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Gender Inequality and Terrorism: An Analysis of the Effects of Socioeconomic Gender Inequality on Terrorism

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Abstract

Studies of terrorism have explored a number of factors thought to drive the phenomenon. Authors often tie socioeconomic development to reducing terrorism. Among structural explanations of terrorism, however, authors generally neglect the effect of gender inequality, though studies show that gender inequality increases the risk of international and civil conflict. Therefore I explore the impact of gender inequality in important socioeconomic issues on terrorism for 143 countries from 1998-2009. I argue that socioeconomic gender inequality reflects poor state capacity, resulting in grievances that contribute to domestic non-suicide and suicide terrorism. I study gender inequality in the areas of education, labor participation, and life expectancy. Results indicate that education and life expectancy inequality increase the risk of terrorism, while labor inequality is unrelated. While the time frame and data used in this study limit generalizability, results indicate that states should provide socioeconomic gender parity to reduce the risk of domestic terrorism.

Domestic Terrorism, Civil Conflict, Greed, Grievances, State Capacity, Gender Inequality, Education, Life Expectancy, Labor Participation

"A joke circulating around Riyadh says that the woman most sought after these days is the one with a job" (Coleman 2004, p. 90).

Introduction

Studies of terrorism – increasingly important in the post-9/11 United States literature – have explored a number of factors thought to drive the phenomenon. Among these works, which explore various psychological, rational choice, and structural explanations for terrorism, one important subject remains neglected: at the structural level, what effect can gender inequality have on terrorism? While gender inequality appears to increase the risk of both civil and international conflict and some authors explore gender in terms of psychological motivations for terrorism, researchers have not yet explored the theoretical and empirical effects of gender inequality as a structural explanation for terrorism. However, one common research area in terrorism studies as in international and civil conflict studies focuses on the potential effects of socioeconomic development on terrorism. This type of research arises from the notion, shared among some scholars and lawmakers, that poverty, low education, poor health, and other socioeconomic ills drive terrorist activities (Graham 2002). Thus, I feel it is important to study the potential violent effects of gender inequality in key socioeconomic issues previously tied to terrorism, which fills an important void in an increasingly relevant field of study.

I argue that socioeconomic gender inequality increases domestic terrorism through two main causal pathways closely linked to civil conflict: state capacity and grievances. Essentially, gender inequality represents the broadest form of discrimination in society that reveals weak state capacity and creates widespread grievances, leading to terrorist attacks aimed at change. My argument is novel because among terrorism studies that explore structural explanations for terrorist events, authors have not yet analyzed the greatest structural inequality in a given society: gender inequality. My argument is also important because I point out a unique structural cause of domestic terrorism that also points to ways to combat such acts, as well as perhaps the spread of domestic to international terrorism. If

socioeconomic gender inequality increases the risk of terrorism, as my results indicate, the state may then decrease the risk of domestic terrorism by increasing socioeconomic gender parity, thereby strengthening state capacity, reducing the perception of illegitimacy, and decreasing grievances.

As noted above, scholars claim significant relationships between gender inequality and civil as well as interstate conflict; this literature reveals that gender parity decreases the risk of both types of conflict (Caprioli 2000, 2005; Melander 2005; Bussman 2007). In addition, previous work provides mixed indications on whether socioeconomic development helps fight terrorism, leaving much room for continuing study on the subject. For instance, some scholars assert that no relationship – or at best an indirect relationship – exists between socioeconomic factors such as education or income and terrorism (Krueger and Laitin 2007; Abadie 2006; Krueger and Maleckova 2003). Others, however, maintain the opposite, arguing that socioeconomic issues directly and significantly relate to terrorism (Freytag, Krüger, Meierrieks, and Schneider 2009; Burgoon 2006; Azam 2005; Bueno de Mesquita 2005; Erhlich and Liu 2002). Even within the literature claiming connections between socioeconomic issues and terrorism, scholars often disagree on the magnitude and direction of the relationships. Nevertheless, in spite of the number of studies undertaken to reveal factors that drive terrorism, gender inequality has been virtually ignored in the terrorism literature as a possible structural explanation for terrorism.

While previous work suggests that gender inequality positively relates to both international and civil conflict and that socioeconomic development reduces the risk of terrorism, the terrorism literature has not yet theoretically or empirically examined the motivations for domestic terrorist attacks provided by gender inequality in important socioeconomic indicators. I will attempt to close this gap with an analysis of this relationship. I argue that gender inequality is a direct, structural cause of domestic terrorism; it represents the broadest form of discrimination in society and is a manifestation of poor state capacity that raises the specter of state illegitimacy, resulting in widespread grievances that contribute to both suicide and non-suicide domestic terrorism. Given the state's direct influence over

public welfare, the state assumes the predominant responsibility for unequal patterns of socioeconomic development. Essentially, the state's inability or disinclination to provide equal socioeconomic welfare in terms of gender leads to poor overall development and a loss of legitimacy, which ultimately invites terrorist activities from citizens seeking change. Specifically, I study the effects of gender inequality in the areas of education, labor participation, and life expectancy on domestic non-suicide and suicide terrorism. My argument invokes two related subsets of the civil conflict literature, "greed and grievances" and state capacity, both of which appear to influence studies of domestic terrorism. Therefore, I review both of these literatures, as well as the international and civil conflict literature regarding gender inequality.

I gather data on domestic non-suicide and suicide terrorism from the RAND Corporation's RAND Database of Worldwide Terrorism Incidents (RDWTI), and I collect gender inequality data from the World Bank's World Development Indicators (WDI) 2010. My empirical results, which cover 143 countries and the years 1998-2009 for total and non-suicide terrorism models and 1999-2009 for suicide models, suggest that gender inequality does in fact influence the risk of terrorism. Gender inequality in terms of education and life expectancy robustly increase the risk of total and non-suicide terrorism, and increase the risk of suicide terrorism in the absence of variables controlling for ethnic fractionalization. However, gender inequality in terms of labor participation does not appear to have an effect on the risk of terrorism; I expect that this is due to the state's greater control over education and health welfare than economic welfare. While the short time frame of this study limits its generalizability and terrorism data itself is limited, the results regarding education and life expectancy gaps do indicate that at least in the post-9/11 world, socioeconomic gender parity is a public good that states should strive to provide to enhance legitimacy and reduce grievances; in doing so, the state reduces the risk of domestic terrorism.

The following section examines the literature concerning terrorism, civil conflict, and gender inequality. Subsequently, I introduce my hypotheses, as well as the data and methods that I use.

Results of the analyses follow, and I conclude with a discussion of my findings and their policy implications as well as avenues for future research.

Literature

Terrorism

Defining terrorism

Defining terrorism[1] has proved difficult for political scientists. A number of varying definitions abound, though Taylor (2002) finds five basic characteristics of terrorist acts that are similar across most definitions and differentiate terrorism from other acts of conflict, which I adopt as my working definition. First, the overarching goal of terrorism is not destructiveness in itself, but political instability; often, this entails civilian deaths, and acts are targeted at an audience beyond those immediately affected. Second, terrorist groups possess power inferior to their intended targets, such as the state. Third, this inequality in power and resources results in methods associated with sporadic violence as opposed to conventional warfare. Fourth, terrorism is often characterized by decentralization and committed by loosely connected cells, rather than a tightly organized and hierarchical army. Finally, publicity is necessary for the success of terrorism. To maximize their gains, terrorists actively court the media and often decide on targets based on their symbolic value. Crenshaw (1981, p. 395) argues terrorists' "justifications usually focus on past suffering, on the glorious future to be created, and on the regime's illegitimacy and violence, to which terrorism is the only available response." Furthermore, terrorism is characterized by a sense of urgency, in which delay may preclude any action at all against the state (Crenshaw 1981).

[1] As Atran (2003, p. 1534) remarks, "Of course, one side's 'terrorists' may well be another side's 'freedom fighters'." Though I realize that the use of the term "terrorism" may be inflammatory, I focus on this act because of its inherently destabilizing nature and the increasing importance of terrorism to the United States, in terms of both academia and policy, foreign and domestic. Furthermore, I feel that Taylor's (2002) definition of terrorism, which I adopt here, aptly differentiates terrorism from other forms of conflict, such as insurgency. In addition, authors identify all of the groups that I mention here by name as terrorist organizations, and RDWTI, which I use as my source for terrorism data, closely follows Taylor's definition of terrorism in classifying and recording incidents as terrorist acts.

Furthermore, distinctions must be made between domestic and transnational terrorism. Transnational terrorism, as might be expected, involves actors and/or territory from multiple countries, whereas domestic terrorism concerns only one country (Freytag et al. 2009). Despite the visibility of international terrorist attacks, according to Abadie (2006), domestic terrorist events typically greatly outnumber their international counterparts. Perhaps due in part to the worldwide media attention garnered by the September 11, 2001 attacks, the terrorism literature in the United States has responded to the elevated publicity of transnational terrorism and data constraints by focusing somewhat disproportionately on this form of terrorism theoretically and empirically, and in many cases scholars have appeared to attribute both transnational and domestic terrorism to similar causes (Abadie 2006; Boulden 2009). However, some argue that transnational and domestic terrorist attacks probably have different roots (Abadie 2006; Ross 1993; Burgoon 2006; Boulden 2009). For instance, Abadie notes that grievances against wealthy countries seem to drive most modern transnational terrorist events. He argues that terrorist groups may attack transnational targets to gain the resultant international media attention to bolster support for their cause, which results in disproportionate numbers of rich countries as targets of international terrorism. However, Abadie argues that this causal pathway to international terrorism may not explain domestic terrorism. In many cases, terrorist organizations expand over time from domestic to interstate terrorism (Dugan, LaFree, and Fogg 2006). Addison and Murshed (2002, p. 1) provide examples of this when they assert that transnational terrorism can occur because domestic terrorists attack states thought to support their regime's policies: "When Westerners are kidnapped by the FARC in Colombia, or the Abu Sayyaf in the Philippines, the political aim of the kidnappers is to target the policy of support by the West for the government that the terrorists wish to overthrow."

Causes of terrorism

The research is quite divided on the causes of both transnational and domestic terrorism. Crenshaw (1981) maintains that the causes of terrorism can be divided into preconditions and

precipitants: the former provide the long-term setting for terrorism and the latter are specific events that provide immediate motivation. Crenshaw (1981, p. 383) argues that precipitants directly cause terrorism and that "These instigating circumstances go beyond merely creating an environment in which terrorism is possible; they provide motivation and direction for the terrorist movement. We are dealing here with reasons rather than opportunities."

Ross (1993) provides a very useful description of the three main theoretical categories of oppositional terrorism causes: structural, psychological, and rational choice. Cases of psychological treatments of terrorism include Krasnov's (2005) psychological study of Chechen female suicide bombers as well as Smelser's (2007) evaluation of Palestinian female suicide terrorists. Examples of rational choice approaches to the causes of terrorism include Bueno de Mesquita (2005) and Azam (2005); Bueno de Mesquita formally models recruitment choices for terrorist organizations, and Azam evaluates suicide terrorism using cost/benefit analyses related to future generations' welfare. Ross states that researchers most often use structural models, which explore the impact of political, social, economic, cultural, and other societal structures on terrorism, due to the relative ease of testing these models. Considering precipitants as motivational, environmental factors makes them comparable to structural causes and suggests that structural causes can then directly lead to terrorism. Crenshaw and Ross (1993) list grievances as a precipitant of terrorism.

Theoretical and empirical studies of terrorism have arguably resulted in two dissenting points of view– 1) socioeconomic development does not relate to or even increases terrorism– and 2) socioeconomic development decreases terrorism. Those who support the idea that development assuages the motivations for terrorism suggest that socioeconomic development helps states avoid terrorist attacks, while dissenters argue that socioeconomics do not relate to or, in some cases, inversely relate to terrorism than the manner prescribed by pro-development authors (Burgoon 2006; Ehrlich and Liu 2002; Taylor 1988; Russell and Miller 1983).

Development increases terrorism

Those authors who feel socioeconomics, at best, indirectly relate to terrorist activities widely cite Krueger and Maleckova's (2003) work on terrorism, which finds little evidence that education, wealth, employment, and literacy decrease terrorism or support for terrorism. Among Palestinians, Krueger and Maleckova's survey indicates that socioeconomic status has little impact on support for terrorism. Income and education, in fact, appear to relate positively to terrorism in terms of militant backgrounds. Turk (1982) predicts these findings two decades before in his discussion of the roots of terrorism; he argues that while lower classes will likely feel the sting of inequality more so than elites, elites and youth will ultimately provide the decisiveness and insubordination, respectively, needed to commit terrorism. Krueger and Maleckova further find, in contrast to socioeconomic development, that civil liberties significantly and negatively affect terrorism. Similarly, Abadie's (2006) analysis of international and domestic terrorism finds that political rights are non-monotically related to terrorism risk; countries with intermediate levels of political rights are at an increased risk of terrorist events relative to high or low levels.

While these results appear to discourage a link between socioeconomics and terrorism, Krueger and Maleckova's work suffers from a number of flaws. First, all of their data pertains solely to the Middle East, severely limiting our ability to generalize to other regions. In addition, they provide a disclaimer about the quality of their data: "The data we present in this paper are often sketchy, incomplete and possibly nonrepresentative" (Krueger and Maleckova, 2003, p. 121). Finally, Krueger and Maleckova's empirical analysis applies strictly to international terrorism. As noted above, international and domestic terrorism may not originate from the same causes or pursue the same goals, thus likely limiting the generalization of international terrorism findings to the domestic counterpart. This issue is perhaps further compounded by the quality of Krueger and Maleckova's data.

Despite its limitations, Krueger and Maleckova's work spawned a number of similar attempts to refute a relationship between socioeconomics and terrorism. For instance, Abadie's (2006) analysis of the effect of political and economic variables on the risk of domestic and international terrorism similarly finds that income (in terms of GDP per capita) and the Human Development Index (HDI) are insignificantly related to terrorism. Piazza (2006, p. 160) further explores the association between socioeconomic development and terrorism, which he coins the "rooted-in-poverty hypothesis." He incorporates social cleavage theory, in which various forms of fractionalization in a country can generate multiple political parties, possibly creating instability and political violence. Piazza finds that social cleavage theory and political variables such as state repression are significantly, positively related to international terrorism, whereas socioeconomic variables such as unemployment, poverty, inequality, and malnutrition appear to have no relationship.

