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State-Based Human Rights Violations and Terrorism

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STATE-BASED HUMAN RIGHTS VIOLATIONS AND TERRORISM

A dissertation submitted in partial fulfillment of the requirements for the degree of Doctor of

Philosophy at Virginia Commonwealth University.

by

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

STATE-BASED HUMAN RIGHTS VIOLATIONS AND TERRORISM

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In this dissertation, I examine the within-country and between-country effects of state-based human rights violations on annual counts of total, fatal and attributed attacks. I use the Global Terrorism Database (GTD) for my outcome variables and Political Terror Scale (PTS) to measure state-based human rights violations.

Scholars argue that repressive governments that silence dissidents and close all avenues of political expression increase the likelihood of terrorism and other acts of violence against the state (Gurr, 1970; Crenshaw, 1981; DeNardo, 1985; Piazza, 2017). In such circumstances, terrorism and acts of violence against the state may serve as a defense mechanism against repressive governments (Gurr, 1970). Others argue that state-based violations of human rights can damage public approval and perceptions of legitimacy towards the government (Piazza, 2017). This, in turn, fosters anti-state and anti-status quo grievances. Such polarized environments become vulnerable to extremist movements in regard to the gathering of support, recruitment of new members, and distribution of effective propaganda, all of which may result in increased terrorist attacks at the country-level (Walsh and Piazza, 2010).

I use the fixed effects negative binomial regression model to test the effects of within-country changes in state-based human rights violations on annual changes in terrorism. I use generalized hierarchical linear modeling to test the effects of between-country changes in

state-based human rights violations on annual changes in terrorism. Using country-level data from the Global Terrorism Database (GTD), Political Terror Scale (PTS), Polity IV, Freedom House and the World Bank, I examine the relationship between state-based human rights violations and terrorism for 175 countries between 1980 and 2014.

The results indicate that state-based human rights violations is significantly and positively correlated with annual terrorism. The results regarding human rights violations are consistent for both within-country and between-country differences. Increases in human rights violations within a country results in increase in the number of terrorist attacks. Similarly, countries which have higher human rights violations also have high frequency of annual terrorist attacks.

Chapter 1

Introduction

In the mid-2000s there was a steady increase in the number of global terrorist attacks, reaching its peak in 2012 (LaFree, Dugan, and Miller, 2015). In spite of global increases in terrorism over time, recent studies examining country-level terrorism trends indicate that there is considerable variation in terrorism trends over time (LaFree, Morris and Dugan, 2009; LaFree et al., 2015). Many studies examining the correlates of country-level terrorism have focused on the effects of political variables, such as democracy and state failure, on country-level terrorism trends (Abadie, 2006; Burgoon, 2006; Blomberg and Hess, 2008; Freytag, Kruger, Meirerrieks, Schneider, 2011; Li and Schaub , 2004; Li, 2005; Piazza, 2007; Piazza, 2006; Fahey and LaFree, 2015). State failure is broadly defined as a state`s inability or its unwillingness to protect their citizens (Chomsky, 2006; Piazza, 2008). The existing literature has conceptualized state failure in two ways: (1) the state's loss of monopoly of using force due to various conflicts and tensions (Piazza, 2008) and (2) the state's use of repressive and aggressive acts upon its citizenry (Chomsky, 2006; Walsh and Piazza, 2010). There is evidence for the effects of both types of state failure on country-level terrorism (Lai, 2007; Piazza, 2007; Piazza, 2008; Fahey and LaFree, 2015; Piazza and Walsh, 2010; Piazza, 2017). For example, studies using measures of state failure that capture internal conflict and loss of state power have found that countries involved in ethnic wars, genocide, and adverse regime changes have a higher incidence of terrorism (Piazza, 2007; Piazza, 2008). Similarly, studies examining the relationship between state-based use of repressive and aggressive acts and terrorism have reported that countries with greater protections of human and physical integrity rights have fewer terrorist attacks (Piazza and Walsh, 2010; Walsh and Piazza, 2010).

1

There are several compelling reasons to further examine the relationship between state-based human rights violations and the probability a country will experience a terrorist attack. First, some scholars have argued that states may use repressive acts to fight against terrorism and justify these acts as an "act of prevention" or an "act of deterrence" or as "retaliatory measures"(Shor, Charmichael, Nazif Munoz, Shandra, and Schwartz, 2014). Thus, it has been a general tendency for some states to use repressive acts assuming these types of policies are going to deter future terrorist attacks. Second, prior studies examining state-based human rights violations and country-level terrorism do not examine data beyond the early 2000s. However, this was largely due to lack of data at the time, and as recent data on terrorism has become more available, a more up to date analysis is necessary. Recent world events, such as the Arab Spring and the increased activity of ISIS, suggests that state-based actions may have changed for some countries during this period of time. Third, although previous studies on the country-level correlates of country-level terrorism have undoubtedly provided important findings, they have not attempted to examine or disentangle the between-country and within-country effects of state-based failure on country-level terrorism trends. As other scholars have noted, longitudinal data for multiple units over time contain data about both between and within-unit differences (Curran and Bauer, 2010; Raudensbush and Bryk, 2002). The majority of prior longitudinal studies of country-level terrorism have not taken into account the confounding of within and between-country effects on terrorism.

Using data for 175 countries from 1980 to 2014, I expand upon the existing research by examining the between-country effects and within-country effects of state-based violations of human rights on country-level terrorism. To measure terrorism, I use data from the Global Terrorism Database (GTD), a database maintained by the National Center for the Study of

Terrorism and Responses to Terrorism (START). The GTD contains data on annual terrorist events for more than 200 countries, nations, and territories and is considered one of the most comprehensive open-source databases on terrorist attacks (LaFree et al., 2015). The GTD defines terrorism as "the threatened or actual use of illegal force and violence by non-state actors to attain a political, economic, religious, or social goal through fear, coercion, or intimidation" (LaFree et al., 2015, p. 13). Whereas most studies have used state-based human rights violations measures from the Cingranelli and Richards` (2004) (CIRI) Human Rights database, I use a less studied measure of state-based human rights violations taken from the Amnesty International. State-based violations of human rights are defined as state-sponsored extrajudicial killing, torture or similar physical abuse, disappearances, and political incarceration (Wood and Gibney, 2010). I test two hypotheses. First, I hypothesize that within-country increases in state-based violations of human rights are related to increases in terrorism within countries, while controlling for the effects of other social, demographic, political and economic variables, such as economic development (GDP) and growth, population, regime length, and democratization. Second, I hypothesize that between-country differences in the level of state-based terrorism is also significantly related to increased terrorism over time, while controlling for the effects of other social, demographic, political and economic variables. I use several analytical models to test these hypotheses, including a fixed effects negative binomial model to examine within-country effects of state-based human rights violations on terrorism, and hierarchical multi-level modeling techniques to examine between-country effects of state-based human rights violations on terrorism.

This chapter briefly introduces the main focus of my dissertation, the reasons for examining the effects of state-based human rights violations on country-level terrorism, and the

outline of the dissertation. In Chapter 2, I thoroughly discuss the conceptual definition of terrorism, the issues surrounding the definition, and briefly describe measurement issues associated with collecting terrorism data. I provide the justification for using open source databases for country-level terrorism research, and discuss advantages and disadvantages of open source databases of terrorism. Chapter 2 concludes with a brief discussion of several major existing databases of terrorism. Chapter 3 begins with a brief review of the demographic, economic, political and social correlates of country-level terrorism. Because the focus of my dissertation is state-based human rights violations and terrorism, I focus more heavily on the conceptual issues and theoretical expectations for the effects of state-based human rights violations. I provide theoretical explanations of state-based human rights violations and country-level terrorism that are rooted in both the political science and criminological literature. Finally, I provide a detailed discussion of the existing empirical evidence on the effects of country-level state-based human rights violations and terrorism. In Chapter 4, I discuss the data and methodology for the current study. I begin with a discussion of the unit of analysis and the sample of countries included in the analysis. I discuss the protocol as well as the advantages and disadvantages of the databases used to create my variables of interest. Finally, I present the hypotheses I test, as well as the analytic strategy implemented in this study. Chapter 5 presents descriptive statistics and results from the within-country and between-country analyses of state-based human rights violations on annual terrorism counts over time. Finally, Chapter 6 discusses the main findings of the current study. Additionally, I discuss the limitations of the current study, directions for future research, and conclude with a brief discussion of the potential policy implications of the current study.

Chapter 2

Theoretical Conceptualization

In this chapter I discuss the conceptual and measurement issues associated with defining and studying terrorism. I then discuss the differences between traditional sources of crime data and terrorism data collected using open source data sets, with a focus on the advantages and disadvantages of open source data for the study of country-level terrorism. Finally, I discuss the most frequently used open source databases of terrorism with a focus on their definition and inclusion criteria.

2.1 Definition of Terrorism

Most scholars agree that there is no universally accepted definition of terrorism (Chaliand and Blin, 2007). Some (Chaliand and Blin, 2007) have argued that terrorism is subjective; that is, terrorism has different meanings for different people. Perhaps the most famous statement regarding this issue was made by the Palestine Liberation Organization Chairman Yasser Arafat in a 1974 speech before the United Nations: "One man's terrorist is another man's freedom fighter" (United Nations General Assembly, 1974).

Merari (2007) has argued that in the absence of a general acceptance of the underlying assumptions and semantics necessary to construct a definition of terrorism, it is impossible to provide a definition that is accepted by all. Schmid (2004) stated that because there are many types of "terrorism," with different forms and manifestations, and because the meaning of the term has undergone changes in the more than 200 years of its existence, terrorism is difficult to define. For instance, Rapoport (2004), in his analysis of modern terrorism, identified four different waves of terrorism: the anarchist wave, the anti-colonial wave, the new left wave, and the religious wave. Rapoport (2004) argues that the strategies, ideologies, and tactics used by

terrorist groups in each wave of terrorism have different characteristics.[1] Despite the definitional ambiguity surrounding an exact definition of terrorism, there are conceptual similarities among the many existing definitions of terrorism in the literature.

The origin of the word "terrorism" itself, the Latin word terrere, means "to frighten." Many scholars argue that terrorism, unlike like other acts, is designed to instill fear in a broad range of people (Moghadam, 2006). Schmid and Jongman (1988) reviewed 109 studies of terrorism and found several common themes. According to their analysis, 83.5 percent of terrorism definitions refer to violence, 65.0 percent refer to political goals, and 51.0 percent emphasize inflicting fear and terror (Schmid and Jongman, 1988). Only 21 percent of these definitions mentioned arbitrariness or indiscriminate targeting and only 17.5 percent of them indicated victimization of civilians, noncombatants, neutrals, or outsiders (Schmid and Jongman, 1988). Thus, although there is debate surrounding the exact definition of terrorism, conceptual similarities across definitions of terrorism have allowed for the creation of several commonly used measurements of terrorism.

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[1] The first wave, the anarchist wave, began in the 1880s and continued through the 1920s. The increasing gap between bourgeoisie and proletariat was the primary motivator for the anarchist wave. Assassinations against high-level state officials were the main tactic. The second wave, anti-colonial wave, was active between the 1920s and the 1960s. After World War I, national self-determination ideology was the motivator. The tactics used in the second wave were assassinations against security forces and guerilla-like (hit-and-run) tactics against troops. The third wave, the new left wave, began in the 1960s and ended in the 1990s. Influenced by the Vietnam War, the Marxist Revolution was the dominant ideology in the third wave. Hijackings and kidnapping were the main tactics. Finally, the fourth wave, or the religious wave, started around the 1980s. Religious extremism is the main motivator of this wave. Suicide bombings are the most frequently used tactic (Rapoport, 2004).
In addition to these waves, more recent literature (Kaplan, 2010; Post, McGinnis, and Moody, 2014) argue that a fifth wave of terrorism has already emerged. For instance, Post et al. (2014) propose a typology of lone wolf terrorism in which, with the communications revolution, especially social media, terrorists are radicalized through the Internet. Other than lone wolf terrorism, Kaplan (2010) proposes new tribalism in which terrorists focus on local enemies rather than international, and distinguish enemies based on intense ethnic, racial, or tribal affiliation.

2.2 Measurement of Terrorism

Although there are similarities between terrorism and crime more generally, the measurement and collection of terrorism data is very different from that of crime data. While there are traditionally three forms of data in criminology -- (1) official data collected by authorized agents, (2) victimization data collected from victims and non-victims, and (3) self-reported data collected from offenders -- these approaches are, unfortunately, often not suitable for the collection of terrorism data. Several scholars have noted the challenges associated with collecting terrorism data as compared to other cross-national sources of crime data (LaFree and Dugan, 2007; LaFree, Morris and Dugan, 2009).

First, there is no nationwide or international official database for terrorism. While there are universally accepted definitions for certain crimes, such as homicide, there is no such definition for terrorism (LaFree et al., 2009). Therefore, the terrorist organization of one country can be considered revolutionaries for another. For instance, Hamas is listed as a Foreign Terrorist Organization for the United States; however, it maintains its status as a legitimate political party in some countries (LaFree, Morris, and Dugan, 2009). Even though some states do collect data on terrorism, the validity of these data are sometimes questioned due to political issues in those states (LaFree et al., 2009). Additionally, many countries consider and label the activities of most terrorist suspects criminal offenses, such as weapons violations and tax fraud, rather than terrorism itself (LaFree et al., 2009).

Second, collecting victimization data is also unlikely for terrorism researchers. One of the main reasons is that despite the significant levels of media attention and coverage on terrorist attacks, the number of terrorist attacks is very rare compared to other violent crimes. Therefore, it is very difficult to find victims of terrorist attacks even in very large samples (LaFree et al.,

2009). Also, because victims of a terrorist attack are generally selected at random, perpetrators remain unknown in most cases, resulting in a severe shortage of details about the offender. Additionally, as in the study of homicide, victims of terrorist attacks are often killed, thus making victimization data unavailable (LaFree et al., 2009).

Third, even though self-reported data on terrorists could also provide information, it also has significant limitations. First, most active terrorists are unwilling to participate in interviews. Even if they do, the clandestine nature of those groups and the methods and means to collect data rarely meet the accepted academic criteria for data collection (Merari, 1991).

2.3 Open Source Terrorism Databases

As a result of these challenges in collecting terrorism data, open source datasets are an alternative to traditional criminological data collection methods. Open source databases contain terrorism data generated primarily by media sources. The earliest open source database on terrorism data started in the late 1960s, which coincides with improvements in mass communication, especially the use of portable cameras with satellite technology that allows for instantaneous transmission of stories and pictures (Morris and LaFree, 2016). Media-based reports of terrorism have been used to create both open source offender and incident-level data sets (Silke 2008; LaFree and Dugan 2007). Many scholars have argued that the attention-seeking nature of terrorist attacks is one advantage of using open source terrorism data sets (Jenkins, 1975; Schmid and De Graaf, 1982; LaFree and Dugan, 2007).

For example, Jenkins (1975) states that terrorist attacks, unlike most traditional crime, are planned to attract the attention of electronic media and international press with the goal of spreading the psychological effects of the attacks. As a result, there is a strong association between media and terrorism. This has led Schmid and De Graaf (1982) to succinctly conclude,

"Without communication there can be no terrorism" (p.9). Similarly, Jenkins (1975) describes terrorism as "theatre" (p. 16), highlighting the attention-seeking nature of terrorism events. Therefore, the use of media to gather data could be an effective way to track terrorism (LaFree and Dugan, 2007). Finally, improvements in technology have improved open source data collection over time (Morris and LaFree, 2016).

Although open source data sets are useful, they do have weaknesses. Morris and LaFree (2016) state that regional bias and selection bias are two major weaknesses that open source databases can face. Regional bias refers to the possibility that some areas may underreport terrorist attacks. For instance, Woolley (2000) states that most media disproportionately cover events that occur in urban areas. Additionally, certain areas have more media coverage and wire service offices (Morris and LaFree 2016) that make the coverage of events much easier than in other areas lacking such facilities. Furthermore, Drakos and Gofas (2006) found that regime type in a region is significantly related to underreporting of terrorist activity. For instance, countries where there is a dictatorship or restrictions to freedom of press may underreport terrorism events.

Similar to regional bias, selection bias is also a weakness for obtaining comprehensive coverage of terrorist attacks. In the case of terrorism reporting, selection bias occurs if more newsworthy terrorist attacks are reported by the media. For example, terrorist attacks that result in less physical damage or no fatalities are more likely to be excluded from media reports than attacks with more fatalities or casualties (Woolley, 2000). In addition to these biases, Morris and LaFree (2016) highlight another bias which may impact terrorism data. Morris and LaFree (2016) state that after the occurrence of a high-profile attack, such as the Oklahoma City bombing, the sensitivity of media for such events may increase and result in increased number of

9

media reports about similar attacks. Surette (1999) has referred to the possible increase is media reporting as an "echo effect."

Despite these limitations, open source databases have significant advantages. First, most open source databases use multiple and different sources to gather data to overcome potential weaknesses (Morris and LaFree, 2016; Woolley, 2000). Second, the strength of the association between terrorism and media coverage is the strongest argument for the use of open source databases. As Jenkins (1975) and Schmid and De Graaf (1982) state, in contrast to ordinary criminals who seek to hide themselves and their actions, terrorists plan their attacks precisely to be recognized by local and international media. Thus, LaFree et al. (2015) state that while more typical crime rates, such as burglary and fraud, cannot be accurately tracked by studying electronic and print media, it is a defensible argument to claim that terrorism can be monitored in these ways. For instance, an aerial hijacking or politically-motivated assassination has a very high probability of being covered by global media (LaFree et al., 2015).

Third, while most cross-national crime databases are limited to a small number of highly industrialized western-style democracies, most open source databases on terrorism collect information from every country of the world (LaFree et al., 2015). In addition to these advantages, Morris and LaFree (2016) state that objective acts, such as event counts rather than the interpretation of events, and "large and violent events" (p.7) are more likely to be reported without bias.

As a result of the recognition that media is an important space to track terrorism, the use of open source data sets and quantitative terrorism studies has increased over time. While early terrorism studies were based on small-n qualitative case studies (Sheehan, 2012), the number of quantitative studies in more recent literature has been increasing. For example, Silke (2008)

states that the use of open source data to quantitatively study terrorism has more than doubled since 9/11. While just over three percent of terrorism studies published between 1995 and 1999 used inferential analysis, it increased to 10 percent after 9/11 (Silke, 2008). Morris and LaFree (2016) state that the growing interest in terrorism and the increasing availability of open source terrorism databases led to a rapid increase in the number of quantitative studies of country-level correlates of terrorism. Three of the most frequently used terrorism databases are the *RAND Database of Worldwide Terrorism Incidents* (RDWTI), the *International Terrorism: Attributes of Terrorist Events* dataset (ITERATE), and the *Global Terrorism Database* (GTD).

2.4 Terrorism Databases: RDWTI, ITERATE, and GTD

RAND Corporation began collecting data on international terrorist attacks in 1972. Their records on international terrorism date back to 1968. In 2001, after significant increases in funding and support received from the Memorial Institute for the Prevention of Terrorism (MIPT), RAND started collecting data on domestic terrorism dating back to 1998. Funding for the RAND-MIPT data collection ended in 2008; however, RAND received additional support to expand the original dataset. RAND`s Database of World Terrorism Incidents (RDWTI) contains approximately 36,000 domestic and international incidents for the period of 1968 and 2008 (Sheehan, 2012). RDWTI database defines terrorism as:

> ...violence calculated to create an atmosphere of fear and alarm to coerce others into actions they would not otherwise undertake, or refrain from actions they desired to take. Acts of terrorism are generally directed against civilian targets. The motives of all terrorists are political, and terrorist actions are generally carried out in a way that will achieve maximum publicity (Sheehan, 2012, p. 36).

ITERATE is the most frequently used terrorism dataset (LaFree et al., 2015). It was originally collected by the former CIA analyst Edward Mickolus but is now updated by Todd Sandler and his colleagues (Sheehan, 2012). Like RDWTI, ITERATE`s records go back to 1968.

11

However, it is limited to international terrorist events (Sheehan, 2012). ITERATE contains

approximately 13,000 transnational terrorist attacks that occurred between 1968 and 2009

(Sheehan, 2012). Also, ITERATE provides qualitative descriptions of terrorist incidents (LaFree

et al., 2015). The ITERATE database defines terrorism as:

> … the use, or threat of use, of anxiety-inducing, extra-normal violence for political purposes by any individual or group, whether acting for or in opposition to established governmental authority, when such action is intended to influence the attitudes and behavior of a target group wider than the immediate victims (Sheehan, 2012, p. 36).

