustrate the proposed mechanism. I consequently provide descriptive evidence from the Taliban's primary online news website that corroborates the findings from the radio station.

The research assistant, who is a freelance translator, listened to the station and reported that discussion of the Taliban's military activity and success was incredibly frequent. The Taliban reported losses they purportedly imposed on Afghan government and U.S. forces along with descriptions of the engagements. For example, after discussing a recent attack, the group stated that the "enemies [the Afghan government, the U.S.A.] must know that we will never neglect the stability of Islamic Emirate and will not give up building our military strength." Their online media presence focused on this theme as well. For example, the Taliban described an 'on-going' attack against the Afghan National Army and Afghan National Police, specifically against a string of check-posts, and claimed they had overrun the positions. More so, they claimed the assault resulted in the "killing and wounding [of] several puppets as well as destroying many vehicle, tanks and APCs while seizing a sizable amount of war spoils."

Similarly, the group describes an attack on a military convoy on May 1, 2021 that, they claimed, killed over 26 of "the enemy's" military personnel and wounded dozens more. They reported that the ambush destroyed an armored personnel carrier and that subsequent airstrikes killed a civilian woman and damaged homes in the area. They reported that on the same day in the Waghiz district of Ghazni province that the group successfully counterattacked against an assault on its position and killed 10 soldiers and destroyed two tanks.

[13] Additional information is available in the Chapter 2 Appendix.

[14] The Taliban does not provide an online simulcast unlike groups such as Hamas or Hezbollah. To my knowledge, no large-scale recordings and transcriptions of the station are available for systematic analysis.

These sorts of reports on the Voice of Sharia broadcast are cloaked in dramatic rhetoric about the group's grandiose 'struggle' to free the country. For example, on April 25, 2021 the program proclaimed that the "Mujahideen of the Islamic Emirate [Taliban fighters], who love religion and the homeland, liberated their beloved homeland from war, corruption, disintegration and aggression at the expense of their lives. This struggle to save our homeland continues!" These types of proclamations regarding the group's fight against the government are often associated with religious rhetoric as well. Indeed, the group quoted the following a verse from the Quran to start a program about their recent activities

> Prepare against them what you believers can of military power and cavalry to deter Allahs enemies and your enemies as well as other enemies unknown to you but known to Allah. Whatever you spend in the cause of Allah will be paid to you in full and you will not be wronged.
>
> Quran 8:60[15]

In sum, the Taliban regularly discuss their purported battlefield victories and detail, using 'newspeak' typical of respected media outlets, the events. They recite exact numbers of enemy soldiers wounded or killed in attacks and list captured military equipment to establish a sense of credibility. However, these accounts often appear exaggerated to experts or are unverifiable. Some could be fabricated entirely. Of course, the claims are very difficult to *disprove* though, even for experts. Reporting in rural areas of the country remains very scarce and battlefield deaths are difficult to measure in any context. This illustrates the civilian information disadvantage. Since these reports are not constantly refuted by mainstream outlets, nor would that likely be an effective counter-propaganda strategy, civilians estimate that these reports are accurate or even *somewhat* accurate. That dynamic allows the Taliban to reshape perceptions of the conflict and its position within it, regardless of how well their reports map onto actual events. For this reason, I expect

[15]I provide the Clear Quran translation by Dr. Mustafa Khattab. Voice of Sharia aired the Quranic Arabic.

possible exposure to the Voice of Sharia broadcast be effective at changing perceptions of the Taliban's strength.

I interviewed an Afghan journalist regarding the Voice of Sharia program as well.[16] He reported that the group uses the station to "constantly address and update [listeners] about all developments" and "shape narratives." Indeed, the journalist suggested that before the Taliban's media presence was not developed, that "the enemy could associate lies and fabrications about Taliban in broad daylight." The Taliban is now able to use its media and radio station to "refute the false claims of its enemies" and has "totally undermined the credibility of pro-Regime media and even their official spokesmen from [the Ministry of Defense] and other departments." The journalist addressed the tendency of the Taliban to spread reports of battlefield events as well, saying that after a major attack "the media tries to belittle its intensity and in early days would outright deny its occurrence, but now when Taliban releases evidences of its attacks the Kabul media is forced to acknowledge some of the truth." Finally, the journalist called the reintroduction of the station in Kabul a "remarkable" achievement by the Taliban.

[16] I conducted this interview online due to COVID-19. We spoke over Telegram, an encrypted communication service, during June 2021.

### 2.4.9 Conclusion

Civilian attitudes are essential to understanding civil conflict. Existing theories regarding how they develop contend civilians are concerned about *which* actor can give them *what* and *when*. However, the way in which civilians do this is underspecified. My theory argues propaganda is a key method for rebels to propagate information regarding their political platform and their capabilities to achieve it. This informs how civilians perceive their ability to provide for them and the timing in which they might be able to do so. I argue that civilians partly rely on propaganda to construct their attitudes because they suffer from an information disadvantage and are unable to accurately measure rebel strength and consume complete dispassionate reporting about events in the country. Because of this, rebel claims regarding their strength of narrative of events can be at least somewhat compelling. This can effectively increase positivity towards rebel groups and bolster their position relative to the government.

My analysis used a difference-in-differences model that exploited the sudden introduction of the Taliban's official radio station in Kabul in-between two survey waves to provide evidence for this theory. The results demonstrate that simply being exposed to rebel propaganda can measurably and meaningfully alter perceptions of a group's strength, independent of events on the battlefield. This suggests that the use of violence on the battlefield or against civilians is not necessary to change the public perception of a rebel organization. More so, credible reporting about rebel claims of strength in respected news outlets is not necessary. Instead, biased accounts of the conflict and unverifiable claims regarding a group's strength in their own propaganda are sufficient to move opinions regarding their ability to wage war, even relative to the government.

Of course, the results presented in this paper are limited to Kabul and a specific time period. However, Afghanistan is an ideal place for this type of study. The model assesses changes in attitudes in 2018, well after over a decade of fierce fighting. Even at this stage of the conflict, Taliban propaganda was still able to change the public's opinion of the group. The study's focus on a small time period – the difference before and after the radio's introduction – is also a strength, as

the DiD setup allows identifying the effect of possible propaganda exposure, a difficult identification problem during civil war due to measurement issues and endogeneity.

These findings suggest future research should further explore the way in which civilians collect and process information during conflict. It is possible that assuming civilians are capable of accurately gauging a rebel group's 'actual' capabilities and are aware of their past actions is overly simplistic. Again, existing research regarding civilian attitudes during conflict ignores the role of propaganda and conflicting information. Specific areas of future study might include testing the effect of counter-propaganda. Can displays of strength that misrepresent a group's strength or emotional rhetorical appeals during conflict be discounted with counter-messaging? Similarly, this study explores the role of media in a conflict with a single major rebel actor. Future studies could explore how civilians weigh and interpret propaganda in multi-party contests. Propaganda may explain Further, micro-level studies are necessary to understand the media consumption of individuals in conflict and how they balance that information with local rumors or gossip. Finally, disaggregating different types of messaging is also an important avenue of future research. Understanding what types of misinformation are effective with in the context of civil conflict will aid our understanding of civilian attitude formation and assist practitioners in fighting the negative effects on the ground.

# CHAPTER 3

# REBEL MEDIA DURING CIVIL WAR

Coauthored with Jakana Thomas, Associate Professor, University of California San Diego. We collaborated on the conceptualization of the project, but I executed it.

## 3.1 Introduction

Rebel groups involved in civil conflict seek to develop legitimacy as a political entity and simultaneously attempt to discredit the government's ability to govern (Podder 2014; Schlichte and Schneckener 2015; Duyvesteyn 2017; Kasfir, Frerks, and Terpstra 2017; Furlan 2020; Terpstra 2020). This struggle for the capacity to control society throughout space is a key feature of insurgencies (Kilcullen 2011). As such, rebels commonly implement elaborate apparatuses that provide the sorts of social services and provisions that governments typically provide their civilians (Stewart 2018, 2020). These can involve services such as education, healthcare, and transportation. Recent research regarding this dynamic demonstrates it is a key attribute of many civil conflicts and a critical strategy employed by rebels to develop legitimacy and achieve important outcomes (Heger and Jung 2017; Malejacq 2017; Terpstra and Frerks 2017).

At the same time, numerous strategic considerations sometimes provoke rebels to employ violence against civilians, even those they seek to govern (Hultman 2008; Wood 2010; Stanton 2013b; Thomas 2014; Schwartz and Straus 2018). Scholars demonstrate a myriad of circumstances might result in rebels deciding to trade some of their legitimacy for the ability to mete out violence (Kalyvas 2006; Berman and Matanock 2015). Rebels balance the effect that these potentially adverse events might have on attitudes towards them and the perceptions of their organization (Kalyvas 2006; Terpstra and Frerks 2017). Rebels also face external threats to their legitimacy. Namely, as civil conflicts are asymmetrical, governments often impose critical battlefield losses on rebels. This can result in difficulties recruiting new members (Eck 2014), the loss of material

resources (Wood 2014), and group fragmentation (Doctor 2020).

Existing research largely presents these events as having a somewhat deterministic effect on civilian perceptions of rebels. That is, after deciding to target civilians with violence for example, it is expected rebels will experience some damage to their reputation. We argue in this manuscript that rebel groups employ strategic messaging on their media channels in an attempt to counteract possible adverse reactions to events such as civilian killings or battlefield setbacks. By deploying this messaging approximate to events that could cause reputational harm, rebels attempt to limit potential sanctions for bad behavior and influence the narrative surrounding their battlefield setbacks. In doing so, we build on research that suggests reputation is a critical concern for rebel groups (Arves, Cunningham, and McCulloch 2019; Pechenkina and Thomas 2020)

Specifically, we collect an original dataset of the official social media channels on Telegram of four key groups involved in the Syrian civil war. Using regression analysis, we provide evidence that these rebel groups are more likely to publish propaganda when they are losing to the government, which we measure as events where the government takes territory from the rebels. We argue this is because rebels attempt to control a conflict narrative by distracting their audience when they are losing and the government is winning. To provide evidence for this in practice and explore the *sort* of propaganda rebels use to achieve this, we also provide two case studies. Both compare rebel propaganda directly before and after discrete events to explore possible variation in the content and consequently rebel messaging strategies.

Our first case study examines how Jaish al-Islam employed propaganda during the massive regime offensive against their stronghold outside of Damascus in April 2018. Jaish al-Islam lost about 15 battles and *all* of their territory in the area during the offensive. Their group and civilians under their control were 'banished' to rebel-held territory near Aleppo. During the offensive, Jaish a-Islam published propaganda that ostensibly provided evidence they were effectively fighting the Syrian regime, including images of dead government soldiers, captured weapons, and heavy artillery attacks on enemy positions. Of course, they were eventually forced to acknowledge the loss. However, they continued to provide a narrative that the organization could provide for civilians

that were under their control and displaced by the offensive. This supports our theory that argues the group attempted to reassure and distract their supporters with official media at this critical juncture in the conflict.

The second case study examines an event involving rebels targeting civilians in a territory they *want* to govern. This consequently directly explores the question of how rebels attempt to use media to gain legitimacy in light of unpopular actions. In June 2017 residents of Maarat al-Numan, Syria demonstrated against Hay'at Tahrir al-Sham, who controlled much of the province's territory but not that critical city, after they killed fighters from another rebel group and took the city by force. Fighters from the Hay'at Tahrir al-Sham responded by dispersing the crowd of protestors with gunfire and caused multiple civilian causalities. Whereas before the event Hay'at Tahrir al-Sham published evidence of their strong military organization, the group's official social media accounts posted pictures of the group's street cleaners, children receiving blood infusions at a clinic under their control, and bakeries preparing bread for Ramadan during the days after the events. Posts during this time included less military content and evidence of fighting. We argue this shift represents an attempt to *inform* the public about their governance activities and *distract* them from their targeting of civilians. They also released a lengthy official statement concerning the event and directly sought to address the reputational costs of their actions.

This article consequently makes several contributions to our understanding of civil conflict. Principally, we demonstrate that rebel groups employ propaganda surrounding events that could possibly damage their legitimacy. This suggests two important aspects of rebel strategy. First, consistent with recent research, it represents additional evidence that rebel groups are calculating actors concerned with their reputation and understand the consequences of ignoring the effect of adverse events on it. Second, we demonstrate rebels understand media can be an important tool that can be used *alongside* violence and battlefield losses to limit blowback. This suggests groups do not make decisions to target civilians and are not powerless when losing on the battlefield. Instead, their ability to construct narratives through their media and ostensibly provide evidence that contradicts mainstream accounts of the conflict likely factors into their decisions as to *what*

violence to commit and *when*.

## 3.2 Theory

### 3.2.1 Civilians and Conflict

Civilians are considered a civil conflict's "center of gravity" (Kilcullen 2011, 8). Not only is their support essential to stay in the fight and ultimately achieve victory, but civil conflict is a contest to determine who controls more than territory. It is ultimately a struggle over who controls civilians. Of course, civilians also provide vital information, material assistance, and political backing to belligerents during times of conflict. This support is essential to winning the conflict militarily. Recognizing this, a great deal of research considers the role of civilians in conflict and counter-insurgency (Berman and Matanock 2015). In particular, scholars are interested in how rebel groups gain and maintain civilian support on their path to legitimacy.

In order to secure this support during the conflict, rebel groups employ a variety of tactics. First, groups coerce civilians through the use or threat of violence. A great deal of research considers how the extent to which rebels rely on civilians determines their willingness to target them with violence. In particular, rebels use violent coercion when other incentives for cooperation, such as selective repression or social services, are not available (Wood 2010; Kalyvas 2006). This is especially likely when the rebels and government do not share the same constituency because the relative costs of targeting are lower (Ottmann 2017).

Second, groups also use non-violent means by directly assuming the role of a governing authority. This involves not only developing social services (Cunningham and Loyle 2021), but also creating institutions like justice systems (Loyle and Binningsbø 2018; Loyle 2021). While these are often costly programs, they benefit rebels in two ways. First, they increase civilian support by generating mutual dependence between the rebels and civilians along with generating empathy for the rebels. This increases the likelihood that rebels can access food, vital information about the conflict, and similar necessities (Weinstein 2006). Second, they increase the rebels' legitimacy

through the functional process of acting like a state and providing services that mimic that of a state (Stewart 2020).

However, as they work towards gaining and maintaining legitimacy as both a fighting *and* governing force, they typically encounter setbacks. Indeed, the functional process of gaining that authority can also threaten it. This is because using violence against civilians can provide immediate payoffs, but also sometimes threatens the public perception of a rebel group being able to credibly govern territory longer term. Similarly, in order to take the territory that is required to become a governing authority, rebel groups might commit atrocities or experience critical losses to the government or competing rebel groups. We examine the way in which rebel groups use media surrounding these sorts of events in order to distract from them or reframe them. In doing so, we draw on a large body of research that explores the role of media during conflict.

### 3.2.2 Media and Conflict

There is widespread recognition that the internet and social media are changing conflict (Zeitzoff 2017, 2018; Gohdes 2018). For example, Walter (2017) argues that internet innovations such as social media are driving the advent of "*new* new civil wars," referring to a claim by some scholars that wars approximately post-2003 are different than those before then (Kalyvas 2001), due to the ability of rebel groups to instantly communicate with supporters and engage with them online. Indeed, recent technological innovations supply rebels the power to publish media *concurrent* with their battlefield activity or *instantly* in reaction to specific events. Many online spaces ensure near-total privacy and anonymity, such as messaging apps like Telegram and Signal.

Research regarding the way in which rebels employ media focuses on a variety of strategic purposes. For example, Jones and Mattiacci (2019) demonstrate that rebels conduct diplomacy with states through their official public channels. Groups also use it to motivate external support by increasing sympathy and proceeding to encourage lone wolf attacks or cash donations. The Islamic State became particularly good at this on Twitter and effectively used non-supporters to spread their propaganda, which in turn increased exposure, lone wolf attacks, and fundraising (Benigni,

Joseph, and Carley 2017; Awan 2017). In doing so, groups use rhetoric and compelling visuals to attempt to legitimize their perspectives and platforms (O'halloran et al. 2019). More generally, Loyle and Bestvater (2019) provide an excellent descriptive account of what sort of things rebel groups discuss on social media along with the factors that predict social media adoption. They create a typology that focuses on messages related to mobilization, self-promotion, and operations and show the use of Twitter by rebel groups reflects these topics. Finally, Greene and Lucas (2020) use text-as-data methods to demonstrate that statements in official rebel media accurately tracks known attributes of and changes in the organization.

This body of research reveals three important dynamics related to civil conflict and media. First, rebels routinely create media apparatuses in order to publish and spread official content. This suggests these organizations see value in media and the ability to control an official mouthpiece. Second, rebel groups use these media outlets deftly. They adapt and vary their messaging to suit the tactical environment. Third, rebel media is not simply 'cheap talk.' It is the product of strategic choices and something that rebels appear to perceive is a useful tool. We build on these insights to develop a logic for how rebel groups use media during critical junctures of a conflict in an effort to gain and maintain support.

### 3.2.3 Rebel Media Strategies

Our theory departs from much of the existing work that examines the role of rebel media in relation to *external* audiences, such as states or foreign funders. Rather, we consider the ways in which the internet is employed strategically to appeal to civilians within a rebel's territory, the larger state, or their regional neighborhood. This is a less explored area of research within political science. Our focus is understanding how rebels attempt to use media to manipulate *local* attitudes and interface with their domestic audience.

We expect that rebels, in pursuit of their search for legitimacy, employ media in two principal ways. First, rebels use media to distract their audience from bad behavior. Rebels can deploy strategic messaging campaigns after behavior that could harm the perception of their organization

or threaten critical civilian support. As discussed, many rebel groups are *continually* providing social services or services typical of a government. We expect rebels to make these aspects of their organization and this activity especially salient when they risk losing support among their base or among civilians they are attempting to influence. By providing evidence of their ability to provide policing or judicial services, rebels can attempt to counteract the loss of legitimacy that is associated with behavior such as civilian targeting. This occurs by not only generating the raw positivity associated with demonstrating that their organization can provide essential services, but also by balancing the perception of their organization as aggressive with them as a capable governing authority. This provides civilians a justification for why they should accept the bad behavior of a rebel group.

Second, we argue rebel groups use media to shape perceptions of the military strength of their organization. In particular, we expect rebels to use media for this purpose when they are losing to the government. Since civil conflicts are asymmetric, this is a common position for rebels. Substantial losses of fighters or territory to the government pose a serious risk to rebels though. Civilians may be more likely to defect or less likely to provide material assistance as a result. We expect rebels to provide *claimed* evidence of their military capabilities, possibly through images of their armaments, reports of captured military machinery, and the like when they are losing to the government. We further expect rebels to use media to influence perceptions of their military strength by publishing content containing claims of imposing losses on the government and narratives of the conflict that center on their ostensible successes during these times.

Both of these strategies enable rebels to at least *attempt* to counteract possible blowback and loss of support stemming from crucial junctures of the conflict, such as massive losses on the battlefield. Consider that after losing territory to the government, rebels can remain silent *or* attempt to provide evidence that their organization is still capable of waging war against the government, even if they sustained a loss, to reassure their supporters. As such, we posit that rebel media is largely a tool of distraction. Rebels use it to redirect attention when it suits them, such as to losses they imposed on the government instead of their own setbacks. We do not explore the effect of media on

civilian attitudes or variation in that possible effect, but rather argue that rebel groups use media as being a tool they can deploy to address public concerns about their organization. Specifically, we hypothesize rebels post *more* propaganda when they are losing to the government. This represents an effort to spread their narrative of the conflict that reassures and distracts their supporters during critical periods of loss.

**Hypothesis 2** *Rebels increase media output when they are losing the conflict.*

## 3.3 Data

We collect an original dataset of official social media posts uploaded to Telegram, a popular social media outlet used by non-state actors due to its privacy and moderation policy, by rebel groups involved in the Syrian Civil War to test our hypothesis. We study Syria due to the centrality of social media and internet in the conflict (Lynch, Frelon, and Aday 2014). Reliable information regarding rebel group activity in the country is also available.

We identified a set of groups to analyze using the Armed Conflict Location & Event Data Project (ACLED), a popular event database that records information regarding battlefield engagements in Syria (Raleigh et al. 2010). We determined which rebel groups to include by identifying those with significant activity in the dataset, which we approximated as meaning relatively regular observations (at least one event a month)[1] and more than 30 events in total over the 15 months we analyze, which results in an average of two events per month. This resulted in approximately 10 distinct groups. We then attempted to identify whether those groups use Telegram in order to link their battlefield activity with their online messaging. We were able to identify four groups – Jaish al-Islam, Rahman Corps, al-Nusra Front/Tahrir al-Sham,[2] and Ahrar al-Sham – with active Telegram accounts, each of which we were able to verify as being official outlets, that are also present in ACLED's event dataset.

[1] This had little bearing on which groups were considered.

[2] al-Nusra Front merged with other groups to become Tahrir al-Sham so we combine the groups in our data.

This process of identifying groups did not select on certain types of groups due to their adoption of social media. Indeed, we identified more than 100 accounts across Telegram and Twitter attributed to various actors involved in the Syrian civil war.[3] Selection occurred due to needing accurate records across time about these groups' battlefield activities. As such, we acknowledge that our analysis likely selects on groups that are relatively mobilized and capable of sustaining military efforts against the government. This is a common feature of time-series analyses similar to ours due to various data limitations. However, we recognize our findings may be limited to relatively active and well-organized groups.

Indeed, the groups we study are relatively strong and well-equipped, at least in the context of the Syrian civil war. They are also generally Islamist organizations, but they do vary substantially in their political and social aspirations. For example, Tahrir al-Sham espouses a Salafi-jihadist ideology whereas Rahman Corps is much more moderate and does not include an Islamic Syrian state as part of their platform. The groups also vary in size, with Jaish al-Islam commanding approximately triple the individuals (approximately 23,500)[4] as Tahrir al-Sham (approximately 7,000).[5] The groups we study therefore not only typify common profiles of modern rebel groups,[6] but also reflect the considerable variation often observed between groups within conflicts. We consequently expect the findings from our analysis are likely to travel to other contexts, but are possibly limited to only established groups capable of seriously contesting the government.

### 3.3.1 Data Collection

We collect these groups' posts with the official Telegram application programming interface (API). We interact with the API through Telethon, an open source Python package created to assist with interfacing with Telegram. We download every post, including images, made by the accounts that

[3] Some of the accounts we identified were not active or used sparingly.

[4] https://cisac.fsi.stanford.edu/mappingmilitants/profiles/jaysh-al-islam

[5] https://www.brookings.edu/research/profiling-jabhat-al-nusra/

[6] For example, the FARC are estimated to employ about 15,000 people in 2016, down from a much higher number in the early 2000s (BBC 2016).

we analyze in our study.

