

WHY GRIEVANCES MATTER: AN ANALYSIS OF THE INFLUENCE GRIEVANCES
HAVE ON DOMESTIC TERRORISM GLOBALLY

by
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ABSTRACT

This research project examines how both legitimate and perceived grievances, specifically those related to a state's economy, government, identity-based groups or societies, and security, influence domestic terrorism. While theories of radicalization show that there is no *one* method that will motivate one to act on their radicalized thoughts, this research study assumes that the presence of certain grievances can create conducive mechanisms for one's radicalization to violent action. The hypothesis of this study argues that the steady increase in violent radicalization across the globe is the result of a combination of grievances, and that a state's quantity of violent extremist-related incidents will be relative to its degree of grievances. Utilizing an approach of multiple regression, this project examines over 90,000 incidents of domestic terrorism from 2009 to 2019, across 123 states.

All four grievance categories, taken together, were found to be moderately correlated with the quantity of extremist-related violence in states. Moreover, lending particular support to social movement theory, as well as social identity theory, group-based grievances were found to have the most significant impact on a state's quantity of domestic terrorism from 2009 to 2019. However, its impact could not be understood without accounting for a state's level of political grievances; group-based grievances had a much more substantial influence on a state's level of domestic terrorism in the presence of high political grievances. This study suggests that counterterrorism research and strategies should focus more on the grievances of identity-based groups, as well as those surrounding a state's political processes and institutions.

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INTRODUCTION

While the number of deaths resulting from war, globally speaking, have steadily decreased since the end of the Second World War, the level of intensity and number of deaths from violent conflict have only been climbing in recent years. In addition to the sharp increase of domestic terrorist attacks around the globe, more states than ever before are experiencing violent conflict; such conflict is primarily emanating from small domestic groups or single individuals. High levels of political and religious domestic conflict in states with failing political institutions or exclusive political and social processes are not only highly conceivable, but the correlations have been shown through empirical evidence.¹ However, even states with strong democratic institutions, at least in the past decade, experienced a steady increase in the number and intensity of extremist-related attacks.² This steady rise in domestic terrorism, or violent radicalization, around the globe prompted the United Nations Secretary-General to dub 2020 as the beginning of a new era of conflict and violence.³

¹ Ted Piccone, "Democracy and Civil War," Brookings, 2017.

² Institute for Economics and Peace, ed., "Global Terrorism Index 2020," Vision of Humanity, 2020.

³ United Nations, "A New Era of Conflict and Violence," UN75: 2020 and Beyond, 2020, <https://www.un.org/en/un75/new-era-conflict-and-violence>.

Topic of Study

In order to understand violent extremism and its rise globally, it is imperative to first understand what motivates individuals to travel down such path from cognitive radicalization. By building on three key constructs of radicalization, social movement theory, social identity theory, and the significance model, it is clear that individuals come to adopt certain narratives that act as a method to restore one's identity or reclaim significance. Membership in groups also acts to reinforce certain perceptions among those on the path of radicalization. A review of behavioral radicalization scholarship demonstrates that, while there is no *one* pathway that leads individuals to radicalize their thoughts into violence, the presence of grievances can create conducive mechanisms for one's radicalization to violence action. In fact, several categories of grievances have been associated with behavioral radicalization, either theoretically or through empirical research; the primary categories found in the literature are political, group or societal, economic, and security-based grievances. And, methods to combat violent extremism are only going to be effective if they reflect an understanding of these factors and how they inspire violent radicalization.

This study aims to unearth the primary contributing factors to this new era of conflict and violence by examining how such grievances affect domestic terrorism levels. In doing so, I address the following question: *how do both legitimate and perceived grievances, vis-à-vis a state's economy, government, identity-based groups, and security, influence violent domestic extremism?* This study utilizes regression analysis, through an approach of descriptive correlational research, to determine what proportion of a state's violent extremist-related attacks can be explained by its level of grievances. This research examines incidents of violent domestic extremism that occurred from 2009 to 2019, rendering a sample size of 91,777 attacks; 123 states

are represented from this decade. The four categories of grievances, economic, identity-based or group, security, and political, are represented through the following indicators: the Human Development Index, Group Grievance Index, Rule of Law Index, and Government Effectiveness Index, respectively.

The study's findings showed that, taken together, the level of grievances present in states is moderately correlated with the quantity of violent domestic terrorism. In fact, the level of group or societal grievances in a state showed the highest correlation with a state's quantity of extremist-related attacks. In addition, the analysis found that group grievances have a much larger impact on a state's number of attacks when there are high levels of political grievances present. However, if political grievances are low, a state's level of group grievance have little to no effect on its number of domestic extremism. Apart from group grievances, a state's level of political grievances was also shown to have a statistically and substantively significant effect on a state's number of attacks. Lastly, a state's economic and security-related grievances both had a negligible impact on levels of extremist-related violence when in the presence of other, more significant factors. If analyzed further, these findings could play a significant role in the shaping of domestic terrorism strategies, as it would allow for a deeper understanding of the particular grievances held by extremists and the perceptions that lead them down a path of violent radicalization.

CHAPTER I

Radicalization as a Process

It is commonly accepted among conflict scholars that there is no one method or pathway that will lead individuals to radicalize their thoughts into violent behaviors. Moreover, it would be a mistake to conflate the radicalization of thought with that of behavior. Cognitive radicalization is not only separate from behavioral radicalization, but the former does not always, nor does it usually lead to the latter.⁴ Over the past few decades, scholars have posited several different theories and models to explain extremism, attempting to understand the motivations and primary drivers behind violent radicalization. The review of scholarship below first examines the most commonly-cited models of radicalization before analyzing the potential drivers behind violent radicalization. The aim of this review is to unearth the most significant factors driving one to violent extremism. The task of understanding why certain individuals decided to carry out violent extremist-related attacks, or why some are more prone to commit such acts, is an important undertaking, as methods to counter terrorism will only be effective if they reflect the underlying root causes of radicalization. And, we cannot begin to understand violent

⁴ Clark McCauley and Sophia Moskalenko, "Mechanisms of Political Radicalization: Pathways Towards Terrorism," *Terrorism and Political Violence* 72, no. 3 (2008).

radicalization, or a state's rise in violent extremism, without first understanding what drives individuals to travel down that path from cognitive radicalization.

Models and Mechanisms Behind Radicalization

Radicalization is commonly accepted as the “process by which individuals adopt violent extremist ideologies that *may* lead them to support or commit terrorist acts, or which are likely to render them more vulnerable to recruitment by terrorist groups.”⁵ Most models of radicalization assume that cognitive radicalization begins with some sort of desire to gain or reclaim a sense of significance. From a psychological standpoint, scholars emphasize the importance of both emotional and cognitive vulnerabilities, arguing that, in an attempt to establish or regain one's diminished self-worth, individuals seek out worth through a cause greater than themselves.⁶ This process also can, and often does, take place through membership in groups. Social identity theory can be used to explain this aspect of one's journey. From this perspective, membership in identity groups can greatly influence the ways in which individuals perceive not only themselves, but also the way they view and accept information.⁷ Moreover, membership in groups can produce new identities for individuals to claim, not only giving them self-worth, but also a shared belief system that generates much more certainty about one's specific goals and views.⁸

⁵ Peter Romaniuk, “Does CVE Work?,” Global Center on Cooperative Security, 2015.

