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TERRORIST KIDNAPPINGS FOR RANSOM: EXPLAINING HOSTAGE  
OUTCOMES

A Thesis

Submitted to the McAnulty College and Graduate School of Liberal Arts

Duquesne University

In partial fulfillment of the requirements for  
the degree of Master of Arts

By

Stephanie Mullen

May 2015

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Stephanie Mullen

2015

TERRORIST KIDNAPPINGS FOR RANSOM: EXPLAINING HOSTAGE  
OUTCOMES

By

Stephanie Mullen

Approved March 18, 2015

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## ABSTRACT

# TERRORIST KIDNAPPINGS FOR RANSOM: EXPLAINING HOSTAGE OUTCOMES

By

Stephanie Mullen

May 2015

Dissertation supervised by Dr. Jennie Schulze

In the wake of the death of her son, James Foley, Diane Foley stated, “I pray that our government will be willing to learn from the mistakes that were made and to acknowledge that there are better ways for American citizens to be treated” (Cumming and Vinograd 2015). The recent American deaths at the hands of terrorist groups have brought kidnapping and ransom policy to the forefront of the American psyche. In an effort to understand why hostages are released or killed in situations where a ransom is asked, we attempt to isolate and test key variables using a binary logistic regression. Our results show that paying a ransom significantly decreases the likelihood that a hostage will be killed. We also find that religious extremist groups are not more likely to kill a hostage than other groups. Other variables are tested and discussed. We hope that this

study will inform policy makers on kidnapping situations for ransom and guide our understanding in kidnappings for ransom.

## ACKNOWLEDGEMENT

Many thank yous to both my advisors, Dr. Jennie Schulze and Dr. Mark Haas, for their continual council and guidance. A special thank you to Dr. Schulze who not only guided me with the study itself but also taught me the intricacies of SPSS. Thank you for your time, input, and mentorship.

A special thank you to Father John Sawicki and Dr. Ann Popp for their recommendations and guidance during this process. Thank you to the Policy Center Directors, both past and present, for their support.

Finally, I would not have made it through this year without the support of my parents, family, and friends. Thank you for putting up with my stress, sass, and occasional tears during this process.

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## Introduction

### *Problem*

The tragic death of Americans James Foley and Steven Sotloff at the hands of the Islamic State of Iraq and Syria (ISIS) once again brought terrorist kidnappings to the forefront of the international stage. Much of the recent debate about terrorist kidnappings focuses on effective ways to stop these attacks and America's policies toward terrorist negotiations. The question of whether America should negotiate with terrorist groups and pay ransoms dominates discussion on terrorist kidnappings. Recent articles in the *New York Times* and *Reuters* criticize America's ransom policy accusing the United States government of condemning our citizens to death (Callimachi 2014, Rohde 2014). For example, of the 23 foreign hostages ISIS has taken since 2012, ISIS has released all but eight hostages. With the exception of one Russian, these eight hostages are from the two countries with the strictest no-negotiation policy in the world: Britain and the United States. Fifteen, from Western countries such as Italy, Spain and France, were released after a ransom was paid (Yourish 2015). Are we condemning American hostages to death because of our ransom policy?

Terrorist groups have a long history of using kidnapping as a means to an end. Kidnapping is a tactic terrorist groups may use to spread their message, fight for political ends, or procure funding. Regardless of the motivation, however, terrorist kidnappings occur frequently in the world today. Kidnapping for ransom is a particularly lucrative source of funding for terrorist groups. In 2010, it is reported that \$1.5 billion was paid to kidnappers for ransoms (Forest 2012, p. 322). Understanding what influences hostage

outcomes in these scenarios is imperative for understanding how terrorist groups operate and how we might influence hostage outcomes in future kidnapping cases.

Despite the recent international attention on kidnappings, much of the research on terrorist operations focuses on the politically motivated or grand attacks, such as hijackings and barricade incidents. However, funding is an equally impressive and expansive topic. Yet while funding is also a significant motivator for terrorist groups, little research exists exploring the relationship between kidnappings and ransoms.

While there is little literature on terrorist kidnappings and even less on terrorist kidnappings for ransom, there are a few past studies, which form the base of our hypotheses. Past studies on terrorist kidnapping and hostage-taking scenarios point to some important trends. Co-nationals, or fellow citizens, are more likely than foreigners to be targets of attacks (Yun and Roth 2008, Forest 2012, Yun 2007). Ideological (defined as leftist/Marxist/revolutionary) and religious extremists groups are more likely to use kidnappings as a tactic than ethno-nationalist or secessionist groups; though there is debate over which one uses it more (Forest 2012, Yun 2007). Unstable states are more likely to be sites of kidnapping, and kidnappings in unstable states are more likely to have deadly outcomes than kidnappings in stable states (Yun 2007).