We study the behavior of these groups on Telegram, instead of websites like Twitter, because it is one of the most popular platforms for rebel groups in Syria and because it employs an incredibly liberal censorship policy (Bloom, Tiflati, and Horgan 2017). Rebel groups, even those identified as being terror groups by the international community, are free to post virtually anything. Our data consequently represents an unmediated stream of communication from rebel groups to the public. Posts are a function of strategic considerations, not of content rules imposed by the platform. Rebel group accounts on most other websites, such as Twitter, are restrained by the content policies. Indeed, one of the groups we study (Tahrir al-Sham) migrated from Twitter and Facebook to Telegram due to their accounts being shutdown on those websites.

Perhaps because they do not fear being banned, most rebel groups active on Telegram maintain a small number of channels or a single official channel. Some rebel groups appear to strategically maintain a number of accounts on platforms like Twitter to preempt the negative effects of their account being suspended or banned. For example, the Rahman Corps, a group we analyze, has maintained as many as 10 official Twitter accounts while managing only one on Telegram. This allows them to quickly respond to Twitter banning one or more of their accounts by either switching to an inactive account that did not get banned or using them to promote their Telegram channel and new Twitter handles.[7]

### 3.3.2 Description of Telegram

We include an example of a post published by Jaish al-Islam displayed within the desktop Telegram app in figure 3.1 to illustrate the data in its original format. The post contains a body text, which we translate below, and the group's hashtag at the beginning (in English: #jaish_islam). We provide a professional translation of the figure's main text below to illustrate the content of a typical post. We collect data from the groups primary channels, all of which primarily use Arabic. If media arms

[7]Future research should consider the aspects of their messaging that they vary between outlets strategically, but that is out the focus of our analysis.

tailor their message to different constituencies, we can be confident that the Arabic channel is most likely used to target local audiences (Greene and Lucas 2020).


Figure 3.1 Telegram's desktop application interface displaying a post published on October 5, 2017 in Jaish al-Islam's channel.

> *Driving out all the militias under the command of Bashar al-Assad at Hawsh al-Dawaharah*
>
> *The forces of the Jaish al-Islam raided all of the sites of the militias under the command of Bashar al-Assad at Hawsh al-Dawaharah, eastern Ghouta. They managed to retrieve all of the points the militias gained control over during the previous few battles as a part of their comprehensive attack on Hawsh Al-Dawaharah 8 days ago that mainly targeted two fronts (Kazeyah al-Toot and Savco Pharmaceutical Lab). Throughout the battles between the two parties, 26 of the militia members were killed and 8 of the corpses were exhumed.*
>
> *The attack started last Tuesday night during which 25 soldiers were killed and two*

*vehicles broke down (a tank and a BMP respectively) and lasted till the next morning in order to execute a thorough perimeter sweep and secure the entire area.*

*Its worth noting that all the aforementioned is payback for all the attacks being carried out by Bashar Al-Assads militias in an attempt to gain control over Ghouta, and the intensive bombing of all eastern Ghouta's towns. The heroic efforts of the Army Of Islam will never stop and they're always right to sacrifice their lives for the sake of the sacred land.*

### 3.3.3 Rebel Groups in Syria on Telegram

The result of our data collection effort contains public channels managed by four groups involved in the Syrian civil war: Jaish al-Islam, Rahman Corps, al-Nusra Front (Tahrir al-Sham),[8] and Ahrar al-Sham. It covers January 1, 2017 through March 30, 2018 and includes 10,799 posts. Figure 3.2 visualizes the total number of posts by each group in the data. In order to understand the relationship between events on the battlefield with a group's social media strategy and activity, we match their Telegram data with events coded by the Armed Conflict Location & Event Data Project (ACLED) (Raleigh et al. 2010) involving them.[9]

[8] al-Nusra Front merged with other groups to become Tahrir al-Sham so we combine the groups in our data.

[9] We conducted a thorough review of the sources and notes of observations in the ACLED data and have no reason to believe our Telegram posts are the source of the ACLED events. ACLED relies principally on the Syrian Observatory for Human Rights to code their data, but some events are derived from platforms such as Liveuamap, which relies on open source information including social media accounts. However, there is no evidence Telegram was used in any systematic fashion by ACLED or its sources to code events. Of course, there will be natural overlap between the Telegram posts and ACLED events – the groups posting are the same groups fighting.

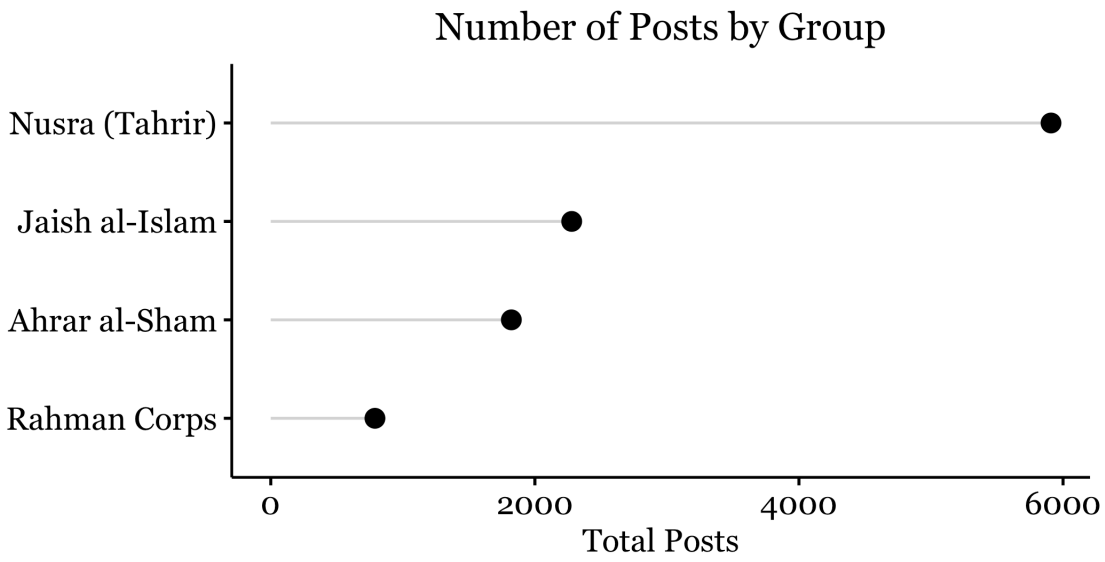


Figure 3.2 Total number of posts by the rebel groups in our analysis between January 1, 2017 and March 30, 2018.

## 3.4 Regression Analysis

Our first analysis examines the relationship between both battlefield deaths and events and rebel propaganda online. We assemble a panel dataset comprised of information regarding rebel activity in Syria to test our hypothesis. We use a group-week unit of analysis in the data, which covers 2017-2018. We aggregate daily posting activity and battlefield engagements to weekly observations since some time is necessary for a group's media personnel to broadcast information related to recent battles.

### 3.4.1 Outcome Variable

The outcome variable is a count of posts published on Telegram by the rebel group in their official channel. This directly measures the dynamics we theorize about; the intensity of their posting behavior. Since the outcome is a count, we estimate negative binomial and Poisson models. However, a chi-squared test of the Poisson model's goodness of fit along with the significance of the negative binomial's dispersion parameter suggests the latter model is more appropriate. We

include fixed effects for rebel groups and control for time by including cubic polynomials. We also cluster the standard errors on the rebel groups due to correlation within the clusters (rebel groups) of observations. We do not include additional controls because the group fixed effects account for variation between the groups that are a function of their individual features, such as group-level capabilities and organizational levels. The time controls flexibly model possible temporal dependencies in media output.

### 3.4.2 Independent Variables

Our key explanatory variable measures rebel losses to the government. We use the number of battles in which the government gained territory from a rebel group to capture this dynamic (*Government Gains*$_{t-1}$). We source this information from ACLED and lag it because losses at time *t* are likely to manifest in rebel media at time *t+1*. The variable does not code short-term gains, such as those that last a couple days, as regaining territory. The government or its allies must regain territory and effectively hold it. This allows us to directly test our hypothesis, which predicts rebel losses, governmental territorial gains in this case, increase rebel media output.

We include two additional variables as controls. First, we include a lagged number of battlefield fatalities resulting from engagements between a specific rebel group and the Syrian government (*Battlefield Fatalities*$_{t-1}$). Only a raw number of deaths that includes both sides is available. ACLED does not assign deaths to the parties involved in a specific event.[10] We contacted ACLED directly and they stated their reason for not differentiating the affiliation of the deceased is because of "challenges around accurately ascertaining the identity of the casualties in these contexts, inconsistent reporting on fatality breakdowns, etc." Second, we also include *Rebel Gains*$_{t-1}$, a measure of rebel territorial gains from the government, as a covariate. We lag this variable for the same reason as we lag the predictor of interest. It is likely that the effect of battlefield engagements on media output takes

[10]We considered using other sources of data, such as the Uppsala Conflict Data Program's (UCDP) Georeferenced Event Dataset (GED), but it records virtually no battlefield engagements between these groups and the Syrian government. Its focus is instead, in the Syrian case and among these specific groups, is on interactions between rebel groups.

several days to manifest. We do not have strong theoretical expectations concerning this variable, but expect rebel gains increase media output because it allows them to boast about their victories.

Data limitations prevent us from exploring the relationship between rebel media output and the targeting of civilians in a regression framework. We were unable to match information related the groups in our analysis to major datasets that record information on attacks directed towards civilians. Uppsala Conflict Data Program's Georeferenced Event Dataset records information for Syria (Pettersson et al. 2021), but contains no incidents of the groups we study targeting civilians during the timeframe of our analysis.[11] Similarly, the Global Terrorism Database contains events related to Tahrir al-Sham and records essentially[12] no events during our timeframe for the other groups in our analysis. Instead, we provide a case study in section 3.5.2 that explores the effect of targeting of civilians on rebel media *content*.

### 3.4.3 Regression Results

We provide the regression results in table 3.1. Recall that the outcome variable is a weekly count of the number of posts made by a rebel group. We argue this provides a measure of a group's overall media output and messaging intensity. Model 1 is a negative binomial model and model 2 is a Poisson. We provide both for completeness, but multiple statistical tests suggest the negative binomial is more appropriate.[13] *Government Gains*$_{t-1}$ and rebel post counts are significantly associated with each other. Increases in *Government Gains*$_{t-1}$ are correlated with rebels posting more propaganda on Telegram. This supports our hypothesis, which argues this is because groups use media to distract from these events and to provide evidence of their strength despite their losses. These findings are consistent across the negative binomial and Poisson models. However,

[11] The UCDP data contains information regarding these groups' intra-group conflicts, but no information related to one-sided violence.

[12] There are three attacks attributed to Jaish al-Islam.

[13] A chi-squared test of the Poisson's model goodness of fit allows us to reject the null hypothesis that the data follow a Poisson distribution. The negative binomial's dispersion parameter is also significant.

*Government Gains$_{t-1}$* is significant at the 0.10 level in the negative binomial model, whereas it is significant at the traditional 0.05 level in the Poisson model.

*Battlefield Fatalities$_{t-1}$* is negative and significantly associated with rebel post counts. This variable includes all deaths resulting from battlefield engagements between a rebel group and the Syrian government. So, bloodier battles are significantly correlated with less propaganda output online. These deaths are likely skewed towards the rebel side, but the data do not allow us to dissagregate deaths. Due to this, we refrain from making broad interpretations of this relationship.

There is no significant relationship between *Rebel Gains$_{t-1}$*, which records instances of rebels gaining territory, and rebel post counts either. This is somewhat surprising and might be because rebel gains within this time period were short-lived and ethereal. The Syrian government recaptured Aleppo at the end of 2016, when our data begin, and continued to capture large swaths of the country during the following years. For example, they captured Deir ez-Zor and Abu Kamal in eastern Syria in 2017 and made a push for Ghouta in 2018. More so, this period witnessed a substantial decline in the territory controlled by the Islamic State. On the other hand, rebel groups might be less affected by their victories than they are their losses. For example, Pechenkina and Thomas (2020) find that rebels do not make more demands for negotiations when they are winning, but only when they have lost territory. A similar dynamic could exist in their media when they are losing.

Table 3.1 Regression Results

| | (1) NegBin Post Count | (2) Poisson Post Count |
|---|---|---|
| Government Gains$_{t-1}$ | 0.0362* | 0.0261*** |
| | (1.70) | (2.73) |
| Battlefield Fatalities$_{t-1}$ | -0.00258*** | -0.00227*** |
| | (-6.17) | (-4.90) |
| Rebel Gains$_{t-1}$ | 0.000468 | -0.00513 |
| | (0.04) | (-0.75) |
| Post Count$_{t-1}$ | 0.00856*** | 0.00705*** |
| | (4.89) | (4.85) |
| Constant | 2.409*** | 2.561*** |
| | (11.56) | (8.45) |
| Time Controls | Yes | Yes |
| Group Effects | Yes | Yes |
| Observations | 275 | 275 |

*t* statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

We generate predictions to understand the substantive effects of this finding. We do this using the observed value approach to estimate the average effect in the population, not the effect on an average observation (Hanmer and Ozan Kalkan 2013). Specifically, we sample the distributions of the coefficients in the negative binomial model 1,000 times. We then multiply each set of coefficients with profiles of the data that vary the key independent variable (*Government Gains$_{t-1}$*) between its 10$^{th}$ percentile and 90$^{th}$ percentile, but are otherwise unchanged. The 10$^{th}$ percentile represents zero, so the substantive effects we estimate are at *no* deaths or government gains and *high* levels of deaths or government gains.

Figure 3.3 displays the results of this process. During weeks following no government territorial gains from the rebels, the model predicts approximately 37 posts. However, after substantial government gains, the model predicts an increase to 43 posts (significant in a two-sided test with an alpha of 0.10). Our theory suggests this is because rebels understand the importance of promoting

their organization during such pivotal moments and publish information about their military strength and social engagement to reassure their supporters.

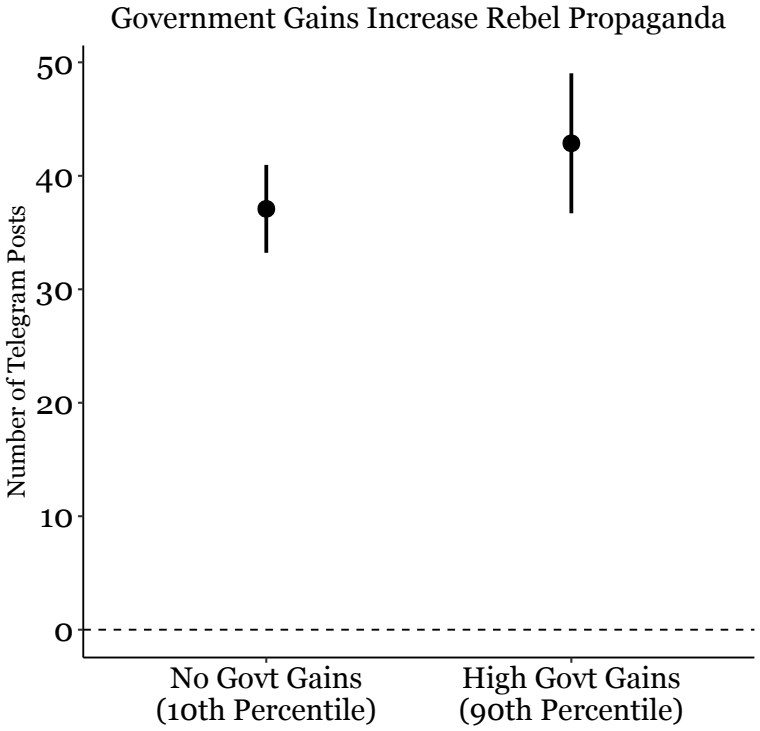


Figure 3.3 Predicted Telegram posts across no and high government territorial gains from the rebel group.

## 3.5 Descriptive Analyses

Our regression analysis demonstrates rebel media output increases when they are losing. However, the model examines correlation between posting patterns and territorial loses, not evidence for groups using media as a tool of distraction. We leverage two case studies to explore how rebel media *content* changes surrounding events critical to rebel groups.

Our first case study explores the use of rebel media surrounding a sudden government offensive that resulted in a group losing its stronghold, consistent with our main hypothesis. The group, along with the civilians under their control, were banished to the other side of the country. We expect the group to focus on their military strength during this offensive to reassure their supporters

they are capable of combatting the government.

Our second case study scrutinizes media before and after a rebel group targeted civilians protesting their behavior in a key strategic city. Consistent with our theory of propaganda as a tool of distraction, we expect the group to emphasize their capacity to govern and highlight their social services in other parts of their territory. More so, we expect them to deemphasize their military strength in order to make the attack on civilians less salient. This case study enables us to explore the relationship between civilian targeting and propaganda, which we were unable to do in the regression analysis due to data limitations.

We examine not only the textual propaganda the groups published, but provide a range of the images from their Telegram accounts that accompanied posts as well. Our descriptive analysis consequently enables us to leverage multiple types of data in unison, which is the way in which the propaganda is communicated to civilian populations (Loken 2021).

### 3.5.1 Jaish al-Islam: Propaganda and Battlefield Losses

Jaish al-Islam ('the Army of Islam') is an Islamist anti-regime rebel group in Syria. It formed as a result of a merge between Liwa al-Islam ('the Brigade of Islam'), an organization of nearly thirty groups led by Zahran Alloush, and about twenty other groups in Ghouta, the countryside surrounding Damascus. The group's creation was remarkable, as it deposed the Free Syrian Army as the primary anti-regime group in the Damascus area. The area was contested at the time and the conflict threatened Assad's control of the capital. Alloush and Liwa al-Islam were even able to assassinate Assad's brother-in-law and several key security officials in a bombing of the National Security Bureau's office in Damascus in 2012.

The group joined an umbrella organization (the Islamic Front) shortly after forming along with several other groups in order to facilitate cooperation between Islamist groups. The resulting organization employed one of the largest numbers of fighters in the country. Alloush, Jaish al-Islam's leader, was the military commander. However, the organization fragmented quickly as rebel groups, which acted as 'brigades' in the Islamic Front, defected to other alliances. Jaish al-Islam

functioned as an independent entity by early 2015. Alloush and a number of other commanders were killed in a targeted strike in late 2015. The group continued its fight around the country, particularly in Ghouta from its center in Douma, until 2018. The government successfully pushed them out of the region and retook their territory during April 2018 in one of the 'most intensive operations' of the entire conflict.[14] The operation culminated a siege of the area that lasted approximately six years and stranded hundreds of thousands of non-combatants in a small area with rebel groups largely governing them.

We analyze the propaganda that Jaish al-Islam released during the weeks surrounding the historic operation against them and their subsequent loss of their headquarters and territory. Their retreat from the area represented a dramatic and perhaps final blow to their legitimacy as a force that could contend with the government. However, while Jaish al-Islam lost its territory surrounding the country's capital and its ability to wage war directly against the regime in the capital, the group continued its operations and moved to Aleppo in northern Syria. They are active as of June 2021. As such, the regime's rapid takeover of their base in Ghouta and the group's sudden loss of territory provides an excellent context to study how rebel groups employ media during periods of major setbacks.

To study this, we examined all propaganda released by Jaish al-Islam during the two months prior to the offensive in Ghouta and the months after the government retook the area. Several themes characterize these two periods. First, the group clearly sought to project strength online during the battle with the regime in Ghouta, even as it was clear they would lose their territory there. Second, in the weeks after their loss, the group released a series of official statements, averaging one every other day for two weeks, ostensibly to change the narrative of their loss and create a more favorable account of the event. Third, the group's media production decreased in the months following the engagement. The propaganda they did release immediately following the loss emphasized their military strength and content released later used activities like building a new

[14] https://www.cnn.com/2018/04/12/middleeast/eastern-ghouta-retzaken-by-syria-intl/index.html

base to project a sense of order and continued sophistication.

We begin our discussion of these dynamics by detailing the group's use of propaganda before the fall of Ghouta. Recall that these posts were published during an offensive that ended a six year siege of the area surrounding Jaish al-Islam's headquarters. The Assad regime began intensifying operations against the group during the beginning of 2018 and Jaish al-Islam responded by providing evidence of their military strength and committing to waging effective war against the government. For example, figure 3.4 contains two images attached to the same post on February 22, 2018. The images depict a missile on a mobile launcher that is emblazoned with Jaish al-Islam's logo, which is a stylized version of their name in Arabic. The first image shows the missile ready to fire, ostensibly towards a position held by the regime. The second image shows it successfully launching.

The text of the post[15] associated with these images is both aggressive to the regime and sympathetic to the group's civilian supporters. Jaish al-Islam recognizes that their 'family' is 'grieving' - referring to individuals in the besieged area of Ghouta that they govern - and pledges to never stop fighting the government. Indeed, the group states that their swords [guns] will never return to their sheaths. They also assure their audience that victory is near, a dangerous commitment given the tide of the conflict at this time. The group then addresses al-Assad and assures him that punishment is coming for his 'wicked actions' and that God will be victorious.

[15]We provide professional Arabic-English translations of the text in all the images we examine.

Figure 3.4 February 22, 2018 - Both of these images were attached to a post which read: *To our grieving family... Our swords will never know their sheaths. We strengthened our bonds with our brothers and will never stop fighting. You give us strength and we will rejoice together in the victory that is near. To the criminal butcher [Bashar al-Assad]... Escalation will be followed by escalation, so taste the coming punishment for your wicked actions. Know that God is victorious..*

Posts surrounding this date contain similar messaging. As fighting against their headquarters intensified, Jaish al-Islam opted to directly address their civilian backers and individuals under their control. They attempted to assure them that they were aware of their struggles, had the capability to effectively fend off the regime, and that Assad would be brought to justice for his activities in Ghouta. By associating these messages with evidence of advanced missile capabilities, Jaish al-Islam is attempting to add credibility to their claims.

Indeed, Jaish al-Islam continued to provide evidence of their military strength during the following days as fighting escalated. For example, figure 3.5 displays an image shared on February 23 and depicts an individual shooting what appears to be a howitzer, a type of artillery. The image claims the howitzer is targeting pro-Assad militias. The group named the operations against the regime during this time the 'Anger Campaign' in recognition of the hardships that civilians living in the besieged areas of Ghouta were enduring. Of course, in doing so the group attempted to substantiate that they were party to the same anger, rather than possibly being complicit in facilitating it.