⁶ Michael Jensen, “Final Report: Empirical Assessment of Domestic Radicalization,” Study of Terrorism and Responses to Terrorism, 2016; Randy Borum, “Radicalization into Violent Extremism I: A Review of Social Science Theories,” *Journal of Strategic Security* 4, no. 4 (2012); Arie Kruglanski, Michele Gelfand, and Jocelyn Belanger, “The Psychology of Radicalization and Deradicalization: How Significant Quest Impacts Violent Extremism,” *Political Psychology* 35 (2014).

⁷ Seth Schwartz, Curtis Dunkel, and Alan Waterman, “Terrorism: An Identity Theory Perspective,” *Studies in Conflict & Terrorism* 32, no. 6 (2009).

⁸ Pete Simi, Bryan Bubloz, and Ann Hardman, “Military Experience, Identity Discrepancies, and Far Right Terrorism: An Exploratory Analysis,” *Studies in Conflict & Terrorism* 36, no. 8 (2013).

Tied closely with social identity theory and the dynamics of the psychological models of radicalization, most theorists highlight the role that grievances play in the overall process. Either personal or group-based, grievances can be understood as the perceptions that one or one's group has been treated unfairly, and are being targeted by a larger, more powerful group.⁹ Highlighting these concepts and building upon them, Quintan Wiktorowicz, a social movement theorist, put forward a four-stage model of radicalization, where the first stage involves a "cognitive opening."¹⁰ This opening to new ideas and perspectives only comes after the manifestation of a personal disconnection, personal grievance, or communal or shared grievance. Wiktorowicz posits that the instability that comes from emotional vulnerability or a personal crisis enables a cognitive opening where an individual's belief set shifts to be better aligned with the radical one.¹¹

Shift to Behavioral Radicalization

Until recently, few scholars were able to build on the existing framework behind cognitive radicalization and identify the specific drivers behind the main pathways individuals take when they radicalize to a level of violent extremism. Those studies that did identify certain drivers focused on an extremely small number of cases, making it difficult to generalize any of the results to a broader population. The first study to systematically examine whether the presence of specific conditions were either sufficient or necessary to bring about a radicalization to violent extremism was the University of Maryland's National Consortium for the Study of

⁹ Quintan Wiktorowicz, *Radical Islam Rising: Muslim Extremism in the West*, 2005; Clark McCauley and Sophia Moskalenko, "Understanding Political Radicalization: The Two-Pyramids Model," *American Psychological Association* 72, no. 3 (2017); Michael Jensen, "Final Report: Empirical Assessment of Domestic Radicalization."

¹⁰ Quintan Wiktorowicz, *Radical Islam Rising: Muslim Extremism in the West*.

¹¹ *Ibid.*

Terrorism and Responses to Terrorism’s project, “Empirical Assessment of Domestic Radicalization” (EADR). The EADR built the most comprehensive database on the radicalization of individuals, containing 147 variables for 1,473 cases of both violent and non-violent extremism, varying across the ideological spectrum.¹² More specifically, the EADR developed a “methodology that makes it possible to determine the causal conditions and pathways that are most salient for explaining radicalization to violence.”¹³

The EADR’s most significant findings lend support for both the social movement construct as described by Wikotowicz’s, as well as the grievance-based model of violent extremism.¹⁴ Among the observed drivers behind one’s shift from cognitive radicalization to that of behavioral, the two most common factors found by the EADR were cognitive frame alignment, as well as the perception of community or group grievances—that is, “real or perceived feelings of community marginalization or discrimination of one’s identity-based group.”¹⁵ The relationship between violent radicalization and cognitive frame alignment is important for understanding why someone may be motivated to carry out violent extremist-related attacks. However, it provides only half of the equation, as it is difficult to tease out the specific causal mechanisms and subsequent countermeasures for a cognitive shift, or a cognitive opening to radicalization. Grievances, on the other hand, have been heavily studied by conflict scholars as a primary motive for violent political and religious-related attacks.

For instance, Martha Crenshaw, a political scientist and terrorism researcher, argues that a direct cause of terrorism is the “existence of concrete grievances among an identifiable subgroup of a larger population, such as an ethnic minority discriminated against by the

¹² Michael Jensen, “Final Report: Empirical Assessment of Domestic Radicalization.”

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Jensen, “Final Report: Empirical Assessment of Domestic Radicalization.”

majority.”¹⁶ Crenshaw follows this with a second condition that further generates motivation for terrorism, and that is the inability to participate in the political process.¹⁷ Indeed, incidents of political-related violence have been shown to be extremely high in states with failed political transitions.¹⁸ Inclusive and representative political and social processes provide incentives for resolving conflict or grievances in a civil manner. Nevertheless, certain identity groups may still be targeted or treated unfairly under such governance, while other groups may believe they are superior to others and feel as if they deserve more opportunities. Therefore, political-related grievances can still be present in states with relatively strong democratic institutions.

In addition to high levels of terrorism in states with failed or failing political institutions, elevated levels of extremist-related violence have also been recorded in states with a lack of economic opportunities and extensive involvement in conflict externally.¹⁹ However, there is typically a correlation between states with failed political transitions and the two aforementioned factors. Nevertheless, conflict scholars have always maintained a nexus between conflict and inequality.²⁰ To be sure, one study conducted by conflict scholars at the Institute for Economics and Peace found that both ethnic or religious-tensions had a significantly stronger correlation ($r=.65$) with a state’s Global Terrorism Index score in non-economically advanced states—that is, those states not designated as economically advanced by the International Monetary Fund—as opposed to economically advanced states ($r=.2$).²¹ In a study conducted by James Piazza, a

¹⁶ Martha Crenshaw, “Theories of Terrorism: Instrumental and Organizational Approaches,” *Journal of Strategic Studies*, 1987, 383.

¹⁷ *Ibid.*

¹⁸ Ted Piccone, “Democracy and Civil War.”

¹⁹ United Nations, “A New Era of Conflict and Violence.”

²⁰ Siri Rustad, “Socioeconomic Inequalities and Attitudes toward Violence: A Test with a Survey Data in the Niger Delta,” *International Interactions* 42, no. 1 (2016); Arnim Langer and Kristien Smedts, “Seeing Is Not Believing: Perceptions of Horizontal Inequalities in Africa,” Centre for Research on Peace and Development., 2013.

²¹ Institute for Economics and Peace, ed., “Global Terrorism Index 2020.”

political scientist, countries that featured minority group economic discrimination were found to be more vulnerable to violent extremist-related attacks by such groups or their members, as they may be seeking revenge.²² In a separate study done by Piazza, he found a connection between three types of motivating factors—economic restructuring, societal challenges, and political elements—and the levels of domestic right-wing terrorism in the United States.²³

Significance of Study

The review of scholarship above suggests that states with failed political institutions, a lack of economic and social opportunities, and a weak rule of law have been shown to have high levels of violent extremism. This does not come as a surprise since political institutions, social and economic processes, and a state's justice system typically form the conventional mechanisms by which individuals can redress grievances. And, building off of the constructs above, mainly the theory of social movements, the significance model, and social identity theory, it is clear that individuals come to adopt certain narratives that act as a method to restore one's identity or reclaim significance. These narratives are filled with biases that are commonly confirmed and reinforced by membership in identity groups or certain communities. Furthermore, while there is no *one* method or pathway that will lead individuals to radicalize their thoughts to a state of violent extremism, the presence of certain factors, in this case grievances, can create conducive mechanisms for one's radicalization to violent action. Based on

²² James Piazza, "Poverty, Minority Economic Discrimination, and Domestic Terrorism," *Journal of Peace Research* 48, no. 3 (2011).