The GTD was originally collected by Pinkerton Global Intelligence Service (PGIS). PGIS

began collecting data in 1970 and, unlike other open source databases, the GTD is distinct from

the other data sources because it contains both domestic and international attacks. The GTD

defines terrorism as:

> the threatened or actual use of illegal force and violence by non-state actors to attain a political, economic, religious, or social goal through fear, coercion, or intimidation" (LaFree et al., 2015, p. 13).

The GTD specifies that the act of violence or threat of violence must be intentional and

must be conducted by a non-state actor. In addition, two of three following criteria must be met

in order for the act to be included in the data: (1) pursuit of a political, economic, religious, or

social goal; (2) intention to coerce or influence larger audiences; and (3) acts must not reflect

legitimate warfare activities (Sheehan, 2012).

An important similarity between RAND, ITERATE, and GTD is that all focus on

terrorist acts committed by non-state actors. They do not include terrorist acts of states. Other

datasets, such as Terrorism in Western Europe: Events Data (TWEED), include state terrorism,

unlike RAND, ITERATE, and GTD (Sheehan, 2012).

In conclusion, although there is no universally accepted definition of terrorism, most

definitions of terrorism emphasize the use or threat of violence and fear to obtain political,

economic, social or religious goals. Definitions and measurements of terrorism vary in terms of

the actors that are conceptually defined as terrorists (state versus non-state actors) and whether

domestic or international terrorist events are included in the data. Of all the existing open source

terrorism databases, the GTD arguably contains the most comprehensive set of terrorism

incidents at the country-level.

Chapter 3

Literature Review

Though there is no consensus on the causes of terrorism, results from the growing body of quantitative studies of country-level terrorism have found that there are numerous factors related to the frequency of country-level terrorism (Sandler, 2014). These studies have used a wide variety of variables to predict country-level terrorism, generally speaking, most studies focus on the demographic, economic, and political correlates of country-level terrorism (Morris and LaFree, 2016). In the following section, I briefly review the major demographic, economic and political correlates of country-level terrorism. Although not the primary interest of this study, many of these variables are included as control variables and I provide a brief review of the existing findings. I then provide a detailed discussion of the theoretical rationale and empirical evidence for the relationship between state-based human rights violations and country-level terrorism.

3.1 Correlates of Country-Level Terrorism

There are several demographic correlates of country-level terrorism. Previous studies have included measures of population (Azam and Delacroix, 2006; Burgoon, 2006; Campos and Gassebner, 2013; Chenoweth, 2010; Danzell and Zidek, 2013), urbanization (Campos and Gassebner, 2013; Gassebner and Luechinger, 2011), and ethnic fractionalization (Abadie, 2006; Boehmer and Daube, 2013; Gassebner and Luechinger, 2011). Larger populations, as compared to smaller populations, may be more vulnerable to terrorist attacks because of the increased opportunity for terrorism present in larger populations. Additionally, countries with larger populations may have more difficulty monitoring larger populations and preventing terrorist mobilization; therefore, it could be easier for terrorists to hide themselves more effectively in

14

large populations (see Gassebner and Luechinger, 2011 and Morris and LaFree, 2016 for a review of correlates of country-level terrorism).

Closely linked to arguments about population, urbanized areas tend to have larger populations than rural areas and because terrorists seek mass casualties, urban areas may be more attractive to terrorist attacks (Gassebner and Luechinger, 2011). Finally, there is also evidence that ethnic, linguistic, and religious diversity in a country is also related to terrorism (Gassebner and Luechinger, 2011). Highly ethnic, linguistic, or religiously fragmented societies may be more likely to experience terrorism because of separatist or sectarian violence and due to the competition over scarce sources (Abadie, 2006; Basuchoudhary and Shughart, 2010; Gassebner and Luechinger, 2011).

Studies which analyze the relationship between economic variables and terrorism generally focus on the effects of economic development and economic inequality. Many studies have examined the "rooted-in-poverty hypothesis" (Piazza, 2006, p. 160), which states that terrorism is an expression and product of socio-economic discontent and desperation (Piazza, 2006). Impoverished countries with low educational levels and high unemployment rates should be the most vulnerable to both producing and experiencing terrorism (Piazza, 2006). Among the most frequently studied economic variables are: GDP (Azam and Thelen, 2008; Coggins, 2014; Dreher and Fischer, 2010; Enders and Hoover, 2012), income (Blomberg, Hess, and Weerapana, 2004), economic discrimination (Freytag, Krüger, Meierrieks, and Schneider, 2011; Piazza, 2011), economic freedoms (Basuchoudhary and Shughart, 2010; Choi and Luo, 2013; Gassebner and Luechinger, 2011), and foreign portfolio investment (Azam and Thelen, 2008; Azam and Delacroix, 2006; Gassebner and Luechinger, 2011).

Finally, several studies have examined the effects of political variables on country-level terrorism, such as regime type (Boehmer and Daube, 2013; Bravo and Dias, 2006; Coggins, 2014;(Blomberg et al., 2004; Savun and Phillips, 2009) components of democracy (Piazza, 2007), regime durability (Coggins, 2014; Piazza, 2007, 2008), and various measures of state failure (Choi and Luo, 2013; Piazza, 2007, 2008). Perhaps the most often studied political correlate of terrorism is regime type, specifically, democratic versus autocratic regimes.

There are two schools of thought explaining the relationship between democracy and terrorism (Eyerman, 1988; Crenshaw, 1981). The political access school believes that democratic states provide multiple channels to express dissent without the threat of government retaliation and allows for change through non-violent means (Eyerman, 1998). Therefore, legal activities are preferred more than illegal or violent activities, such as terrorism (Eyerman, 1998). Conversely, the strategic school argues that democratic states may experience more terrorism because democratic states, as compared to more autocratic states, are more heavily committed to the protection of civil liberties (Eyerman, 1998). Because democracies, as compared to autocracies, allow more freedom of movement and association and easy access to public buildings, democratic states may be less able to prevent terrorist group mobilization and as a result more likely to experience terrorism (Eyerman, 1998). There is empirical evidence supporting both political access and strategic schools.

For instance, while Eyerman (1998) found that democracies experience fewer terrorists attacks, Choi and Luo (2013) found that democratic states experience more terrorism than non-democratic states. Others have also found that "new" democracies are more likely to experience terrorism. This indicates that regime durability, or the length of the current regime type, is also a significant predictor of terrorism. Regime durability may be related to increased terrorism in two

ways. First, new democracies, like established democracies, may be targeted by terrorists because the increased protection of civil liberties allows for increased terrorist group mobilization. Second, new democracies may experience more terrorism because they are not as effective as established democracies in providing avenues for political dissent (Piazza, 2007). In addition to regime type (democracy versus autocracy) and regime durability, several scholars have examined the relationship between democracy and terrorism by disaggregating democracy into specific components, such as the protection of civil liberties and political rights (Ehrlich and Liu, 2002; Piazza, 2007).

The most frequently studied components of democracy are protection of civil liberties (Piazza, 2007; Piazza, 2017), associational and organizational rights, rule of law, and personal autonomy/individual rights, political rights and political pluralism and participation, and functioning of government (Piazza, 2017). Piazza (2007) analyzed whether the protection of civil liberties is a significant predictor of terrorism and found that countries that protect civil liberties are more likely to experience international terrorism. However, Kurrild-Klitgaard, Justesen, and Klemmensen (2006) found that civil liberties is negatively correlated with terrorism. Countries that protect civil liberties experience less terrorism. In regards to political rights, Abadie (2006) found that lack of political freedoms increases terrorism. Similarly, Savun and Phillips (2009) found that political discrimination significantly increases terrorism at the country-level.

Another important political variable to emerge from the literature is state failure. A number of studies have indicated state failure is related to terrorism (Morris and LaFree, 2016; Piazza, 2007). Scholars have argued that weak or failed states tend to have large numbers of terrorist groups and are more likely to be targeted by terrorists. Conceptually, the definition of state failure is very broad and, encompasses many conceptually distinct indicators of state failure

17

(Taylor, 2013). Indeed, Chomsky (2006) states that the concept of state failure is "frustratingly imprecise" (p.1). Nonetheless, Chomsky (2006) states that most definitions of state failure focus on states` inability or their unwillingness to protect their citizens. The existing literature has conceptualized and measured state inability to protect citizens in two ways (1) the loss of the monopoly of using force due to various conflicts and tensions (Piazza, 2008) and (2) the use of repressive and aggressive acts that violate domestic and international laws (Chomsky, 2006; Walsh and Piazza, 2010).

In regards to losing the monopoly of using force, Piazza (2008) defines failed and failing states as entities that lack formal control over a geographic boundary in regards to non-state actors in society. Similarly, Taylor (2013) states that a failed state cannot impose order; it loses its physical control of territory and its monopoly over the legitimate use of force. One of the most frequently used measure of a state's loss of monopoly of using force is collected by the Political Instability Task Force (PITF), which was previously referred as the State Failure Task Force. Commissioned by the former U.S. Vice President Al Gore in 1994, the PITF classifies state failure into four categories: (1) continuing military conflicts between insurgents and state in order to place a regime change (revolutionary wars), (2) civil wars, rebellions, sustained communal warfare based on separatist ideologies (ethnic wars), (3) sustained policies run by states or their agents that result in deaths of a high proportion of members of a community, such as ethnic or religious, groups or political dissenters (genocides and politicides), and (4) major, sudden shifts in patterns of governance, including state collapse (adverse regime change) (Esty et al., 1998).

The second conceptualization of state failure focuses on the state's use of repressive and aggressive acts that violate domestic and international laws. Chomsky (2006) states that failed

states tend to regard themselves as beyond domestic and international law, and hence, feel free to engage in repression and violence on its citizens. In democratic regimes, such type of state failure results in serious "democratic deficit" (Chomsky, 2006, p.2) that prevents democratic institutions from functioning in their formal forms. Scholars analyzing state failure in the form of state repression generally use measures of state-based violations of human rights or physical integrity rights (Fahey and LaFree, 2015; Piazza, 2017; Piazza and Walsh, 2010; Walsh and Piazza, 2010). The Cingranelli and Richards` (2004) (CIRI) Human Rights database is one of the most used sources for measuring state violations of human rights. Violations of physical or personal integrity rights carried out by a state or its agents, include abuses such as extrajudicial killings, torture or similar physical abuses, disappearances, and political imprisonment (Wood and Gibney, 2010). Other databases of human rights violations include the U.S. State Department Country Reports on Human Rights Practices and Amnesty International reports.

In the next section I discuss the theoretical rationale and empirical evidence for the relationship between state-based violations of human and physical integrity rights on country-level terrorism.

3.2 Theoretical Framing of State- Based Human Rights Violations and Terrorism

There are two theoretical explanations that expect state-based violations of human rights to increase terrorist activity. State-based violations of human rights can lead to terrorism by closing peaceful avenues for dissent, and it can result in terrorism by fostering public alienation, grievances and terrorist group mobilization (Piazza, 2017).

First, terrorism could be a defense mechanism against repressive governments in circumstances where the state closes peaceful avenues of dissents or in cases in which dissenters think that peaceful means would not produce any progress (DeNardo, 1985). Piazza (2017)

19

argues that closing down avenues for dissent through different repressive means such as the restriction of free speech or the right to strike or publicly protest, and press censorship of independent, critical and unauthorized political opinions, can accelerate the act of terrorism. Similarly, Crenshaw (1981) states that denial of access to power, persecution of dissenters, political imprisonment, and blocking legal expressions of the opposition by the country is more likely to induce terrorism.

Piazza (2017) states that this theoretical approach makes use of the flip side of Eyerman's (1998) "political access school", which argues that non-violent, legal political activity is preferred over violence when it is believed that there will be a change in the governmental policy. Looking at the flip side of the "political access school," if it is believed that peaceful means are not working anymore or that they will result in retaliation by the government, then repression becomes a motivation for dissenters to think that terrorism is a more efficient action compared to working within the system (Piazza, 2017).

Second, it is assumed that the relationship between state oppression and terrorism is based on the overall climate of public approval of the government (Piazza, 2017). Piazza states that repression alienates citizens from their government and damages the legitimacy of the state. This, in turn, fosters anti-state and anti-status quo grievances. The environment created by repression becomes vulnerable to extremist movements in regard to the gathering of support, recruitment of new members, and distribution of effective propaganda. Moreover, other states are less likely to cooperate with repressive countries concerning intelligence-sharing and extraditing persons suspected of terrorism due to the violation of international laws (Piazza, 2017).

The second explanation of the relationship between state violations of human rights and terrorism is based on Gurr's (1970) conceptual framework for grievance and rebellion. According to Gurr (1970), the assumption that the more a state imposes sanctions on dissidents, the less violence dissidents will do is often a self-defeating fallacy. Gurr (1970) argues that a regime`s response to a threat with greater force more likely results in an intensification of resistance. In recent work, Gurr (2015) states that one of the two main routes by which some members of a group accept extreme means is the "reaction" (p.173). According to Gurr (2015), reaction is a process whereby members of a regional, communal, or political group use terrorism in response to threatened social change and intervention by authorities. If a group believes that their rights and status are threatened, the reaction occurs as a mean of defense, mostly in the form of terrorism. Piazza (2017) states that state repression against minorities, such as economic and political discrimination, and particular human rights abuses damage the relationship between states and citizens that, in turn, foster domestic and transnational political opposition.

The previously discussed theoretical explanations of the effects of state-based human rights violations and country-level terrorism all draw heavily from the political science literature. Criminological theories also provide theoretical explanations of the relationship. Two examples include Messner and Rosenfeld's (2001) institutional anomie theory (IAT) and Sherman's (1993) defiance theory.

Messner and Rosenfeld's (2001) institutional anomie theory states that the level and type of country-level crime is predicted by a country's institutional balance of power. Drawing from both Durkheim and Merton, they argue that institutional imbalance of power within a country can lead to widespread anomie and weakened social controls which then led to high crime.

They focus on the economic, family, educational, religious and political institutions. These institutions provide distinct although related functions. For example, the economic system provides for the physical and material needs of a country. The political institution provides and allows for collective goals of the people, and socialization and social control are often provided by family, educational, and religious institutions (Rosenfeld and Messner, 2006). Ideally, there should be a balance of power among all institutions. Imbalance occurs when one social institution dominates the others (Messner and Rosenfeld, 2001). Institutional dominance weakens the ability of other social institutions to exercise social control as well as the ability to temper the stress that results from the dominant institution.

The institutional imbalance of power from an overly dominant political system may weaken social control and eventually, result in higher levels of terrorist activity directed at the country. Studies examining economic institutional dominance and crime have provided some partial support for the theory (Chamlin and Cochran, 1995; Maume and Lee, 2003; Messner and Rosenfeld, 1997; Pratt and Godsey, 2003; Savolainen, 2000; Stucky, 2003; Cullen, Parboteeah, and Hoegl, 2004; Piquero and Piquero, 1998).

Although this dissertation is only focused on macro-level differences in terrorism and thus relies more heavily on macro-level theoretical frameworks, one micro-level theory that can explain how state-based violations may lead individuals to engage in terrorism is Defiance theory (1993). Sherman's (1993) defiance theory may also explain why state-based human rights violations may lead to increased radicalization, mobilization and subsequent terrorist activity. Sherman (1993) states that a sanction is considered unfair when it is discriminatory, excessive, undeserved, and substantively arbitrary or when the agent behaves with disrespect for the offender. In such circumstances where people are treated with excessive or discriminatory

22

sanctions or where state agents are disrespectful to people`s rights, defiance is more likely to occur. Sherman (1993) describes defiance as "*the net increase in the prevalence, incidence, or seriousness of future offending against a sanctioning community caused by a proud, shameless reaction to administration of a criminal sanction*" (p.459). Specifically, Sherman (1993) states that defiance occurs under the four following conditions, all of which are necessary:

1. The offender defines a criminal sanction as unfair.
2. The offender is poorly bonded to or alienated from the sanctioning agent of the community the agent represents.
3. The offender defines the sanction as stigmatizing and rejecting a person, not a law-breaking act.
4. The offender denies or refuses to acknowledge the shame the sanction has actually caused him to suffer (p.460).

Theoretically, state-based human rights violations can be viewed as unfair and increase the probability of defiance in the form of radicalization and subsequent terrorist activity. Sanctions that are viewed as repressive or unfair may encourage political dissenters to resort to more serious and radical means.

3.3 Empirical Review

The theoretical connection between state violations of human rights and terrorism has been discussed above. In this section, I will discuss the results from several country-level studies that analyze the relationship between state-based violations of human rights and terrorism. While there are numerous indicators of state failure, I will restrict my empirical review to those studies that measure state-failure as state-based violations of human or physical integrity rights by states and to those studies that examine country-level targets of terrorism.

Walsh and Piazza (2010) examined if countries with greater protection of human rights have a lower incidence of terrorism. In their analysis, they used a sample of 195 countries over a multiyear period (1981-2004) to test examine if government violations of physical integrity

rights promotes terrorism at the country-level. They used two of the most frequently used terrorism datasets, ITERATE and RAND-MIPT. Because ITERATE included information only on transnational attacks, they used RAND-MIPT to gather data on domestic attacks and transnational attacks. They used the Cingranelli and Richards` (2004) (CIRI) Human Rights dataset to measure physical integrity rights, which is measured as the extent to which the government engages in disappearances, extrajudicial killings, holding political prisoners, and torture. They also included measures of democracy (Polity IV), government involvement in an international war, government engagement in a civil war, and the natural log of the state's population. They ran four models on four different terrorism outcomes: (1) the number of domestic attacks (MIPT), (2) the number of transnational attacks (MIPT), (3) the total number of terrorist attacks (MIPT), and (4) the number of transnational attacks (ITERATE).

Results indicated that greater protection of physical integrity rights is negatively related to the number of terrorist attacks regardless of the type of terrorism (Walsh and Piazza, 2010). In other words, greater protection of physical integrity rights reduces the number of both domestic terrorism and transnational terrorism (Walsh and Piazza, 2010). In terms of the magnitude of the effect, they found that one-unit increase in the protection of physical integrity rights from the lowest level of 0 to 1 reduces the expected number of terrorist attacks by between 17 and 40 percent.

One problematic issue, however, is whether the relationship between repression of physical integrity rights and terrorism is endogenous or not. Some scholars argue that although suppression of physical integrity rights leads to more terrorism, it is also possible that terrorist attacks lead governments to repress physical integrity rights (Walsh and Piazza, 2010). However,

Piazza and Walsh (2009) examined this issue and found that terrorist attacks were not significantly related to subsequent repression of physical integrity rights.

Piazza and Walsh (2010), in another study, examined the separate effects of their physical integrity composite measure on both domestic and international terrorism. Piazza and Walsh (2010) tested whether (1) torture, (2) political incarceration without due process, (3) disappearances suspected to result from the workings of state agents, and (4) extrajudicial killings perpetrated by government officials are significantly related to terrorism. Using data from GTD and ITERATE, they analyzed country-year data for 142 countries for the period of 1981 to 2004. Results indicated that protection of physical integrity rights is associated with fewer terrorist attacks. When physical integrity rights were disaggregated into the four components, they reported that states that avoid political imprisonment of citizens, extrajudicial killings, and disappearances experience less domestic and international terrorism. However, the relationship between torture and terrorism was not significant. Improvement in protection of rights against extrajudicial murders and political imprisonment led to the most dramatic decrease in terrorist attacks, compared to improvements in torture and disappearances. Piazza and Walsh (2010) state that this is because violations like extrajudicial killings and political imprisonment are highly overt, making them practical tools for terrorist movements to propagandize.

In another study, Piazza (2017) further examined how different types of state repression impact terrorist attacks. Piazza (2017) examined nine various types of state oppression: physical integrity rights abuse, restriction of movement, restriction of association, restriction of electoral self-determination, press censorship, restriction of free speech, labor repression, religious

repression, and minority discrimination.[2] Some of these measures, such as restriction of free

speech and association, and restriction of electoral self-determination, overlap with restrictions in

political rights or civil liberties that have been used as control variables in other studies. The

physical integrity rights measure includes protections against physical torture, political

imprisonment, extrajudicial killing, or disappearance. Using data from the GTD, Piazza (2017)

analyzed annual domestic terrorism in 149 countries between 1981 and 2006. Piazza (2017)

tested two hypotheses. First, Piazza (2017) tested whether closing peaceful avenues for dissent

increase terrorism. Second, Piazza (2017) examined whether acts of state repression that provoke

group grievances increase terrorism.