Finally, Krueger and Laitin's (2007) analysis of the determinants of terrorism provides further support of the belief that socioeconomic development does not decrease terrorism. Their analysis is also restricted to international terrorism. They utilize two datasets to disaggregate terrorist events by the country in which the event occurred, the target country of the event, and the country of citizenship of the attacker. Their findings indicate that illiteracy does not significantly affect interstate terrorism in either origin or target countries, whereas GDP per capita positively relates to terrorism in target countries; the latter finding on GDP per capita is in accordance with Abadie's (2006) assessment that international terrorism is often characterized by attacks on rich countries. In addition, a lack of civil liberties afflicts origin countries, as Krueger and Maleckova (2003) find. However, Krueger and Laitin offer little theoretical explanation as to why those who are politically repressed would attack rich foreign targets and conclude that the relationship between socioeconomic development and terrorism is, at best, indirect.

Development decreases terrorism

While the works cited above support Kruger and Maleckova's (2003) conclusion that political factors more than socioeconomic ones are the significant determinants of terrorism, other researchers maintain that socioeconomic factors are germane to terrorism discourse. Graham (2002, p.28) points out that the impact of economic development in terms of poverty and inequality alleviation on terrorism has been mixed, but seems to support the idea that international terrorist acts are firmly related to economic circumstances: "The challenge from international terrorism is, among other things, a wake-up call to concern ourselves with the fate of poor people in poor countries." Others have expressed a similar view that economic issues such as poverty, income inequality, and economic downturns are positively related to international terrorism (e.g. Drakos and Gofas 2004; Honaker 2004; Blomberg, Hess, and Weerapana 2004; Lai 2007; Blomberg and Hess 2008).

Like Graham (2002), Ehrlich and Liu note that foreign aid has often been utilized against terrorism due to the anticipated negative correlation between socioeconomic development and terrorism; thus, the relationship between socioeconomic development and terrorism is an important one to explore in terms of the potential impact on foreign aid flows. While they stress that socioeconomics are not the only factors they believe contribute to terrorism, Ehrlich and Liu expect that these factors play an important role in decreasing terrorist acts. Noting that terrorists often originate from developing nations, they compare developing to developed countries in terms of poverty, economic and gender inequality, education, public health, and other factors. They largely find that developing countries lag far behind the developed world in these indicators, indicating the potential value of socioeconomic factors in assessing the causes of terrorism.

Burgoon's (2006) analysis of the effect of social spending on terrorism also supports the idea that socioeconomic development can decrease terrorism. Burgoon finds, in accordance with Tyson (2001) and Wolfensohn (2002) that increased government spending on social welfare negatively affects

terrorism. Burgoon's results indicate that social welfare spending on health, education, and other public goods significantly reduces the total number of domestic and international terrorist attacks on a country's soil. Freytag et al. (2009) similarly find that government spending decreases terrorist attacks, though the magnitude of this effect differs by region. Theorizing that socioeconomic indicators function as proxies for opportunity costs, Freytag et al. also find a non-monotic effect for GDP per capita, indicating that intermediate economic development leaves states vulnerable to terrorist attacks originating on their soil.

Bueno de Mesquita's (2005) formal model of terrorist mobilization provides further support for the relevance of socioeconomic development to terrorism. He does not deny that terrorist organizations may attract persons of above-average income or intelligence, as Krueger and Maleckova's (2003) work suggests; instead, he maintains that terrorist organizations screen their pools of applicants for the highest quality recruits, which increases the likelihood of successful terrorist missions. However, Bueno de Mesquita qualifies this assertion with a note that while terrorist groups may screen applications, the effect of economic downturns is such that decreasing economic conditions encourage both desired (in terms of socioeconomic background) and undesired applicants for terror organizations, and the latter will outnumber the former. This process of mobilization and screening, he argues, accounts for Kruger and Maleckova's findings that terrorist groups often employ persons of high levels of wealth and education relative to the population.

Furthermore, Bueno de Mesquita's work raises an issue often debated in the terrorism literature. Bueno de Mesquita recalls, as do Krueger and Maleckova (2003) and Erhlich and Liu (2002), an oft-quoted statement by a Hamas leader:

> "Our biggest problem is the hordes of young men who beat on our doors, clamoring to be sent. It is difficult to select only a few. Those whom we turn away return again and again, pestering us, pleading to be accepted" (Hassan 2001, as cited in Bueno de Mesquita 2005, p. 515).

This quote and similar ones made to the media or researchers have often been used, as Krueger and Maleckova do, to indicate that terrorist groups are often comprised not of the most downtrodden individuals in society, but eager recruits from various backgrounds chosen for their talents and zealousness. The statement also ostensibly demonstrates that the terrorist organization in question is well-supplied with recruits and is operationally secure. Krueger and Maleckova use this quote to bolster support for their findings that education and poverty are generally unrelated or even positively related to terrorism, while Bueno de Mesquita utilizes the quote for his proposition that terrorist groups screen potential recruits. However, as Smelser (2007) notes, terrorist organizations and leaders have any number of incentives to misrepresent themselves or lie to anyone requesting information about their organization. A terrorist organization would almost certainly wish to be portrayed as viable, popular among potential recruits, and staffed with persons of above-average intelligence, commitment, and operational talents such as language, regardless of whether this portrayal approaches truth.

Both Kruger and Maleckova (2003) and Bueno de Mesquita (2005) also mention another mechanism which would facilitate "elite" recruitment in terrorist organizations – the Robin Hood effect, as coined by Kruger and Maleckova. This effect describes the process in which individuals of above-average socioeconomic status relative to their society of origin become terrorists in the name of their downtrodden brethren; these are, paradoxically, altruistic terrorists in a sense, though one could argue that those who believe the current environment will detrimentally affect that of the near future could be working to maximize future gains and thus personal utility. Nevertheless, the Robin Hood effect is theoretically appealing yet empirically elusive; without extensive survey data on terrorist motivations (which would almost inevitably be plagued by the bias issues mentioned above), empirical support for the Robin Hood effect remains ambiguous, though researchers such as Bueno de Mesquita and Ehrlich and Liu (2002) maintain that it has theoretical relevance. If the effect is applicable, findings such as

those produced by Kruger and Maleckova could lose much of their weight; depressed socioeconomic conditions could then increase terrorism as well as the quality of terrorists.

Given the theoretical and empirical evidence on terrorism discussed thus far, one can scarcely say that researchers have reached a consensus on its roots. Further complicating the issue of terrorism is the fact that the phenomenon must be distinguished yet again between suicide and non-suicide terrorism. This distinction in method as well as the spectacular media attention accorded to suicide terrorism has led to discussion among researchers about the possibility of divergent causes for suicide and non-suicide terrorism. However, as with research on non-suicide terrorism, both international and domestic, scholars are divided on the potential motives for suicide terrorism.

Suicide Terrorism

Defining suicide terrorism

The definition of suicide terrorism, relative to its non-suicide counterpart, appears to be a less complex issue. Pape (2003, p.345), one of the leading researchers on suicide terrorism, notes that, "What distinguishes a suicide terrorist is that the attacker does not expect to survive a mission and often employs a method of attack that requires the attacker's death in order to succeed." As with non-suicide terrorism, suicide attacks are characterized by political goals, civilian casualties, inferior strength relative to targets, terrorist cells as opposed to isolated individuals, wider intended audiences than those immediately affected, and media attention (Pape 2003). Just as terrorist groups often evolve from domestic to international terrorism, Pape notes that suicide terrorism almost always evolves from non-suicide events. Similarly, Piazza (2008) states that groups that employ suicide terrorism always do so in conjunction with non-suicide attacks. Relative to non-suicide terrorism, suicide terrorism results in far greater numbers of casualties and is increasingly used by terrorist organizations, though non-suicide events still vastly outnumber suicide attacks (Pape 2003; Piazza 2008). Suicide terrorists, according to Pape and especially Atran (2003), are not the irrational individuals many have believed; instead, their

actions result from strategic thought about the utility of sacrificing themselves in the pursuit of a political goal.

Causes of suicide terrorism

As noted above, scholars disagree on the relationship of suicide terrorism to its non-suicide counterpart in terms of root causes; Pape (2003) and Wade and Reiter (2007) argue that the causes of suicide terrorism are distinct from non-suicide terrorism due to the former's requirement of self-sacrifice and superior success rates in terms of casualties. Crenshaw (1981) and Moghadam (2006), however, dispute this notion by arguing that suicide terrorism is an extension of non-suicide, or "ordinary," terrorism and thus likely originates through similar channels (Moghadam 2005, p. 6).

Despite this disagreement regarding the causes of suicide relative to non-suicide terrorism, many scholars can agree that suicide attacks represent an extreme commitment to a cause. Atran (2003, p. 1534) maintains that an organization's suicide terrorists, "willfully commit to die spectacularly for one another and for what is perceived as the common goals of alleviating the community's onerous political and social realities." Similarly, Hoffman and McCormick (2004) interpret suicide terrorism through the frame of signaling, in which suicide attacks are costly signals meant to convey determination and commitment. Piazza (2008) further argues that suicide terrorism reveals a sense of desperation on the part of the terrorist organization as well as a lack of conventional avenues for achieving goals. el-Sarraj (2005, as cited in Moghadam 2005, p. 17) eloquently captures these ideas with his statement that, "Politically, suicide bombing is an act of absolute despair."

In evaluating theoretical causes of suicide terrorism, Moghadam (2005) makes the excellent point that three different levels of analysis must be explored to account, as fully as possible, for the potential roots of suicide terrorism. The first level focuses on individual motivations for agreeing to sacrifice one's life for a political cause, and this level often involves psychological explanations for such conduct. The second level involves analysis of terrorist groups that perpetrate suicide terrorism; this

level of analysis often invokes explanations related to the utility of suicide attacks for the group's success. Finally, the third level, which Moghadam notes directly influences the first and second levels, concerns the environmental context in which suicide terrorism occurs; these environmental factors, Piazza (2008) states, can include foreign occupation; economic and social development (or lack thereof); diversity in terms of ethnicity, religion, culture, language, etc; competition among terrorist groups for power and influence; particular religious influences among the majority of a state's population; and a diverse array of other factors related to the characteristics of the target of terrorism. Moghadam's three levels of analysis correspond closely to Ross's (1993) psychological, rational choice, and structural causes of terrorism; the individual level of analysis can incorporate psychological and rational choice theories, while the organizational level is well-suited for rational choice models. The environmental level is best approached with structural theories of terrorism. These three levels of analysis can also apply to non-suicide terrorism and are important for disaggregating potential determinants of terrorism by level of analysis. Though Moghadam argues that all three levels are essential to research that aims to unearth definitively the roots of terrorist events, he also concedes that analyses focused on only one level can and have contributed meaningfully to the literature.

Development and suicide terrorism

Though works on the causes of terrorism have focused intermittently on the first and second levels, others explore the impact of the third, or environmental, level on suicide and non-suicide terrorism. In many ways, works studying each of these levels of analyses reflect the divide among non-suicide terrorism researchers on the impact of socioeconomic factors on terrorism. Pape (2005, p. 19), one of the most influential researchers on suicide attacks, firmly establishes his opinion on the impact of socioeconomics as a structural explanation with his statement, "Poverty remains a poor indicator of suicide terrorism." In accordance with Krueger and Maleckova's (2003) findings for non-suicide terrorism, Piazza (2008) finds that literacy and GDP per capita are positively related to domestic and

international suicide terrorism. Wade and Reiter (2007) also find that economic development in terms of energy consumption per capita positively affects the likelihood of suicide attacks. Instead of socioeconomic factors, some find occupation to be a significant predictor of suicide attacks (Pape 2005; Piazza 2008). Similar to arguments made above by non-suicide terrorism researchers, some suicide terrorism scholars assert that in contrast to socioeconomic issues, civil liberties and regime type significantly relate to suicide attacks, while others argue that these political factors do not influence suicide terrorism (Atran 2004; Mollica and Dingley 2007; Pape 2003; Wade and Reiter 2007).

Atran (2003) supports Pape's view that poverty is unrelated to suicide terrorism. Instead, Atran argues, suicide terrorists are likely to have relatively similar educational and economic backgrounds as the surrounding population, a trend some researchers have also observed among non-suicide terrorists, as noted above. However, Atran qualifies this statement by arguing that educated persons who experience a loss in economic or social status may turn to suicide terrorism; thus underemployment may positively affect suicide terrorism. Harrison (2003) makes a similar statement regarding education levels of suicide terrorists; he maintains that people who strive and fail to achieve expected levels of education and employment may be likely to express their frustrations through suicide attacks. Harrison (2003, p. 3) argues that suicide terrorism may reflect "pervasive oppressions and social restrictions that affects not only minority communities that suffer discrimination or a [sic] element of siege, but also family structure within these communities and specifically the options open to young people of either sex within them," seemingly invoking issues of socioeconomic, political, and other grievances. Sprinzak (2000) also provides some evidence that suicide terrorists hail from disadvantaged backgrounds; he states that terrorists from groups such as the Kurdistan Workers' Party (PKK), Hamas, and the Liberation Tigers of Tamil Eelam (LITE) were often unemployed and had humble social backgrounds.

In contrast, Hoffman (2003) states that evidence indicates that well-educated individuals often comprise Hamas' leadership; however, he also argues that suicide terrorists need not be sophisticated

to complete their tasks. Hoffman's (Shaked n.d., as cited in Hoffman 2003, p. 2-3) source for this information further states that, "This is a movement not of poor, miserable people but of highly educated people who are using [the image of] poverty to make the movement more powerful." However, terrorist group leaders likely differ socioeconomically from the rank-and-file members of the organization. For instance, Atran (2003, p. 1535) describes terrorist group leaders as "charismatic," and Bueno de Mesquita (2005) provides a compelling argument that though terrorist groups try to screen for the best-educated and capable recruits, the uneducated and poor likely comprise the majority of the applicant pool. Shaked's statement, however, seems to provide a measure of evidence that the Robin Hood effect discussed above may motivate suicide as well as non-suicide terrorism. Azam (2005, p.178) formally models the potential impact of the Robin Hood effect on the likelihood of suicide attacks and asserts that suicide terrorism is "an extreme form of saving" in which altruistic individuals sacrifice themselves to ensure the continued provision of public goods for future generations. He argues that high levels of education enhance this effect by allowing well-educated individuals to perceive the need to preserve the welfare of future generations and thus overwhelm the otherwise deterrent effects of both education and wealth.