²³ James Piazza, "The Determinants of Domestic Right-Wing Terrorism in the USA," *Conflict Management and Peace Science* 34, no. 1 (2017).

the perception of the grievance or set of grievances, individuals can become convinced that the only way to alleviate their own grievances, or those of their group, is through violent means.

The most obvious implication of this body of theory suggests that the higher the level of grievances, either legitimate or perceived, in a state, the higher the number of domestic extremist-related incidents. The review of literature also showed that states with extremely high levels of domestic terrorism commonly have had high levels of inequalities. These studies measured inequality levels by using various methods, comparing the measurement of specific variables, such as a state's type of political regime and its respective Gini coefficient—a statistical measure of income dispersion. However, these variables cannot capture the level of perceived grievances among a state—something that, along with legitimate grievances, have been shown to drive individuals down a path of violent radicalization. Moreover, past studies focusing on an association between these variables involve either a select few cases and several different variables of interest, or a large population of cases and one or two variables, such as the study conducted by the Institute for Economics and Peace regarding terrorism levels and a state's level of economic development.²⁴ And, lastly, no study has examined, either among a small or large population of cases, how legitimate and perceived grievances, specifically those related to economic, political, group-based, or security issues, shape the level of terrorism in states.

²⁴ Institute for Economics and Peace, ed., "Global Terrorism Index 2020."

CHAPTER II

Research Design

This study aims to answer the following question: how do both legitimate and perceived grievances, vis-à-vis a state's economy, government, identity-based groups, and security, influence violent domestic extremism? Since perceptions of grievances are commonly observed among one's path to behavioral radicalization, I hypothesize that we will observe high levels of violent extremist-related incidents in states with high levels of grievances. In particular, I believe that both political and group-based grievances will have the most significant influence on a state's level of domestic terrorism. States with ineffective political institutions and processes do not have the proper mechanisms in place for individuals or groups to seek peaceful resolution and remediation for their grievances, motivating some to resort to violence as a result. Moreover, noting the influence that both social movement theory, as well as the theory of social identity, have had on the development of radicalization scholarship, membership in groups has been shown to create self-worth and reinforce certain perceptions among those on the path to radicalization. It is also possible that we will observe a correlation between a state's number of attacks and a specific combination of different grievances. Thus, an approach of multiple regression is best suited for modeling the potential relationship between a state's number of extremist-related attacks and its respective economic, political, societal or group, and security-

related grievances. The above hypotheses are important to consider, as methods to combat violent extremism are only going to be effective if they reflect an empirical awareness and understanding of the root causes of radicalization.

Methodology

This quantitative study takes an approach of descriptive correlational research, using regression analysis, to determine what proportion of a state's violent extremist-related attacks can be explained by its level of grievances. In an attempt to unearth modern patterns and trends in the rise of terrorism, this study analyzes data from 2009-2019. The first part of this time-series analysis examines if, and to what degree, each category of grievances, among the states examined, is correlated with its respective level of domestic attacks. To do this, the correlation coefficients of each relationship, produced through Pearson's R correlation tests, are analyzed to determine the intensity and direction of each relationship. Pearson's Correlation Method is one of the most common instruments used to test for correlation between two variables.²⁵ Its value ranges from -1 to 1, depending on the relationship's direction, with 0 indicating no correlation between two variables. For this study, a correlation coefficient, or R-value, less than 0.3 (or -0.03) is considered a weak correlation; a R-value between 0.3 and 0.7 (or -0.03 and -0.07) is considered moderate; and, anything higher than these values is considered to be a strong correlation. Following this initial analysis, bivariate linear regression is carried out between each independent variable, or grievance category, and the outcome of interest, a state's level of attacks, so as to visualize each relationship and the model's independent, predictive power.

²⁵ David Nettleton, "Pearson Correlation," Pearson Correlation - an overview | ScienceDirect Topics, 2014, <https://www.sciencedirect.com/topics/computer-science/pearson-correlation>.

Linear regression is useful in predicting the change in a study's dependent variable caused by its independent variable. Lastly, once the presence of a relationship is established through both correlation tests and bivariate linear regression, a series of multiple regression models are produced. Multiple linear regression was chosen as it allows for the incorporation of more than one category of grievances in the prediction modeling of a state's number of attacks. To test for significance between the models, the level of significance, or P-value, is set at the customary level, $p < 0.05$.

Variables and Case Selection

In order to truly explore the relationship between a state's number of extremist-related incidents and its level of grievances among its population, one must examine both the legitimate as well as perceived grievances among a state. Using the measurement of specific variables, such as the political regime type of a state, or even the measure of income dispersion within a state, runs the risk of oversimplifying each grievance. If specific variables accurately reflected the levels of terrorism in states, ostensibly stable states—or, those with a low level of legitimate grievances according to such variables—would not be experiencing high levels of violent radicalization. Therefore, this research uses index scores, a composite measure of a set of variables, so as to include a comprehensive assessment of each grievance.

Among western researchers, there are primarily four categories, at the domestic level, that are evaluated so as to gauge the relative weakness of a country: political or government capacity, economic sustainability, conflict level and security, and social welfare.²⁶ And indeed, the review

²⁶ Susan Rice and Stewart Patrick, "Index of State Weakness in the Developing World," Brookings Global Economy and Development, June 2, 2016, https://www.brookings.edu/wp-content/uploads/2016/06/02_weak_states_index.pdf.

of literature in the previous chapter demonstrated that these categories of grievances have all, in one way or another, been associated with behavioral radicalization, either theoretically or in empirical form. Therefore, representing these main categories of grievances, the following predictors, or independent variables, are evaluated in relation to a state's number of extremist-related violent incidents: (a) Human Development Index, (b) Group Grievance Index, (c) Human Rights and Rule of Law Index, and (d) Government Effectiveness Index.

(a). Human Development Index (HDI) – is a statistical summary of a state's fundamental economic sustainability and developmental dimensions. By giving states a score between 1 and 10, a state's HDI reflects its average life expectancy at birth; both the mean and expected years of education available; and, the GNI per capita.²⁷

(b). Group Grievance Index (GGI) – is an indicator that highlights divisions and discords between different societal groups within a community, specifically any schisms based on political and social characteristics.²⁸ According to the Fragile State's Codebook, the GGI also “considers where specific groups are singled out by state authorities, or by dominant groups, for persecution or repression, or where there is public scapegoating of groups believed to have acquired wealth, status or power “illegitimately.”²⁹

(c) Human Rights and Rule of Law Index (ROL) – another indicator developed for the Fragile States Index Book, the ROL index focuses on the relationship between a state's ability to provide basic security or protection for its citizens, and its protection of fundamental human rights.³⁰ Moreover, the ROL index assesses a state's legal system and captures its ability to provide fair trials, while protecting civil and political freedoms.