The demand for monetary compensation in exchange for a human life differentiates these instances from the larger samples that other researchers have drawn from. In cases where a ransom is clearly demanded, indicating a monetary interest, the hard questions have never been asked: Why do some hostages survive while others are killed? What factors influence this outcome? By focusing on terrorist kidnappings where a ransom is asked, one motive of the group is self-evident: the terrorist group is looking

for a monetary reward. These types of kidnappings are not made only for political gain or to draw attention to the group's cause, although these could exist alongside monetary interests. Because a primary motivation of these kidnappings is monetary, the conditions and variables affecting the hostage outcomes may differ from other types of cases.

The good news is that about 80% of hostages taken for ransom are released, according to the Global Terrorism Database (GTD). Yet, one in five hostages are killed, warranting examination into the factors influencing this outcome. Our study shows that the one in five who is killed is not just unlucky – there are variables that increase the likelihood of this outcome. Hostage characteristics, external factors, terrorist group identity and ransom payment all affect whether a hostage is released or killed.

This research has very real implications and significance for the ongoing discussions about terrorism and extremism that dominate American policymaking. The War on Terror air strikes against ISIS outposts, and drone strikes against terrorists in Yemen all demonstrate the centrality of terrorist activities in American foreign policy. This study aims to test the influence of key variables on hostage outcomes, which in turn can inform policymakers about how to handle such situations in the future. While we cannot create a model that can perfectly predict hostage outcomes, as a result of data scarcity, we can test the influence of important variables. Understanding how these factors affect hostage outcomes is crucial for combatting terrorism in the future and increasing the likelihood of survival for ransomed hostages.

*Methodology: Statistical Analysis*

In an effort to understand how key variables affect hostage outcomes cases of kidnapping for ransom, a binomial logistic regression analysis is carried out using a sample taken from the University of Maryland's Global Terrorism Database (GTD). The sample, consisting of 492 hostage events were recoded into 1,004 individual hostage outcomes from 1970 – 2013 In the dataset, "target" refers to a hostage (see below).

Six independent variables are used: terrorist group identity (secular or religious), ransom payment (paid or no payment recorded), co-national status (whether the target is a co-national in relation to the terrorist group's activity site or not), level of development of the target's country (developed or developing), type of target (private citizens or affiliated with the government), and wave of terrorism (New Left or religious). The dependent variable is hostage outcome: target released or target killed. Using a binary logistic regression, we test effect of these six independent variables on hostage outcomes.

Given the recent preoccupation with religious extremist terrorist groups and the level of violence associated with these groups, one would expect that religiously motivated terrorist groups will be more likely to kill their hostages. Their commitment to fundamentalism and the saliency of religious motivation may make them more inclined to violence. In addition, we expect that the payment of a ransom will increase the likelihood of release. Therefore, we test the following hypotheses:

H1: Religious groups are more likely to kill their hostages than other groups.

H2: Paying a ransom will decrease the likelihood of a hostage being killed.

Our results find that religious groups are not more likely to kill a hostage than secular groups. In addition, the payment of a ransom significantly decreases the

likelihood that a hostage will be killed. We found that not paying a ransom had the greatest effect on the probability of a hostage being killed. Co-nationals and government targets are more likely to be killed. Finally, a hostage is less likely to be killed in a kidnapping for ransom during the religious wave of terrorism (1990 through 2013) than the New Left wave (1970 through 1989). The development of a hostage's home state is not a significant predictor of hostage outcomes. These findings indicate that religious groups are not as violent in cases of kidnappings for ransom as expected. In addition, we suggest that paying a ransom in hostage cases is worthwhile because it significantly increases the likelihood of release.

## Literature Review and Theory

### *Defining Terrorism*

As counterintuitive as it may seem, given the centrality and importance of terrorism in the international arena, there is no universally recognized definition of terrorism. However, there are several distinctive features that define terrorist activity. For the purpose of this study, we use the definition of terrorism from the University of Maryland's Global Terrorism Database (GTD) from which the data in this study is drawn. The GTD defines a terrorist attack as "the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation" ("The Codebook" 2014, p. 8).

### *Kidnapping as a Terrorist Tactic*

While the targeting of civilians may appear irrational or barbaric, terrorist groups are rational, cohesive groups that work to achieve a specific goal, with relative success. Using David Lake's definition of rationality, terrorist groups have clear goals with a plan on how to achieve those goals with as little cost as possible; making them rational. As Lake explains, "It shows that the purpose of extremist violence is to provoke the target ... build support for its ambitious goals over the long term. It reveals a dynamic process that still, at its core, is about bargaining over ends" (2002, p. 6).