Similarly, on February 26, they released an image of weapons they claimed to have captured

after a militia associated with the regime attacked their position in Ghouta. Figure 3.6 shows this image contained heavy machine guns and rocket propelled grenades alongside rifles. This image and the accompanying text allows Jaish al-Islam to ostensibly provide evidence that they are effectively combatting the regime and fulfilling their pledge to achieve a victory for their supporters and individuals living in their territory.


Figure 3.5 February 23, 2018 - Caption: *Daraa: Targeting the positions of al-Assad's militias in the city of Daraa, as part of the 'Anger Campaign' in Ghouta*


Figure 3.6 February 26, 2018 - Caption: *Damascus Countryside: The spoils of the Jaish al-Islam rebels today after an al-Assad militia attempted to storm Eastern Ghouta today.*

Attempts to provide evidence of their victories and ability to fulfill the public commitments they made were not limited to displaying the spoils of war. Indeed, on February 27 the group published an image (figure 3.7) of a large pile of dead individuals, some obviously mutilated by bullets. They claimed to have killed more than 40 members of pro-regime militias in an area southeast of Douma. The group released a similar image a couple days later, shown in figure 3.8, this time with bodies strewn about a defensive trench and an individual holding up a Jaish al-Islam flag over them.


Figure 3.7 February 27, 2018 - Caption: *More than 40 dead members of al-Assad's gangs today on the Hawsh al-Dawaharah front.* We added blurring and the white box due to gore in the image.


Figure 3.8 March 1, 2018 - Caption: *Dead members of Assad's militias from a counterattack on their positions in the Hawsh al-Dawaharah front.* The fighter is holding a flag with Jaish al-Islam's logo.

The group concurrently began releasing images that suggested they were well-organized and strategizing a response to the mounting pressure by the regime to vacate Ghouta. They provided a number of images that depicted commanders meeting together, gesturing to maps, etc. On March 1, as the regime's push intensified, they released the image in figure 3.9 that shows what appears to be much of the groups top-tier leadership in the area, together in a meeting discussing the regime's offensive. Posts like these during March portrayed a sense of order and strategy alongside the media they concurrently released depicting their strength and claimed battlefield success.


Figure 3.9 March 1, 2018 - Caption: *Damascus Countryside: Meeting of the leaders of Jaish al-Islam in eastern Ghouta.*

However, this messaging did not change even as the group began to clearly lose to the government. Jaish al-Islam continued their strategy of sharing details and purported evidence of battlefield success. We expect this was because they sought to at least maintain an illusion of hope that the government would not retake Ghouta and drive the rebels from the area, which would possibly signal and end to the existential threat the rebels posed to the regime. Posts like those in figure 3.10 demonstrate this. They posted identification cards they claimed were taken from regime soldiers they killed in Ghouta. In late March, as the government had retaken swathes of Ghouta from the rebels, Jaish al-Islam persisted in claiming victories against Assad.


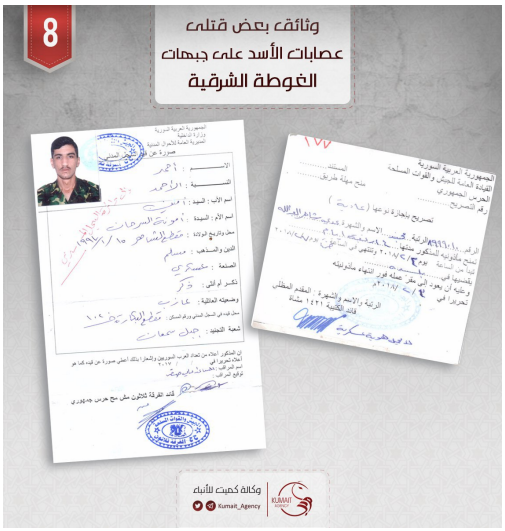


Figure 3.10 March 22, 2018 - The captions of both images read: *Documents of some of the dead al-Assad gangs on the eastern Ghouta fronts*

They also sought to continue their messaging that emphasized their understanding of the suffering and experience of civilians in the area. In late March, just over a week before evacuating Ghouta and retreating to Aleppo, Jaish al-Islam posted a series of images depicting life in their stronghold of Douma for local residents. Figure 3.11 displays one of these, which centers on the group's leader and shows him walking in a crowd of civilians, including kids and toddlers. The caption explains that the leader and his deputy toured the neighborhoods of Douma. We expect his confidence to appear publicly during the regime's major offensive and mingle with residents was intended to convey Jaish al-Islam's compassion and strength.

The group continued to tout its victories and military strength into late March and during early April. Recall that they clearly had lost the conflict during the first week of April and agreed to evacuate on approximately April 8. On March 29 they released several infographics, two of which we provide in figures 3.12 and 3.13, that detailed the number of planes, artillery, and other military machines they claimed to have destroyed or damaged over the past week. This included almost twenty tanks, two drones, and multiple fighter jets.


Figure 3.11 March 28, 2018 - Caption: *Damascus Countryside: A tour of the leader of the Jaish al-Islam and his deputy, in the neighborhoods of Douma with its residents*


Figure 3.12 March 29, 2018 - Caption: *"The outcome of Jaish al-Islam's battles against al-Assad's gangs between 18-02-2018 and 25-03-2018" and lists the claimed number of military armaments and machines destroyed or damaged during that time by the group.*


Figure 3.13 March 29, 2018 - Caption: *"The outcome of Jaish al-Islam's battles against al-Assad's gangs between 18-02-2018 and 25-03-2018" and lists the claimed number of planes destroyed or damaged during that time by the group.*

On approximately April 8, the group agreed to evacuate its soldiers and transport the civilians that wanted to stay with them to northern Syria close to Aleppo. Of course, this represented a landmark victory for the regime and was a pivotal moment in the conflict. Jaish al-Islam's media strategy clearly pivoted after this event. Several new dynamics emerged. First, the group began to post less. This conforms to the regression analysis presented earlier, as government territorial gains increased Jaish al-Islam's media activity. They posted about 150 messages in February and March, then only 50 in April and 27 in May. Second, the group published a great deal more official statements. During the month after evacuating to the north, the group posted twelve statements that detailed their efforts to remain in Ghouta, their fight against the regime, atrocities committed by their enemies, etc. During the *two* months prior to the evacuation they only posted three such statements (see figure 3.14). This suggests they believed that clear communication on their official channels could help shape the narrative of their loss and assuage concerns over the group's loss of military power. Third, the group used media during the following weeks and months to appear connected and empathetic to the civilians that evacuated with them. For example, the group released a series of images days after they left Ghouta that depicted the group's leader mingling among the refugees and listening to them (see figure 3.15).

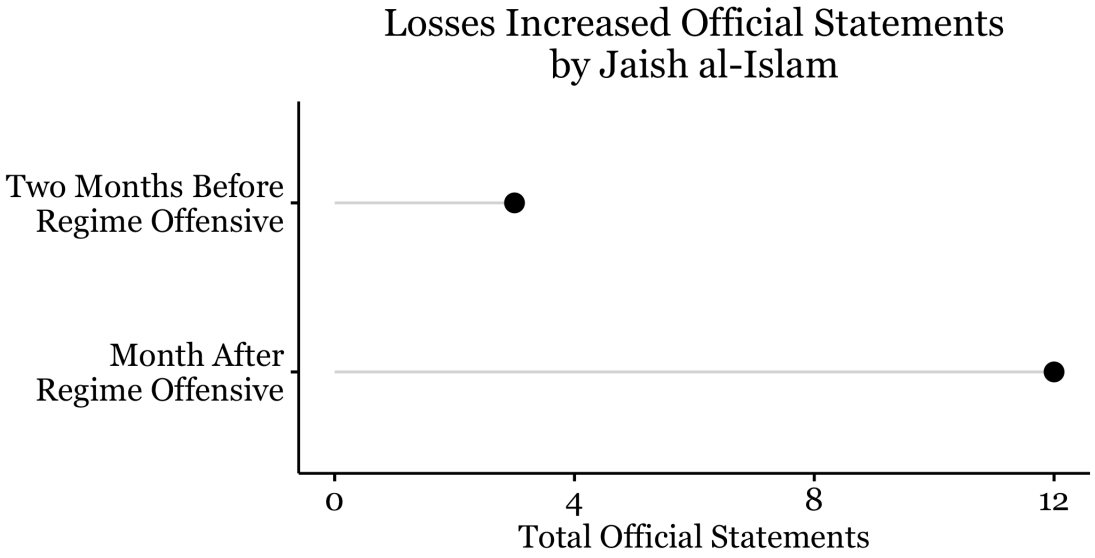


Figure 3.14 Official statements released by Jaish al-Islam during the *two* months before and the month after the regime offensive.

The use of media during the fall of Jaish al-Islam's stronghold outside of Damascus illustrates that rebels use media strategically during periods of losses to the government. Namely, Jaish al-Islam attempted to demonstrate that the group imposed losses on the government during their offensive and that they presented a legitimate counterattack to the operation. In doing so, they tried to preserve the perception that they were a capable fighting force despite suffering a massive loss. During the weeks following, the group used their media channel to speak directly to their supporters for the same end.



Figure 3.15 April 17, 2018 - Jaish al-Islam's leader is centered in both images. The captions of both images read: *The commander of Jaish al-Islam visited the Zughra camp in the northern countryside of Aleppo hosting displaced people from eastern Ghouta.*

### 3.5.2 Hay'at Tahrir al-Sham: Propaganda and Civilian Targeting

Hayat Tahrir al-Sham (Organization for the Liberation of the Levant, henceforth Tahrir al-Sham) is a rebel group in Syria and is on the United States' list of Foreign Terrorist Organizations (FTO).[16] The group emerged in 2011 at the beginning of the Syrian civil war as Jabhat al-Nusra, an al-Qaeda affiliate. It grew quickly and demonstrated considerable military capability through a series of high-profile terror attacks and battlefield engagements. The group rebranded as Jabhat Fatah al-Sham in 2016 and stated that it no longer had any external ties to al-Qaeda. However, a number

[16]Tahrir al-Sham is a successor of Jabhat al-Nusra, which the US includes on the FTO list even after the group changed it's name (https://www.state.gov/foreign-terrorist-organizations/).

of analysts speculated that Tahrir al-Sham maintained a relationship with the group. The next year it merged with several other Syrian rebel groups and formed Tahrir al-Sham.

We analyze the propaganda Tahrir al-Sham released surrounding a protest on June 8, 2017 against the group in the Idlib Governorate that escalated and resulted in live fire against protestors and civilians on several occasions. The protest took place in Maarat al-Numan, a sizable city in northern Syria. Maarat lies on a strategic highway, the M5, that connects Aleppo and Damascus along with the major cities between them. It constitutes the country's most important transportation conduit and, beyond its large population, is therefore a strategic point of control for rebels in northern Syria.

Tahrir al-Sham controlled significant portions of the Idlib Governorate in 2017. Indeed, the group is based there and focused its efforts on consolidating territory in Idlib in order to form a proto-state in the area. We provide a visualization created by the Middle East Institute[17] that depicts Tahrir al-Sham's (called 'HTS' in the figure) territorial control during June 2017 in figure 3.16. Light red denotes areas that the Syrian regime controlled, light green shows the same for non- rebel groups, and shades of purple represent areas that Tahrir al-Sham controls. The group had at least a moderate presence in every major city in Idlib (Jisr al-Shughour, Idlib, Sarmada, etc.) *except for* Maarat.

[17]Reprinted with permission.

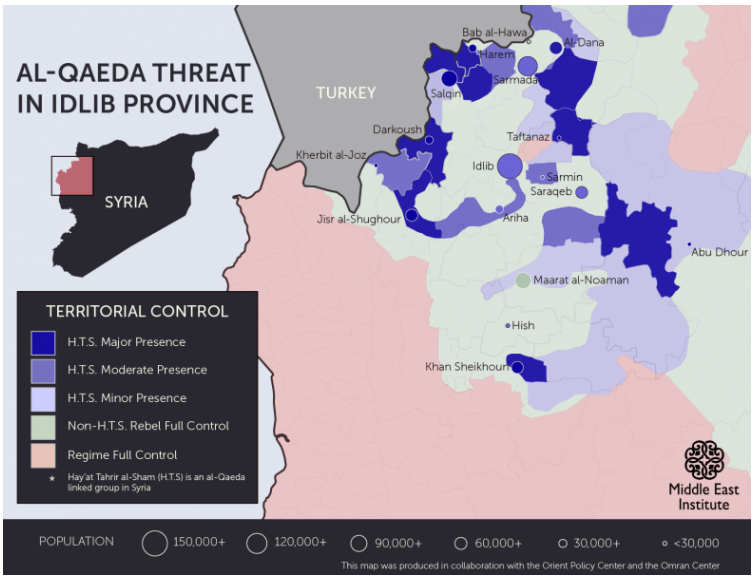


Figure 3.16 Territorial control of Idlib (northwest Syria) in June 2017.

The city was largely controlled by Division 13, a moderate group associated with the Free Syrian Army that enjoyed a great deal of support in the city and maintained its headquarters there. Tensions between Tahrir al-Sham and Division 13 were high, as they clashed several times throughout late 2016 and early 2017 as Tahrir al-Sham, expanded its territory. On June 6, 2017 Tahrir al-Sham began fighting in Maarat with Sham Legion, another rebel group located in the area. Division 13 joined the engagement against Tahrir al-Sham. Tahrir al-Sham not only fended off Division 13 and Sham Legion, but also captured both of their headquarters in the area and took control of the city militarily.

Figure 3.17 Residents of Maarat al-Numan protest Tahrir al-Sham taking control of the city in June 2017.

Residents of Maarat and smaller cities in the area responded by protesting against Tahrir al-Sham. They organized marches in Maarat and gathered in the main square while chanting slogans that objected to Tahrir al-Sham's behavior and control of the city. Tahrir al-Sham subsequently called for the complete disbanding of Division 13 as well, which enjoyed a great deal of support in Maarat. We provide a screen capture from a video of one of the the protests again Tahrir al-Sham that resulted from these events in figure 3.17. Fighters from the group at several different locations in the city during these protests responded by firing at unarmed civilians. This inflamed tensions even further and created a row between the group and civilians in the area, which was a strategic point of control for the group.

We examine how Tahrir al-Sham employed propaganda to gain support in the larger area in the context of these events. We begin by examining the propaganda they released before the engagement with Division 13 and subsequent military takeover of Maarat. They posted frequently in late May and early June, the weeks leading up to the events in Maarat, about their efforts to patrol the edges of the areas they captured from the regime. For example, figure 3.18 contains two images of fighters in a small city west of Aleppo. Both depict individuals that appear focused and well-equipped to surveil and defend the area around their post. These images represent the messaging Tahrir al-Sham employed during the weeks before the event that demonstrated their military strength.

They projected a sense of organization and used professional photography to capture moments on the edges of their territory that suggested they had the capability to hold it against a possible assault from the regime. Indeed, the images in figure 3.19 reinforce the perception that the group is well-armed. The image on the left depicts a heavy machine gun peering through an embrasure with belt-fed ammunition ready to be discharged. The other image depicts armed individuals clearly meant to appear attentive and ready for possible engagement.


Figure 3.18 May 28, 2017 - Both captions read: *Mujahideen of Tahrir al-Sham on the front of Swehneh west of Aleppo.*


Figure 3.19 June 3, 2017 - Both captions read: *Mujahideen of Tahrir al-Sham on the front of Swehneh west of Aleppo.*

Of course, the military strength these images were meant to project clashed with the narrative that Tahrir al-Sham employed after the events in Maarat. After June 8 they shifted their focus to detailing social services they were providing to civilians under their control. This makes sense, as their engagement with Division 13 in Maarat and subsequent takeover of the city only appeared to reinforce perceptions in the city that the group was radical and not a group that could effectively

govern. The change of strategy was obvious, as the group published approximately 29 posts including images that reflected their military strength or activities during the month before the events in Maarat and only 9 during the month after them. We visualize this difference in figure 3.20.

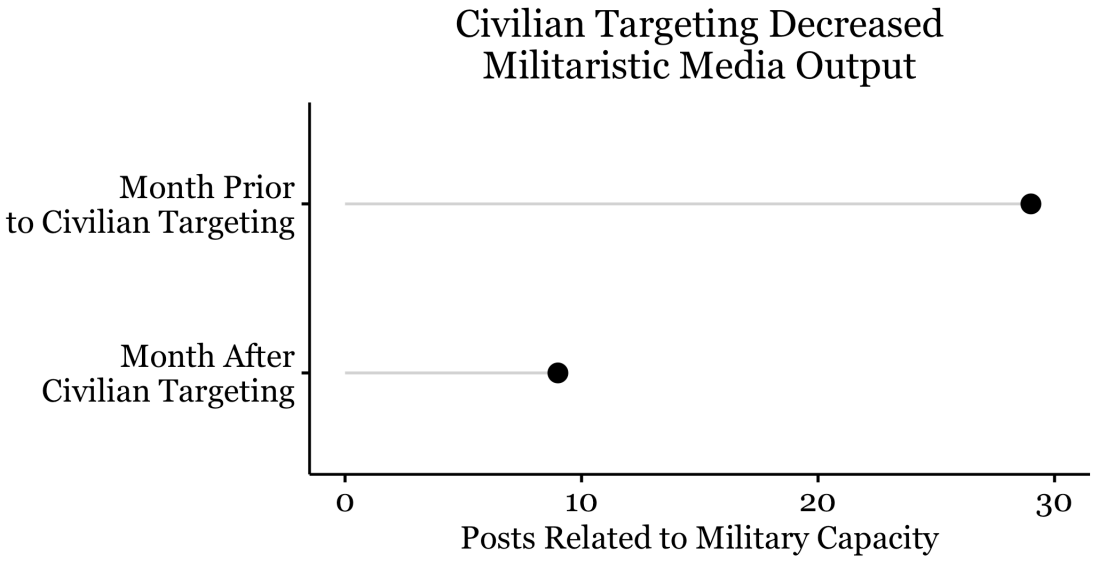


Figure 3.20 The number of posts about Tahrir al-Sham's military strength or activities during the month prior and the month after the events in Maarat al-Numan.

More so, they waited 9 days until after shooting at the unarmed protesters in Maarat to post about their military activities. This reflects their apparent strategy to *deemphasize* anything that might remind the public about the events and *emphasize* their activities that suggested they care about non-combatants and can effectively govern. Indeed, during the days following the clash when they did not post about anything related to their military win, they posted extensively about their social services.

These posts depicted a range of activities that the group engaged in throughout their territory. They appeared to reflect an attempt to generate sympathy for the group and provide evidence that they could effectively govern. Of course, we expect this messaging was meant to assuage the public's anger over the events in Maarat. For example, two days after the clashes, Tahrir al-Sham provided images that showed they were providing sanitation services in the form of public cleaning

in the city of Idlib (figure 3.21) and firefighting services - with an actual firetruck - in a field outside a small city (figure 3.22). They also provided apparent evidence of children receiving critical healthcare in the form of blood transfusions (figure 3.23) and vaccinations (figure 3.24). At the same time, they depicted their fighters as relatable *individuals*, not military soldiers, by sharing images of them breaking their Ramadan fast together (figures 3.25 and 3.26). Note that in both figures there is only a single firearm and it is set off from the group.


Figure 3.21 June 10, 2017 - Caption: *Part of the service work of the Executive Office in the city of Idlib*


Figure 3.22 June 11, 2017 - Caption: *Fires broke out in agricultural lands south of Zizoun village - Sahl al-Ghab*


Figure 3.23 June 11, 2017 - Caption: *Blood transfusion from the central bank in the city of Kafr Nabl to children with thalassemia disease*


Figure 3.24 June 13, 2017 - Caption: *The opening of a routine vaccination center in the town of Sarmin in the countryside of Idlib*


Figure 3.25 June 11, 2017 - Caption: *al-Mourabitoun's Iftar on the Masasanah front in the northern countryside of Hama*


Figure 3.26 June 12, 2017 - Caption: *The mujahideen of Tahrir al-Sham having iftar on the Mansoura front, west of Aleppo*

Tahrir al-Sham also attempted to demonstrate that everyday life in the territory they control is *normal*. Of course, for individuals in Maarat, this depiction contrasted with their experience of the group being a heavy-handed military organization, so it was likely meant to provide evidence that countered that perception. For example, figure 3.27, posted on June 11, simply depicts a commercial bakery preparing bread for the nightly meal that breaks the daily fast. This rather mundane depiction of a bakery appears intentional in its simplicity; the group can provide the monotonies of life, such as fresh bread for an important religious and social occasion, and is not simply a blunt fighting force. Similarly, Tahrir al-Sham reported on June 12 that vegetable prices in Idlib decreased and provided a simple picture of some men standing around a market, which is pictured in figure 3.28.


Figure 3.27 June 11, 2017 - Caption: *Part of the ovens work during the holy month of Ramadan*


Figure 3.28 June 12, 2017 - Caption: *The al-Hal market in the city of Idlib witnessed a decrease in vegetable prices*

Tahrir al-Sham also employed their propaganda channels to directly address the events in Maarat by releasing an official statement about them on June 11, three days after the clashes. This provides additional evidence that the propaganda released after the clashes served strategic purposes. We provide an image of the statement on figure 3.29 and a complete professional translation of it in section B.0.1 of the Chapter 3 Appendix.


Figure 3.29 An official statement about the events in Maarat al-Numan released by Tahrir al-Sham on June 11, 2017 titled "A Meeting in Maarat al-Numan between Representatives of Tahrir al-Sham and Dignitaries of the City." See section B.0.1 of the Chapter 3 Appendix for a complete professional translation.

The statement demonstrates that Tahrir al-Sham recognized the importance of the clashes and believed public messaging could address the resulting damage to their relationship with civilians in

the area. The statement immediately begins by placing the blame for the fighting on Division 13, alleging that members of Division 13 repeatedly violated agreements and killed members of Tahrir al-Sham. Tahrir al-Sham suggests that they attempted to use legal channels, but were rebuffed, before they stormed the Division 13 headquarters to mete out justice themselves.

Tahrir al-Sham then assures the public they are working with local leaders of Maarat to resolve the issue and reiterate again that they did not want to engage Division 13 militarily, but were forced to because the group ignored their supposed attempts to resolve the issue legally. The statement, written as though the author were independent of Tahrir al-Sham, suggests that the 'reporter' for Ibaa (the group's media outlet) interviewed Tahrir al-Sham's director of Media Relations about the events. He assured the Ibaa reporter that the group did not fire on the protestors, despite video showing otherwise, and rhetorically requests evidence that could prove otherwise. He asserts video exists that shows Tahrir al-Sham fighters choosing *not to* fire on protesters and exercising restraint, rather than aggression, and that the group did not want the events to escalate. The statement ends by attempting to further the credibility of Tahrir al-Sham's claims by stating that the coalition that Division 13 is a part of (Free Idlib Army) worked with Tahrir al-Sham to resolve the issue but that Division 13 refused to cooperate.

