WHY DO TERRORISTS CLAIM CREDIT?

Attack-Level and Country-Level Analyses of Factors Influencing Terrorist Credit-taking
Behavior

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ABSTRACT

Terrorism is commonly considered a coercive political strategy employed to manipulate a broader audience, enraptured by the horror of the terrorist's dramatic acts of violence. However, if generating publicity and disrupting public life is the *raison d'etre* of modern terrorism, why do so many contemporary attacks remain unclaimed by their perpetrators? Over the past forty years, the proportion of attacks where credit is taken has fallen dramatically. By 2004, roughly 14.5% of all attacks were claimed. This paper is the first attempt to explore credit-taking behavior using cross-national data. I test theoretical claims using two datasets (of attack-level and country-level factors) and a series of statistical methods. I conclude that the factors influencing credit-taking are neither equally powerful across geographic space nor time and conclude that several major theories of terrorist decision-making fail to adequately explain terrorists' decision to claim ownership over their deeds.

OUTLINE

1.0 INTRODUCTION

Publicity underpins the success of terrorism. Without sufficient attention, the terrorist's act of violent expression fails to inflict emotional trauma within the chosen audience. Terrorism cannot survive without terror. Historically, terrorists have relied on the attention generated by their dramatic and inflammatory acts of violence to sustain their power. The Zealots and Sicarii campaigns against Roman and Jewish forces (respectively) in the first century proved most successful when their dramatic acts disrupted public life. The potency of their provocations was damning, delivering a crushing blow to Roman and Jewish control using publicity to create a state of terror (Rapoport 1997: 15; Rapoport 1984). Contemporary Palestinian terrorist groups have also succeeded in dealing crushing blows to Israeli public life, using media coverage to garner compound interest on their original acts of violence (Bloom 2005; Kingston 1995; Mueller 2007; Mueller 2005; Schmid 2005: 140-141; Howie 2005). Terrorists, thus, thrive within the public sphere and vanish without it.

Indeed, while a lively literature continues to debate the definition of terrorism (Hoffman 1998: 37-44; Spencer 2006; Dillon 2002: 74-75), one key feature of terrorism is widely accepted:

terrorism is a public act intended to coerce an audience (Weinberg, Pedahzur and Hirsch-Hoefler 2004: 786; Flint 2003; Flint 2004; Hoffman 2009: 2; Whittaker 2007: 3-10).   However, if generating publicity and disrupting public life is the *raison d'etre* of modern terrorism, why do so many contemporary attacks remain unclaimed by their perpetrators? These recent trends are theoretically troubling given the historic behavior of terrorists. Two centuries ago—during the emergence of 'modern terrorism'—terrorists ascribed to a doctrine of terrorism as 'propaganda of the deed'. For these terrorists, claiming responsibility for their violence and the mayhem it created was the most significant difference between their acts and those of criminal organizations (Rapoport 1997: 11).

Nonetheless, the rising number of unclaimed acts of terror carried out over the last fifty years indicates that this doctrine no longer dictates terrorist decision-making. During the 1970s, for instance, the percentage of claimed attacks was 61%. Over the next decade, claimed attacks dropped to 40% (Hoffman 1997; Cordes *et al* 1985). From the late 1990s until 2004, the percentage of claimed acts of terror plummeted to 14.5%, of which only half could be confirmed as valid claims of responsibility (LaFree and Dugan 2008: 28-29). Given the increasing number of groups vying for access to ever-shrinking pools of capital and the theoretical literature on competition between groups (Bloom 2004; Bloom 2005; Hart 2007), these trends ought to be increasing, not decreasing.

As Hoffman (1997: 1, 5) argues, the growing gap between claimed and unclaimed attacks remains unexplained by the predominate logics developed in terrorism studies. The expanding gap between the literature concerning the motivations of terrorism and credit-taking trends, according to Hoffman, demands a fundamental revision of conventional wisdom concerning terrorist decision-making. Pluchinsky (1997: 9) similarly calls for a new approach to security policies and academic studies of terrorism given the unexplored and unexplained forces driving terrorist credit-taking.   But, perhaps most tellingly, Rapoport (1997) writes that academics and policy-makers have dismissed terrorists' claims of responsibility because, "[taking] the evidence seriously would have compelled us to reconsider much of what we were doing and re-orient the field accordingly. Our major focus has been precisely on persons who made the most claims, that is, rebel, usually secular, terrorists, but this focus in turn distorted our picture of the terrorist universe (12)."

Holding on to this distorted conception of the terrorist universe is as conceptually unhelpful as it is patently dangerous. Thus, this paper seeks to explore three central research questions: what factors influence credit-taking? Do these factors differ across geographic regions? Have these factors remained constant after September 11, 2001?

To date, Hoffman's (2009) essay is the most comprehensive attempt to answer the first question. Hoffman finds that competition between terrorist organizations is a highly significant predictor of terrorist credit-taking. Unfortunately, Hoffman's study is an analysis of a single case—Israel—and ignores several key factors that might influence terrorist decision-making, such as the magnitude of the attack. To address these concerns, I have developed two datasets focused on attack-level and country-level predictive factors using data drawn from multiple sources.   Since my datasets track acts of terror that occurred around the world from 1998 until 2004, the number of attacks analyzed is greater (6,759 > 356) and the number of countries is also greater (136 > 1). I have also paid close attention to the factors included in my study to test a large swath of the hypotheses discussed in the theoretical literature.

Differences across regions concerning claims of responsibility are straightforward. In North America, for instance, a majority of all attacks are claimed by a group. In Central Asia, on

the other hand, none of the attacks perpetrated between 1998 and 2004 were claimed by a group. These differences, however, are meaningless since the factors influencing terrorist decision-making could similarly vary across region without telling us anything about whether the factors' predictive powers have changed. To address this concern I isolated attacks by geographic region and tested the relative predictive power of factors across geographic space.

As trends across time bring to bear, the percentage of attacks claimed by a group asserting ownership over the act varies enormously over time. Though these longitudinal distinctions are important and could provide a mine for future research, I have chosen to focus on the most salient act of terrorism in the last decade: September 11, 2001. As Emerson (2008/09) contends, structural adjustments in international policing efforts have changed the constitution of modern terrorism in a post-9/11 world (Omotola 2008: 45-46). More broadly, the ideological underpinnings of contemporary terrorism have changed since September 11th, pointing to similar adjustments in the character of terrorism (Borum and Gelles 2005: 470; Sageman 2008; Ehrlich and Liu 2002; Gunaratna 2004). To test if these paradigm shifts have transformed the factors influencing terrorist credit-taking, I divided attacks based on date of perpetration and tested the relative predictive power of factors across time, particularly after September 11, 2001.

After reviewing the literature covering the motivations underlying terrorist decision-making, I detail the construction of these datasets and review the results of a series of statistical analyses. As the first cross-national study of credit-taking, this paper offers several unique and robust insights concerning terrorist decision-making. I find that the factors influencing credit-taking are neither equally powerful across geographic space nor time; and conclude that several major theories of terrorist decision-making fail to adequately explain terrorists' decision to claim ownership over their deeds.

2.0 THEORIES OF TERRORIST DECISION-MAKING

While the coverage of credit-taking is quite slim, the motivations that drive terrorist decision-making in other realms might prove insightful for this discussion. Consequently, I will review several prominent theories of terrorist decision-making and extract hypotheses concerning credit-taking.

2.1 Competition Among Terrorists

For several decades, theorists have argued that competition among terrorists drives group decision-making (see, for example, Crenshaw 1985). Until relatively recently, however, these theories remained quantitatively untested (see, for example, Brym and Araj 2008; Hart 2007). While these empirical tests have yielded mixed results, the theoretical foundations of the competition or outbidding thesis maintain intuitive appeal. In short, when terrorist groups occupy the same territory, they commonly compete for scarce resources, such as recruits, finances, logistics, training or explosives (Pedahzur and Perliger 2006: 1994).

The underlying assumption of this theory, if not explicitly noted, is that groups are vying for control over a *single pool of resources*. If, for instance, a single territory is riddled with disparate resource pools, competition will not occur since each group can satisfy their respective capital deficits by drawing from different pools; each group can have their own niche network of supporters without invading another's pool. If, on the other hand, groups are struggling for access to a *single pool of resources*, even if this pool spans multiple geographic territories, they

are in competition. Their mode of competition is commonly alternating attacks aimed at bolstering support within the communities where violent campaigns thrive.

Bloom (2004; 2005) also asserts that terrorist groups use attacks, especially suicide operations, to attract or solidify support within sympathetic communities. Rival groups vie for control over "the political culture of communal and political minorities" with the intent to build "a supportive climate of belief within which terrorism emerges and persists (Gurr 1988: 86)." Bloom focuses on the emergence of suicide terrorism in Palestine, using a case study, to explore her outbidding thesis. Bloom claims, however, that the potential applications of her analysis are more general and point to a deeper force in disenfranchised communities: namely, the desire to violently engage opposing political institutions.