Given Azam's analysis, suicide attackers in essence believe their expected utility to increase in death. This notion seems to be supported by the post-attack payments often made to attackers' families (Krueger and Maleckova 2003; Sprinzak 2000; Pape 2005; Moghadam 2005). One could argue that the suicide terrorist's utility increases two-fold in death. If economically disadvantaged, a suicide attack could bring potentially substantial material gain to one's family.[2] In addition, self-sacrifice for a political cause indicates that one has given all that he or she can in the pursuit of goals; thus, the suicide attacker believes he will accrue expected benefits to one's organization through costly signaling and contribute to the eventual achievement of political goals. Given this two-pronged view of the results of

[2] Krueger and Maleckova note some terrorist organizations may have paid up to $25,000 for past attacks.

the phenomenon, socioeconomic grievances could ostensibly drive suicide terrorism, though the terrorist himself may not lack education or suffer from poverty.

While the self-sacrificial aspect of suicide terrorism distinguishes it from non-suicide terrorism, a review of the literature does not seem to definitively discount the concept that the two forms of terrorism could arise from similar conditions. For instance, scholars provide evidence both for and against the relationship of socioeconomic development to non-suicide as well as suicide terrorism, with little consensus reached on the issues. These socioeconomic factors, such as gross domestic product (GDP) per capita and education, could invoke issues of both grievances and state capacity as discussed below. The literature on greed and grievances and state capacity influences studies on domestic terrorism as well.

Though domestic terrorism differs in certain aspects from other types of civil conflict, scholars frequently associate issues linked to state capacity, greed, and grievances with terrorist activity. Ross (1993, p. 325) argues that, "Grievances, both actual and perceived, putative and general, are hypothesized to be the most important variable," in terms of the causes of terrorism. Others have also posited that grievances can result in terrorism (Hamilton 1978; Crenshaw 1981; Gurr 1990). Types of grievances can include economic, political, ethnic, and social among others (Ross 1993). Abadie (2006, p. 50) notes that, "Because terrorism is a manifestation of political conflict…poverty and adverse economic conditions may play an important role explaining terrorism." Gurr (1970) asserts that terrorism can be categorized along with other types of civil conflict such as guerrilla warfare and coups d'etat, thus indicating domestic terrorism as well as the relevance of civil conflict roots to terrorism. Similarly, Boulden (2009, p. 18) argues that "domestic terrorism tends to be dealt with as part and parcel of the civil war environment," and that civil wars can serve as preconditions or precipitants of terrorism. Sambanis (2008) concurs that terrorism typically occurs in states with histories of civil war.

Collier (2003) also says that in terms of opportunity, civil wars often provide sanctuaries for terrorists, who use illegal goods produced by the war for financing.

Greed/Grievances and Civil Conflict

Authors frequently link issues of grievances and state capacity to civil conflict, and since some authors argue that domestic terrorism closely relates to civil conflict, grievances and state capacity likely strongly influence domestic terrorism as well; this argument requires an overview of these literatures. One of the most popular subsets of the civil conflict literature concerns the impact of "greed" and "grievances" on rebel groups' incentives to engage the state in conflict. The greed theory argues that civil conflict occurs when rebel groups take advantage of the opportunity to form and function; such opportunities could include natural resource extractions, un-policed terrain, and foreign support (Fearon and Laitin 2003; Murshed and Tadjoeddin 2009) Grievance theorists maintain that rebel groups initiate conflict due to grievances with the state, such as ethnic dominance, income inequality, and political repression (Sen 1973; Collier and Hoeffler 2004). The long history of greed and grievances in political science has generated numerous variations on these two theories and their potential relationships with civil conflict. Relative deprivation is considered a variant of the grievance literature and argues that rebellion is generated when citizens perceive a gap between their expectations of living conditions and reality (Gurr 1970; Brush 1996).

A related strain of the grievance literature states that inequality, bred of structural inequality in terms of land or other goods distributions, motivates civil conflict (Russett 1964; Midlarski 1988). Hirschman and Rothschild (1973) explain that violence stemming from inequality can approximate a traffic jam; if, after two lanes have remained stalled for some time, one lane begins moving, both lanes feel a measure of hope for the future. However, if one lane remains stalled long after the other begins moving, that lane's drivers develop anger and may resort to illegal measures to recoup losses and gain justice. Stewart (2000) notes differences between horizontal inequality and vertical inequality, in which

the former defines differences between groups and the latter indicates class differences in ethnically homogenous societies. Other researchers have argued that greed is the determining factor of rebellion; according to this literature, rebels act as criminals motivated by economic gain (Grossman 1999; Collier and Hoeffler 2004).

Collier and Hoeffler's (2004) seminal work regarding greed and grievances explains that though rebel groups likely require both opportunity (greed) and grievances to take the drastic step of conflict with the state, the two theories are not necessarily equally weighted in their influence. The authors offer several proxies of both greed and grievances, and their empirical results indicate that greed models do perform better than grievance models, though a greed model that incorporates robust grievance variables (i.e. ethnic dominance) performs best. Interestingly, the authors note that certain indicators could function as both greed and grievance proxies; for instance, although Collier and Hoeffler use low forgone income as a proxy for opportunity to engage in rebel activity, low income could also signify a grievance. In an interesting contrast, Thyne (2006) studies the role of education in affecting civil war; while Collier and Hoeffler categorize male secondary school enrollment as a greed proxy that signifies abnormally low forgone income, Thyne argues that male enrollment represents a potential grievance. Thyne asserts that low enrollment indicates poor state investment in education, which limits social cohesion, equality, employment, life expectancy, and other human development factors. Of greatest import to my argument is Thyne's finding that male enrollment does significantly relate to civil conflict onset; given Collier and Hoeffler's evidence that the same variable, utilized as a proxy for greed in their study, is significantly linked to conflict, the true role of male enrollment in generating civil conflict seems as yet unknown.

Similar to Collier and Hoffler, Fearon and Laitin's (2003) influential work on insurgency indicates their preference for opportunity explanations for insurgent activity as opposed to grievance. Though they note that civil conflicts are likely to produce grievances, Fearon and Laitin maintain that their

empirical results demonstrate the superior explanatory power of opportunities, particularly weak state capacity, as opposed to broadly-held grievances as conditions favoring the onset of insurgency.

Other authors argue that grievances are more influential than greed in motivating civil conflict. Regan and Norton (2005) provide a compelling explanation of the innate distinctions between relative deprivation and inequality as grievances, and their findings provide support to the theoretical notion that these grievance nuances affect rebellion. The authors note that, "Resource distribution–as indicated by the extent of political discrimination–is one of the strongest predictors of the onset of violent forms of antistate activity" (Regan and Norton, 2005, p. 333). Furthermore, Regan and Norton note that exploitable resources such as diamonds and opiates lack the relationship with civil conflict typically posited by greed theorists. Instead, Regan and Norton suggest that easily extractable resources may aid in the funding of ongoing civil conflicts, rather than onset.

Murshed and Tadjoeddin (2009) also express skepticism of pure or even majority greed motives in civil conflict; they argue that though greed may play a role in sustaining civil conflict, grievances likely play a larger role in causing such conflicts, as Regan and Norton (2005) assert. Like Collier and Hoeffler (2004), Murshed and Tadjoeddin feel that greed and grievance are likely complimentary, rather than competitive, schools of thought. Furthermore, Murshed and Tadjoeddin (2009, p. 108) express their belief that "Neither the presence of greed or grievance is sufficient for the outbreak of violent conflict, something which requires institutional breakdown which we describe as the failure of the social contract." The authors assert that the state's failure to maintain its social contract with citizens (often manifested as widespread poverty) underlies the conclusions of greed theorists and creates the collective action, based on grievances, needed to generate conflict. Thus, the greed and grievances literature can intertwine closely with the state capacity literature, which further describes the unique role the state plays in causing or preventing civil conflict.

State Capacity and Civil Conflict

The state capacity literature can be thought of as a complement to the greed and grievance literature regarding civil conflict, and thus I also review this literature for connections to domestic terrorism. While the greed and grievance literature primarily investigates the motives of rebels in engaging in conflict, the state capacity literature examines the role of the state in the onset, duration, and outcome of such conflicts. Many scholars share the idea that civil conflict is a function of state capacity, defined as the ability of the government to effectively control the population, activities, and resources under its auspices (Tilly 2003). The conclusion Regan and Norton (2005) reach regarding the role of the state in producing conflict is one shared by Fearon and Laitin (2003) concerning insurgency. Fearon and Laitin attribute insurgency to weak state capacity, as indicated by poverty, instability, and large state size; the authors argue that these factors result in a government incapable of strong, comprehensive administration or financing, thus providing breeding grounds for insurgents.

Fearon (2005), Humphreys (2005), and de Soysa and Neumayer (2007), concur with Murshed and Tadjoeddin's (2009) statement that the relationship between natural resources and civil conflict may actually demonstrate a relationship between weak state capacity and civil conflict; often states that rely heavily on natural resource extracts, particularly oil, fail to develop a strong bureaucracy, including extensive tax systems and public goods (Fearon 2005). Such failure to develop a strong administration leaves the state vulnerable to rebellious movements, especially during times of economic hardship (Fearon and Laitin 2003). Hegre et al. (2001) and Mueller and Weede (1990) find that civil war is most common among transitioning states and anocracies rather than stable democracies or autocracies due to the inherently weak capacity of these states; established democracies likely provide greater opportunities for peaceful airing of grievances, while strong autocracies use repression to silence protest. Buhaug (2006) notes that while grievances may prompt groups to rebel, the degree of state capacity can determine the type of conflict initiated. Specifically, weak states in terms of stability, economic capacity, and resource dependence experience higher rates of coups and revolutions as

opposed to strong governments, which typically experience more threats of secession. Buhaug further finds that population size and ethnic fractionalization are only related to secessionist conflicts, while the relationship between regime type and civil conflict posited by Hegre et al. (2001) is sustained only for non-secessionist conflicts.

Finally, Fjelde and de Soysa (2009) refine the state capacity literature by distinguishing the various measures used to approximate state capacity into three main pathways: coercion, co-optation, and cooperation. They find, in accordance with Thyne (2006), Levi (2006), Buhaug (2006), and Azam (2001), that co-optation, in the form of government spending for the purpose of the provision of public goods, is significantly related to civil peace. Thus, their findings indicate that strong state capacity in terms of public spending pacifies the population, leading to fewer outbreaks of conflict; furthermore, their argument regarding co-optation is closely aligned with the grievances arguments discussed above, in which government provision of public goods soothes public grievances, leading to peace.

A review of the literature reveals close relationships between greed and grievances as well as state capacity and the risk of civil conflict. As noted above, state capacity has been posited as the intervening factor in the supposed relationship between greed and civil conflict. In addition, a strong, effective government can reduce grievances among the population through investment in public goods, diminishing the risk of civil conflict. Consequently, domestic terrorism closely relates to civil conflict issues such as grievances and state capacity, particularly in terms of socioeconomic issues.

In addition, one issue that has received limited attention in the terrorism literature in terms of structural explanations but that has demonstrated a relationship with both intra- and interstate conflict is gender inequality in terms of socioeconomic development. Socioeconomic gender inequality can invoke issues of state capacity and grievances as well. As Coleman (2004, p. 82) notes, “Gender disparities hit women and girls the hardest, but ultimately all of society pays a price for them.” Correspondingly, the opening quote of this paper, according to Coleman (2004, p. 90-91), reflects the

fact that, “As GNP plunged from $25,000 in 1984 to roughly $8,500 today, more Saudis are wondering why half the country’s human capital should be so severely handicapped.”

Gender Inequality and Conflict

The terrorism literature largely veils references to a gender gap in the context of possible motivations for female suicide bombers (O’Rourke 2009). Some scholars posit that females join terrorist organizations and volunteer for suicide missions in order to bring about more equitable state policies in terms of gender (Caizza 2001; Von Knop 2007); this theory of course recalls Azam’s (2005) theory regarding the altruistic suicide terrorist and centers on psychological explanations for terrorism. Others dismiss the idea of feminist motivations for female suicide bombers, instead naming numerous other individual-level incentives for committing such acts (Bloom 2005; Ness 2005).

Despite the uncertainty of the relevance of gender equality to female suicide terrorists, others assert that gender gaps are associated with both international and civil conflict, thus providing other potential pathways from gender inequality to terrorism. Caprioli (2000), Caprioli and Boyer (2001), and Regan and Paskeviciute (2003) find that measures of gender inequality are positively linked to international conflict. Using fertility rates and female political participation as proxies for gender discrimination disfavoring women, Caprioli (2000) argues that women can promote international peace through either biological or constructivist concepts or theory relating domestic inequality to international violence. The biologically-based theory asserts that women are biologically predisposed to peace through maternal capabilities and instincts, thus predicting that increased female political representation will reduce international violence. Women are also thought to reduce international violence through socially-constructed gender roles, which condition them to take on roles as caretakers and peacemakers. Both of these theories, Caprioli states, indicate that equal inclusion of women in social, economic, and political spheres will promote international peace. Finally, Caprioli notes that domestic inequalities of all natures, but especially gender, are thought to influence militaristic decisions

in the international arena. She asserts that her finding of a positive relationship between interstate conflict and gender inequality is particularly supportive of the domestic-international inequality theory, though such a finding could also indicate support of either the biological or constructivist theories.

The relationship between gender gaps and conflict also applies to intrastate conflict, according to studies conducted by Caprioli (2005), Melander (2005), and Bussman (2007). Melander's work largely utilizes Caprioli's linkage of biological and constructivist arguments to gender gaps to explain his finding that gender inequality in terms of political, social, and economic status increases civil conflict. He uses female state leadership, percentage of female parliament members, and the ratio of male-to-female education level to proxy gender inequality, finding that while female leadership is insignificant, increased female parliamentary participation and a narrowing gender gap in education significantly and negatively relate to the level of civil conflict. Using the same proxies for gender inequality as in her work on international conflict, Caprioli (2005) finds that gender inequality increases the risk of intrastate conflict onset. Additionally, Caprioli finds that increasing differences between male and female secondary school enrollment also positively relates to civil conflict. She posits that gender equality on all levels is a precursor to structural inequality, which is characterized by norms of violence. Also, structural inequality facilitates ethnic rebellion, which is mobilized by calls to strict, mutually exclusive gender roles reinforcing the inferiority of women to men. These, Caprioli asserts, are the pathways from gender inequality to intrastate conflict.

