

ABSTRACT

Title of Document: COMMUNICATING THROUGH VIOLENCE:
AN APPLICATION OF RATIONAL CHOICE
THEORY TO TERRORIST CLAIMS OF
RESPONSIBILITY

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The present research applied rational choice theory to terrorists' decisions to formally claim responsibility for an attack. Logistic regression is applied to United States' incident characteristics, testing whether claim-making decreases over time and whether post-attack claims are less likely after incidents targeting specific entities. Variables being controlled for include the tactic used, whether the attack was successful, nationality of the target, and number of casualties. A sensitivity analysis of 100 randomly-selected cases examines measurement error in the dependent variable resulting from media attribution of group responsibility as opposed to formal claims from terrorists. Results indicate that striking a specific target does not decrease the likelihood that an attack will be formally claimed by a terrorist group. This research does provide evidence that influential factors in terrorist claim-making decisions change over time. Policy implications are discussed.

COMMUNICATING THROUGH VIOLENCE:
AN APPLICATION OF RATIONAL CHOICE THEORY TO TERRORIST
CLAIMS OF RESPONSIBILITY

By

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Dedication

To Verdak, who epitomizes endless patience and understanding (thank you). To my family—the power of your constant encouragement can never be overstated. In memory of Dr. J. Christopher Bill, whose guidance will never end.

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Table of Contents

Dedication	ii
Acknowledgements	iii
Table of Contents	iv
List of Tables	vi
List of Figures	vii
Chapter 1: Introduction	1
Background	1
Rational Choice Theory and Terrorism	6
Rational Choice Theory	6
Benefits of Claiming an Attack	7
Costs of Claiming an Attack	10
Communicating Through Choice of Targets	11
General vs. Specific Targets	13
Change in Targets and Claims over Time	15
Purpose of the Present Research	16
Hypotheses	18
Chapter 2: Methods	19
Attribution versus Formal Claims	19
Use of Existing Data Source	20
Advantages and Limitations of the GTD	21
Excluding Cases	24
Theoretical and Operational Definitions of Concepts	25
Formal Claim for Attack	25
Type of Target	26
Time	29
Control Variables	29
Analysis	31
Chapter 3: Results	33
Description of Variables	33
Description of Claimed versus Unclaimed Attacks	35
Comparing Miscoded to Correctly Coded Cases	36
Time Period	38
Tactics Employed	38
Weapons Used	38
Targets	39
Success	41
Consequences of the Attack	41
Public Response	42
Description of Claims	44
Effect of Measurement Error, Small Database	44
Logistic Regression on Full GTD Database	46
Comparison of GTD (1977 – 1997) and 100 Recoded Cases	49

Results for GTD Incidents from 1970 – 1976 vs. 1977 – 1997	50
Chapter 4: Discussion	52
Theoretical Implications	55
Policy Implications	56
Prevention Efforts	57
Counterterrorism Measures	59
Limitations and Future Research	60
Conclusion	65
Appendix A	66
Appendix B	67
Bibliography	69

This Table of Contents is automatically generated by MS Word, linked to the Heading formats used within the Chapter text.

List of Tables

Table 1	Descriptives of Variables included in Models.....	33
Table 2	Descriptives of Variables in Models, GTD Cases (1977 – 1997) Compared to Recoded Cases.....	35
Table 3	Means and <i>t</i> -test Results for Variables Related to Terrorist Claim- making, Claimed Attacks compared to Unclaimed Attacks.....	37
Table 4	Effect of Specific Targets on Claim-making in 100-case Database, Original Claim Code compared to Recoded Claim Code.....	45
Table 5	Effect of Specific Targets on Claim-making, Full GTD.....	48
Table 6	Effect of Specific Targets on Claim-making, 100 Random Cases Compared to GTD (1977 – 1997)	50
Table 7	Effect of Specific Targets on Claim-making in GTD, 1970 – 1976 versus 1977 - 1997.....	51
Table A.1	Descriptive Comparison of Miscoded Cases to Correctly-Coded Cases, Small Database.....	66
Table B.1	Effects of Miscoding Claimed and Unclaimed Terrorist Attacks Given Positive or Negative Relationship with Specific Targets.....	67

List of Figures

Figure 1	Frequency of Weapon Use by Claim Status.....	39
Figure 2	Frequency of Target Types by Claim Status.....	41
Figure 3	Proportion of Terrorist Attacks Claimed, by Year.....	54
Figure B.1	Effect of Miscoding Claim Status when Positive Relationship between Specific Target and Claims for Attacks.....	67
Figure B.2	Effect of Miscoding Claim Status when Negative Relationship between Specific Target and Claims for Attacks.....	68

Chapter 1: Introduction

Background

Perpetrators of most criminal offenses try to remain anonymous to avoid detection and arrest. In contrast, terrorism is often characterized by post-attack claims of responsibility in which the attackers justify their motives or threaten more violence. This aspect of terrorism that makes it unique has generally been ignored in prior research. The present study analyzes terrorist incidents occurring within the United States (U.S.) to examine how terrorists' target choice (whether the general population versus a specific subpopulation) affects their decision to formally claim responsibility for the attack.

Previous research has struggled to explain theoretically the way in which terrorists plan and execute attacks. Although previous research uses theory to explain victimization (e.g., Canetti-Nisim, Mesch, and Pedahzur, 2006; Lerner, Gonzales, Small, and Fischhoff, 2003), structural causes of terrorism (e.g., Ross, 1993), or psychological and personality characteristics leading individuals into terrorist lifestyles (e.g., FRD, 1999; Vaisman-Tzachor, 2006) consistent theoretical support for terrorists' strategic planning is hard to find.

One promising avenue of research is the application of rational choice theory to terrorist attacks and planning. Rational choice theory states that offenders weigh the benefits, efforts, and risks associated with specific offenses when planning and committing the act (Clarke and Newman, 2006; Cornish and Clarke, 1987). Previous

literature has explained the deterrent effect of target hardening (e.g., Dugan, LaFree, and Piquero, 2005), the strategic logic in using particular tactics (Pape, 2003), and the costs and benefits associated with target choice (Clarke and Newman, 2006), but no previous literature has empirically investigated the rationale behind public claims of responsibility. Doing so may help researchers and policymakers understand and reduce the appeal of terrorism as a means of obtaining publicity (Schmid, 1989).

Before exploring terrorists' decisions to claim attacks, it is important to first define what a terrorist attack *is*. Government agencies, terrorism researchers, and media outlets use different terms and criteria to identify terrorism. Definitions of terrorism are plentiful and are guided by the interests of the organization working with the information at hand. Existing data sources often use narrow definitions of terrorism and may include, for example, only politically-motivated attacks. In doing so, terrorist attacks motivated by religious or social goals are neglected. Furthermore, many publicly available databases exclude domestic terrorism, although it is more prevalent than international incidents (LaFree and Dugan, 2007).

The use of the Global Terrorism Database (GTD) from the University of Maryland's Study of Terrorism and Responses to Terrorism (START) Center addresses such limitations, as data are collected using a more inclusive definition of terrorism than those used by other open-source databases. The GTD uses media and government documents to obtain information on domestic as well as international terrorist events around the world since 1970 (the present research only uses data on incidents within the U.S.). For every incident included, the GTD contains specifics on the date and location, the weapons used, the nature of the target, the number of

casualties, and the group/individual responsible (when identified; LaFree and Dugan, 2007). For the purposes of the present study, terrorism incidents are those involving “the threatened or actual use of illegal force and violence to attain a political, economic, religious or social goal through fear, coercion or intimidation” (LaFree, Dugan, Fogg, and Scott, 2006, p. 21).

To best achieve such goals, a successful attack is one that the target audience sees and understands the reason for its occurrence. People use violence as a means of communication, dominance, and control; of particular relevance to the present study is how individuals communicate through violent acts. Katz (1988) noted that individuals turn to physical violence when verbal assaults are not adequate for conveying a particular message; they use violence to “go beneath the surface of the everyday persona.” (p. 38) When a violent act is truly terrible, it induces fear and is often immortalized through myths shared thereafter (Katz, 1988). Violence has a meaning for those who commit it as well as for those who experience it, which begs scholars to understand the way in which individuals use violence to fulfill needs.

Violence itself is not the goal of the terrorists’ actions; the violence used is less important than the political or cultural response to the violence (Garrison, 2003; Kenney, 1995). Instrumental violence is committed to achieve an explicit goal while expressive violence is an unplanned act of anger, rage, or frustration (Meithe and Drass, 1999). Terrorism is implicitly an example of instrumental violence, as the act requires planning and has a clear purpose (Garrison, 2003). To achieve the aforementioned goals, Nacos (2002) argues that terrorists communicate through symbolic acts (e.g., by choosing an iconic target) and subsequent publicity (e.g.,

through formal communiqués) because they have no opportunity to reach the public through mainstream media—unless they do something dramatic to garner attention.

Just as violence serves as a means of communication for terrorists, gangs and organized crime syndicates use symbolism in their violent acts to convey messages. This paper draws upon gang and organized crime literature to illuminate how terrorist groups use symbolic violence (with targets as the symbol) to affect others. Gangs and organized crime syndicates are similar to terrorists in their use of violence, the diversity of organizational structures, and often group-specific ethnicity (Fagan, 1989; Kenney, 1995). Indeed, the literature notes that some terrorist groups morph into organized criminals or gangs, or vice versa (Clarke and Newman, 2006; Kenney, 1995). For example, Blazak (2001) provides an informative study on how informal youth hate groups in America are indoctrinated into skinhead terrorist organizations.

Katz's (1988) "badasses" and terrorists both attempt to make their attacks unpredictable, thereby making all social situations ominous. Badasses do this to maintain their reputation of toughness while terrorists do this to affect the behavior of the public, in turn influencing the behavior of the government (Garrison, 2003; Katz, 1988). Targeting innocent civilians makes terrorists' actions seem unpredictable and maximizes the psychological effect of the attack (Cronin, 2002). When the public fears terrorism (despite low actual probability of an attack) there are large social costs, as when the economy suffers due to public reluctance to travel. The government must respond quickly to terrorist attacks to allay fears and prevent national-level consequences (Sunstein, 2003).

The symbolism of the clothing, language, and violence of gangs parallels terrorist use of symbolic targets (Kenney, 1995); the different media by which these organizations communicate is driven by the simple fact that gang members operating in the United States are generally visible (Katz, 1988; Sobel and Osaba, 2006) while terrorists generally conceal their group membership. Although acts of violence committed by gang members do receive media attention, some argue that the most defining aspect of street gangs is the symbolism employed; rituals and images create a sense of collective identity. In the absence of violence and criminal acts, the gang would not be labeled as such, thus symbolic images and rituals are necessary to maintain cohesion when not engaging in criminal actions (Katz and Jackson-Jacobs, 2004; Kenney, 1995). Gang leaders often encourage delinquent acts in order to sustain group cohesion, and gangs use symbolic violence (e.g., policing strangers, protecting residents) to claim territories and create symbolic maps of their neighborhoods (Fagan, 1989; Venkatesh, 1997).

Similarly, terrorist groups often require potential members to commit illegal acts as part of the group initiation, which increases investment in the group and makes it difficult to leave. Individual members derive satisfaction in contributing to a meaningful purpose through violence (Crenshaw, 1987). Terrorists further create cohesion through the common ideology that drives the planning of attacks and crimes; specific strategies symbolize the collective goals of the group (Crenshaw, 1987). Altheide (1987) notes that victims of terrorist attacks are merely “vehicles for making a point, establishing a symbolic victory, or asserting an identity as a viable force.” (p. 162)

Rational Choice Theory and Terrorism

Rational Choice Theory

Rational Choice Theory stems from economics and argues that people act to maximize benefits and minimize costs. Related to criminal behavior, offenders seek to benefit themselves and weigh the “choice-structuring properties” of alternative actions (Cornish and Clarke, 1987, p. 935). After considering the skills required, potential benefits, and costs/risks, offenders make decisions to engage in a criminal act (or not) and the methods to employ. Cornish and Clarke argue that to understand and prevent crimes, one should look at the motives, opportunities, rewards, and costs offered by various activities. Importantly, choice-structuring properties not only provide information about the crime but also tell us about the offender (e.g., his/her needs, preferences, personal characteristics, and perceptions). Understanding how terrorist opportunities are driven by terrorist motivations and are exploited will enable law enforcement and policymakers to manipulate situations to increase risk, increase difficulty, and decrease rewards (Clarke and Newman, 2006).

When applying rational choice theory to terrorism, it is important to consider the goals of the perpetrators because these goals guide strategic decisions. The individual or organization may be using violence to create a climate of fear, create media sensation, or humiliate officials and government (see Clarke and Newman, 2006, p. 24 for a more comprehensive list). Not only do terrorists choose violence from many alternatives, they also engage in a deliberate planning process that involves many decision points to maximize the benefits from the assault. One must trace the sequence of decisions at each stage of planning to fully understand and

prevent attacks (Clarke and Newman, 2006; Cornish and Clarke, 1987; Ross and Gurr, 1989). Examining terrorists' claim-making decisions will clarify whether they engage in a rational calculus both during and after the attack.