Groups also build support—or, at minimum, deny their rivals support—through forging their respective reputations for violence by claiming credit for attacks. Launching an attack with the intention of competing for access to a single pool of resources is largely meaningless unless the perpetrating group finds a way to 'tag' their responsibility of the attack. The most effective method for 'tagging' an attack is publicly claiming responsibility for its propagation.[1] From 2000 to 2001, for example, the northern Samaria and Jenin networks in Palestine carried out nine retaliatory suicide bombings. These two networks, northern Samaria and Jenin, frequently took responsibility for martyrdom operations that may not have been carried out by their own network "just to deprive the rival network of the dividends of public support" (Pedahzur and Perliger 2006: 1994).

Brym and Araj (2008) set out to investigate Bloom's outbidding thesis through a series of bivariate tests. Using a data set of terrorist attacks and survey data concerning the popularity of different terrorist organizations, they test her argument statistically. None of the hypotheses they generated from her texts withstood their tests. Instead they suggest that terrorist groups employ violent tactics when less violent tactics are openly repressed (Brym and Araj 2008: 6). On the other hand, they cite historical examples, such as cooperation among rival groups in the wake of Israel's Operation Desert Shield, to further interrogate the importance of competition.

However, Brym and Araj's (2008) study suffers several methodological problems: their analysis homogenizes terrorist tactics, not taking into consideration the attack's magnitude and tactics employed in each attack; their survey data does not adequately differentiate between organizations that employ and do not employ suicide tactics (Hart 2007); and, their model does not consider the spatial dynamics of attacks in different geographic locations. While the research presented in Brym and Araj (2008) gives us reason to temper claims about the importance of competition, their findings provide insufficient reason to completely reject the claim that organizations vie for power using violence and credit-taking as a currencies to win the hearts and minds of sympathetic communities.

2.2 Signaling Strength

Terrorists, in an attempt to coerce a larger audience politically, might find it advantageous—if not essential—to signal their group's strength. This kind of strength is measurable mostly after an attack has taken place. Groups can challenge themselves and their

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[1] Competition among groups may also drive innovations, like unique attack 'signatures' that address the externality of groups free-riding on others' attacks (Sandler and Arce 2005: 27; for a general discussion of externalities, see also Schelling 1978: 213-215).

followers to perpetrate more dramatic acts of violence, employ techniques that will guarantee media coverage and to "follow through" by taking credit for attacks that signal the greatest level of strength. Indeed, "the most feared terrorists are arguably those who are the most successful in translating thought into action… ruthless and efficient, demonstrating that they are able to make good on their threats and back up their demands with violence" contends Hoffman (1998: 178).

Governments and the publics they represent or control often lack complete information concerning the tactical strength of terrorist groups (support and resources). Detailed and complete information about a group's support and resources, defined as, "finances, training, intelligence, false documents, donations or sales of weapons and explosives, provisions of sanctuary or safe housing, propaganda campaigns, ideological justification, public opinion, legal services, and a constant supply of recruits (Ross 1993: 324)" is commonly beyond the capacities of states. Terrorists groups are not ignorant of this fact and can use dramatic attacks that result in large numbers of fatalities and injuries or employ especially gruesome tactics to signal the resources—either real or fictitious—that are at their 'disposal'. "The level of damage [a group] is able to inflict on the incumbent government, where damage may be both tangible (e.g., destruction of infrastructure, etc) and intangible (e.g., the welfare loss to government constituents as a result of terrorist actions that arbitrarily hit the civilian population)", Overgaard (1994) articulates, "[can be interpreted as a proxy for] the resources of the group (453)."

If a group's strength stems from its resources, groups will want to signal their strength by claiming attacks that are especially dramatic in order to force the government's concessionary hand. Hoffman (1999), in an explanation of terrorism's increasing lethality, argues terrorist groups may believe publicity and media attention are becoming an increasingly rare commodity, forcing them to deploy more and more magnificent acts of violence. "To their minds," Hoffman (1999) writes, "both the public and media have become increasingly inured or desensitized to the continuing spiral of terrorist violence. Accordingly, these terrorists feel themselves pushed to undertake ever more dramatic or destructively lethal deeds today in order to achieve the same effect that a less ambitious or bloody action may have had in the past (13)."

However, Hoffman (1997) and Rapoport (1997) debate whether signaling strength through dramatic attacks is best accomplished through credit-taking. Hoffman, for instance, claims that groups are freer to contemplate especially bloody attacks if they are unconstrained by the desire to claim responsibility for the havoc they wreak (5). That said, groups might still find it strategically advantageous to claim bloody attacks, even if they could plan more grandiose acts of terror under the cover of anonymity. Rapoport argues, "the 'stronger' a group is in relation to opponents, the more likely that they will conceal responsibility (13)." However, Rapoport bases his argument about terrorist groups on the behavior of states in concealing their violence, two wholly different entities, conceptually and practically.

Dramatic tactics can also demonstrate a group's strength. Suicide attacks commonly invoke an unabashed horror within the intended audience, enraptured by the absurdity of changing the world of the living by blowing oneself up (Asad 2007: 65-92). "If only he could live as he dies," Eagleton (2005) eloquently writes, "he would not need to die. Destroying yourself is a sign of just how dramatic a transformation would be needed to make your daily life tolerable (90)." Beyond their exceptional impact on the psychological state of the targeted group (Awofeso 2006: 288-291; Michael 2007: 43-44; Schmid 2005), employing acts of suicidal terrorism signals a group's ability to recruit and deploy persons willing to give up their lives for a cause. "In addition to evoking a widespread sense of horror", writes Merari (1990), "such terrorism has had significant strategic outcomes (192)." Though suicide terrorism may be

shrouded in deeply religious rhetoric, its strategic utility is far less mystical. Claiming a suicide attack signals several characteristics of the credit-taking group and its cause. First, suicidal tactics signal the strength of the claimant in recruiting persons to dispatch to their imminent death. Given that suicide bombers cannot be captured by any particular psychological profile (Lester, Yang and Lindsay 2004), it is even more difficult to recruit persons willing to die since groups cannot pinpoint a particular type of person to target in their recruiting efforts. In turn, a group that can recruit a steady stream of suicide bombers gains an illustrious, somewhat mythic status, in part signaling the strength of the group.

Second, these tactics also signal the appeal of the cause for which the person died. If the cause is religious, a suicide attack demonstrates the veracity of the religion's core features and its appeal. While religious terrorists commonly consider themselves engaged in a 'cosmic war' over good and evil, literally committing one's life (and death) to a cause, religious or not, takes an ever-heightened level of commitment (Turk 2004: 277; see also Atran 2006: 137). This level of commitment—emphasized by a claim of responsibility—illustrates the respective religion's power over its followers.

If the cause is political, economic or social, a suicide attack becomes all the more powerful in signaling the importance or moral salience of the cause. Although Pape's (2004; 2005) popular texts have been critiqued for their analytic approach and the integrity of their statistical conclusions (see, for example, Ashworth, Clinton, Meirowitz and Ramsay 2008), he adequately debunks the 'myth' that suicide terrorism is the sole purview of religious extremists.[2] Secular terrorists also employ this dramatic tactic at a relatively high rate. If secular terrorist groups cannot offer the prospects of heavenly revival or an otherworldly resurrection, how do they recruit persons to dispatch to their planned death? The answer, in large part, has to do with what the group does after the attack; namely, whether the group acknowledges the attack. This is discussed further below.

Third, claiming such an attack demonstrates the willingness on the part of the group to take ownership of a controversial and potentially inflammatory tactic in the pursuit of their cause. Rapoport (1997) observes that suicide attacks may cause a backlash within the sympathetic community concerning the tactic of choice. Tellingly, Wintrobe (2006a: 171) argues that extremist tactics—like suicide terrorism—risk a disproportionate response from either the group's political opponents or their governmental rival(s). Merari (1990) confirms this claim, asserting that suicide terrorism is both strategically and culturally risky. Thus, claiming responsibility for a suicide attack is a gamble that signals the group is a 'zealot' rather than a 'sellout'. Kydd and Walter (2006: 76) draw this distinction, arguing that groups will carry out attacks at all costs, to signal dedication to the cause they purport to represent. Signaling strength, in this sense, would likely include the zealous decision to claim responsibility for an especially inflammatory, dramatic or risky attack—such as an incident of suicide terrorism.