This statement, alongside the propaganda detailed earlier, serves to displace blame from Tahrir al-Sham and place it on Division 13. It conforms to the propaganda they released on the surrounding days that sought to establish Tahrir al-Sham as a group capable of governing and respecting rules. The statement alleges they attempted to use legal channels to resolve the dispute, worked with the leaders of Maarat to address local complaints stemming from the clashes, and interfaced directly with the coalition that Division belongs to afterwards to come to a final agreement. This collection of efforts aims to portray the group as an organization that can respect the rule of law, rather than a heavy-handed rebel group that victimizes civilians.

Taken together, several conclusions emerge. First, Tahrir al-Sham's use of media following the shooting and events in Maarat suggest that rebel groups use media strategically, particularly surrounding critical junctures of a conflict. The content of their Telegram channel clearly changed

during the days following the shooting of the protestors and military takeover of the city. Second, rebels use media to distract their supporters from their bad behavior by providing evidence of positive activity like social services and by deemphasizing the militaristic aspects of their organization.

## 3.6 Conclusion

Civil conflicts are fundamentally a struggle for control of territory and civilians. While taking ground from the government is largely a military effort, creating legitimacy as a governing force is a much more nuanced process. Rebels routinely employ coercion to elicit certain behaviors from civilians, but assembling a reputation as a strong fighting force capable of providing security and ultimately governing is a more delicate task. We argue that rebels use media as a tool to accomplish this, but particularly alongside violent events or critical setbacks. Our theory posits that rebels see media as useful in that it can distract supporters from bad behavior, such as targeting civilians, or be used to promote a narrative of the conflict that contradicts mainstream accounts.

Data from the Syrian civil war supports our theory. We provide two detailed case studies from the conflict that focus on existential events affecting Jaish al-Islam and Tahrir al-Sham. The former experienced massive territorial loss and, along with the civilians under their control, were forced out of their stronghold by the government. They attempted to convince their supporters that they waged a strong fight against the government, even as they were clearly losing, and that they were capable of governing them in their new territory. Our study of Tahrir al-Sham demonstrates that the group, after shooting protestors in a newly-taken city in a strategic location, used their media platform to deemphasize their military activities and ostensibly provide evidence of positive governance activities across their territory. Regression analysis demonstrates that these groups, and two others involved in the Syrian civil war, create relatively more media content after the government takes their territory.

However, our study leaves multiple topics for future research. First, we assess the *use* of rebel media, not its *effect* on attitudes. Our theory makes assertions regarding the correlation between

rebel media frequency/content and critical events, but we do not make claims about how that media affects civilians. We expect rebels understand the utility of their media platforms and that they have substantive effects among their supporters, but we do not test that dynamic. Future studies should explore how civilians *perceive* rebel messaging and estimate the effects on their attitudes. Second, our study explored the vital rebel-civilian relationship, but did not consider whether rebels communicate to other actors through their media surrounding critical events. For example, rebels likely also consider their state sponsors, the government, and other rebel groups when creating media during periods that involved things like battlefield setbacks. Additional theoretical considerations should be made to these dynamics to create a more complicated understanding of rebel messaging.

# CHAPTER 4

# DEADLY DATES: THE RELATIONSHIP BETWEEN HOLY DAYS AND TERRORISM

## 4.1 Motivation

A great deal of research explores the effect of religion on terrorism. Scholars argue that, due to a variety of factors, religion is positively associated with violence (Toft 2011; Asal and Rethemeyer 2008; Horowitz and Potter 2014). For example, conflicts fought over religious issues are difficult to resolve due to their indivisibility (Toft 2006; Hassner 2009) and religious armed groups are particularly durable (Toft and Zhukov 2015; Berman and Laitin 2008). Competition within and between religious groups might also explain this positive relationship (Breslawski and Ives 2019; Isaacs 2017). To understand when and how this increase in terrorism occurs, recent studies focus on attacks conducted on religious holy days. However, these studies produce mixed results and differ in their theoretical expectations. Some scholars predict more terrorism surrounding holy days since coordination costs for armed groups decrease during these times (Toft and Zhukov 2015). Others expect the opposite, as committing violence during holy periods might risk offending a group's civilian supporters (Reese, Ruby, and Pape 2017).

I contribute to this debate by developing a novel theory regarding the way in which religion informs the strategy of terrorists and, in turn, the government. I argue that the symbolic and spiritual meaning that religion assigns to certain days creates focal points that are natural objectives for terrorists because attacks conducted during these times are particularly shocking for civilians and disrupt sacred ceremonies. They consequently impose relatively more terror on victims than attacks during other times (Hassner 2011). Attacks on religious holidays can also be used to expose the government's weakness, demonstrate a group's resolve, activate societal divisions, and punish the supporters of a group's opponent. Armed groups can strategically target the government and areas inhabited by supporters of their enemies to prevent angering their own constituency. As such, my theory suggests that religion informs the timing of terrorism due to strategic and rational

calculations by armed groups.

However, the occurrence of violence is also influenced by the strategies of the government, which is embedded in the same religious context as the terrorists. Governments consequently understand that religion influences the strategies of armed groups and that focal points exist that incentivize attacks. Protecting civilians and political targets during these times is crucial to maintaining their support and legitimacy. Governments therefore seek to deter violence surrounding natural religious focal points. As such, they commonly implement tailored counter-terror plans on these days. This typically involves dramatically increasing police patrols during religious commemorations, expanding security around sacred spaces, and deploying additional vehicular checkpoints in strategic locations (Petra 2015; Walker 2016; Zaptia 2016). However, since governments face resource constraints and fear backlash resulting from continuously applying harsh counter-terror measures, they are limited in their ability to consistently employ security procedures that can prevent attacks. Instead, states cluster their efforts to prevent attacks on dates that are most likely to be perceived as focal points for terrorists.

While existing research regarding religious observances and terrorism generally predicts *either* a positive or negative association, my argument suggests a heterogeneous effect. I argue that expectations about a government's counter-terrorism capacity will influence terrorists' decisions to engage in violent acts on religious holidays. Although terrorists expect greater benefits from attacking on religious dates, they are only likely to do so when they believe they will be able to execute attacks with minimal costs. When the government is able to raise the costs of attacking sufficiently high on these dates, terrorists will refrain from conducting an attack. Instead, terrorists will select a proximate date where they expect to encounter less resistance from the government, but that can still provide similar benefits to conducting violence on a religious holiday.

My specific expectation is that temporally short holidays, those that last a few days or less, experience less terrorism than nonholidays. This is because, despite these days being attractive targets for terrorists, the government is able to concentrate counter-terror resources on them to prevent violence from occurring. Due to the increased costs and risks associated with added

security during short holidays, I expect terror groups to be restrained by the state and commit fewer attacks on these days. However, most states are unable to implement similarly complex security plans during holidays that are much longer, such as the holy month of Ramadan. My expectation is therefore that terrorists seize on these days to commit attacks. This is because they present opportunities to benefit from a day's religious symbolism while assuming only marginally higher costs relative to nonholidays to overcome security.

I test this argument by conducting a series of statistical tests with data regarding Arab League countries (2001-2016) and all countries where at least 90% of citizens identify as Muslim. Both samples support my argument. However, while I focus on countries with a high proportion of Muslims, I expect this theory to generalize to other religious contexts where counter-terrorism is salient. I substantiate this by demonstrating terrorism on Jewish holy days in Israel is consistent with the theory. I also provide evidence that counter-terrorism efforts are highest on short holidays by measuring the proportion of articles about security measures published on different types of days by the Syrian Arab News Agency, Syria's official national news outlet.

This article aids our understanding of terrorism in several ways. First, this study interrogates a common finding, that religious conflicts are more deadly, and explores the production of that violence. In doing so, I engage an important debate concerning the effect of religious holidays on the incidence of terror attacks. The results of my statistical analysis demonstrate that religious holy days can incentivize violence, but the ability of groups to conduct attacks is sometimes restrained by the government. Second, scholars of religion and terrorism, along with those studying civil conflict more broadly, are interested in the rationality of armed groups and their ability to strategically adapt to their environments (Abrahms 2012; Bloom 2007; Pape 2006; Thomas 2014). This article provides additional evidence that these organizations are calculating actors. Terrorists appear to be selective about which holidays they target; the timing of their attacks is consistent with efforts to avoid holidays that are likely to attract considerable counter-terrorism efforts. Third, this articles contributes to our understanding of the logic that informs the timing of terror attacks. In particular, it departs from existing research that focuses on the logic armed groups use to substitute their

targets based on counter-terrorism in *space*, and instead demonstrates counter-terrorism efforts can create substitution effects across *time*.

## 4.2 Theory

### 4.2.1 Existing Explanations

Existing research proposes three different factors that explain the behavior of terror groups on religious holy days. First, some authors argue violence on these days is appealing for reasons internal to the group. For example, Jurgensmeyer (2017) argues religious groups might seek to communicate with the divine through terror attacks. Their choice to attack on holy days could therefore be a result of their desire to appease or worship a higher authority. Such an approach deemphasizes the role of a group's relationship with civilians in favor of their ideological commitment.

Second, groups might commit violence on these days to gain a tactical advantage. For example, Hassner (2011) contends that leaders of religious groups may recognize the usefulness of holy days to motivate or encourage their fighters. This can lead them to fight harder and with more eagerness. Their civilian supporters might share this sentiment and support attacks on these days. Toft and Zhukov similarly emphasize the tactical benefits of committing violence around Islamic holidays. They argue these days can reduce coordination costs by gathering individuals espousing similar ideologies together. Given these lower costs, groups are more likely to conduct attacks on days surrounding holidays. They expect that groups are more likely to attack on holidays that match their ideological type (i.e. religious or nationalist). Their study finds robust statistical support for this theory in the Caucasus region.

Third, extant research argues that terror groups fear provoking anger among their supporters for committing violence on sanctified dates. Reese, Ruby, and Pape (2017) argue that civilians are generally offended by violence during such occasions and will punish terror groups that violate a day's importance with bloodshed. They contend this is the case when there is unambiguous

agreement in a society concerning a day's importance. Such days should experience relatively lower levels of terror attacks because terror groups fear civilian sanctions. They find support for this argument using data from Iraq, Afghanistan, and Pakistan. However, this theory does not consider the benefits that can be gained by terrorizing opponents on holy days (Hassner 2011). An additional complication is the effect of credit claiming, as a large majority of terrorist attacks are perpetrated by unknown individuals, particularly in Muslim-majority countries (Kearns, Conlon, and Young 2014). Terror groups are not presented with the binary choice of assuming the cost of committing an attack or not committing an attack at all. Rather, groups can claim attacks that they forecast will enhance their political position (Bueno de Mesquita and Dickson 2007; Thomas 2014) while anonymously conducting violence that might anger their supporters (Kearns, Conlon, and Young 2014).

Existing research either prioritizes a terror group's decision to abstain from violence during holidays or their choice to utilize them strategically. I argue that they do both. Groups' choices are influenced by expectations of government efforts to deter terror attacks. When terrorists believe that governments will make a concerted effort to increase security to prevent violence on holidays, they abstain from engaging in violence. However, terrorists choose to utilize violence when governments are unable to effectively deter terrorism on holy days. This represents an important theoretical contribution, as scholars have yet to integrate the role of the state and its ability to deter attacks within this literature. Instead, they either overlook the effect of counter-terror measures implemented during these periods (Hassner 2011) or argue large-scale increases in security are unable to explain reductions in violence on these occasions (Reese, Ruby, and Pape 2017). The theory I develop in this manuscript explains why terror groups have an incentive to commit violence on religious holidays, while emphasizing the ability of the state to deter attacks during certain periods.

### 4.2.2 Synchronizing Attacks and Religious Holy Days

Terror groups[1] regularly synchronize their attacks and activities with religious holidays. The Islamic State infamously proclaimed itself the leader of Muslims worldwide and declared an Islamic caliphate on the first day of the holy month of Ramadan in 2014. Directly acknowledging the significance of the group's timing, their official written declaration of the caliphate ends by "congratulat[ing] the Muslims on the advent of the blessed month of Ramadan" and asking Allah "to make its days and its nights a curse for the rfidah [derogatory term for Shiites], the sahwt [derogatory term for Sunnis that do not side with the group], and the murtaddn [apostates]." The spokesperson for the Islamic State encouraged the group's followers to "rush and go to make Ramadan a month of disasters for the infidels" the following year (Hubbard 2015).

Examples regarding other holy days are plentiful. For example, intercepted communications between Ayman al-Zawahiri and other top al-Qaeda leaders in 2013 revealed they "wanted to do something big" on Laylat al-Qadr, a holy day commemorating when the Quran was revealed to Muhammad (Miklaszewski, Mitchell, and Williams 2013). US authorities suspected one of their diplomatic posts in the Middle East was the target and closed a number of them to prevent an attack. Further, the Taliban released a statement in 2018 during the holy day of Eid al-Fitr that congratulated Muslims on successful "Jihadi conquests in these joyous days of Eid-ul-Fitr" (Zelin 2018).

Unsurprisingly, the connection between religious holy days and violence is not limited to the statements made by terror groups. It is also manifested in their actions, as terror groups routinely employ violence on these days. For example, Boko Haram committed multiple suicide bombings in 2015 on Eid al-Fitr, an important Islamic holy day (BBC 2015). The Armed Islamic Group of Algeria killed nearly one thousand individuals during Ramadan in 1998 (Moghadam 2008, 161). Such violence is not always claimed, suggesting non-state groups might develop strategies that enable them to exploit a holiday's importance while limiting possible civilian sanctions or other

[1] I follow Phillips (2015) and employ an expansive definition of terror groups - any subnational political organization that uses terrorism.

reprecussions. For example, a suicide bomber in Afghanistan in 2018 targeted an event celebrating the Prophet Muhammad's birthday, an Islamic holiday (Ashford 2018). The attack killed over 40 people, most of whom were religious scholars. Similarly, a terror attack on the border of Turkey and Iraq killed four Turkish soldiers during Laylat al-Baraat in 2019 (Ozer 2019).

These examples illustrate the ways in which terror groups can time their attacks to co-occur with holy days to signal their religiosity, justify the use of violence, or to reinforce a conflict's sectarian divide. Matusitz (2014) demonstrates this more generally with a range of case studies from around the world. He argues terror groups benefit from synchronizing their attacks with important religious dates and against sanctified targets. Such symbolism is an alluring quality to terror groups and often a key consideration when they plan attacks. Matusitz argues they serve as shared frames of meaning through which a group or individual can communicate. I develop a theoretical explanation for this behavior in this paper that integrates the ability of the state to alter the costs of committing attacks on certain holidays.

### 4.2.3 Holy Days As Focal Points for Violence

I argue that committing violence on days of religious importance is appealing to terror groups for several reasons. First, it allows a group to signal religious devotion. Terror groups that espouse a religious ideology seek legitimacy from their supporters as dedicated adherents to their faith and the manifestation of a divine cause. Conducting attacks on holy days allows them to situate their activities within a faith-based struggle and signal their devotion to the belief system. This has the added benefit of decreasing the likelihood that the terror group's use of violence appears self-serving. An excerpt from one of al-Qaeda's official magazines exemplifies this dynamic in practice. Saud Bin Hamoud al-Utaybi, a senior leader of al-Qaeda, implored jihadists to "come closer to Allah through the blood of infidels" during the coming month of Ramadan and to "make [Ramadan] like the month of the Battle of Badr, the conquest of Mecca, [the conquest] of Shaqhab, and other Islamic victories" (Aaron 2008). The conquests al-Utaybi mentions, two of which Muhammed led, all occurred during Ramadan and are defining moments in Islamic history. The passage therefore

suggests that, through the use of terrorism, al-Qaeda's fight is similar in importance for modern Muslims. The symbolism of religious dates creates space for this sort of aggrandizing by armed groups. Al-Qaeda conducted multiple massive attacks during the Ramadan immediately following the publication of al-Utaybi's article. In doing so, they instrumentalized the holiday's symbolism in an attempt to enhance their legitimacy as a religious organization.

Second, committing attacks on holy days amplifies their effect and imposes relatively more terror on their targets.[2] These days typically host sanctified ceremonies and cherished religious traditions. Families often congregate and expect a secure environment to celebrate in during these special periods. Due to this, the salience of one's faith is often highest surrounding these occasions. A terror attack on a holy day that disrupts these religious practices and the safety surrounding them consequently generates more terror than the same attack on an ordinary day. A period previously associated with peace and meditation is marred by memories and anniversaries of death. Since terrorism is used to coerce and intimidate a larger audience than the attack's specific target,[3] groups prefer violence when it is most likely to evoke a strong reaction from the public. As such, all else equal, the payoff for a terror group to conduct an attack against their target on a holy day is higher than on all other days.

This dynamic motivates the third incentive armed groups have to use violence on holy days. Attacks on these days can embarrass the government and expose its weakness. Civilians expect a peaceful environment to observe their religion and the inability of the government to provide it has important repercussions. Attacks on these days demonstrate the armed group has some sort of advantage over the government in the conflict. It is also likely these attacks gain more attention in the press and therefore assist in promoting a group's political agenda. This enables a group to make more credible public demands for concessions. This logic applies to contexts where belligerents are fighting over the very issues of governance and when terrorism is used in pursuit of more narrow objectives.

[2]Hassner (2011) argues that terror attacks on holy days can be force multipliers.

[3]More than 99% of terror attacks are intended to influence a larger audience than the target according to the Global Terrorism Database (LaFree and Dugan 2011).

Terrorists can employ multiple strategies to mitigate the possibility of offending or angering their supporters for committing violence during holy days. First, as discussed earlier, they can justify attacks during these periods by framing them as divinely ordained. Second, terrorists can target the civilian supporters of their opposition or the government to ensure their civilian constituency is not physically affected by an attack. This is a common tactic employed more generally by armed groups (Goodwin 2006). Third, groups are not bound to claim responsibility for these attacks publicly. This can insulate them from possible blowback. They may benefit from simply executing attacks on these days and privately claiming responsibility among their sponsors (Kearns, Conlon, and Young 2014). Indeed, unclaimed attacks can serve a number of strategic ends, particularly during important holy periods.

These dynamics do not require a terror group to share the same beliefs with the target of an attack. In fact, some of the incentives generalize to non-religious armed groups. This makes sense, as there is obvious utility for a secular armed group to terrorize their opponent's religious supporters on a day they believe is holy. However, the intent of an attack and the symbolism of the occasion must be obvious to the society, so I expect this logic to apply in countries where a majority of citizens share the same religion. Due to this, the government does not need to be religious. The logic detailed above that argued attacks on these days can embarrass or weaken the government applies regardless of its identity. The other incentives for armed groups to use violence on holy days similarly apply whether or not the government is religious.

### 4.2.4 The Increased Cost of Committing Violence on Holy Days

Governments are not passive actors in this process. They anticipate the incentives for terror groups to exploit holy days and understand attacks during these periods weaken their position. In response, governments commonly implement specialized security plans during periods of religious significance that are likely to attract the attention of armed groups. These security measures typically entail extra checkpoints in urban areas, large police deployments in public spaces, 'see something say something' campaigns, and proactively searching for explosive devices in vulnerable

areas (Berwani 2012; Walker 2016; Zaptia 2016). Security plans during religious holidays are sometimes more general as well. For example, in order to protect the day of Ashura during 2012, the Iraqi government deployed some 30,000 troops to a shrine in Karbala that Shiite Muslims visit on the holiday (Arraf 2012). They also banned vehicles from entering the area and worked with their intelligence services to identify and prevent attacks in the planning phase. Consequently, the holiday did not suffer a terrorist attack.

However, the ability of governments to maintain these enhanced levels of security and specialized measures is constrained by the length of a holiday. There are no practical impediments to clustering these counter-terror tactics on holy days that last a few days or less. This is not true of long holidays, such as the month of Ramadan, for two reasons. First, counter-terror measures meant to deter or root out terrorism can backfire and actually result in a net increase in attacks because they are perceived as being repressive. For example, Benmelech, Berrebi, and Klor (2015) demonstrate that indiscriminate policies like curfews and precautionary house demolitions that do not directly target terrorists can lead to an increase in suicide attacks. This is in line with research that shows that governments that violate the physical integrity rights of their citizenry experience more terrorism than those that do not (Walsh and Piazza 2010). This domestic security dilemma forces governments to balance the costs of various counter-terror measures with their associated benefits (Field 2017).

Second, resource constraints prevent governments from maintaining high levels of security for extended periods or across their whole territory due to limited budgets and personpower. Powell (2007) argues that governments allocate their scarce resources across physical sites (e.g. nuclear reactors) to defend against terror attacks. He argues that terrorists attack where expected payoffs are large and costs are low. By increasing security around the most important sites, governments can increase the costs of attacking targets that have the highest payoffs for terror groups while efficiently allocating their scarce resources. This changes the incentives for terror groups and encourages violence where payoffs are still high, but costs are lower. Evidence of counter-terror strategies producing these types of substitutions is abundant (Enders, Sandler, and Cauley 1990;

Enders and Sandler 1993; LaFree, Dugan, and Korte 2009). I apply the framework developed by Powell to symbolic days and argue that counter-terror resources can create *temporal* substitution effects.

### 4.2.5 The Behavior of Armed Groups on Holy Days

I apply the logic of substitution effects to the case of Islamic holidays. As discussed, terror groups have multiple incentives to commit attacks on these days. However, they do not all offer the same payoff. I argue the payoff for committing terror attacks is generally the highest during short holidays, or those that last only a few days or less. This is because violence on these days is entirely unambiguous. It is obvious to the target and to the public that the timing of an attack during such a short religious period is due to the period's significance. The entire commemoration is consequently defined and remembered in terms of the attack. This provides the offending group the maximum amount of public exposure for its attack. In other words, the relatively short length of the holiday makes it easy to associate with terrorism. This makes violence particularly enticing on these days for armed groups.

As a result, the logic of substitution effects suggests governments have an incentive to focus their scarce resources to mitigate the risk of attacks during short holidays. This is doubly the case because it is relatively harder for them to protect long holidays. Evidence of this in practice is plentiful. State security forces around the world commonly implement strict and oftentimes extraordinary measures during short holidays such as Eid al-Adha and Eid al-Fitr (Zaptia 2016). Such plans often include massive increases in the number of police officers and military troops deployed to the streets and the expanded use of various counter-terror measures around the country (Walker 2016; Berwani 2012). These measures are typically far more expansive than what governments are able to do during long holidays such as Ramadan. It is unsurprising that governments are generally aware of the increased threat these days pose and respond accordingly. They strategically cluster counter-terrorism efforts on days where the payoffs to terror groups are high and the efficacy of their efforts is the highest. I therefore expect terror groups to be deterred from committing violence

on short Islamic holidays, despite their benefits, because governments can muster massive amounts of military and police to protect them. A testable implication of this logic is that the probability of observing a terror attack on a short Islamic holiday is lower than on a nonholiday.