Bussman (2007) offers a different perspective of the nature of the link between gender inequality and civil conflict. She asserts that narrowing gender gaps in political, social, economic, and health indicators may directly reduce civil conflict or indirectly promote peace through increasing good governance and development. Other authors also link gender inequality to low overall development and reduced economic growth. Caizza (2001, p. 2), for example, argues that, "Across the globe, when women have more rights and equality, national standards of living also rise–life expectancy is higher,

incomes and education levels are higher, and birthrates are lower." Coleman (2004, p. 80-81) states that reductions in gender gaps "have benefitted society at large, improving living standards, increasing social entrepreneurship, and attracting foreign direct investment." Improvements in women's education also lead to lower fertility and child mortality rates and higher rates of women's income (Klaus 2000; Coleman 2004). Microfinance devoted to women also benefits the general society and promotes development because women tend to use microfinance opportunities to invest in their families and communities rather than themselves (Coleman 2004). Coleman points out that those world regions that have achieved the greatest gains in gender equality in education have also experienced the greatest economic and social growth. Similarly, Klasen (2002) finds that gender inequality in education and employment reduces economic growth, while Hill and King (1995) find that low female-to-male school enrollment ratios also lead to lower levels of GDP per capita. Though I study the direct effect of gender inequality on terrorism, these studies suggest that gender inequality may also indirectly affect terrorism through decreases in development and economic growth, presenting an interesting avenue for future research.

Bussman (2007, p. 1) also asserts that inclusion of women in education and employment increases competition, thus "as a result of the competitive environment corruption and rent-seeking is inhibited improving the quality of governance." Empirically, Bussman finds that increases in female life expectancy, literacy, and education directly reduce the risk of civil conflict onset. When controlling for GDP per capita, female labor participation significantly and negatively affects conflict onset. Finally, Bussman finds that female political participation indirectly reduces civil conflict through promotion of good governance and development. Thus, according to Caprioli (2005), Melander (2005), and Bussman (2007), gender inequality effectively increases civil conflict onset and intensity, though as Melander notes, the exact causal pathway from gender inequality to conflict is still unclear.

While the evidence cited above regarding gender equality and conflict reduction on both domestic and international fronts does not fully reflect the relationship gender inequality may have with terrorism, one can argue that the finding of a positive relationship between gender inequality and civil conflict demonstrates the relevance of such studies to terrorism. However, I argue that the link between gender gaps and terrorism is not necessarily indicative of the biological or constructivist theories of women's nature as proposed by Caprioli (2005) and Melander (2005), since these arguments seem complicated by normative issues associated with notions of gender; both the biological and constructivist arguments essentially assert that across the world, women are peaceful and men are violent, categorizations that seem to hinge on stereotypical speculations rather than comprehensive individual or state-level research into the dispositions of either gender. Bussman's (2007) assertion that certain proxies of gender inequality indirectly influence conflict through good governance and development is more persuasive, but she provides little explanation for the more intriguing findings of direct relationships between other proxies and conflict reduction. Bussman (2007, p. 1) states that, "The results of the present study support the notion that improving the situation for women with regard to more political representation, economic participation, better access to health and education improves state capacity and good governance." This statement invokes one of the key concepts I use to formulate my argument on the association between gender inequality and terrorism: state capacity.

Gender Inequality and Terrorism

I study a structural explanation of terrorism such as gender inequality for two reasons. First, as Ross (1993) notes, structural models of terrorism are easier to test than psychological or rational choice models – structural models utilize country-level data that is more available and reliable than the individual or group-level data required of psychological or rational choice models. The second, and perhaps most important, reason is that structural explanations for terrorism may be easier to address policy-wise than other types of explanations – for instance, the state can more easily modify social spending and legislation than individual psychologies and organizational tactics.

I explore gender inequality as opposed to other possible forms of inequality because I feel that gender inequality represents the broadest form of discrimination in a given society; males and females each comprise roughly half the population in every state, and therefore gender discrimination effectively handicaps half the society's human capital. While other types of inequality such as ethnic and religious discrimination also likely affect terrorism, I argue that gender inequality represents the largest of such possible forms of discrimination and is therefore most likely to affect terrorism directly.

Given the evidence cited above that both grievances and state capacity affect civil conflict as well as the evidence that terrorism stems from desire to enact change due to socioeconomic grievances and altruism, I argue that gender inequality spawns terrorist attacks through both weak state capacity and grievances. I argue that gender parity can function as a public good; as noted above, gender equality leads to overall development in states and promotes good governance. Gender inequality, however, displays indifference to or oppression of roughly half a state's population, stunting growth and good governance and, more directly, signifying state illegitimacy. Similar to Hirschman's (1973) analogy of inequality and stalled traffic, if one gender develops disproportionately, the dire ramifications of such unequal development could propel a society into violent action against the entity thought to allow such disparate growth. By failing to provide gender equality, which contributes to the well-being not only of

the gender experiencing discrimination but also the entire population, the state signals a lack of care regarding its citizens' welfare and therefore loses legitimacy. Gender inequality in socioeconomic indicators particularly aggravates grievances, hinders development, and demonstrates weak state capacity, given the state's ability to directly influence many aspects of socioeconomic welfare through legislation, social spending, and other government initiatives. Failure to maintain gender equality thus represents the state's failure to provide a public good. Such broad discrimination as gender inequality demonstrates illegitimacy, creating the perception of weak state capacity and generating widespread grievances among the population.

These grievances suggest that terrorism created by gender inequality is generated not only by the gender directly handicapped, but also by the society in general. The fact that gender inequality burdens society as a whole can account for the varied socioeconomic backgrounds of terrorists –both genders and citizens of all backgrounds can recognize a state's capacity or lack thereof to provide equally for its citizens, thus invoking both the Robin Hood effect as well as the notion of the altruistic terrorist. Essentially, the state's inability or disinclination to provide for the equitable welfare of its citizens signifies illegitimacy as a manifestation of weak state capacity and results in widespread grievances among the population; citizens then turn to terrorism to protest the state's illegitimacy and enact change. As Ross (1993) notes, addressing the structural causes of terrorism such as gender inequality should reduce the risk of experiencing such acts. Thus, the state's continued provision of gender parity as a public good should reduce grievances, enhance the perception of strong state capacity, and therefore deter domestic terrorist acts.

In order to study the potential relationship between socioeconomic gender inequality and terrorism in terms of structural causes related to state capacity and grievances, I analyze gender inequality among socioeconomic indicators thought to influence terrorism. While there are several possible socioeconomic indicators to explore in reference to terrorism, I choose to study gender

inequality in terms of education, labor participation, and life expectancy. Each of these indicators is important at both individual and state levels. All improve the human experience and allow for both greater individual opportunities and contributions to national development. Education improves intellectual capacity, individual decision-making, and the ability to contribute to society through gainful employment. Labor participation allows for individual and family care as well as contributions to the national economy by improving productivity. Life expectancy reflects both individual and national health conditions and affects the ability to contribute to society by gaining education and employment. The state is uniquely positioned to enhance each of these indicators through social spending, welfare programs, legislation, and other government-directed initiatives in broad enough strokes as to influence the general population. Therefore, the state assumes the predominant responsibility in guiding the educational, health, and economic welfare of the majority of its citizens and thus is also the predominant recipient of resentment when it does not provide benefits at relatively equal rates for both genders, since such discrimination reflects poor state capacity and illegitimacy, leading to widespread grievances. In addition, people of age to commit terrorist attacks are the ones most likely to develop grievances based on gender inequality among these socioeconomic indicators.

Due to the nature of the theoretical arguments developed above and the heretofore poor representation of domestic relative to international terrorism analyses in the literature, I restrict my analysis to domestic terrorism. In addition, given that terrorist groups often evolve from domestic to international terrorism, I feel that an analysis that closely examines the origins of domestic terrorist activities could uniquely inform the international terrorism roots literature as well[3].

Furthermore, in contrast to some research noted above, I argue that the gender gap can explain the use of suicide as well as non-suicide domestic terrorist attacks through the causal mechanisms of state capacity and grievances. Some scholars argue that suicide terrorism is, rather than a unique

[3]See Addison and Murshed (2002) for further discussion of the spillover of domestic to international terrorism.

phenomenon, an extreme augmentation of non-suicide terrorism used during times of desperation to signal a fierce sense of commitment to a political cause. Consequently, the same causes that contribute to non-suicide domestic terrorism are also likely to drive suicide terrorism. I concur with Moghadam (2006) and Crenshaw (1981) that suicide terrorism is an extension of non-suicide terrorism, rather than a uniquely-occurring event. Therefore, I argue that though suicide terrorism reflects a greater magnitude of commitment to a cause through self-sacrifice, suicide and non-suicide terrorism share similar causes. As such, I expect that socioeconomic gender inequality increases not only non-suicide but also suicide terrorist attacks, through the same causal mechanisms of weak state capacity and widespread grievances. Therefore, I expect that increases in socioeconomic gender inequality will provoke suicide as well as non-suicide terrorism, as the state demonstrates its illegitimacy through its inability or unwillingness to see to the needs of the population equitably, and such weak state capacity generates widespread grievances.

Thus, my hypotheses are as follows:

Hypothesis 1: Large gender gaps in education will increase the risk of non-suicide, suicide, and total domestic terrorist attacks.

Hypothesis 2: Large gender gaps in labor participation will increase the risk of non-suicide, suicide, and total domestic terrorist attacks.

Hypothesis 3: Large gender gaps in life expectancy will increase the risk of non-suicide, suicide, and total domestic terrorist attacks.

Data and Methods

In order to assess the risk of terrorist attacks, I employ logistic and zero-inflated negative binomial (ZINB) regressions in Stata 10 with the country-year as the unit of analysis. I run all of the models with robust standard errors clustered by country-code to account for heteroskedasticity (Chen, Ender, Mitchell, and Wells 2003). Given the unique nature of terrorism data, typically over-dispersed count data with non-negative integers, many researchers utilize negative binomial or Poisson models to evaluate the number of terrorist attacks (Krueger and Maleckova 2003; Krueger and Laitin 2007; Freytag et al. 2009). I use logistic regression as the first step in determining the effect of gender inequality on the overall risk of terrorism; however, given that terrorism data also present many observations of zeros which are likely to have different causes, I also employ ZINB regression, which Burgoon (2006) and Wade and Reiter (2007) utilize as well in their studies on terrorism.

Using ZINB, one essentially predicts that there are two distinct groups of "zeros"; one group of zeros that experiences conditions thought to cause terrorism, but does not experience it, and one group that is virtually always a zero group because they do not exhibit conditions thought to influence terrorism. This type of regression presents two different sets of estimates; the first stage is a logit model that predicts the probability of remaining in the "always zero" group, or never experiencing the dependent variable, while the second stage is a negative binomial model that estimates the effect on the count of the dependent variable. As such, the signs for coefficients should differ between the two stages if the coefficients are significant –for instance, if a variable exhibits a positive, significant coefficient in the logit stage, the same variable's coefficient should be negative and significant or positive and insignificant in the negative binomial stage. If the coefficients for a variable are significant and the signs are the same for both stages of the ZINB model, there is a problem with the data or the model's specification, since this indicates that a variable has a paradoxical influence on the dependent variable. In addition, the first set of logistic regressions I use predicts the probability of experiencing

terrorism, while the logit stages of the ZINB models predict the probability of never experiencing terrorism – therefore, the signs of significant coefficients should also differ between these two models.

In addition, ZINB regressions give a Vuong Test option, which indicates whether ZINB is preferable to standard negative binomial regression for the given model (Greene 1994). Each of the models tested below present significant Vuong statistics, indicating the superior suitability of ZINB; therefore, I use ZINB rather than standard negative binomial regressions to analyze the risk of terrorist activities, which represents a more refined logit model due to the assumption of different causes for zeros. Non-suicide and suicide terrorism have a correlation of .85, which indicates both that non-suicide and suicide attacks often occur jointly and that causes for both forms of terrorism may be similar across most cases, as Crenshaw (1981) and Moghadam (2005, 2006) suggest. Summary statistics and a correlation matrix for the independent and control variables are reported in the Appendix.

Due to terrorism data limitations, the temporal span for the total terrorism and non-suicide terrorism models ranges from 1998-2009, while the suicide terrorism models include years 1999-2009. The models cover 143 countries. While a longer time span for all of the models would be best in terms of generalizability and possible policy implications derived from the data, the quality of terrorism data is generally poor with most datasets (Piazza 2008). Abadie (2006, p. 51) notes the limitations of "quality and adequacy of available data on terrorist casualties and incidents," and Wade and Reiter (2007) argue that empirical studies of suicide terrorism are still in early stages. Piazza (2008) states that suicide attacks comprise just over 3% of the total number of domestic terrorist attacks from 1968-2005. During same time period, nearly 7% of terror groups used suicide tactics, and all of these also used non-suicide attacks. Wade and Reiter (2007) state that international suicide terrorism occurs in only 2% of the country years in their study ranging from 1980-2003. In the RDWTI dataset used here, suicide attacks account for less than 5% of total domestic terrorist events. According to the RDWTI dataset, there were less than thirty total non-suicide domestic terrorist attacks prior to 1998, whereas from 1998 there was

a maximum of no less than 100 observations per year. This is not surprising, since the dataset is the result of a merger between an international terrorism dataset and a domestic dataset that only began recording incidents in 1998; however, domestic cases prior to 1998 have begun to be recorded (RAND Corporation 2010). Setting the time frame to 1998-2009 for total terrorism and non-suicide terrorism thus incorporates the vast majority of available cases, and the limited time span has precedent in other terrorism studies (Abadie 2006; Piazza 2008). The limitations of this time frame in terms of policy implications are discussed further in the concluding section.

In addition, RDWTI lists no domestic suicide terrorist attacks before 1998 and only three attacks total in 1998. Given that ZINB regressions with education inequality as the explanatory variable require an inordinate number of iterations for the years 1998-2009, I have pushed the time frame forward by one year for all of the suicide models to 1999-2009. As with non-suicide attacks, this time frame also incorporates the vast majority of suicide attack observations, and the limitations of this time span will be discussed in the concluding section as well. Figures 1, 2, and 3 below illustrate total, non-suicide, and suicide terrorism, respectively, for the corresponding time frames used in the models below to graphically demonstrate the distribution of terrorism over time. Iraq is also excluded from all terrorism models as the country is an extreme outlier for both non-suicide and suicide attacks.