This kind of signaling also serves to assure potential recruits that the group will protect their legacy and acknowledge their motivations for self-immolation; assuaging potential recruits' fears that their motives for dying will not be communicated to those left living (Israeli 1997:

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[2] Pape (2004; 2005) *selects on the dependent variable*, meaning that he only tests the influence of predictors on cases where suicide terror was the tactic employed. This methodological issue may undermine the veracity of his subsequent findings, but his discussion of religious and secular employers of suicide terror is not implicated by these errors.

105).[3] Strenski (2003: 8, 21) theorizes that suicide terrorism is best imagined as a sacrificial gift, exchanged within social systems for any number of benefits, either worldly or extraterrestrial (see also Kassim 2008; Argo 2006).

If acts of suicide terror are indeed sacrificial gifts, offered up as the price for membership in a terrorist group (or a successful transition from this world to the next), these groups can be accurately considered incentive systems (see, for example, Iannaccone 1992: 273 and Wintrobe 2006b: 34). As incentive systems, terrorist groups gain fruitfully from controlling members but must also distribute the selective benefits of membership (Clark and Wilson 1961), which include acknowledgement of participation (especially) after death. Failing to distribute these benefits will most certainly spell doom for the group's ability to sustain current efforts and recruit future persons to dispatch in the name of their cause (Berman and Laitin 2005; see also Chong 1993; Berman 2003; Berman and Iannaccone 2005).

2.3 Religious Motivations

Religion is the fastest growing motivation of terrorism (Miller 2007: 341). Drawing on a discussion of Japanese religious cults, the American Christian Patriots, Jewish religious extremists, and violent Islamic fundamentalists, Hoffman (1998) asserts, "violence is first and foremost a sacramental act or divine duty executed in direct response to some theological demand or imperative. Terrorism thus assumes a transcendental dimension, and its perpetrators are consequently unconstrained by the political, moral or practical constraints that may affect other terrorists (94)." Consequently, attacks with religious underpinnings, unlike politically motivated violence, depress the probability that an attack will be claimed. When religion drives the use of violence, *the act is an end in and of itself.* If terrorism is propaganda by the deed, the success of a religious terrorist campaign rests decisively on the terrorist's belief their actions satisfy their deity; no further justification is needed outside the commission of the act. After all, the intended constituency of the act is not of this world and is presumably omniscient, making credit-taking irrelevant (Post 2005: 452). If "[r]eligiously motivated terrorists see themselves as 'holy warriors' in a 'cosmic war' between good and evil," they are unapologetic about the bloodiness of their attacks since all, "creatures of cosmic evil… are to be annihilated (Turk 2004: 277)." In the same way religious terrorists' concessions are far more difficult to induce through political concessions or personal favors (Hoffman 1998: 128), attacks that are religiously motivated or target symbols of religious significance are unlikely to be claimed by their perpetrators.

2.4 Political Motivations

Terrorists taking credit for their deeds has a long history in European politics. Terrorists of old, as discussed earlier, adhered to a doctrine whereby the use of coercive violence was not enough to differentiate themselves from other, criminally motivated groups. For terrorists

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[3] If life-chances are dependent on membership and involvement with the group, as Hetcher (1987: 176) points out, the psychic significance of group affiliation will remain high, inducing heightened gift-offering behavior. If, on the other hand, life-chances are independent of membership or if membership offers little by way of improving one's life, it makes little sense to remain involved. One way life is improved through martyrdom is through signification of the martyr's action as motivated by a specific cause. Directly signaling these motivations requires credit-taking on the part of the perpetrating group.

seeking political power (rather than simply a state of chaos), credit-taking is a critical mechanism to signal the intentionality of violence. Political terrorists, unlike their religious counterparts, are not a constituency unto themselves and actively employ justifications for their violence (Hoffman 1998: 94-95). If historically important factors still hold, as Rapoport (1997) explains, political terrorists see little justification in violence solely for violence sake. If an act of terror has a discernable intent to accomplish a goal, therefore, it ought to increase the likelihood an attack will be claimed by the perpetrating group.

Indeed, while a collective state of terror may eviscerate the regimes in its path, the politically motivated terrorist vying for an otherwise unattainable intervention in conventional politics is likely to channel the angst emanating from an attack by taking credit for it. Taking credit for an attack has several political effects. First, it helps raise awareness of a specific cause or grievance. If an aggrieved party has turned to violence, it is unlikely that the cause or source of their affliction is common knowledge or boasts a widespread and politically endowed sympathetic community (Atran 2006; Ross 1993).

Second, claiming responsibility for an attack may give an otherwise unknown group political clout, admiration or, at minimum, respect for their capacity and willingness to wield violence, especially when the state they occupy is riddled with "empty space" (Grygiel 2007: 19). Empty space, for Grygiel (2007), is a vacuum of state power that remains unfilled by the operational capacities of the governing regime. The longitudinal consequences of credit-taking may also concern emergent political agents. The long-term viability of their politics may hinge on acceptance of and justification for their own use of violence. On the other hand, a group transitioning to institutional political power may be wrought with controversy concerning their radical origins if they have not adequately aired their ideological foundations or previous tactics in public.

Third, taking credit for an attack could help flank a more traditional social movement. Relying on the "flank effect", two separate wings of the same movement can increase the likelihood of accomplishing their shared goal by forcing the rival party (in the case of most terrorist campaigns, the state) to reckon either with the more moderate or more radical wing (Siqueira 2005). A persistent radical wing, readily employing violence, tends to increase the digestibility of negotiating with its more moderate bedfellows.

When terrorists are politically motivated, they are likely to claim responsibility for their deeds. If, on the other hand, they are motivated by other factors, like religion, they are less likely to claim responsibility.

2.5 State Retaliation

Terrorists and the states they actively challenge interact over time, building reputations for certain types of behavior. Some terrorist groups leave calling cards or signatures that differentiate their aggression from violence employed by rival groups (Sandler and Arce 2005: 27). States too may employ a series of strategies that either deter or encourage terrorism. For instance, if a country's government maintains a consistent track record of heavy-handed reactions to terror, groups are likely to capitalize on the government's reputation, coaxing them into precipitating a humanitarian crisis that will serve to dramatically increase terrorist recruits. Interacting over time, writes Watson (2002: 210), introduces a dynamic whereby rivals condition their decisions based on the history of their relationship.

However, governments known for their use of political terror or who remain unconstrained by legal institutions from pursuing draconian counterinsurgency tactics may depress the number of groups willing to take credit for their deeds. Groups that face states that are either unstable, unpredictable or unfettered in their employment of retaliatory violence are unlikely to see the utility of claiming credit; the costs of credit-taking will almost certainly outweigh the strategic benefits of claiming responsibility. What's more, in situations where governments are highly unstable and susceptible to regime change through non-state violence, groups may see little utility in taking credit. "[W]hile the government is depicted as weak and powerless, looking incompetent or impotent in the face of the terrorist threat", describes Hoffman (1997), "even when no claim is issued, the terrorists may believe that they are nonetheless still effectively 'harming' their enemy and thus achieving their ultimate objective (5)."

On the other hand, governments constrained by strong legal systems that are stable and predictable, may be bombarded by attacks with higher rates of credit-taking. Historically, this has been a notable trend in Western Europe, where Marxist, nationalist and separatist groups take advantage of the constraints on retaliatory violence enshrined by most European democracies (Whittaker 2007: 30-32; Rapoport 1997; Post 1990). Free media and unconstrained political expression may also fuel credit-taking behavior because terrorists have greater access to publicity and can use the lack of control over political expression to their advantage both through fomenting uncontrollable rage among the targeted population—potentially leading to grievances against the perpetrator's sympathetic community, bolstering support—or channeling political angst in support of their cause.

In most, if not all, incidents of terror, the perpetrating group must make their decision to claim credit for their deed based on incomplete or uncertain information about the retaliatory method likely to be employed by the state or states that will react to their use of violence. Even with uncertainty and incomplete information, as Watson (2002) and Sandler and Arce (2005) note, terrorist groups can condition their credit-taking behavior based on their assessments of states' likely reactions, reflected by their behavior in previous interactions (Haubrich 2006: 403).

In countries where domestic government responses are unfettered and unpredictable, terrorist groups are likely to pass on credit for their work. In countries, by contrast, where domestic government responses are constrained by strong legal systems and political stability is high, terrorist groups are likely to readily take responsibility for their acts of violence.

2.6 Differences Across Geographic Space

The differences in credit-taking across geographic space are clear: different regions have different cumulative claim-rates. These differences, however, are uninteresting and, potentially, statistically insignificant. Since I am interested in the factors that influence credit-taking, simply looking at claim-rate disparities across geographic space irrespective of (and without considering) what forces are influencing these differences is not very helpful and fails to tell us anything substantive about the underlying forces that induce credit-taking.