Although much of the literature considering terrorism in terms of rational choice focuses on public policies' deterrent effect on terrorism (for example, see Dugan, LaFree, and Piquero, 2005), one should consider the choice of targets and its effect on media manipulation as an exercise in rational decision-making as well. As Guerette, Stenius, and McGloin (2005) point out, "Rather than randomly and aimlessly carrying out a crime, individuals select targets to fulfill their respective needs in response to individual motivations. Contextual and situational factors... heavily influence the criminal event decision." (p.80)

Literature implies that terrorist groups convey messages through the strategies employed in their attacks, either explicitly through communiqués or implicitly through decisions such as their choice of victims. Targeting the general population may send an ambiguous message that necessitates the terrorists identifying themselves post-attack and clarifying motivations via statements in the media. However, when victims are highly specific and symbolic, there is less need to formally announce involvement in an attack. By choosing a particular target, terrorists manipulate the costs and benefits of communicating with the media.

Benefits of Claiming an Attack

Katz (1988) argues that those using violence in a public setting are acting not just to resolve the incident at hand, but also to affect the audience's future perception

of them. Gangs often “parade” (walking in unison past a public audience while displaying gang colors/insignia) as a means of shocking the public and forcing their values onto a public scene (Katz, 1988; Katz and Jackson-Jacobs, 2004). As Katz (1988, p. 144) writes, “Parading... is seductive as a way of injecting self-confident expressions into the consciousness of a mass of observers. It follows that the mass media’s coverage of ‘gang activities’ is a powerful stimulus to members’ involvement.” Public displays of violence benefit individuals in the gang, as such exhibits communicate the ruthlessness of the gang and its members. By advertising membership in a gang, an individual may be protected against violence; anyone who considers brutalizing them sees the threat of gang retaliation (Katz and Jackson-Jacobs, 2004; Sobel and Osoba, 2006).

For terrorists in the U.S., the media makes the attack public, affects the perceptions of society, and enables the individual or organizations to justify their actions as well as call attention to their causes (Nacos, 2002; Picard, 1993). The main benefit of formally claiming responsibility of a terrorist attack is increased publicity, as media outlets are more likely to report on attacks in which responsibility is known (Weimann and Winn, 1994)¹. Through publicity, terrorist groups spread fear and stress in the public, increase the likelihood that others will imitate attacks, and convey political/religious motives. Mass media exposure magnifies the importance of the event; terrorists stage the event (when and where it will take place) to maximize

¹ Weimann and Winn (1994) found that for ten out of twelve newspapers studied, known or claimed responsibility for a terrorist event had a significant correlation ($r=0.22$) with newspaper reporting space. Conversely, unknown responsibility had a significant negative correlation ($r=-0.17$) with media coverage.

shock value (Clarke and Newman, 2006). By publicly announcing responsibility, they are feared and thus earn attention due to the threat they pose (Picard, 1993).

Terrorists also use formal claims of responsibility to justify their actions, which parallels what has been observed in organized crime. Scholars note that gangs and organized crime syndicates disseminate information to earn goodwill from their community (e.g., Sicilian Mafiosi argue that force is necessary for the benefit of the group; Skaperdas, 2001) or provide public services to their neighborhood (Venkatesh, 1997). Skaperdas (2001, p. 186) wrote that "... the outward projection of the provider-of-public-good image is often an important, if not necessary, component of organizations that have matured enough to compete with the state itself." Similarly, the terrorist group must show that violence was used in the name of the common good. The more violent the act, the more the terrorists have to explain and justify it—they often compare it to being in a state of war (Clarke and Newman, 2006).

The Italian mafia justified involvement in illegal activities as a means of succeeding in a society that denied them access to legitimate political and economic opportunities (Lupsha, 1981). Likewise, by describing real needs and justifying objectives that necessitate violence, terrorists attempt to convince potential supporters in the public of their moral legitimacy (Smilansky, 2004). Ross (1993) notes that terrorism relies on the communication of grievances through the media to disgruntled populations, who will then be motivated and inspired to action. Terrorists cannot exist without broader sources of active or passive sympathy, resources and support (Cronin, 2002). Recruitment and funding are essential to maintain the terrorist organization, and public opinion affects financial and operational support given to the

terrorist group (United States Institute for Peace [USIP], 1999). To the extent to which terrorist groups can obtain public support, they will be more successful.

Costs of Claiming an Attack

There are costs associated with publicizing one's involvement that must be weighed against the benefits. Publicity garnered by a terrorist attack may backfire due to the "event-oriented" nature of media in the United States; although terrorists are likely to receive media attention, this does not automatically confer legitimacy. Unlike legislators (who have large media relations department and are able to make clear decisions about how to act and what to say in public), terrorist relations with the media are furtive and they are less able to refine communications (Altheide, 1987; Clarke and Newman, 2006). The tactics and aftermath of terrorist attacks are likely to be reported by the mass media, but the social conditions precipitating the attacks are not (Altheide, 1987).

The death of citizens and resulting chaos encourage governments to deny the legitimacy of the organization's specific grievances. Policymakers are able to focus on punishing the terrorist act itself without publicizing the underlying issues (Chermak and Gruenewald, 2006; Picard, 1993). The governing agency instead argues that the group is trying to destroy a way of life and, therefore, it is futile to negotiate (Abrahms, 2006). When the message is communicated inaccurately, the terrorist group may risk losing the support of its constituency (USIP, 1999). Public awareness campaigns that condemn the use of terrorist violence have been shown to effectively influence opinions and behavior when strategically targeted to potential

supporters of terrorism in the population (Funes, 1998). Without public support, claiming an attack may evoke outrage towards terrorists if they continue to use violence when their audience opposes it (Ross and Gurr, 1989).

Claiming an attack also removes the potential for anonymity and makes the group vulnerable to counterterrorism measures (e.g., military actions and economic sanctions for state sponsors; Hoffman, 1996; Jenkins, 2001; Rapoport, 1997). Globalization makes it easier for a terrorist to travel undetected, increasing the difficulty to trace a terrorist attack to its source and further decreasing incentives to publicize involvement (Cronin, 2002). This desire for anonymity is contrasted by the organized crime literature that notes logos or gang colors are displayed by members to *communicate* the threat of retaliation by the gang. Gang members proclaim their membership loudly as a means of protection from violence (Sobel and Osoba, 2006), while terrorists may choose anonymity to protect themselves.

The decision to claim an attack therefore involves rational calculus on the part of terrorists, a calculus in which certain variables play a particularly important role. The present research examines the influence of the type of target (whether a specific target or the general population) as well as the reduction in claim-making over time resulting from changes in risk and other factors.

Communicating Through Choice of Targets

Katz (1988) discusses symbols used to implicitly communicate a criminal message; gangs or delinquent groups are collective movements that use their style (e.g., leather, scars, sunglasses, and tattoos) to communicate their feelings of

invulnerability, alienation, and their superiority to conventional moral appeals. These physical symbols of the “badass” communicate a warning of danger that is ominous because it is automatic, intimating that the individual will not waste time rationalizing about the use of violence. On the other hand, terrorists are not visible and therefore use their acts of violence as symbols. Although the terrorists themselves are not visible, the terrorist act is public because society must see and react to the attack. When choosing a target, it is important for the terrorists to consider its iconic value (i.e., the target’s symbolic value to society; Clarke and Newman, 2006).

Using the Global Terrorism Database (LaFree and Dugan, 2007), I examine whether the choice of target (specific targets or the general population) is related to formal claims of responsibility. The terms “general public” and “specific target” have not been operationalized in previous research. In this research, I applied a set of criteria pertaining to a variety of contextual factors to determine whether the target was the general public or a specific entity (described in the methods section). Meanwhile, when discussing targets, the term *public* refers to a location shared by people regardless of demographic characteristics (e.g., a tourist attraction). *Specific* targets are those locations occupied by or serving a population that shares a common demographic characteristic (e.g., a homosexual nightclub).

Different forms of terrorism (e.g., hijackings, suicide bombs) have different objectives, and the terrorist group must consider the opportunities before them, the resources they have available, and the desired goal (Clarke and Newman, 2006; Pape, 2003). Though terrorism has the appearance of being indiscriminate, targets are deliberately chosen to maximize the desired impact (Garrison, 2003; Ross and Gurr,

1989). Schmid (1983) argues that terrorism is aimed at individuals in order to promote fear in other members of the population; the target is less important than the reaction of society. As with Katz's (1988) cold-blooded murders, the targeting of innocent victims is important to evoke dread among the public. Though targets are not random, the victims often seem to be, which causes public anxiety, fear, and behavioral changes (Garrison, 2003). With chaos ensuing after a terrorist attack, governmental leaders of the population are encouraged to satisfy the demands of the terrorists or draw attention to the terrorists' cause (Ross, 1993; Sunstein, 2003).

General vs. Specific Targets

When planning an attack, the group must anticipate the process by which the audience defines, interprets, and understands the symbolism of the attack (Altheide, 1987). The legitimacy of the target heavily influences public perceptions and affects whether the group needs to justify their actions after the attack. The general population is less likely to be seen as a "legitimate" target and will lead to more anger towards the terrorist group, compelling the group to issue a public message (Hoffman, 1999; Picard, 1993).

It is important that the terrorists' message be clear when targeting the public for two reasons: 1) the terrorists are more explicitly trying to communicate with the government by attacking the people to which the government is accountable, and 2) the group or individual responsible may be trying to gain support from non-victims and therefore must clearly outline and justify the reasons behind the attack (Altheide,

1987, Hoffman, 1996). Without an accompanying statement of policy objectives the terrorists' intentions are more easily misconstrued and discredited (Abrahms, 2006).

Some terrorists choose to attack specific targets that have intrinsic value to a particular population the terrorist is trying to provoke; for example, left-wing groups often attack elite targets symbolizing authority (Cronin, 2002). Garrison (2003, p. 43) writes, "Terrorism does not seek specific victims, but it does seek specific targets for a specific outcome." Katz (1988) notes the importance of choosing victims; the "badass" more efficiently proves his mean spirit by targeting vulnerable victims in respectable places (e.g., elderly library patrons). In the same manner, by attacking highly symbolic and specific targets, terrorists are able to adjust the costs and benefits of the attack in its entirety—including the decision to claim responsibility.

When the costs of formally claiming an attack outweighs the benefits, groups may let the symbolism of the attack speak for it, known as "propaganda by deed" (Garrison, 2003, p. 45; Gearson, 2002). The terrorist group can instill fear in a target audience (a benefit) by attacking symbolic members of that population. If the target is symbolic *enough*, the message meant to be conveyed by the group is unambiguous and precludes the need to formally claim responsibility (Rapoport, 1997). Benefits are thus realized without additional effort, and the terrorists avoid manipulation of their message as well as potential counterterrorism measures. When terrorists choose to target a specific organization or individual, I expect that they will be less likely to claim the attack because they do not gain additional benefits.

Change in Targets and Claims over Time

Another way to apply rational choice theory to terrorists' decisions is by examining changes over time; it is likely that the benefits and costs of claiming an attack vary. According to Hoffman (1996, 1997, 1999), unclaimed attacks in the U.S. have become more prominent over time with increased counterterrorism measures (e.g., economic sanctions against state sponsors, increased funding for U.S. agencies) and changes in terrorist group agendas. Terrorism by religiously-motivated groups and amateurs² has increased over time. Religious groups do not feel they need to justify the attack (because their legitimacy comes from religious doctrine) while amateurs often do not have a clear rationale that can be easily communicated.

Few empirical studies have examined the change in U.S. terrorism over time, though previous literature implies that there are noteworthy differences across decades. Scholars such as Enders and Sandler (2000), Garrison (2003), Hoffman (1999) and Jenkins (2001) argue that in the 1960s and 1970s, Middle-Eastern-based terrorism in the U.S. was geared at gaining publicity for a cause. In the 1980s, attacks were often followed by credit-taking or by warning about future attacks if there was no change in U.S. policies. In the 1990s, attacks were claimed less often. Terrorists also increased the casualty count over time to maximize not only media attention but also public anxiety (Enders and Sandler, 2003; Hoffman, 1997).

However, Martha Crenshaw (2000, 2006) contends that the evidence suggesting a "new" terrorism is weak, and that the perception of changing

² Enders and Sandler (2000) and Hoffman (1997) characterize amateur terrorists as being less disciplined, lacking leadership, and less structured than radical or state-sponsored groups. These terrorists did not undergo extensive training and do not have access to weapons to the same extent as professional terrorists.

motivations and tactics over time may be driven by events occurring within a short period of time (but not necessarily linked by causal factors). She argues that even with the seeming (though not proven) increases in religious terrorism, contemporary groups differ in terms of organizational structure, social rootedness, and tactics.