Kidnapping is but one tactic in their arsenal. Whether monetarily or politically motivated, kidnapping is a strategic tactic that pays off. Jenkins, Johnson, and Ronfeldt found that 80% of all members of terrorist groups involved in kidnappings escape

retribution, regardless of whether they succeed or fail. Additionally, when terrorist groups employ kidnapping, they have about a 50% chance that all or some of their demands will be met, and nearly all achieve some publicity from a kidnapping (Jenkins et al. 1977, p. 1). Because kidnapping is the least risky tactic, compared with other tactics such as barricade hostage scenarios or hijackings, it accounts for two-thirds of terrorists' activity; though not all of these kidnappings involve a ransom (Brandt and Sandler 2009, p. 759). Between 1979 and 2010, only 16.6% of terrorist-related kidnappings involved a ransom (Forest 2012, p. 772).

Kidnappings increase a terrorist group's leverage by placing human lives in the balance (Chalk et al. 2005, p. xv). Ransoms collected from kidnapping operations can generate millions of dollars and be very profitable for terrorist organizations. Kidnapping for ransom is a massive source of funding for many terrorist groups including Al-Qaeda and its affiliates. According to one *New York Times* report, Al Qaeda and its affiliates have received \$125 million in ransoms since 2008. Most of these ransoms are paid by European governments (Callimachi 2014). A recent United Nations report stated that ISIS collects between \$96,000 and \$123,000 per day in ransom payments (Nichols 2015). These organizations thrive off the money generated from ransom payments (Forest 2012, p. 207).

Examining the outcomes of kidnapping situations, the incentives to kidnap far outweigh the costs to terrorist groups; and they are getting better at it. Sandler and Scott (1987) find that kidnapping has a higher logistical success rate because terrorists can control the time, place, and manner of abduction (Santiford and Sandler 2012, p.128).



Finally, demanding multiple concessions increases success in hostage-taking incidents because there are multiple avenues for concession (Gaibulloev and Sandler 2009).

### *Factors that Influence Hostage Outcomes*

Though terrorist groups often use kidnapping, academic studies of terrorist kidnapping for ransom are limited. Few studies have focused on the role of kidnapping in terrorist operations and even fewer consider ransom situations. However, it is possible to identify some key variables that may affect hostage outcomes. The role of terrorist group identity and hostage characteristics, such as national status and target type, are frequently examined. Length of captivity, state policy toward ransom payments, and motive, none of which could be used in this study due to data restrictions, have also been researched. Finally, ransom negotiation and logistical success have also been topics of past research.

### **Terrorists' Identity**

Minwoo Yun of Wheeling Jesuit University studied 764 cases of terrorist hostage-takings from the Institute for the Study of Violent Groups (ISVG) database, covering kidnappings from 1996 through 2006. He finds that Islamic terrorist groups are the most likely to use kidnapping as a tactic, followed by secular groups.<sup>1</sup> James Forest's 2012 study using the Global Terrorism Database (GTD) begins to explore trends in terrorist kidnappings, focusing on a wider subset of all kidnappings recorded between 1970 and 2011. Forest finds that leftist or Marxist groups account for most terrorist kidnappings, about 25%. Islamic extremists are the second largest grouping, accounting for 9% of

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<sup>1</sup> Coded through ISVG's database.

terrorist kidnappings. The difference in findings could relate to the different data sets used for each study, which indicates important discrepancies within the field.

In a more recent study of identity, James Forest finds that ideology (or identity) is not a significant indicator of whether terrorists will use kidnapping as a tactic. Using the GTD, Forest finds that a terrorist group's propensity for kidnapping is not tied to the identity, or ideological orientation of the group (2012, p. 785).

Islamic groups are considerably more likely to launch high casualty attacks because of their deeply held cultural beliefs and the dehumanization of fellow humans. Religious terrorist groups tend to lack identification with targets they see as participating in a "questionable way of life." They see these targets as essentially different than themselves, which leads to "othering" or a lack of shared identities that would generally inhibit the targeting of civilians (Piazza 2009, p. 3). In addition, religious groups have a higher than average number of victims than leftist, rightist, and national-separatist (secular) groups. Piazza theorizes that religious groups lack natural inhibitions to kill others because all members of a target society are part of the enemy – even civilians (2009, p. 4).

While we might expect to find a higher number of religiously motivated terrorist groups perpetrating kidnappings for ransom, we would also expect them to be more likely to kill their hostages than secular groups.