Among the reasons to envisage attack-level factors having different predictive values across geographic space, the most important is that cultural norms differ across regions. As the literature on suicide terrorism brings to bear—in particular (Merari 1990)—for instance, acceptance of martyrdom differs across region. Furthermore, the factors that influence the

acceptance of suicide terror—cultural norms—are also highly likely to impact acceptance of other gruesome tactics and claiming of attacks resulting is dramatic bloodiness.

Importantly, of the attack-level factors actors under consideration in the current analysis, only those included in the 'signaling strength' model ought to vary. In other words, since the influences of competition, religious and political motivations for terror are not directly influenced by cultural norms they should not vary across region or, more precisely, the location of attack perpetration.[4]

I also anticipate a shift in the predictive power of state retaliation across regions. Prior to the last thirty years, terrorism was a decidedly localized event, terrorists employed ritualistic tactics and governments developed reputations for retaliation over time. Some regions have a longer history of terrorist activity and, thus, their governments have developed strategies for dealing with terror. Countries newly facing the rise of terror are less accustomed to handling the pressures terror can exert on both the governing agencies of a country and the constituents they either serve or control.

In addition, terrorism has significant spillover effects on neighboring countries, meaning that regions are likely to adopt similar tactics internally—regions exhibit *isomorphic* tendencies—that are likely to vary across geographic space (see, for example, Addison and Murshed 2005). The likely response of a Sub-Saharan African country is likely not the response employed by a Western European country. Moreover, the rise of regional governing apparatuses may have a significant impact on the predictive power of state retaliation (e.g., the European Union, Association of Southeast Asian Nations and African Union); controlling for region may illuminate if state retaliation is a good proxy of measure of the impact of regional strategies propagated by communities of nations. If the predictive power of state retaliation varies across geographic space, then, it is at least in part due to the collective strategies employed by regional actors to deal with shared enemies.[5]

2.7 Differences Across Time: A 9/11 Effect?

While longitudinal credit-taking trends indicate that claim-rates by year have declined dramatically, these differences can be explained by varying values on the chosen theoretical factors discussed above. For instance, if competition is a statistically significant predictor of credit-taking, changes in claim-rates across time could be attributed to changes in the level of competition over the same span of time. Thus, the presence of longitudinal trends that illustrate dramatic shifts over time may tell us little or nothing about the underlying factors influencing terrorist decision-making. Beyond the potential insignificance of these trends in relation to the chosen predictive factors, I am particularly interested in the influence of the singular event that many scholars claim has transformed our collective conception of modern terrorism: September 11, 2001 [hereafter, 9/11] (see, for example, Asad 2008; Whittaker 2007; Wintrobe 2006a). While acts of terrorism certainly occurred before and have most definitely taken place after 9/11,

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[4] Even if cultural acceptance of terrorist tactics in general varies, it should not influence the factors present in these models. Furthermore, while religion and culture vary similarly across space, the impact of religious motivations on credit-taking should not.

[5] Aggregation may pose a serious problem if this hypothesis is correct. Whatever results stem from a global test of state retaliation's impact on credit-taking may be irrelevant or misleading without controlling for region. For example, statistically significant coefficients with opposing directionality could cancel each other out, yielding an insignificant result. I discuss this further in the results section.

this event focused media attention on acts of terrorism like a laser beam. The United States, along with a handful of allies, launched two occupations in retaliation to 9/11. Moreover, as Emerson (2008/09) contends, structural adjustments in international policing, in addition to anti-terrorism cooperation between Western powers like the United States and small developing nations, have changed the character of terrorism. The international response to 9/11, however, has also reinforced stereotypical recruiting techniques, enabled a dramatic rise in antipathy toward the United States and its allies, and emboldened communities sympathetic to terrorist tactics.

Based on the number of structural reforms that have taken place after 9/11, state retaliation ought to have a more severe depressant effect on the probability of credit-taking. In addition, given the rise of global antipathy towards American foreign policy between 2002 and 2004 (with the invasion of Afghanistan and Iraq), acceptance of stronger tactics is likely to have increased. Terrorists ought to respond in kind, employing and claiming more dramatic attacks. Terrorists may have also been emboldened by 9/11 and subsequent American foreign policies, willing to risk rejection of their tactics by their sympathetic community as a gamble to expand the bandwidth of acceptable violence. Thus, this change in predictive value of the 'signaling strength' model is likely causally bidirectional, as both sides may employ and endorse stronger, more dramatic attacks.

3.0 DATA

The two datasets I use to test these hypotheses were constructed using data taken from several sources. The terrorism data were taken from the GLOBAL TERRORISM DATABASE, II (hereafter, GTD II).[6] This database contains all of the terrorist attacks that occurred between 1998 and 2004. An incident was included in the database if it was intentional, violent and carried out by a non-state actor. An incident also had to be goal-oriented, coercive or outside the bounds of humanitarian law, such as targeting non-military persons or facilities (LaFree and Dugan 2008: 56-57). The first dataset was constructed to test the influence of attack-level factors on whether the attack was claimed by a group. In the second dataset, I explore the country-level factors that influence credit-taking. I completed the second dataset using data produced by the World Bank, Amnesty International and the U.S. Department of State.

3.1 Dependent Variables

Dichotomous variable: GTD II investigators were asked to identify whether an attack was claimed by a group through a letter, phone call, email, note, video, internet posting or personal claim. If any other type of claim was lodged, it was included under 'other'. For a small minority of all cases, the investigators were unable to ascertain if a claim was made. These cases were excluded from the analyzed sample of attacks. Of the 6,759 remaining observations, 1,034 were claimed by at least one group (roughly 14.5% of the entire sample of attacks). If an attack was claimed, it was coded as 1, while an unclaimed attack was coded as 0.

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[6] LaFree, Gary, and Laura Dugan. Global Terrorism Database II, 1998-2004 [Computer file]. ICPSR22600-v2. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor], 2008-10-23. doi:10.3886/ICPSR22600

Rate variable: To analyze country-level factors, I had to isolate each country's respective rate of credit-taking or claim-rate. Consequently, the resulting variable is a proportion of the claimed attacks over the total number of attacks that occurred during each year within each country. Since attacks are relatively rare and claimed attacks are even less common, I aggregated each country's claim-rate, averaging all seven years included in the dataset, to adjust for spurious spikes and valleys in the proportion of claimed attacks. This measure is a proportional or fractional response variable, which requires a unique series of statistical tests discussed in the methods section.

3.2 Attack-Level Variables

Competitive environment: To measure the presence of a competitive environment, I have recoded the GTD II's multi-party conflict variable. When multiple parties simultaneously initiate campaigns of violence and terror, it is frequently difficult to pin point which group is responsible for an attack. Investigators were asked to document when an attack's context was too complicated to discern a group's responsibility. If the environment was too competitive to document responsibility, the variable was coded as 1. If the attack's perpetrator could be clearly differentiated from another group, the variable was coded as 0. "In multi-group contexts," like the one measured in the GTD II, "it is difficult for target audiences to accurately identify perpetrators unless claims are issued. In these contexts, the use of violence does not tell potential supporters much about who perpetrated an attack and why (Hoffman 2009: 7)." Consequently, this variable should serve as a conservative test of the competition thesis: the context measured by this variable is exactly the condition under which competing groups ought to claim responsibility for their attacks. Furthermore, if after thorough investigation researchers were unable to identify an organization's responsibility, the general population is even less likely to be able to discern responsibility. Since groups competing for loyalty, recruits and financial support from sympathetic communities must differentiate their violent prowess from the deeds of other groups before the public, this variable serves as an especially good test.

On the other hand, the persistence of multiple groups within a single public is meaningless in terms of competition unless it can be demonstrated that they are competing for access to a *single pool of resources*. Hart (2007), for instance, argues that competition, in so far as it exists in Palestine, is driven mostly by feuds between Fatah and the Palestinian Islamic Jihad, not the absolute number of potential rivals within the region. While the GTD II competition variable may not test for the singularity of pooled resources, it does not face the same measurement problem as group count variables. Even if multiple pools are available within a country, groups will still need to claim attacks that are undifferentiated or indiscernible to the public in order to signal their zeal to respective sympathetic communities.

Magnitude of attack: To measure the magnitude of an attack, I combined the total estimated number of fatalities and casualties. Unfortunately, this number is at times imprecise, with multiple sources of information used to produce the GTD II supplying different estimates. The GTD II investigators followed a simple protocol for generating casualty and injury estimates: if there was a single figure used by a majority of sources, it was employed. Otherwise, investigators turned to the lowest possible number in cases of ambiguity. To some extent then, this variable may *underestimate* the true impact of magnitude on credit-taking.

Suicide Attack: To divide cases of suicide terror from traditional terrorism, GTD II investigators reviewed evidence concerning the intentionality of the perpetrator's death. If the

investigator believed that the attacker intended to die as a part of the attack, the attack was coded as an incident of suicide terrorism.