If terrorists are engaging in rational decisions, it seems reasonable that increasing emphasis on counterterrorism and changes in terrorist motivations as described above would decrease the perceived benefits of claiming attacks over time. Therefore, I expect to find a negative relationship of time with terrorist claims.

Purpose of the Present Research

All violent terrorist acts involve publicity in some form, even without formal claims. The Shining Path in Peru, for example, avoided the media, but their acts were so violent they encouraged publicity through word of mouth (Clarke and Newman, 2006). Terrorist organizations are aware that they will be the primary suspects if the target is specific enough; news organizations will likely report on them and their cause without the risk of an explicit claim of responsibility (Nacos, 2002).

It is common for targets of violence to be a direct or symbolic source of perceived injustice (Katz, 1988). Here, audiences understand the symbolism of a specific target, and the intended benefit is realized (Nacos, 2002; Smilansky, 2004). This process is facilitated in contemporary times by the internet, which empowers communication such that news of violence is spread easily across geographically

distant groups (Clarke and Newman, 2006). Overall, the literature suggests that making a post-attack claim is less important (or is more costly) for contemporary terrorist groups, no matter who they target.

Previous literature discusses formal claims for terrorist attacks in terms of the larger context of planning and emphasizes why terrorists issue manifestoes and communiqués after attacks. The choice *not* to communicate with the media is not generally discussed as a deliberate choice of terrorists³ and tends to be examined cursorily in the context of other situational variables (e.g., FRD, 1999 and ideological/religious perceptions of terrorists; Hoffman, 1999 and support from local populations; Pape, 2003 and suicide terrorism). Further, this topic has not been subjected to empirical analyses. It is discussed in theoretical terms that assume differences exist between claimed and unclaimed attacks, but not quantified or tested.

There is more empirical research on the factors motivating the choice of targets by terrorists, but previous literature has not linked this to post-attack communication. Nor has previous research more generally associated decision-making by the terrorist group during attack planning to post-attack claims. This study explores the differences between claimed and anonymous attacks and lays out potential issues for future research into how terrorist claim-making is influenced by earlier stages of attack planning.

³ An exception to this is Hoffman (1996, 1997, 1999), who argues that terrorists are less likely to claim attacks in the face of increased counterterrorism efforts.

Hypotheses

This thesis investigates whether terrorists engage in a rational calculus in deciding to formally claim responsibility after an attack, which is affected by the choice of target (specific targets or the general population). Terrorist groups seek to advertise a particular message, but targeting specific entity is unambiguous and does not necessitate clarification through a formal message post-attack. Further, changes in counterterrorism efforts and terrorist agendas may affect the decision to claim attacks over time. Therefore, I propose two hypotheses:

1. When terrorists attack a specific population (i.e., members sharing a common characteristic) they are less likely to claim the attack because there are no additional benefits realized in doing so.
2. Independent of target choice, the decisions to claim attacks will decrease over time due to increased counterterrorism efforts and changes in terrorist motivations.

Chapter 2: Methods

Attribution versus Formal Claims

I use data obtained from the Global Terrorism Database (GTD) spanning the years 1970 – 1997. The GTD is housed at the University of Maryland’s Center for the Study of Terrorism and Responses to Terrorism (START). As previously noted, for every incident included the GTD contains information about the date, location, weapons used, the target, number of casualties, and (when identified) the group/individual responsible (LaFree and Dugan, 2007). This database is particularly advantageous to this research, as it is comprised of events reported by the media and thus has the capacity to measure extremists’ use of publicity directly. This is better than using data that do not include media sources (e.g., court data or law enforcement records) because it allows for better inferences about the link between terrorist attacks and media coverage.

However, it is possible that the media attributes a terrorist attack to a particular group without a formal claim, making it unclear if incidents were coded as claimed in the GTD because groups were actually communicating with the media. To investigate this, I drew a random sample of 100 cases from the original database and recoded its claimed status. I used academic databases containing historic newspapers (e.g., LexisNexis, Proquest) to find the original source of the data, as well as supplemental media coverage of the incident to compile an accurate description of the attack. Incident data on attacks prior to 1977 could not be retrieved due to the original

source being unavailable (e.g., it was only mentioned in small local newspapers or the source is out of print). In such cases, the incident was dropped and a new one was randomly selected to replace it. The resulting database only contains incidents occurring in 1977 and beyond, a bias that will be addressed in the analysis.

I used this information to determine how often attacks were coded as claimed in the GTD when in fact the media assigned responsibility to a particular group based on other factors. This provides a test of whether I can use media attribution as a proxy for whether an incident is claimed. I also compared my analyses on the larger dataset to the same models run on the smaller dataset to determine if results differ.

This detailed examination of a sample of cases also provides an opportunity to describe the difference between claimed and unclaimed attacks, which has not been extensively analyzed in the literature. The in-depth look at the sample of 100 enables us to understand better the context in which groups claim an attack. To this end, Chapter 3 includes a description of differences between claimed and unclaimed attacks such as tactics used, weapons used, decisions made by the terrorists earlier in the process, and media responses. I also collected data on arrests and other post-attack consequences in hopes of assessing cost and benefits of claiming attacks.

Use of Existing Data Source

This research only examines incidents that occurred in the United States. This includes both domestic and transnational attacks within U.S. borders but does *not* include U.S. targets in foreign countries. American capitalistic cultural values create

anger among insurgents who view American policies as perpetrating economic inequality and exploitation in the U.S. and abroad (Vaisman-Tzachor, 2006). U.S. nationals have most consistently been targets of terrorists since 1968 (Cronin, 2002). In addition to domestic groups (e.g., anti-abortion terrorists and right-wing separatists), the U.S.'s engagement in international politics and its allies make it susceptible to attacks by parties from all over the world (Crenshaw, 2001). The variety of motives is beneficial in exploring terrorist decision-making.

Another advantage of using incidents occurring in the U.S. is demonstrated when considering the ability of U.S. law enforcement to track terrorists overseas. Terrorists are less likely to be brought to justice in those cases, as the U.S. is not generally successful in capturing terrorists abroad (Sandler, 2003). By using U.S. data I am in a better position to assess law enforcement influences on rational decisions.

However, to the extent that issues promoting terrorism in the U.S. are unique, external validity will be limited. While it may be that similar models will produce similar results in other Western democracies, it is likely that terrorism in the U.S. is truly unique and these results could not be replicated. This does not mean the analysis does not have value; researchers should look at the present research as a starting point from which to expand the literature on terrorist manipulation of the media.

Advantages and Limitations of the GTD

The GTD is the best available database from which to gather data because of its breadth; it is approximately seven times larger than other datasets from the same time period and provides a large amount of information on both domestic and

transnational terrorism in the U.S. (LaFree and Dugan, 2007). This information comes from a variety of open sources, including wire services (e.g., Reuters), U.S. State Department reports, other U.S. and government reports, and U.S. and foreign newspapers, among others. Another advantage of the GTD is the consistency of the data collection effort; only two different managers oversaw data collection efforts from 1970 to 1997. The stability of oversight and related policies likely contributed to the reliability of information contained in the GTD (LaFree and Dugan, 2007).

The GTD is not without its limitations, which include those common to most open-source terrorism databases (such as International Terrorism: Attributes of Terrorist Events [ITERATE] or the Memorial Institute for the Prevention of Terrorism [MIPT] and RAND's terrorism data). All rely on news sources and are therefore biased towards more sensational forms of terrorism. It is also important to note the problems in identifying anonymous attacks as terrorism, as media sources are often unable to identify the perpetrators (and motives) of violent attacks, making it difficult to discern between acts of crime and terrorism (LaFree, Dugan, Fogg, and Scott, 2006). This has special implications for the research at hand; if anonymous attacks are not accurately identified as terrorism, then the database may be biased disproportionately to include operations that are claimed.

It is important here to realize that the GTD uses a broad definition of terrorism for inclusion, which may mediate the bias towards claimed attacks. Again, the definition used is “the threatened or actual use of illegal force and violence by nonstate actors to attain a political, economic, religious or social goal through fear, coercion, or intimidation.” (LaFree, Dugan, Fogg, and Scott, 2006, p. 21) This

definition encompasses aspects of terrorism that many other databases ignore; namely *threats* of violence, economic and religious objectives, and domestic incidents. The original data collector was a private organization providing risk assessments to corporate clients who were concerned about risks from *any* terrorist actions regardless of political or religious motivation, civilians or government victims, or claimed or unclaimed attacks. The organization felt inclusiveness would benefit their clients. Therefore, anonymous events that are missed by other databases may be more likely to be picked up for entry into the GTD (LaFree et al., 2006).

A limitation unique to the GTD involves the loss of all 1993 data during an office move prior to START's possession. Much of the 1993 data was re-created, but START has been unable to obtain the full number of terrorist attacks that PGIS documented. To be more specific, the re-creation yielded 1,100 cases as opposed to the original 4,954 from PGIS. The problem arises from the inability to retrospectively retrieve sources, such as local newspapers in foreign countries, given the resources available. Since I am using the U.S. subset of the data, this limitation is less problematic for my analyses than if I were analyzing international data. According to a PGIS annual report, there were 28 incidents in the United States in 1993. The re-created data retrieved 20 incidents, or about 71 percent. In conclusion, though it is not perfect, the GTD is clearly better equipped than other databases to study the research question at hand.

Excluding Cases

The current database consists of 1,087 unique terrorist operations in the United States between 1970 and 1997, which may contain multiple incidents (e.g., a bombing campaign may result in bombs placed in multiple locations)⁴. These operations include those attacks indirectly furthering the objectives of the terrorist organizations (e.g., armored car robberies to obtain funds) as well as those operations staged for the explicit purpose of communicating the group's objectives. Since my theory focuses on extremists' attempts to use the media after attacks to *directly* further their cause, I dropped activities such as robberies ($n = 12$), reducing the sample to 1,075 operations.

I also dropped cases from the National Abortion Federation's (NAF) website because the origin of information contained in the website is not known and may not be from open sources. Cases of abortion clinic violence from other sources were kept in the data, as collection of this data was consistent with GTD source allocation. Dropping the cases from NAF's website resulted in the exclusion of 200 operations, bringing my sample to 875 operations.

Some terrorist incidents were claimed by multiple groups, which creates ambiguity in the analysis should such cases be included. When groups claim attacks for which they are not responsible, they are clearly not influenced by the population targeted and thus the model does not apply. Seven operations involving more than one claim were dropped from the analysis, bringing the sample size to 868 operations.

⁴ Although operations contain multiple incidents, the incidents are identical (e.g., three car bombings) and do not contain a mixture of target types. If targets differed the incidents were coded as separate operations.

Lastly, upon recoding the types of targets, I discovered 14 operations in which the target name was coded as missing or unknown. Given the importance of this variable for the analysis at hand, those cases were dropped. This brought my final sample size to 854 attacks.

Theoretical and Operational Definitions of Concepts

Formal Claim for Attack

The dependent variable is whether attacks were followed by claims of responsibility. In the GTD, this is represented using a dummy variable (1 = claimed, 0 = not claimed). This variable was created under the assumption that if the media source contains a specific group's name that the attack was claimed. If the group name listed in the database was a generic name (e.g., "anti-abortionist") or was missing then the attack was *not* considered to be claimed.

In the random sample of 100 cases, claim of responsibility was again represented using a dummy variable (1 = claimed, 0 = not claimed). However, in these cases, the incident was not coded as claimed unless the article explicitly stated that terrorists made post-attack contact with the media. For example, in news stories describing two abortion clinic attacks in Atlanta, Georgia, a statement read "The FBI will make a public appeal for help today by releasing copies of letters claiming responsibility for two bombings in Atlanta." Both incidents were coded as claimed.

Type of Target

My main interest lies in the relationship between whether attacks are claimed and whether the target is the general public or a specific target (e.g., a business or religious leader). In both databases, the independent variable is measured by one binary variable representing whether the target was the general population or a specific target (1 = specific, 0 = general). In reviewing the specific descriptions of the targets, I noted that there was much ambiguity in the original coding. To better disentangle whether the attack truly targeted the general population or a specific target, I used outside resources (e.g., Memorial Institute for the Prevention of Terrorism's [MIPT] Terrorism Knowledge Base [TKB], Federal Bureau of Investigation's annual reports *Terrorism in the United States*, globalsecurity.org, websites of the businesses or buildings targeted) to gain a better understanding about every incident's target in the database.