His results indicated that types of state repression which provoke group grievances, such

as religious repression, minority discrimination, and abuse of physical integrity rights, are all

significant predictors of terrorist attacks. Regarding the closure of peaceful avenues, only

restriction of electoral self-determination and labor repression slightly increased the incidence of

terrorism. In addition, countries, with low levels of abuse of physical integrity rights and

minority discrimination, are significantly less likely to experience terrorism (Piazza, 2017). For

example, a one-unit increase in the abuse of physical integrity rights score increases terrorism by

10.1 percent. Piazza (2017) concludes that state repression overall is a stimulant, rather than a

suppressor, of domestic terrorism.

Daxecker (2015) specifically focused on the effects of just one form of physical integrity

rights abuse, torture, on terrorism. She argues that use of harsh repression by a government can

intensify the incidence and duration of terrorism. Daxecker (2015) states that there are two

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[2] The data were gathered from the Cingranelli and Richards (CIRI) Human Rights Data (2010),
Freedom House Index of Press Censorship (2012) and Minorities at Risk (2009) database.

different torture types, scarring torture and stealth torture. Scarring torture is described as the form of torture which is visible and less deniable by governments (e.g., acts that leave visible marks on the body and includes whipping, beating, kicking, etc.). Conversely, stealth torture is defined as the kind of torture which is less visible and has greater deniability (e.g., acts that do not leave visible marks on the body and includes sleep deprivation, hypothermia, etc.). Although both scarring and stealth torture of detainees may have the same impact within a group that has already used terrorism, she argues that the impact of these two types of torture varies in larger environments. Daxecker (2015) states that dissemination of information about scarring torture can spread faster than stealth torture with less ambiguity and less deniability by the government. As a result, countries where torture is prevalent become the sources of terrorism and people who use peaceful means of resistance may be more likely radicalized which, in turn, leads to an increased number of terrorist activity. Within this perspective, she hypothesizes that a higher incidence of scarring torture is expected to result in an increase in the number of terrorist incidents in countries.

Using data from GTD for the period of 1995 to 2005, Daxecker (2015) used negative binomial regression to examine the relationship between torture and terrorism. For the primary independent variable, she used data from the Ill-Treatment and Torture Specific Allegations (ITT SA) dataset. [3] The data quantify all torture allegations from 1995 to 2005 and categorizes the allegations by torture technique. She created two variables, the count of scarring torture and the count of stealth torture. Scarring and stealth torture allegations range from 0 to 125 and 0 to 70, respectively. In addition to the main independent variables, she included seven control variables:

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[3] By using Amnesty International documents, the Ill-Treatment and Torture Allegations project codes data on four concepts: (1) incidence, (2) perpetrators, (3) motive, and (4) judicial response.

GDP per capita, population size, human right violations, durability of regime, lagged moving average of the dependent variable, spatial lag of terrorism, and dummy variables that account for increases and decreases in the incidence of terrorism resulting from unobserved factors.

Daxecker`s (2015) results indicated that scarring torture is significantly and positively correlated with country-level terrorism and that greater numbers of scarring allegations increase the probability of terrorist events. When scarring torture moves from 0 to 5, the expected number of terrorist incidents increased from 2.3 to 9 (Daxecker, 2015). The coefficient of stealth torture was negative but not statistically significant.

In another study, Mullins and Young (2010) examined how general levels of violence within a given society (culture of violence) influence the probability of terrorism. Mullins and Young (2010) argue that each country has a different level of acceptance for violence (culture of violence) and this acceptance of violence is an important force that produces terrorism. If a society has high cultural tolerance of violence, it is more likely that terrorism becomes a form of dissent expression. Similarly, if the state uses violence to solve difficulties, dissidents are more likely to resort terrorism (Mullins and Young, 2012). They hypothesized that states which experienced state-organized and supported violence will have higher rates of terrorism than countries that do not use such violence.

Mullins and Young (2012) analyzed 174 countries between 1970 to 1997. Using data from the GTD and Amnesty International, Mullins and Young (2012) analyzed the association between fatal terror events and state-based violations of human rights. Their results indicated that state-based violations of human rights are significantly and positively correlated with terrorism. A one-unit increase in state-based violations of human rights increases the probability of being in the group of countries that has at least one fatal terror attack by more than 93% (Mullins and

28

Young, 2012). Furthermore, a one-unit increase in the violations of human rights increases the expected count of terror events by 128% (Mullins and Young, 2012).

In sum, there is considerable empirical evidence that indicates a significant relationship between state-based violations of human rights and country-level terrorism. Both the composite measure of state-based violations of human rights and various components of it, such as extrajudicial killings, disappearances, and political imprisonment, significantly increased the incidence of terrorism at the country-level. However, with the exception of a few studies (Daxecker, 2017; Fahey and LaFree, 2017), many existing studies have not examined the within-country and between-country effects of state-based human rights violations over time. Rather, most studies have examined only between-country effects, or have used analytical approaches that estimates both within and between-country level variation. One major advantage of longitudinal data across multiple units is the ability to disentangle between-unit and within-unit effects on the outcome, yet most studies of country-level terrorism have not examined within-country effects of correlates on country-level terrorism. The primary benefit of examining the effects of within-country changes in state-based human rights violations on within-country changes in country-level terrorism is the ability to make stronger casual inferences. The current study seeks to expand upon the current research on state-based human rights violations and country-level terrorism by using more recent data, and by examining the effects of within-country changes in state-based human rights violations on within-country changes in terrorism.

Chapter 4

Data and Methodology

In this chapter, I discuss the hypotheses, the methodology and analytical approach for the current study. I begin with the hypotheses of the current study, followed by a description of the sample and a detailed discussion of the Global Terrorism Database (GTD)—the primary data source for the outcome variables. I also discuss the primary predictor variable, state-based human rights violations, that is taken from the Amnesty International database, as well as all other control variables included in the study. Finally, I discuss the analytic strategy used in the current study.

4.1 Hypotheses

I investigate two hypotheses using three separate outcome measures of terrorism. Based on existing theory and empirical evidence, I have the following research hypotheses:

H1: Within-country changes in state-based human rights violations are significantly related to within-country changes in total, fatal and attributed terrorism events over time, controlling for other socio-political and demographic variables. Thus, countries that experience increases in state-based human rights violations will also experience increases in all terrorism outcomes.

H2: Between-country differences in the level of state-based human rights violations are related to increased total, fatal and attributed terrorism events over time, controlling for other socio-political and demographic variables. Thus, countries with higher levels of

state-based human rights violations, as compared to other countries with lower levels, are more likely to experience annual increases in all types of terrorism outcomes.

4.2 Unit of Analysis and Sample

The unit of analysis is the country-year. I use cross-national time-series data for 175 countries between 1980 and 2014. There are a total of 5,950 country-year observations (See Table 1 in the Appendix A for a list of countries and valid country-year observations).

It is important to note that the political circumstances of many countries have resulted in geographic boundary changes over time over time. For example, many countries have achieved independence from larger countries during the time span. Conversely, other countries have unified over time. For example, Czechoslovakia, the Union of Soviet Socialist Republics (USSR) and Yugoslavia dissolved into other separate independent countries.[4] To take these changes into account, countries have valid data only during time points in which they were officially independent from former countries.

4.3 The Global Terrorism Database (GTD)

The GTD was originally collected by Pinkerton Global Intelligence Service (PGIS). PGIS began gathering information on both domestic and international terrorist attacks in 1970 and PGIS data collection ended in 1997. PGIS used the following sources: wire services (e.g., Reuters and the Foreign Broadcast Information Service [FBIS]), US State Department reports and other US and foreign government reports, and several US and international newspapers (e.g.,

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[4] Czechoslovakia separated into Czech Republic and Slovakia in 1993. Russia, Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan emerged as new states after the breakup of the USSR in 1991. Croatia and Macedonia gained independence from Yugoslavia in 1991, Bosnia and Herzegovina and Slovenia in 1992, and Kosovo in 1999. Yugoslavia became Serbia-Montenegro in 2003 and they separated into two nation states in 2006. In addition, West and East Germany unified in 1990 as Germany and Eritrea gained independence from Ethiopia in 1993.

the New York Times, the Washington Post, the British Financial Times, the Times of India,

Turkey's Milliyet, and the Spanish-language Diario Las Americas) (LaFree et al., 2015).[5] In

2001, the original hard copies of the PGIS terrorism database were acquired by researchers at the

University of Maryland and in 2006 the University of Maryland, in collaboration with several

other agencies and universities across the nation, extended the data collection beyond 1997.[6]

The original PGIS data was digitized, updated, and expanded by University of Maryland

researchers by actively searching ITERATE, RDWTI, Worldwide Incidents Tracking System

(WITS), specialized reports, UN reports, regional and national reports, and governmental reports.

The updated version is referred to as the Global Terrorism Database (GTD). The GTD is

currently updated and maintained by the National Consortium for the Study of Terrorism and

Responses to Terrorism (START).

To collect data on terrorism, the GTD team at START combines automated and manual

data collection strategies to maximize efficiency. Initially, the team identifies a small subset of

articles related to terrorist attacks among over one million media articles published daily

worldwide (LaFree et al., 2015). These are processed by applying customized keyword filters

achieved via subscription to the Metabase Application Programming Interface (API) provided by

Moreover Technologies, Inc. The program is supplemented with articles downloaded from the

Open Source Center, which provides English-language translations of sources from over 160

countries in over 80 languages. After creation of a subset of articles, the GTD team manually

reviews them based on GTD inclusion criteria and applies the relevant coding criteria. The

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[5] In the 1990s, the internet became the major source of information for PGIS.
[6] During the transfer process, it was discovered that one box of data, containing records from 1993, had been lost by PGIS in an earlier office move and was never fully recovered

amount of articles reviewed for this purpose is about 16,000 per month (National Consortium for the Study of Terrorism and Responses to Terrorism, 2015; LaFree et al., 2015).

The GTD includes a set of criteria and requires all three of the following attributes to be present for an event to be considered a terrorist attack:

1) **"The incident must be intentional**- the result of a conscious calculation on the part of a perpetrator."
2) "**The incident must entail some level of violence or immediate threat of violence**- including property violence, as well as violence against people."
3) **"The perpetrators of the incidents must be sub-national actors**. The database does not include acts of state terrorism" (National Consortium for the Study of Terrorism and Responses to Terrorism, 2015, p. 8).

While the GTD requires all three of these attributes to be present, it also requires at least two of the following three criteria to be present for an incident to be included in the GTD. These are:

1) "**The act must be aimed at attaining a political, economic, religious, or social goal**. In terms of economic goals, the exclusive pursuit of profit does not satisfy this criterion. It must involve the pursuit of more profound, systemic economic change."
2) "**There must be evidence of an intention to coerce, intimidate or convey some other message to a larger audience (or audiences) than the immediate victims.**"
3) "**The action must be outside the context of legitimate warfare activities**. That is, the act must be outside the parameters permitted by international humanitarian law (particularly the prohibition against deliberately targeting civilians or non-combatants)" (National Consortium for the Study of Terrorism and Responses to Terrorism, 2015, p.8).

It is important to note that the GTD only counts the targets of terrorism not the source of terrorism. If a specific country matched with a specific incident, it indicates the country is the target of the terrorist attack.

4.4 Outcome Variables

The GTD is an incident level database. The data includes each identified terrorist incident and incident specific information such as the geographic location and date of the attack, the entity targeted by the attack, and the number of perpetrators and victims (see LaFree, Dugan and

33

Miller 2015 for a complete review of all information included in the GTD). I created a country-year database by aggregating annual counts of three types of terrorist incidents to the country-year level. The outcome variables used in this study include: (1) total attacks, (2) attacks with which a particular group is associated (attributed attacks), and (3) attacks that resulted in at least one fatality (fatal attacks).

Total attacks measure the number of all attacks recorded for each country-year. There are a total of 131,486 terrorist attacks for the 175 countries in the GTD (see Table 1). I also use two other related measures of terrorism. I use a measure of terrorism, "attributed attacks," that only counts those events the GTD team has assessed as "no doubt as to whether the incident is an act of terrorism."[7] There are 99,126 attributed attacks. I also use a measure of terrorism that only includes fatal attacks, which includes all attacks that resulted in at least one fatality. As compared to total and attributed attacks, there are fewer fatal attacks during the 34-year time period (59,878) (See Table 1 for descriptive statistics for all three outcomes variables and Table 1 in the Appendix A for a list of all variables, coding scheme and data source).

Table 1. Descriptive Statistics for Outcome Variables			
	Total Attacks	**Fatal Attacks**	**Attributed Attacks**
Sum	131,486	59,878	99,126
Mean	23.83	10.86	17.96
Variance	14358.492	4729.146	10059.090
Valid Observations	5518	5514	5518
Zero Counts (N)	2677	3520	2938

[7] The GTD includes a variable, "doubtterr," that indicates whether there is doubt that the incident is an act of terrorism or not. If the incident has been coded as "0", it shows that there is no doubt at all that the incident is an act of terrorism. This variable is only available after 1997.

4.5 The Advantages of the GTD

The GTD has three main advantages that are useful for this study. First, and perhaps the most significant strength, the GTD contains data for both domestic and international terrorism incidents since 1970 (LaFree et al., 2015). Second, according to LaFree et al. (2015), the GTD is the most comprehensive unclassified terrorism database in the world. It currently includes information on over 140,000 terrorist attacks. Details about the GTD illustrate that it includes information on more than 58,000 bombings, 15,000 assassinations, and 6,000 kidnappings since 1970. For each case, the GTD has incident-level information on at least 45 variables, reaching over 120 variables for more recent incidents. From 1998 to 2014, over 4,000,000 news articles and 25,000 news sources were reviewed to collect data (National Consortium for the Study of Terrorism and Responses to Terrorism, 2015). Finally, the structure of the database and its detailed information on each case allows researchers to customize the dataset into different subsets.

4.6 The Disadvantages of the GTD

Despite current changes and improvement over time, the GTD data also has limitations. First, because terrorism has overlapping characteristics with other types of crime and violence, it can be difficult to distinguish terrorism from other types of violence, such as genocide, insurrection, insurgency, massive civil unrest or even homicide. This is especially so when identifying acts of terrorism in armed conflicts, such as those that occurred in Iraq following the US-led invasion in 2003 or Syria following the violent clashes started in 2011 (LaFree et al., 2015). Moreover, acts of terrorism sometimes have similarities with hate crime or organized crime in regards to intimidation, coercion, and messaging (LaFree et al., 2015).

Second, sometimes, there is a lack of detailed information on essential elements of terrorist attacks. In many cases, the news sources cannot provide specific details about the perpetrator. In these cases, the perpetrator is unknown or the act it's attributed to a broader ideology or movement, such as 'right-wing extremists'. Thus, most of the open source databases, including the GTD, face limitations in regards to the information on the characteristics and careers of terrorist organizations or members of terrorist movements (LaFree et al., 2015). This limitation results in missing data for studies of terrorism focused on terrorist groups or terrorist group mobilization.

Finally, the desire and tendency to develop time series to analyze terrorist attacks longitudinally require continual updating of event databases without lapses. However, most event databases are faced with time lapses due to the lack of funding or lack of high-quality data collection efforts. Even though the GTD is fortunate to have received a good deal of government funding and implemented several quality-control tactics, the GTD is also vulnerable to measurement error. For instance, while PGIS ended data collection in 1997, it was not until 2006 when the original PGIS data was digitized and new funding for updates was secured. There was an eight-year time lapse between real events and data collection. This inevitably results in inconsistent data collection over time. For those eight years, a retrospective data collection was applied and it continued as prospective data collection after this point. Because newspapers and electronic media do not archive every news event, underreporting or missing data occurs in retrospective data collection (LaFree et al., 2015).

4.7 Independent Variable of Interest: State-based Human Rights Violations

My measure of state-based violations of human rights is taken from the Amnesty International. In the early 1980s, Michael Stohl and several graduate students at Purdue

University used Amnesty International and the U.S. State Department Country Reports on Human Rights reports to create two measures of state-based violations of human rights, which they label the Political Terror Scale (PTS). They used criteria obtained from Freedom House to measure state-based violations of human rights. The PTS variable measures violations of human, physical or personal integrity rights carried out by a state or its agents. This includes extrajudicial killing, torture or similar physical abuse, disappearances, and political imprisonment (Wood and Gibney, 2010). The PTS originally included information for 59 countries between 1976 and 1983. Over time, the PTS has expanded its coverage to more than 180 countries and now provides data on states' human rights practices from 1976 to date.

There are three different PTS measures generated from 3 different sources: Amnesty International (AI), the U.S. State Department, and more recently, Human Rights Watch (HRW). Amnesty International has data for 192 countries between 1976 and 2016, and the State department contains data for 210 countries between 1976 and 2016. The Human Rights Watch is a more recent data collection effort, starting in 2013, and has coverage for 208 countries. Amnesty International and the State Department provide the most comprehensive data given the time span of the current study. Although the State Department has more valid country-year observations (78.6%) than Amnesty International's data (63.4%), I use data from the AI for two reasons. First, a measure of state-based terrorism generated by a non-government based organization, such as Amnesty International, may be perceived as less biased and more objective than measures generated by the U.S. State Department. Second, the AI data contained more comprehensive data for countries that allowed them to be included in the analysis. For example, the State Department data did not have any valid observations for the United States between 1980 and 2015. In spite of the difference in data coverage between the two sources, the AI and

37

State Department scores are highly correlated with each other (r = 0.80, p <0.0001). The PTS

measure ranges from one (1) to five (5), with higher values indicating more state-based human

rights violations. The PTS coding is as follows:

> "Level 1: Countries under a secure rule of law, people are not imprisoned for their views, and torture is rare or exceptional. Political murders are extremely rare."
>
> "Level 2: There is a limited amount of imprisonment for nonviolent political activity. However, few persons are affected, torture and beatings are exceptional. Political murder is rare."
>
> "Level 3: There is extensive political imprisonment or a recent history of such imprisonment. Execution or other political murders and brutality may be common. Unlimited detention, with or without a trial, for political views is accepted."
>
> "Level 4: Civil and political rights violations have expanded to large numbers of population. Murders, disappearances, and torture are a common part of life. In spite of its generality, on this level terror affects those who interest themselves in politics or ideas."
>
> "Level 5: Terror has expanded to the whole population. The leaders of these societies place no limits on the means or thoroughness with which they pursue personal or ideological goals" (Wood and Gibney, 2010, p. 373).

The PTS measures three dimensions of state-abuse: scope, intensity, and range (Wood

and Gibney, 2010). Scope refers to the type of abuse that a state carries out, such as torture and

political incarceration. Intensity refers to the frequency of abuse, such as the number of instances

in a given period, and range refers to the portion of the population targeted for abuse (Wood and

Gibney, 2010). Within these three dimensions, it is important to note that a state which extends

violence to the entire population (range) and another state which applies gross and systematic

abuse on a small subset of the entire population (intensity) may get the same score (Wood and

Gibney, 2010).

One critique of the PTS points to the potentially subjective nature of the coding process.

Wood and Gibney (2010) state that the contextual factors found in the reports prevent the

generation of objective coding criteria (Wood and Gibney, 2010). To limit the potential for

subjective coding, specific instructions are provided to the coders. For instance, coders are

instructed to keep their perceptions, thoughts, feelings, and biases of a country out of their work and specifically focus on the information provided in the country report. Furthermore, at least two coders read the reports and code each country for each year. After each person codes separately, the scores are then compared for inter-coder reliability. In approximately 80% of the cases, the coders give the same score. Where scores are different, an informal discussion between several coders is held to clarify the discrepancies between scores (Gibney, Cornett, Wood, Haschke, and Arnon, 2015).

Another limitation of the PTS is that it does not disaggregate the overall state abuse measure into specific types of human rights violation. While the same score for two countries indicates that the violations in those countries are roughly the same, there may be variation in particular types of state abuse (Wood and Gibney, 2010). In other words, two countries with the same score may have variations in scope, intensity, and range of torture, extrajudicial killings, and political incarceration. While the PTS creators agree that it is beneficial to disaggregate state violations of human rights, they also state that the aggregated score is also a strength of the PTS. First, they do not accept the logic of summing every kind of state violation by giving the same value to each to determine the overall state score. For example, they do not believe that all acts of state violations are equivalent. The PTS does not accept the assumption that an act of torture is equivalent to a disappearance or that an extrajudicial killing is equivalent to a political imprisonment (Wood and Gibney, 2010). Furthermore, they do not believe that state abuse is linear. Unlike the Cingranelli and Richards Human Rights Data Project (CIRI), which is another frequently used human rights index, the PTS rejects this assumed progression which claims that states proceed through abuse in a general sequence, starting from political imprisonment and continuing through torture, killing, and disappearance, respectively (Wood and Gibney, 2010).