Intention to Coerce: When there is no direct evidence that an attack was intended to coerce a broader audience, GTD II investigators coded it as a non-coercive act. However, if the perpetrator made a statement espousing their intent to coerce, had a reputation for coercive tactics, chose a pointedly symbolic target, used weapons intended to garner greater publicity or used unnecessarily gruesome tactics, it was coded as an attack intended to coerce a larger audience. There may, however, be an inherent relationship between this variable and my dependent variable since the presence of a claim of responsibility could lead the investigator to code an attack as coercive. There are incidents (N=33) when an attack was claimed and the act was deemed non-coercive and a large number of coercive attacks (N=5,294) that remained unclaimed by a group asserting responsibility for the attack. Since these proportions cast doubt over the independence of this variable, I have elected to run all subsequent models both with and without this variable as a control.

Religiously Motivated Attack: The GTD II did not include religious attacks within its typology of attacks. While it is difficult to isolate which attacks had a religious bent, one potentially illuminating proxy is whether or not the target was an abortion clinic or abortion-related. Most (if not all) attacks on abortion clinics are religiously motivated in nature (Sharpe 2000: 612-613; Jacobson and Royer 2009: 6-7; Donovan 1985). Thus, I recoded information within the GTD II to construct a new variable noting whether or not the attack was *explicitly* religiously motivated. If the attack's target was an abortion clinic or abortion-related, I coded it as an explicitly religious attack. While this is an admittedly weak measure of the religious nature of an attack, it is one of the best ways to isolate the influence of religion on credit-taking within the employed dataset. Beyond being conceptually limiting, it is also a relatively low proportion of all attacks, comprising less than .1% of all attacks. Of the 17 acts of terror included in the GTD II that fit the above criteria, all of them took place within North America. Consequently, I have focused the following test solely on attacks taking place in North America.

Politically Motivated Attack: To test whether an attack was motivated by a social, political, or religious goal, GTD II investigators had to review the context of the attack. If there was no contextual information indicating that the incident was intended to accomplish a goal, in contrast to an act of indiscriminate violence, the incident was not coded as a goal-oriented attack. On the other hand, if there was contextual evidence or a set of circumstances indicating that the attack took place as a part of a social, political or religious campaign, it was coded as a goal-oriented attack. While this variable could also serve as a good measure to test the religious orientation of an attack, the GTD II does not differentiate among between social, political and religious campaigns, making it impossible to isolate the influence of religion from social or political motivations. This potentially attractive quality also has the consequence of decreasing its accuracy for predicting the influence of political and social motivations on credit-taking. However, whenever I test this variable, I include the 'explicitly religious attack' variable to control for at least the most extreme instantiations of religious campaigns. This may offer an incomplete picture and will require me to moderate any findings accordingly, but it is currently the best available measure.

Similar to the 'intention to coerce' variable, there may be an inherent relationship between this variable and my dependent variable since the presence of a claim of responsibility could lead the investigator to code an attack as politically-motivated. However, there are incidents (N=23) when an attack was claimed and the act was not considered politically

motivated and a large number of politically motivated attacks (N=5,269) that remained unclaimed by a group asserting responsibility for the attack. As in the previous case, these proportions give reason to doubt the independence of this variable. To deal with any potential bias, I have elected to run all subsequent models both with and without this variable as a control.

3.3 Country-Level Variables

The first three variables I have employed to measure country-level factors are taken from the World Governance Indicators (WGI), compiled by the World Bank (Kaufman, Kraay, and Mastruzzi 2008). Beginning in 1996, the WGI research project compiled information from dozens of divergent data sources and polled experts from non-governmental organizations, the private sector and public sector agencies to devise a series of indicators intentionally developed to survey 'subjective' perceptions of 181 countries. By 2007, the WGI project was mining 35 different data sources and compiled measures on 212 countries. While these indicators are measures of perception susceptible to coder bias, Kaufman, Kraay and Mastruzzi (2004; 2005; 2007) have investigated a number of potential sources of methodological errors and concluded that none are quantitatively significant.

I have included each of the following three variables for all available years from 1996 until 2007. I chose to include years before and after the incidents of terror included in this study to smooth out any spikes in the data or years when data was missing. The separate years were averaged and turned into an aggregate measure for each variable. Each aggregate measure ranges between 0—the lack of substantive concepts measured—and 100—the presence of the concepts being measured.[7]

Rule of Law: The rule of law variable measures the stability of the legal system, the quality of contract enforcement, property rights, the power of law enforcement and courts. The severity and scope of illegal activities and violent crime were also part of this measure.

Governmental Accountability: The governmental accountability variable, entitled 'Voice and Accountability' within the WGI data, measures the country's ability to freely participate in the selection of their political leaders. This measure also surveys freedoms of expression and association, as well as the presence of a free media.

Regime Stability: The regime stability variable documents the perceived likelihood of governmental failure and forced regime change due to non-democratic forces or political violence. In this case, the likelihood of credit-taking may vary with a terrorist group's perceived ability to viably compete politically with the regime.

The final country-level variable included in this study is an aggregate variable generated from data compiled by Amnesty International and the United States Department of State. The specific data used to construct my country-level dataset were taken from Gibney, Cornett and Wood (2009).

I included the variable for each available year from 1998 until 2004. For each year, each country's respective political terror rating generated by Amnesty International and the U.S. Department of State was averaged. The separate years were then averaged and turned into an aggregate measure for each country documented. The measure varies between 1—a lack of political terror—to 5—a pervasive state of political terror.

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[7] The following variable descriptions draw heavily from the WGI definitions provided by Kaufman, Kraay, and Mastruzzi (2008: 7).

Political Terror Scale: The political terror scale measures the presence of government terror, violence and political mayhem within a country. Coders were explicitly told to exclude non-state sources of violence and terror and were directed to measure solely violence and terror emanating from state or government institutions. In a country with the lowest level of political terror, political murders are rare and the government adheres to legal constraints on its power. For a country experiencing the highest level of political terror, on the other hand, political murders are rampant, civil liberties are non-existent and political leaders are unconstrained in the execution of their personal or ideological goals.

4.0 METHOD

To measure the influence of these factors, I employed a series of statistical methods. Since the attack-level dependent variable is binary and at least one of my independent variables is continuous (magnitude of attack), it is estimated using a logistic regression (Upton and Cook 2008: 223). I generated these estimates using the canned *logit* routine available in STATA/SE 10.1.

Testing the influence of country-level factors is a bit trickier. Since the country-level dependent variable is neither binary nor unboundedly continuous—it is a rate or fractional response variable—a more common technique can no longer be used to estimate the factor coefficients. Since it is not binary, I cannot use a logistic regression to estimate the coefficient values accurately. Additionally, an ordinary least squares (OLS) regression might fail to accurately estimate the coefficients because the predicted values cannot be guaranteed to lie within 0 and 1.

Papke and Wooldridge (1996) propose a quasi-likelihood estimation technique that adequately estimates the influence of independent variables on fractional response variables. While Papke and Wooldridge (1996) note that STATA did not have a procedure at the time of publication, STATA resolved this problem by introducing a flexible generalized linear model that allows for the specification of distribution form and link function (McDowell and Cox 2004). Flexibility, notes King (1998: 200) may compromise some of the desirable qualities associated with maximum likelihood estimation, but it is the best available method to test my hypotheses without transforming the dependent variable coding. As McDowell and Cox (2004) suggest, the distribution form I employed was a binomial distribution and I used a *logit* link function and ran the tests with robust standard errors. Since the generalized linear model does not produce adjusted or pseudo R^2, I use Akaike's Information Criterion (AIC) to compare models (See, for example, Hoffman 2009: 19). The AIC is intended to serve as a relative benchmark for model fitness comparison. If, in a series of models, one model has the lowest AIC, it is the model with the best fit. Hence, the lower a model's AIC, the better. There are, however, no objective standards by which to judge a model's AIC. For instance, an AIC of 4 is not grounds for rejecting a model as "unfit" nor does an AIC of .75 automatically mean that a model is "fit".

One serious methodological problem this study may encounter is the omitted variable bias (OVB). This problem occurs when a model is misspecified (a correct specification of a model would include all relevant variables, which is a largely impossible task). When a relevant variable is excluded or omitted from a regression, it can bias the results of a regression-based model if any of the included variables are correlated with the excluded variable. As Clarke (2005; 2009) emphasizes, many social scientists attempt to deal with the OVB by including a

large series of control variables. The assumption behind this technique being that if there are 18 relevant variables in a dataset, it is better to include all 18 than to narrowly define the model's parameters with, for instance, 12 variables. However, including more control variables can either decrease the efficiency of the resulting model or bias the results (See, for example, Clarke 2005; Achen 2005).