It is important to note that retroactively coding targets based on outside sources introduces potential bias to the analyses. If these sources did not include smaller (less damaging) attacks or attacks against less popular targets, I had less information to guide target coding. Should there be an imbalance in how I correctly coded targets based on the scale of the incidents, this may affect my results to the extent that smaller incident targets drive the decision to claim or not claim such incidents. For example, suppose I miscode a small-scale claimed *public* attack as targeting a *specific* target. If terrorists are more inclined to provide justification after attacking the general public, my incorrect coding would erroneously imply an increased likelihood of claims after targeting a specific entity. The use of diverse

resources (e.g., government reports, business websites) should lessen the potential for bias, but it is important to consider.

Using all available information, I went through the 854 incidents in my database and hand-entered the appropriate target code. When deciding how to recode the true target population of an attack most accurately I used a variety of contextual conditions, as described in the following criteria:

- **Who the attack was intended to hurt the most:** I determined the name of the target or location by looking at the target description in the GTD and conducted research on the site to identify the population served. If the target was frequented by (or served) a diverse population (e.g., a nightclub, the post office), then it was coded as a general population target. If the target was chosen because the people frequenting it were of a particular demographic (e.g., a homosexual nightclub, a bar with black patrons) then I recoded that as a specific population target. If the target was a foreign business, agency, or individual (e.g., a foreign airline, embassy, or ambassador), it implied service provision to a specific population and was generally coded as a specific target.
- **Tactic:** If the intended population remained ambiguous, I considered the tactic as an indicator of the true target. For example, an attack involving a bomb implies intent to injure a large number of people because bombs maximize damage and the terrorists are not able to control who is in the general location. Therefore, if a store was targeted with an explosive and no other indication was given that the company was a specific target (e.g., from the incident description), that particular incident was coded as targeting the general population.

- **Banks:** Many times, banks were targeted for the purpose of robbing them to obtain money. There is a variable in the database that denotes whether the attack was actually a robbery; if this was the case, these attacks were dropped as they do not directly serve to promulgate terrorist ideology. Otherwise, the tactic determined classification. If a bomb was planted at a bank, this suggests that the general population was targeted. Facility attacks, on the other hand, indicate that the terrorists were present at the time of the attack (e.g., in a hostage situation or hijacking). If the tactic listed was an attack on a facility, then I coded it as a specific target because the terrorists were in control over who was targeted by the weapon used.
- **Government target:** Targeting the general population is thought to undermine the public's belief in the government's ability to protect them (Clarke and Newman, 2006; Sandler, 2003). Terrorists may be able to do this more directly by targeting government figures and property. Though many would consider government targets to be highly symbolic (Altheide, 1987), their widespread allure as targets for terrorism makes the act itself ambiguous; the audience cannot infer a group-specific message from the attack itself. Thus, most attacks on well-known government entities (e.g., that are likely to draw tourists or serve as a gathering place for the public) were coded as general public targets. Conversely, some government agencies are not easily identifiable (e.g., are in a nondescript office building) and are not likely to be populated by the general public. If the agency was relatively obscure (e.g., Department of Justice Environmental Crimes

division) or if the act seemed to be an act of retaliation (given the description of the incident), then such incidents were coded as specific targets.

Time

It has been noted in the literature that terrorist groups have increasingly remained silent after committing an act of terrorism in recent decades (Hoffman 1996, 1997, 1999). This may be due to the increased emphasis on counterterrorism strategies, changes in overall motivations for terrorism, learning from previous experiences, or learning from the examples of other terrorist groups. I examine time as a categorical variable as well as a continuous variable to see how its effect differs as a function of assuming a linear relationship with claim-making.

Control Variables

When engaging in exploratory research such as this, it is important to control for variables that may mediate the relationship between the main variables of interest. By partialling out variance from potentially confounding sources, I can be more confident in type of target's influence on claim-making. All control variables are coded the same way in the large GTD and small 100-case database.

First, it is necessary to account for the tactic used in the incident: whether the attack was a bombing, facility attack (meaning that the terrorists were present during the attack as in a hostage situation), or other type (including assassinations, hijackings, kidnapping, and assaults). Certain organizations or individuals have

signature methods of committing terrorism that may be unique enough to circumvent the necessity of a public claim for the attack. At the same time, the tactic may change according to the appropriateness for the population targeted (e.g., bombings may be more useful for attacks against the general public whereas assassinations may be more useful for specific targets).

Whether the attack was successful likely influences the perceived benefits of the attack and in turn may affect whether an attack is claimed, regardless of the type of target (Ross and Gurr, 1989). Conversely, the target may determine whether the attack was successful (e.g., private businesses may have more security). This is coded as a dummy variable, with a value of “1” indicating that the attack was successful.

Another perception of benefits gleaned from the attack may be related to the amount of injuries or deaths, controlled for using a count variable summing the number of wounded and killed. In its original form, this variable has a few outliers and ranges from 1 to 1006. I used the natural log of this variable to reduce the effect of the outliers.

Although the data describes terrorist operations on U.S. soil, targets include both U.S. and foreign nationals. The nationality of target choice may be relevant in determining whether an attack is claimed or not, given different motives of terrorist groups originating from different countries that may operate in the U.S. The nationality of the target is included as a binary variable (1 = U.S. target).

Analysis

Before running the formal analyses, it is important to understand how unclaimed attacks differ from those claimed. Obtaining the data on the subset of 100 cases provided the opportunity to investigate these differences in depth. To this end, I will run *t*-tests on those attacks that were claimed versus those that were unclaimed to determine if means differed significantly between the two types of attacks. I will also use *t*-tests and ANOVAs to ascertain whether those attacks in which claim status was incorrectly coded are more similar to claimed or unclaimed attacks. This provides information about how measurement error may affect the regression analyses on the larger GTD.

The dependent variable in the regression models measures whether or not the attack was claimed (i.e., is a binary variable with values of 0/1), which requires analysis using a nonlinear model. I use STATA 9.2's logit procedure to run the appropriate logistic regression on the data. Significance in the specific target and time variables are based on a one-tailed test with $\alpha = 0.05$, while all other variables reflect two-tailed hypothesis testing with $\alpha = 0.05$.

Three models are evaluated. The first only includes those variables related to targets, tactics, success, and casualties. The second and third models include years, examining the effect of time under two alternative specifications. The second model includes 26 dummy variables indicating year (1970 being the reference year) so that a linear relationship of claim status over time is not assumed. The third model treats time as continuous and investigates the potential for linear and curvilinear change in claim likelihood over time.

The final model can be expressed as:

$$\Lambda^{-1}(P(\textit{AttackClaimed} = 1)) = \beta_0 + \beta_1\textit{SpecificTarget} + \beta_2\textit{US} + \beta_3\textit{FacilityAttack} + \beta_5\textit{OtherTactic} + \beta_6\textit{Success} + \beta_7\textit{Casualties} + \beta_8\textit{Year} + \beta_9\textit{Year}^2$$

I will first run the three models on the large data in its entirety ($N = 854$) to examine how the original data looks. Then, to examine the extent that measurement error affects the results, I use the 100 recoded cases database to compare model results using the originally-coded claim status (imported from the GTD) versus the recoded claim status. This comparison will inform us about the validity of the dependent variable as originally coded. If results using the GTD claim status differ from those using recoded cases, then measurement error in the GTD may confound analyses on claiming attacks. I then further investigate the effect of measurement error on the larger database by comparing the analysis on the recoded cases ($N = 100$) to a subsample of the large dataset that contains only cases from 1977 to 1997 ($N = 423$). Using this subsample in the large database makes the GTD directly comparable to the smaller database, which only contains incidents occurring after 1977.

Chapter 3: Results

Description of Variables

A look at the descriptives in Table 1 demonstrates that a majority (66 percent) of terrorist attacks in the United States are claimed. Of the types of targets, almost two-thirds (64 percent) are specific targets while 36 percent of attacks targeted the general population. Bombing is clearly the terrorist tactic of choice, making up 79 percent of all attacks; facility attacks make up 11 percent of attacks while all other tactics (assassinations, hijackings, kidnappings, assaults, and arsons) comprise 10 percent. The incidents in the data are predominantly successful ones (83 percent) but tend to involve few casualties (2.59 on average). Terrorists operating in the United States attack U.S. targets (as opposed to foreign-born nationals or foreign businesses) about three-fourths of the time. Most attacks occurred earlier in data collection; 66 percent of attacks in the U.S. occurred before the mean year 1978.

Table 1: Descriptives of Variables Included in Models

Variable Name	N	Range	Mean	SD
Attack Claimed	854	0 – 1	.66	.47
General Population ^a	854	0 – 1	.36	.48
Specific Target	854	0 – 1	.64	.48
Bombing ^a	854	0 – 1	.79	.41
Facility Attack	854	0 – 1	.11	.31
Other Tactic	854	0 – 1	.10	.30
Success	854	0 – 1	.83	.37
Casualties	854	0 – 1006	2.59	39.51
Casualties (logged)	854	-6.91 – 6.91	-5.49	2.99
US Target	854	0 – 1	.77	.42
Year	854	1970 – 1997	1978.73	8.13

^aReference category

As mentioned above, a key limitation in using the GTD in the present research is the possibility that media sources were attributing terrorist incidents to groups without a formal claim. Such attributions would be coded as claimed in the GTD, thus it is necessary to determine the precision of the GTD's "attack claimed" variable. To do this, I recoded the claim status of 100 randomly-selected cases, looking for explicit statements indicating whether the terrorists responsible contacted the media.

Comparing the percent of claimed attacks in the recoded cases to that for the GTD (Table 2), one sees that a smaller proportion of incidents in the smaller database were coded as claimed. A chi-square test proved that amount of cases coded differently between the two data sets did not occur by chance ($\chi^2 = 38.72, p < 0.01$); after matching the recoded cases to their counterparts in the GTD, 19 percent (19 out of 100) cases were miscoded in the GTD. Of the miscoded cases, 7 were originally coded as unclaimed and 12 were originally coded as claimed. These results imply that associating a group with an incident in the media is not the same as a group claiming responsibility for the incident.

Table 2 provides descriptives from the 100 recoded cases as compared to GTD data. The unavailability of information affected the comparability of the data to the larger GTD such that the new database does not contain any incidents occurring before 1977 (see methods section). To obtain a direct comparison between the two datasets, when contrasting models I isolated the GTD data to the years 1977 – 1997.

Table 2: Descriptives of Variables Included in Models, GTD Cases (1977 – 1997) Compared to 100 Recoded Cases

Variable Name	GTD 1977 – 1997				100 Recoded Cases			
	N	Range	Mean	SD	N	Range	Mean	SD
Claimed	423	0 – 1	.60	.49	100	0 – 1	.51	.50
General Population ^a	423	0 – 1	.30	.46	100	0 – 1	.17	.38
Specific Target	423	0 – 1	.70	.46	100	0 – 1	.83	.38
Bombing ^a	423	0 – 1	.72	.45	100	0 – 1	.73	.45
Facility	423	0 – 1	.16	.37	100	0 – 1	.05	.22
Other Tactic	423	0 – 1	.11	.31	100	0 – 1	.24	.43
Success	423	0 – 1	.76	.43	100	0 – 1	.82	.39
Casualties (logged)	423	-6.91 – 6.91	-5.24	3.19	100	-6.91 – 3.87	-4.95	3.36
US Target	423	0 – 1	.75	.43	100	0 – 1	.67	.47
Year	423	1977 – 1997	1984.67	7.66	100	1977-1997	1986.09	6.89

^aReference category.

Description of Claimed versus Unclaimed Attacks

Examining the choice to claim in more detail provides a better understanding of the rational decisions behind terrorist planning and the differences between terrorist groups (Rapoport, 1997), as well as how measurement error affects my results. Drawing on the in-depth information in the 100-case database, this section first discusses differences between miscoded (i.e., truly claimed attacks were coded as unclaimed, or vice versa) and correctly-coded cases to see how measurement error may affect the findings. Then, I describe the claimed versus unclaimed attacks in terms of situational factors (e.g., time period), the context of the attack itself (e.g., tactics employed, weapons used, targets, whether the attack was successful), and the

consequences of the attack (e.g., casualties, arrests made, increased public fear, extra security, or policy changes). I also briefly describe the content of formal claims.

Comparing Miscoded to Correctly Coded Cases

To investigate how measurement error may impact the larger model, Appendix A compares miscoded cases to correctly-coded incidents to determine whether the miscoded cases look more similar to claimed or unclaimed attacks. Recall that seven cases were originally coded unclaimed and recoded as claimed, while twelve cases were originally coded as claimed and recoded as unclaimed. I ran t-tests to compare claimed vs. miscoded means, then unclaimed vs. miscoded means. I then ran ANOVAs and Tukey's B post-hoc tests to determine how the three categories looked when all were included in the analyses. Although there were few differences of note, I found that miscoded cases were significantly more likely to have involved arrests than either correctly-coded category.