(d). Government Effectiveness Index (GEI) – assesses the functioning of each state's government and institutional effectiveness by measuring the quality of bureaucracy and presence of “red tape;” this indicator also

²⁷ The World Bank, March 25, 2022.

²⁸ Fragile States Index, ed., “C3: Group Grievance,” Indicators, 2018, <https://fragilestatesindex.org/indicators/c3/>.

²⁹ Ibid.

³⁰ Fragile States Index, ed., “P3: Human Rights,” Indicators, 2018, <https://fragilestatesindex.org/>.

measures the level of corruption present in a state's governmental offices, along with the accountability of public officials.³¹

These predictor variables were chosen because, together, they depict a comprehensive assessment of each category of grievances. These indexes not only identify the level of grievances, or vulnerabilities, present in each state, but they also highlight a state's capacity to handle different pressures associated with each category. More importantly, each index, through the triangulation of content analysis, quantitative data, and qualitative review, captures individual and group perceptions of the factor being analyzed in each state so as to provide a deeper understanding of each grievance. The methodology for each index was extensively reviewed prior to this study's design so as to ensure both internal and external validity. More specifically, while some studies' predictors are shown to be a function of one or more other predictors, each index in this study was selectively chosen based on the scope of its measurable reach. Many published indexes use different means to examine the same or similar constructs, creating validity issues for future researchers. Therefore, careful consideration was given when selecting each index so as to ensure there was no measurable overlap in the variables of interest, as well as the outcome of interest.

In regard to the data collected on a state's number of extremist-related incidents, this study utilizes data from the Global Terrorism Database (GTD), and records the occurrence of incidents from 2009 to 2019.³² The GTD was chosen because it is the most comprehensive database available with information on over 200,000 terrorist attacks from 1970 to 2020. The GTD defines each case or incident in its database as "the threatened or actual use of illegal force and violence by a nonstate actor to attain a political, economic, religious, or social goal through

³¹ "Democracy Index 2021," The China Challenge, 2021.

³² National Consortium for the Study of Terrorism and Responses to Terrorism, 2021.

fear, coercion, or intimidation.”³³ Moreover, three conditions must have been met for an incident’s inclusion in the GTD: 1) the act was intentional; 2) the act entailed a level of violence or the immediate threat of violence; and, 3) the perpetrators of an attack were sub-national actors.³⁴ Due to the utilization of the GTD, only states that had an incident occur between 2009-2019 are included in this study’s sample. The study’s sample represents 123 states over the ten year span, with a total number of 91,777 attacks. Moreover, specific observations are excluded from examination if there are missing or incomplete data regarding any of the four independent variables.

Formal Hypotheses

H₀: There is no correlation ($r=0$), or statistical significance ($P < .05$), between any of the grievance indicators and the quantity of extremist-related violent incidents in states.

H₁: There is a moderate, positive correlation ($r = .3$ to $.7$), of statistical significance ($P < .05$), between states’ GGI, or social/group grievances, and their quantity of domestic extremist-related violent incidents.

H₂: There is a moderate, negative correlation ($r = -.3$ to $-.7$), of statistical significance ($P < .05$), between states’ GEI, or political grievances, and their quantity of domestic extremist-related violent incidents.

H₃: There is a very weak to low correlation, of statistical significance ($P < .05$), between a combination of grievance indicators and the quantity of extremist-related incidents in states after controlling for any covariation between the four indicators, GGI, HDI, ROL index, and GEI through multiple regression.

The null hypothesis, or H_0 , is a statement concerning the entire population of states. One goal of this project is to reject the null hypothesis with sample data by proving that there is

³³ National Consortium for the Study of Terrorism and Responses to Terrorism, “START: Codebook Methodology Inclusion Criteria,” Codebook, August 2021, <https://www.start.umd.edu/gtd/downloads/Codebook.pdf>.

³⁴ Ibid.

evidence supporting an alternative hypothesis. If the null hypothesis is rejected, then it is understood that the results of the study were unlikely to have happened by chance. Once we can say with a high degree of certainty that the true difference between variables is not zero, our findings are said to be statistically significant. For this study, the two primary measures of statistical significance are the T-statistic and P-value. The T-statistic must be larger than the critical value set by the degrees of freedom in the regression analysis. While the P-value must be less than 0.05 to be considered significant for this study, the smaller the P-value is, the more confident we can be in our conclusions. However, the second goal of this research is to unearth the primary contributing factors to the new era of conflict and violence. Therefore, these relationships are also considered for substantive significance. Substantive significance refers to the magnitude of the statistically significant results, the effect that an independent variable has on the outcome of interest, as well as what the relationship means for the overall population of states.

CHAPTER III

Data Analysis and Discussion

This chapter includes the most relevant data from the statistical tests carried out for this project, as well as a discussion of the results and the significance behind them. The first category of grievances examined is group-based grievances. This category is represented by a state's GGI, a score ranging from 1 to 10; the higher a state's score, the more fragile the state is considered. The second category of grievances analyzed is economic grievances. The economic grievances present in states are analyzed through HDI scores. The higher a state's index, on a scale from 1 to 10, the better its standard of development and economic sustainability. Next, this chapter examines the influence of a state's political grievances, and the role they play in regard to a state's level of extremist attacks. A state's political grievances are measured through its GEI score; states are ranked from 0 to 10, 10 indicating a fully-functioning and effective government. The fourth category of grievances examined in this chapter is a state's rule of law and security sector. This category is represented by a state's ROL index. Similar to the GGI, states are ranked from 1 to 10; the higher a state's score, the more fragile its security or rule of law is. Lastly, multiple regression is used to examine all of these variables together so as to understand their effects independent of each other.

Group Grievances

Early findings from the data regarding a state’s GGI and its number of extremist-related attacks support the study’s initial claim: countries with high levels of group-based grievances will have a high number of extremist-related attacks. For example, according to Table 3.1, across 123 states from 2009-2019, the average number of attacks among states with a low GGI was 9.2, compared to an average of 145.8 attacks among those states ranked with a GGI of 5 or higher; in fact, as a matter of reference, the highest number of attacks in one year, 3,934, occurred in Iraq in 2014. That year, Iraq’s GGI was 10.