**Hypothesis 3** *The probability of terrorism occurring on a short Islamic holiday is lower than the probability of an attack on a day that is not an Islamic holy day.*

The theoretical logic produces a different expectation for religious celebrations that last multiple weeks, such as Ramadan. They should be relatively more likely to experience terrorism for several reasons. First, as discussed, an attack during a long holiday offers a higher payoff to terrorists than an attack on a nonholiday. At the same time, the cost to conduct an attack during a long holiday is lower than on a short holiday, as shorter holidays are likely to be more heavily guarded by the government. Again, resource constraints and caution regarding the use of repressive security measures prevent the government from implementing broad counter-terror policies during weeks-long holidays. Long holidays consequently offer the highest ratio of benefits to costs for terror groups.

Second, these holidays are more forgiving to terror since they last multiple weeks. Since plans for an attack are subject to perturbations caused by logistics, counter-terrorism efforts, and practical concerns, it is difficult for terror groups to be confident that an attack intended to occur on a short holiday will actually occur during that minimal window. This is especially likely due to the government's active role in trying to prevent terrorism on major holidays. Long holidays offer a larger temporal window that is more forgiving of these problems. This decreases the likelihood that a promised attack happens to occur outside of the holiday or is unable to be conducted altogether. I expect these factors to encourage terror groups to plan and execute more attacks during long Islamic holidays than nonholidays. This logic leads to my second hypothesis.

**Hypothesis 4** *The probability of terrorism occurring during a long Islamic holiday is higher than the probability of an attack on a day that is not an Islamic holy day.*

## 4.3 Data and Research Design

I collect data regarding a sample of countries where Islam is the predominant religion to test my hypotheses regarding the occurrence of terrorism on Islamic holidays. Specifically, I analyze the members of the Arab League.[4] I use this regional organization, which is comprised of 22 countries largely in the Middle East and North Africa, for several reasons. First, the region that the organization represents is a conflict-prone area and experiences high levels of terrorism. Counter-terrorism is consequently a salient security issue for member countries. Their governments design and implement security measures aimed to prevent attacks from occurring within their territory. This makes it possible to test the theoretical logic I detail. Second, the vast majority of their citizens identify as Muslim. This meets a scope condition of the theory- a society with broad awareness and observance of Islamic holidays.[5] Third, the regional organization provides a sampling frame that avoids the analysis of an ad hoc collection of countries. Choosing a set of countries where counter-terrorism is salient, which is a scope condition of the theory, that also has a large proportion of Muslims requires multiple arbitrary decisions regarding what sort of countries to include in an analysis. I instead focus on the Arab League for the reasons specified.

As such, it is possible to test the implications of my theory using the members of the Arab League by assessing whether there is a lower probability of a terror attack during short holidays and a higher probability during long holidays relative to nonholidays in these countries. However, I provide additional analyses in the Chapter 4 Appendix that use a dataset comprised of all countries where at least 90% of citizens[6] identify as Muslim.[7] The main findings are consistent in this

[4]The Chapter 4 Appendix lists and maps these countries. 17 of the League's 22 countries are represented in the data due to data limitations (3) or because they did not experience any terrorism during the study's timeframe (2).

[5]A few of these countries, such as Egypt and Lebanon, have established populations of people of other faiths. The results are consistent when countries with sizable populations of non-muslims (>10%) are excluded from the data.

[6]I use data from 2010 provided by the Pew Research Group to identify these countries: https://www.pewforum.org/2015/04/02/religious-projection-table/.

[7]See models 5a-7a. The Chapter 4 Appendix also lists and maps these countries.

additional sample, which represents approximately 40% of the world's terrorism. Less than half of the countries are shared between these two datasets, so it is meaningful that the findings are consistent between them. I analyze all available post-9/11 years (2001-2016) in both samples because of the salience of both terrorism and counter-terrorism during this period, particularly in the Arab League. I use country-days as the unit of analysis, as my theory relates to variation at that temporal level.

### 4.3.1 Dependent Variable

I use the Global Terrorism Database (GTD), one of the most comprehensive sources of terrorism data (Findley and Young 2012), to code the outcome variable (LaFree and Dugan 2011). The GTD codes specific incidents of terror across the world from a diverse set of newspapers and news-related sources. The GTD considers an event "terrorism" if it is intentional, employs violence, and is conducted by a subnational actor. Attacks must also be outside of legitimate warfare, conducted to attain social or religious goals, and be used to intimidate individuals beyond the immediate victims.[8] Specifically, the outcome variable is a dichotomous variable representing whether or not an attack occurred on a specific country-day (*Terror Attack*).[9]

This variable includes attacks against all targets regardless of whether they killed anyone. I include both claimed and unclaimed attacks[10] because it is likely terror groups sometimes commit violence on holy days anonymously to achieve their goals while limiting the possibility of public backlash. Approximately 11% of the country-days experience a terror attack. A dichotomous measure of terrorism is appropriate since 96% of the country-days experience two attacks or fewer.[11] I also use the count of terror attacks as an outcome variable and the regression results do

[8] At least two of these three requirements must be met.

[9] The results are consistent when events that the Global Terrorism Database codes as possibly *not* being terrorism are excluded. See model 8a.

[10] The majority of terror attacks are not claimed (LaFree and Dugan 2011).

[11] Due to this, dependent variables analyzed in other studies of terrorism, such as the ratio of attacks to population, are inappropriate for this study.

not substantively change.

### 4.3.2 Independent Variable of Interest

The independent variable of interest (*Day Type*) sorts each country-day, the unit of analysis, into one of three mutually exclusive categories based on its length in days. A simple coding scheme is employed to differentiate these categories that is derived from the natural groupings within Islamic holidays.[12] *Short Holidays* are Islamic holidays that last three days or less while *Long Holidays* include days within the important month-long holiday of Ramadan. The difference between these two categories is clear, as Ramadan lasts about 30 days and the next longest holidays span just three days. *Nonholidays* is the baseline category, which is comprised of days that are not in either of the other categorizations.

*Short Holidays* generally either prescribe some important religious act, such as engaging in a feast, or commemorate an important moment in Islam's history. They are typically observed or acknowledged widely. Social sanctions potentially result from public nonobservance due to their importance. As such, religious observance and respect is generally at its peak on short holy days. This category includes the weekly liturgical service held on Friday afternoon.[13] Adherents observe this holy day by partaking in attending a communal sermon and prayer service at a mosque. It also includes the important holidays of Eid al-Fitr and Eid al-Adha along with the Day of Arafah, which commemorates Muhammad's final sermon.

*Long Holidays* are days that occur within the holy month of Ramadan, which lasts about 30 days and commemorates the revelation of the Quran to Muhammad. Muslims are generally expected to abstain from food and drink between sunrise and sunset during this time. This enables adherents to pray and meditate about their faith. Participation is extremely high in the region represented by

[12]The findings are robust to alternate, but possibly reasonable, codings of the this variable, which I demonstrate in the Chapter 4 Appendix.

[13]The weekly liturgical day (Friday) could arguably constitute another category because it occurs so regularly and is possibly qualitatively different from the other short holidays. As such, I estimate models with Friday as its own category in *Day Type* and with Friday excluded from the variable altogether. The results are consistent with the main model in both of these robustness checks.

the Arab League. About 94% of Muslims in the region reported that they observed the holy month and fasted in a survey fielded by Pew during 2011-2012 (Lugo et al. 2012). If a day is both a *Short Holiday* and a *Long Holiday*, such as a Friday, I code it as *Short*. I perform this step since my expectation is that the government will still cluster security measures on these days even though they occur within the month of Ramadan. Collectively, this categorical variable gives me leverage to test my hypotheses concerning the effect of individual days on the incidence of terrorism.

While the timing of months in the Gregorian calendar is reliable, they are not in the Islamic calendar. The beginning of each month is determined by the first unaided sighting of the moon after a new moon. Since the average length of a lunation varies, months are typically 28-30 days long. The Islamic calendar is consequently not fixed to the Gregorian calendar. It is also not consistent across space, as lunar sightings occur at different times across the world. The calendar does behave predictably, with the Islamic New Year occurring about two weeks earlier each year in relation to the Gregorian New Year. Due to these issues, many Muslim-majority countries rely on Saudi Arabia's calendar to code the occurrence of holidays. This helps synchronize holidays that otherwise would occur on different days around the world. I therefore use Saudi Arabia's Umm al-Qura calendar to code the occurrence of Islamic holidays. The full specification of the *Day Type* variable is displayed in table 4.1.[14] The baseline category of *Day Type* is all other days.

[14]The results are consistent when holidays that are specific to Shiite Muslims, such as Ashura, are included in the coding of the *Day Type* variable. Shiites are a minority of the Muslim population both globally and in the Arab League.

Table 4.1 *Day Type* - Short and Long Islamic Holidays

| Islamic Holiday | Hijri Date | Length | Type |
|---|---|---|---|
| Islamic New Year | 1/1 | 1 day | Short |
| Ashura | 1/10 | 1 day | Short |
| Prophet's Birthday | 3/12 | 1 day | Short |
| Isra & Miraj | 7/27 | 1 day | Short |
| Laylat al-Baraat | 8/15 | 1 day | Short |
| Laylat al-Qadr | 9/27 | 1 day | Short |
| Eid al-Fitr | 10/1 | 3 days | Short |
| Day of Arafah | 12/9 | 1 day | Short |
| Eid al-Adha | 12/10 | 3 days | Short |
| Friday | Weekly | 1 day | Short |
| Ramadan | $9^{th}$ Month | 1 month | Long |

### 4.3.3 Control Variables

I include a number of variables in the model that also affect the incidence of terror attacks to decrease the probability of a confounder biasing the results.[15,16] Since terror attacks can be a result of conflict between armed groups and the state (Findley and Young 2012; Stanton 2013a), I include a count of battlefield events lagged by one day.[17] This is measured at the country-day level and is taken from the Uppsala Conflict Data Program Georeferenced Events Dataset (Sundberg and Melander 2013). I also include a dichotomous variable that indicates whether a country-day is a secular national holiday, as it might be the case that there is not a religious component to how terrorists time their attacks. I code this variable using data from HolidayAPI, a company that uses large-scale web scraping and text mining of news articles to identify holidays in countries around the world.

I also include a variety of controls related to characteristics of the countries represented in the data that might affect the incidence of terrorism. I add the country's logged total population since

[15]Simpler models that exclude these controls are consistent with the main model. I include some of these results in Section C.0.5 of the Chapter 4 Appendix.

[16]I scale continuous predictors to avoid convergence issues with the multilevel model by subtracting their means and dividing by their standard deviations (Gelman and Hill 2006).

[17]The results are consistent when this variable is excluded.

countries with more people have a higher likelihood of producing terror groups and relatively more targets exist for attacks (Chenoweth 2010). In order to control for disparate levels of economic attainment across countries, I also include the country's gross domestic product per capita. I collect both of these variables from the World Bank (World Bank 2018). Beyond that, I include a covariate to control for the variation in terrain across countries. Research demonstrates that more rugged and inhospitable territory decreases the state's ability to project power and is associated with civil conflict (Tollefsen and Buhaug 2015). These landscapes provide insurgent groups more opportunities to hide and engage in rebellion. I therefore also include the country's area in square kilometers (Zhukov, Davenport, and Kostyuk 2017).[18] Table C.0.2 in the Chapter 4 Appendix displays these variables' descriptive statistics. I also include a linear counter of time within countries to control for temporal dependence[19] and a lagged dependent variable.

### 4.3.4 Research Design

The data used in my analysis exhibit a clear nested structure. Days occur within years that are grouped in countries. The characteristics of each of these levels are important predictors of whether any individual country-day will experience a terror attack. Due to this, I employ a multilevel model to test my hypotheses.[20] Multilevel models estimate parameters that take these types of spatial and temporal groupings into account. It also enables the inclusion of covariates at the same level of these groupings.

Recent research concerning terrorism recognizes the usefulness of employing this type of model in this domain. Johnson argues that studying terrorism is "inherently a multilevel enterprise" (Johnson 2017, 252), with observations grouped across different levels of analysis such as terror groups and countries. Building models that reflect this not only makes theoretical sense, but also ensures standard errors and parameter estimates are properly estimated given the different dependent

[18] The results are robust to other geographic variables, such as a country's mean elevation, as well.

[19] The results are consistent with cubic polynomials.

[20] The results are robust to a fixed effects specification.

levels of analysis represented in the data (Gelman 2006; Gill and Womack 2013). Related studies use these models to study variation in terrorist tactics across regime types (Lee 2013), investigate the effect of conflict on public opinion (Hutchison 2014), and to study the use of domestic and international attacks by terror groups (Boyd 2016).

The outcome variable in the regression model is binary and indicates whether a country-day experienced a terror attack. I estimate a logistic regression model since the outcome variable is dichotomous. The first level in the hierarchical model occurs at the country-day and is indexed with *k* in the equation below. I include a $\text{lag}_{\text{t - 1}}$ of the dependent variable, a $\text{lag}_{\text{t - 1}}$ of the number of battlefield events, the *National Holiday* indicator variable, and a linear counter of time at this level along with the categorical *Day Type* variable. Country-years constitute the second level of the model and are indexed with *j* in the equation. I include a random intercept at this level, which serves to model temporal dependencies in the data, not captured by the individual level temporal control, along with the variables *Population* and *GDP PC*, both of which vary across country-years. The third level of the model occurs at the country level and is indexed with *i*. I include *Land Area* along with a random intercept at this level, which models dependencies in the data that arise from observations being grouped within countries. I estimate the model using maximum likelihood and assume the random intercepts are drawn from a normal distribution, which is standard with this type of model (Gelman and Hill 2006). I provide the equation below.

Indices: $i$: Country, $j$: Country-Year, $k$: Country-Day (Observation-level)

Predictors: $X_m$: Country, $X_y$: Country-Year, $X_s$: Country-Day (Observation-level)

$$b_i \sim \mathcal{N}(0, \sigma^2_{b_i})$$
$$b_{ij} \sim \mathcal{N}(0, \sigma^2_{b_{ij}})$$
$$\eta_{ijk} = \beta_0 + \beta_1 \text{X}_{\text{m[i]}} + \beta_2 \text{X}_{\text{y[ij]}} + \beta_3 \text{X}_{\text{s[ijk]}} + b_i + b_{ij} + \epsilon_{ijk}$$
$$\pi_{ijk} = \ln\left[\frac{\eta_{ijk}}{1 - \eta_{ijk}}\right]$$
$$Y_{ijk} \sim Binom(1, \pi_{ijk})$$

## 4.4 Results

Table 4.2 provides the results of the estimated multilevel regression model.[21] Both of the variables extracted from *Day Type* are significantly different from the baseline (days that are nonholidays). The coefficient on *Short Holiday* is negative and statistically significant. This supports my first hypothesis. Terrorism is less likely to occur on Islamic holidays that are relatively short, such as Eid al-Fitr or the celebration of Prophet Muhammad's birthday, than on nonholidays. I argue this is the case because the government is able to effectively deter terror groups from conducting operations on these days.

Further, the coefficient on *Long Holiday* is positive and significant, suggesting that days within the holy month of Ramadan are associated with an increase in the likelihood of a terror attack. This supports my second hypothesis. My theory suggests this is the case because the government is unable to effectively deter terrorism during these holidays due to resource constraints and a fear of backlash resulting from long-term repressive counter-terror measures. Terror groups strategically conduct attacks on these days since they offer a higher payoff than nonholidays and the cost of overcoming security is relatively lower than on short holidays.

While the regression coefficients and their significance support my hypotheses, I also calculate the predicted probability of a terror attack occurring across the categories of the *Day Type* variable using the estimated regression model. This enables a better substantive understanding of the effects different types of holidays have on encouraging or restraining violence. I employ the observed value approach to calculate these probabilities (Hanmer and Kalkan 2012). This calculates average effects within the population, rather than effects on an average observation, by utilizing the actual data (the observed values) used when estimating the model to calculate predictions.

I generate these predicted probabilities by creating a profile for each category within the *Day*

[21] The results are robust to various fixed and mixed effects specifications. A likelihood ratio test suggests the main model is significantly different from a null model that only includes the multilevel structure (province-years nested within provinces) along with a fully specified model that excludes *Day Type*, the key independent variable.

Table 4.2 Main Model

| | *Dependent variable:* |
|---|---|
| | Terror Attack |
| Day Type - Long Holiday | $0.218^{***}$ |
| | (0.062) |
| Day type - Short Holiday | $-0.224^{***}$ |
| | (0.043) |
| Attack $\text{Lag}_{\text{t-1}}$ | $0.482^{***}$ |
| | (0.038) |
| Battlefield $\text{Events}_{\text{t-1}}$ | $0.043^{***}$ |
| | (0.013) |
| log(Population) | 0.655 |
| | (0.606) |
| GDP PC | $-1.328^{**}$ |
| | (0.551) |
| Land Area ($\text{km}^2$) | 0.389 |
| | (0.567) |
| National Holiday | $-0.118$ |
| | (0.139) |
| Intercept | $-5.082^{***}$ |
| | (0.511) |
| Observations | 93,862 |
| Var(Country) | 3.973 |
| Var(Country Year : Country) | 2.595 |
| Num(Country) | 17 |
| Num(Country Year : Country) | 257 |
| Log Likelihood | $-13{,}428.200$ |
| Akaike Inf. Crit. | 26,880.410 |
| Bayesian Inf. Crit. | 26,993.800 |
| *Note:* | $^{*}$p<0.1; $^{**}$p<0.05; $^{***}$p<0.01 |

*Type* variable (Nonholiday, Short Holiday, and Long Holiday) and sampling the distributions of the coefficients in the estimated regression model 1,000 times. The results suggest that, on average and controlling for other factors, terror attacks are least likely to occur on a *Short Holiday*. The mean predicted probability of an attack on a *Short Holiday* is 8.4% lower than on a nonholiday. Again, this supports my first hypothesis, which theorized these days experience less terrorism because the government clusters its counter-terror efforts on them. The predictions also support my second hypothesis, as the probability of an attack on a *Long Holiday* is 8.7% more likely than on a nonholiday. I argue terror groups commit attacks during these longer holy periods because they offer a number of payoffs without the additional costs related to conducting operations on highly protected days.

I also estimate the first differences between these categories in order to verify there is a significant difference between their predictions. I display the difference between *Nonholidays* and both *Short Holidays* and *Long Holidays* in figure 4.1. The dot represents the mean difference and the line segment is a 95% prediction interval. Both differences are significant. We can interpret the results by noting whether the difference is positive or negative. A positive value suggests that the value being subtracted from is more likely to experience a terror attack than the baseline. A negative value conveys the opposite. In this case, the difference between *Short Holidays* and *Nonholidays* is negative and significant. These holidays are therefore less likely to experience a terror attack than nonholidays. The difference between *Long Holidays* and *Nonholidays* is positive and significant. This suggests that these holidays are more likely to experience terrorism than nonholidays. These findings are robust to alternate, but possibly reasonable, codings of the *Day Type* variable, which I demonstrate in the Chapter 4 Appendix.

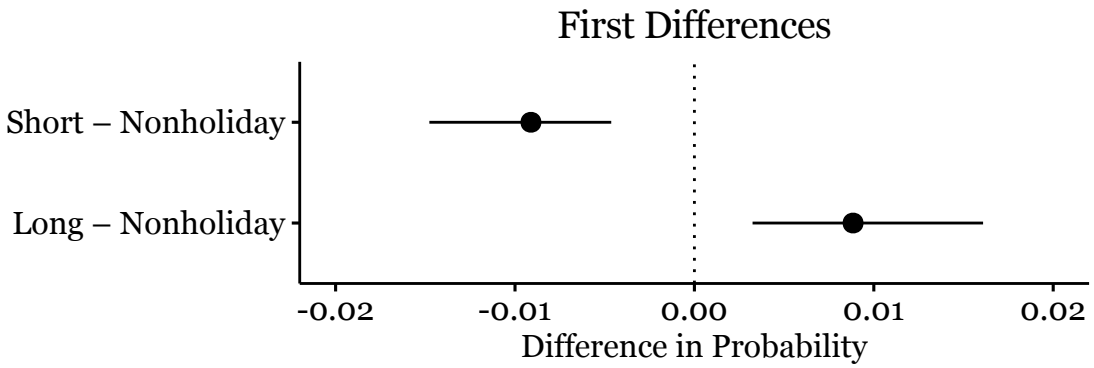


Figure 4.1 Dots represent the mean difference between predictions while line segments represent a 95% prediction interval.

I return to the regression results to interpret the coefficients on the control variables, all of which behave as expected. *Population* is positive, suggesting that increases in population are associated with higher probabilities of experiencing a terror attack, but not significant. *GDP PC* is negative and significant which suggests that countries with relatively higher levels of GDP per capita are less likely to experience terror attacks. Both of these relationships conform to findings in existing studies regarding terrorism. The count of battlefield events is also significant and positive. *Land Area* is positively associated with the incidence of a terror attack, but not significantly. Finally, *National Holiday*, which coded secular, national holidays, is negative but not significant. The negative relationship makes sense, as the state might also protect secular holidays.

### 4.4.1 Evidence for the Mechanism

The statistical analysis supports the hypothesized relationship between terrorism and religious holidays, but it does not provide direct evidence for the theoretical mechanism. This section substantiates that governments increase security during short religious holidays with day-level news data from Syria. I focus on Syria due to the salience of counter-terrorism in the country and because the government manages an official news agency that is likely to report on important security efforts. Of course, directly measuring day-level counter-terror efforts is difficult because governments have an incentive to keep this information private. Broadcasting specific troop deployments or providing

security plans to the public offers terrorists the opportunity to overcome these measures. Due to this, I examine news articles and calculate the percent that mention counter-terrorism on different types of days. Other studies regarding government counter-terror strategies employ similar approaches. For example, Dugan and Chenoweth (2012) use news reports to code actions taken by Israel against Palestinian groups.[22] However, it is likely some security plans that governments implement are not reported due to other events or are intentionally clandestine. Possible bias resulting from this likely makes it harder to detect increases in counter-terrorism on certain types of days.