Since miscoded cases do not look more like claimed as opposed to unclaimed attacks (or vice-versa), there is no strong evidence suggesting bias in the data such that claimed or unclaimed cases are more likely to be miscoded. The important variable, instead, is whether an arrest was made in the case. Cases may have been originally coded as claimed because someone was arrested, and therefore the incident could be attributed to a particular group although no formal claim was made. For those cases incorrectly marked unclaimed, it may be that the original coders did not put a group name when the responsible group was ambiguous (e.g., if an individual was arrested but did not have a group affiliation). Using recoded claim status, the

remainder of this section examines the differences between truly claimed and unclaimed attacks (see Table 3); knowing how they differ provides a better understanding about what variables drive a terrorist to claim responsibility.

Table 3: Means and *t*-test Results for Variables Related to Terrorist Claim-making, Claimed Attacks Compared to Unclaimed Attacks

Variable Name	Claimed		Unclaimed	
	N	Mean	N	Mean
Time Period*	51	1983	49	1989
Situational Variables				
Tactics				
Facility Attack	51	.06	49	.04
Bombing [†]	51	.80	49	.65
Other Tactic	51	.18	49	.31
Targets				
General Population	51	.16	48	.19
Specific Targets	51	.84	48	.81
U.S. Target*	51	.55	48	.79
Success	51	.86	49	.78
Consequences				
Civilians killed [†]	51	.08	49	.39
Civilians wounded	51	.35	49	1.24
Terrorists				
killed/wounded	51	.10	49	.24
Arrest Made	51	.29	48	.40
Number of Arrests	15	2.87	19	2.79
Public Response				
Extra Security	51	.41	49	.29
Public Fear [†]	51	.22	49	.37
Policy Change	51	.16	49	.16
Description of Claim				
Specific Demand	51	.39	--	--
Retaliation	51	.43	--	--
Future Attacks	51	.41	--	--

[†]*t*-test significant at $p < 0.10$ **t*-test significant at $p < 0.05$

Time Period

Claimed and unclaimed attacks vary significantly in terms of prevalence over time. The average year of claimed attacks is 1983 while the average year for unclaimed attacks is about six years later, in 1989. When examining the distribution across time, the differences are clearer; the median of claimed attacks is 1982 while the median of unclaimed attacks is 1993.

Tactics Employed

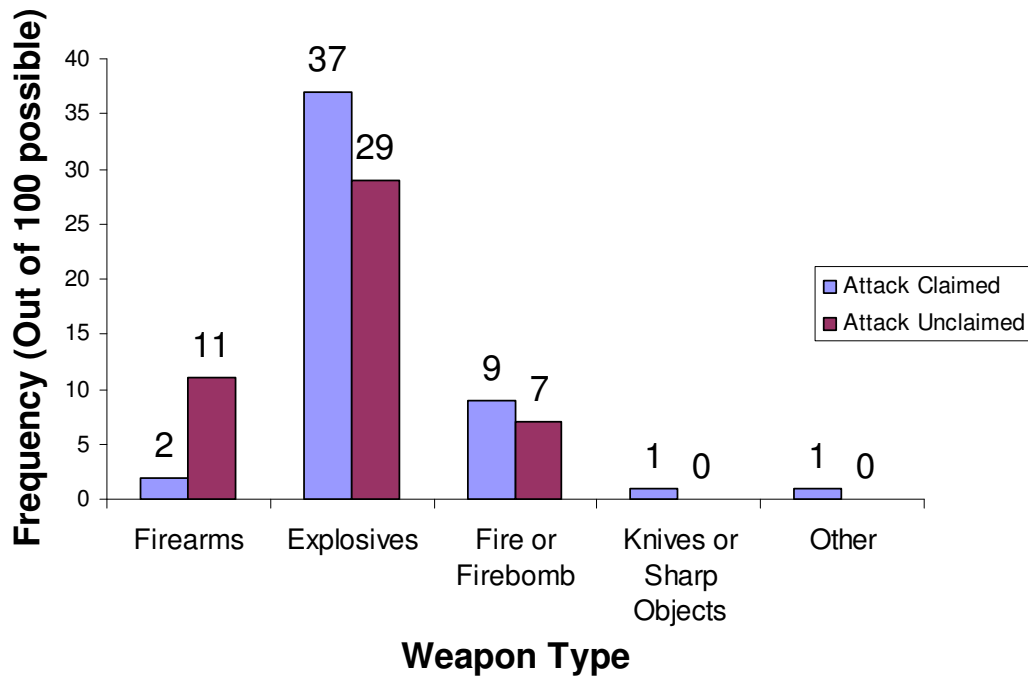
Unclaimed and claimed attacks look similar in the tactics involved. Claimed attacks involved warnings of the incident slightly more often; 18 percent of claimed incidents issued a warning prior to the attack compared to 13 percent of unclaimed incidents. Bombing is the favored tactic in both types of incidents (80 percent of claimed, 65 percent of unclaimed and 73 percent overall), but marginally more likely in claimed attacks. Facility attacks (those incidents in which the attackers were present at the time) were least likely to be used; this tactic was used in five percent of all incidents—six percent of claimed, and four percent of unclaimed. Attacks left unclaimed were slightly more likely to involve “other” tactics in place of explosions.

Weapons Used

Figure 1 shows that a majority of both claimed and unclaimed attacks used explosives. Out of 51 claimed attacks, 37 involved bombs (74 percent) compared to 29 out of 49 unclaimed attacks (62 percent). Claimed attacks were slightly more

likely to involve some form of arson (18 percent, as opposed to about 15 percent of unclaimed attacks involving arson). A much higher proportion of unclaimed attacks (23 percent) involved firearms than claimed attacks (4 percent)⁵, while the only attacks in the database using knives/sharp objects or other weapons were both claimed.

Figure 1: Frequency of Weapon Use, Claimed Attacks Compared to Unclaimed Attacks



Targets

Claimed and unclaimed attacks seem to target both the general population and specific individuals with similar prevalence. Of claimed attacks, about 16 percent targeted the general population while 84 percent targeted specific entities. Unclaimed

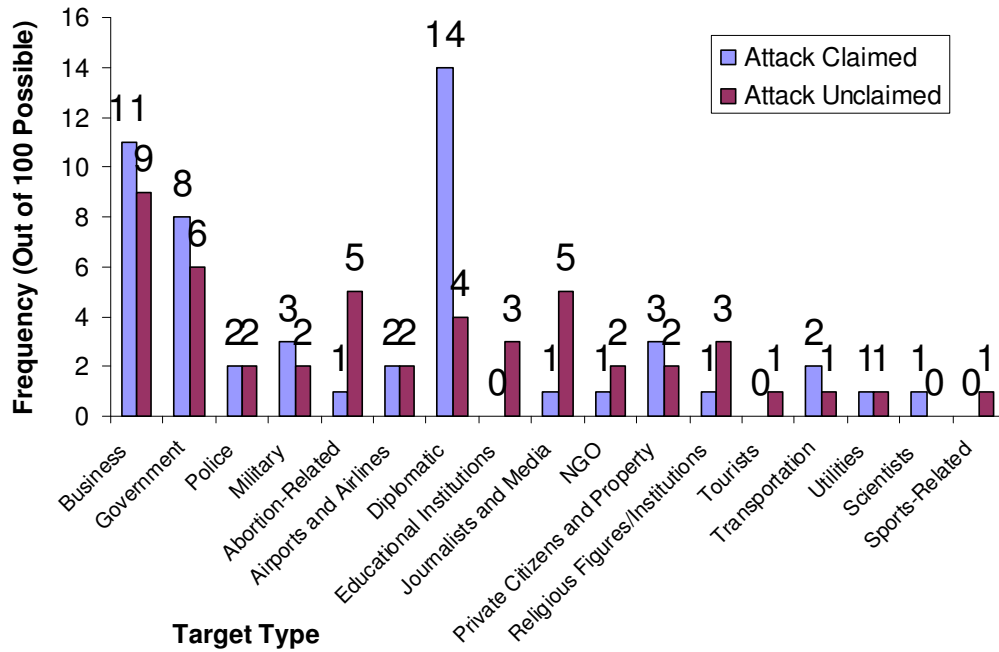
⁵ Differences were marginally significant ($\chi^2 = 9.37, p < 0.10$).

attacks targeted the general population about 19 percent of the time and specific targets about 81 percent of the time. Both claimed and unclaimed terrorist operations involved 1.67 unique incidents on average. The significant difference in targeting U.S. citizens or property is notable; 79 percent of unclaimed attacks target U.S. citizens or property as opposed to only 55 percent of claimed attacks.

When targets are broken into 21 unique categories, only three differences between claimed and unclaimed attacks stand out. Figure 2 illustrates that a higher proportion of unclaimed attacks involved abortion-related targets (about 10 percent versus two percent of claimed attacks) and journalists and media (10 percent versus two percent of claimed attacks). Conversely, unclaimed attacks were less likely to target diplomatic targets (about eight percent versus about 28 percent of claimed attacks). Terrorists attempting to disrupt international relations seem to take credit more often, while abortion clinic attackers and those targeting the media are satisfied with committing the attack itself⁶.

⁶ Differences were not statistically significant ($\chi^2=19.41$, $p>0.10$).

Figure 2: Frequency of Target Types, Claimed Attacks compared to Unclaimed Attacks



Success

Terrorist attacks were generally successful, which is not surprising given that media attention emphasizes actual (not merely intended) violence. Therefore, successful attacks are more likely to be included in this data. Success was slightly more frequent among claimed attacks (86 percent) than unclaimed attacks (78 percent).

Consequences of the Attack

Unclaimed attacks involve more victim casualties than claimed attacks ($t=1.95, p<0.10$). Unclaimed attacks average 1.24 victims wounded and 0.39 killed while claimed attacks average 0.35 victims wounded and 0.08 killed. Unclaimed

attacks also have more terrorist casualties on average (but this is not statistically significant). An average of 0.24 terrorists were killed or wounded in unclaimed attacks, compared to 0.10 terrorists killed or wounded in claimed attacks.

Also of note is that arrests are slightly more likely in unclaimed attacks (though not statistically significant). Forty percent of unclaimed attacks resulted in an arrest while only 29 percent of claimed attacks resulted in an arrest. When an arrest occurred, unclaimed attacks produced about 2.79 arrests on average while claimed attacks produce 2.87 arrests on average. It seems that claiming an attack may not increase the actual risk of being arrested.

Public Response

I also examined differences in how the media presented public responses to claimed or unclaimed attacks. The recoded 100-case database includes whether the articles mentioned anything about public fear, increased security around the target location, or policy changes (including legislative changes or negotiations with terrorists).

Mention of public fear occurred more often when the attack went unclaimed; it was mentioned in 37 percent of unclaimed attacks as opposed to 22 percent of claimed attacks. Moreover, themes of reported public fear differed by claim status. In stories about attacks not followed by claims, there were more mentions of the random nature of the attack and of the innocence of the victims. Civilians were buying bulletproof vests and weapons, and there were mentions of people calling in suspicious activity or suspicious packages to the police.

When an attack was claimed, the mention of public fear seems to focus more on the location; fear was not described as being widespread. For example, tourists said they would never visit New York again, neighborhood residents were frightened, or the passengers on a hijacked plane were panicked. In fact, anger and defiance by targets were reported more often. People were quoted as saying that they would not bend to terrorist will, or expressed anger at law enforcement for not doing enough to protect the targets. From my observations, the general public does not seem to fear terrorists as much when they provide an explanation for their actions.

The mention of extra security in newspaper articles occurred more often when an attack was claimed (41 percent) than unclaimed (29 percent; not statistically significant). The articles for unclaimed attacks seem to mention “extra police protection” or “increased monitoring” generally, while articles on claimed attacks included more specific preventive measures (e.g., reviewing mail-handling practices, examining known prior sites of attacks by the terrorist group, removing lockers from the train station).

When more is learned about the attackers and their motivations via communiqués, law enforcement authorities may be more confident in outlining specific steps to keep the public safe and allay fears. Public figures and law enforcement feel they can more specifically address security weaknesses when they understand the motives behind the attack (via communication from the terrorists themselves); in such cases, it seems they are more inclined to speak specifically about redressing security lapses.

Mentions of policy changes in the media occurred at the same frequency for both types of attacks (16 percent of both claimed and unclaimed), but differed by type in terms of the content of such changes. Obviously, negotiations with terrorists can occur only when attacks are claimed. Terrorists who identify themselves may achieve small concessions (e.g., getting their manifestoes published) by threatening more violence. When examining the differences between claimed and unclaimed attacks' media coverage, I noticed that when an attack goes unclaimed, the incident is more often used as a springboard for broader legislation that seeks to prevent future attacks (e.g., by restricting access to weapons via anti-gun legislation). When the terrorists are unknown, it seems that prevention focuses on broad legislative efforts; when attacks are claimed, such efforts tend to involve specific crime-prevention measures.

Description of Claims

Newspaper articles generally do not give many specifics of what a terrorist manifesto or communiqué contains, but instead discuss such claims in general themes. Of the 51 claimed attacks, terrorists made specific demands 39 percent of the time, 43 percent justified the attack as retaliatory, and 41 percent warned of future violence.