Table 3.1: GGI & Attacks Summary Statistics

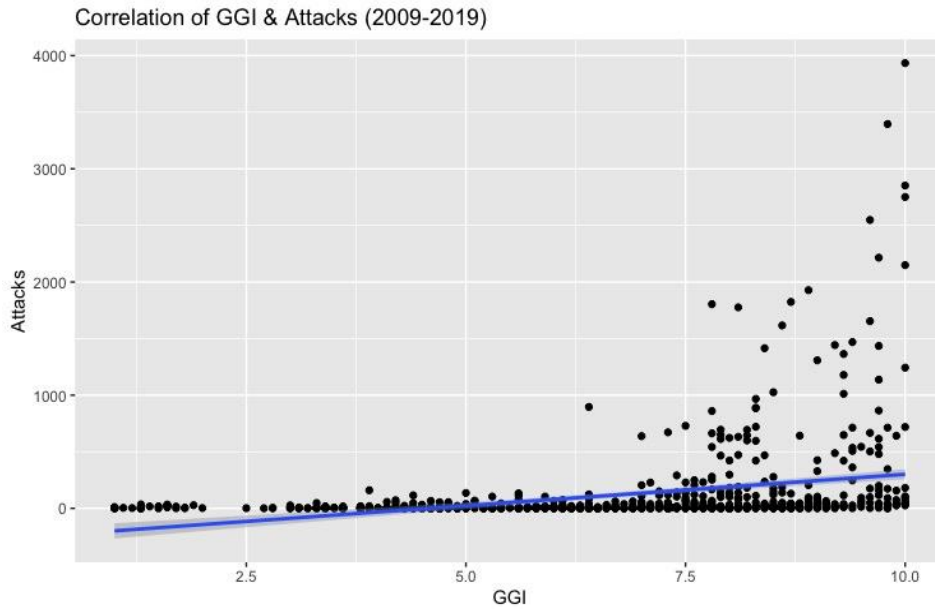
Summary of attacks in all countries with a GGI of 5 or greater from 2009-2019:	Summary of attacks in all countries with a GGI less than 5 from 2009-2019:
Mean = 145.8	Mean = 9.2
Min = 1	Min = 1
Max = 3,934	Max = 160
Median = 11	Median = 3

To determine if a relationship of correlation existed between a state’s group grievances and its number of attacks from 2009 to 2019, bivariate hypothesis testing was conducted as the next step in the data analysis. A Pearson’s correlation test produced a correlation coefficient of 0.32, with a P-value of $<2.2e-16$, and T-statistic of 9.67. According to the 95 percent confidence interval, the relationship’s true correlation coefficient is between 0.25 and 0.38. A Pearson’s R of 0.32 indicates that there was a moderate, positive correlation between a state’s GGI and its number of extremist related attacks from 2009-2019; as a state’s GGI increased, so too did its number of attacks. In order to reject the null hypothesis—that there is no correlation of statistical

significance (P-value <0.05) between a state's number of attacks and its grievances—the aforementioned measures of precision must be considered. The P-value, or probability value, measures the strength of evidence against the null hypothesis; the smaller the P-value, the stronger the evidence against the null. Therefore, for this variable, there is less than a $2.2e-16$ chance that we would have attained a correlation coefficient of 0.32 and a T-statistic of 9.67 from our sample if there was truly zero correlation between a state's GGI and its quantity of attacks in the actual population. In this case, we can reject the null hypothesis. Another measure used to reject the null is the T-statistic. The critical value for this study's sample is 1.64. Therefore, the T-statistic, 9.67, allows us to reject the null with even more precision.

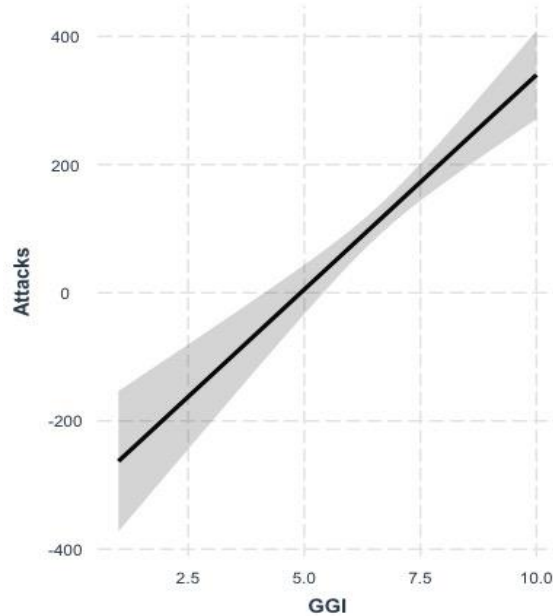
Following the hypothesis test, this study used a model of bivariate linear regression to predict the average number of extremist-related attacks based on a state's GGI score. The linear regression produced a beta coefficient of 55.52, with a standard error of 5.73 and R-squared of 0.10. The strength and intensity of the relationship is depicted in Figure 3.1.

Figure 3.1



A beta coefficient of 55.52 indicates that a one unit increase in a state’s GGI will lead to a 55.52 unit increase in the predicted number of extremist-related attacks in each respective state. Figure 3.2 allows us to visualize this relationship.

Figure 3.2: Predictive Power of GGI



The standard error in linear regressions can be used as another measure of precision. Generally, it should be less than half the size of the beta coefficient. With a standard error of 5.73, it can be

assumed that the coefficient is estimated relatively precisely. All these factors taken together indicate that there was a statistically significant relationship of correlation between the two variables from 2009-2019. This warrants the validation of H₁: there is a moderate, positive correlation ($r = .3$ to $.7$), of statistical significance ($P < .05$), between states' GGI, or group grievances, and their quantity of domestic extremist-related violent incidents. However, the R-squared is 0.10, indicating that a state's GGI only accounts for 10 percent of the variation in states' extremist attacks. These results could be substantively significant, however, multiple regression is needed to understand the variable's independent effect on a state's level of attacks. Thus, a state's GGI, by itself, does not explain much of the difference present in the study's dependent variable.

Economic Grievances

The examination of the summary statistics produced by the relationship between states' attacks and their level of economic grievances does not initially support this study's theory. This study assumed that there would be a negative relationship between a state's number of attacks and its economic grievances, or HDI, as a high HDI indicates a higher level of economic development. However, Table 3.2 shows that the average number of attacks from 2009-2019 in states with a relatively high HDI was 121.5, compared to an average of 61 attacks in states with a low HDI.

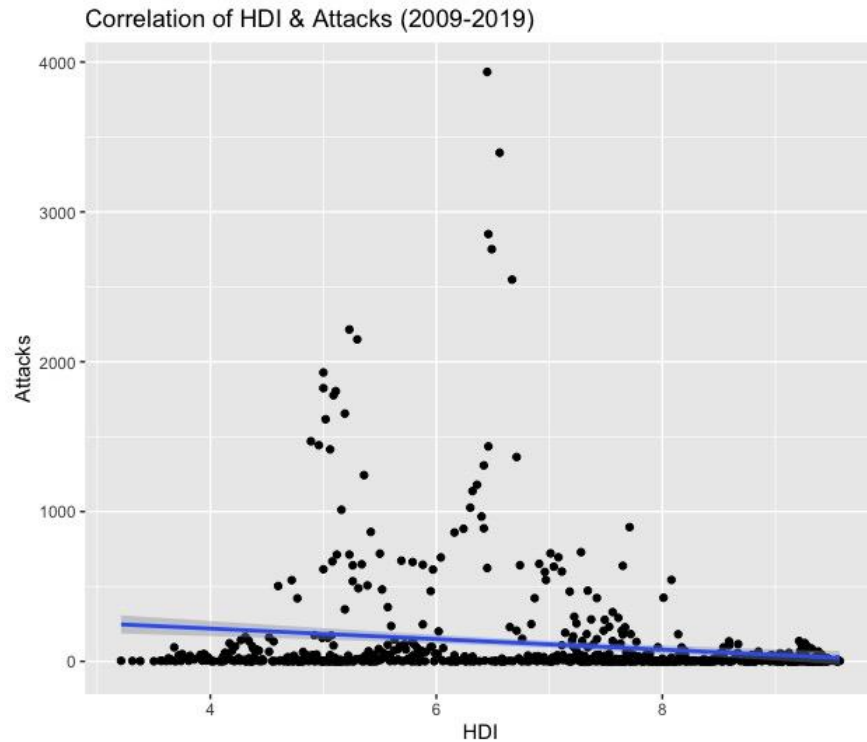
Table 3.2: HDI & Attacks Summary Statistics