## **Ransoms**

According to one study, terrorist groups demand a ransom in 70% of kidnappings (Atkinson, Sandler, and Tschirhart 1987, p.2). Ransoms reach into the tens of millions of

dollars. In 2006, it was reported that France, Italy, and Germany paid out \$25 million, \$11 million, and \$10 million, respectively, in ransom payments (Forest 2012, p. 137-138). These numbers indicate that ransom payments are a major funding source for terrorist groups.

According to one study, kidnapping negotiations are more likely to end in hostage release when a monetary demand is made, which means there is an increased likelihood of a payoff for release (Gaibullov and Sandler 2009, p. 16). In addition, most direct demands in hostage scenarios are directed at local or state governments, who may or may not have a policy against negotiating with terrorists: very few make demands of foreign governments (Jenkins et al., p. 1).

Overall, it seems that terrorist groups that ask for a ransom are motivated by monetary considerations. Sandler and Scott find that each negotiation success in a kidnapping incident results in 2.62 more kidnappings (1987, p. 128). In a more recent study, Sandler and Brandt find that past concessions have the strongest impact on future kidnappings (2009, p. 776). What these studies suggest is that while ransom payments may increase the likelihood of a hostage's survival, it also increases the likelihood of recidivism.

### **National Status**

Yun, 2007, finds that domestic (or co-national) targets make up 60% of all hostages and that ransom money is asked in most cases. In addition, foreign nationals are more likely to be released, while co-nationals are more likely to be killed (Yun 2007, p.

148-149). Additionally pertinent to this paper, Forest finds that foreigners are far less likely to be kidnapped (Forest 2012, p. 316-322).

### **Target Type**

Oftentimes, as result of deep-seated grievances with the ruling government, groups will engage in terrorism. These groups will often target government officials (Forest 2012, p. 18). However, augmented security around government and military forces has made targets within these establishments increasingly difficult to access (Brandt and Sandler 2009, p.20).

A recent RAND study suggests a shift in terrorist attacks toward softer targets, or targets that do not have security or governmental protection (Chalk et al. 2005, p. xv). Soft targets are easier to find, control, and exploit. Often terrorist groups focus on soft targets because they have a greater shock value and will instill fear in the targeted population of civilians or societies (Brandt and Sandler 2009, p.21).

Current research does not explore this trend in relation to kidnappings for ransom. While the literature does tell us that government officials are targeted less often and that terrorist groups often see government officials as their primary enemy, there is little research on what happens to these officials when they are captured or the number of officials captured.

### **Wave**

In 2004, David Rapoport outlined the four major waves of terrorism in history. Rapoport defines wave as a “cycle of activity in a given time period” in which groups

share common characteristics and motivating forces (2004, p. 47). For the time frame included in the GTD, only the final two waves, the “New Left” and the “Religious” waves are pertinent for this study. The “New Left” wave began with the rise of the Vietnam War and subsequent ideas that the modern system was failing (Rapoport 2004, p. 56). During this time frame, ideologies such as Maoism and Communism characterized terrorist groups. Kidnapping became lucrative; an estimated \$350 million was collected for ransom between 1968 and 1982 (Rapoport 2004, p. 57). As the “New Left” wave began to fade in the 1980s, a new wave, motivated by religious zealot, took force. By the late 1980s, the religious wave was gaining momentum. As the “New Left” wave suffered its final defeat with the fall of communism through Central and Eastern Europe in 1989, religious terrorism had come to characterize terrorist organizations. As Rapoport states, Islamic groups are at the heart of this wave and have conducted the “most significant, deadly and profound international attacks” (2004, p. 61). These waves gives us insight into the role of time, global norms, and external trends that effect terrorism and hostage outcomes for which our other variables may not account.

#### *Variables in the Literature Dropped in Final Regressions*

##### **Demands and Length of Captivity**

In a follow-up study with Mitchel Roth, Yun finds that groups that make multiple demands, which include both monetary and political concessions, are more likely to release hostages. Additionally, they find that the length of captivity and length of attack have no bearing on hostage outcomes. Since there is no literature supporting length of

captivity as an influential variable and its lack of variance within the dataset, length of captivity is not used in the final regressions.

### **Terrorists' Motive**

James Piazza argues that terrorist groups can be categorized as either unlimited, with abstract goals, or strategic, with limited goals. Terrorist groups with unlimited goals display complex, high-level goals that are driven by ideology. For example, Al-Qaeda's goals include limiting the United States' power in the Middle East and creating governments based on Sharia law across the Middle East (Piazza 2009, p. 4). In contrast, terrorist groups with strategic motives have more limited and discrete goals. Groups such as the Kurdistan People's Congress (PKK), who aim for a distinct area of land and autonomy, have concrete and measurable goals in comparison to Al Qaeda's (TRAC). In a study considering the role of strategic versus unlimited goals of terrorist groups, it was concluded that groups with universal or abstract goals are much more likely to engage in high-casualty attacks (Piazza 2009, p. 7).