Figure 1

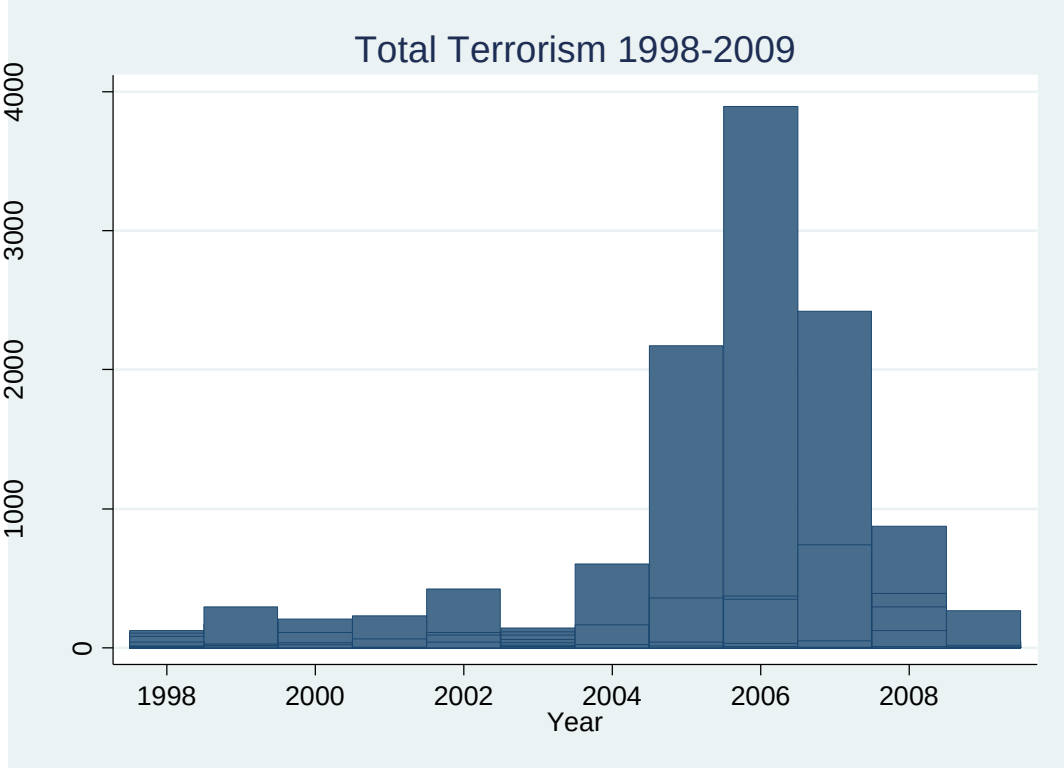

Total Terrorism 1998-2009
4000
3000
2000
1000
0
1998
2000
2002
2004
2006
2008
Year

Figure 2

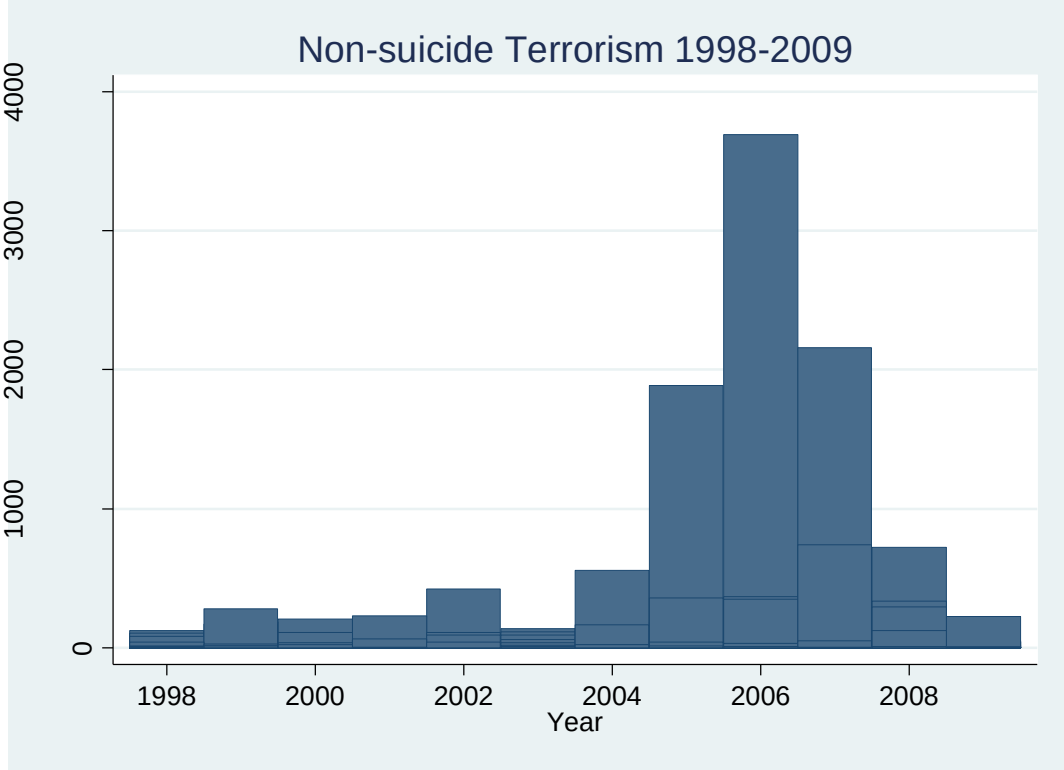
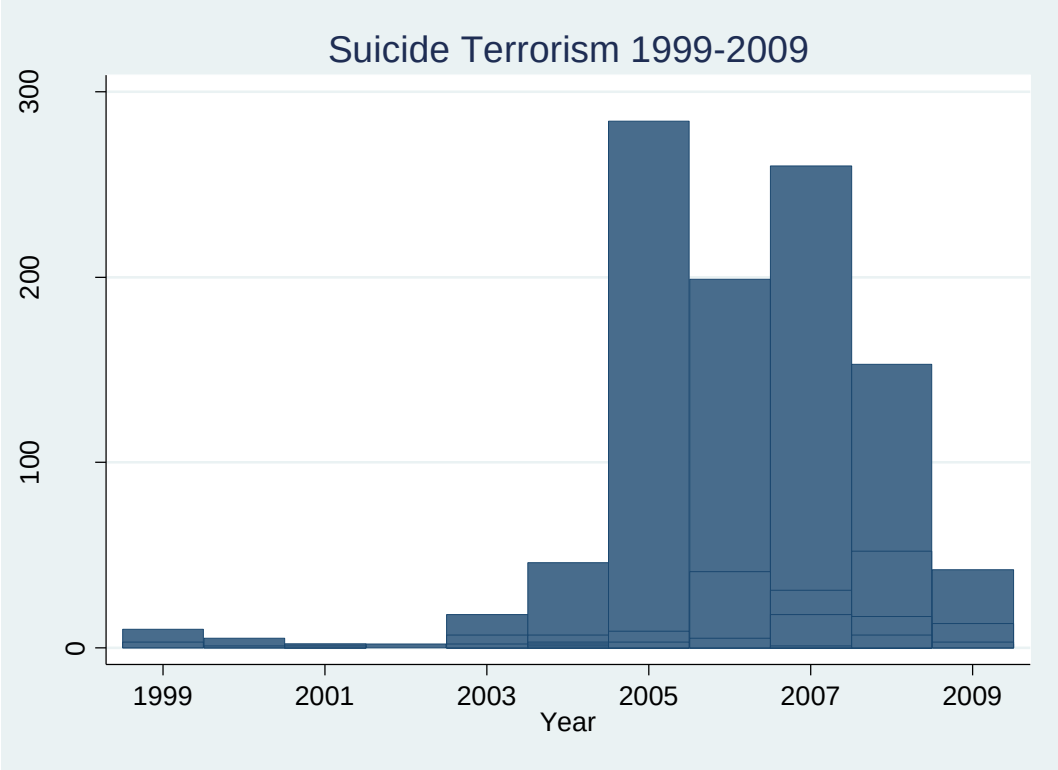

Non-suicide Terrorism 1998-2009
4000
3000
2000
1000
0
1998
2000
2002
2004
2006
2008
Year

Figure 3



Variables

Dependent variables

Total domestic terrorism: I use the RAND Corporation's RAND Database of Worldwide Terrorism Incidents (RDWTI) to generate data on domestic non-suicide and suicide terrorism (RAND Corporation 2010). From the original output of individual, aggregate cases of domestic terrorism, I construct a count variable of total domestic terrorist attacks by country-year for use in ZINB models and a binary dependent variable taking a value of "1" if the count of total terrorist attacks is greater than zero in a country-year and "0" if otherwise for logistic models.

Non-suicide domestic terrorism: Using the RTWDI database, I also generate a count variable by country-year for non-suicide domestic terrorist attacks for ZINB models. For logistic models, I construct

a binary dependent variable with values of "1" if the count of non-suicide domestic terrorist events is greater than zero in a country-year, and "0" if otherwise.

Suicide domestic terrorism: Using RDWTI, I also create a count variable by country-year for suicide terrorist events for ZINB models. For logistic models, I generate a binary dependent variable with "1" as the value if the country-year count of suicide terrorist events is greater than zero and "0" if otherwise.

Independent variables

Education gender gap$_{t-1}$: To construct this variable, I use the World Bank's World Development Indicators (WDI) 2010 to obtain the annual difference of male and female secondary school enrollment. The male and female gross enrollment variables are each given as, "the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown" (World Bank 2010); the ratios may therefore result in values over 100. Given the large amount of missing data which limits observations by a quarter in the models, I use interpolated enrollment values to construct the gap; the missing data appears to be systematically missing for every other year or so rather than several sequential years for most countries during the years studied, so the use of interpolated values should approximate true values with a fair degree of accuracy. Male enrollment typically exceeds female enrollment (Tong 2009); therefore, since I construct this variable by subtracting female from male values, positive coefficients in the first set of logistic regressions will support my hypothesis, while negative coefficients in the logit stage of the ZINB models will also provide support. The variable is lagged by one year to account for possible endogeneity with terrorism.

Labor participation gender gap$_{t-1}$: I again use WDI 2010 to obtain the annual difference of male and female labor participation. The male and female variables are each defined as the labor participation rate of each gender as a percentage of that gender's total population, ages 15 and older. Male labor participation also typically exceeds female participation (Tong 2009); therefore, since I

construct this variable by subtracting female from male values, positive coefficients in the first set of logistic regressions will again support my hypothesis, while negative coefficients in the logit stage of the ZINB models provide further support. This variable is lagged by one year.

Life expectancy gender gap$_{t-1}$: Finally, I create the annual difference of female and male life expectancy using WDI's indicators for male and female life expectancy at birth given as years. Since female life expectancy typically exceeds that of males, I construct this gap by subtracting male from female values (Dollar and Gatti 1999). As such, positive coefficients in the first set of logistic regressions will support my third hypothesis, while negative coefficients in the logit stage of the ZINB models will also support the third hypothesis. This variable is lagged by one year to account for possible endogeneity.

Control variables

Because terrorism studies have identified a number of factors that may significantly relate to non-suicide and suicide terrorism and could systematically bias the estimated impact of gender inequality, I control for the most common of these variables:

Polity$_{t-1}$: Some studies have demonstrated a significant relationship between regime type and terrorism. Some authors argue that democracies are typical targets of terrorism, while others have researched the idea that anocracies are more likely to be targeted (Pape 2003; Wade and Reiter 2007). Therefore, I control for regime type using the Polity IV Annual Time-Series dataset, which gives an annual state polity score ranging from -10 to 10 (Marshall and Jaggers 2009). I use the variable Polity2 from the Polity IV dataset, which recodes missing values from -66,-77, and -88 as 0. The variable is lagged by one year.

Polity squared: This squared term controls for a possible non-monotonic relationship between regime time and terrorism.

Civil conflict$_{t-1}$: Since research indicates that domestic terrorism can be considered a manifestation of civil conflict, I control for the impact civil conflict may have on the risk of terrorism. This variable is provided by the Peace Research Institute Oslo (PRIO) and represents civil conflicts with twenty-five or more battle deaths (Gleditsch et al., 2002). Harbom and Wallensteen (2009) update the data to 2008. This variable is lagged by one year to control for endogeneity.

Ethnic Fractionalization: Some argue that ethnic fractionalization may increase the risk of civil conflict and terrorism (Hirschman 1973; Regan and Norton 2005; Ross 1993; Crenshaw 1981). I control for this factor using data from Fearon and Laitin (2003). Their data on ethnic fractionalization ends in 1999, and since I do not expect ethnic fractionalization to vary greatly year-to-year, I extrapolate a country's 1999 value for subsequent years.

Ethnic fractionalization squared: Ethnic fractionalization may also have a non-monotic relationship with terrorism, in which states that are very ethnically homogenous or heterogeneous are less likely to experience terrorism. Collier and Hoeffler (2004) and Elbadawi (1999) observe such a non-monotonic effect for ethnic fractionalization and the risk of civil conflict. Therefore, I also include a squared term for ethnic fractionalization.

Muslim population: Some researchers note that Islam can be a significant factor leading to increased terrorism (Wade and Reiter 2007; Piazza 2008). I control for this factor using Fearon and Laitin's variable for the annual percentage of Muslim population per country (2003). Again, I extrapolate the 1999 value for all countries through 2009, since I do not expect this variable to experience significant year-to-year variation.

GDP$_{t-1}$: As noted above, scholars vigorously debate the supposed impact of development on terrorism; some assert that development decreases terrorism, while others argue that terrorism increases or has no relationship with terrorism. Therefore, I control for the potential impact of

development using annual GDP per capita. This information is provided by WDI 2010, and the variable is log-transformed and lagged by one year (World Bank 2010).

Population$_{t-1}$: Given the strain on resources and increased pool of potential terrorists presented by large populations, I also control for the impact population may have on terrorism. This variable is defined as annual total population and is provided by WDI 2010 (World Bank 2010). This variable is also log-transformed and lagged by one year.

Lagged dependent variables: I lag the count variables of terrorist events by one year and include them as control variables in the corresponding models to control for time interval dependency.

Results

Total terrorism

Logistic regressions

I first examine the relationship between gender inequality and total domestic terrorism to determine the most general association between the two. The results of logistic regressions to assess gender inequality and the risk of total terrorism are reported in Table 1 below. The signs for all gender gap variables are in the predicted positive directions – greater gender inequality leads to a greater risk of experiencing domestic terrorism, as Hypotheses 1, 2, and 3 predict. The coefficients are highly statistically significant for both education and life expectancy gaps, while the labor gap coefficient is statistically significant at the .1 level using a one-tailed test.