The more serious problem in the current study is the nature of the generalized linear model employed; namely, the distribution form specified is non-linear, which increases the potential threat of OVB. Whereas in the case of a standard OLS regression, the effect of the OVB is limited to model variables that are correlated with the relevant omitted variable, the non-linear specification results in an "omitted variable [that] can bias a coefficient of interest even if the omitted variable is uncorrelated with the included variables (Clarke 2009: 53)."   In turn, while employing the generalized linear model may facilitate an adequate analysis of a fractional response variable, it leaves any resulting coefficient estimates all the more vulnerable to OVB, even when there is no correlation between the omitted and included variables.

Ameliorating the increased susceptibility of the generalized linear model requires a sophisticated series of formal sensitivity analyses, which indicate how powerful an excluded variable would have to be in order to invalidate a finding (Clarke 2009: 57). While Clarke (2009) suggests that formal sensitivity analysis is gaining popularity in economics literature, sensitivity analysis has yet to be adequately developed within STATA/SE 10.1.   I cannot, therefore, test the extent of the OVB within my generalized linear models directly.

But perhaps, as Griliches (1977) eloquently remarked, the generalized linear model may "kill the patient in [an] attempt… to cure what may have been a rather minor disease originally (12)." Clarke (2005) also takes issue with needless (and potentially inefficient) statistical sophistication. In an attempt to constrain the predicted value of the coefficients within the bound between 0 and 1, we have exposed our analysis to the serious problem of phantom OVB, the potential bias introduced by uncorrelated and heretofore immeasurable omitted variables. What's more, the threat posed by a predictive value outside of the bound between 0 and 1 may not be all that serious. To minimize the potential impact of OVB and increase the robustness of my analysis, I have returned to the workhorse of social scientific research: the standard OLS regression. I have elected to run another series of country-level analyses using the standard OLS procedure with a slight twist. Rather than running the OLS regression on a fractional response variable (claim-rate variable: 0 to 1), I have generated a new variable with a larger bound— between 0 and 100.   In any case, running the second procedure limits the potential bias introduced by excluded variables since I avoid the specification of non-linearity. Given the small number of variables I have chosen to analyze—and a lack of relevant controls—the threat OVB poses could be real. Using the OLS procedure as a tool to investigate my generalized linear model, at minimum, will help enrich my analysis of country-level factors influencing terrorist credit-taking behavior.

If OVB poses a heightened risk to the non-linearity of my generalized linear model, it is important to note that a similar risk applies to the standard logistic regression used to analyze attack-level factors. Indeed, as Allison (1995: 236) observes, logistic regressions that contain unobserved heterogeneity inaccurately attenuate estimated coefficients towards 0 (See also Wooldridge 2002, cited in Clarke 2009: 53). However, as Clarke (2005: 349-350) highlights, clearly specified models generated from theory help to reduce any potential risk of OVB. While I have elected to take a more precautionary approach to my country-level analyzes (by running

separate OLS regressions), I have taken time to adjust my hypotheses and models accordingly to avoid any biases introduced by excluded variables for my attack-level analyses.[8]

To examine distinctions in regression coefficients across time among attack-level factors, I tested a series of pair-wise comparisons for selected cases against the null hypothesis that there is no distinction across time. To explore distinctions in regression coefficients across geographic region among attack-level factors, geographic region and time among country-level factors, I used the same technique but a different kind of test. I will compare the strongest statistically significant coefficient against the weakest and least significant coefficient across each factor dimension, when there are not statistically significant coefficients with different signs. To save space, I have elected to highlight the results within the provided tables.

5.0 RESULTS

Since Hoffman's (2009) paper is the only other project that empirically tests similar questions, I have focused the first series of discussions on comparing our separate findings. To make a fair comparison, I ran two different variations of each model used to answer the first research question outlined above—what factors influence credit-taking? I first test my entire sample and then test solely the attacks occurring in Israel, Hoffman's (2009: 13) case study. The results will be placed side by side in Table 1.

5.1 Competition Among Terrorists

The results for Model 1 suggest that competition among terrorists is insignificant at the .05 level. Moreover, the coefficient is *negative*, indicating that competition among groups may actually have a depressant effect on credit-taking (while statistically insignificant by most researchers' standards, the coefficient is significant at the .1 level). To test this further, I ran the model with other controls, including the three other attack-level models (*Signaling Strength, Religious Motivations* and *Political Motivations*). Not only does the coefficient remain negative, it is statistically significant at the .05 level. This finding is countervailing to the theoretical literature and does not reflect Hoffman's (2009) findings for competition. To test a comparison to Hoffman's case study, I have included the tests of competition solely for attacks that took place in Israel. Once again, the coefficient is negative and statistically insignificant at the .05 level.

There are several explanations for these findings. First, as I discussed earlier, group counts as a proxy for inter-group competition are highly misleading since not all groups compete with one another simply because they occupy the same geographic space; they must share interest in a *single pool of resources*. However, the persistence of a large enough number of pools to completely undermine the predictive power of a group count is highly unlikely within Palestine, in particular. Hoffman's finding to some extent may need to be tempered but it cannot be rejected. Second, my measure could also be weak. Since so few environments were considered too competitive to discern ownership, my variable could either serve as a poor

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[8] This precautionary approach is in part due to the fact that my country-level variables regress together quite well, meaning that using one or another as a control variable to cut down on a potential OVB is less helpful than a similar technique employed in an attack-level analysis where the attack-level factors do not regress together as well.

conceptual measure of competition or could be undermined by a low number of cases where competition is present.

Third, and perhaps most important, competition might not drive credit-taking. While it may adequately explain some terrorists' rivalries and the campaigns they employ, the outbidding thesis is still debated within the quantitative literature, no matter its intuitive appeal. If, indeed, competition does not drive credit-taking behavior, scholars ought to take note. I would suggest future research should center on finding a better measure for competition between groups to confirm or disconfirm the veracity of my findings.

5.2 Signaling Strength

The results for Model 2 suggest that signaling strength is one of the most significant forces driving credit-taking behavior. All three of the coefficients remain as predicted and are highly statistically significant. The 'magnitude of attack' and 'suicide attack' variable coefficients remain statistically significant and maintain the correct direction even when the 'intent to coerce' variable is withheld. While this pattern is anticipated in the literature review above, the predictive strength of this factor was not. Hoffman (2009) arrives at similar conclusions, claiming that an incidence of suicide terror is the greatest single predictor of credit-taking. To compare our findings, I re-ran Model 2. While coercion was dropped from the Israel analysis due to too few cases (N=3), the other two variables remain very significant. Of note, the pseudo-R^2 is also quite high, indicating that signaling strength is also a substantively important model in the Israeli case. Signaling strength is also the only model that maintains its statistical significance in all four tests, as illustrated in Table 1. This further demonstrates that my findings are not likely spurious and probably did not occur due to random chance.

If, as I find, signaling strength drives credit-taking behavior, scholars ought to reevaluate the weight they place on drama and bloodiness when discussing terrorist decision-making. In particular, Rapoport (1997) explicitly asserts that stronger groups will not signal their power. My results indicate the opposite. While, as I discussed earlier, Rapoport bases his assertions on a questionable analogy to state behavior, these findings are reason to revisit and revise his argument about signaling.

5.3 Religious Motivations

Given the weaknesses of my operationalization of religious motivations discussed earlier, the results of the North American model are quite surprising. Religious motivations—as measured through attacks on abortion clinics and related facilities—are highly significant and function in the manner predicted: religious motivations depress the probability of terrorist credit-taking. Religious motivations alone explain almost 20% of the variation in credit-taking behavior in North America. What's more, Table 3 illustrates that religious motivations are also the only statistically significant attack-level factor in North America and adding in all other models does not increase the pseudo-R^2 significantly.

While these findings are helpful, they are quite limited in the information they provide about religious motivations beyond attacks on abortion clinics. While there are solid theoretical reasons to anticipate these results, future research should develop a more sophisticated method for examining the influence religious motivations for acts of terror have on credit-taking behavior.

5.4 Political Motivations

After controlling for explicitly religious attacks, the results for Model 4 are still highly significant and the anticipated relationship is found. Political and social goals motivate terrorists to claim ownership over their deeds of propaganda. While this is true for the entire population of attacks, it is not significant within the Israeli case although still working in the same direction. My control variable is also dropped from the smaller test due to too few cases, rendering even significant results less meaningful. The lack of statistical power within the smaller test may have to do with a smaller sample size.

However, claims about the significance of political motivations must be tempered, given the nature of the operationalization and the isolated influence of the control variable intended to separate religious goals from political or social goals. This is another potential source for more nuanced development within the GTD II's future editions.