### **Stability**

Yun finds that casualty rates differ in relation to the stability of the states in which terrorist groups operate. For example, in states that are unstable due to governmental unrest or weak infrastructure, casualty rates of hostages are higher (Yun 2007, p. 162). Since most hostages in this data set are co-nationals to the terrorist group, it would follow that hostages from unstable countries would be more likely to be killed. The limitations of the data set does not allow us to test for stability, however we are able to test for the

effects of the level of development. While development is not a proxy for stability, regimes at higher levels of growth and development tend to be more stable (Przeworski and Limongi 1997).

While these variables are shown to have an effect on hostage outcomes and terrorist kidnappings, they are not used in the regression analysis in this study. Due to lack of information in the data set, collinearity, or lack of variability length of captivity, demands, motive, or stability could not be included. However, these variables could be the topic of future research.

## Methodology

### *Data Source*

All data used in this study draws from the Global Terrorism Database (GTD) at the University of Maryland. The GTD is a conglomeration of several terrorism databases, covering the 1970 through 2013. Using the GTD, only those events coded as a kidnapping event and ones in which a ransom was asked in the data set were used for analysis. The GTD defines an event of kidnapping as, “An act whose primary objective is to take control of hostages for the purpose of achieving a political objective through concessions or through disruption of normal operations.” Kidnappings are distinguished from Barricade Incidents in that they involve moving and holding the hostages in another location. Kidnappings are distinguished from hijacking incidents in that hijackings include the seizure of not only people but also a vehicle such as an aircraft or bus (“The Codebook,” p. 23). For example, the Iranian Hostage Crisis is an example of a barricade hostage incident because hostages were kept inside the American embassy, as opposed to being moved to an unknown location.

### *About GTD*

The Global Terrorism Database, hosted through the University of Maryland, is a collection of over 125,000 terrorist attacks and incidents from 1970 through 2013. Collected through publicly available and unclassified documents, the events chronicled in the GTD are methodically collected and transcribed. Each event listed in the GTD must satisfy the inclusion criteria. Each event must be intentional, must illustrate some level of



violence or threat of violence, and the perpetrators must be sub-national actors. In addition, GTD defines a terrorist attack as “the threatened or actual use of illegal force and violence by a non-state actor to attain a political, economic, religious, or social goal through fear, coercion, or intimidation” (“The Codebook,” p. 8).

In addition, the GTD differentiates between kidnappings where a ransom was demanded, no ransom was demanded, or a ransom is unknown. For the purpose of this study, only kidnapping incidents where a ransom was demanded are used.

### *Population and Sample*

The population consists of events where terrorist groups take hostages for ransom. Because this dataset is the most comprehensive database of terrorist attacks available to the public, it is possible to generalize from the sample. However, this study is limited to explaining hostage outcomes in cases where a ransom is asked, but does not shed light on cases where a ransom is unknown or not asked.

The GTD dataset consists of 6,000 cases. From these, a subset of cases was selected that “involved a demand of ransom.” These 492 cases were then recoded so that each hostage taking represents a single case resulting in 1,004 cases representing the 1,004 hostages taken for ransom between 1970 and 2013. The decision to use individual hostages as the unit of analysis facilitates testing the effect of terrorist group type and ransom paid on hostage outcomes, while controlling for a variety of variables unique to each hostage situation. We assume that the decision to kill each hostage is an independent event and calculus on the part of terrorist groups, which may be influenced by a variety of factors specific to that hostage. We know this because there are many events in which multiple hostages are taken in the same event, but their outcomes vary.

### *Operationalizing Variables (The Code Book)*

For this study, the dependent variable is coded by the GTD as hostages released or killed. Unknown outcomes and those outcomes coded as combination are excluded from the sample. Combination outcomes indicate that at least one of the hostage outcomes is unknown, however this coding does not indicate which hostage outcomes are unknown. For example, in a kidnapping of three people listed as combination, it is unknown in at least one case whether the hostage was killed or released. However, because the GTD database is created by event, it is impossible to know which hostage outcome is unknown or how many hostage outcomes are unknown in the event. Therefore, combination outcomes did not provide enough information on individual hostages (such as nationality and target type) to be used in the data set. Because hostage information is indiscernible in the event, the inconsistency and amount of unknown data made combination outcomes an unviable option.