Population increases the risk of terrorism with high statistical significance in all three models as expected, and coefficients for previous civil conflict are positive and generally statistically significant for all of the models, indicating that a history of civil conflict does increase the risk of terrorism, as predicted. Though the ethnic fractionalization variables are generally statistically insignificant in the logistic regressions, the variables do exhibit a non-monotonic effect relationship with terrorism in all of the models, as Collier and Hoeffler (2004) and Elbadawi (1999) predict. Coefficients for polity are positive and generally statistically significant for the models, and the squared polity term coefficient is negative yet statistically insignificant for all of the models, which somewhat supports a non-monotonic relationship between regime type and terrorism, as Pape (2003) asserts. GDP per capita positively relates to the risk of terrorism in each of the models, though the relationships are statistically insignificant; these results weakly support the conclusions of authors such as Krueger and Maleckova (2003) in terms of the relationship between development and terrorism. Muslim population as well increases the risk of terrorism, though this relationship is also statistically insignificant in all three

models, which lends weak support to the claims of Wade and Reiter (2007) and Piazza (2008). The lagged dependent variable is also positive yet statistically insignificant in the three models.

Table 1
Logistic regressions, Total Terrorism 1998-2009

	Model 1	Model 2	Model 3
Education gap	.005 (.002)**	-	-
Labor gap	-	.013 (.009)	-
Life expectancy gap	-	-	.132 (.042)**
Lagged dependent variable	.073 (.065)	.077 (.068)	.079 (.067)
Total pop	.542 (.080)***	.523 (.076)***	.551 (.079)***
Previous civil conflict	.815 (.398)*	.716 (.408)	.827 (.387)*
Ethnic fractionalization	2.349 (2.061)	3.168 (2.011)	2.451 (2.036)
Squared ethnic fractionalization	-3.465 (2.200)	-4.490 (2.214)*	-3.410 (2.195)
Polity	.206 (.100)*	.159 (.096)	.210 (.101)*
Squared polity	-.006 (.004)	-.005 (.004)	-.007 (.004)
GDP per capita	.101 (.090)	.009 (.090)	.040 (.084)
% Muslim pop	.005 (.004)	.000 (.005)	.005 (.004)
Constant	-12.781***	-11.467***	-12.845***
N	1642	1698	1695
Clusters	143	143	143
Wald chi^2	125.88	134.33	129.32
$p>chi^2$	0.000	0.000	0.000
Pseudo R^2	.262	.266	.272

Robust standard errors in parentheses. Observations clustered by country. *p≤.05; **p≤.01; ***p≤.001

Zero-inflated negative binomial regressions

To further examine the influence of gender inequality on the risk of terrorism, I use ZINB regressions for all of the gender gap variables. Results of ZINB regressions are reported below in Table

2. Overall, the models support the logistic regression results reported above. Results for the logit stage of the education gap model indicate that large gaps reduce the probability of being in the "always zero" group, or never experiencing terrorism, with high statistical significance, which is supportive of the prior logistic results and my first hypothesis. The negative binomial stage of the model indicates increasing education gaps reduce the count of terrorist events, though the relationship is statistically insignificant. For the labor gap model, the signs for coefficients in both stages of the model are in the expected directions (positive for the negative binomial stage and negative for the logit stage), but the coefficients are statistically insignificant at conventional levels. Results of the life expectancy model are similar to that of the education model and support the logistic regression results above. The negative binomial stage of the model indicates that large life expectancy gaps reduce the count of terrorist events, though the relationship is statistically insignificant; the logit stage, however, demonstrates that gender inequality in life expectancy reduces the probability of never experiencing terrorism with high statistical significance, as I predict in Hypothesis 3.

In terms of the control variables, most produce similar effects across the three models. Coefficients for population are highly statistically significant with the expected positive signs for the negative binomial stages and negative signs for the logit stages of all three models; as predicted, large populations increase the risk of terrorism. Previous civil conflict is positive and highly statistically significant in all three models for increasing the count of terrorist events, as expected. Ethnic fractionalization does not reach statistical significance in any of the models, though the squared term is statistically significant for the negative binomial stages for all three models; there appears to be an inverted-U effect for ethnic fractionalization in each of the models, as predicted. Polity and its squared term are statistically insignificant in all three models and exhibit a non-monotonic relationship in nearly all stages of the models; though not a significant relationship, the relationship between regime type and terrorism most often appears as an inverted-U, as some authors predict. GDP per capita as well as

Muslim populations positively affect the count of terrorist events as predicted in the literature, though these relationships are statistically insignificant. The lagged dependent variable is highly statistically significant for increasing the risk of experiencing terrorism and the count of terrorist events.

In essence, the overall results of the logistic and ZINB regressions indicate that large education and life expectancy gender gaps significantly increase the risk of experiencing domestic terrorism, as I predict in Hypothesis 1 and 3, respectively. The logistic regression results for the labor participation gender gap model support Hypothesis 2, though the labor gap variable does not reach conventional levels of statistical significance using a two-tailed test. ZINB regression results for the labor gap model do not appear to provide similar support for my second hypothesis.

In further logit and ZINB tests, I disaggregate domestic terrorism into non-suicide and suicide terrorism. There are significant benefits to this disaggregation. Perhaps most importantly, empirical terrorism tests that distinguish between suicide and non-suicide terrorism are fairly rare, and among those that do, the studies focus on either international or aggregate international and domestic terrorism. To my knowledge, none focus solely on disaggregated domestic terrorism. In addition, disaggregation allows the assessment of similar root causes for non-suicide and suicide terrorism, an issue that has been debated much in the literature. Therefore, while it is valuable to assess the determinants of aggregate domestic terrorism, disaggregation of terrorism represents a more refined and expansive test of the potential causes of terrorism that is uniquely poised to contribute to the literature. As I state in my argument, I expect non-suicide and suicide terrorism to share similar causes; therefore, I expect the coefficients for the gender gap variables to exhibit analogous signs and levels of significance for both non-suicide and suicide terrorism models.

Table 2 ZINB regressions, Total Terrorism 1998-2009						
	Logit			***Negative binomial***		
	Model 1a	**Model 2a**	**Model 3a**	**Model 1b**	**Model 2b**	**Model 3b**
Education gap	-.008 (.003)**	-	-	-.003 (.002)	-	-
Labor gap	-	-.006 (.010)	-	-	.007 (.010)	-
Life expectancy gap	-	-	-.210 (.064)***	-	-	-.070 (.047)
Lagged dependent variable	-.933 (.216)***	-.928 (.200)***	-.915 (.202)***	.017 (.004)***	.016 (.004)***	.016 (.004)***
Total pop	-.522 (.111)***	-.515 (.099)***	-.530 (.109)***	.325 (.098)***	.279 (.088)**	.303 (.092)***
Previous civil conflict	-.485 (.370)	-.294 (.377)	-.539 (.370)	1.222 (.276)***	1.270 (.281)***	1.180 (.271)***
Ethnic fractionalization	-1.956 (2.449)	-3.451 (2.187)	-2.006 (2.398)	3.359 (2.145)	2.664 (1.886)	3.487 (2.005)
Squared ethnic fractionalization	3.035 (2.636)	4.891 (2.419)*	2.889 (2.626)	-4.726 (2.138)*	-3.879 (1.802)*	-4.882 (2.020)*
Polity	-.093 (.132)	-.102 (.124)	-.096 (.129)	.120 (.145)	.038 (.149)	.131 (.137)
Squared polity	.003 (.005)	.004 (.005)	.004 (.005)	-.002 (.006)	.001 (.006)	-.003 (.006)
GDP per capita	-.049 (.117)	.054 (.122)	.059 (.113)	.070 (.124)	.052 (.135)	.099 (.122)
% Muslim pop	-.004 (.006)	-.000 (.006)	-.005 (.005)	.001 (.004)	.002 (.004)	.001 (.004)
Constant	11.077***	9.824***	10.946***	-5.937*	-5.058*	-5.754*
N	1642	1698	1695	1642	1698	1695
Non-zero obs	510	526	526	510	526	526
Zero obs	1132	1172	1169	1132	1172	1169
Clusters	143	143	143	143	143	143
Wald chi^2	278.86	270.03	301.21	278.86	270.03	301.21
$p>chi^2$	0.000	0.000	0.000	0.000	0.000	0.000
Robust standard errors in parentheses. Observations clustered by country. *p≤.05; **p≤.01; ***p≤.001						

Non-suicide terrorism

Logistic regressions

Results of logistic regressions on the effect of gender inequality on non-suicide terrorism are given below in Table 3. As with the logistic results for total terrorism, coefficients for the education and

life expectancy gap variables are positive and highly statistically significant; this indicates that large education and life expectancy gaps increase the risk of non-suicide terrorism, as I predict in Hypotheses 1 and 3, respectively. Similar to the total terrorism logistic results, the coefficient for the labor gap variable is positive and statistically significant at nearly the .05 level using a one-tailed test, which supports my second hypothesis that large labor gaps increase the risk of non-suicide terrorism.

As expected, population again increases the risk of terrorism and is highly statistically significant in all three models. Previous civil conflict also increases the risk of non-suicide terrorism for all three models and is generally statistically significant, as predicted. Again, the ethnic fractionalization variables exhibit the expected non-monotonic relationships with non-suicide terrorism for all of the models, though the relationships are generally statistically insignificant. As predicted in the literature, the polity terms also exhibit a non-monotonic relationship in all three models, though polity is statistically insignificant for the labor gap model. GDP per capita again increases the risk of non-suicide terrorism as some predict, though the coefficients are statistically insignificant in all three models. Muslim population increases the risk of terrorism for both education and life expectancy models as predicted, though the relationships are statistically insignificant; for the labor gap model, however, Muslim population decreases the risk of terrorism, though this relationship is also insignificant. The lagged dependent variable is positive but not statistically significant for each of the models.

Table 3
Logistic regressions, Non-suicide Terrorism 1998-2009

	Model 1	Model 2	Model 3
Education gap	.005 (.002)**	-	-
Labor gap	-	.013 (.009)	-
Life expectancy gap	-	-	.135 (.042)***
Lagged dependent variable	.077 (.071)	.081 (.072)	.083 (.071)

Table cont.

	Model 1	Model 2	Model 3
Total pop	.534 (.080)***	.511 (.076)***	.540 (.078)***
Previous civil conflict	.840 (.399)*	.745 (.408)	.858 (.387)*
Ethnic fractionalization	2.334 (2.059)	3.089 (2.008)	2.361 (2.031)
Squared ethnic fractionalization	-3.397 (2.185)	-4.357 (2.200)*	-3.263 (2.177)
Polity	.199 (.101)*	.152 (.098)	.204 (.102)*
Squared polity	-.006 (.004)	-.004 (.004)	-.006 (.004)
GDP per capita	.101 (.087)	.006 (.090)	.032 (.084)
% Muslim pop	.004 (.004)	-.000 (.005)	.005 (.004)
Constant	-12.634***	-11.231***	-12.627***
N	1642	1698	1695
Clusters	143	143	143
Wald chi^2	123.41	130.18	126.45
$p>chi^2$	0.000	0.000	0.000
Pseudo R^2	.264	.267	.272
Robust standard errors in parentheses. Observations clustered by country. *p≤.05; **p≤.01; ***p≤.001			

Zero-inflated negative binomial regressions

I again use ZINB models to assess the effect of gender inequality on increasing the risk of non-suicide terrorism. Results of these models are reported in Table 4 and are similar to those for total terrorism. For the negative binomial stage of the model, the education gap reduces the count of terrorist events, though the coefficient is statistically insignificant; the logit stage of the education model indicates high statistical significance for reducing the probability of never experiencing non-suicide terrorism, which supports my first hypothesis. Results are very similar for the life expectancy model and support my third hypothesis; the logit stage for this model also indicates that large life expectancy gaps increase the probability of experiencing non-suicide terrorism with high statistical significance, while the negative binomial stage indicates that life expectancy gaps decrease the count of terrorist events, though the relationship is statistically insignificant. The labor gap regression demonstrates the

predicted positive and negative signs for the negative binomial and logit stages, respectively, but the coefficients are statistically insignificant at conventional levels; therefore, ZINB regression results for the labor gap model do not appear to support my second hypothesis regarding non-suicide terrorism.

As for the control variables, the coefficients for population in all three models are highly statistically significant and indicate that population reduces the probability of never experiencing terrorism and increases the count of non-suicide terrorist events, as predicted. Previous civil conflict also increases the count of non-suicide terrorist events at high levels of statistical significance for all three models as expected. The coefficients for ethnic fractionalization are statistically insignificant in all three models, though the coefficients for the squared term are statistically significant for increasing the count of terrorist events in each of the models; the results for the ethnic fractionalization models again indicate non-monotonic relationships with non-suicide terrorism in all three models, as predicted in the literature. The polity variables are statistically insignificant for all models but demonstrate the predicted non-monotonic effects with non-suicide terrorism in each of the models except for labor participation. The coefficients for GDP per capita as well as Muslim population are statistically insignificant for both stages of all three models but generally indicate a positive relationship with the count of terrorist events, as predicted by some in the literature. The lagged dependent variable decreases the probability of never experiencing non-suicide terrorism and increases the count of terrorist events, and is highly statistically significant in all of the models.

Overall, the results for the logistic and ZINB regressions for non-suicide terrorism indicate support for Hypotheses 1 and 3; gender inequality in terms of education and life expectancy increase the risk of experiencing non-suicide terrorism. Logistic regression results also support Hypothesis 2 that large labor gaps increase the risk of non-suicide terrorism; however, the labor gap ZINB model does not provide similar support.