Third, another problem regarding the disaggregation of human rights violations is that it is difficult to obtain accurate numbers of the prevalence of each violation (Wood and Gibney, 2010). It is almost impossible to find an official report which provide the exact numbers of human rights violations occurred in that country. As a result, neither the Amnesty International or the State Department Country Reports on Human Right Practices state an exact number of incidents (Wood and Gibney, 2010). Thus, Wood and Gibney (2010) argue that measuring the levels of human rights violations is not an exact science, and efforts to measure such violations could be misleading.

4.8 Control Variables

To guard against omitted variable bias and potential spuriousness, I include control variables that were previously found to be correlated with both terrorism and state violation of human rights. It is important to include control variables, because exclusion of such variables (if associated with both terrorism and independent variables), will provide biased regression estimates (Long, 1997). To prevent such potential bias, I include several demographic, economic, and political variables which are collected from different data sources. In the next sections, I discuss the data sources used to collect the control variables included in this study.

I include annual country-level measures of several demographic variables, including *population* and *urbanization,* provided by the World Bank.[8] Prior research has indicated that

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[8] The World Bank collects development indicator data from officially-recognized international sources. It is the most current and accurate global time-series data available and provides data on national, regional, and global estimates. Its coverage starts in1960 and is updated quarterly in April, July, September, and December. The topics covered by the World Bank: World Development Indicators are agriculture and rural development, aid effectiveness, climate change, economy and growth, education, energy and mining, environment, external debt, financial sector, gender, health, infrastructure, labor and social protection, poverty, private sector, public sector, science and technology, social development, trade, and urban development.

countries with larger populations are at greater risk of being both a source and target of terrorism (Piazza, 2006; Kruger and Laitin, 2008; Campos and Gassebner, 2013; Choi and Lu, 2013; Danzell and Zideck, 2013; Young and Dugan, 2011; Piazza and Walsh, 2010; Morris and LaFree, 2016). *Population* is the sum of all residents regardless of legal status or citizenship excluding refugees not permanently settled in the country of asylum. Research has also indicated that urban areas, both at the country and county-levels, are also more likely to be targets of terrorism (Tavares, 2004; Gassebner and Luechinger, 2011; Danzell and Zideck, 2013; LaFree and Bersani, 2014; Fahey and LaFree, 2015; Morris and LaFree, 2016). *Urbanization* is measured as the percentage of people living in urban areas within a country.

In a series of supplemental analyses, I also include the variables sex ratio and ethnic fractionalization. Both variables had significant missing country-year data (see Table 2) as compared to the other variables used in the study. For example, of the 5,950 total country-year observations available, 38% and 44% of the country-year observations were missing for the variables sex ratio and ethnic fractionalization. As a result, I do not include these variables in the main analyses to retain the largest sample size possible and I examine the effects of these variables in a smaller subset of the sample. *Sex ratio* refers to male births per female births. The data are 5 year averages, thus there is substantial missing country-year data for this variable. I also use ethnic fractionalization data on 822 ethnic groups for 160 countries in the early 1990s (Fearon, 2003).[9] Fearon's ethnic fractionalization data (2003) includes data on ethnic groups that made up at least 1 percent of the country population. *Ethnic fractionalization* is defined as the

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[9] Fearon (2003) used *Atlas Narodov Mira* data to develop their ethnolinguistic fractionalization (ELF) index. In addition, Fearon (2003) completed the missing country-year cases based on their research mostly using the CIA Factbook, Encyclopedia Britannica, and the Library of Congress Country Studies.

probability two randomly drawn individuals in a country belong to different ethnolinguistic groups. Although the existing research on the effects of ethnic fractionalization on terrorism is mixed (Abadie, 2006; Baschoudhary and Schugart, 2010), and not nearly as common as studies including measures of economic development, some studies have found that ethnic tension, ethno-religious diversity, linguistic diversity and the number of ethnic groups was positively related to the location of country-level attacks using data taken from the GTD (Tavares, 2004; Piazza, 2006; Gassebner and Luechinger, 2011; Boehmer and Daube, 2013).

To capture the effects of overall economic development and economic growth, I include measures of *GDP per capita* and *GDP growth rate* provided by the World Bank.[10] *GDP per capita* is a country's gross domestic product divided by midyear population. *GDP growth rate* measures a country's annual increase in the percentage of GDP at market prices based on constant local currency. Several studies (Abadie, 2006; Gassebner and Luechinger, 2011; Gelfand, LaFree, Fahey, and Feinberg, 2013; Piazza, 2006) have noted mixed effects of GDP on the incidence of terrorism at the country-level. For example, whereas some studies have found the country-level GDP increases the frequency of being a terrorism target (Blomberg et al., 2004; Kruger and Laitin, 2008; Piazza, 2011), others have found negative (Freytag et al., 2011; Li and Schaub, 2004) or null effects (Piazza, 2006; Abadie, 2006) of economic development on terrorism

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[10] The World Bank collects development indicator data from officially-recognized international sources. It is the most current and accurate global time-series data available and provides data on national, regional, and global estimates. Its coverage starts in1960 and is updated quarterly in April, July, September, and December. The topics covered by the World Bank: World Development Indicators are agriculture and rural development, aid effectiveness, climate change, economy and growth, education, energy and mining, environment, external debt, financial sector, gender, health, infrastructure, labor and social protection, poverty, private sector, public sector, science and technology, social development, trade, and urban development.

Prior research has also indicated that a country's political system or components of the political system are related to terrorism (Crenshaw, 1981; Liu, 2002; Freytag et al., 2011; Morris and LaFree, 2016). I include several variables that reflect the overall regime type and regime length from the Polity IV database.[11] The *democracy* variable ranges from -10 to 10, in which -10 equals "strongly autocratic" and 10 equals "strongly democratic." The score is based on a number of indicators, including competitiveness of executive recruitment, openness of executive recruitment, constraints of chief executive, and competitiveness of political participation. I also include *regime durability* which refers to the number of years since the most recent regime change or the end of transition period defined by the lack of stable political institutions.

The measure of regime type taken from Polity IV is an aggregate measure of democracy. I also include disaggregated measures of democracy that capture specific components of political systems. Using data from Freedom House,[12] I include measures of state protection of *civil liberties* and *political rights*. *Civil liberties* range from 1 to 7, with 1 representing the highest protection and 7 representing lowest protection, and it is the annual score for each country based on freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights. The variable *political rights* also ranges from 1 to 7, with 1 representing the highest protection and 7 representing the lowest protection, and it is the

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[11]Initially collected under the direction of Ted Robert Gurr, the Polity IV project has been the most widely used resource for monitoring regime change and the impact of regime authority. It includes annual, cross-national, time-series, and polity-case data which codes democratic and autocratic patterns of authority and regime changes in all independent countries with total populations greater than 500,000 in 2014. It currently includes 167 countries.
[12] Founded in 1941, Freedom House was the first American organization to track the advancement of freedom and democracy globally. The organization analyzes the challenges to freedom and seeks for greater political rights and civil liberties.

annual score for each country based on electoral process, political pluralism and participation, and functioning of government.

Because there is substantial evidence indicating that state failure measured as state loss of monopoly of force due to various conflicts and tensions is related to increased country-level terrorism, I include data from the Political Instability Task Force (PITF) (Fahey and LaFree, 2015; Freytag et al., 2011; Piazza, 2008; Piazza, 2007; Lai, 2007).[13] The PITF measures state involvement in ethnic wars, revolutionary wars, adverse regime change, and genocides/politicides. The state failure variable ranges from 0 (no state failure) and 17 (highly intense presence of state failure).[14]

Finally, I also control for yearly variations by including year fixed effects, and I control for unmeasured between country-level differences by using country specific fixed effects.

4.9 Analytical Strategy

The primary focus of this dissertation is to examine both within-country and between-country effects of state-based human rights violations on annual changes in terrorism over time. In order to find the most appropriate statistical method for an analysis, the researcher should clearly identify the functional form of the outcome variable. I analyze counts outcomes for 175 countries between 1980 and 2014 resulting in 5,950 country-year observations. Count outcomes are a subset of discrete responses and indicate the number of occurrences or counts of an event (Hilbe, 2011). Count outcomes should not be analyzed using linear regression models because

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[13] Initially collected in 1994 by researchers at the Center for International Development and Conflict Management (CIDCM) at the University of Maryland under the direction of Ted Robert Gurr. Since August 2010, the Problem Set has been managed by Social-Systems Research Inc.
[14] Three of the events except genocides/politicides are scored from 0 to 4 indicating the average magnitude each failure. Genocides/Politicides is scored from 0 to 5 indicating the scaled number of deaths.

doing so violates some of the assumptions underlying the linear regression model (Long, 1997; Allison, 1999).

There are three categories of assumptions underlying the linear regression model. First, there must be no specification error in the following ways: (1a) the relationship between X and Y is linear, (1b) all relevant predictor variables have been included and (1c) all irrelevant predictors have been excluded (Lewis-Beck, 1980; Long, 1997). Second, (2a) there must be no measurement error (the variables X and Y are measured accurately). Finally, there are a number of assumptions regarding the error term in a linear regression. The LRM assumes a (3a) zero conditional mean (the conditional expectation of the error term should be zero), (3b) homoscedasticity (the variance of the error terms is the same for all observations of X; errors have a constant variance) and no auto-correlation (the error terms are uncorrelated), and (3d) finally, the LRM assumes normality of the error terms and that the independent variable is uncorrelated with the error term (Lewis-Beck, 1980; Long, 1997).

Count outcomes measured repeatedly over time violate many of the LRM assumptions. For example, LRM estimates using a non-continuous outcome violates the assumption of homoscedasticity and repeated measurements over time often involve correlated error terms. Although Long (1997) states that count variables are often treated as continuous variables, using LRM to analyze count outcomes results in inefficient, inconsistent, and biased estimates. There are several methods that are suitable for examining changes in count outcomes over time, including the Poisson and negative binomial regression models, with random and fixed effects (Allison, 2005).

4.9.1 Modeling Count Outcomes: Poisson Regression Models and Negative Binomial Regression Models

The most basic count outcome model is the Poisson regression model (PRM) (Hilbe 2011; Long, 1997; Allison, 2005). The main feature of PRM is that it treats the mean as equal to the variance (Hilbe, 2014). This means that as the mean of the distribution increases, the variance in the data increases (Hilbe, 2014). When the mean is equal to the variance, it is called equi-dispersion (Long, 1997). However, the equi-dispersion criterion is often unrealistic and rarely satisfied when using real data. In practice, count variables often have a variance greater than the mean, which is called over dispersion (Long, 1997). The mean and variance of the outcomes (total attacks, fatal attacks, attributed attacks, and governmental attacks) and the number of zero scores for each outcome are displayed in Table 1.

The variances of all outcome variables are excessively higher than the mean values, this indicates that there is an over dispersion problem. Over dispersion can lead to underestimates of standard errors and over estimates of chi-square statistics, as well as inefficient estimates more generally (Allison 1999). Although Poisson models are able to correct for over dispersion by including a scale parameter that corrects the standard errors and chi-square estimates, the estimates are still considered inefficient. An alternative modeling approach that provides efficient estimates and also accounts for over dispersion is the negative binomial regression model (NBRM) (Allison, 1999; 2005).

The negative binomial regression model (NBRM) is a generalization of the Poisson model and includes a modified disturbance term that accounts for over dispersion (Allison 1999). Unlike the PRM with over dispersion corrections, the NBRM separately models the conditional variance from the conditional mean to account for over dispersion (Hilbe, 2007). The NBRM

46

provides a much wider scope for variance than the PRM (Hilbe, 2014).

4.10 Modeling Within-Country and Between-Country Effects on Annual Changes:

Random and Fixed Effects Regression Models

Effects of Within-Country Changes in State-Based Human Rights Violations on Annual

Changes in Terrorism

According to Allison (2005), the fixed effects (FE) regression approach is one of the

strongest methods for isolating causal effects in the absence of an experimental design. The fixed

effects approach is designed to isolate and examine *within-unit* changes over time. The FE

approach only uses within-country variation in the estimation and discards any between-country

variation. Thus, each country serves as their own control since all comparisons are made within

countries over repeated measurements. This results in one of the strongest benefits of the FE

approach—the ability to control for time stable unobserved (unmeasured) differences between

countries. Time stable unmeasured differences between countries can bias results, leading to

what is termed "unobserved heterogeneity." (Allison, 2005).

The FE model controls for unobserved heterogeneity by creating a time constant intercept

for each country in the sample which absorbs all country specific factors which are constant

(stable and unmeasured) over each wave (Wooldridge, 2002; Allison, 2005). Because the FE

focuses on within-unit changes over time, countries are included in the analysis only if they

exhibit change on the outcome over time. Thus, countries that do not change on the outcome

variable over time are dropped from the model. Additionally, the FE model does not estimate the

effects of time stable co-variates on changes over time. Because the fixed effects model does not

estimate coefficients for variables that do not have any within-country variation and ignores all

between-country variation in the estimation, the FE approach can result in a substantial increase

in sampling variability (Allison, 2005). In spite of disadvantages of the FE approach, this approach is considered an incredibly powerful and useful tool for isolating causal effects in observational studies (Fahey and LaFree. 2015; Allison, 2005). I use a fixed effects negative binomial model to examine the effects of within-country changes in state-based human rights violations on annual counts of terrorism.

Effects of Between-Country Differences in HRV on Annual Changes in Terrorism. Generalized hierarchical linear modeling (HLM) techniques are one approach for estimating the effects of between-country predictors on annual changes in terrorism. HLM is also useful for handling the lack of independence in country-level observations. The data is considered clustered or nested because it contains country-year observations that are nested in countries over time, and thus observations within countries over time are not independent (Raudenbush and Bryk, 2002). HLM is able to estimate the between-country level effects of country-level predictors on annual changes in terrorism activity, while also accounting for over dispersion in the outcome. I use a HLM Poisson model with an over-dispersion correction to specify a two-level equation. At the Level 1 equation, I model within-country changes in terrorist attacks over time, controlling for the effects of time. At the Level 2 equation, I estimate the effects of the between-country differences in human rights violations on the average level of terrorist attacks.

Chapter 5

Results

5.1 Descriptive Statistics

In this chapter, I first discuss descriptive statistics for the sample and data, and then discuss results generated from the main and supplemental analyses. Table 2 displays the descriptive statistics for each variable used in the current study.

Table 2. Descriptive Statistics					
	N	Min	Max	Mean	Std. Deviation
Total Attacks	5518	0.00	3925	23.83	119.83
Fatal Attacks	5514	0.00	2518	10.86	68.77
Attributed Attacks	5518	0.00	3370	17.96	100.30
Amnesty International	4460	1.00	5.00	2.70	1.11
Log Population	5400	11.07	21.03	15.84	1.75
Urbanization	5402	4.34	100	51.29	23.90
Log GDP	5107	4.17	11.54	7.75	1.60
GDP Growth	5057	-64.99	149.97	3.41	6.74
Democracy	5105	-10.00	10.00	1.85	7.15
Regime Durability	5157	0.00	205	24.33	29.78
Civil Liberties Violations	5458	1.0	7.0	3.85	1.89
Political Rights Violations	5458	1.0	7.0	3.84	2.21
State Failure	5481	0.00	13.50	.54	1.52
Sex Ratio	2275	1.01	1.17	1.05	0.02
Ethnic Fractionalization	2619	0.001	0.93	0.41	029

The distribution of terrorism is highly skewed in the data. Approximately 48.5% of country-year observations had zero attacks for a given year. Similarly, 63.84% and 53.24% of all

country-year observations had zero fatal and attributed attacks. Figure 1 displays the distribution of total, fatal and attributed attacks from 1980 to 2014.

Figure 1. Distribution of Terrorism Trends, 1980-2014.
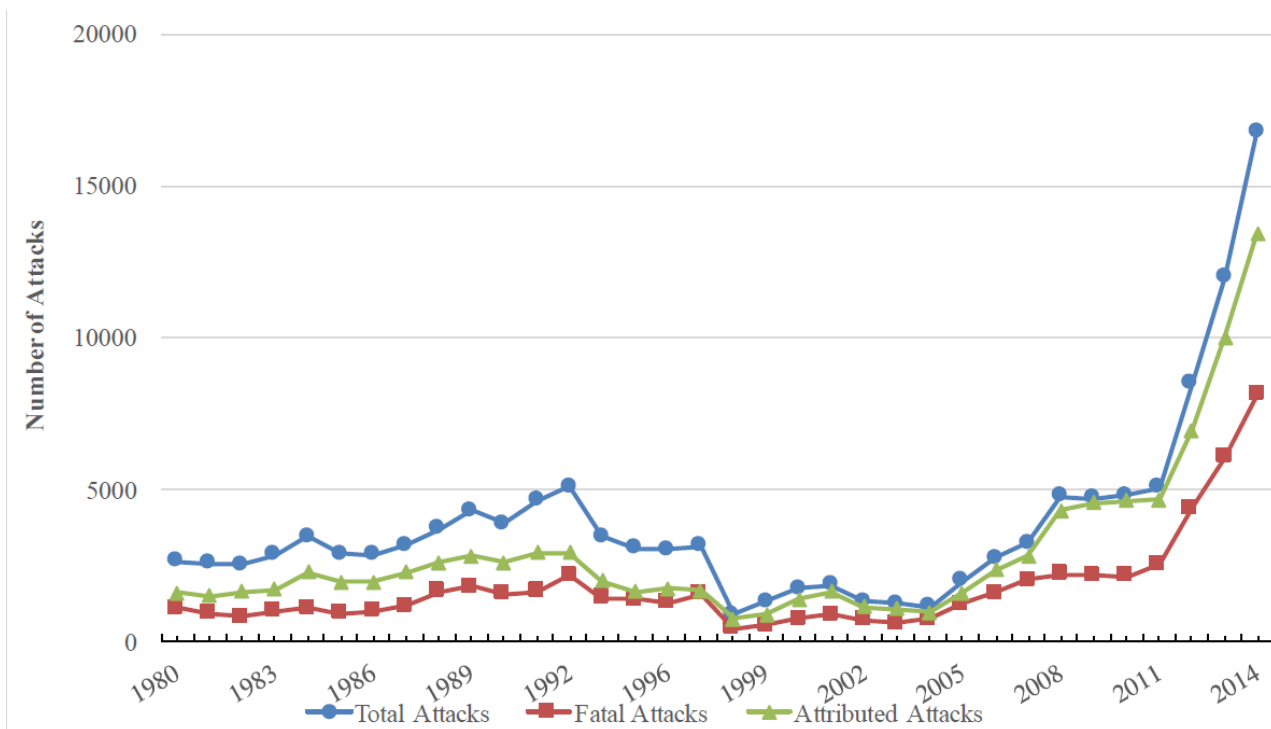
All three terrorism trends have a similar shape but present at different levels. From 1980 to the early 1990s, terrorism remained relatively stable and declines post 1992, reaching a low in 1999. Most noticeable is the substantial increase in terrorism in the late 2000s. It is important to note that these global terrorism trends in terrorism may not hold at the country-level as prior research has found different country-level trends of terrorism over time (LaFree, Morris and Dugan, 2009). Thus, specific countries may not exhibit country-level trends that mirror the overall global terrorism trends.

The average score for state-based human rights violations for all countries across the time span is 2.70 (n = 4,460), with a standard deviation of 1.11 (See Table 2), and the average country-level score for state-based human rights violations is 2.57 (n = 174), with a standard deviation of 0.90. Substantively this indicates that most countries do not engage in extreme human rights violations. Rather the average indicates that most countries have scores that reflect limited amounts of political imprisonment (level 2) to extensive political imprisonment (level 3).

Table 3 displays a correlation matrix of all variables used in the analysis. Based on the reported correlations, I do not include measures of overall democracy and civil liberties or political freedom in the same model because of high correlations (>.70).[15] GDP and urbanization are also not included the same model due to moderately high correlations. I include GDP as a measure of economic development in my main analyses, and include urbanization in supplemental analyses. Bivariate correlations indicate that population (r= 0.15, p<0.001), human rights violations (r = 0.25, p<0.001), GDP (r = -0.05, p<0.001), GDP growth (r = -0.33, p<0.05), state failure (r = 0.26, p<0.001) and democracy (r = 0.09, p<0.001) are significantly related to total attacks. Violations of civil liberties is only significantly related to fatal attacks (r = 0.05, p<0.01), and violations of political freedom is not correlated with any of the terrorism outcomes.[16]

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[15] Many of the variables included my models are both conceptually related and empirically correlated with each other. If high multicollinearity exists, estimation produces large standard errors for slope coefficients, and produces unreliable estimates (Lewis-Beck, 1980). There are a number of signs that may indicate multicollinearity. First, an inspection of the correlations between independent variables can indicate multicollinearity. Correlations greater .70 are generally considered problematic. Second, models with a high R-squared but yet statistically insignificant coefficients can indicate high collinearity. Third, a regression coefficient that changes substantially (significance or sign) when including or dropping other independent variables also may indicate high collinearity (Lewis-Beck, 1980).