The regression analysis tests the influence of terrorist group identity and ransom paid on the likelihood of the hostage being killed controlling for level of development of the hostage's country, co-national status of the hostage, target type, and wave of terrorism. All variables are entered in a single step for each of the three models (baseline, hostage characteristics, and in perspective models).

Wherever possible, the variables were taken directly from the GTD. When the variable was not available within the data set each case was coded individually using information from the data set or outside sources. Target type, hostage outcome, and

ransom were available in the data set. Identity, co-national status, development, and wave were coded and using outside sources.<sup>2</sup>

Group identity is coded as "secular" or "religious" given the nature of the terrorist group. Using the GTD's Terrorist Organization Profiles or TRAC, identity of the terrorist group is coded as "secular", if the group is not religiously motivated, where as religious based terrorist groups are coded as "religious". When the group responsible for the kidnapping is "unknown" in the GTD, the identity is coded as "unknown."

If a ransom is paid, it is cited in the original data set from GTD. GTD also includes the amount demanded and the amount paid in United States dollars, if available. For the purpose of this study, any ransom paid, whether it met the demand or not, is included in the "paid" coding. If no ransom was paid, or if it is unknown, it is included in the "no record" coding. The data set does not differentiate between if a ransom was not paid because it was refused or if there is no record of payment—these ransoms could have been paid through secret channels. Because of this, events recorded with "no record of payment" may include both scenarios in which there was no payment made and those in which the payment was made through discreet channels. Unknowns are included in "no record" because outcomes, whether a ransom is paid but no one knows or if a ransom is not paid, have the same effect. A ransom payment keeps terrorist groups accountable because if a ransom is made, known, and a hostage is killed, the terrorist group loses credibility in future cases. In contrast, if a ransom payment is made but unrecorded, the terrorist group has no incentive to release the hostage because it will not lose credibility

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<sup>2</sup> Collinearity diagnostics based on tolerance, VIF, and eigenvalues do not indicate collinearity between variables.

when a hostage is killed (because there is no record of a ransom payment). In these cases, it is as if a ransom payment is not made because there is no accountability for hostage outcome whether a ransom is not paid or paid but not known.

If the nationality of the target and the country where the terrorist group is operating are the same, the hostage is coded as a “co-national;” if the two countries are not the same, then the hostage is coded as “not a co-national.” This coding was done under the assumption that the country of attack indicates the country where the terrorist group operates. It is important to note, however, that the nationalities of the terrorists are not known. Very often, groups recruit from outside countries to fill their ranks so the terrorist kidnappers may or may not be the same nationality of the hostage. In addition, terrorist groups often operate in multiple states so that the state of attack may be just one of the places a terrorist group operates. What this variable does tell us, however, is if a hostage is taken within his or her own country or if a hostage is taken as a foreign national in a different country.

Target type is coded as either "private" or "government" based on the GTD's coding. Private citizens includes condensing the GTD's original codes of tourists, private citizens, non-profit workers, and business workers into one category. Those targets related to the government, such as diplomats, security forces, or police, are coded as “government.”

Wave is a time lapse variable and is therefore divided by year. From 1970, the year the database begins, to 1989, the data is coded as “New Left wave” (using Rapoport's terminology). From 1990 through 2013, when the database ends, the data point is coded as “religious wave.” These labels are in reference to the widely

acknowledged waves of terrorism (Forest 2012, p. 32-38). Ideological terrorism ended with the fall of the Soviet Union and ushered in the wave of religious terrorism, which continues today. The dataset supports this wave theory: leftist groups undertake 211 of 299 kidnappings for ransom before 1990; 230 of the 328 kidnappings for ransom after 1990 are done by religious groups. Wave becomes an important control variable because past studies have found that more civilians are killed in the more recent wave (religious) than in years past (Forest 2012, p. 38). This variable can account for external conditions and global norms for which identity, by itself, cannot control. Since every event has a year of event in the data set, there are no unknowns for this variable.

Development is coded using the United Nations' Development Programme's Development Index, which evaluates each country's development on a scale from 0.0 ("least developed") to 1.0 ("most developed") every year. The index includes measures of Gross Domestic Product (GDP), infant mortality rate, life expectancy, and the literacy rate. A country whose index rating is between 0.0 and 0.8 on the year of the incident is labeled as "not developed." Countries over 0.8 are labeled as developed, corresponding with the UNDP report.

Though not used in the final regressions, due to missing values and problems of collinearity, gender and motive were also coded into the data set. An analysis of the correlations of these variables with hostage outcomes suggests interesting avenues for future research.