Specifically, I collect all articles published by the Syrian Arab News Agency (SANA) in Arabic that are available on LexisNexis. This results in 36,883 articles published between 2011-2020.[23] SANA is an ideal outlet to examine because it is a major news agency and is controlled by the Syrian government. As such, SANA is likely to broadcast information regarding the government's efforts to keep the public safe. Security and counter-terrorism were also particularly salient issues in Syria during the period covered by the data. This makes it likely that possible security plans made it into the news. I use the Arabic version of SANA because it is the outlet's primary language. It is also the language of their domestic and regional audiences, which are likely the intended recipients of information regarding domestic security plans. I employ the same scheme detailed in table 4.1 to determine whether each article was published on a short holiday, long holiday, or nonholiday. I then use a set of keywords to ascertain whether each article refers to counter-terrorism.[24] Using this information, I calculate the percent of the articles published on each type of day that refer to counter-terrorism.

Figure 4.2 displays the result of this process. The x-axis shows the percent of news articles published by SANA that mention words related to counter-terrorism. The dashed line represents the percent of articles published on nonholidays. Articles published on short holidays have the highest proportion that mention counter-terrorism. This is consistent with my theory, as this

[22]Their data is monthly, so it is not possible to use it for this analysis.

[23]I clean the text using standard procedures, such as dropping Latin characters and stripping punctuation, and reduce each word to its stem with arabicStemR (Nielsen 2017).

[24]I use the following terms in Arabic: *security plan* OR *counter-terrorism* OR *security measures*.

increase suggests the Syrian state pays particular attention to securing these days. A greater number of articles about counter-terrorism is likely correlated with increased efforts to deter attacks. Nonholidays and long holidays have relatively similar proportions of articles that refer to counter-terrorism. This suggests the Syrian government does not increase security across *all* holy days, but instead focuses on those that are short.

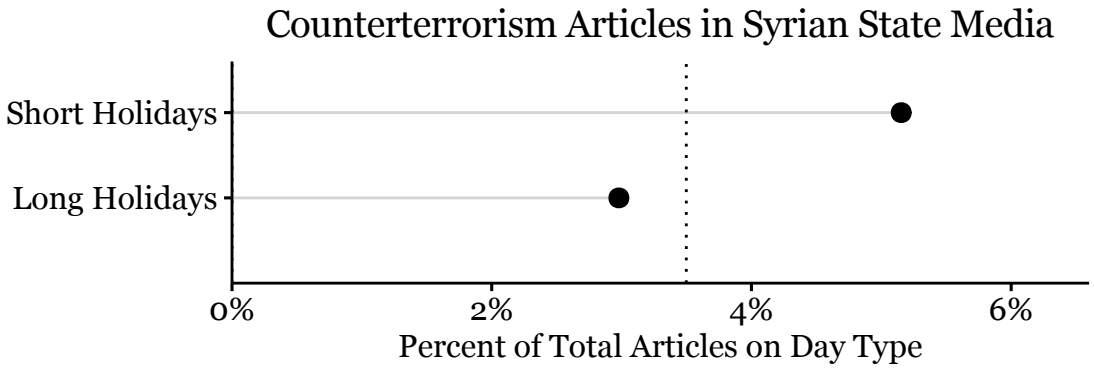


Figure 4.2 The figure displays the percent of news articles published in Arabic by the Syrian Arab News Agency (2011-2020) that mention words related to counter-terrorism on short and long holidays. The dashed line displays the percent of articles that mention counter-terrorism on nonholidays.

### 4.4.2 Evidence from Jewish Holy Days in Israel

The main analysis examines countries with large Muslim populations, but I expect the theory to generalize to other religions. I examine terrorism on Jewish holidays in Israel in this section to demonstrate the logic applies elsewhere. Israel is an appropriate case for several reasons. First, similar to the members of the Arab League, the majority of Israelis adhere to the same religion and practice it openly. Second, Judaism has a number of short holy days and several long holy days spread across the year. This provides more variation in the timing of long holy days than Islam, which only observes the month-long commemoration of Ramadan. Third, Israel has consistently experienced terrorism for decades, which makes counter-terrorism perpetually salient. This provides a suitable context to examine the strategic logic proposed by the theory. Fourth, Israel

is an interesting case to examine because they built a barrier around the West Bank in 2004.[25] The "significant defense," which has drawn international condemnation, integrates a number of security measures beyond simply being a fence (Dicter and Byman 2006). Authorities routinely close the barrier surrounding Jewish holy days to counter the threat of terrorism on these important days, including during the duration of long Jewish holidays that last over a week (Najjar 2017). This allows examining whether the data is consistent with the theory *before* the barrier's construction and if *after* it was built authorities were able to use this significant security measure to deter terrorism on all holy days.

I employ the Global Terrorism Database (2001-2016), the same source and time period used in the main analysis, to measure the incidence of terrorism in Israel (LaFree and Dugan 2011). Judaism uses a lunisolar calendar, so I rely on Hebcal to convert Gregorian dates to their Jewish equivalent and consequently identify the timing of holy days. I specifically use Hebcal's REST API to perform these date conversions.[26] I use a list of Jewish holy days observed in Israel maintained by the Israeli Ministry of Foreign Affairs to determine which holidays to include in the analysis. They are detailed in table C.0.1 of the Chapter 4 Appendix. I categorize the holy days as "short" and "long" using the same rule applied to the Islamic calendar. Commemorations that are three days or less are short and all others are long. Judaism celebrates multiple long holidays, including Sukkot and Shemini Atzeret-Simchat Torah (8 days); Hanukkah (8 days); and Passover (7 days).

Figure 4.3 displays the results of this analysis. The percent of days that experience a terror attack is displayed on the x-axis across short and long holidays. The dashed line represents the percent of attacks on nonholidays. As expected, the rate of attacks on long holy days is higher than on short holy days and nonholidays before the separation wall. Short holidays are the least likely to experience terrorism. This matches the results of the main analysis and provides additional evidence for the theory in a different religious context. After the wall, when authorities routinely shut the border down during holy periods, both short and long holidays experienced less terrorism

[25]The first continuous segment of the barrier in an area the government deemed critical was completed in late 2003. Construction of other segments continued after that.

[26]https://www.hebcal.com/home/developer-apis

than nonholidays. This supports the theory's assertion that terror groups conduct attacks when their expectation of government counter-terror measures are relatively low and illustrates the logic of substitution effects.

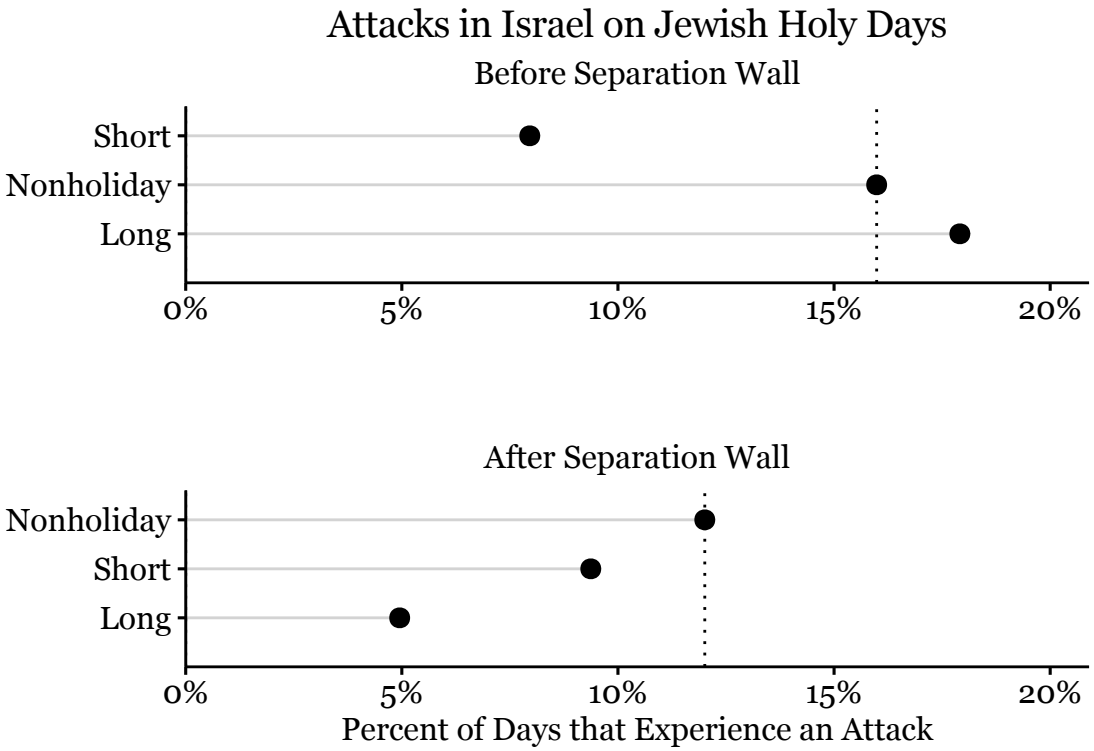


Figure 4.3 The figure displays the percent of days that Israel experienced terrorism on the different categories of *Day Type*. The top plot displays the period before the separation wall was built (2001-2003) while the plot on the bottom displays the period after its construction (2004-2016). Dashed lines display the percent of nonholidays that experienced a terror attack in each period.

## 4.5 Conclusion

In this article I argued that religious holy days are attractive outlets for terror attacks due to their symbolic value. Interrupting the religious practices associated with these days and violating their sanctity with violence can amplify the effect of an attack and serve a variety of strategic purposes. Extant research regarding this topic produces mixed findings though; holidays are expected to increase (Hassner 2011) and decrease (Reese, Ruby, and Pape 2017) the risk of violence on these days. This article attempts to resolve these disparate conclusions by arguing that a heterogeneous

effect exists. I argue that, relative to nonholidays, more terrorism occurs during long holidays because governments are unable to effectively protect them while less terrorism occurs on short holidays because state security is massively increased. Statistical analyses that used data regarding terror attacks in all Arab League countries and all countries comprised of at least 90% Muslims supported these claims. More so, since the main analysis did not measure it directly, I provided evidence that security is relatively higher during short holy days by examining media reports in Syria. Finally, I supplied data regarding terrorism on Jewish holy days in Israel to demonstrate the logic detailed in this study applies to other religious contexts as well.

The principal contributions of this article are twofold. First, it interrogates a common finding, that religious conflicts are more deadly, and explores the production of that violence. I argue that religion informs the organization and timing of terrorism due to strategic and rational calculations by armed groups. Their perception of the government's counter-terror capacity is central to their choice of whether or not to conduct an attack. As such, this study also aids our understanding of the logic terrorists use when timing attacks more broadly. Indeed, this article's second major contribution is demonstrating that counter-terrorism efforts can create substitution effects across *time*, not just in terms of *targets*, which is the focus of existing research. Heavy security on certain days can effectively reduce attacks, but might lead to an increase in violence on other days.

A number of extensions exist for future work. First, research that builds on this study can provide additional information for policy-makers to understand the temporal effects of their security plans and offer insight into the logic that armed groups employ when confronting *temporal* targets with varying levels of counter-terror measures. Second, the effect of increased security on the variation in attacks is not directly tested or observed in this study. Both scholars and policymakers are acutely interested in the manner in which armed groups, particularly those that claim a religious identity, weigh the costs and benefits of an attack. Studying attacks on holy days could offer insight into when and how different levels of specific counter-terror measures can act as a deterrent to violence. Future studies could therefore rely on historic military records or use geospatial data regarding a specific city or country to test this directly. Third, scholars are interested in how non-state groups

adapt to their environment and the ways in which they evolve. Future studies could explore how groups learn to overcome certain types of security that governments deploy during these focal points for violence.

# CHAPTER 5

# CONCLUSION

How do rebel groups influence the public during war? I develop a theory throughout this dissertation that focuses on the use of propaganda, sometimes alongside violence, to affect civilian attitudes. I demonstrate that propaganda – even in isolation – matters. More so, this dissertation provides evidence that rebel groups use propaganda in unison with violence to meet their aims, possibly through coupling attacks with distracting content or contextualizing battles they lost with evidence of military strength.

I focus directly on the role of media during conflict in the second chapter. Specifically, I study whether official rebel media can measurably affect the public's perceptions of a rebel group's strength. These perceptions are central to the conflict and predict outcomes related to concessions, mobilization, and critical civilian support (Kalyvas 2006; Bueno de Mesquita 2013; Sawyer and Andrews 2020). However, existing studies assume they are a function of observed rebel behavior and actual capabilities (Leventolu and Metternich 2018). Civilians struggle to obtain credible reporting regarding the events during civil conflict though, as misinformation and rumors are common features of the information environment (Greenhill and Oppenheim 2017; Silverman 2019; Schon 2021). I argue that rebel groups exploit this feature of conflict and promote *claims* of military strength in their official media that may or may not align with their *actual* capabilities. Given uncertainty surrounding events and selective reporting, exposure to this messaging increases civilian perceptions of a group's strength.

I tested these assertions with data from NATO's Afghanistan Nationwide Quarterly Assessment Research (ANQAR) survey. Exploiting the sudden introduction of the Taliban's radio channel in Kabul, I estimated a difference-in-differences model. The results supported my claims, as the channel's introduction is associated with a 9.7% higher probability that someone reported the Taliban is getting stronger. This is a considerable increase, especially given the current literature's focus on a rebel groups observable activities rather than these 'soft' strategies. I provided support

for the mechanism by descriptively examining the propaganda that the Taliban promote on their radio channel. They use it to shape narratives about the conflict in their favor and provide claims that appear factual, but are difficult or impossible to disprove.

The third chapter, a joint study with Jakana Thomas,[1] investigates *when* groups use propaganda and *what* content they produce. In particular, we argue that that propaganda is an important tool that rebels use to gain and maintain legitimacy, which is essential for them to succeed in the conflict (Podder 2014; Schlichte and Schneckener 2015; Duyvesteyn 2017; Kasfir, Frerks, and Terpstra 2017; Furlan 2020; Terpstra 2020). However, even as they search for legitimacy as an actor capable of governing, strategic considerations often result in rebels using violence against civilians, even those they seek to govern (Hultman 2008; Wood 2010; Stanton 2013b; Thomas 2014; Schwartz and Straus 2018) We argue that rebels use official media to address losses to the government that would otherwise damage the public's perception of their ability to succeed in their fight. Using an original dataset of propaganda released by rebel groups in Syria, we demonstrated that territorial losses to the government are associated with an increase in media output, which we argue is due to rebels trying to contextualize these events and provide evidence of their military capacity to continue fighting. We provided two case studies that illustrate the sort of content that groups use to accomplish this. When facing sudden losses to the government, Jaish al-Islam began publishing content that showed them attempting to fend off the government's advances and evidence of their continued strength. Tahrir al-Sham used propaganda to highlight their governance activities and decreased militaristic posts shortly after committing violence against civilians in a strategic city.

The fourth chapter shifts to examine the logic that rebel groups employ when deciding whether to conduct violence. I specifically examine the case of attacks during religious holy days. I argue several incentives exist for groups to exploit the symbolic meaning of these days and commit violence on them. They can signal their purported religiosity, impose extra terror on their targets by interrupting sacred ceremonies, and expose the government's weakness. However, governments understand they are triggers for violence though and increase security surrounding them. However,

[1] We collaborated on the conceptualization of the project, but I executed it.

their ability to do this is limited by the length of the holiday due to resource constraints and practical concerns. I consequently expect the probability of an attack occurring on holidays that last a few days to be lower than on non-holidays since state security is at its peak. However, holidays that last weeks are more difficult to protect and still provide payoffs to terror groups. They should therefore have a higher likelihood of witnessing an attack than non-holidays. Data from all Arab League countries supported these claims, which I also substantiated using data from all countries with a high proportion of Muslims. However, I expect the theoretical logic to travel to other religious contexts and descriptive data from Israel was consistent with the logic I develop. Finally, descriptive evidence from Syria's state media outlet provided evidence for the mechanism, as the proportion of news articles that mention words related to counter-terrorism was highest on short holy days. These findings demonstrate that while propaganda might enable certain types of violence, these choices are still subject to constraints imposed by the government and other belligerents in the conflict.

Taken together, this dissertation provides evidence that rebel groups prioritize their relationship with civilians during conflict, even when they choose to target them with violence. Rebel groups take care to maximize the efficiency of their attacks and employ propaganda as a cover to limit possible sanctions from civilians. Propaganda is more than cheap talk, it represents a meaningful tool that can measurably change opinions regarding the conflict. As such, this dissertation broadly addresses the strategies that rebel groups use to influence the public. Due to the centrality of civilian attitudes and support during civil war, their ability to do this determines the direction of the conflict.

# APPENDICES

# APPENDIX A

# CHAPTER 2 APPENDIX

### A.0.1 Research Assistant

I hired a research assistant and professional translator fluent in English and the commonly spoken languages in Afghanistan (Pashto and Dari) to listen to the Taliban's radio broadcast. The Taliban does not provide an online simulcast of their radio station. To my knowledge, no large-scale recordings and transcriptions of the station are available for systematic analysis either. This means remotely analyzing the content is not possible. I identified a research assistant individual using upwork.com, a professional freelancer website. I chose an individual with positive reviews and a long record of successful projects with other contractors. The individual worked during the COVID-19 pandemic, but their assigned duties were remote.

I instructed the research assistant, a citizen of Afghanistan located in Helmand, to listen to the Taliban's radio station and report important themes regarding the content that emerged. They assured me no personal security issues would arise from this and that they were perfectly comfortable listening to the content. I instructed them to report to me if any emotional or personal issues emerged because of the nature of the work. They did not report any issues. They listened to the radio intermittently from late April 2021 to the beginning of June 2021. This provided the opportunity to listen to the station at different times of day and across multiple weeks. The Taliban also spread physical recordings of their radio station by selling them in markets throughout areas under their control. The research assistant obtained several of these recordings and listened to them as well.

# APPENDIX B

# CHAPTER 3 APPENDIX

## B.0.1 Translation Of Figure 28

[Professional translation of figure 3.29 in the main text]

Title: *A Meeting in Maarat al-Numan between Representatives of Tahrir al-Sham and Dignitaries of the City*

Date (in yellow below title): *June 11, 2017*

Ibaa [HTS' outlet] - Idlib countryside: In the past two days, the city of Maarat al-Numan has witnessed events and tensions between Tahrir al-Sham and the 13th Division [a separate Syrian rebel group], against the backdrop of violations by members of the Division that amounted to killing members of Tahrir al-Sham and residents of Maarat al-Numan. Many lawsuits were filed without a response from them, which led to the commission sending a military force to storm the headquarters of the Division to arrest the guilty individuals and bring them to justice.

To discuss the current situation in Maarat and ways to stop the escalation and block the path against the instigators, representatives of Tahrir al-Sham met with dignitaries of Maarat al-Numan, where Abu Musab al-Suri, the representative of Tahrir al-Sham, explained to the dignitaries of Maarat al-Numan: The force that entered Maarat was not aimed at the people of Maarat at all, we were targeting the guilty Division 13 soldiers who were hiding. This came after all other attempts at a resolution with them failed, so we had to enter with a military force to arrest the guilty individuals and bring them to the judiciary.

In addition to that, some video clips [of Tahrir al-Sham in Maarat al-Numan] circulated on social networks. Activists said that they showed Tahrir al-Sham fighters shooting at the demonstrators. In turn, the Ibaa agency contacted Imad al-Din Mujahid, Director of Tahrir al-Sham's Media Relations, to determine the validity of these accusations. He explained: "We certainly did not fire on the demonstrators. We ask those who accuse us of that to present their evidence and the names of those that were injured as a result. One of the videos that was published shows the reluctance of Tahrir al-Sham fighters to confront or respond to the abusers that are trying to provoke them. There was no direct targeting, but there were some bursts due to the ongoing clashes and efforts to separate the gathering for fear of being instigated. Another video showed that some "demonstrators", accompanied by armed forces, attacked a member of Tahrir al-Sham, which confirms the falsehood of these allegations despite the provocation and abuse initiated by some "demonstrators", which was met with restraint from the members of Tahrir al-Sham who did not wish to be dragged into attempts to spread chaos and spiral the situation out of control."

We note that Tahrir al-Sham and the Idlib Free Army have agreed to end the tension and resolve the issue in Maarat al-Numan. They also agreed to form a court to rule on the recent events, although the 13th Division - affiliated with the Idlib Free Army - announced its rejection of the agreement and made it clear that the Free Idlib Army is not authorized to do so.

# APPENDIX C

# CHAPTER 4 APPENDIX

## C.0.1 Additional Tables

Table C.0.1 *Day Type* - Short and Long Jewish Holidays

| Jewish Holiday | Hebrew Date | Length | Type |
|---|---|---|---|
| Fast of Gedaliah | 3 Tishre | 1 day | Short |
| Yom Kippur | 10 Tishre | 1 day | Short |
| Rosh Hashanah | 15 Shevat | 1 day | Short |
| Tu B'Shevat | 15 Shevat | 1 day | Short |
| Fast of Esther | 11 Adar | 1 day | Short |
| Purim | 14/15 Adar | 1 day | Short |
| Holocaust Martyrs' & Heroes' Remembrance Day | 27 Nisan | 1 day | Short |
| Remembrance Day | 3 Iyar | 1 day | Short |
| Lag B'Omer | 18 Iyar | 1 day | Short |
| Shavuot | 6 Sivan | 1 day | Short |
| 17th of Tammuz | 18 Tammuz | 1 day | Short |
| Ninth of Av | 10 Av | 1 day | Short |
| Sabbath | Weekly | 1 day | Short |
| Sukkot & Shemini Atzeret-Simchat Torah | 15-22 Tishre | 8 days | Long |
| Hannukah | 25 Kislev - 2/3 Tevet | 8 days | Long |
| Passover | 15-21 Nisan | 7 days | Long |

Table C.0.2 Descriptive Statistics

| Statistic | N | Mean | St. Dev. | Median |
|---|---|---|---|---|
| Terror Attack | 93,862 | 0.10 | 0.31 | 0 |
| Terror Attack $\text{Lag}_{\text{t-1}}$ | 93,862 | 0.10 | 0.31 | 0 |
| Battlefield $\text{Events}_{\text{t-1}}$ | 93,862 | 0.34 | 1.66 | 0 |
| log(Population) | 93,862 | 16.11 | 1.26 | 16.07 |
| GDP PC | 93,862 | 28,905.31 | 33,230.47 | 11,756.97 |
| Land Area ($\text{km}^2$) | 93,862 | 787,060.80 | 856,337.20 | 472,021.50 |
| National Holiday | 93,862 | 0.01 | 0.11 | 0 |
| Day Type - Non-Holiday | 93,862 | 0.76 | 0.43 | 1 |
| Day Type - Short Holiday | 93,862 | 0.17 | 0.38 | 0 |
| Day Type - Long Holiday | 93,862 | 0.07 | 0.25 | 0 |

### C.0.2 Countries in the Data

Figures C.0.1 and C.0.2 visualize the countries in the Arab League dataset and in the dataset with all countries comprised of at least 90% Muslims respectively. Countries included in the data are colored royal blue and those that are omitted from the analysis due to entirely incomplete data or because they experienced no terrorism during the study's timeframe are magenta.