TABLE 1: Attack-Level Factors Influencing the Choice to Claim Responsibility for an Attack

Factor	Model 1	Israel	Model 2	Israel	North America	Model 4	Israel	Model 5	Model 5.1
Competitive Environment	-0.201 (.123)	-.969 (.519)						-.316* (.138)	-.297* (.138)
Magnitude of Attack			.0025** (.0008)	.0416** (.0135)				.002** (.0008)	.0027** (.0009)
Suicide Attack			1.404*** (.1228)	1.07** (.437)				1.385*** (.123)	1.42*** (.1228)
Intention to Coerce Audience			.765*** (.188)					.494** (.197)	
Religiously Motivated Attack					-3.224** (1.058)	-1.123 (1.03)		-1.046 (1.031)	-.9595 (1.031)
Politically Motivated Attack						1.338*** (.213)	.5288 (1.01)	1.18*** (.232)	
[Constant]	-1.694	.6123	-2.56	-.3519	.4519	-2.986	-.000	-3.401	-1.814
N	6751	182	6067	166	89	6759	174	6059	6059
Pseudo R^2	.0005	.0148	.0328	.1755	.1583	.01	.0011	0.0411	.0303

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

5.5 State Retaliation

While the influence of a state's reputation for retaliatory behavior or the unfettered ability of the state to wield terror without concern for its citizens has on credit-taking seems intuitively appealing, I cannot find evidence that such a relationship is statistically significant or meaningful (see Table 2). I ran ten models testing state retaliation and each yields insignificant results (to save space, only the GLM results are noted). However, the direction of the relationships between state retaliatory potentials and credit-taking follow from the hypotheses discussed earlier. I have also chosen not to include measures for the Israeli case study because I would be comparing regression coefficients to bivariate correlations. Any subsequent conclusions comparing them would be statistically meaningless, so I have elected not to include them.

Given the large standard errors present in each of the models, however, there is reason to question these initial findings. Perhaps the lack of statistical significance stems from too many different types of government, thus cutting down the predictive value of each factor? Perhaps state retaliatory potentials are significant influencing factors, but these factors differ across region? Or, as my literature review suggests, cross-regional differences might cancel each other out? If there are two equally powerful and statistically significant coefficients working in opposite directions, the lack of statistical significance would make sense.   While the lack of statistical power within the totalized population may indicate a problem for future research, I offer a more in-depth discussion of disaggregation in the following hypotheses.

TABLE 2: Country-Level Factors Influencing Terrorist Attack Claim-Rates: GLM

Factor	Model 1	Model 2	Model 3	Model 4	Model 5
Rule of Law	.005 (.0039)				.007 (.01)
Governmental Accountability		.006 (.0044)			.0077 (.006)
Regime Stability			.003 (.0042)		-.01 (.0136)
Political Terror				-.0475 (.116)	.0148 (.2431)

[Constant]	-1.56	-1.602	-1.45	-1.19	-1.67
N	131	126	132	134	123
AIC	.85	.855	.85	.854	.897

5.6 Signaling Strength Across Geographic Space

I will now turn to a test of distinctions across geographic space. I systematically isolated countries by region using the distinctions noted in the GTD II codebook (LaFree and Dugan 2008). I then re-ran all of the above models again, including all possible controls. The results are noted in Table 3 below.

My initial results confirm that the attack-level model that most frequently changes with significance across region is 'signaling strength'. This was the anticipated result due to distinctions in cultural mores related to dramatic bloodiness and dramatic techniques (e.g., suicide terrorism). However, I have elected to test the most polarized regression coefficients to examine if a statistically significant difference indeed exists across geographic space. Three of the six models vary in a statistically significant manner across region. While the coefficient variance of the 'magnitude of attack' variable is just under the .05 level, the other two variables used to measure 'signaling strength' vary significantly between regions. The influence of competition also varies across region but the competition model is never a statistically significant factor predicting credit-taking behavior. Cultural variance across geographic space, it appears, matters significantly in determining credit-taking's varying utility as a signaling mechanism for group strength.

TABLE 3: Attack-Level Factors Influencing the Choice to Claim Responsibility for an Attack: Region-Specific

Factor	Global	Middle East & North Africa	Western Europe	Eastern Europe	Southeast Asia	North America	South America	Russia
Competitive Environment	-.316* (.138)	-.327 (.216)	.213 (.44)	1.1 (.907)	-.2789 (.454)	א	-1.655 (1.02)	.0787 (.639)
Magnitude of Attack	.002** (.0008)	-.0000 (.002)	.01 (.005)	.0199 (.0575)	.009 (.007)	-.054 (.0547)	-.002 (.009)	.0071 (.004)
Suicide Attack	1.385*** (.123)	1.4*** (.1705)	ℜ	ℜ	-.244 (1.46)	.533 (2.09)	ℜ	3.42*** (.575)
Intention to Coerce Audience	.494** (.197)	.655 (.39)	.954 (.632)	-2.288 (.9309)	.5986 (.7516)	.708 (1.02)	.463 (.78)	-.4164 (.802)
Religiously Motivated Attack	-1.046 (1.031)	א	א	א	א	-3.392*** (1.067)	א	א
Politically Motivated Attack	1.18*** (.232)	1.54*** (.4723)	2.05*** (.53)	ℑ	1.619 (1.03)	.7415 (1.09)	.686 (1.08)	ℑ

[Constant]	-3.401	-3.515	-3.86	-1.723	-4.345	-.807	-3.21	-2.263
N	6059	1385	885	232	581	85	503	387
Pseudo R²	0.0411	.0739	.0524	.101	.0225	.187	.0183	.2184

א= Variable dropped due to collinearity; ℑ = score of 1 predicts failure perfectly; ℜ = score of 0 predicts failure perfectly

[Several regions were dropped due to a lack of statistical power]

5.7 State Retaliation Across Geographic Space

As I hypothesized, there is dramatic variance across geographic space both in terms of relationship directionality and statistical significance of state retaliation (see Table 4 below). I tested this variance using a series of generalized linear models and OLS regressions. The results were roughly the same. Since including the results for the OLS regressions might be confusing

and does not offer much beyond the output generated by the generalized linear models, I have chosen only to discuss the latter results.[9]

There was so much coefficient variance in direction and significance that a separate test was not needed to confirm statistical distinctions across space (there were statistically significant coefficients working in opposite directions along all four dimensions used to measure state retaliation). Disaggregating the data—taking it apart and examining it by region—restores many of the relationships predicted in the literature. As I noted in the theoretical discussion above, regions with a long history of coordinated terrorist attacks are likely to have the highest level of significance. This distinction is also confirmed with consideration to Western and Eastern Europe when compared to Sub-Saharan Africa. The former have a long history of coping with terror while the latter does not.

TABLE 4: Country-Level Factors Influencing the Choice to Claim Responsibility for an Attack: Region-Specific

Factor	Global	Middle East & North Africa	South Asia	Southeast Asia	East Asia	Western Europe	Eastern Europe	North America	Russia
Rule of Law	.007 (.01)	.037* (.0184)	.031*** (.0018)	.0497** (.019)	3.48*** (.226)	-.087** (.035)	-.241*** (.022)	.038*** (.0000)	6.26*** (.0497)
Governmental Accountability	.0077 (.006)	-.01 (.017)	-.01*** (.0006)	.0125 (.024)	-1.1*** (.0752)	-.04*** (.0117)	.493*** (.049)	א	1.85*** (.019)
Regime Stability	-.01 (.0136)	-.027 (.038)	.045*** (.009)	-.0823* (.0379)	-1.8*** (.118)	.128* (.06)	-.95*** (.043)	-.05*** (.0000)	-5.14*** (.0194)
Political Terror	.0148 (.2431)	-.096 (.722)	1.58*** (.1412)	-1.539 (.7916)	א	4.45* (1.96)	-25.4*** (2.28)	א	25.44*** (.4979)

[Constant]	-1.67	-1.35	-9.5	3.477	-72.31	-6.88	71.90	.174	-229.7
N	123	14	6	8	4	14	9	3	9
AIC	.897	1.52	2.15	1.79	2.5	1.409	1.198	2.878	1.256

Additionally, since the influence of state retaliation varies across region, there is reason to believe that the character of a country's government is less significant than its location within a transnational reputational logic. If, as my statistical analysis illuminates, state retaliation varies in power across region, policy makers ought to pay greater attention to both the immediate spillover effects of terrorism—violence spreading across a country's territorial borders—and the long term, reputational spill over effects of counterterrorism strategies.

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[9] The standard OLS regression tables are available upon request.