To code gender, the GTD incident report is used, however not all cases identify the hostage by gender. The gender of the individual is coded if gender is identifiable on the basis of the name of the target, if the target is listed as male or female in the data set,

or if gendered pronouns are used to reference the hostage in the summary report. The cited sources GTD lists for each event—often news articles— are used to identify gender. It is important to note, however, that these sources are often local news sites, which may follow different style conventions in relation to pronouns or may lack rigorous source checks.

Group motivation is coded as “limited” and “unlimited” based on the ultimate goals of the terrorist organization. If the ultimate goal of the terrorist group has defined boundaries within a specific region, the motivation is coded as “limited”. A group whose ultimate goal is not bound to a specific region, denoting a global ambition, is coded as “unlimited”. To illustrate this differentiation, the Kurdistan Workers’ Party (PKK) in Turkey is coded as “limited” because their ultimate political goal is for a Kurdish homeland. In contrast, Al-Qaeda is coded as unlimited because of its call for a global jihad and its ultimate goal of creating a global Islamic state. When the group responsible for the kidnapping is “unknown” or the groups motivation cannot be found in either the GTD or TRAC, the data point is coded as unknown.

### *Data Analysis*

Binary logistic regression is run in order to determine how each of these variables influences the likelihood that a hostage will be killed. All variables are entered in a single step within each of the three models.

Using cross-tabulations of gender and motive, both appear to show strong and significant correlations with hostage outcomes. Motive, however, could not be used in the regressions because there is evidence of collinearity with identity. Religious groups tended to have unlimited goals, while secular groups have more limited objectives in the

data set. Less than half the total cases used in the regression could be coded for gender (418). Because of this low frequency, it was unusable in the regression analysis.

Though the regressions do show a moderate ability to predict hostage outcomes, as shown through the Nagelkerke R squared values, it is not possible to operationalize several key variables in this dataset such as gender, length of captivity, demands, stability and motive. Instead, the regression is used to assess the impact of group identity and ransom payment on kidnapping outcomes, while controlling for a variety of individual level and context specific variables. Identity and ransom payments have received considerable theoretical and public attention in recent years and have been the topic of much debate and discussion in the public sphere, so they are the two variables of highest interest for this study.

## Results

The binomial regression analysis tests our two main hypotheses: 1) Not paying a ransom significantly increases the likelihood that a hostage will be killed; and 2) Religious terrorist groups are significantly more likely to kill a hostage than other types of groups. The baseline regression model includes the two primary variables of interest: terrorist group identity, and whether a ransom was paid in order to establish whether there is a causal relationship between these variables and hostage outcomes. The second model, “Hostage Characteristics,” introduces a two control variables inherent to the hostage that may also influence hostage outcomes. In the “Hostage Characteristics” model, national status and target type are included. In the final model, “In Perspective” two control variables that relate to outside conditions are included in addition to hostage characteristics variables: development and wave. The final model, “In Perspective,” indicates this model is a good fit for the data and has a moderate level of association (Table 1,2 and 3).

In order to analyze the relationship between religion and secular terrorist identities with unknowns, religion is used as the comparison value in Table 2, whereas unknown is used as the comparison variable in Table 1. To ensure that unknowns were not confounding the relationship between our independent variables and outcomes (256 cases), we dropped the unknown identity groups from each model in Table 3.



### *Ransom*

The relationship between payment and the likelihood of a hostage being killed is significant in all three models (Table 1). We found that a hostage is about eight times more likely to be killed if there is no record of ransom payment (Table 1). When hostage characteristics are included, a hostage is ten times more likely to be killed when a ransom is not recorded. With outside conditions included, ransom remains the biggest factor in hostage outcome. A hostage is about 6.4 times more likely to be killed if no ransom is documented.

Without the unknown cases, ransom payment is still the most significant variable. No record of ransom payment increases the chance of a hostage being killed by 7.5 times (Table 3). In the “In Perspective” model without unknowns, ransom has a stronger correlation to hostage outcome, with an unpaid ransom increasing the likelihood a hostage will be killed by 7.04 times, an increase from 6.36 times with unknowns in the regression (Table 1 and 3).

### *Identity*

We test identity three ways: using “unknown” as the reference variable, using “religious” as the reference variable, and finally without unknowns (Table 1, 2, and 3, respectively). With unknowns, the relationship between group identity and hostage outcomes is significant in all three models (Table 1). In the baseline model, a hostage taken by a religious group is 74.9% less likely to be killed than a hostage taken by a terrorist group with an unknown identity. A hostage taken by a secular terrorist group is 30.7% less likely to be killed than a hostage taken by an unknown terrorist group (Table

1). In the final model with unknowns, “In Perspective,” unknown terrorist groups are about 2 times more likely to kill a hostage than religious groups and 2.8 times more likely to kill than secular groups (Table 1). However, in “Hostage Characteristics” secular identity becomes insignificant when national status and target type are included (Table 1).