Effect of Measurement Error, Small Database

Before interpreting findings from the full model, it is important to determine how the miscoding of claimed status affects the results. Put another way, is it safe to

assume that an attack is formally claimed because a media outlet attributes an attack to a particular terrorist? Table 4 shows the full model run in the small 100 recoded-cases database, first using the original coding and then using the recoded claim status.

If the results differ between these two regressions, the results for the larger model presented above are likely biased. Appendix B provides illustrations depicting how this bias may manifest. Figure B.1 shows that if, in reality, specific targets increase the likelihood of a claim, then miscoding unclaimed attacks as claimed will bias the results toward zero. With this positive relationship, miscoding claimed attacks as unclaimed attacks would exaggerate a positive relationship. Conversely, if the true relationship between specific targets and claims is negative (as depicted in Figure B.2) then miscoding unclaimed attacks as claimed will exaggerate the relationship while miscoding claimed attacks as unclaimed will bias the coefficient toward zero.

Table 4: Effect of Specific Targets on Claim-making in 100-case Database, Original Claim Code Compared to Recoded Claim Code

Variable Name	Original Claim Status		Recoded Claim Status	
	Model 3 $\beta(SE)$	Model 3 Odds Ratios	Model 3 $\beta(SE)$	Model 3 Odds Ratios
Specific Target	.80 (.60)	2.23	.11 (.59)	1.12
US Target	.11 (.61)	1.12	-.85 (.57)	.43
Facility Attack	-.30 (1.40)	.74	.98 (1.55)	2.67
Other Tactic	-.29 (.61)	.75	-.85 (.60)	.43
Success	.74 (.58)	2.09	.83 (.63)	2.30
Casualties	-.03 (.08)	.97	-.11 (.04)	1.02
Year	-.12** (.04)	.88	-.11** (.04)	.90

Note. The quadratic term for year was not significant for either sample. The results reported here are for the model was with only the linear coefficient included. $N = 100$ for both analyses.

* $p < 0.05$ ** $p < 0.01$

Comparing the results, it appears that measurement error did not alter the significant findings from the model. Both analyses show that the only variable significantly predicting whether an attack is claimed is the year of the attack ($\beta_{\text{original}} = -0.12$, $\beta_{\text{recoded}} = -0.11$). In both models, attacks are less likely to be claimed in later years. However, the coefficient for the specific target variable decreases in magnitude, which may be evidence of bias (i.e., the positive relationship may be exaggerated in the GTD). It may be that unclaimed attacks were disproportionately likely to be coded as claimed in the large database. The coefficient for specific targets remains positive using the 100 recoded claims, therefore the extent of measurement error in the GTD is unclear—the change in magnitude may be related to the different sample sizes.

Logistic Regression on Full GTD Database

Table 5 shows the results from the regression on the full GTD database ($N = 854$)⁷. The first model contains variables related to the target type (specific target, U.S. target), tactic used (facility attack or other tactic), whether the incident was successful, and the number of casualties. In this model, only engaging in a facility

⁷ In studying the raw data, some cases were observed that had outlying studentized residuals. When regressions were conducted including and excluding these cases, the results did not differ; thus the cases were retained in the final model run. Multicollinearity also proved not to be an issue in either of the datasets. Variables not belonging to mutually exclusive categories (e.g., the three binary indicators denoting tactic) did not exhibit correlations of more than 0.37, nor did standard errors change significantly with the inclusion of individual variables (not shown). The independent variables of interest are therefore capable of making unique contributions to explaining variation in the dependent variable.

attack compared to bombing ($\beta = -1.08$) and the number of casualties ($\beta = -0.07$) significantly influenced the decision to issue a formal claim.

The second model adds in dummy variables for the 26 years of data (1970 serves as the reference group). It is when I control for years that a target variable becomes significant; attacking a specific target ($\beta = 0.45$) is not significantly less likely to result in a formal claim, while targeting a U.S. citizen or U.S. property ($\beta = 0.59$) is significantly *more* likely to predict issuance of a formal claim. Certain years also exhibit significant relationships with formal claims; in 1994 – 1997 ($\beta_{1994} = -2.34$, $\beta_{1995} = -2.09$, $\beta_{1996} = -2.43$, $\beta_{1997} = -1.94$) incidents were significantly *less* likely to be followed up with formal claims when compared to 1970.

The third model investigates the potential for a linear and quadratic trend over time. In this model, year was transformed into a count variable (range 0 – 27) and treated as continuous. Including the linear specification of year produces a strong negative relationship between time and claim-making, ($\beta = -0.09$, $p < 0.01$), but there is evidence of a quadratic relationship. The linear coefficient ($\beta = 0.23$) and quadratic coefficient ($\beta = -0.01$) for year were significant at $p < 0.01$ when allowing for two-tailed significance, therefore a curvilinear relationship is retained in the model. In this model, targeting a specific target ($\beta = 0.49$) does not significantly decrease the probability of an attack being followed with a formal claim⁸, while targeting U.S. property or citizens ($\beta = 0.81$) increases the probability of a claim. Incidents involving

⁸ Since I sometimes employed tactics to identify the target as the general public or not, it was important to investigate the possibility that including these variables in the model was affecting the results. A chi-square test indicates that there is a relationship between a target being identified as the general public and whether a bomb was used (GTD: $\chi^2 = 34.22$, $p < 0.01$; 100-case database: $\chi^2 = 4.73$, $p < 0.05$). I re-ran all regressions excluding tactics and found no significant impact on the retained variables' relationships with claim-making.

a facility attack were less likely to be followed with a formal claim ($\beta = -0.14$) than bombing incidents. All other control variables remained nonsignificant at $p < 0.05$.

Table 5: Effect of Specific Targets on Claim-making, Full GTD

Variable Name	Model 1	Model 2		Model 3	
	β (SE)	β (SE)	Odds Ratio	β (SE)	Odds Ratio
Specific Target	.15 (.17)	.45 (.21)	1.56	.49 (.20)	1.63
US Target	.10 (.19)	.59* (.25)	1.80	.81** (.22)	2.25
Facility Attack	-1.08** (.24)	.12 (.37)	1.12	-.14* (.30)	.87
Other Tactic	.13 (.30)	.31 (.40)	1.36	.30 (.36)	1.35
Success	.02 (.20)	-.21 (.23)	.81	-.10 (.22)	.91
Casualties	-.07* (.03)	-.06 [†] (.04)	.94	-.07 [†] (.04)	.94
Year	--	--	--	.23** (.04)	1.26
Year (quadratic)	--	--	--	-.01** (.00)	0.99
1971	--	.43 (.31)	1.53	--	--
1972	--	1.06 (.63)	2.89	--	--
1973	--	1.34 (.52)	3.81	--	--
1974	--	1.34 (.50)	3.81	--	--
1975	--	1.62 (.37)	5.05	--	--
1976	--	.70 (.37)	2.02	--	--
1977	--	2.73 (.52)	15.37	--	--
1978	--	.48 (.49)	1.61	--	--
1979	--	.35 (.45)	1.42	--	--
1980	--	.66 (.51)	1.93	--	--
1981	--	1.47 (.58)	4.36	--	--
1982	--	1.10 (.51)	2.99	--	--
1983	--	1.13 (.73)	3.11	--	--
1984	--	1.80 (1.10)	6.07	--	--
1985	--	-.27 (0.80)	.77	--	--
1986	--	.46 (.92)	1.58	--	--
1989	--	-.40 (.73)	.67	--	--
1992	--	-.57 (1.14)	.57	--	--
1994	--	-2.34** (.72)	.10	--	--
1995	--	-2.09** (.57)	.12	--	--
1996	--	-2.43** (.69)	.09	--	--
1997	--	-1.94** (.56)	.14	--	--

Note: $N = 854$ in Models 1 and 3. $N = 837$ in Model 2 because certain years contained exclusively claimed or unclaimed attacks. In Model 2, 17 observations occurring in 1990, 1991, and 1993 were dropped.

* $p < 0.05$ ** $p < 0.01$

Comparison of GTD (1977 – 1997) and 100 Recoded Cases

To more thoroughly examine the validity of the analysis on the GTD, I thought it would be best to compare the results from the 100 recoded cases to cases in the GTD. No cases before 1977 were included in the small 100-case database (see methods section) therefore I used only GTD cases from the same time period for comparison. Looking at Table 6, the full model on the GTD cases from 1977 – 1997 ($N = 423$) produces results in which the specific target variable is nonsignificant ($\beta = 0.15$), attacking a U.S. target positively and significantly influences claim status ($\beta = 0.80$), engaging in a facility attack ($\beta = -1.01$) is significantly less likely to produce a formal claim when compared to bombing, other tactic ($\beta = 0.08$), success of the attack ($\beta = 0.50$) and the number of people killed or wounded ($\beta = -0.04$) are not significant predictors of claims at $p < 0.05$, and year has a significant linear negative relationship with claim status ($\beta = -0.17$). The model using the recoded sample of 100 cases produces different results. In this model, only year exhibited a significant effect claim status ($\beta = -0.11$).

This comparison illuminates some differences not found in Table 4. There may not be enough power in the smaller database to detect true differences arising from measurement error. The variables “U.S. Target” and “Facility Attack” in Table 6 have the same direction as their counterparts in Table 4; the original coding results in coefficients of the opposite direction from the recoded cases. Whether measurement error has biased the results in the larger GTD will remain unconfirmed until all cases in the GTD are recoded to reflect claim status accurately.

Table 6: Effect of Specific Targets on Claim-making, 100 Random Cases Compared to GTD (1977 – 1997)

Variable Name	Large Database (N = 423)		Small Database (N = 100)	
	Model 3	Model 3	Model 3	Model 3 Odds
	$\beta(SE)$	Odds Ratios	$\beta(SE)$	Ratios
Specific Target	.15 (.29)	1.16	.11 (.59)	1.12
U.S. Target	.80** (.30)	2.22	-.85 (.57)	.43
Facility Attack	-1.01* (.41)	.36	.98 (1.55)	2.67
Other Tactic	.08 (.45)	1.09	-.85 (.60)	.43
Success	.50 [†] (.28)	1.64	.83 (.63)	2.30
Casualties	-.04 (.05)	.96	-.11 (.04)	1.02
Year	-.17** (.02)	.84	-.11** (.04)	.90

Note. The quadratic term for year was not significant for either sample. The results reported here are for the model was with only the linear coefficient included.

[†] $p < 0.10$ * $p < 0.05$ ** $p < 0.01$

Results for GTD Incidents from 1970 – 1976 vs. 1977 – 1997

Given the changes in the full regression on the larger GTD when isolating the years from 1977 – 1997, it was worthwhile to explore how the model changes when comparing subsets of the GTD. To this end, I ran the model separately on GTD incidents occurring from 1970 – 1976 and compared the results to those for incidents occurring from 1977 – 1997 (see Table 7).

When examining cases from 1970 – 1976 ($N = 431$), targeting a specific entity ($\beta = 0.69$) does not predict a lower probability of formally claiming an attack, targeting a United States citizen or property ($\beta = 0.83$) *increases* the likelihood of terrorists issuing a formal claim, engaging in a facility attack ($\beta = 1.96$) *increases* likelihood of issuing a claim compared to bombing attacks, successful incidents are *less likely* to be followed up with formal claims ($\beta = -1.08$), more casualties *decreases* the likelihood of a post-attack claim ($\beta = -0.14$), the linear year term ($\beta = 0.81$)

significantly *increases* the probability of the attack being claimed, and the quadratic year term ($\beta = -0.11$) significantly *decreased* the likelihood of claiming an attack. Engaging in other tactics compared to bombing was not significantly associated with claim status.

This contrasts those attacks occurring from 1977 – 1997 ($N = 423$), in which the only two predictors of claims (at $p < 0.05$) were targeting U.S. property or citizens ($\beta = 0.84$) and engaging in a facility attack (which was *less* likely to result in a formal claim than bombings; $\beta = -1.00$). From 1977 – 1997, time did not have a significant effect on claim status when the quadratic term was included. When I ran the model without the quadratic term, the results for the time-unrelated variables remained the same, but there is a significant negative linear effect of time on claim status ($\beta = -0.17$, $p < 0.01$).