Table 4 ZINB regressions, Non-suicide Terrorism 1998-2009						
	Logit			***Negative binomial***		
	Model 1a	**Model 2a**	**Model 3a**	**Model 1b**	**Model 2b**	**Model 3b**
Education gap	-.009 (.003)**	-	-	-.003 (.002)	-	-
Labor gap	-	-.006 (.010)	-	-	.007 (.010)	-
Life expectancy gap	-	-	-.211 (.064)***	-	-	-.073 (.048)
Lagged dependent variable	-.942 (.225)***	-.942 (.212)***	-.935 (.218)***	.017 (.005)***	.016 (.005)***	.017 (.004)***
Total pop	-.508 (.113)***	-.503 (.101)***	-.519 (.110)***	.326 (.099)***	.279 (.088)**	.304 (.092)***
Previous civil conflict	-.505 (.372)	-.309 (.379)	-.563 (.373)	1.210 (.282)***	1.261 (.285)***	1.166 (.276)***
Ethnic fractionalization	-1.873 (2.455)	-3.361 (2.191)	-1.948 (2.406)	3.306 (2.156)	2.603 (1.898)	3.443 (2.013)
Squared ethnic fractionalization	2.882 (2.633)	4.733 (2.416)*	2.771 (2.627)	-4.662 (2.153)*	-3.806 (1.819)*	-4.830 (2.032)*
Polity	-.070 (.136)	-.085 (.128)	-.070 (.134)	.142 (.153)	.053 (.157)	.155 (.145)
Squared polity	.002 (.006)	.003 (.005)	.003 (.006)	-.003 (.006)	.000 (.006)	-.004 (.006)
GDP per capita	-.046 (.116)	.055 (.122)	.063 (.114)	.076 (.125)	.056 (.136)	.106 (.124)
% Muslim pop	-.003 (.006)	.000 (.006)	-.005 (.006)	.001 (.004)	.002 (.004)	.001 (.004)
Constant	10.738***	9.561***	10.639***	-6.088*	-5.151*	-5.916***
N	1642	1698	1695	1642	1698	1695
Non-zero obs	507	522	522	507	522	522
Zero obs	1135	1176	1173	1135	1176	1173
Clusters	143	143	143	143	143	143
Wald chi^2	276.36	260.15	296.46	276.36	260.15	296.46
$p>chi^2$	0.000	0.000	0.000	0.000	0.000	0.000
Robust standard errors in parentheses. Observations clustered by country. *p≤.05; **p≤.01; ***p≤.001						

Suicide terrorism

Logistic regressions

Logistic regression results on the effect of gender inequality on the risk of suicide terrorism are reported below in Table 5. The results initially appear quite different from those for non-suicide logistic

regressions. Whereas the education and life expectancy gap coefficients are highly statistically significant for increasing the risk of non-suicide terrorism, the same variables are statistically insignificant for increasing the risk of suicide terrorism. The labor gap variable also increases the risk of suicide terrorism and the coefficient is statistically significant near the .05 level using a one-tailed test, which is similar to the logistic results for non-suicide terrorism.

As with non-suicide terrorism, population increases the risk of suicide terrorism with high statistical significance in each model as predicted. As expected, previous civil conflict also increases the risk of suicide terrorism, and the coefficients are highly statistically significant in all three models. Coefficients for the polity variable and its squared term are statistically insignificant in all three models, but do support the notion that regime type is also non-monotonically related to suicide terrorism, as Pape (2003) maintains. Coefficients for GDP per capita reveal a negative relationship with suicide terrorism, though the relationships are insignificant for all three models; this seems to support those authors such as Graham (2002) that argue increased development decreases the risk of terrorism. Muslim population, as expected, is highly statistically significant for increasing the risk of suicide terrorism for both education and life expectancy gap models, while the coefficient for the labor gap model is statistically insignificant for increasing the risk of terrorism. The lagged dependent variable increases the risk of suicide terrorism in all three models and generally reaches statistical significance.

The coefficients for the ethnic fractionalization variables are very large and highly statistically significant for all three models, indicating a strongly significant relationship with suicide terrorism; the effects are quite magnified relative to the total terrorism and non-suicide terrorism models and again indicate a non-monotonic relationship with suicide terrorism for all three models. Therefore, I run the logistic regressions for suicide terrorism without the ethnic fractionalization variables to determine the resultant effects for the gender gap variables. Without ethnic fractionalization terms, both education and life expectancy gap coefficients achieve high statistical significance for increasing the risk of suicide

terrorism. The results for the labor gap variable indicate that removing the ethnic fractionalization variables results in a loss of significance for increasing the risk of terrorism even using a one-tailed test. Without ethnic fractionalization terms, the GDP per capita variable also experiences changes, both in direction and significance; GDP per capita increases the risk of suicide terrorism the in the absence of ethnic fractionalization variables, and the coefficient nears conventional levels of statistical significance in the labor gap model. The polity variables also reverse signs in the models without ethnic fractionalization variables, though the coefficients remain statistically insignificant. The other control variables exhibit relatively similar results to the models including ethnic diversity.

In essence, it appears that ethnic fractionalization is much more influential in terms of the risk of suicide than non-suicide terrorism. In the presence of these variables, none of the gender gap variables approaches statistical significance at conventional levels, though labor inequality is statistically significant using a one-tailed test. When I remove ethnic fractionalization terms from the models, both education and life expectancy gaps achieve high statistical significance for increasing the risk of suicide terrorism, while the labor gap variable loses statistical significance even using one-tailed tests for increasing the risk of terrorism. Thus, when it is included ethnic fractionalization appears to overwhelm the effects of gender inequality in terms of the risk of suicide terrorism for education and life expectancy gaps. However, given that education and life expectancy gaps achieve high statistical significance without ethnic fractionalization, ethnic fractionalization may be acting as an intervening variable in the relationship between gender inequality and suicide terrorism; Caprioli (2005) supports this with her theory linking gender inequality to intrastate conflict. Ethnic fractionalization is negatively and weakly correlated with both education and life expectancy gaps (-.11 and -.36, respectively), while the labor gap and ethnic fractionalization are also weakly correlated at .003.

Table 5 Logistic regressions, Suicide Terrorism 1999-2009						
	Model 1a	**Model 1b**	**Model 2a**	**Model 2b**	**Model 3a**	**Model 3b**
Education gap	.002 (.003)	.008 (.002)***	-	-	-	-
Labor gap	-	-	.026 (.018)	.017 (.023)	-	-
Life expectancy gap	-	-	-	-	.033 (.077)	.182 (.069)**
Lagged dependent variable	.420 (.232)	.565 (.255)*	.453 (.245)	.629 (.252)*	.460 (.235)*	.609 (.258)*
Total pop	.696 (.163)***	.559 (.183)**	.693 (.155)***	.565 (.176)***	.718 (.159)***	.625 (.177)***
Previous civil conflict	1.58 (.416)***	1.420 (.537)**	1.630 (.422)***	1.431 (.496)**	1.518 (.422)***	1.384 (.526)**
Ethnic fractionalization	18.671 (6.847)**	-	19.490 (5.424)***	-	18.495 (6.559)***	-
Squared ethnic fractionalization	-23.664 (7.376)***	-	-25.501 (6.196)***	-	-23.611 (7.150)***	-
Polity	-.079 (.203)	.024 (.170)	-.0892 (.192)	.163 (.222)	-.023 (.194)	.064 (.157)
Squared polity	.005 (.009)	-.000 (.007)	.005 (.008)	-.007 (.010)	.002 (.008)	-.003 (.007)
GDP per capita	-.179 (.182)	.243 (.154)	-.194 (.189)	.303 (.175)	-.164 (.192)	.179 (.174)
% Muslim pop	.017 (.006)**	.021 (.007)**	.008 (.007)	.010 (.009)	.016 (.005)**	.020 (.006)***
Constant	-18.182***	-17.041***	-18.145***	-17.453***	-18.702***	-17.992***
N	1507	1507	1557	1557	1554	1554
Clusters	143	143	143	143	143	143
Wald chi^2	261.10	253.51	206.18	98.99	228.64	152.08
$p>chi^2$	0.000	0.000	0.000	0.000	0.000	0.000
Pseudo R^2	.415	.354	.428	.349	.420	.361
Robust standard errors in parentheses. Observations clustered by country. *p≤.05; **p≤.01; ***p≤.001						

Zero-inflated negative binomial regressions

As with the total terrorism and non-suicide terrorism models, I employ ZINB regressions to further determine the effect of gender inequality on the risk of suicide terrorism. The results of these regressions are reported below in Table 6. Unlike the results for non-suicide terrorism, the coefficient for education inequality reveals a statistically significant reduction of the count of suicide terrorist

events, which does not support my first hypothesis; the results for the logit stage of the model reveal that large education gaps reduce the probability of never experiencing suicide terrorism, though the relationship is statistically insignificant. Results are similar for the life expectancy gap model and do not provide support for Hypothesis 3; the coefficient for the negative binomial stage of the model reveals high statistical significance for reducing the count of suicide terrorist events, while the logit stage reveals that large life expectancy gaps reduce the probability of never experiencing terrorism, though the relationship is statistically insignificant. As for labor participation inequality, the results of the regression also do not support my second hypothesis; coefficients for both the negative binomial and logit stages of the model are negative and statistically insignificant.

The coefficients for population are statistically significant for decreasing the probability of never experiencing suicide terrorism in all three models as expected, and the coefficient is statistically significant for increasing the count of suicide terrorist events in the education gap model. Previous civil conflict also reduces the probability of never experiencing suicide terrorism in all three models, though the coefficients are all statistically insignificant; a history of civil conflict also increases the count of suicide terrorist events in each of the models, though the coefficient is only statistically significant for the life expectancy gap model. In all three models, regime type exhibits a non-monotonic relationship with suicide terrorism as the literature predicts, though the relationships are all statistically insignificant. GDP per capita coefficients are statistically insignificant in all of the models but indicate that development increases the risk of suicide terrorism, as some predict. The coefficients for Muslim population are statistically significant for reducing the probability of never experiencing terrorism for both the education and life expectancy gap models, as predicted; for the labor gap model, Muslim population is statistically insignificant for decreasing the probability of never experiencing suicide terrorism. Coefficients for the lagged dependent variable are statistically significant for decreasing the

probability of never experiencing suicide terrorism in all three models, and the coefficient is statistically significant for increasing the count of suicide terrorism in the labor gap model.

The coefficients for the ethnic fractionalization variables are again large and highly significant; ethnic fractionalization and its squared term are highly significant for increasing the count of suicide terrorist events in all three models and demonstrate a non-monotonic relationship with suicide terrorism. Once these variables are removed, however, results improve for the education and life expectancy gap models, similar to the previous logistic regressions. In the absence of ethnic fractionalization terms, both education and life expectancy inequality increase the probability of experiencing suicide terrorism with high statistical significance; these results support my first and third hypotheses for education and life expectancy gaps, respectively. Results for the labor participation gap model remain similar to those when ethnic fractionalization variables are included in the model and do not appear to support my second hypothesis.

Several of the control variables experience changes in signs and significance when ethnic fractionalization is removed. Coefficients for population reverse signs in the negative binomial stages of all three models, though the coefficients are statistically insignificant; the results for the logit stages of all three models remain similar to previous results with ethnic fractionalization. The logit results for previous civil conflict remain similar to models including ethnic fractionalization variables, but the coefficients gain statistical significance for increasing the count of suicide terrorist events for all three models. Polity variables retain previous signs in all three models and continue to demonstrate non-monotonic effects with suicide terrorism. The coefficients for GDP per capita and Muslim population also remain similar to models with ethnic fractionalization terms. Coefficients for the lagged dependent variable become statistically significant for increasing the count of suicide terrorist events in all three models while retaining previous statistical significance for decreasing the probability of never experiencing suicide terrorism.

Overall, as with the logistic regression results, ZINB regression results indicate that ethnic fractionalization significantly relates to the risk of suicide terrorism, and the magnitude of this effect seems to overwhelm the effects of gender inequality in terms of education and life expectancy. Logistic and ZINB regression results for labor inequality indicate no significant relationship with suicide terrorism regardless of the inclusion of ethnic diversity, which does not support my second hypothesis. Without ethnic fractionalization variables, education and life expectancy gender gaps both appear to increase the risk of experiencing suicide terrorism with high statistical significance, which supports my hypotheses regarding these gender gaps.

Table 6
ZINB regressions, Suicide Terrorism 1999-2009

	Logit						*Negative binomial*					
	Model 1a	**Model 1b**	**Model 2a**	**Model 2b**	**Model 3a**	**Model 3b**	**Model 1c**	**Model 1d**	**Model 2c**	**Model 2d**	**Model 3c**	**Model 3d**
Education gap	-.007 (.005)	-.011 (.003)**	-	-	-	-	-.006 (.002)**	-.001 (.003)	-	-	-	-
Labor gap	-	-	-.027 (.028)	-.013 (.027)	-	-	-	-	-.003 (.008)	-.002 (.011)	-	-
Life expectancy gap	-	-	-	-	-.163 (.117)	-.304 (.114)**	-	-	-	-	-.143 (.042)***	-.075 (.062)
Lagged dependent variable	-3.062 (1.510)*	-2.736 (1.302)*	-3.196 (.952)***	-3.393 (1.016)***	-3.736 (1.316)**	-3.716 (1.797)*	.034 (.031)	.123 (.027)***	.054 (.024)*	.126 (.021)***	.022 (.035)	.103 (.030)***
Total pop	-.723 (.319)*	-1.105 (.436)*	-.849 (.297)**	-1.106 (.372)**	-.829 (.314)**	-1.109 (.303)***	.383 (.193)*	-.254 (.289)	.248 (.176)	-.280 (.222)	.281 (.166)	-.207 (.198)
Previous civil conflict	-.666 (1.285)	-.427 (.888)	-.851 (1.027)	-.449 (.863)	-.412 (1.178)	-.134 (.925)	1.173 (.692)	1.453 (.717)*	1.003 (.528)	1.445 (.697)*	1.343 (.592)*	1.591 (.661)*
Ethnic fractional-ization	8.934 (9.392)	-	6.166 (7.869)	-	8.399 (10.411)	-	31.833 (9.603)***	-	28.155 (7.637)***	-	30.143 (8.884)***	-
Squared ethnic fractional-ization	-3.793 (10.529)	-	1.265 (9.001)	-	-3.338 (11.171)	-	-34.884 (9.961)***	-	-29.871 (8.214)***	-	-33.346 (8.908)***	-
Polity	.404 (.400)	.246 (.266)	.415 (.248)	.200 (.267)	.380 (.383)	.210 (.309)	.223 (.259)	.214 (.227)	.176 (.149)	.193 (.157)	.238 (.222)	.272 (.225)
Squared polity	-.021 (.016)	-.016 (.012)	-.021 (.011)	-.013 (.011)	-.020 (.015)	-.015 (.014)	-.009 (.011)	-.013 (.011)	-.007 (.007)	-.012 (.006)	-.010 (.009)	-.016 (.010)

Table cont.