[16] Table 1 in the Appendix B displays a pairwise correlation matrix.

Table 3 Correlation Matrix

		Annual Total Attacks	Annual Fatal Attacks	Annual Attributed Attacks	Amnesty Human Rights	Population	Urbanization	GDP_percapita	GDP_growth	Democracy	Regime Durability	Civil Liberties	Political Rights	State Failure
Annual Total Attacks	Pearson Correlation	1.00	0.96**	0.98**	0.25**	0.15**	0.02	-0.05**	-0.03*	0.09**	-0.02	0.02	-0.03	0.26**
	Sig. (2-tailed)		0.00	0.00	0.00	0.00	0.20	0.00	0.04	0.00	0.29	0.13	0.10	0.00
Annual Fatal Attacks	Pearson Correlation	0.96**	1.00	0.95**	0.24**	0.14**	-0.01	-0.06**	-0.03	0.06**	-0.03*	0.05**	0.01	0.25**
	Sig. (2-tailed)	0.00		0.00	0.00	0.00	0.39	0.00	0.10	0.00	0.05	0.00	0.63	0.00
Annual Attributed Attacks	Pearson Correlation	0.98**	0.95**	1.00	0.23**	0.15**	0.02	-0.04*	-0.02	0.09**	-0.01	0.02	-0.02	0.22**
	Sig. (2-tailed)	0.00	0.00		0.00	0.00	0.18	0.02	0.21	0.00	0.45	0.17	0.15	0.00
Amnesty Human Rights	Pearson Correlation	0.25**	0.24**	0.23**	1.00	0.18**	-0.29**	-0.43**	-0.03	-0.29**	-0.29**	0.50**	0.42**	0.50**
	Sig. (2-tailed)	0.00	0.00	0.00		0.00	0.00	0.00	0.10	0.00	0.00	0.00	0.00	0.00
Population	Pearson Correlation	0.15**	0.14**	0.15**	0.18**	1.00	-0.07**	-0.03	0.08**	0.01	0.17**	0.03	0.00	0.06**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00		0.00	0.10	0.00	0.37	0.00	0.07	0.77	0.00
Urbanization	Pearson Correlation	0.02	-0.01	0.02	-0.29**	-0.07**	1.00	0.57**	-0.07**	0.33**	0.34**	-0.43**	-0.41**	-0.19**
	Sig. (2-tailed)	0.20	0.39	0.18	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
GDP_percapita	Pearson Correlation	-0.05**	-0.06**	-0.04*	-0.43**	-0.03	0.57**	1.00	-0.04**	0.33**	0.61**	-0.49**	-0.44**	-.016**
	Sig. (2-tailed)	0.00	0.00	0.02	0.00	0.10	0.00		0.01	0.00	0.00	0.00	0.00	0.00
GDP_growth	Pearson Correlation	-0.03*	-0.03	-0.02	-0.03	0.08**	-0.07**	-0.04**	1.00	-0.03*	-0.02	0.04**	0.05**	-0.14**
	Sig. (2-tailed)	0.04	0.10	0.21	0.10	0.00	0.00	0.01		0.03	0.29	0.01	0.00	0.00
Democracy	Pearson Correlation	0.09**	0.06**	0.09**	-0.29**	0.01	0.33**	0.33**	-0.03	1.00	0.20**	-0.85**	-0.89**	-0.11**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.37	0.00	0.00	0.03		0.00	0.00	0.00	0.00
Regime Durability	Pearson Correlation	-0.02	-0.03*	-0.01	-0.29**	0.17**	0.34**	0.61**	-0.02	0.20**	1.00	-0.33**	-0.29**	-0.14**
	Sig. (2-tailed)	0.29	0.05	0.45	0.00	0.00	0.00	0.00	0.29	0.00		0.00	0.00	0.00
Civil Liberties	Pearson Correlation	0.02	0.05**	0.02	0.50**	0.03	-0.43**	-0.49**	0.04**	-0.85**	-0.33**	1.00	0.92**	0.26**
	Sig. (2-tailed)	0.13	0.00	0.17	0.00	0.07	0.00	0.00	0.01	0.00	0.00		0.00	0.00
Political Rights	Pearson Correlation	-0.03	0.01	-0.02	0.42**	0.00	-0.41**	-0.44**	0.05**	-0.89**	-0.29**	0.92**	1.00	0.20**
	Sig. (2-tailed)	0.10	0.63	0.15	0.00	0.77	0.00	0.00	0.00	0.00	0.00	0.00		0.00
State Failure	Pearson Correlation	0.26**	0.25**	0.22**	0.50**	0.06**	-0.19**	-0.16**	-0.14**	-.011**	-0.14**	0.26**	0.20**	1.00
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

c Listwise N=3891

5.2 Fixed Effects Negative Binomial Regression (FENB) Results for Hypothesis 1

In the following sections, I discuss the results for the analyses examining within-country effects of state-based human rights violations on annual terrorism attacks. As stated in hypothesis 1, I expect that within-country increases in state-based violations of human rights are significantly related to increases in within-country terrorism events over time, controlling for other socio-political and demographic variables.

Total Attacks

Table 4 presents the results from a series of reduced and full fixed effects negative binomial models for total attacks. Models 1 through 3 are baseline models that do not include state-based human rights violations and only include demographic, economic and political variables. Models 4 through 6 are my full models that include state-based human rights violations and all other control variables.

Model 1 indicates that population is significantly and positively (b = 2.75, p<0.001) correlated with annual total attacks. This indicates that countries which have increases in population also have increases in annual terrorist attacks. Population remains significant throughout the baseline and full models. Model 2 includes population and economic measures, GDP and economic growth (GDP growth). Whereas population remains significantly and positively related to annual attacks, GDP (b = -0.32, p<0.001) and GDP growth (b = -0.01, p<0.001) are negative and significant. Model 3 introduces all of the political variables into the model, which includes democracy, regime length and state failure.
Population (b = 1.84, p<.001), regime length (b = -0.04, p<0.001) and state failure (b = 0.43, p<0.001) are significantly related to annual terrorism attacks. Models 4 through 6 present the final models which include all control variables.

Model 4 includes the aggregated measure of democracy, and models 5 and 6 include disaggregated measures of democracy, civil liberty and political freedom violations. State-based human rights violations are positively (b = 0.63, p<0.001) related to total attacks, even after controlling for other economic and political measures, and using both aggregated and disaggregated measures of democracy. Population also remains positively and significantly related to annual terrorism across all models.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Table 4. Fixed Effects Negative Binomial Regression (FENB) Results **Baseline (Models 1 - 3) and Full Models (Models 4 – 6): TOTAL ATTACKS**						
Human Rights Violations				0.63*** 0.05	0.58*** 0.04	0.60*** 0.04
Population	2.75*** 0.24	1.96*** 0.27	1.84*** .30	2.30*** 0.33	2.10*** 0.29	2.21*** 0.29
GDP		-0.32*** 0.09	0.03 0.10	0.16 0.14	0.16* 0.09	0.16* 0.09
GDP Growth		-0.01** 0.00	0.00 0.00	0.01 0.00	0.00* 0.00	0.01* 0.00
Democracy			-0.00 0.01	0.03** 0.01		
Regime Durability			-.04*** 0.00	-0.03*** 0.00	-0.04** 0.04	-0.03*** 0.00
Civil Liberty Violations					0.12** 0.04	
Political Freedom Violations						0.03 0.03
State Failure			0.43*** 0.03	0.31*** 0.03	0.30*** 0.02	0.31*** 0.02
NT	5239	4893	4622	3880	3910	3910
N	164	163	155	155	155	155

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

Regime durability is also significantly (p<0.001) related to terrorism in all models. Within-country increases in regime stability are related to annual decreases in terrorism across all models. As expected from the prior literature, state failure (b = 0.31, p<0.001) is positively and consistently related to annual increases in terrorism. Countries that experience increases in civil wars, ethnic or revolutionary wars, genocide or politicides are substantially more likely to experience annual increases in terrorism. Finally, model 4 also indicates that democracy is positively (b = 0.03, p<0.01) related to terrorism, indicating that increases in a country's level of democracy is related to increases in annual terrorism.

Models 5 and 6 are full models using measures of civil liberty violations and political freedom violations rather than the overall measure of democracy. The results from models 5 and 6 are quite similar to results from model 4. The results indicate that countries which have increases in human rights violations also experience increases in annual terrorist attacks (b = 0.58 and b = 0.60, p<0.001). Population (b = 2.10 and b = 2.21 p<.001), regime durability (b = -0.03 and b = -0.03, p<0.001) and state failure (b = 0.30 and b = 0.31, p<0.001) are also significantly related to changes in annual terrorism counts. Within-country increases in civil liberty violations (b = 0.12, p <0.01), but not political freedom violations, are related to within-country increases annual terrorism. Thus, countries that experience increases in civil liberty violations also experience increases in annual terrorist attacks. Finally, in models 5 and 6, GDP (b = 0.16 and b = 0.16, p<0.05) and GDP growth (b = 0.00 and b = 0.01, p<0.05) are positively related to annual terrorism attacks. Countries that experience increases in both overall economic development and growth are likely to have increases in annual terrorism.

I also conducted several supplemental analyses to examine the robustness of the state-based human rights violations and terrorism relationship, and to examine the effects of urbanization on terrorism. Table 5 (models 7 – 9) present the within-country results from the full models including urbanization (rather than GDP) as a measure of economic development.

The results in models 7 through 9 are consistent with results from models 4 through 6 shown in Table 4. Urbanization does not attain significance in the final models. The substantive results for the remaining variables are similar to those for total attacks. Specifically, state-based violations of human rights, population, democracy, regime durability, and state failure are significant across all models. As in the case of the main analysis for total attacks, when using a disaggregated measure of democracy, only violation of civil liberties is related to annual changes in total attacks. Specifically, countries with increases in civil liberty violations are also likely to experience increases in annual terrorism.

Fatal Terrorist Attacks

Table 6 presents results from the set of analyses examining within-country-level changes in state-based human rights violations on annual changes in fatal terrorism attacks. Models 1 through 3 present results from the baseline models including only control variables, while models 4 through 6 show the full models with state-based human right violations included in the models. As in the analyses for total attacks, the results indicate that increases in state-based violations of human rights is significantly related to increases in fatal terrorist attacks (models 4 - 6).

Model 4 indicates that within-country changes in population ($b = 3.52$, $p<0.001$), democracy ($b = 0.03$, $p<0.01$), GDP ($b = 0.24$, $p<0.05$), regime durability ($b = -0.02$, $p<0.001$), state failure ($b = 0.33$, $p<0.001$) and human rights violations ($b = 0.74$, $p<0.001$) predict changes in annual fatal attacks. Additionally, model 5 indicates that within-country increases in violations of civil liberties ($b = 0.13$, $p<0.01$) is related to increases in terrorism. Changes in protection of political freedom has no effect on annual changes in fatal attacks. The measure of economic growth, GDP growth ($b = 0.23$ and $b = 0.24$, $p<0.05$), is only significantly related to fatal terrorist attacks in the full models including disaggregated measures of democracy.

56

Table 5. Sensitivity Analyses:
Fixed Effects Negative Binomial Regression (FENB) Supplemental Results
Full Models (Models 7– 9) TOTAL ATTACKS

	Model 7	Model 8	Model 9
Human Rights Violations	0.62*** 0.04	0.57*** 0.04	0.60*** 0.04
Population	2.17*** 0.28	1.95*** 0.28	2.06*** 0.28
Urbanization	-0.00 0.01	-0.00 0.01	-0.00 0.01
GDP Growth	0.01 0.00	0.01* 0.00	0.001* 0.00
Democracy	0.03*** 0.01		
Regime Durability	-0.03*** 0.00	-0.04*** 0.00	-0.03*** 0.00
Civil Liberty Violations		0.13*** 0.04	
Political Freedom Violations			0.03 0.03
State Failure	.031*** 0.02	0.29*** 0.02	0.30*** 0.02
NT	3940	3971	3971
N	156	156	156

*** p<0.001, ** p<0.01, *p<0.05

Table 6. Fixed Effects Negative Binomial Regression (FENB) Results
Baseline (Models 1 - 3) and Full Models (Models 4 – 6): FATAL ATTACKS

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Human Rights Violations				0.74*** 0.05	0.70*** 0.04	0.72*** 0.04
Population	3.59*** 0.29	2.66*** 0.32	3.07*** 0.38	3.52*** 0.43	3.33*** 0.35	3.45*** 0.35
GDP		-0.34*** 0.10	0.11 0.09	0.24** 0.12	0.23* 0.10	0.24* 0.10
GDP Growth		-0.00** 0.00	0.00 0.01	0.01 0.01	0.01* 0.00	0.01* 0.00
Democracy			0.01 0.01	0.03* 0.01		
Regime Durability			-0.04*** 0.01	-0.02*** 0.00	-0.03*** 0.00	-0.03*** 0.00
Civil Liberty Violations					0.13** 0.04	
Political Freedom Violations						0.02 0.03
State Failure			0.48*** 0.03	0.33*** 0.03	0.31*** 0.04	0.32*** 0.02
NT	4719	4381	4225	3638	3668	3668
N	147	146	142	142	142	142

*** p<0.001, ** p<0.01, *p<0.05

Table 7 presents results from the within-country supplemental analyses including urbanization and omitting GDP to predict annual changes in fatal attacks. State-based human rights violations are significantly and positively related to annual fatal attacks across all models (model 7 through model 9). Model 7 indicates that within-country increases in state-based human rights violations (b = 0.74, p<0.001) lead to increases in fatal attacks, net of controls for other variables. As in the supplemental analyses for total attacks, increases in population, GDP growth, democracy, and state failure are significantly related to increases in fatal attacks. Within-country increases in the stability of the regime are also related to decreases in fatal attacks over time. However, unlike previous supplemental results for total attacks, urbanization is significant throughout all models (7 - 9). Thus, countries that have increases in the percent of the population living in urban areas are also likely to experience an increase in annual fatal attacks.

Table 7. Sensitivity Analyses:
Fixed Effects Negative Binomial Regression (FENB) Supplemental Results
Full Models (Models 7 – 9) FATAL ATTACKS

	Model 7	Model 8	Model 9
Human Rights Violations	0.74***	0.69***	0.72***
	0.04	0.04	0.04
Population	3.12***	2.91***	3.06***
	0.33	0.33	0.33
Urbanization	0.04**	0.04***	0.04***
	0.01	0.01	0.01
GDP Growth	0.01*	0.01**	0.01**
	0.00	0.00	0.00
Democracy	0.03**		
	0.01		
Regime Durability	-0.02***	-0.03***	-0.03***
	0.00	0.02	0.00
Civil Liberty Violations		0.15***	
		0.04	
Political Freedom Violations			0.02
			0.03
State Failure	0.32***	0.31***	0.32***
	0.02	0.02	0.02
NT	3698	3729	3729
N	143	143	143

*** p<0.001, ** p<0.01, *p<0.05

Table 8 presents the results from the within-country analyses of annual attributed terrorist attacks over time. Again, these results are similar to those for total and fatal attacks. Model 4 indicates that within-country changes in state-based violations of human rights are positively and significantly (b = 0.68, p<0.001) related to changes in annual attributed events, controlling for all other economic, political and demographic variables. State failure is also positively and significantly (b = 0.28, p<0.001) related to annual attributed terrorism events. Other than state-based violations of human rights and state failure, population (b = 2.62, p<0.001), regime durability (b = -0.02, p<0.001) and democracy (b = 0.02, p<0.01) are also significantly related to changes in annual attributed attacks. Models 5 and 6 examine the effects of human rights violations while controlling for disaggregated measures of democracy. As in the prior analyses, only violations of civil liberties (b = 0.14, p<0.001) is significantly related to attributed terrorism events—countries that experience increases in civil liberties violations experience increases in attributed attacks. State-based human rights violations are significantly related to attributed attacks across all models (4 − 6).

Table 9 presents results from supplemental analyses replacing the GDP measure with the urbanization measure. The results are consistent with those obtained in the main analysis of attributed attacks including GDP. Within-country changes in state-based human rights violations are related to changes in annual attributed attacks across all models, net of other control variables. Within-country changes in population, democracy, regime durability, state failure, and civil liberty violations were all significantly related to changes in annual attributed terrorist attacks.

Table 8. Fixed Effects Negative Binomial Regression (FENB) Results
Baseline (Models 1 - 3) and Full Models (Models 4 – 6): ATTRIBUTED ATTACKS

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Human Rights Violations				.68***	0.64***	0.66***
				.04	0.04	0.04
Population	2.98***	2.15***	2.16***	2.62***	2.39***	2.53***
	0.26	0.29	0.32	0.36	0.31	0.31
GDP		-0.32***	0.00	0.14	0.15	0.14
		0.10	0.00	0.11	0.09	0.09
GDP Growth		-0.01**	0.00	0.01	0.01*	0.01
		0.00	0.00	0.00	0.00	0.00
Democracy			-0.00	0.02**		
			0.01	0.01		
Regime Durability			-0.03***	-0.02***	-0.03***	-.03***
			0.00	0.00	0.00	0.00
Civil Liberty Violations					0.14***	
					0.04	
Political Freedom Violations						0.04
						0.03
State Failure			0.40***	0.28***	0.26***	0.27***
			0.02	0.02	0.04	0.02
NT	4722	4384	4228	3641	3671	3671
N	142	146	142	142	142	142

*** p<0.001, ** p<0.01, *p<0.05

62

Table 9. Sensitivity Analyses:
Fixed Effects Negative Binomial Regression (FENB) Supplemental Results
Full Models (Models 7 – 9): ATTRIBUTED ATTACKS

	Model 7	Model 8	Model 9
Human Rights Violations	0.66***	0.61***	0.63***
	0.04	0.04	0.04
Population	2.50***	2.26***	2.40***
	0.29	0.29	0.29
Urbanization	-0.01	-0.01	-0.01
	0.01	0.01	0.01
GDP Growth	0.01	0.01*	0.01*
	0.00	0.00	0.00
Democracy	0.03**		
	0.01		
Regime Durability	-0.02***	-0.03***	-0.03***
	0.00	0.00	0.00
Civil Liberty Violations		0.14***	
		0.04	
Political Freedom Violations			0.04
			0.03
State Failure	0.28***	0.26***	0.27***
	0.02	0.02	0.02
NT	3860	3891	3891
N	151	151	151

*** p<0.001, ** p<0.01, *p<0.05

5.3 Multivariate HGLM Poisson Regression Results for Hypothesis 2

In the following sections, I discuss the results for the analyses examining between-country effects of state-based human rights violations on annual terrorism attacks. Whereas the previous models were focused on assessing within-country changes on within-country changes in terrorism attacks, this set of analyses focuses on the effects of between-country level differences in state-based human rights violations on annual changes in terrorism. In other words, the FENB regression models explain within-country changes in terrorist attacks over time using within-country changes in the predictor variable, and discards any between-country variation. The HGLM models assess the effects of between-country differences on changes in annual terrorist attacks.

Total Attacks

Table 10 presents the results from all full models predicting total attacks. Across all models, countries with higher levels of human rights violations, as compared to countries with lower human rights violations, are associated with increases in annual terrorism attacks (Models 1 - 6). Model 1 indicates that countries with larger populations (b = 0.38, p<0.001) and higher GDP (b = 0.39, p<0.001), as compared to those with lower, experience increases in terrorism over time. Countries that are more democratic (b = 0.10, p<0.001) also experience more total attacks. On the contrary, countries that experience more economic growth (b = -0.10, p<0.05) are less likely to have increases in annual terrorism attacks. Both human rights violations (b = 1.54, p<0.001) and state failure (b = 0.36, p<0.001) are also significant predictors of increased annual terrorism counts. Unlike the within-country analyses, however, regime durability is not significantly related to terrorism in any of the models.