Summary of attacks in all countries with a HDI of 5 or greater from 2009-2019:	Summary of attacks in all countries with a HDI less than 5 from 2009-2019:
Mean = 121.5	Mean = 61
Min = 1	Min = 1
Max = 3,934	Max = 1469
Median = 6	Median = 7.5

Moreover, the maximum number of attacks in one year, 3,934, occurred when Iraq's HDI was 6.4. The Pearson's correlation test produced a correlation coefficient of -0.16, with a P-value of 2.808e-06, and T-statistic of -4.71. According to the 95 percent confidence interval, the relationship's true correlation coefficient is between -0.22 and -0.09. A Pearson's R of -0.16 indicates that there was a weak negative correlation between a state's HDI and its number of extremist related attacks from 2009-2019; as a state's HDI decreased, so too did its number of attacks. The P-value and T-statistic are exceptionally small, 2.808e-06, meaning it is statistically significant with a very weak correlation.

The bivariate linear regression of the relationship between a state's HDI and its quantity of attacks produced a beta coefficient of -35.11, with a standard error of 7.44, and R-squared of 0.02. We can see the strength and direction of this relationship in Figure 3.3.

Figure 3.3



A beta coefficient of -35.11 indicates that a one unit increase in a state's HDI will lead to a 35.11 unit decrease in the predicted number of extremist-related attacks in each respective state. Again, while the standard error, 7.44, is less than half of the beta coefficient, it is evident by the figure above that states' HDI are not as closely correlated with their attacks when compared to the predictive power of states' GGI. In fact, by analyzing the R-squared of this linear regression, states' HDI only explain about 2 percent of the variation we see in state attacks. Therefore, this relationship is not considered to be substantively significant.

Political Grievances

Examining the relationship in the data between a state's level of political grievances, or GEI, and its level of extremist-related attacks produced interesting results. First, the summary statistics provided in Table 3.3 shows that the average number of extremist-related attacks in

states with a relatively high GEI, or a low level of political grievances, was 43.4 from 2009 to 2019, compared to an average of 155 attacks in states with a low GEI.

Table 3.3: GEI & Attacks Summary Statistics

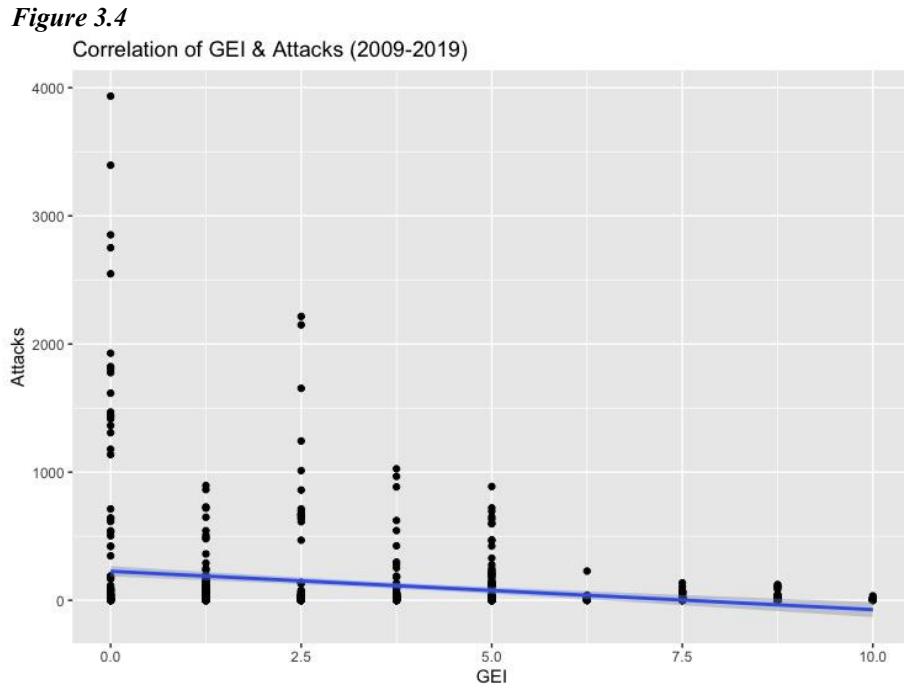
Summary of attacks in all countries with a GEI of 5 or greater from 2009-2019:	Summary of attacks in all countries with a GEI less than 5 from 2009-2019:
Mean = 43.4	Mean = 155
Min = 1	Min = 1
Max = 888	Max = 3934
Median = 5	Median = 8

This initial trend in the data supports the assumption that states with a low level of political grievances will, on average, have a lower number of extremist-related attacks when compared to states with a high level of political grievances. As a reference point, Iraq’s GEI in 2014, the year with the maximum number of attacks in the data sample, was 0.

The Pearson’s correlation test produced a correlation coefficient of -0.23, with a P-value of 2.57e-11, and T-statistic of -6.76. According to the 95 percent confidence interval, the relationship’s true correlation coefficient is between -0.29 and -0.16. While a bit stronger than the correlation between a state’s economic grievances and its level of attacks, a correlation coefficient of -0.23 indicates another weak negative correlation between a state’s GEI and its number of attacks from 2009-2019. The relationship’s P-value is smaller than 0.05, while its T-statistic is greater 1.64, satisfying this study’s conditions for statistical significance.³⁵ However, the correlation is still rather weak.

³⁵ While the T-statistic for this model is negative, the sign has no bearing on its statistical significance, and is merely indicative of the direction of the correlation. As long as the magnitude of the T-statistic is larger than the critical

The bivariate linear regression concerning a state's GEI and its quantity of attacks produced a beta coefficient of -29.11, with a standard error of 4.4 and R-squared of 0.05. We can see the strength and direction of this relationship in Figure 3.4.



The model's beta coefficient implies that for every one point increase in a state's GEI, the total number of extremist attacks is predicted to decrease by 29.11 attacks. With a standard error of 4.4, it can be assumed that the coefficient is estimated relatively precisely. Nevertheless, the results of the linear regression leads to the rejection of H_3 , that there is a moderate, negative correlation ($r = -.3$ to $-.7$), of statistical significance ($P < .05$), between states' GEI, or political grievances, and their quantity of domestic extremist-related violent incidents.

While the results of this model are statistically significant, they are not significant in a substantive manner. With an R-squared of 0.05, a state's GEI only represents 5 percent of the variation in states' number of extremist attacks.

value, which for this sample was 1.64, we are able to claim that a statistically significant relationship exists; thus, rejecting the null hypothesis.

Conflict and Security-Related Grievances

Early findings from the data regarding a state’s ROL index and its number of extremist-related attacks, support the study’s initial claim regarding security grievances and extremist-related attacks; countries with high levels of grievances pertaining to its rule of law will have a higher number of extremist-related attacks than those states with less grievances or a lower ROL index, as a lower ROL index indicates less security-related grievances. For example, according to Table 3.4, across 123 states from 2009-2019, the average number of attacks among states with a low ROL index was 13, compared to an average of 159.2 attacks among those states ranked with a ROL index of 5 or higher.