Table 7: Effect of Specific Targets on Claim-making in GTD, 1970 – 1976 versus 1977 - 1997

Variable Name	1970 – 1976 ($N = 431$)		1977 – 1997 ($N = 423$)	
	$\beta(SE)$	Odds Ratios	$\beta(SE)$	Odds Ratios
Specific Target	.69 (.28)	1.99	.15 (.29)	1.16
US Target	.83* (.33)	2.29	.84** (.31)	2.31
Facility Attack	1.96* (.85)	7.12	-1.00* (.40)	.37
Other Tactic	.62 (.49)	1.86	.06 (.46)	1.06
Success	-1.08* (.47)	.34	.48 [†] (.28)	1.62
Casualties	-.14** (.13)	.87	-.04 (.05)	.96
Year	.81** (.05)	2.26	-.09 (.13)	.92
Year (Quadratic)	-.11** (.04)	.90	-.00 (.00)	1.00

* $p < 0.05$ ** $p < 0.01$

Chapter 4: Discussion

The present research explored a unique but neglected area of terrorism, the decision by terrorists to formally claim responsibility for an attack. Logistic regression was applied to U.S. terror incident characteristics and tested the hypothesis that terrorists would be less likely to claim responsibility after attacking a specific individual or organization. In the full regression models including all available data from 1970 - 1997, this hypothesis was not supported; in fact, the specific target coefficient exhibited a strong positive relationship with claims⁹.

Instead of prioritizing the benefits of claiming an attack, it may be that terrorists are more likely to claim an attack after striking a specific target because the costs of claim-making are greater after targeting the general public. It has been noted that targeting the general public increases the number of casualties and results in increased counterterrorism efforts, which are better avoided by remaining anonymous (Gearson, 2002; Hoffman, 1996, 1997; Rapoport, 1997). Further, when random victims are targeted terrorists may find it more difficult to obtain public support even if they release a statement (Ross and Gurr, 1989; USIP, 1999). When costs are perceived to be greater than the benefits, remaining anonymous may be the better decision (Clarke and Newman, 2006; Hoffman, 1999; Picard, 1993; Poland, 1988).

Further, *not* claiming attacks may have benefits aside from merely avoiding costs. Terrorists may maximize the element of unpredictability by remaining silent, a strategy that complements the targeting of random victims for those seeking to evoke

⁹ If the coefficient had been evaluated as a 2-tailed test, this relationship would have been significant in models 2 and 3 of the GTD analyses as well as in the model for years 1970 - 1976.

public anxiety (Garrison, 2003; Gearson, 2002; Hoffman, 1997). In the descriptive comparison of claimed and unclaimed attacks, newspaper reports focused on the widespread public fear occurring after an unclaimed attack. When attacks are claimed, media reports indicate the public is not as apprehensive overall. People instead fear specific locations and express more contempt for those responsible when they know why the attack occurred.

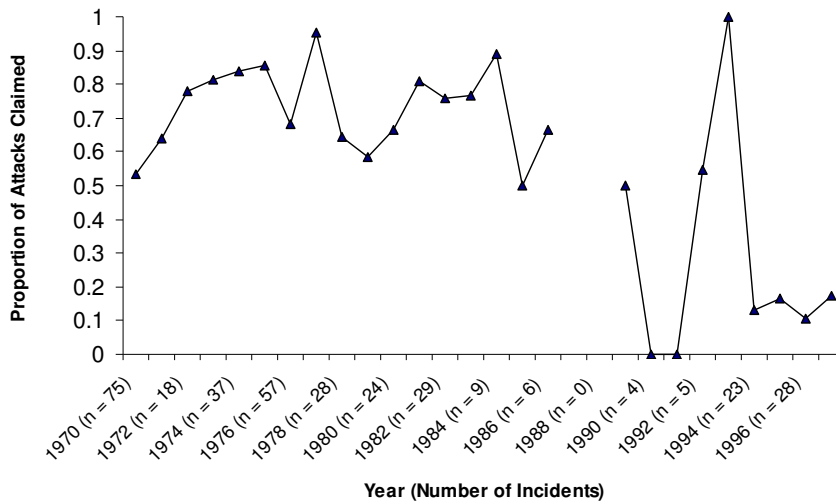
A recurring theme in the literature is that terrorist claim-making and related factors have changed over time (Enders and Sandler, 2000; Hoffman, 1996, 1997, 1999; for a criticism of this viewpoint, see Crenshaw, 2000, 2006). I hypothesized that there would be a significant negative relationship between time and claim-making, which is partially supported. The significant quadratic relationship between the year of the attack and claim status implies that the probability of claiming an attack increases with time, then either decreases or decelerates after a certain point. Figure 3 illustrates this pattern; after 1984, the proportion of claimed cases in each year appears to decrease with the exception of 1993¹⁰.

Scholars speculate that over time, terrorist attacks changed such that the general population was more likely to be targeted *and* terrorist attacks were less likely to be followed by a claim (Enders and Sandler, 2000; Gearson, 2002; Hoffman, 1999). They argue that a new terrorism has emerged over time aiming to punish members of innocent societies as opposed to convincing the public of their moral righteousness; now, both civilians and officials are considered to be legitimate targets (Enders and Sandler, 2000). Another driving force in the decreased likelihood of

¹⁰ It may be that the 1993 data are all coded as claimed because of the inability to recover unclaimed cases lost in an office move (see methods section).

claims may be increased costs associated with increased counterterrorism efforts (Hoffman, 1996, 1999).

Figure 3: Proportion of Terrorist Attacks Claimed, by Year



This study indicates that terrorist attacks occurring in the early and mid-1970s seem to be qualitatively different from those since; different factors influence how terrorists choose to communicate their grievance from one time period to the next. In early terrorist incidents (1970 – 1976) recorded in the GTD, formal claims for attacks are more likely when attacks are directed at U.S. targets, involve a facility attack as opposed to a bombing, are unsuccessful, have less casualties, and have a curvilinear relationship over these six years. In later terrorist attacks (1977 – 1997), formal claims are more likely when attacks are against U.S. citizens and involve bombings as opposed to facility attacks, but are significantly *less* likely as years go by. It is interesting that factors relevant in explaining earlier media manipulation differ from those in later incidents. There is a clear need to identify those factors affecting

current terrorism; by comparing recent attacks to old forms of terrorism, researchers can better identify what is driving contemporary terrorist agendas (Crenshaw, 2000).

Theoretical Implications

The present research extends the application of rational choice theory to terrorist considerations in planning attacks. The findings suggest that terrorists weigh the pros and cons of claiming an attack, and that this decision changes over time and is affected by other factors. Previous research has demonstrated how terrorists choose targets, but no previous studies have investigated how target choice affects other decisions relevant to attack planning and execution.

The research here demonstrates that certain variables like the nationality of the target, the tactic chosen, and the number of victims affects whether terrorists will communicate with the media post-attack. The finding of a positive effect of specific targets on claim-making encourages future research into different costs and benefits that may explain this relationship. It may be that when the general population (seen as less legitimate; Clarke and Newman, 2006; Hoffman, 1999; Picard, 1993) is targeted, terrorists realize that they are not likely to gain support from the public and instead prioritize avoiding the costs (e.g., reduced anonymity and increased vulnerability to counterterrorism strategies) of announcing their involvement. If this is the case, this would provide evidence that certain terrorist groups are not concerned with public support but instead attempt to maximize public anxiety by choosing random victims (Garrison, 2003; Hoffman, 1997).

This study has also contributed to theory by showing that terrorists' rational choices change over time—relevant choice-structuring properties at one time period may no longer be relevant 20 years later. This has important implications to displacement literature, as attack-specific properties (e.g., targets, use of weapons) that guide terrorists may change. This is analogous to Clarke and Cornish's (1987) discussion of how suicide rates change over time, as individuals learn new methods (with different benefits and costs than previous methods) of doing so. Knowledge about changes in terrorist resources and objectives will help scholars and policymakers anticipate and prevent attacks.

Policy Implications

Policy should emphasize increased understanding of the motives driving target choice, seek methods to prevent attacks, and better control the influence of the attack after it occurs. There are two themes to policy proposals in the literature: prevention and counterterrorism. The present research implies that certain factors affect terrorists' use of publicity. The prevention efforts discussed below seem more appropriate for those terrorists who pay attention to (and rely on) mainstream media attention, while counterterrorism strategies may prove more relevant for terrorists who do not seek public support and instead choose to remain anonymous.

Prevention Efforts

While governing agencies cannot prevent terrorist attacks from receiving attention, they may be able to influence how such events are portrayed to the public and thus reduce support for the organization (Ross and Gurr, 1989; USIP, 1999). Previously, the media has been used ineffectively by biased parties to provoke moral outrage in the population for the purpose of securing resources for their cause. Media demonization of criminals such as gang members and organized crime syndicates illustrates how the media inspires shallow assessments of the causes of crime and leads to short-term policies that do not adequately address the issues at hand (Skaperdas, 2001). Similarly, fully understanding how terrorists use publicity for their own gains is important for legislators to develop effective policies. For those terrorists who seek attention from mainstream media, authorities may find they can use such channels to disseminate information to the public *and* terrorists.

Clarke and Newman (2006) directly apply situational crime prevention policies to the manipulation of media before *and* after a terrorist attack. It is vital to not just continually react to attacks but also engage in prevention by exaggerating weaknesses of the group in the media through focused messages to a target audience (e.g., the community or the terrorist group). This strategy applies whether the group is known or not—authorities can stigmatize the methods used, even without identifying responsible parties.

Applying five principles of situational crime prevention (SCP) to post-attack media strategies, Clarke and Newman offer suggestions to make using violence more

difficult for the group. The first method is to *increase the effort* the offense requires by publicizing new protective procedures. When authorities do this, terrorists are likely to look for alternative targets that involve less effort (but will likely have fewer benefits; Sandler, 2003).

The second method offered by SCP is to *increase the risks* by publicizing law enforcement efforts to reduce anonymity (e.g., random searches, surveillance technology), or by increasing the group's sense of paranoia (e.g., intimating that the group has been infiltrated). The third principle is to *reduce rewards* by continuously characterizing attacks as unsuccessful, regardless of the amount of damage and violence. Post-incident statements should emphasize that terrorists will not be able to achieve their goals. Efforts should be made to swiftly clean up the site and arrest responsible parties. Additionally, unsuccessful attempts should be highly publicized.

The fourth method of SCP is to *reduce provocations*. Terrorist groups attempt to provoke violent reactions by governments, which they then use to legitimize future violence on their part. Although authorities should not appear weak, they cannot overreact with excessively punitive measures and increase support for the terrorist groups. The fifth principle of SCP is to *reduce excuses*. Terrorists are very concerned with how their actions are perceived and often attempt to justify their attacks. If authorities use the media to emphasize the callousness and hypocrisy of terrorist actions (e.g., when religion serves as justification for terrorists), they may produce uncertainty in supporters and operatives, making recruitment more difficult for the group. To this end, the government should avoid using metaphors of warfare when discussing counterterrorism, as this reinforces terrorist justification for actions.

Alternative approaches such as independent media or dialogues between authorities and terrorists further reduce excuses (Chermak and Gruenewald, 2006; Clarke and Newman, 2006).

Counterterrorism Measures

The research presented here implies that targeting the general public *may* reduce the likelihood of terrorist communications after the attack. Therefore, terrorists engaging in violent acts against the general public may not be placated by alternative media sources, and resources may be better spent in another manner. Public but unclaimed attacks are primarily attributed to religious extremists and amateur terrorists. Religiously-motivated terrorists consider their violence to be justified by religious doctrine and do not need public support, while amateurs tend to have vague objectives not easily communicated (Enders and Sandler, 2000; Gearson, 2002; Hoffman, 1996, 1999).

Previously successful prevention strategies may no longer be applicable with new terrorist motives and innovations. Enders and Sandler (2000) argue that new terrorist groups embrace the risks involved in terrorist attacks while non-religious terrorists in earlier decades were more risk-averse. Policies attempting to adjust terrorist decision-making by increasing risks or expense may thus be ineffective or even lead to unintended consequences. For example, target-hardening may promote attacks against less protected targets which result in more casualties (Jenkins, 2001). With new forms of terrorism, it may be more effective to focus on disintegrating the group itself through intelligence and infiltration (Enders and Sandler, 2000).

Other scholars, like Crenshaw (2000) and Frey and Leuchinger (2003), argue that relying on punitive measures oversimplifies motivations and actually may induce more attacks because underlying issues are not resolved. Instead, reintegrative strategies (those that shame but ultimately forgive offenders and fully restore their status in society; Braithwaite, 1989) allay feelings of alienation and rejection. However, one must know who is responsible to initiate the process of reintegration. It may be necessary to increase intelligence and infiltration to identify those responsible, and then incorporate reintegrative policies when applying sanctions. There is a clear need to analyze effects of various policies on groups with diverse characteristics (e.g., differing motivations or social support; Crenshaw, 2000).

Limitations and Future Research

The present research provides information on how target choice may be associated with claims and sets up an initial procedure by which further research can detail the decision-making processes of terrorists. Much work remains to address the limitations of the present study and further investigate these findings. First and foremost, when entering data from media reports it is imperative that future researchers explicitly code whether an attack is claimed or not. Although the GTD uses a very broad definition for including attacks into the database, an important contribution of the present research was the identification of existing measurement error. Specifically, 19 percent of the randomly-sampled cases from the GTD were

found to have been miscoded as claimed when in fact the media attributed the attack to a group *without* formal issuance of a manifesto or other communication.