Models 2 and 3 include the disaggregated measure of democracy, civil liberty violations and political freedom violations. Again, state-based human rights violations (b =

1.56 and b = 1.69, p<0.001) are positively associated with annual terrorism counts. All other variables also operate in the same direction as in model 1. Both disaggregated measures of democracy also operate in a similar fashion as the aggregate democracy measure in model 1. Countries with more political (b = -0.34, p<0.001) and civil liberty violations (b = -0.44, p<0.001) are associated with decreases in annual terrorism. Thus, those countries with stronger protections for political freedom and civil liberties are associated with increases in terrorism over time, much like countries with higher aggregate democracy scores experience more terrorism over time. Models 4 through 6 replicate the analyses including urbanization in the model. Substantively, the results remain largely the same, with the exception that GDP growth is not significant in the model containing urbanization. Urbanization is significantly related to annual terrorism counts over time (models 4 – 6), net of controls for other variables. Countries with larger urban (b = 0.02, p<0.01) populations experience more terrorism over time.

Table 11 displays results from a set of supplemental analyses using a smaller subset of the sample. These analyses examine the effects of between-country differences in sex ratio and ethnic fractionalization on annual changes in terrorism. Notice the sample sizes drop with the inclusion of sex ratio and ethnic fractionalization. The effects of state-based human rights violations, as well as many other variables (e.g., population, state failure, GDP, democracy; civil liberty and political freedom violations) are the same across all supplemental analyses— countries with higher levels of state-based human rights violations, as compared to countries with lower, experience more terrorism attacks over time. Between-country differences in the level of ethnic fractionalization and sex ratio are not significantly related to annual terrorism counts.

Table 10. Multivariate HGLM Poisson Regression Main Results, Full Models: TOTAL ATTACKS						
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Human Rights Violations	1.54***	1.56***	1.69***	1.34***	1.57***	1.42***
	0.22	0.23	0.23	0.12	0.24	0.23
Population	0.38***	0.38***	0.38***	0.40***	0.39***	0.39***
	0.08	0.08	0.09	0.08	0.09	0.09
GDP	0.39***	0.33***	0.34***			
	0.09	0.10	0.10			
GDP Growth	-0.10*	-0.11*	-0.11*	-0.08	-0.10	-0.9
	0.05	0.05	0.05	0.05	0.05	0.05
Urbanization				0.02***	0.02***	0.02***
				0.00	0.01	0.01
Democracy	0.10***			0.11***		
	0.02			0.02		
Regime Durability	-0.00	-0.00	-0.00	0.00	0.00	0.01
	0.00	0.00	0.00	0.00	0.00	0.00
Civil Liberty Violations			-0.44***		-0.49***	
			0.100		0.10	
Political Freedom Violations		-0.34***				-0.38***
		0.08				0.08
State Failure	0.36**	0.41***	0.40***	0.42***	0.46***	0.47***
	0.11	0.12	0.11	0.12	0.12	0.12
NT	5304	5304	5304	5304	5304	5304
N	156	156	156	156	156	156

*** p<0.001, ** p<0.01, *p<0.05

	Table 11. Multivariate HGLM Poisson Regression Supplemental Results, Full Models: TOTAL ATTACKS					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Human Rights Violations	1.59*** 0.24	1.59*** 0.25	1.72*** 0.26	1.40*** 0.23	1.47*** 0.25	1.61*** 0.26
Population	0.33*** 0.09	0.34*** 0.10	0.34*** 0.10	0.35*** 0.09	0.34*** 0.10	0.34*** 0.10
Sex Ratio	3.70 6.85	5.56 7.23	5.09 7.30	3.53 6.60	5.43 7.14	4.92 7.14
Ethnic Fractionalization	-0.12 0.49	-0.17 0.49	-0.22 0.49	-0.31 0.48	-.30 0.48	-.36 0.48
GDP	0.32* 0.10	0.26* 0.11	0.26* 0.11			
GDP Growth	-0.10 0.06	-0.11* 0.06	-0.13* 0.06	-0.10 0.06	-0.11 0.06	-0.12* 0.06
Urbanization				0.01* 0.01	0.01 0.01	0.01 0.01
Democracy	0.11*** 0.02			0.12*** 0.02		
Regime Durability	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
Civil Liberty Violations			-0.46*** 0.11			-0.50***
Political Freedom Violations		-.35*** 0.08			-0.39*** 0.08	
State Failure	0.37** 0.13	0.44*** 0.13	0.44*** 0.13	0.43** 0.14	0.48*** 0.13	0.48*** 0.13
NT		4998	4998	4998	4998	4998
N		147	147	147	147	147

*** p<0.001, ** p<0.01, *p<0.05

Fatal Attacks

Table 12 presents the between-country results for fatal attacks. Model 1 indicates that state-based human rights violations are positively associated with fatal attacks, controlling for demographic, economic and political variables. Countries with higher levels of state-based human rights violations (b = 1.78, p<0.001) experience more fatal attacks over time. Additionally, countries with larger populations (b = 0.34, p<0.001), higher GDP (b = 0.22, p<0.05), and more democratic countries (b = 0.08, p<0.001) experience more fatal attacks, as compared to countries with lower levels of these variables. As in the case of the between-country analysis of total attacks over time, countries with higher levels of civil liberty violations (b = -0.32, p<0.001) and political freedom violations (b = -0.26, p<0.001) are less

67

likely to experience increases in fatal terrorism attacks over time. Again, this operates in a similar fashion as the overall democracy measure. Finally, regime durability is not significantly related to annual fatal attacks (1 – 6).

	Table 12. Multivariate HGLM Poisson Regression Main Results, Full Models: FATAL ATTACKS					
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Human Rights Violations	1.78*** 0.25	1.79*** 0.25	1.89*** 0.26	1.65*** 0.24	1.71*** 0.25	1.80*** 0.27
Population	0.34*** 0.09	0.34*** 0.10	0.34*** 0.09	0.36*** 0.09	0.35*** 0.10	0.35*** 010
GDP	0.22* 0.09	0.19 0.10	0.19 0.10			
GDP Growth	-0.08 0.06	-0.09 0.06	-0.09 0.06	-0.08 0.06	-0.09 0.06	-0.09 0.06
Urbanization				0.01 0.01	0.01 0.01	0.01 0.01
Democracy	0.08*** 0.03			0.09*** 0.02		
Regime Durability	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
Civil Liberty Violations			-0.32*** 0.11			-0.36*** 0.11
Political Freedom Violations		-0.26*** 0.09			-0.28*** 0.08	
State Failure	0.39*** 0.12	0.43*** 0.12	0.42*** 0.12	0.43*** 0.12	0.46*** 0.12	0.046*** 0.12
NT	5304	5304	5304	5304	5304	5304
N	156	156	156	156	156	156

*** p<0.001, ** p<0.01, *p<0.05

Table 13 displays supplemental results including sex ratio and ethnic fractionalization as predictors of annual fatal attacks. Once again, between-country differences in state-based human rights violations significantly predicts annual fatal attacks, net of other variables and model specifications. Similarly, more democratic (overall democracy and disaggregated components of democracy) countries, larger populations, and countries which have more acts of state failure experience more fatal attacks over time.

Table 13. Multivariate HGLM Poisson Regression Supplemental Results, Full Models: FATAL ATTACKS						
	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Human Rights Violations	1.82*** 0.27	1.82*** 0.27	1.91*** 0.28	1.70*** 0.26	1.74*** 0.27	1.84*** 0.28
Population	0.32** 0.10	0.33** 0.10	0.32*** 0.10	0.34*** 0.10	0.33** 0.10	0.33** 0.10
Sex Ratio	4.37 7.15	5.71 7.48	5.42 7.59	4.72 7.15	6.11 7.51	5.81 7.59
Ethnic Fractionalization	0.23 0.48	0.19 0.49	0.16 0.49	0.06 0.48	0.06 0.49	0.02 0.49
GDP	0.19 0.11	0.14 0.12	0.14 0.13			
GDP Growth	-0.122 0.07	-0.14* 0.07	-0.15* 0.07	-0.13 0.07	-0.14 0.07	-0.15* 0.07
Urbanization				0.00 0.01	0.00 0.01	0.00 0.01
Democracy	0.08*** 0.02			0.09*** 0.03		
Regime Durability	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
Civil Liberty Violations			-0.33*** 0.11			-0.37* 0.11
Political Freedom Violations		-0.26** 0.09			-0.29** 0.09	
State Failure	0.40*** 0.13	0.46*** 0.13	0.46*** 0.13	0.44** 0.13	0.49*** 0.013	0.49*** 0.13
NT	4998	4998	4998	4998	4998	4998
N	147	147	147	147	147	147

*** p<0.001, ** p<0.01, *p<0.05

Neither sex ratio or ethnic fractionalization are significantly related to annual fatal attacks.

Attributed Attacks

Table 14 displays the between-country analyses predicting annual attributed attacks over time. As in the case of the between-country analyses of total and fatal attacks, state-

based human rights violations are positively and significantly related to annual attributed terrorism events across all models (1 – 6). Model 1 indicates that countries with high levels of state-based violations of human rights (b = 1.53, p<0.001) experience more attributed attacks over time, net of other control variables. Additionally, population (b = 0.41, p<0.001), GDP (b = 0.35, p<0.001), democracy (b = 0.41, p<0.001), and state failure (b = 0.39, p<0.001) are all significantly related to annual attributed attacks. Regime durability is once again not significant in any of the between-country analyses of terrorism.

Models 2 and 3 present the results from the analyses using a disaggregated measure of democracy. Countries with higher civil liberty (b = -0.44, p<0.001) and political freedom violations (b = -0.34, p<0.001), as compared to those with lower levels of violations, have less annual attributed events. Again, both the disaggregated political variables operate in the same manner as the overall aggregate measure of democracy in the between-country analyses—countries with higher levels of democracy tend to experience more attributed events over time. Models 4 through 6 indicate that countries with larger urban populations (b = 0.02, p<0.01; b = 0.01, p<0.05; b = 0.01, p<.0.05) are also more likely to experience increases in attributed terrorism events.

Table 15 presents the supplemental results for attributed attacks after including sex ratio and ethnic fractionalization into the regression models (models 1- 6). As in previous models, sex ratio and ethnic fractionalization are not significant predictors of attributed attacks over time. Across all models, state-based human rights violations are significantly and positively related to terrorism, regardless of the variables included in the models. Countries with higher levels of human rights violations experience more attributed attacks than countries with lower levels of human rights violations. Additionally, results for the overall democracy and disaggregated components of democracy operate in a similar fashion across all models examining the between country-level effects of political variables on annual

changes in the terrorism. Table 16 displays a summary of consistently significant findings across models for the within-country and between-country analyses of total, fatal and attributed attacks.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
			Table 14. Multivariate HGLM Poisson Regression Main Results, Full Models: ATTRIBUTED ATTACKS			

	Model 1	**Model 2**	**Model 3**	**Model 4**	**Model 5**	**Model 6**
Human Rights Violations	1.53*** 0.23	1.56*** 0.24	1.70*** 0.25	1.34*** 0.23	1.43*** 0.25	1.57*** 0.25
Population	0.41*** 0.09	0.41*** 0.09	0.41*** 0.09	0.43*** 0.09	0.42*** 0.10	0.42*** 0.09
GDP	0.35*** 0.09	0.30*** 0.10	0.30*** 0.10			
GDP Growth	-0.11 0.06	-0.11 0.06	-0.11* 0.06	-0.09 0.06	-0.10 0.06	-0.11 0.06
Urbanization				0.02*** 0.00	0.01* 0.01	0.01* 0.00
Democracy	0.41*** 0.09			0.11*** 0.02		
Regime Durability	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00	0.00 0.00
Civil Liberty Violations			-0.44*** 0.10			-0.49*** 0.10
Political Freedom Violations		-0.34*** 0.08			-0.38*** 0.09	
State Failure	0.39*** 0.13	0.44*** 0.13	0.44*** 0.13	0.45*** 0.13	0.49*** 0.13	0.49** 0.13
NT	5304	5304	5304	5304	5304	5304
N	156	156	156	156	156	156

*** $p<0.001$, ** $p<0.01$, *$p<0.05$

Table 15. Multivariate HGLM Poisson Regression Supplemental Results, Full Models: ATTRIBUTED ATTACKS

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Human Rights Violations	1.59***	1.60***	1.74***	1.40***	1.47***	1.62***
	0.26	0.26	0.27	0.25	0.26	0.27
Population	0.37***	0.36***	0.36***	0.38***	0.37***	0.37***
	0.09	0.10	0.10	0.09	0.10	0.10
Sex Ratio	4.13	5.93	5.60	4.13	5.96	5.50
	6.92	7.27	7.36	6.80	7.23	7.29
Ethnic Fractionalization	0.08	0.04	-0.01	-0.14	-0.12	-0.17
	0.51	0.50	0.51	0.50	0.50	0.51
GDP	0.33**	0.26*	0.26*			
	0.11	0.12	0.11			
GDP Growth	-0.10	-0.12	-0.13*	-0.10	-0.12	-0.12*
	0.06	0.06	0.06	0.06	0.06	0.06
Urbanization				0.01*	0.01	0.01
				0.01	0.01	0.01
Democracy	0.10***			0.11***		
	0.02			0.02		
Regime Durability	0.00	0.00	0.00	0.01	0.00	0.00
	0.00	0.00	0.00	0.01	0.01	0.01
Civil Liberty Violations			-0.45***			-0.49***
			0.11			0.11
Political Freedom Violations		-0.34***			-0.38***	
		0.09			0.09	
State Failure	0.39**	0.46**	0.45***	0.45**	0.50***	0.50***
	0.14	0.14	0.14	0.15	0.14	0.15
NT	4998	4998	4998	4998	4998	4998
N	147	147	147	147	147	147

*** $p<0.001$, ** $p<0.01$, *$p<0.05$

Variable	Within-Country (Total)	Between-Country (Total)	Within-Country (Fatal)	Between-Country (Fatal)	Within-Country (Attributed)	Between-Country (Attributed)
State-based Humans Rights Violations	+***	+ ***	+ ***	+ ***	+ ***	+ ***
Population	+***	+ ***	+ ***	+ ***	+ ***	+ ***
GDP	+ *	+***	+ *	+ *		+ **
GDP Growth	+ *	- *	+ *		+ *	
Urbanization		+ **	+ **			+ *
Democracy	+ **	+ ***	+ *	+ ***	+ **	+ ***
Durability	- ***		- ***		- ***	
Civil Liberties Violations	+ **	- ***	+ **	- ***	+ ***	- ***
Political Freedom Violations		- ***		- ***		- ***
State Failure	+***	+ **	+ ***	- ***	+ ***	+ ***

*** p<0.001, ** p<0.01, *p<0.05

Chapter 6

Discussions and Conclusion

In this dissertation, I examined the within-country and between-country effects of state-based human rights violations on annual counts of total, fatal and attributed attacks. Scholars have argued that state-based human rights violations, as well as other forms of state repression and abuse, may increase the likelihood of a terrorist attack. Specifically, many have argued that repressive governments that silence dissidents and close all avenues of political expression increase the likelihood of terrorism and other acts of violence against the state (Gurr, 1970; Crenshaw, 1981; DeNardo, 1985; Piazza, 2017). Persecution of dissenters, political imprisonment, and blocking legal expressions of the opposition are examples of how a repressive government closes peaceful avenues for expression of political views. Terrorism and acts of violence against the state may serve as a defense mechanism against a repressive government (Gurr, 1970) or empower existing terrorists (Walsh and Piazza, 2010).

Additionally, others have argued that state-based violations of human rights can damage public approval and perceptions of legitimacy towards the government (Piazza, 2017). Government repression alienates citizens from their government and can result in polarization between government and citizens, and even more so for those citizens who are marginalized from larger conventional society (Piazza, 2017). This polarized atmosphere, in turn, fosters anti-state and anti-status quo grievances. As a result, the environment created by state-based repression becomes beneficial for extremist movements in regard to the gathering of support, recruitment of new members, and distribution of effective propaganda, all of which may result in increased terrorist attacks at the country-level (Walsh and Piazza, 2010).

Existing empirical evidence on the relationship between state-based human rights violations and terrorism over time indicates countries that engage in higher levels of state-based human rights violations are also more likely to experience terrorism (Piazza and Walsh,

76

2009; Walsh and Piazza, 2010; Mullins and Young, 2010; Piazza, 2017; Daxecker, 2015).

However, much of the existing research has not attempted to disentangle the between-country or within-country effects of state-based human rights violations on country-level terrorism over time. Rather, most studies have estimated models that confound both between and within-country effects of state-based human rights violations on terrorism. Additionally, most studies have not adequately controlled for unmeasured, unobserved time stable differences between countries, and as a result, estimates of time-varying covariates may be biased (Allison, 2015). Furthermore, conducting a within-country analysis of state-based human rights violations and terrorism provides a much stronger causal test of the relationship, as compared to a between-country analysis (Allison, 2015). My research attempts to add to the literature on state-based human rights violations and terrorism by examining both within-country and between-country effects, and by using more up to date data on terrorism. Using country-level data from the Global Terrorism Database (GTD), Amnesty International, Polity IV, Freedom House and the World Bank, I examined the following hypotheses for 175 countries between 1980 and 2014:

> H1: Within-country changes in state-based human rights violations are significantly related to within-country changes in total, fatal and attributed terrorism events over time, after controlling for other socio-political and demographic variables. Thus, countries that experience increases in state-based human rights violations will also experience increases in all terrorism outcomes.

> H2: Between-country differences in the level of state-based human rights violations are related to increased total, fatal and attributed terrorism events over time, after controlling for other socio-political and demographic variables. Thus, countries with higher levels of state-based human rights violations, as compared to other countries

with lower levels, are more likely to experience annual increases in all types of terrorism outcomes.

6.1 Summary of Within-Country Analyses of State-Based Human Rights Violations on Annual Terrorism

Across all fixed effects models, within-country increases in state-based human rights violations were related to increases in annual terrorism attacks—for total, fatal and attributed terrorist attacks. State-based human rights violations remained significant even after controlling for other socio-political and demographic variables. This is line with results from previous studies which have examined the between-country effects of state-based human rights violations on changes in terrorism (Walsh and Piazza, 2010; Piazza, 2017). However, previous studies have used methods that do not control for time stable unobserved heterogeneity between countries and do not fully model or account for those between country time stable differences. My results substantially bolster the causal importance of state-based human rights violations on terrorism. Additionally, the within-country-level analyses also revealed several other variables that are consistently and significantly related to changes in annual terrorism over time. Changes in population (+), in overall democracy (+), violations of civil liberties (+), regime durability (-), and state failure (+) are also related to changes in annual terrorism (see Table 16). In line with previous research, increases in population are related to increases in terrorism over time (Chenoweth, 2010; Dreher and Fisher, 2010; Compos and Gassebner, 2013; Choi and Luo; 2013; Danzell and Zidek, 2013), as is increasing levels of overall democracy (Li and Schaub, 2004; Blomberg and Hess, 2008a; Compos and Gassebner, 2013).

There are two competing theoretical explanations regarding the effects of democracy on terrorism. The first explanation, which is referred to as the strategic school, states that democratic countries are vulnerable to terrorism due to their commitment to civil liberties

78

(Eyerman, 1998). Democratic countries are also less able than other countries to prevent terrorism or retaliate once it occurs due to their commitment to protecting civil liberties and political freedom (Eyerman, 1998). The second explanation, which is referred to as the political access school, expects the opposite effects of democracy on terrorism (Eyerman, 1998). The political access school states that democratic countries discourage terrorism because there are many non-violent alternatives in these countries to express dissent and resolve conflicts. Because conflicts are solved by using non-violent means, there is a lower probability of resorting to violence or terrorism to solve conflicts. Generally speaking, most studies have found support for the strategic school. Specifically, many studies have reported that democratic countries experience more terrorism, and have more terrorist groups than less democratic or more autocratic countries (Li and Schaub, 2004; Blomberg and Hess, 2008a; Compos and Gassebner, 2013; Morris and LaFree, 2015). My within-country effects for democracy on annual terrorism also supports the strategic school.

However, although within-country increases in overall democracy are related to increased terrorism, my results indicated that within-country increases in civil liberties violations are also related to increases in terrorism over time. This finding also lends support to the political access school—countries that restrict the public's freedom of political expression, belief, and associational and organizational rights do not provide the public with non-violent alternatives to express dissent and resolve conflicts, and as a result, some may turn to terrorism or acts of violence against the state as a means. My results are in line with those studies that found increased democratic participation (Li, 2005) and protection of civil liberties (Kurrild-Klitgaard, Justesen and Klemmensen, 2006) are related to fewer terrorist attacks. Relatedly, my finding is also similar to findings that indicate countries with lower levels of civil liberties are more at risk for producing terrorism—that is, countries with higher violations of civil liberties also tend to generate more terrorists (Krueger and Laitin, 2008).