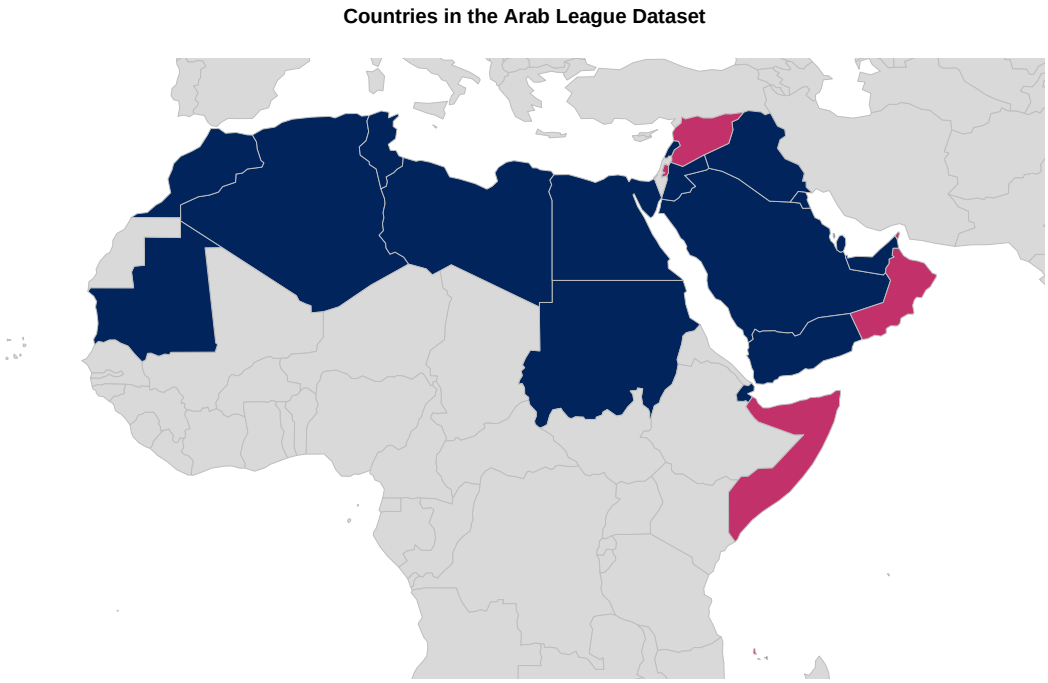


Figure C.0.1 *Countries represented in the main analysis (Arab League). Royal blue* denotes countries in the data while *magenta* highlights those that are omitted from the analysis due to entirely incomplete data or because they experienced no terrorism during the study's timeframe (Union of the Comoros, Oman, the Palestinian Territories, Somalia, and Syria).

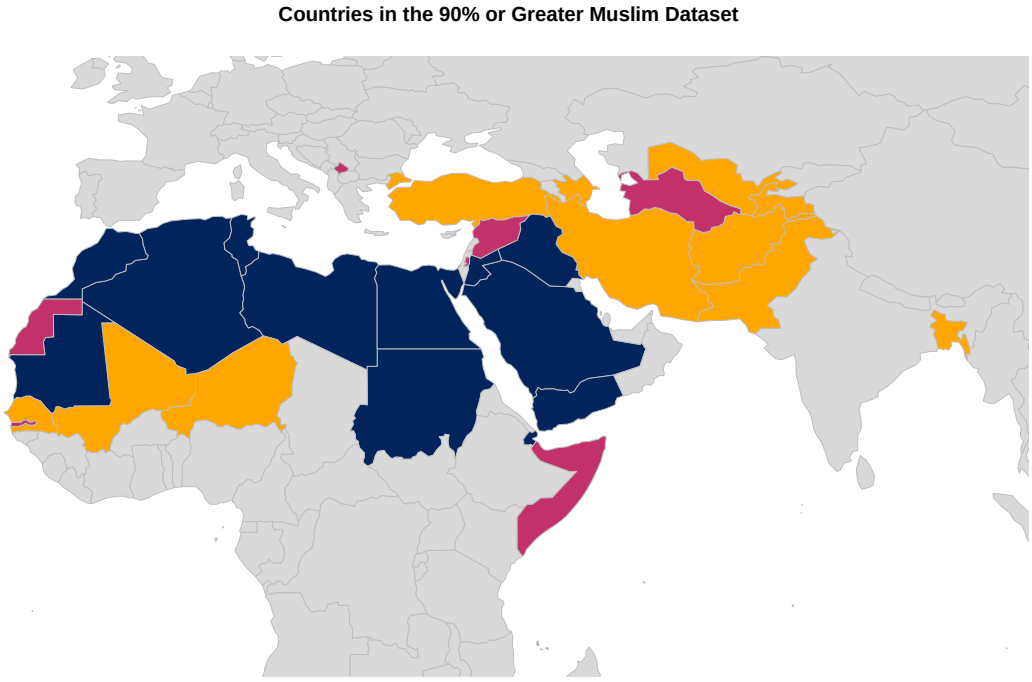


Figure C.0.2 *Countries represented in the dataset of all countries comprised of at least 90% Muslims. Orange* indicates countries in this dataset that are *not* in the Arab League dataset analyzed in the main paper. *Royal blue* denotes countries in both datasets while *magenta* highlights those that are omitted from the analysis due to entirely incomplete data or because they experienced no terrorism during the study's timeframe (Gambia, Kosovo, Maldives, Somalia, Syria, Turkmenistan, Palestinian Territories, Union of the Comoros, Western Sahara).

***Observed Countries in the Arab League***: Algeria, Bahrain, Djibouti, Egypt, Iraq, Jordan, Kuwait, Lebanon, Libya, Mauritania, Morocco, Qatar, Saudi Arabia, Sudan, Tunisia, Yemen, and the United Arab Emirates.

***Observed Countries with ≥90% Muslims***: Afghanistan, Algeria, Azerbaijan, Bangladesh, Djibouti, Egypt, Iran, Iraq, Jordan, Libya, Mali, Mauritania, Morocco, Niger, Pakistan, Saudi Arabia, Senegal, Sudan, Tajikistan, Tunisia, Turkey, Uzbekistan, and Yemen.

### C.0.3 Attacks on Holidays Across Countries

Figure C.0.3 displays the percent of days within each category of *Day Type* (short, long, nonholiday) that experience terrorism. The figure is faceted by country and I order the plots by the number of days each country experiences terrorism. Countries where the percent of days that experience terrorism is highest during long holidays (Ramadan) are colored red. Countries where a different category (short or nonholiday) has the highest percent of days that experience terrorism are colored teal.

Note that long holidays experience the most terrorism in the majority of countries. Long holidays are also the highest category in the countries that experience the most terrorism - Iraq, Somalia, Yemen, etc. The majority of the countries where terrorism is *not* the highest during long holidays are also countries that experience relatively little terrorism. Note that the majority of countries where the long holiday category is not the highest are in the bottom row of the figure, which is arranged by the percent of days that experience terrorism. These countries (the United Arab Emirates, Djibouti, Qatar) experience relatively little terrorism, only 5-20 attacks in total during 16 years covered by the data.

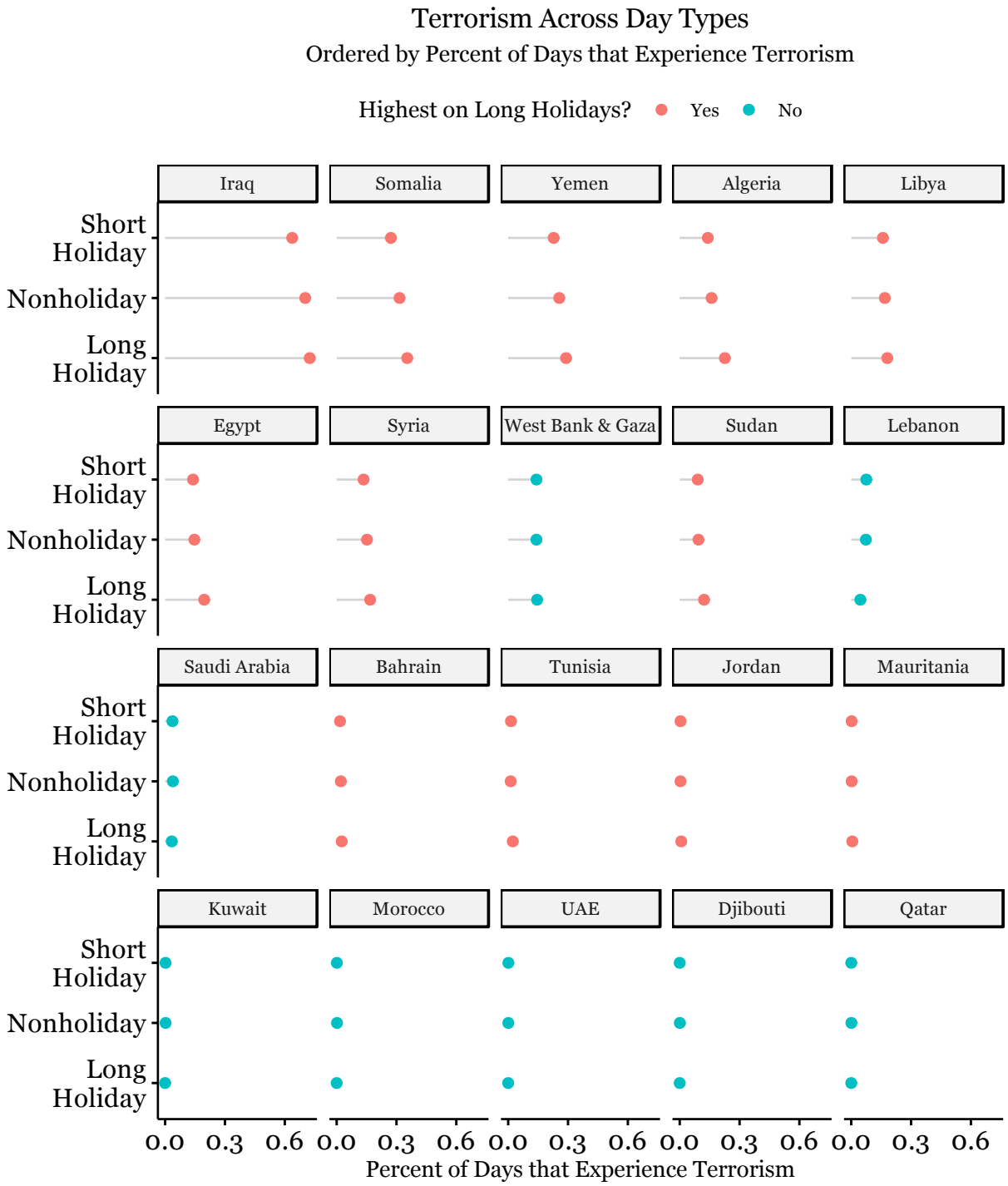


Figure C.0.3 The figure displays the percent of days that experience terrorism on the x-axis across each category of the *Day Type* variable on the y-axis and is faceted by country. The countries are ordered by the number of days each country experiences terrorism. Countries where the percent of days that experience terrorism is highest during long holidays are colored red and all others are colored teal.

### C.0.4 Alternate *Day Type* Codings

I consider several alternate codings of the *Day Type* variable to ensure the robustness of the results. Recall that the coding of this variable is straightforward. *Short Holidays* are Islamic holidays that last three days or less while *Long Holidays* are days within the important month of Ramadan. However, the weekly liturgical day (Friday) could arguably constitute another category because it occurs regularly and therefore be qualitatively different from the other short holidays. I therefore estimate two additional models. First, I include Friday as a separate category within the *Day Type* variable (table C.0.3). *Friday* is negatively associated with terrorism and statistically significant in this model. The coefficients on the other holiday variables do not substantively change. This supports my theory, as Fridays are a short one day holiday and are associated with a decrease in the likelihood of terrorism when included in the model separately. Second, I estimate a model with Friday excluded from the *Short* category altogether (table C.0.3). The results are consistent with the main model.

### C.0.5 Alternative Model Specifications

Table C.0.3 Model 1a is estimated with Friday, which hosts Islam's weekly liturgical service, omitted from the *Short Holiday* category of *Day Type*. Model 2a is estimated with Friday as a separate variable. I move Fridays from the *Short Holiday* category to the indicator variable *Friday*. The models are otherwise identical to the main model in table 4.2.

| | *Dependent variable:* | |
|---|---|---|
| | Terror Attack | |
| | (1a) | (2a) |
| Day Type - Long Holiday (No Friday) | 0.249*** | |
| | (0.061) | |
| Day Type - Short Holiday (No Friday) | −0.278*** | |
| | (0.091) | |
| Day Type - Long Holiday (Friday separate) | | 0.218*** |
| | | (0.062) |
| Day Type - Short Holiday (Friday separate) | | −0.309*** |
| | | (0.091) |
| Friday | | −0.203*** |
| | | (0.047) |
| Attack $\text{Lag}_{\text{t-1}}$ | 0.480*** | 0.482*** |
| | (0.038) | (0.038) |
| Battlefield $\text{Events}_{\text{t-1}}$ | 0.042*** | 0.043*** |
| | (0.013) | (0.013) |
| log(Population) | 0.654 | 0.647 |
| | (0.606) | (0.609) |
| GDP PC | −1.328** | −1.332** |
| | (0.552) | (0.553) |
| Land Area ($\text{km}^2$) | 0.389 | 0.392 |
| | (0.564) | (0.570) |
| National Holiday | −0.117 | −0.118 |
| | (0.139) | (0.139) |
| Intercept | −5.112*** | −5.082*** |
| | (0.509) | (0.510) |
| Observations | 93,862 | 93,862 |
| Var(Country) | 3.974 | 3.977 |
| Var(Country Year : Country) | 2.595 | 2.594 |
| Num(Country) | 17 | 17 |
| Num(Country Year : Country) | 257 | 257 |
| Log Likelihood | −13,436.850 | −13,427.640 |
| Akaike Inf. Crit. | 26,897.710 | 26,881.280 |
| Bayesian Inf. Crit. | 27,011.100 | 27,004.120 |
| *Note:* | *p<0.1; **p<0.05; ***p<0.01 | |

Table C.0.4 Model 3a is estimated without *Battlefield Events* and model 4a omits several additional control variables. The results of both models are consistent with the main model in table 4.2.

| | *Dependent variable:* | |
|---|---|---|
| | Terror Attacks | |
| | (3a) | (4a) |
| Day Type - Long Holiday | $0.220^{***}$ | $0.209^{***}$ |
| | (0.061) | (0.051) |
| Day type - Short Holiday | $-0.221^{***}$ | $-0.210^{***}$ |
| | (0.043) | (0.035) |
| Attack $\text{Lag}_{\text{t-1}}$ | $0.498^{***}$ | |
| | (0.038) | |
| log(Population) | 0.676 | $1.252^{**}$ |
| | (0.600) | (0.503) |
| GDP PC | $-1.326^{**}$ | |
| | (0.551) | |
| Land Area ($\text{km}^2$) | 0.382 | |
| | (0.560) | |
| National Holiday | −0.114 | −0.136 |
| | (0.138) | (0.117) |
| Intercept | $-5.092^{***}$ | $-4.747^{***}$ |
| | (0.512) | (0.520) |
| Observations | 93,862 | 116,889 |
| Log Likelihood | −13,433.780 | −19,533.290 |
| Akaike Inf. Crit. | 26,889.570 | 39,082.570 |
| Bayesian Inf. Crit. | 26,993.510 | 39,159.930 |
| *Note:* | $^{*}$p<0.1; $^{**}$p<0.05; $^{***}$p<0.01 | |

Table C.0.5 Model 5a is the same as the main model, except it is estimated with data regarding all countries comprised of at least 90% Muslims. The results are consistent with the main model.

| | *Dependent variable:* |
|---|---|
| | Terror Attack |
| | (5a) |
| Day Type - Long Holiday | $0.086^{*}$ |
| | (0.049) |
| Day type - Short Holiday | $-0.203^{***}$ |
| | (0.033) |
| Attack $Lag_{t-1}$ | $0.534^{***}$ |
| | (0.030) |
| Battlefield $Events_{t-1}$ | $0.052^{***}$ |
| | (0.011) |
| log(Population) | $2.555^{***}$ |
| | (0.640) |
| GDP PC | $-0.997^{***}$ |
| | (0.344) |
| Land Area ($km^2$) | 0.741 |
| | (0.495) |
| National Holiday | −0.049 |
| | (0.102) |
| Intercept | $-4.988^{***}$ |
| | (0.512) |
| Observations | 128,588 |
| Var(Country) | 4.766 |
| Var(Country Year : Country) | 1.827 |
| Num(Country) | 23 |
| Num(Country Year : Country) | 352 |
| Log Likelihood | −22,094.450 |
| Akaike Inf. Crit. | 44,212.890 |
| Bayesian Inf. Crit. | 44,330.070 |
| *Note:* | $^{*}$p<0.1; $^{**}$p<0.05; $^{***}$p<0.01 |

Table C.0.6 Models 6a and 7a are the same as models 1a and 3a, except they are estimated with data regarding all countries comprised of at least 90% Muslims. The results are consistent with the models fit to data regarding countries in the Arab League.

| | *Dependent variable:* | |
|---|---|---|
| | Terror Attack | |
| | (6a) | (7a) |
| Day Type - Long Holiday (No Friday) | $0.110^{**}$ | |
| | (0.049) | |
| Day Type - Short Holiday (No Friday) | $-0.356^{***}$ | |
| | (0.069) | |
| Day Type - Long Holiday (Friday separate) | | $0.086^{*}$ |
| | | (0.049) |
| Day Type - Short Holiday (Friday separate) | | $-0.380^{***}$ |
| | | (0.070) |
| Friday | | $-0.158^{***}$ |
| | | (0.037) |
| Attack $\text{Lag}_{\text{t-1}}$ | $0.533^{***}$ | $0.534^{***}$ |
| | (0.030) | (0.030) |
| Battlefield $\text{Events}_{\text{t-1}}$ | $0.052^{***}$ | $0.052^{***}$ |
| | (0.011) | (0.011) |
| log(Population) | $2.542^{***}$ | $2.536^{***}$ |
| | (0.634) | (0.630) |
| GDP PC | $-1.001^{***}$ | $-1.004^{***}$ |
| | (0.344) | (0.344) |
| Land Area ($\text{km}^2$) | 0.746 | 0.748 |
| | (0.493) | (0.495) |
| National Holiday | $-0.048$ | $-0.048$ |
| | (0.102) | (0.102) |
| Intercept | $-5.007^{***}$ | $-4.982^{***}$ |
| | (0.510) | (0.508) |
| Observations | 128,588 | 128,588 |
| Var(Country) | 4.764 | 4.766 |
| Var(Country Year : Country) | 1.826 | 1.827 |
| Num(Country) | 23 | 23 |
| Num(Country Year : Country) | 352 | 352 |
| Log Likelihood | $-22{,}099.410$ | $-22{,}090.190$ |
| Akaike Inf. Crit. | 44,222.820 | 44,206.380 |
| Bayesian Inf. Crit. | 44,339.990 | 44,333.310 |
| *Note:* | $^{*}$p<0.1; $^{**}$p<0.05; $^{***}$p<0.01 | |

Table C.0.7 The outcome variable in model 8a excludes attacks that are included in the Global Terrorism Database, but are coded as possibly not being terrorism. It is otherwise identical to the main model. The results are consistent with the main model.

| | *Dependent variable:* |
|---|---|
| | Terror Attack |
| | (8a) |
| Day Type - Long Holiday | $0.173^{***}$ |
| | (0.064) |
| Day type - Short Holiday | $-0.211^{***}$ |
| | (0.045) |
| Attack $\text{Lag}_{\text{t-1}}$ | $0.435^{***}$ |
| | (0.040) |
| Battlefield $\text{Events}_{\text{t-1}}$ | $0.034^{***}$ |
| | (0.013) |
| log(Population) | 0.887 |
| | (0.606) |
| GDP PC | $-1.207^{**}$ |
| | (0.539) |
| Land Area ($\text{km}^2$) | 0.330 |
| | (0.554) |
| National Holiday | −0.195 |
| | (0.144) |
| Intercept | $-5.286^{***}$ |
| | (0.500) |
| Observations | 93,862 |
| Var(Country) | 3.788 |
| Var(Country Year : Country) | 2.342 |
| Num(Country) | 17 |
| Num(Country Year : Country) | 257 |
| Log Likelihood | −12,627.650 |
| Akaike Inf. Crit. | 25,279.290 |
| Bayesian Inf. Crit. | 25,392.690 |
| *Note:* | $^{*}$p<0.1; $^{**}$p<0.05; $^{***}$p<0.01 |

**BIBLIOGRAPHY**

## BIBLIOGRAPHY


Aaron, David. 2008. *In Their Own Words- Voices of Jihad*. RAND Corporation.

Abrahms, Max. 2012. "The Political Effectiveness of Terrorism Revisited." *Comparative Political Studies* 45 (3): 366–393.

Abrahms, Max, Nicholas Beauchamp, and Joseph Mroszczyk. 2017. "What terrorist leaders want: A content analysis of terrorist propaganda videos." *Studies in Conflict and Terrorism* 40 (11).

Armand, Alex, Paul Atwell, and Joseph F. Gomes. 2020. "The reach of radio: Ending civil conflict through rebel demobilization." *American Economic Review* 110 (5).

Arraf, Jane. 2012. "When lack of explosion makes news in Iraq." *Al Jazeera*. Accessed November 2, 2018. https://www.aljazeera.com/blogs/middleeast/2012/11/51961.html.

Arves, Stephen, Kathleen Gallagher Cunningham, and Caitlin McCulloch. 2019. "Rebel tactics and external public opinion." *Research and Politics* 6 (3).

Asal, Victor, and Karl Rethemeyer. 2008. "The Nature of the Beast: Organizational Structures and the Lethality of Terrorist Attacks." *The Journal of Politics* 70 (2): 437–449.

Ashford, Emma. 2018. "Afghanistan suicide bomber kills scores of Muslim scholars." *The Guardian*, November 20. Accessed 2 November 2019. https://www.theguardian.com/world/2018/nov/20/afghanistan-suicide-bomber-kills-scores-of-muslim-scholars.

Athey, Susan, and Guido W. Imbens. 2006. "Identification and inference in nonlinear difference-in-differences models." *Econometrica*.

Awan, Imran. 2017. "Cyber-Extremism: Isis and the Power of Social Media." *Society* 54 (2).