	Logit						*Negative binomial*					
	Model 1a	**Model 1b**	**Model 2a**	**Model 2b**	**Model 3a**	**Model 3b**	**Model 1c**	**Model 1d**	**Model 2c**	**Model 2d**	**Model 3c**	**Model 3d**
GDP per capita	.476 (.364)	.102 (.377)	.613 (.349)	.142 (.364)	.587 (.348)	.307 (.315)	.240 (.231)	.375 (.395)	.231 (.158)	.351 (.333)	.288 (.198)	.461 (.270)
% Muslim pop	-.032 (.012)**	-.032 (.010)**	-.017 (.013)	-.021 (.012)	-.033 (.011)**	-.037 (.009)***	-.001 (.004)	.002 (.008)	.007 (.003)	.004 (.006)	-.002 (.004)	-.002 (.005)
Constant	9.175	23.368*	10.018	22.232**	10.800	22.962***	-16.090**	.755	-13.641***	1.396	-13.996*	-.408
N	1507	1507	1557	1557	1554	1554	1507	1507	1557	1557	1554	1554
Non-zero obs	48	48	51	51	51	51	48	48	51	51	51	51
Zero obs	1459	1459	1506	1506	1503	1503	1459	1459	1506	1506	1503	1503
Clusters	143	143	143	143	143	143	143	143	143	143	143	143
Wald chi^2	175.61	57.45	306.38	96.19	201.87	42.84	175.61	57.45	306.38	96.19	201.87	42.84
$p>chi^2$	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Robust standard errors in parentheses. Observations clustered by country. *p≤.05; **p≤.01; ***p≤.001												

Discussion and Conclusion

My results indicate that gender inequality does influence domestic terrorism; logistic regression results indicate that both education and life expectancy gender gaps increase the risk of total and non-suicide terrorism with high statistical significance. In addition, these effects are robust to the inclusion of ethnic fractionalization, which appears to relate substantially to suicide terrorism. Zero-inflated negative binomial regression results also attest to the robust and statistically significant influence education and life expectancy gaps have on increasing the risk of experiencing total and non-suicide terrorism. These results support Hypotheses 1 and 3, which predict that large education and life expectancy gaps, respectively, increase the risk of total and non-suicide domestic terrorism. Results are more mixed for labor inequality; the variable approaches conventional levels of significance in the logistic models for increasing the risk of total and non-suicide terrorism, but ZINB regression results for the labor gap indicate little influence on total or non-suicide terrorism. The overall results regarding labor gap models do not appear to support Hypothesis 2, which predicts that large labor gaps increase the risk of total and non-suicide domestic terrorism.

The relationship between gender inequality and suicide terrorism appears more complicated due to the strong, statistically significant influence of ethnic fractionalization. When ethnic fractionalization variables are included in the models, neither education nor life expectancy variables are statistically significant for logistic or ZINB models. However, in the absence of ethnic fractionalization terms both of these gender gap variables become highly statistically significant for increasing the risk of suicide terrorism, as I predict in Hypothesis 1 and 3. Results for labor gap logistic and ZINB models indicate that labor inequality is generally unrelated to suicide terrorism, regardless of the inclusion of ethnic diversity variables, which does not support my second hypothesis regarding labor inequality. These results indicate that ethnic fractionalization has a more magnified effect on suicide than non-suicide terrorism; nevertheless, gender inequality in the forms of education and life

expectancy significantly contribute to the risk of both non-suicide and suicide terrorism once ethnic fractionalization is removed for the suicide models, which provides some support to those who suggest non-suicide and suicide terrorism emerge from the same causes. A caveat to this argument might be that while causes may relate in issue, their magnitudes may differ between non-suicide and suicide terrorism. One reason for these results could be found in an argument Caprioli makes regarding the effect of gender equality on intrastate conflict; Caprioli links mobilization for ethnic rebellion to calls to strict gender roles reinforcing the subordination of females to males, which are produced through structural inequality. In addition, the greater measure of self-sacrifice required for suicide terrorism to occur may necessitate more than one level of discrimination to compound grievances. Perhaps future research could examine ethnic fractionalization or polarization as an intervening variable in the relationship between gender inequality and suicide terrorism, which may explain the results found here. Also, one could examine the impact of ethnic fractionalization on gender inequality; it may be that ethnic diversity significantly affects gender inequality, in which case the reverse of Caprioli's argument may apply to suicide terrorism.

Overall, the results of the models indicate support for my hypotheses regarding the relationship between gender inequality in terms of education and life expectancy and the risk of domestic terrorism. The results do not indicate such support for the hypothesized relationship between labor inequality and the risk of domestic terrorism; I suspect that this may be due to the less prominent role the state plays in economic welfare relative to health and education welfare. While I expect that private medical and school facilities exist in every society, public health and school facilities funded and maintained by the state likely assist the majority of the population in most societies; therefore, the state assumes the predominant blame for inequality in healthcare and education. However, the relationship between the state and labor participation may differ. The state employs many people and may hire or purport to hire male and female workers in roughly equal numbers, and private employment likely equals or

outnumbers public employment in many societies. Furthermore, competition for public jobs in societies with weak private sectors probably excludes many people of both genders. In addition, the influence of the international economy on private jobs loss or creation likely hinders the ability of the state to directly induce labor participation for either gender, particularly in the post-9/11 interdependent global economy. Therefore, the public may not directly blame the state for gender inequality in labor participation, whereas the state is still likely the primary source of funding for public health facilities and schools, so the state is more directly tied to these socioeconomic indicators than labor, thus providing a potential explanation for the lack of a relationship of labor gender gaps to terrorism as observed here.

The generally poor quality of terrorism data, and particularly the low number of non-zero observations of suicide terrorism, suggests that results must be taken with caution, as with most empirical studies of terrorism. The short time frame for all of the models suggests that generalizability is mostly limited to the post-9/11 world; perhaps with more comprehensive domestic terrorism data for years prior to 1998, particularly suicide terrorism, the tests could elicit stronger results and allow for greater generalizability. Nevertheless, certain aspects of socioeconomic gender inequality have robust relationships with terrorist attacks for the period studied; these results combined with the attempt to disaggregate domestic terrorism provide a new contribution to the terrorism literature.

In addition, the results of this paper bring to mind a number of ideas for future research. Of course, the analysis of gender inequality and terrorism using other indicators of socioeconomic and additional types of grievances presents a ripe source for future research; in particular, researchers could begin by focusing on the impact of indicators such as fertility rates that previous authors use in studies on gender inequality and civil and international conflict. Studies could also focus on the potential relationship between gender inequality and international terrorism, which has a foundation in the gender inequality and international conflict literature. Future studies could also evaluate the impact of an interactive effect between labor participation and education, as some authors have previously

proposed (Kavanagh 2010; Harrison 2003). As I suggest above, further research could focus on potential indirect relationships between gender inequality and terrorism; for example, gender inequality may indirectly affect terrorism through decreases in development. Also, gender inequality may indirectly increase the risk of terrorism by decreasing good governance. Limiting the cases in this study to developing countries may also generate interesting findings, given the mixed results regarding development and terrorism noted in the literature.

Also, further research could examine whether gender inequality affects lower levels of political instability and violence, such as non-violent and violent protests, demonstrations, and other types of conflict; this type of research may illuminate whether gender inequality relates strictly to violent political conflict or to all forms of political protest and at what point the transition between non-violent protest and violent conflict takes place, particularly in terms of overcoming the collective action problem. Some have also suggested that terrorism is in part driven by a sense of embarrassment produced by comparison of one's circumstances to those abroad. As Atran (2003, p. 1536) notes, terrorism can form due to "social humiliation vis-à-vis global power and allies." Johnson (2001) further argues that economic evaluation relative to foreigners can spur terrorism through feelings of inferiority and ensuing anger. Future studies could address this issue by focusing on the impact of state gender gaps in socioeconomic or other indicators relative to corresponding regional or global gender gaps on terrorism. In addition, the results of this paper point out the need for further study on the influence of ethnic fractionalization on suicide terrorism. Such studies would further contribute to the ongoing research regarding the differences and similarities between non-suicide and suicide terrorism.

Finally, as Moghadam (2005) notes, terrorism studies may take place on three levels of analysis– here, I have chosen to study the environmental or structural causes of terrorism, but the individual and organizational levels are also vital to terrorism research. The case of the Tamil Tigers, one of the world's most prolific terrorist organizations, exhibits this point nicely, particularly in reference to gender

inequality. The Tigers are known for recruiting large numbers of females during their days of political struggle. Feminist rhetoric and the chance to be treated as men's equals attracted many women, often from rural parts of society, to the organization, where male and female members were indeed treated virtually equally, except in terms of political leadership. However, the Tigers' inclination for gender parity did not carry over into Tamil society, which is very socially and politically conservative in terms of gender. While men and women are relatively equal regarding school enrollment and labor participation, women suffer from political and social discrimination; for instance, the society is prone to a high rate of domestic violence, and women traditionally wear long hair and skirts and are considered subservient to males. Due to the unpopularity among the Tamil society for the notion of abandoning traditional gender roles, the Tigers instead focused on sentiments related to ethnicity and nationalism to gain broad support for their cause. Female Tigers were even known to stop civilian females on the streets for violations such as too-short skirts. However, once they left the organization, female Tigers often had difficulty re-adjusting to society; they frequently had short hair and were thought to have defied traditional female gender roles (N. Gowrinathan, personal communication, 2010). Berko and Erez (2006) uncover a similar story for Palestinian female suicide terrorists. Drawn to terrorist organizations because they want to defy their strict gender roles in a patriarchal society, female terrorists instead often reinforce traditional gender roles even inside the terrorist organizations; they are exploited into suicide missions, and the shame brought upon their families for being unable to control their daughters leaves these female terrorists trapped in the terrorist organizations once they join. Like the Tamil Tigers, female participation in Palestinian terrorist organizations did not translate into improved gender equality in the broader society.

The interesting cases of the Tamil Tigers and Palestinian female terrorists illustrate the need for better terrorism data on all three levels of analysis. One could then investigate the individual motivations of female Tamil Tigers in terms of gender inequality; the organizational motivations for

promoting gender inequality within its ranks and choosing not to attempt to transplant such an ideology to the surrounding society; and the structural motivations for terrorism, including gender inequality in political and social aspects as well as ethnic fractionalization. In addition, these cases demonstrate the need for research dedicated to determining the potential impact of terrorism on gender inequality, and what effects terrorist group ideologies could have on this relationship.

In terms of policy implications, the terrorism data limitations restrict generalizability mainly to the post 9/11 era. Nevertheless, the results of robust relationships for gender gaps in education and life expectancy to terrorism do allow for policy suggestions regarding the role of gender equality in the reduction of terrorism. Domestically, states should examine the current status of social spending, particularly health and education spending, legislation, and state-funded programs in reference to gender parity. They should speak to community and political activists to determine the severity of gender gap grievances. From there, the state can adjust social spending, legislation, and state-funded programs to reduce gender inequality. State intelligence services should closely monitor communities they expect are currently or likely engaged in terrorism and target education and health spending to increase gender parity in these areas first, as a sort of triage approach to reducing the risk of terrorism. Internationally, states that wish to reduce the risk of domestic terrorism spreading to the interstate arena could consider tying foreign aid to the precondition that legislating bodies of aid recipients with significant gender inequality begin reserving blocks of seats to encourage the move toward gender parity, which would further promote equitable social spending. More generally, states could link foreign aid to a more equitable division of social spending in terms of gender and encourage legislation that promotes gender equality in socioeconomic and other issues. For those states that balk at the idea of defying traditional gender roles by endorsing gender parity, foreign aid donors could assert that gender equality promotes development and is thus in the state's overall best interest.

To the best of my knowledge, this paper is the first to explore empirically the relationship between gender inequality and domestic terrorism; it is also the first to my knowledge that disaggregates domestic terrorism into non-suicide and suicide terrorism to address the propensity for the two to occur under the same circumstances. While a longer time frame and more comprehensive terrorism data would enhance the generalizability and policy implications of the results, the overall results indicate that socioeconomic gender parity insulates states against terrorist attacks at least in post-9/11 times. Failing to provide this public good, however, leaves states vulnerable to domestic terrorism. In the process of generating these results, this study also discovers a number of areas for future research. This work is therefore a first step in the exploration of the impact of gender inequality on such a destabilizing and deadly phenomenon as terrorism and thus stands as a new contribution to the terrorism field.

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Appendix

Appendix 1: Summary Statistics, Total and Non-suicide models					
Variable	N	Mean	Std. Dev	Min	Max
Education gap	2065	70.69	45.10	-23.89	295.06
Labor gap	2088	23.95	15.49	-8.80	68.5
Life expectancy gap	2137	4.81	2.38	-1.29	13.53
Polity	1883	14.19	6.57	1	21
Squared polity	1883	244.30	163.53	1	441
Previous civil conflict	2305	.13	.34	0	1
Ethnic fractionalization	1838	.48	.26	.002	1
Squared ethnic fractionalization	1838	.30	.25	4.00e-06	1
% Muslim population	1838	27.34	37.42	0	100
GDP per capita	2118	7.67	1.60	4.39	11.26
Population	2231	15.48	2.11	9.80	21.00

Appendix 2: Summary Statistics, Suicide models					
Variable	N	Mean	Std. Dev	Min	Max
Education gap	1895	70.06	45.10	-23.89	295.06
Labor gap	1914	23.74	15.43	-8.80	68.0
Life expectancy gap	1955	4.81	2.38	-1.29	13.53
Polity	1726	14.30	6.53	1	21
Squared polity	1726	246.10	163.0	1	441
Previous civil conflict	2111	.13	.34	0	1
Ethnic fractionalization	1683	.48	.26	.002	1
Squared ethnic fractionalization	1683	.30	.25	4.00e-06	1
% Muslim population	1683	27.40	37.44	0	100
GDP per capita	1943	7.70	1.60	4.39	11.26
Population	2046	15.48	2.11	9.80	21.00

Appendix 3: Variable Correlation Matrix

	Education gap	Labor gap	Life expectancy gap	Lagged total events	Lagged non-suicide events	Lagged suicide events	Total pop	Previous civil conflict	Ethnic fraction-alization	Squared ethnic fractionalization	Polity	Squared Polity	GDP per capita	% Muslim pop
Education gap	1.000													
Labor gap	-.255	1.000												
Life expectancy gap	.793	-.171	1.000											
Lagged total events	.045	.036	.035	1.000										
Lagged non-suicide events	.045	.035	.036	.999	1.00									
Lagged suicide events	-.009	.062	-.025	.275	.253	1.00								
Total pop	-.065	.074	-.035	.180	.179	.085	1.00							
Previous civil conflict	-.049	.092	-.115	.194	.192	.133	.274	1.00						
Ethnic fractionalization	-.108	.003	-.359	-.006	-.006	-.015	-.058	.162	1.00					
Squared ethnic fractionalization	-.145	-.053	-.390	-.023	-.022	-.030	-.034	.153	.970	1.00				
Polity	.112	-,186	.381	.065	.065	.021	.094	-.078	-.290	-.279	1.00			
Squared polity	.105	-.168	.397	.058	.058	.014	.076	-.115	-.335	-.325	.985	1.00		
GDP per capita	.011	.129	.436	.040	.040	.009	-.008	-.223	-.461	-.473	.460	.539	1.00	
% Muslim pop	-.242	.429	-.384	-.004	-.006	.074	.014	.083	.182	.146	-.521	-.522	-.249	1.00

Vita

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