However, it is important to note that other studies have found that protection of civil liberties are positively related to terrorism, a finding that supports the strategic school (Eubank and Weinberg, 1994). But, others have argued that such effects are not reflective of civil liberties, but rather reflect some other regime attribute related to executive constraints (Li, 2005).

Although the within-country effects for democracy and violations of civil liberties on annual terrorism are somewhat contradictory, it is important to note the overall measure of democracy is comprised of six components of democracy that reflect competitiveness of executive recruitment, openness of executive recruitment, executive constraints and competitiveness of political participation. My measure of civil liberties violations captures a country's restrictions/violations of freedom of expression, associational and organizational rights, rule of law, and personal autonomy and individual rights. Thus, although both measures are certainly related to each other, they arguably capture different aspects of democracies. Relatedly, I did not find any evidence that within-country increases in violations of political freedom are related to changes in annual terrorism events. The violations of political freedom variable captures state-based restrictions on the electoral process, political pluralism and participation, and functioning of government—aspects of democracy that are related yet distinct from civil liberties. My within-country results suggest that increases in both state-based human rights violations and state-based civil liberty violations are related to increased terrorism over time.

Additionally, my within-country effects for regime durability and state failure is also in line with previous research. Generally, regime durability, measured as the number of years since the most recent regime change, is negatively related to terrorism (Eyerman, 1998; Li, 2005; Piazza, 2008; Young and Dugan, 2011; Morris and LaFree, 2015) and state failure is positively and significantly related to terrorism (Lai, 2007; Piazza, 2007; Piazza, 2008; Coggins, 2015; Fahey and LaFree, 2015).

Results from the analyses examining fatal and attributed attacks were generally similar to the results from total attacks. One exception is the significance of urbanization. The percent of the population that lives in urban areas is only significantly related to fatal terrorist attacks, not total or attributed attacks. This indicates that increases in a country's urban population are also related to increases in the number of terrorist attacks that involve a fatality, but it is not related to increases in overall terrorism or attributed terrorist events. This intuitively makes sense as terrorists often target areas that can produce mass casualties, additionally, urban areas may provide more overall opportunities for terrorist mobilization or attacks.

In sum, results from my fixed effects analysis of annual country terrorism events indicates support for Hypothesis 1: Within-country increases in state-based human rights violations are associated with increases in annual terrorism attacks of all types.

6.2 Summary of Between-Country Analyses of State-Based Human Rights Violations on Annual Terrorism

Results from the analyses examining the between-country effects of state-based human rights violations on annual terrorism largely mirror the within-country results, with a few major exceptions. Importantly, between-country differences in the overall levels of state-based human rights violations are related to all types of terrorism events over time. Countries that have higher levels of state-based human rights violations, as compared to other countries with lower levels, have more terrorism over time. Additionally, the following variables were also consistently and significantly related to annual terrorism counts in the between-country analyses: population (+), urbanization (+), economic development (+) and growth (+), democracy (+), violations of civil liberties (-) and political freedom (-), and state failure (+) (see Table 16).

Countries that are larger, have larger urban populations, are more democratic (both

overall, and in specific relation to civil liberties and political freedom), more economically

developed, and have higher levels of state failure have more frequent terrorist attacks over

time, as compared to those countries with lower levels of these variables. Much of my

between-country findings are also similar to previously reported findings in the literature. As

stated earlier, several studies have found that democracy, and countries with more democratic

components are positively related to terrorism. My between-country effects for economic

development is also similar to prior research (Tavares, 2004; Blomberg and Hess, 2008a;

Coggins, 2014). Countries with higher levels of GDP experience higher annual terrorist

events. However, it is important to note that the existing literature is mixed on the effects of

economic development and growth on terrorism (Azam and Thelen, 2008; Krueger and

Maleckova, 2009; Morris and LaFree, 2015).

Unexpectedly, results from the between-country analysis indicates that a country's

overall regime length is not significantly related to increased terrorism. Thus, there is no

difference in annual terrorism counts for countries with longer regime length, as compared to

those with shorter regime length. As stated previously, much of the existing research on the

correlates of country-level terrorism has focused on between-country effects and, with the

exception of regime durability, my between-country results are similar to those obtained from

other studies.

Based on results from all between-country analyses, I found support for Hypothesis

2—countries with higher overall levels of state-based human rights violations, as compared

to those with lower levels, will experience increases in annual terrorism.

6.3 Comparison of Between-Country and Within-Country Results

There were also notable differences in my findings from the within-country and

between-country analyses not reported by previous studies. Regime durability, or length of

regime type, was consistently related to decreases in annual terrorism events in the within-country models, but it was consistently not related to terrorism in the between-country models. This indicates that although increases in the length of a regime is related to more stability and decreased terrorism, the overall length of a regime for a given country is not related to decreased terrorism. This may suggest that although yearly increases in regime length and stability are related to less terrorism within countries, there comes a tipping point or threshold in which further increases in regime length and stability do not impact terrorism. This may also lend support to the argument that certain elements of democracy may operate in a non-linear or curvilinear fashion (Kurrild-Klitgaard, Justesen and Klemmensen, 2006).

Other opposing findings to emerge from the within and between-country level analyses pertain to the findings for violations of civil liberties and political freedom. In the between-country analyses, countries with more violations of civil liberties and political freedom consistently had fewer terrorism events over time across models. Substantively similar is the between-country effects for democracy—countries with lower overall democracy, compared to those countries with higher levels, also had less annual terrorism over time.

However, in the within-country analyses, countries that experienced increases in violations of civil liberties also experienced increases in annual terrorism. Another way of interpreting this finding is that during times of increased civil liberty violations, terrorism increases as compared to times in which a country increases protections on civil liberties. I did not find the same effects for violations of political freedom or overall democracy in the within-country analysis. These findings suggest that although countries with lower levels of civil liberties and political freedom violations may be more vulnerable to terrorist attacks as compared to countries that impose severe restrictions on each (autocratic governments), countries that increase civil liberty violations are likely to experience annual increases in

terrorism. This is also in line with existing theoretical explanations that argue government actions that restrict freedom of speech and the right to assemble may result in increased alienation of citizens from government and limited political expression—thus increasing the likelihood of terrorism as a defense mechanism against a repressive government.

6.4 Limitations of the Current Study and Future Research

In spite of the benefits of this study, there are numerous limitations that future research should attempt to address. First, even though I was able to control for time stable unobserved country differences through the use of a fixed effects regression model, I was unable to estimate a prior terrorism or lagged terrorism effect. Although some studies have included a lagged terrorism variable in a fixed effects regression model predicting terrorism (Fahey and LaFree, 2015), Allison and colleagues (2017) have argued that including a lagged variable in fixed effects or mixed models can add bias to coefficient estimates. Specifically, Allison and colleagues (2017) state that the lagged variable will have an artificially high coefficient and it diminishes the effects of any other significant variables. For these reasons, I did not use lagged terrorism in the models.[17] Instead, I chose to use the fixed effects model to control for time stable, unobserved differences between countries that may result in certain countries, as compared to others, having higher annual terrorism events. These time stable factors may include a predisposition to violence and subsequently terrorism, as well as any other time stable country-specific, cultural/social factor. Future research should attempt to implement statistical models that allow for the inclusion of lagged terrorism, while also implementing a fixed effects regression model.[18]

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[17] Although I did not include lagged terrorism in the models based on Allison and colleagues (2017) argument that doing so introduces bias into the models, I did conduct several analyses including lagged terrorism. The substantive findings for state-based human rights violations on all outcomes of terrorism were significant.

[18] One potential approach is to estimate a cross-section time-series dynamic panel analysis (Allison et al 2017).

Additionally, the fixed effects model only estimates the effects of variables that change during the course of the observational period. Thus, I was unable to estimate the effects of any time stable variable (e.g., region), or for any variable that exhibits relatively little change over the course of the time span (e.g. gini coefficient). Bravo and Dias (2006) have argued that it is better to analyze the correlates of terrorism by groups of similar countries, such as by region, in order to reduce unobserved heterogeneity and to take into account the geopolitical context. Furthermore, political turmoil within a country could influence the neighboring countries within the same region, thereby impacting the actions of another neighboring state. For example, the political turmoil in Iraq and Syria may have spill-over effect on those countries within the same region, and may lead to changes in state-based violations in neighboring countries. Therefore, future research should examine the correlates of terrorism among countries within the same region, and among those countries that are close in geographic proximity. This line of research may reveal that the relationship between state-based violations of human rights (or other predictors) and terrorism varies by regional context.

A second limitation is that although I initially had 175 countries in the data, once including all the independent variables, many of the non-industrialized developing countries, compared to developed countries, dropped out of the analysis. Generally speaking, there is more complete valid data over time for developed, heavily industrialized countries. Future research should continue to utilize up to date data and implement appropriate statistical techniques to account for such missing data.

Third, while other research has found non-linear effects for certain variables such as overall democracy and economic development (GDP), I did not examine or account for non-linear effects of these variables. Relatedly, I did not examine any potential mediating or moderating effects among the independent variables and outcome. Future research should go

85

beyond estimating direct relationships and explore the possibility of non-linear, mediating or moderating effects among the variables, especially in regards to political and economic variables related to terrorism.

Fourth, some researchers have speculated that terrorism can impact the extent to which a state engages in human rights violations. For example, countries that experience higher levels of terrorism may be more inclined to restrict human rights in an attempt to control and prevent terrorism and other acts of civil disobedience. Walsh and Piazza (2010) state that the best way to evaluate endogeneity is to use an instrumental variable or two-stage least square techniques that allow for estimation of reciprocal relationships between variables. Because Walsh and Piazza (2010) could not identify a suitable instrumental variable, they used an alternative approach to evaluate endogeneity. First, they lag the variable of interest by one period to ensure that the measure of repression precedes any terrorist attack. They also replicated the regressions by lagging all of the independent variables by one period. Walsh and Piazza (2010) conclude that there is little evidence for such endogeneity. Nonetheless, future research should further explore this issue.

Fifth, I do not distinguish between domestic and transnational/international terrorism, rather I use an aggregate measure that combines both types of terrorism events. Although prior studies have found that state-based human rights violations are significantly related to both domestic and transnational attacks (Walsh and Piazza, 2010), the theoretical framework that expects a relationship between state-based violations of human rights and terrorism generally centers on explaining domestic terrorism. However, it is unclear if state-based violations of human rights can explain transnational terrorism or if it can explain lone wolf or ISIS inspired transnational attacks that target a country that is not responsible for human rights violations. However, as Walsh and Piazza (2010) note, US-based actions of abuse towards citizens of other countries or suspected terrorists could embolden others to act with

violence towards the United States. Thus, further theoretical elaboration is necessary, and future research on state-based human rights violations should examine the possibility of different effects for different types of terrorism.

Sixth, I was completely unable to examine the individual-level social psychological effects of state-based human rights violations on perceptions and involvement in civil disobedience and terrorism. Although this study established a macro-level connection between country-level state-based human rights violations and annual terrorism counts, this study was not able to shed light on how state repression leads individuals to decide to and become involved with terrorist activities. Future research should examine how state-based actions impact individual-level decision-making and behaviors. Moreover, future research should also examine if state-based human rights violations impact citizens and immigrants equally. Because immigrants may be less integrated into society, the reaction of immigrants against state-based violations of human rights could differ from the reaction of citizens. Similarly, state-based human rights violations may be disproportionately felt by immigrants or other ethnic/racial minorities in the population.

Seventh, I used an aggregate measure of state-based violations of human rights, rather than disaggregated measures. The PTS creators acknowledge the importance of disaggregating state-based violations of human rights into specific components to evaluate how specific types of human rights violations influence terrorism. However, they also state that it could be a weakness to give the same scores for different types of human rights violations. For example, giving the same score to torture in one country and political imprisonment in another does not imply that state-based violations of human rights in these two countries are same (Wood and Gibney, 2010). On the contrary, empirical research has indicated that certain types of state-based human or physical right violations have more impact on terrorism, such political imprisonment and extrajudicial killings (Piazza and

Walsh, 2010; Daxecker, 2015). Future research should further explore if specific types of state-based human rights violations have different effects on either the incidence of terrorism, or the process of radicalization.

Finally, there is a possibility that human rights violations may also overlap with terrorism measures itself as the measure of state-based human rights violations also includes "murders" (Wood and Gibney, 2010, p. 373) which could theoretically be captured in the GTD terrorism measures. Although the GTD takes great strides to exclude acts of terrorism by the state, it is possible that such events may have been inadvertently included in the total attacks measure. In an attempt to address this limitation, I used the attributed attacks outcome as a means of including only those acts the GTD has high confidence was a terrorist act not committed by the state. Related to this issue, I do not address or treat state-based acts of repression or abuse as acts of state-based terrorism. Although others have taken this approach (Chomsky, 2006) and there is merit to doing so, I did not take this approach in the current study.

6.5 Policy Implications

The results from my study, as well as results from the existing literature, point to several potential implications for counterterrorism policies. First, as others have argued (Walsh and Piazza, 2010), those countries that are actively engaged in counterterrorism tactics should temper these activities by also actively protecting human and physical integrity rights. Furthermore, my results from the within-country analyses indicates that governments that emphasize counterterrorism policies would also benefit from the increased protection of civil liberties as well.

Walsh and Piazza (2010) have argued that state-based human rights violations in the form of extrajudicial detention or the use of harsh interrogation techniques against individuals suspected of terrorist activity may lead to further terrorist group mobilization. They argue that

counterterrorism policies that encroach upon human, physical or civil liberty rights may have the unintended effect of leading to increased terrorism. Similarly, others have also argued that existing research on human and physical rights violations indicate that any counterterrorism tactic that involves torture (stealth or scarring) is not associated with decreased terrorism, and, in fact, may have the opposite effect of empowering and mobilizing individuals dissatisfied with the government to engage in acts of violence (Daxecker, 2015; Piazza 2017).

Second, countries may also be able to influence transnational/international terrorism by using their resources to promote greater protection of human rights in other countries. Although others have certainly speculated that promotion of democracy and economic development in other countries may reduce the incidence of terrorism, Walsh and Piazza (2010) note that much of the literature does not provide evidence for this belief. Rather, they argue that an alternative approach may be for governments to invest in promoting protection of human rights abroad. They suggest that countries may be more effective at promoting and obtaining small increases in the protection of human rights violations in other countries, as opposed to promoting democracy and economic development on other countries, because the former involves less changes to the political infrastructure (Walsh and Piazza, 2010). Moreover, as it pertains to the United States of America's involvement abroad in other countries, promoting the protection of human rights violations versus democracy (which is often a political system associated the USA) may be viewed as less threatening and more appealing to citizens of other countries. Rather than promoting ideals often associated with the United States of America, perhaps promoting ideals that appeal to all citizens, regardless of their existing political and economic system, would be better received by citizens of other countries and engender positive perceptions of the United States.

References

Abadie, A. (2006). Poverty, Political Freedom, and the Roots of Terrorism. *American Economic Review, 96*(2), 50-56. doi:10.1257/000282806777211847

Allison, P. D. (1999). *Multiple Regression: A Primer*: Pine Forge Press.

Allison, P. D. (2005). *Fixed Effects Regression Methods for Longitudinal Data Using SAS*: Sas Institute.

Allison, P.D.,Williams, R., andMoral-Benito, E. (2017). Maximum Likelihood for Cross-Lagged Panel Models with Fixed Effects. *Socious: Sociological Research for a Dynamic World, 3*, 1-17.

Azam, J.P., and Thelen, V. (2008). The Roles of Foreign Aid and Education in the War on Terror. *Public Choice, 135*(3-4), 375-397.

Azam, J. P., and Delacroix, A. (2006). Aid and the Delegated Fight against Terrorism. *Review of Development Economics, 10*(2), 330-344.

Barro, R. J., and Lee, J. W. (2013). A new data set of educational attainment in the world, 1950–2010. *Journal of development economics, 104*, 184-198.

Basuchoudhary, A., and Shughart, W. F. (2010). On Ethnic Conflict and the Origins of Transnational Terrorism. *Defence and Peace Economics, 21*(1), 65-87.

Berry, W. D., and Feldman, S. (1985). *Multiple Regression in Practice*: Sage.

Blomberg, S. B., and Hess, G. D. (2008). From (No) Butter to Guns? Understanding the Economic Role in Transnational Terrorism. In P. Keefer and N. Loayza (Eds.), *Terrorism, economic development, and political openness*. New York: Cambridge University Press.

Blomberg, S. B., Hess, G. D., and Weerapana, A. (2004). Economic Conditions and Terrorism. *European Journal of Political Economy, 20*(2), 463-478.

Boehmer, C., and Daube, M. (2013). The Curvilinear Effects of Economic Development on

    Domestic Terrorism. *Peace Economics, Peace Science and Public Policy, 19*(3), 359-

    368.

Bravo, A. B. S., and Dias, C. M. M. (2006). An Empirical Analysis of Terrorism:

    Deprivation, Islamism and Geopolitical Factors. *Defence and Peace Economics,*

    17(4), 329-341.

Burgoon, B. (2006). On Welfare and Terror Social Welfare Policies and Political-Economic

    Roots of Terrorism. *Journal of Conflict Resolution, 50*(2), 176-203.

Campos, N. F., and Gassebner, M. (2013). International Terrorism, Domestic Political

    Instability, and the Escalation Effect. *Economics and Politics, 25*(1), 27-47.

Chaliand, G., and Blin, A. (2007). *The History of Terrorism : From Antiquity to al Qaeda* (E.

    D. Schneider, K. Pulver, and J. Browner, Trans.). Berkeley: University of California

    Press.

Chamlin, M. B., and Cochran, J. K. (1995). Assessing Messner and Rosenfeld's Institutional

    Anomie Theory: A Partial Test. *Criminology, 33*(3), 411-429.

Chenoweth, E. (2010). Democratic Competition and Terrorist Activity. *The Journal of*

    Politics, 72(01), 16-30.

Choi, S. W., and Luo, S. (2013). Economic Sanctions, Poverty, and International Terrorism:

    An Empirical Analysis. *Empirical and Theoretical Research in International*

    Relations, 39(2), 217-245. doi:10.1080/03050629.2013.768478

Chomsky, N. (2006). *Failed States : the Abuse of Power and the Assault on Democracy* (1st

    ed.). New York: Metropolitan Books/Henry Hold and Company.

Coggins, B. L. (2014). Does State Failure Cause Terrorism? An Empirical Analysis (1999–

    2008). *Journal of Conflict Resolution*, 455-483.

Crenshaw, M. (1981). The Causes of Terrorism. *Comparative politics, 13*(4), 379.

Cullen, J. B., Parboteeah, K. P., and Hoegl, M. (2004). Cross-national Differences in Managers' Willingness to Justify Ethically Suspect Behaviors: A Test of Institutional Anomie Theory. *Academy of Management Journal, 47*(3), 411-421.

Danzell, O. E., and Zidek, S. (2013). Does Counterterrorism Spending Reduce the Incidence and Lethality of Terrorism? A Quantitative Analysis of 34 Countries. *Defense and Security Analysis, 29*(3), 218-233.

Daxecker, U. (2015). Dirty Hands: Government Torture and Terrorism. *Journal of Conflict Resolution*, 1-29.

DeNardo, J. (1985). *Power in Numbers : the Political Strategy of Protest and Rebellion*. Princeton, N.J.: Princeton University Press.

Drakos, K., and Gofas, A. (2006). In Search of the Average Transnational Terrorist Attack Venue. *Defence and Peace Economics, 17*(02), 73-93.

Dreher, A., and Fischer, J. A. (2010). Government Decentralization as A Disincentive for Transnational Terror? An Empricial Analysis*. *International Economic Review, 51*(4), 981-1002.

Ehrlich, P. R., and Liu, J. (2002). Some Roots of Terrorism. *Population and environment, 24*(2), 183-192.

Enders, W., and Hoover, G. A. (2012). The Nonlinear Relationship Between Terrorism and Poverty. *The American Economic Review, 102*(3), 267-272.

Esty, D. C., Goldstone, J., Gurr, T. R., Harff, B., Surko, P. T., Unger, A. N., and Chen, R. S. (1998). The State Failure Project: Early Warning Research for U.S. Foreign Policy Planning. In J. L. Davies and T. R. Gurr (Eds.), *Preventive Measures: Building Risk Assessment and Crisis Early Warning System*. Maryland: Rowman and Littlefield Publishers.

Eubank, W. L. and Weinberg, L. (1994). Does Democracy Encourage Terrorism?. *Terrorism and Political Violence*, *6*(4), 417-435.

Eyerman, J. (1998). Terrorism and Democratic States: Soft Targets or Accessible Systems. *International Interactions, 24*(2), 151-170.