Table 3.4: ROL Index & Attacks Summary Statistics

Summary of attacks in all countries with a ROL index of 5 or greater from 2009-2019:	Summary of attacks in all countries with a ROL index less than 5 from 2009-2019:
Mean = 159.2	Mean = 13.04
Min = 1	Min = 1
Max = 3,934	Max = 136
Median = 11	Median = 4

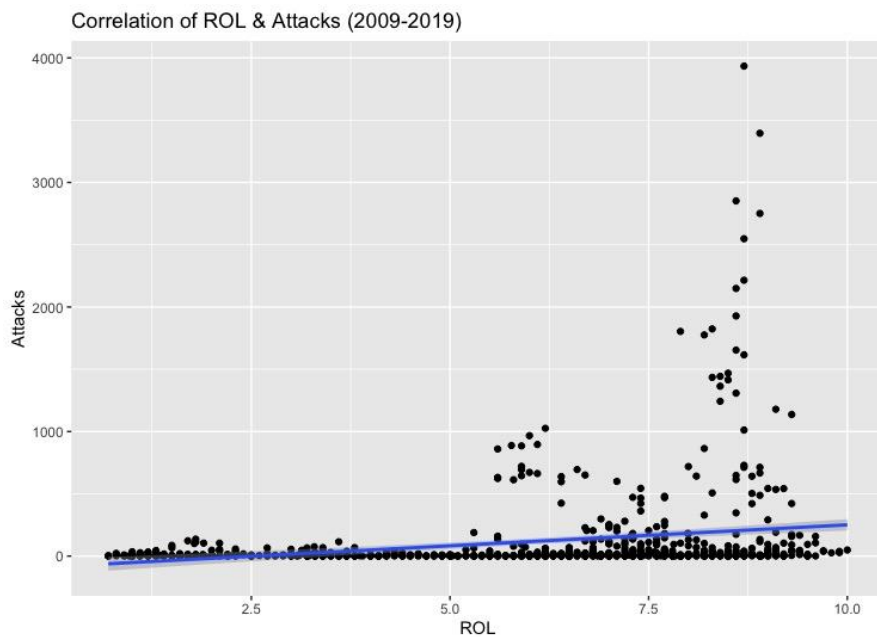
Moreover, when 3,934 extremist-related attacks were carried out in Iraq, the state’s ROL index was 8.7.

The Pearson’s correlation test produced a correlation coefficient of 0.23, with a P-value of 1.10e-11, and T-statistic of 6.89. According to the 95 percent confidence interval, the relationship’s true correlation coefficient is between 0.16 and 0.29. While a bit stronger than the relationship of correlation between states’ attacks and their economic grievances, a correlation

coefficient of 0.23 indicates a weak, but positive correlation between a state's ROL index and its number of extremist-related attacks. This relationship implies that as a state's ROL index increases, so too does its number of attacks. With a P-value much smaller than 0.05, and a T-statistic larger than the critical value of 1.64, we can assume, with a high degree of certainty, that it is unlikely we would attain the same results from our sample had the true correlation coefficient of the population been zero. Thus, this relationship of correlation, while weak, is statistically significant.

The bivariate linear regression of the relationship between a state's ROL index and its quantity of attacks produced a beta coefficient of 33.61, with a standard error of 4.87, and R-squared of 0.05. We can see the strength and direction of this relationship in Figure 3.5.

Figure 3.5



A beta coefficient of 33.61 indicates that a one unit increase in a state's ROL index will lead to a 33.61 unit increase in the predicted number of extremist-related attacks in each respective state. Moreover, with a standard error of 4.87, it can be assumed that the coefficient is estimated relatively precisely. While statistically significant, the results of this relationship are not

significant in a substantive manner, as an R-squared of 0.05 suggests that a state's ROL index is only responsible for 5 percent of the variation we observed in the number of extremist attacks from 2009-2019.

Multiple Regression Analysis

The results from the regression analyses discussed above indicate that all four categories of grievances affect a state's level of domestic extremist-related attacks, albeit in varying ways. However, simple linear regression only provides us with a partial picture of the relationship between a state's quantity of attacks and its level of grievances. Since the four grievance categories could potentially covary with one another, multiple linear regression is needed to understand the influence of each type of grievance on a state's attacks independent from the influence of other categories. Multiple regression, in other words, essentially controls for all the other variables in the equation by statistically eliminating the effect each independent variable potentially has on one another. Moreover, the same assumptions of precision from bivariate simple regression apply to the analysis of multiple regression. Several models of multiple regression were ran and analyzed so as to determine what combination of variables accounted for the most variation in states' domestic terrorism levels. The results from the first model of multiple regression are shown below in Table 3.5 below.

Table 3.5: Multiple Regression Analysis-Model 1

Coefficients	<u>Estimate</u>	<u>Std. Error</u>	<u>T-Value</u>	<u>P-Value</u>
(Intercept)	-285.702	111.517	-2.562	0.01059*
Group Grievance Index (GGI)	66.966	9.725	6.886	1.15e-11 ***
Human Development Index (HDI)	22.888	11.654	1.964	0.04988
Government Effectiveness Index (GEI)	-23.229	7.508	-3.094	0.00204 **
Human Rights/Rule of Law Index (ROL)	-19.842	10.154	-1.954	0.05105

Correlation Coefficient (R-Value): 0.34

Adjusted R-Squared: 0.11

P-Value: <2.2e-16

According to the table above, we can see that the beta coefficients of each variable changed rather significantly. This indicates that, to some degree, there was covariation between more than one of the variables. Moreover, excluding when interactions were present, the model above improves overall prediction better than any other model produced. Moreover, it provides a much more accurate picture of the relationship between a state's level of grievances and its quantity of domestic extremist attacks than what was observed in the bivariate linear regression analysis. Keeping in mind the significance level of 0.05 and the critical value for the T-statistic, 1.64, it appears that both a state's level of political grievances, as well as its level of group or societal grievances have the most significant influence on a state's number of extremist attacks. However, during tests for validity, it became apparent that there was collinearity present, specifically between a state's GGI and its ROL index score.³⁶ Therefore, to understand the

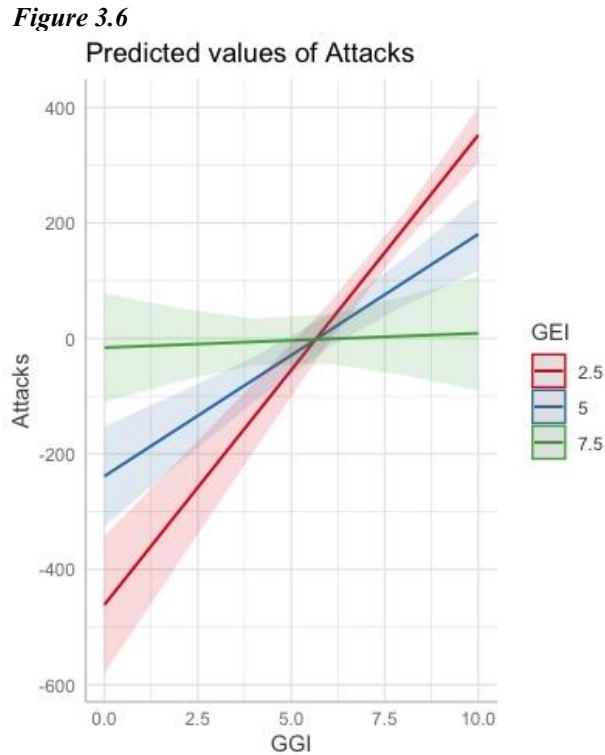
³⁶ In statistics, collinearity occurs when two predictor variables are, to some degree, correlated with one another. This leads to inaccurate assumptions about the predictive power of the specific variables.

degree to which a state's group grievances influence a state's number of attacks, we need to utilize a model where a state's ROL score is omitted. According to such model, a one point increase in a state's group grievance index will lead to an average of approximately 54.9 more attacks in a given state. Likewise, an increase in a state's government effectiveness index will lead to a decrease of roughly 17 attacks.