BBC. 2015. "Nigeria's Boko Haram crisis: Eid prayer blasts hit Damaturu." , July 17. Accessed 2 November 2019. http://www.bbc.com/news/world-middle-east-28082962.

— . 2016. *Who are the Farc?* https://www.bbc.com/news/world-latin-america-36605769.

Benigni, Matthew C., Kenneth Joseph, and Kathleen M. Carley. 2017. "Online extremism and the communities that sustain it: Detecting the ISIS supporting community on Twitter." *PLoS ONE* 12 (12).

Benmelech, Efraim, Claude Berrebi, and Esteban F. Klor. 2015. "Counter-Suicide-Terrorism: Evidence from House Demolitions." *The Journal of Politics* 77 (1): 27–43.

Berman, Eli, and David D Laitin. 2008. *Religion, Terrorism and Public Goods: Testing the Club Model*. Working Paper, Working Paper Series 13725. National Bureau of Economic Research.

Berman, Eli, and Aila M. Matanock. 2015. *The empiricists' insurgency*.

Berwani, Hawar. 2012. "Najaf celebrates success of its Eid security plan." *Iraqi News*, August 24. Accessed 12 May 2020. https://www.iraqinews.com/iraq-war/najaf-celebrates-success-of-its-eid-security-plan/.

Bloom, M. 2007. *Dying to Kill: The Allure of Suicide Terror*. Columbia University Press.

Bloom, Mia, Hicham Tiflati, and John Horgan. 2017. "Navigating ISIS's Preferred Platform: Telegram." *Terrorism and Political Violence* 0, no. 0 (): 1–13. https://doi.org/10.1080/09546553.2017.1339695.

Boyd, Katharine A. 2016. "Modeling Terrorist Attacks: Assessing Statistical Models to Evaluate Domestic and Ideologically International Attacks." *Studies in Conflict & Terrorism* 39 (7-8): 712–748.

Breslawski, Jori, and Brandon Ives. 2019. "Killing for God? Factional Violence on the Transnational Stage." *Journal of Conflict Resolution* 63 (3): 617–643.

Bueno de Mesquita, Ethan, and Eric S. Dickson. 2007. "The Propaganda of the Deed: Terrorism, Counterterrorism, and Mobilization." *American Journal of Political Science* 51 (2): 364–381.

Bueno de Mesquita, Ethan. 2013. "Rebel Tactics." *Journal of Political Economy* 121, no. 2 (): 323–357. http://search.ebscohost.com/login.aspx?direct=true%7B%5C&%7Ddb=bth%7B%5C&%7DAN=87120827%7B%5C&%7Dsite=bsi-live.

Chenoweth, Erica. 2010. "Democratic Competition and Terrorist Activity." *The Journal of Politics* 72 (1): 16–30.

Chetty, Raj, Adam Looney, and Kory Kroft. 2009. "Salience and taxation: Theory and evidence." *American Economic Review* 99, no. 4 (): 1145–1177.

Clayton, Govinda. 2013. "Relative rebel strength and the onset and outcome of civil war mediation." *Journal of Peace Research* 50, no. 5 (): 609–622. https://journals.sagepub.com/doi/abs/10.1177/0022343313491587.

Conroy-Krutz, Jeffrey. 2018a. "Individual Autonomy and Local-Level Solidarity in Africa." *Political Behavior* 40 (3): 593–627.

— . 2018b. "Media exposure and political participation in a transitional African context." *World Development* 110:224–242.

Crabtree, Charles, and Holger L. Kern. 2018. "Using Electromagnetic Signal Propagation Models for Radio and Television Broadcasts: AnÂ Introduction." *Political Analysis* 26 (3).

Cunningham, Kathleen Gallagher, and Cyanne E. Loyle. 2021. "Introduction to the Special Feature on Dynamic Processes of Rebel Governance." *Journal of Conflict Resolution* 65 (1).

Della Vigna, Stefano, Ruben Enikolopov, Vera Mironova, Maria Petrova, and Ekaterina Zhuravskaya. 2014. "Cross-border media and nationalism: Evidence from serbian radio in croatia." *American Economic Journal: Applied Economics* 6 (3).

Dicter, Avi, and Daniel Byman. 2006. *Israel's Lessons for Fighting Terrorists and Their Implications for the United States*. The Brookings Institution.

Doctor, Austin C. 2020. "A Motion of No Confidence: Leadership and Rebel Fragmentation." *Journal of Global Security Studies* 5 (4).

Driscoll, Jesse, and Daniel Maliniak. 2016. "Did Georgian voters desire military escalation in 2008? Experiments and observations." *Journal of Politics* 78 (1).

Dugan, Laura, and Erica Chenoweth. 2012. "Moving Beyond Deterrence: The Effectiveness of Raising the Expected Utility of Abstaining from Terrorism in Israel." *American Sociological Review* 77 (4): 597–624.

Duyvesteyn, Isabelle. 2017. *Rebels & Legitimacy; An Introduction*.

Eck, Kristine. 2014. "Coercion in Rebel Recruitment." *Security Studies* 23 (2).

Enders, Walter, and Todd Sandler. 1993. "The Effectiveness of Antiterrorism Policies: A Vector-Autoregression- Intervention Analysis." *The American Political Science Review* 87 (4): 829–844.

Enders, Walter, Todd Sandler, and Jon Cauley. 1990. "Assessing the impact of terrorist thwarting policies: An intervention time series approach." *Defence Economics* 2 (1): 1–18.

Fearon, James D. 1995. "Rationalist explanations for war." *International Organization* 49 (3).

Field, Antony. 2017. "The Dynamics of Terrorism and Counterterrorism: Understanding the Domestic Security Dilemma." *Studies in Conflict & Terrorism* 40 (6): 470–483.

Findley, Michael G., and Joseph K. Young. 2012. "Terrorism and Civil War: A Spatial and Temporal Approach to a Conceptual Problem." *Perspectives on Politics* 10 (2): 285–305.

Furlan, Marta. 2020. "Understanding Governance by Insurgent Non-State Actors: A Multi-Dimensional Typology." *Civil Wars* 22 (4).

Gelman, Andrew. 2006. "Multilevel (Hierarchical) Modeling: What It Can and Cannot Do." *Technometrics* 48 (3): 432–435.

Gelman, Andrew, and Jennifer Hill. 2006. *Data Analysis Using Regression and Multilevel/Hierarchical Models*. Analytical Methods for Social Research. Cambridge University Press.

Gertler, Paul J., Sebastian Martinez, Patrick Premand, Laura B. Rawlings, and Christel M. J. Vermeersch. 2016. *Impact Evaluation in Practice*. Second Edi. World Bank Group. https://books.google.com/books?id=Zm8kDQAAQBAJ%7B%5C&%7Dprintsec=frontcover%7B%5C#%7Dv=onepage%7B%5C&%7Dq%7B%5C&%7Df=false.

Gill, Jeff, and Andrew Womack. 2013. "The Multilevel Model Framework." In *The SAGE Handbook of Multilevel Modeling*, 3–20. SAGE Publications Ltd.

Gohdes, Anita R. 2018. "Studying the Internet and Violent conflict." *Conflict Management and Peace Science* 35 (1).

Goodwin, Jeff. 2006. "A Theory of Categorical Terrorism." *Social Forces* 84 (4): 2027–2046.

Greene, Kevin T., and Caleb Lucas. 2020. "Once more, with feeling: using sentiment analysis to improve models of relationships between non-state actors." *International Interactions* 46 (1).

Greenhill, Kelly M., and Ben Oppenheim. 2017. "Rumor has it: The adoption of unverified information in conflict zones." *International Studies Quarterly*.

Hanmer, Michael J., and Kerem Ozan Kalkan. 2012. "Behind the Curve: Clarifying the Best Approach to Calculating Predicted Probabilities and Marginal Effects from Limited Dependent Variable Models." *American Journal of Political Science* 57 (1): 263–277.

Hanmer, Michael J., and Kerem Ozan Kalkan. 2013. "Behind the Curve: Clarifying the Best Approach to Calculating Predicted Probabilities and Marginal Effects from Limited Dependent Variable Models." *American Journal of Political Science* 57 (1).

Hassner, M. 2009. *War on Sacred Grounds*. Cornell University Press.

Hassner, Ron E. 2011. "Sacred Time and Conflict Initiation." *Security Studies* 20 (4): 491–520.

Heger, Lindsay L., and Danielle F. Jung. 2017. "Negotiating with Rebels: The Effect of Rebel Service Provision on Conflict Negotiations." *Journal of Conflict Resolution* 61 (6).

Horowitz, Michael, and Philip Potter. 2014. "Allying to Kill Terrorist Intergroup Cooperation and the Consequences for Lethality." *Journal of Conflict Resolution* 58 (2): 199–225.

Hubbard, Ben. 2015. "Terrorist Attacks in France, Tunisia and Kuwait Kill Dozens." *The New York Times*, June 26. Accessed 14 September 2019. https://www.nytimes.com/2015/06/27/world/middleeast/terror-attacks-france-tunisia-kuwait.html.

Hultman, Lisa. 2007. "Battle losses and rebel violence: Raising the costs for fighting." *Terrorism and Political Violence*.

— . 2008. "Targeting the Unarmed: Strategic Rebel Violence in Civil War." *Techniques of Violence in Civil War*.

Hutchison, Marc L. 2014. "Tolerating Threat? The Independent Effects of Civil Conflict on Domestic Political Tolerance." *Journal of Conflict Resolution* 58 (5): 796–824.

Isaacs, Matthew. 2017. "Faith in Contention: Explaining the Salience of Religion in Ethnic Conflict." *Comparative Political Studies* 50 (2): 200–231.

Johnson, Brian D. 2017. "Applying Multilevel Models to Terrorism Research." Chap. 16 in *The Handbook of the Criminology of Terrorism*, 244–259. Wiley-Blackwell.

Jones, Benjamin T., and Eleonora Mattiacci. 2019. "A Manifesto, in 140 Characters or Fewer: Social Media as a Tool of Rebel Diplomacy." *British Journal of Political Science* 49 (2): 739–761.

Juergensmeyer, Mark. 2017. *Terror in the Mind of God: The Global Rise of Religious Violence*. University of California Press.

Kalyvas, Stathis N. 2001. "New and Old Civil Wars: A Valid Distinction?" *World Politics* 54 (1).

Kalyvas, Stathis N. 2006. *The Logic of Violence in Civil War*. Cambridge University Press.

Kasfir, Nelson, Georg Frerks, and Niels Terpstra. 2017. *Introduction: Armed Groups and Multi-layered Governance*.

Kearns, Erin M., Brendan Conlon, and Joseph K. Young. 2014. "Lying About Terrorism." *Studies in Conflict & Terrorism* 37 (5): 422–439.

Kilcullen, David. 2011. *The Accidental Guerrilla: Fighting Small Wars in the Midst of a Big One*. Reprint ed. Oxford University Press.

LaFree, Gary, and Laura Dugan. 2011. *Global Terrorism Database*.

LaFree, Gary, Laura Dugan, and Raven Korte. 2009. "The Impact of British Counterterrorist Strategies on Political Violence in Northern Ireland: Comparing Deterrence and Backlash Models." *Criminology*, no. October: 17–45.

Lee, Chiayi. 2013. "Democracy, civil liberties, and hostage-taking terrorism." *Journal of Peace Research* 50 (2): 235–248.

Leventolu, Bahar, and Nils W. Metternich. 2018. "Born Weak, Growing Strong: Anti-Government Protests as a Signal of Rebel Strength in the Context of Civil Wars." *American Journal of Political Science* 62, no. 3 (): 581–596. http://doi.org/10.7910/DVN/MYDZNF..

Lewis, Janet I. 2020. *How Insurgency Begins*.

Loken, Meredith. 2021. "Both needed and threatened': Armed mothers in militant visuals." *Security Dialogue* 52 (1).

Longley, A.G. Rice, P. L. 1968. "Prediction 3F Tropospheric Radiv Transmission Loss Over Irregular Terrain - A Computer Method." *ESSA Technical Report*.

Loyle, Cyanne E. 2021. "Rebel Justice during Armed Conflict." *Journal of Conflict Resolution* 65 (1).

Loyle, Cyanne E., and Samuel E. Bestvater. 2019. "#rebel: Rebel communication strategies in the age of social media." *Conflict Management and Peace Science* 36 (6).

Loyle, Cyanne E., and Helga Malmin Binningsbø. 2018. "Justice during Armed Conflict: A New Dataset on Government and Rebel Strategies." *Journal of Conflict Resolution* 62 (2).

Lugo, Luis, Alan Cooperman, James Bell, Erin O'Connell, and Sandra Stencel. 2012. *The World's Muslims: Unity and Diversity*. Pew Research Center.

Lynch, Marc, Deen Frelon, and Sean Aday. 2014. *Syria's socially mediated civil war*, vol. 91.

Malejacq, Romain. 2017. "From Rebel to Quasi-State: Governance, Diplomacy and Legitimacy in the Midst of Afghanistan's Wars (19792001)." *Small Wars and Insurgencies* 28 (4-5).

Matusitz, J. 2014. *Symbolism in Terrorism: Motivation, Communication, and Behavior*. Rowman / Littlefield.

Miklaszewski, Jim, Andrea Mitchell, and Pete Williams. 2013. "Al Qaeda leaders 'wanted to do something big' on Muslim holiday, sources say." *NBC News*, August 5. Accessed 26 May 2020. https://www.nbcnews.com/news/world/al-qaeda-leaders-wanted-do-something-big-muslim-holiday-sources-flna6C10850404.

Moghadam, A. 2008. *The Globalization of Martyrdom*. Johns Hopkins University.

Najjar, Farah. 2017. "Israel seals off West Bank and Gaza as Sukkot begins." *Al Jazeera*, October 17. Accessed 12 May 2020. https://www.aljazeera.com/news/2017/10/israel-seals-west-bank-gaza-sukkot-begins-171004115622869.html.

Nielsen, Richard A. 2017. *Deadly Clerics: Blocked Ambition and the Paths to Jihad*. Cambridge University Press.

O'halloran, Kay L., Sabine Tan, Peter Wignell, John A. Bateman, Duc Son Pham, Michele Grossman, and Andrew Vande Moere. 2019. "Interpreting text and image relations in violent extremist discourse: A mixed methods approach for big data analytics." *Terrorism and Political Violence* 31 (3).

Ottmann, Martin. 2017. "Rebel constituencies and rebel violence against civilians in civil conflicts." *Conflict Management and Peace Science* 34, no. 1 (): 27–51. https://journals.sagepub.com/doi/abs/10.1177/0738894215570428.

Ozer, Sarp. 2019. "Four Turkish soldiers martyred six others injured Friday during operations against terrorists in Turkey-Iraq border area." *Anadolu Agency*, April 20. Accessed 26 May 2020. https://www.aa.com.tr/en/politics/-attack-on-holy-night-shows-terrorists-treachery-/1458462.

Pape, Robert Anthony. 2006. *Dying to Win: The Strategic Logic of Suicide Terrorism*. Random House Trade Paperbacks.

Pechenkina, Anna O., and Jakana L. Thomas. 2020. "Battle Stalemates and Rebel Negotiation Attempts in Civil Wars." *Security Studies*.

Petra. 2015. "Police to increase security measures ahead of Eid Al Adha." *The Jordan Times*, September 22. Accessed 2 November 2018. http://www.jordantimes.com/news/local/police-increase-security-measures-ahead-eid-al-adha.

Pettersson, Therése, Shawn Davies, Amber Deniz, Garoun Engström, Nanar Hawach, Stina Högbladh, Margareta Sollenberg, and Magnus Öberg. 2021. "Organized violence 19892020, with a special emphasis on Syria:" *Journal of Peace Research* (): 002234332110261. https://journals.sagepub.com/doi/full/10.1177/00223433211026126.

Phillips, Brian J. 2015. "What Is a Terrorist Group? Conceptual Issues and Empirical Implications." *Terrorism and Political Violence* 27 (2): 225–242.

Podder, Sukanya. 2014. "Mainstreaming the non-state in bottom-up state-building: linkages between rebel governance and post-conflict legitimacy." *Conflict, Security and Development* 14 (2).

Powell, Robert. 2007. "Defending against Terrorist Attacks with Limited Resources." *American Political Science Review* 101 (3): 527–541.

Raleigh, Clionadh, Andrew Linke, Håvard Hegre, and Joakim Karlsen. 2010. "Introducing ACLED: An armed conflict location and event dataset." *Journal of Peace Research* 47 (5).

Reese, M. J., Keven G. Ruby, and R. A. Pape. 2017. "Days of Action or Restraint? How the Islamic Calendar Impacts Violence." *American Political Science Review* 111 (3): 439–459.

Rueda, Miguel R. 2017. "Popular Support, Violence, and Territorial Control in Civil War." *Journal of Conflict Resolution* 61 (8): 1626–1652.

Salehyan, Idean. 2007. "Transnational Rebels: Neighboring States as Sanctuary for Rebel Groups." *World Politics* 59 (2).

Sawyer, Katherine, and Talbot M. Andrews. 2020. "Rebel recruitment and retention in civil conflict." *International Interactions* 46 (6).

Schlichte, Klaus, and Ulrich Schneckener. 2015. "Armed groups and the politics of legitimacy." *Civil Wars* 17 (4).

Schon, Justin. 2021. "How Narratives and Evidence Influence Rumor Belief in Conflict Zones: Evidence from Syria." *Perspectives on Politics* 19 (2).

Schwartz, Rachel A., and Scott Straus. 2018. "What drives violence against civilians in civil war? Evidence from Guatemala's conflict archives." *Journal of Peace Research* 55 (2).

Silverman, Daniel. 2019. "What Shapes Civilian Beliefs about Violent Events? Experimental Evidence from Pakistan." *Journal of Conflict Resolution*.

Silverman, Daniel, Karl Kaltenthaler, and Munqith Dagher. 2021. "Seeing Is Disbelieving: The Depths and Limits of Factual Misinformation in War." *International Studies Quarterly*.

Stanton, Jessica A. 2013a. "Terrorism in the Context of Civil War." *The Journal of Politics* 75 (4): 1009–1022.

— . 2013b. "Terrorism in the context of civil war." *Journal of Politics* 75 (4).

Stewart, Megan A. 2018. *Civil War as State-Making: Strategic Governance in Civil War*.

— . 2020. "Rebel governance: military boon or military bust? (Isard Award Article)." *Conflict Management and Peace Science* 37, no. 1 (): 16–38. https://journals.sagepub.com/doi/full/10.1177/0738894219881422.

Sundberg, Ralph, and Erik Melander. 2013. "Introducing the UCDP Georeferenced Event Dataset." *Journal of Peace Research* 50 (4): 523–532.

Terpstra, Niels. 2020. "Rebel governance, rebel legitimacy, and external intervention: assessing three phases of Taliban rule in Afghanistan." *Small Wars and Insurgencies* 31 (6).

Terpstra, Niels, and Georg Frerks. 2017. "Rebel Governance and Legitimacy: Understanding the Impact of Rebel Legitimation on Civilian Compliance with the LTTE Rule." *Civil Wars* 19 (3).

Thomas, Jakana. 2014. "Rewarding Bad Behavior: How Governments Respond to Terrorism in Civil War." *American Journal of Political Science* 58 (4): 804–818.

Toft, D., and Y. M. Zhukov. 2015. "Islamists and Nationalists: Rebel Motivation and Counterinsurgency in Russia's North Caucasus." *American Political Science Review* 109 (2): 222–238.

Toft, Monica. 2011. *God's Century*. WW Norton & Company.

Toft, Monica Duffy. 2006. "Issue Indivisibility and Time Horizons as Rationalist Explanations for War." *Security Studies* 15 (1): 34–69.

Tollefsen, Andreas Forø, and Halvard Buhaug. 2015. "Insurgency and Inaccessibility." *International Studies Review* 17 (1): 6–25.

Walker, Lesley. 2016. "Qatar authorities to increase public security ahead of Eid holiday." *Doha News*, July 3. Accessed 2 September 2018. https://dohanews.co/qatar-authorities-increase-public-security-ahead-eid-holiday/.

Walsh, James I., and James A. Piazza. 2010. "Why Respecting Physical Integrity Rights Reduces Terrorism." *Comparative Political Studies* 43 (5): 551–577.

Walter, Barbara F. 2017. "The New New Civil Wars." *Annual Review of Political Science* 20 (1): 469–486. https://doi.org/10.1146/annurev-polisci-060415-093921.

Weinstein, Jeremy M. 2006. *Inside rebellion: The politics of insurgent violence*.

Wood, Reed M. 2014. "From Loss to Looting? Battlefield Costs and Rebel Incentives for Violence." *International Organization* 68 (4): 979–999. http://www.jstor.org/stable/43283285.

Wood, Reed M. 2010. “Rebel capability and strategic violence against civilians.” *Journal of Peace Research* 47, no. 5 (): 601–614. https://journals.sagepub.com/doi/abs/10.1177/0022343310376473.

Wood, Reed M., and Jacob D. Kathman. 2014. “Too Much of a Bad Thing? Civilian Victimization and Bargaining in Civil War.” *British Journal of Political Science* 44 (3): 685–706.

World Bank. 2018. “Data from: World Development Indicators" (dataset). Harvard Dataverse. Accessed October 9, 2019. https://datacatalog.worldbank.org/dataset/world-development-indicators.

Yanagizawa-Drott, David. 2014. “Propaganda and conflict: Evidence from the Rwandan genocide.” *Quarterly Journal of Economics* 129 (4): 1947–1994. https://academic.oup.com/qje/article/129/4/1947/1853091.

Zaptia, Sami. 2016. “Security plan for Tripoli over Eid holiday.” *Libya Herald*. Accessed November 2, 2018. https://www.libyaherald.com/2016/09/09/security-plan-for-tripoli-over-eid-holiday/.

Zeitzoff, Thomas. 2018. “Does Social Media Influence Conflict? Evidence from the 2012 Gaza Conflict.” *Journal of Conflict Resolution* 62 (1).

— . 2017. “How Social Media Is Changing Conflict.” *Journal of Conflict Resolution* 61 (9).

Zelin, Aaron. 2018. “New Statement from the Islamic Emirate of Afghanistan’s Shaykh Hibat Allah Akhund Zadah.” *Jihadology*, June 12. Accessed 26 May 2020. https://jihadology.net/2018/06/12/new-statement-from-the-islamic-emirate-of-afghanistans-shaykh-hibat-allah-akhund-zadah-message-of-felicitation-on-the-occasion-of-id-al-fi%e1%b9%adr/.

Zhukov, Yuri, Christian Davenport, and Nadiya Kostyuk. 2017. *xSub: Cross-National Data on Subnational Violence*. Center for Political Studies, University of Michigan.