5.8 Signaling Strength: A 9/11 Effect?

The results noted on Table 5 indicate 9/11 transformed the importance of signaling strength. While prior to 9/11 the use of dramatic techniques to signal strength was significant, the intention to coerce an broader audience—measured through the use of symbolic targets or gruesome tactics—and the magnitude of the attack—the bloodiness of the terrorist's deed—also became highly statistically significant after 9/11.[10] The only variable that varies significantly after 9/11 is the intention to coerce. An attack's magnitude comes quite close to varying significantly, but remains just under the .05 level. We cannot deduce from these results whether sympathetic communities are inducing groups to signal their resources or if terrorists are claiming more dramatic attacks to expand their backers' bandwidth of tolerance for violence. However, these statistical findings ground a simple yet significant conclusion: terrorists today are more likely to claim credit for attacks that signal strength through dramatic means and gory tactics. Future research should explore the underlying mechanisms that have given rise to this newfound significance of signaling. Understanding which direction the causation needle points—if communities induce groups to claim greater violence or if groups induce communities to tolerate greater violence—will prove a fruitful insight for policy-makers attempting to decouple groups from their bases of power: sympathetic communities.

TABLE 5: Attack-Level Factors Influencing the Choice to Claim Responsibility for an Attack: The 9/11 Effect

Factor	Global	Pre-9/11	Post-9/11
Competitive Environment	-.316* (.138)	-.302 (.214)	-.387* (.181)
Magnitude of Attack	.002** (.0008)	.0008 (.0006)	.003** (.001)
Suicide Attack	1.385*** (.123)	1.3*** (.224)	1.289*** (.151)
Intention to Coerce Audience	.494** (.197)	.119 (.229)	1.213** (.399)
Religiously Motivated Attack	-1.046 (1.031)	-.928 (1.03)	א
Politically Motivated Attack	1.18*** (.232)	1.42*** (.319)	.7923* (.344)

[Constant]	-3.401	-3.386	-3.57
N	6059	3502	2550
Pseudo R^2	0.0411	.026	.0541

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[10] Competition also became statistically significant after 9/11, but it remained negative. This result, like the results for the temporally undivided model 1, is not accounted for in the literature.

5.9 State Retaliation: A 9/11 Effect?

In each of the regions noted in Table 6, the coefficients and their significance shifted after 9/11. Using pair-wise tests, I discovered that four variables shifted significantly after 9/11. Dalacoura (2006) reports that American foreign policy architects have put significant capital into building more stable forms of governance in the Middle East since 9/11. Smith (2007) and Kivimaki (2007) concur that the United States has expended significant resources in an attempt to combat weak governments in Southeast Asia. In the wake of 9/11, foreign policy through foreign aid and international cooperation has been, in part, driven by a desire to restore rule of law in the two of the world's most volatile hotbeds of terrorism: the Middle East and Southeast Asia.

TABLE 6: Country-Level Factors Influencing the Choice to Claim Responsibility for an Attack: The 9/11 Effect

Factor	Middle East & North Africa	Pre-2001	Post-2001	South Asia	Pre-2001	Post-2001	Southeast Asia	Pre-2001	Post-2001
Rule of Law	.037* (.0184)	.0011 (.035)	.089** (.033)	.031*** (.0018)	.0406** (.013)	.0806*** (.0003)	.0497** (.019)	.0358* (.018)	1.97*** (.0429)
Governmental Accountability	-.01 (.017)	-.0023 (.0311)	-.04** (.0169)	-.01*** (.0006)	.02*** (.004)	-.051*** (.0003)	.0125 (.024)	.0271 (.027)	-1.27*** (.0276)
Regime Stability	-.027 (.038)	.0898 (.05)	-.12** (.0444)	.045*** (.009)	-.09*** (.024)	-.019*** (.0013)	-.0823* (.0379)	-.018 (.05)	-1.92*** (.0404)
Political Terror	-.096 (.722)	1.2701 (1.046)	-.868 (1.199)	1.58*** (.1412)	-1.125 (.702)	1.78*** (.0187)	-1.539 (.7916)	.4429 (.925)	-20.96 (.402)

[Constant]	-1.35	-7.889	2.058	-9.5	.5782	-9.103	3.477	-4.774	105.73
N	14	14	11	6	6	6	8	8	7
AIC	1.52	1.475	1.711	2.15	2.03	2.206	1.79	1.837	1.833

Unsurprisingly, the predictive of power of rule of law changes in both of these regions in the expected direction after 9/11. While the Middle Eastern 'rule of law' coefficients do not differ at the .05 level, the 'regime stability' coefficients do. The Southeast Asian coefficients before and after 9/11 also differ very significantly. To some extent, these shifts were driven by changes in American foreign policy over the last seven years. The varying influence of political terror in South Asia also fits into the discussion of terrorists becoming emboldened after 9/11. In particular, after 9/11 South Asian terrorists were more likely to claim responsibility for an attack even if the government they faced had the capacity to wield unfettered violence in the execution

of their aims.   Once again, by controlling for region, I was able to explore the relative weight of state retaliation. Isolating countries by region helped recoup the significant relationships lost through aggregation (compare, for instance, Table 2 alongside Tables 4 and 6).

6.0 CONCLUSION

Terrorists' willingness to claim ownership of their deeds of propaganda is an interesting and important subject of study. Trends across time and space indicate that the factors influencing the decision to claim or not claim responsibility for acts of bloody terror have changed and likely will continue to change as the dynamics of terror evolve. As fascinating as credit-taking behavior may be, it has attracted little attention among scholars and even less strict quantitative investigation.

6.1 Policy Implications

If counterterrorism policy is based on reactions to attack claimants, this paper brings to bear several serious implications for public policy. First, if the distribution of claimed and unclaimed attacks were random across groups, space or time, such policies would be negligently problematic. However, this paper illustrates that these distributions are not random and are influenced by a series of attack-level and country-level factors. Policies erected that focus solely on eliminating attack claimants grossly misconceive the universe of terrorists and subsequently mishandle state retaliatory or preemptive counterterrorism efforts.

Second, policy architects using claims of responsibility as a baseline for generating counterinsurgency strategies may quickly find themselves, at worst, without such a baseline or, at best, with a marginally informative baseline. If longitudinal trends of credit-taking ranging back almost four decades continue in the coming years, claim-rates will reach such a low level that they fail to tell us much if anything about the actual perpetrators of terror unless the choice to claim responsibility is pointedly treated as a purposive, strategic decision.

Using the results outlined above, policy architects can adjust counterinsurgency strategies accordingly rather than solely relying on credit-taking terrorists to drive policy construction and execution.   For instance, policy-makers must place more emphasis on exploring whether groups are inducing communities to accept greater violence or if sympathetic communities are inducing groups to employ greater bloodshed and gore.

6.2 Methodological Implications

As the first attempt to test theoretical arguments about credit-taking using cross-national data, this paper offers several unique and robust insights concerning terrorist decision-making. First, the competition thesis at best must be further tested; and, at worst must be re-worked to account for the disconnect between its intuitive appeal and its lack of statistical veracity across time and geographic space. What's more, we need better methods for exploring the influences of competition. While it is clear that simple group counts are meaningless unless these counts are linked to a *single pool of resources*, perhaps my measures are also lacking. In any case, scholars should continue to examine the empirical power of the competition thesis, regardless of its logical appeal.

Second, signaling strength has become a significant motivating factor influencing groups' choices to claim or not claim their own or others' attacks. If the mechanisms discussed above accurately reflect the hidden forces driving such behavior, signaling strength will likely continually dominate the strategic concerns of stable and emergent terrorist groups. If, however, future research is able to isolate whether communities or groups set the agenda of violence, policy-makers may be able to devise inroads to address the strategic concern of terror and those who wield and claim violence as a tool of political expression.

Third, given the varying levels of influence political features of states have on credit-taking, policy-makers and scholars might do well to examine the persistence of transnational logics that influence terrorism. I have emphasized that one potential mechanism driving regional variation of the influence of state retaliation on terrorists' public behavior is *strategic isomorphism* or the collective convergence of counterterrorism reputations within a given region. While these reputational logics may owe some of their influence to histories of colonialism and the relative arbitrariness of many of the world's territorial borders, there are certainly other explanations for such regional trends. Future research ought to explore potential explanations and give such trends a more developed conceptual backdrop. Understanding why these reputational logics vary could help scholars and policy makers craft more effective transnational regimes, aimed at building reputations intolerant toward the violent drama of contemporary terrorism.

Finally, talk of 'weak states' influencing terrorist decision-making is ubiquitous. Academics and policy makers alike applaud state-building as a method for undermining terrorist groups and dissuading potential recruits, regardless of cultural context or geographic location. But the evidence explored herein suggests that the influence of state structure and retaliatory capacities vary with context and geography.   Thus, scholars and politicians alike may be hard pressed to justify their faith in the context-free power of stable, democratic political institutions to influence terrorist decision-making, especially concerning terrorists' choice to claim responsibility for their deeds of violence and destruction.

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