When comparing regressions using the original claimed status to the recoded data in the 100 randomly-sampled cases, measurement error does not alter the interpretation of the findings although some evidence of bias exists. After comparing the models using recoded claim status to the larger GTD data, it seems that some differences due to measurement error may not have been detected due to the small sample size of the recoded data. Specifically, when I compared the cases in the 100-recoded cases database to the GTD (see Table 6), the relationship between claims and variables describing targets and tactics differs. While the differences did not significantly affect the interpretation of specific targets' effects on claims for attacks, using the GTD to model terrorist claim-making is clearly problematic. Future efforts should use multiple coders and study the extent of measurement error in attacks occurring before 1977.

An unintended benefit of the sensitivity analysis was that it also helped demonstrate time-specific effects of variables. When isolating the GTD data from 1977 – 1997 for comparison to the recoded data, I noticed that the influence of variables changed in the model. This motivated a comparison of GTD data from 1970 – 1976 to that for 1977 – 1997. However, it is important to note that the defined time periods were admittedly arbitrary, based on convenience rather than driven by theory. The research to date is fairly ambiguous as to when changes in attacks occur¹¹. Future

¹¹ Enders and Sandler (2000) argue that the 1979 takeover of the U.S. embassy in Tehran marked the beginning of increasing severity of terrorist attacks resulting from religious motivations. Gearson argues that 1982 was the turning point, with the successful use of suicide bombs by terrorists who

research should seek to clearly define a turning point by which analyses can be centered, compare various time points, or clearly delineate trends so researchers can better understand the facilitating factors after which terrorist tactics and motivations change. By understanding *when* terrorist tactics changed scientists will be better able to understand *why* they changed.

It is also relevant that the analysis only contains data up to 1997; to fully understand the characteristics of contemporary terrorism, studies must use up-to-date information. By using older datasets, our capacity to understand and react to contemporary terrorists' motivations is limited; there is a clear need to move beyond the event-driven research and develop the capacity to measure systematic change over time (Crenshaw, 2000). The change in terrorist attacks over time should be explored using other existing databases and other influential factors (e.g., group organization, group ideologies, counterterrorism efforts, state support, or other legislation). It would also be worthwhile to explore the generalizability of this research; perhaps terrorism in other countries manifests itself in different ways and exhibit different relationships between targets and media manipulation (Altheide, 1987).

Although this research is informative and helps illuminate potential factors terrorists consider in planning attacks, the potential remains that important variables were omitted from the analysis. Indeed, looking at terrorism with such a broad scope is problematic itself. Every manifestation of terrorism carries different rewards, risks, and required skills (Crenshaw, 2000). Even within groups, terrorists are not exclusive in the methods or targets they select, and their motivations often change (Enders and

forced the withdrawal of peacekeeping forces from Lebanon. Hoffman (1996, 1997, 1999) discusses differences in terrorism during the 1970s, 1980s, and 1990s.

Sandler, 2000; Gearson, 2002; Hoffman, 1996, 1997, 1999; Sandler, 2003; Vaisman-Tzachor, 2006). Future research should disaggregate various attack-specific characteristics to fully understand and prevent terrorist incidents (Chermak and Gruenewald, 2006; Clarke and Newman, 2006).

It would be useful to replicate the present analysis using different codes for targets. Perhaps classifying targets into two categories is not sufficiently specific, or there may be ways to improve the criteria used in the present research. For example, attacks against government targets may exhibit different effects when they are included as a unique target category (Clarke and Newman, 2006). Further, it may have been faulty to assume that targeting the general public sends an ambiguous message. For contemporary terrorists, targeting civilians may clearly symbolize their intent to destroy an impure world (Enders and Sandler, 2000; Hoffman, 1999).

Group organization may also be important in ascertaining how targets are chosen and also how the media is used. It may be that smaller groups fear detection more than larger groups and are therefore more inclined to remain anonymous no matter their target. Additionally, the absence of a central leader in the group may result in fewer constraints on operations and a choice to engage in large-scale public attacks, in turn encouraging anonymity (Hoffman, 1999). The sensitivity analysis showed that about 20 percent of cases involved individuals, but there is no analogous measure in the GTD. There is a variable for “number of perpetrators” in the GTD, but data is missing for 845 (99 percent) incidents. If more information about the organization of the terrorist group (either by imputing missing values or explicitly coding for the structure of the organization) could be incorporated into the model, one

may find that this information is related to target choice as well as use of the media for the benefit of the terrorist group.

Previous research suggests that ideology likely informs the choice of a target and may determine whether the group is likely to claim responsibility for an attack (Cronin, 2002; Garrison, 2003; Hoffman, 1997). Unfortunately, the current database does not have consistent data on this variable, with the exception of abortion-related attacks. Identifying the groups' ideologies is a project currently being undertaken by the University of Maryland's START center. Furthermore, group organization and ideology are not feasible to include in my analysis due to the research question itself—if the attack goes unclaimed, then one cannot be certain that a terrorist group was responsible for it and therefore I would only be able to study organization and ideologies for those that claimed their attacks.

Lastly, one of the limitations of all open-source databases including the GTD is the potential for bias such that anonymous terrorist attacks may not be recognized as such. Thus, unclaimed attacks included in the present data may be systematically different from those not included. To address this, future research should collect more data from non-media sources. By interviewing known terrorists and comparing court records for incidents that are claimed versus those unclaimed, researchers may be able to get a different perspective on the rationality of communicating with the media and of choosing targets. These data contain biases of their own but would complement existing data gleaned from media reports.

Conclusion

Despite the limitations, this research has contributed meaningfully to theory and policy by empirically studying a heretofore ignored aspect of terrorism. Claim-making is a unique aspect of terrorism, but was generally taken for granted as a part of any terrorist plan. This research suggests that terrorists make a deliberate calculation before communicating with the public via media sources and that this decision-making process changes over time. Future policy should use this knowledge to reduce the rewards terrorists get from media coverage, or selectively engage in more forceful counterterrorism strategies.

Appendix A

Table A.1: Descriptive Comparison of Miscoded Cases to Correctly-Coded Cases, Small Database

Variable Name	Claimed		Unclaimed		Miscoded	
	N	Mean	N	Mean	N	Mean
Time Period	44	1982.84 [†]	37	1989.95*	19	1986.11
Situational Variables						
Tactics						
Facility Attack	44	.05	37	.05	19	.05
Bombing	44	.82	37	.62	19	.74
Other Tactic	44	.18	37	.32	19	.21
Targets						
General Population	44	.14	37	.19	19	.21
Specific Targets	44	.86	37	.81	19	.79
U.S. Target	44	.55	37	.78	19	.74
Success	44	.86	37	.76	19	.84
Consequences						
Civilians killed	44	.09	37	.43	19	.16
Civilians wounded	44	.25	37	1.57	19	.53
Terrorists killed/wounded	44	.11	37	.30	19	.05
Arrest Made	44	.27*	37	.31 [†]	19	.58
Number of Arrests	44	.66*	37	.83	19	1.95
Public Response						
Extra Security	44	.41	37	.30	19	.32
Public Fear	44	.23	37	.32	19	.37
Policy Change	44	.16	37	.16	19	.16
Description of Claim						
Specific Demand	44	.39	--	--	7	.43
Retaliation	44	.43	--	--	7	.43
Future Attacks	44	.41	--	--	7	.43

[†] *t*-test shows significant difference from miscoded cases, $p < .10$

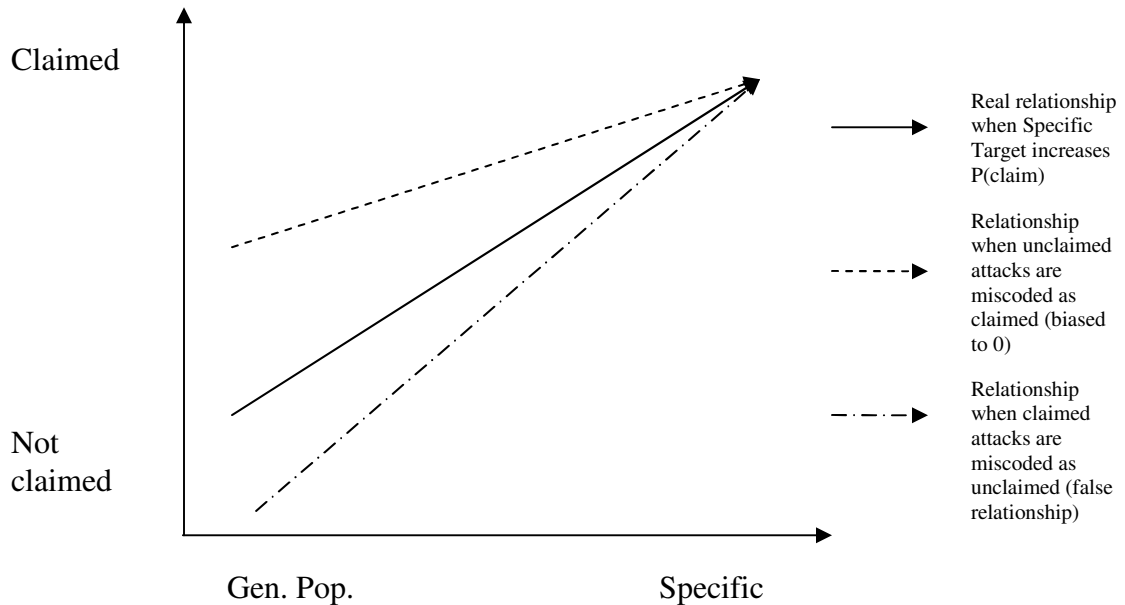
* *t*-test shows significant difference from miscoded cases, $p < .05$

Appendix B

Table B.1: Effects of Miscoding Claimed and Unclaimed Terrorist Attacks Given Positive or Negative Relationship with Specific Targets

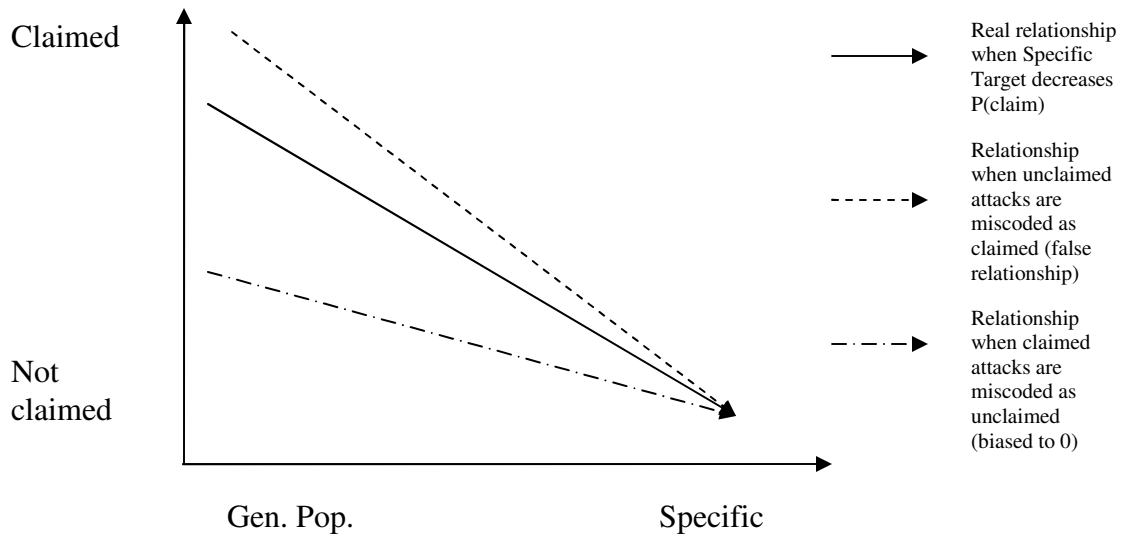
		<u>Original Claim Status</u>	
		<u>Claimed</u>	<u>Unclaimed</u>
<u>True Claim Status</u>	<u>Claimed</u>	<i>Correct</i>	If Specific Target increases P(claim): this mistake would exaggerate the relationship If Specific Target decreases P(claim): this mistake would bias the results toward 0
	<u>Unclaimed</u>	If Specific Target increases P(claim): this mistake would bias the results toward 0 If Specific Target decreases P(claim): this mistake would exaggerate the relationship	<i>Correct</i>

Figure B.1: Effect of Miscoding Claim Status when Positive Relationship between Specific Target and Claims for Attacks



Note: For simplicity, the relationships are demonstrated as if the independent variable and dependent variable are continuous, not dichotomous

Figure B.2: Effect of Miscoding Claim Status when Negative Relationship between Specific Target and Claims for Attacks



Note: For simplicity, the relationships are demonstrated as if the independent variable and dependent variable are continuous, not dichotomous

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