While the inclusion of all variables improves overall predictability better than any of the other models, we can see in Table 3.5 that the relationship between a state's conflict and security-related grievances and its number of attacks is no longer statistically significant. The correlation we saw in Figure 3.5 is only representing a relationship through its covariation with one or more of the other grievance categories. Moreover, with a T-statistic of 1.96, and a P-value of 0.04, it appears that the indicator used to represent a state's level of economic grievances also covaries with one or more of the other grievance indicators used in this study. However, when the two variables, HDI and ROL index, are excluded from the multiple regression, the adjusted R-squared is .10. Therefore, while the two grievance categories may not be substantively significant, their presence does contribute to the explanatory power of the model vis-à-vis the variation in states' number of attacks.

Since both a state's GGI and GEI are shown to influence a state's attacks in both a statistically and substantively significant manner, another model of multiple regression was carried out so as to test if an interaction between the two significant variables accounts for more of the variation than the earlier models. In this model, the P-value of the interaction term is $3.00e-16$, with a T-statistic of -8.347 and a standard error of 1.93. Moreover, the adjusted R-squared of the model is larger than that of Model 1 (0.18 compared to 0.11), indicating that the presence of the interaction contributes in a more meaningful way to the predictive ability of the

model. This leads to the rejection of this study's third hypothesis, that there is a very weak to low correlation, of statistical significance ($P < .05$), between a combination of grievance indicators and the quantity of extremist-related incidents in states. The correlational relationship appears to be stronger than first assumed. Figure 3.6 below acts to help visualize the effects of the interaction.



According to the graph, when the political efficacy of a state is presumed to be extremely low, high levels of group grievances will have a much larger influence on the quantity of domestic extremist attacks. On the other hand, group grievance levels have almost no bearing on the quantity of state attacks when political grievance levels are relatively low, as depicted by a GEI of 7.5 or higher.

CHAPTER IV

Conclusions

Table 4.1: Summation of Data Analysis

Grievances	Statistically Significant	Substantively Significant
Group Grievance Index (GGI)	Yes	Yes
Human Development Index (HDI)	Yes	No
Government Effectiveness Index (GEI)	Yes	Yes
Human Rights/Rule of Law Index (ROL)	No	No
Interaction Between GGI&GEI	Yes	Yes

All four categories of grievances examined, group or societal, economic, political, and security-based, were shown to affect the level of domestic terrorism in states. Taken together, the level of grievances present in states were shown to be moderately correlated with the quantity of extremist-related violence in states. More specifically, the grievance indicators in Table 4.1 explained roughly 18 percent of the variation between the quantity of extremist-related attacks in states from 2009 to 2019. There is an extremely small probability (less than $2.2e-16$) that this

study's sample would have rendered such findings if there was, in fact, no true correlation among the population of states. Nevertheless, certain grievance categories had a larger impact on a state's level of domestic terrorism than others.

To begin, the level of group or societal grievances present in states, as depicted by their GGI, was found to have the largest influence on the quantity of domestic extremist-related attacks. Second, a state's level of political grievances, represented by its GEI, was also found to have a statistically and substantively significant effect on a state's number of attacks. However, the impact of a state's level of group grievances could not be understood without accounting for its level of political grievances. In the sample, group grievances had a much larger impact on a state's number of attacks when there were high levels of political grievances present. However, if political grievances were low, a state's group grievance level had little to no effect on its number of extremist-related attacks. Lastly, a state's economic and security-related grievances both had a negligible impact on the levels of extremist-related violence in states among this study's sample in the presence of other, more significant factors. Nonetheless, these two grievance categories did contribute to the explanatory power of this study's model.

There was some degree of collinearity found between a state's ROL index and its GGI. And, since the interaction between a state's level of group grievances and its political grievances was shown to be both statistically and substantively significant, a new model of multiple regression was needed. With the collinearity from a state's ROL index excluded, this study found that a one point increase in a state's group grievance indicator led to an average of approximately 55 more attacks among the study's sample of states. Likewise, a one point increase in a state's government effectiveness index, indicating fewer political grievances, lessened the number of attacks in states by an average of 17.

Implications

This study focused on three key constructs of radicalization, social movement theory, social identity theory, and the significance model, to understand the role that different grievances play in one's journey from cognitive radicalization to that of behavioral. And, in fact, the findings of this study lend particular support for both social movement theory, as well as the theory of social identity, as high levels of violent domestic extremism were found in states with high levels of group and community marginalization. According to both theories, membership in groups has been shown to create self-worth and reinforce certain perceptions among those on the path to violent radicalization.

This study was carried out to fill a large gap in the literature pertaining to behavioral radicalization and the specific perceptions that underpin one's radicalization process and actions. And, in bridging this gap, this study found that, primarily in the presence of high political grievances, the level of grievances in identity-based groups among larger societies will be a strong indicator of a state's level of violent extremism. This finding is not all that surprising. While fractures between different groups among societies and perceptions that one's identity group is being discriminated against can motivate individuals to address these real and perceived injustices through violent means, states with strong and inclusive political institutions, typically, have mechanisms in place to address such grievances and seek peaceful resolutions. However, group-based grievances were still found to be a good indicator of a state's level of violent extremism in states with moderate levels of political-based grievances.

Since this study's strongest model was only able to account for 18 percent of the variation in states' extremist-related attacks from 2009-2019, more work is required to understand what other factors contribute in a significant way. Nonetheless, a deeper analysis of

the perceptions behind such identity-based grievances would be extremely valuable to policymakers and crafters of counterterrorism strategies. Crafters of such strategies would be wise to focus more on the grievances of identity-based groups and those surrounding a state's political processes and institutions. Moreover, these findings, if analyzed further, could play a significant role in the shaping of domestic counterterrorism strategies, as it would allow for a deeper understanding of the particular grievances held by extremists and the perceptions that lead them down a path of violent radicalization. Such strategies must acknowledge the perceptions of community-based grievances, and tailor counternarratives accordingly so we can finally target the root causes of violent extremism instead of just quelling the symptoms.

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CURRICULUM VITAE

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Prior to working for the Secret Service, Natalie worked as a Research Analyst for the Potomac Advocates, a consulting and governmental relations firm on Capitol Hill. In this role, she not only worked with major defense and energy firms to create budget outlook reports, but she also authored legislative summaries and congressional initiatives for legislation.

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