Fahey, S., and LaFree, G. (2015). Does Country-Level Social Disorganization Increase Terrorist Attacks? *Terrorism and Political Violence, 27*(1), 81-111.

Fearon, J. D. (2003). Ethnic and Cultural Diversity by Country. *Journal of Economic Growth, 8*(2), 195-222.

Freedom House. (2012). *Freedom of the Press Data*. Retrieved from:
http://www.freedomhouse.org/ report-types/freedom-press

Freytag, A., Krüger, J. J., Meierrieks, D., and Schneider, F. (2011). The Origins of Terrorism: Cross-Country Estimates of Socio-economic Determinants of Terrorism. *European Journal of Political Economy, 27*, 5-16.

Gassebner, M., and Luechinger, S. (2011). Lock, Stock, and Barrel: A Comprehensive Assessment of the Determinants of Terror. *Public Choice, 149*(3-4), 235-261.

Gelfand, M. J., LaFree, G., Fahey, S., and Feinberg, E. (2013). Culture and Extremism. *Journal of Social Issues, 69*(3), 495-517.

Gibney, M., Cornett, L., Wood, R., Haschke, P., and Arnon, D. (2015). *The Political Terror Scale 1976-2015*. [Data File]. Retrieved from:
http://http://www.politicalterrorscale.org/

Greene, W. H. (2000). *Econometric Analysis* (4th ed.). Boston: Prentice Hall.

Gurr, T. R. (1970). *Why Men Rebel*. Princeton, N.J.: Princeton University Press.

Gurr, T. R. (2015). *Political Rebellion : Causes, Outcomes and Alternatives*. New York: Routledge.

Hilbe, J. M. (2014). *Modeling Count Data*. New York, NY : : Cambridge University Press.

Jahan, S. (2015). *Human Development Report 2015*. Retrieved from New York:

Jenkins, B. M. (1975). *International Terrorism : A New Mode of Conflict*. Los Angeles, Calif.: Crescent Publications.

Kaplan, J. (2010). *Terrorist Groups and New Tribalism : Terrorism`s Fifth Wave*. Abingdon, Oxon [England] ; New York: Abingdon, Oxon England ; New York : Routledge.

Kurrild-Klitgaard, P., Justesen, M. K., and Klemmensen, R. (2006). The Political Economy of Freedom, Democracy and Transnational Terrorism. *Public Choice, 128*(1-2), 289-315.

LaFree, G., and Dugan, L. (2007). Introducing the global terrorism database. *Terrorism and Political Violence, 19*(2), 181-204.

LaFree, G., Dugan, L., and Miller, E. (2015). *Putting Terrorism in Context : Lessons from the Global Terrorism Database*: Abingdon, Oxon : Routledge, Taylor andamp; Francis Group.

LaFree, G., Morris, N. A., and Dugan, L. (2009). Cross-National Patterns of Terrorism Comparing Trajectories for Total, Attributed and Fatal Attacks, 1970–2006. *British Journal of Criminology, 50*(4), 622-649.

Lai, B. (2007). "Draining the Swamp": An Empirical Examination of the Production of International Terrorism, 1968–1998. *Conflict Management and Peace Science, 24*(4), 297-310.

Li, Q. (2005). Does Democracy Promote or Reduce Transnational Terrorist Incidents? *Journal of Conflict Resolution, 49*(2), 278-297.

Li, Q., and Schaub, D. (2004). Economic Globalization and Transnational Terrorism a Pooled Time-Series Analysis. *Journal of Conflict Resolution, 48*(2), 230-258.

Liang, K. Y., and Zeger, S. L. (1986). Longitudinal Data Analysis Using Generalized Linear Models. *Biometrika, 73*(1), 13-22.

Long, J. S. (1997). *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks, California: Sage Publications.

Maume, M. O., and Lee, M. R. (2003). Social Institutions and Violence: A Sub-National Test of Institutional Anomie Theory. *Criminology, 41*(4), 1137-1172.

Merari, A. (1991). Academic Research and Government Policy on Terrorism. *Terrorism and Political Violence, 3*(1), 88-102.

Merari, A. (2007). Terrorism as a Strategy of Insurgency (E. Schneider, K. Pulver, and J. Browner, Trans.). In G. r. Chaliand and A. Blin (Eds.), *The History of Terrorism: From Antiquity to Al Qaeda*. Berkeley: University of California Press.

Messner, S. F., and Rosenfeld, R. (1997). Political Restraint of the Market and Levels of Criminal Homicide: A Cross-National Application of Institutional Anomie Theory. *Social Forces, 75*(4), 1393-1416.

Messner, S. F., and Rosenfeld, R. (2001). An Institutional Anomie Theory of Crime *Explaining Criminals and Crime*. Los Angeles: Roxbury.

Minorities and Risk Project. (2009). *Minorities at Risk Dataset*. Retrieved from: http://www.cidcm. umd.edu/mar

Moghadam, A. (2006). *The Roots of Terrorism*. New York: Chelsea House Publishers.

Morris, N., and LaFree, G. (2016). Country Level Predictors of Terrorism. In G. LaFree and J. D. Freilich (Eds.), *The Handbook of The Criminology of Terrorism*: Wiley Blackwell.

Mullins, C. W., and Young, J. K. (2012). Cultures of Violence and Acts of Terror: Applying a Legitimation–Habituation Model to Terrorism. *Crime and Delinquency. 58*(1), 28-56. doi: 10.1177/0011128710364807

Piazza, J. A. (2006). Rooted in Poverty?: Terrorism, Poor Economic Development, and Social Cleavages. *Terrorism and Political Violence, 18*(1), 159-177.

Piazza, J. A. (2007). Draining the Swamp: Democracy Promotion, State Failure, and

Terrorism in 19 Middle Eastern Countries. *Studies in Conflict and Terrorism, 30*(6),

521-539.

Piazza, J. A. (2008). Incubators of Terror: Do Failed and Failing States Promote

Transnational Terrorism? *International Studies Quarterly, 52*(3), 469-488.

Piazza, J. A. (2011). Poverty, Minority Economic Discrimination, and Domestic Terrorism.

Journal of Peace Research, 48(3), 339-353.

Piazza, J. A. (2017). Repression and Terrorism: A Cross- National Empirical Analysis of

Types of Repression and Domestic Terrorism. *Terrorism and Political Violence*,

29(1), 102-118. doi:10.1080/09546553.2014.994061

Piazza, J. A., and Walsh, J. I. (2009). Transnational Terror and Human Rights. *International*

Studies Quarterly, 53(1), 125-148. doi:10.1111/j.1468-2478.2008.01526.x

Piazza, J. A., and Walsh, J. I. (2010). Physical Integrity Rights and Terrorism. *PS: Political*

Science and Politics, 43(03), 411-414.

Piquero, A., and Piquero, N. L. (1998). On Testing Institutional Anomie with Varying

Specifications. *Studies on Crime and Crime Prevention, 7*, 61-84.

Post, J. M., McGinnis, C., and Moody, K. (2014). The Changing Face of Terrorism in the

21st Century: The Communications Revolution and the Virtual Community of Hatred.

Behavioral Sciences and the Law, 32(3), 306-334. doi:10.1002/bsl.2123

Pratt, T. C., and Godsey, T. W. (2003). Social Support, Inequality, and Homicide: A Cross-

National Test of an Integrated Theoretical Model. *Criminology, 41*(3), 611-644.

Rapoport, D. C. (2004). The Four Waves of Modern Terrorism. In A. K. Cronin and J. M.

Ludes (Eds.), *Attacking Terrorism: Elements of a Grand Strategy*. Washington, D.C.:

Georgetown University Press.

Raudenbush, S. W., and Bryk, A. S. (2002). *Hierarchical Linear Models: Applications and Data Analysis Methods* (Vol. 1): Sage.

Rosenfeld, R., and Messner, S. F. (2006). The Origins, Nature and Prospects of Institutional Anomie Theory. *The Essential Criminology Reader*, 164-173.

Sandler, T. (2014). The Analytical Study of Terrorism: Taking Stock. *Journal of Peace Research, 51*(2), 257-271. doi:10.1177/0022343313491277

Savolainen, J. (2000). Inequality, Welfare State, and Homicide: Further Support for the Institutional Anomie Theory. *Criminology, 38*(4), 1021-1042.

Savun, B., and Phillips, B. J. (2009). Democracy, Foreign Policy, and Terrorism. *Journal of Conflict Resolution, 53*(6), 878-904.

Schmid, A. (2004). Terrorism-The Definitional Problem. *Case Western Reserve Journal of International Law, 36*(2/3), 375-3419.

Schmid, A. P., and De Graaf, J. (1982). *Violence as Communication: Insurgent Terrorism and the Western News Media*. London: Sage.

Schmid, A. P., and Jongman, A. J. (1988). *Political Terrorism : A Research Guide to Concepts, Theories, Data Bases, and Literature*. New Brunswick: Transaction Publishers.

Sheehan, S. I. (2012). Assessing and Comparing Data Sources for Terrorism Research. In C. Lum and L. W. Kennedy (Eds.), *Evidence-based Counterterrorism Policy*. New York: Springer.

Sherman, L. W. (1993). Defiance, Deterrence, and Irrelevance: A Theory of the Criminal Sanction. *Journal of Research in Crime and Delinquency, 30*(4), 445-473. doi:10.1177/0022427893030004006

Silke, A. (2008). Research on Terrorism: A Review of the Impact of 9/11 and the Global War on Terrorism. In H. Chen, E. Reid, J. Sinai, A. Silke, and B. Ganor (Eds.), *Terrorism*

Informatics: Knowledge Management and Data Mining for Homeland Security. New
York: Springer.

Stucky, T. D. (2003). Local Politics and Violent Crime in US Cities. *Criminology, 41*(4),
1101-1136.

Surette, R. (1999). Media Echoes: Systemic Effects of News Coverage. *Justice Quarterly,
16*(3), 601-631.

Taylor, A. a. (2013). *State Failure*. Basingstoke: Palgrave Macmillan.

United Nations General Assembly. (1974). *United Nations General Assembly Twenty-Ninth
Session Official Records*. Retrieved from
http://www.un.org/ga/search/view_doc.asp?symbol=A%2FPV.2282+andSubmit=Sea
rchandLang=E

Walsh, J. I., and Piazza, J. A. (2010). Why Respecting Physical Integrity Rights Reduces
Terrorism. *Comparative Political Studies, 43*(5), 551-577.
doi:10.1177/0010414009356176

Wood, R. M., and Gibney, M. (2010). The Political Terror Scale (PTS): A Re-Introduction
and a Comparison to CIRI. *Human Rights Quarterly, 32*(2), 367-400.

Wooldridge, J. M. (2002). *Econometric Analysis of Cross Section and Panel Data*.
Cambridge, MA: Massachusetts Institute of Technology.

Woolley, J. T. (2000). Using Media- Based Data in Studies of Politics. *American Journal of
Political Science, 44*(1), 156-173. doi:10.2307/2669301

Appendix A:

Variables: Operationalization and Sources

Table 1

Variable	Operationalization	Source	Range
Total Attacks	The sum of all attacks recorded for each year between 1980 and 2014 for each country	The Global Terrorism Database https://www.start.umd.edu/gtd/	It ranges from 0 to 3925 where 0 indicates that there is no terrorist attack.
Fatal Attacks	The total number of all attacks that resulted in fatalities for each year/country	The Global Terrorism Database https://www.start.umd.edu/gtd/	It ranges from 0 to 2518 where 0 indicates that there is no fatal terrorist attack.
Attributed Attacks	The number of attacks that are carried out by a specific group for each year/country.	The Global Terrorism Database https://www.start.umd.edu/gtd/	It ranges from 0 to 3370 where 0 indicates that there is no attributed terrorist attack.
Amnesty International	The violations of physical or personal integrity rights carried out by a state or its agents, such as extrajudicial killing, torture, disappearances, and political imprisonment.	The Political Terror Scale http://www.politicalterrorscale.org/	It ranges from 1 to 5 where 1 indicates secure rule of law while 5 indicates that the violations of human rights are highly prevalent.
Population	The sum of all residents regardless of legal status or citizenship excluding refugees not permanently settled in the country of asylum.	The World Bank: World Development Indicators http://data.worldbank.org/	It ranges from 64,440 to 1,364,270,000

Table 1

Variable	Operationalization	Source	Range
Sex Ratio	Male births per female births. The data are 5 year averages.	The World Bank: Gender Statistics http://data.worldbank.org/	It ranges from 1.01 to 1.17
Urbanization	The percentage of people living in urban areas.	The World Bank: World Development Indicators http://data.worldbank.org/	It ranges from 4.333 to 100
Ethnic Fractionalization	The probability that two randomly drawn individuals in a country belong to different ethnolinguistic groups.	Fearon, J. D., and Laitin, D. D. (2003). Ethnicity, Insurgency, and Civil War. *American political science review, 97*(01), 75-90. http://web.stanford.edu/group/ethnic/publicdata/publicdata.html	It ranges from 0.001 to 0.925
Homicide Rate	The number of intentional homicides per 100,000 people	The World Bank: World Development Indicators http://data.worldbank.org/	It ranges from 0 to 139.13
GDP per capita	The gross domestic product divided by midyear population	The World Bank: World Development Indicators http://data.worldbank.org/	It ranges from 64.81 to 102,910.435
GDP Growth	The annual increase in the percentage of GDP at market prices based on constant local currency	The World Bank: World Development Indicators http://data.worldbank.org/	It ranges from -64.99 to 149.97

Table.1

Variable	Operationalization	Source	Range
Democracy	The place of a country between the scale of "strongly democratic" and "strongly autocratic" that are measured by competitiveness of executive recruitment, openness of executive recruitment, constraints of chief executive, and competitiveness of political participation.	Polity IV http://www.systemicpeace.org/inscrdata.html	It ranges from -10 to 10 where -10 means "strongly autocratic" and 10 means "strongly democratic".
Regime Durability	The number of years since the most recent regime change or the end of transition period defined by the lack of stable political institutions.	Polity IV http://www.systemicpeace.org/inscrdata.html	It ranges from 0 to 205.
Political Rights Violations	Annual score for political rights based on electoral process, political pluralism and participation, and functioning of government.	Freedom House. (2016). *Freedom in the World*. Data Retrieved from https://freedomhouse.org/report/freedom-world/freedom-world-2016	It ranges from 1 to 7 where 1 indicates the strongest protection of political rights while 7 indicates the lowest.
Civil Liberties Violations	Annual score for civil liberties based on freedom of expression and belief, associational and organizational rights, rule of law, and personal autonomy and individual rights.	Freedom House. (2016). *Freedom in the World*. Data Retrieved from https://freedomhouse.org/report/freedom-world/freedom-world-2016	It ranges from 1 to 7 where 1 indicates the strongest protection of civil rights while 7 indicates the lowest.
State Failure	Aggregated annual index of all types of state failure events: Revolutionary wars, adverse regime changes, ethnic wars, and genocides and politicides	Political Instability Task Force: State Failure Program Set http://www.systemicpeace.org/inscrdata.html	It ranges from 0 to 13.50 where 0 indicates there is no state failure.

Appendix B:

Pairwise Correlation Matrix

Table 1

		Annual Total Attacks	Annual Fatal Attacks	Annual Attributed Attacks	Amnesty International	Population	Urbanization	GDP Percapita	GDP growth	Democracy	Regime Durability	Civil Liberties	Political Rights	State Failure
Annual Total Attacks	Pearson Correlation	1.00	0.96**	0.99**	0.26**	0.14**	0.01	-0.05**	-0.01	0.08**	-0.04**	0.05**	0.01	0.25**
	Sig. (2-tailed)		0.00	0.00	0.00	0.00	0.33	0.00	0.53	0.00	0.00	0.00	0.35	0.00
	N	5518	5514	5518	4460	5400	5402	5107	5057	5105	5157	5458	5458	5481
Annual Fatal Attacks	Pearson Correlation	0.96**	1.00	0.95**	0.25**	0.12**	-0.01	-0.06**	0.00	0.04**	-0.05**	0.08**	0.04**	0.23**
	Sig. (2-tailed)	0.00		0.00	0.00	0.00	0.36	0.00	0.94	0.00	0.00	0.00	0.00	0.00
	N	5514	5514	5514	4457	5396	5398	5103	5053	5101	5153	5454	5454	5477
Annual Attributed Attacks	Pearson Correlation	0.99**	0.95**	1.00	0.24**	0.14**	0.01	-0.04**	0.00	0.07**	-0.03*	0.05**	0.01	0.22**
	Sig. (2-tailed)	0.00	0.00		0.00	0.00	0.35	0.00	0.93	0.00	0.01	0.00	0.34	0.00
	N	5518	5514	5518	4460	5400	5402	5107	5057	5105	5157	5458	5458	5481
Amnesty International	Pearson Correlation	0.26**	0.25**	0.24**	1.00	0.16**	-0.28**	-0.42**	-0.02	-0.31**	-0.27**	0.53**	0.46**	0.51**
	Sig. (2-tailed)	0.00	0.00	0.00		0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.00	0.00
	N	4460	4457	4460	4460	4360	4362	4132	4117	4263	4313	4439	4439	4438
Population	Pearson Correlation	0.14**	0.12**	0.14**	0.16**	1.00	-0.06**	-0.03	0.07**	0.01	0.15**	0.04**	0.02	0.06**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00		0.00	0.05	0.00	0.60	0.00	0.00	0.17	0.00
	N	5400	5396	5400	4360	5400	5400	5107	5057	4997	5049	5353	5353	5374
Urbanization	Pearson Correlation	0.01	-0.01	0.01	-0.28**	-0.06**	1.00	0.56**	-0.08**	0.31**	0.36**	-0.40**	-0.37**	-0.19**
	Sig. (2-tailed)	0.33	0.36	0.35	0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00
	N	5402	5398	5402	4362	5400	5402	5107	5057	4999	5051	5355	5355	5376
GDP Percapita	Pearson Correlation	-0.05**	-0.06**	-0.04**	-0.42**	-0.03	0.56**	1.00	-0.06**	0.31**	0.60**	-0.46**	-0.39**	-0.16**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.05	0.00		0.00	0.00	0.00	0.00	0.00	0.00
	N	5107	5103	5107	4132	5107	5107	5107	4993	4743	4779	5081	5081	5084
GDP growth	Pearson Correlation	-0.01	0.00	0.00	-0.02	0.07**	-0.08**	-0.06**	1.00	-0.03	-0.02	0.04**	0.04**	-0.12**
	Sig. (2-tailed)	0.53	0.94	0.93	0.26	0.00	0.00	0.00		0.07	0.17	0.00	0.00	0.00
	N	5057	5053	5057	4117	5057	5057	4993	5057	4720	4752	5032	5032	5035
Democacy	Pearson Correlation	0.08**	0.04**	0.07**	-0.31**	0.01	0.31**	0.31**	-0.03	1.00	0.18**	-0.86**	-0.89**	-0.13**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.60	0.00	0.00	0.07		0.00	0.00	0.00	0.00
	N	5105	5101	5105	4263	4997	4999	4743	4720	5105	5105	5102	5102	5102
Regime Durability	Pearson Correlation	-0.04**	-0.05**	-0.03*	-0.27**	0.15**	0.36**	0.60**	-0.02	0.18**	1.00	-0.32**	-0.28**	-0.16**
	Sig. (2-tailed)	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.17	0.00		0.00	0.00	0.00
	N	5157	5153	5157	4313	5049	5051	4779	4752	5105	5157	5154	5154	5154
Civil Liberties	Pearson Correlation	0.05**	0.08**	0.05**	0.53**	0.04**	-0.40**	-0.46**	0.04**	-0.86**	-0.32**	1.00	0.93**	0.30**
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00	0.00
	N	5458	5454	5458	4439	5353	5355	5081	5032	5102	5154	5458	5458	5455
Political Rights	Pearson Correlation	0.01	0.04**	0.01	0.46**	0.02	-0.37**	-0.39**	0.04**	-0.89**	-0.28**	0.93**	1.00	0.24**
	Sig. (2-tailed)	0.35	0.00	0.34	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00		0.00
	N	5458	5454	5458	4439	5353	5355	5081	5032	5102	5154	5458	5458	5455
State Failure	Pearson Correlation	0.25**	0.23**	0.22**	0.51**	0.06**	-0.19**	-0.16**	-0.12**	-0.13**	-0.16**	0.30**	0.24**	1.00
	Sig. (2-tailed)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
	N	5481	5477	5481	4438	5374	5376	5084	5035	5102	5154	5455	5455	5481