When religion was used as the comparison, in the baseline model, secular groups are 2.75 times more likely to kill a hostage than religious groups. When control variables are added, secular group identity is not significant ( $p > 0.05$ ); however it appears to be in line with our hypothesis that religious groups kill more often than secular groups (Table 2). This outcome refutes the hypothesis that religious groups are more likely to kill their hostages because unknown identities are more likely to kill their hostages; and secular groups, without outside factors, are also more likely to kill their hostages (Table 1 and 2).

Without unknowns, secular terrorist groups remained more likely to kill a hostage than religious groups. In the baseline model, secular groups are almost three times more likely to kill a hostage than a religious group. In the final model with control variables, identity no longer becomes significant; however the odds ratio is not in line with our hypothesis, and indicates that secular groups are more likely to kill a hostage (Table 3). This seems to indicate that unknown groups are important in understanding terrorist group identity in kidnappings for ransom, because the significance of the identity variable is dependent upon unknown groups’ inclusion in the model. Without unknowns, identity is an insignificant variable in the final regression (Table 3).

### *Other Variables*

National status and target type are also significant variables in every model (Table 1, 2, and 3). With unknowns in the “Hostage Characteristics” model, co-nationals are 4.48 more likely to be killed by a terrorist group than a foreign national. Government officials are 3.2 times more likely to be killed than private citizens (Table 1). With all variables included (“In Perspective”) government targets are about 2.4 times more likely to be killed than private citizens. Co-nationals are about four times more likely to be killed than foreign nationals (Table 1).

When unknown group identity cases were dropped from the regression, both target type and national status remained significant in the final model, “In Perspective.” Government targets remained more likely to be killed, 2.7 times more likely. Co-nationals remained more likely to be killed by about 3.1 times (Table 3).

Development of target’s home country is not a significant variable in any model ( $p > 0.05$ ). However, wave is a significant variable in each model (Table 1, 2, and 3). With unknowns, during the New Left of terrorist (1989 and earlier), a hostage is almost five (4.8) times more likely to be killed than during the religious wave of terrorism (1990 and later) (Table 1). Without unknowns, a hostage is over two times more likely to be killed before 1989 than after (New Left versus religious) (Table 3).

**Table 1: Unknown Identity Regressions (Ref: Killed)**

	Baseline Model				Hostage Characteristics				In Perspective			
	B (SE)	95% Confidence Interval			B (SE)	95% Confidence Interval			B (SE)	95% Confidence Interval		
		Lower	Odds Ratio	Upper		Lower	Odds Ratio	Upper		Lower	Odds Ratio	Upper
<b>Ransom (paid)</b>												
<b>Unpaid</b>	2.04 (0.29)	4.37	7.70**	13.57	2.32 (0.30)	5.64	10.13**	18.18	1.85 (0.31)	3.48	6.36**	11.63
<b>Identity (Unknown)</b>												
<b>Religious</b>	-1.38 (0.26)	0.15	0.25**	0.42	-0.91 (0.28)	0.23	0.40**	0.69	-0.71 (0.29)	0.28	0.49*	0.87
<b>Secular</b>	-0.366 (0.190)	0.48	0.69**	1.01	-0.27 (0.21)	0.51	0.77	1.15	-1.01 (0.25)	0.22	0.36**	0.59
<b>Target Type (Government)</b>												
<b>Private</b>					-1.17 (0.21)	0.20	0.31**	0.47	-0.86	0.27	0.42**	0.67
<b>National Status (Co-National)</b>												
<b>Foreign National</b>					-1.50 (0.22)	0.14	0.22**	0.35	-1.38 (0.27)	0.15	0.25**	0.42
<b>Wave (Religious)</b>												
<b>New Left</b>									1.57 (0.26)	2.89	4.82**	8.03
<b>Development (Developed)</b>												
<b>Not developed</b>									0.54 (0.58)	0.55	1.72	5.40
<b>Constant</b>	<b>-2.59</b> <b>(0.30)</b>				<b>-1.51</b> <b>(0.35)</b>				<b>-2.52</b> <b>(0.70)</b>			
<b>Chi-Squared</b>	126.32				199.51				240.50			
<b>-2 Log likelihood</b>	844.90				707.63				651.19			
<b>Nagelkerke R Squared</b>	0.19				0.31				0.38			
<b>N</b>	1004				902				886			

\* p < 0.05, \*\* p < 0.001

**Table 2: Religious Identity Regressions (Ref: Killed)**

	Baseline Model				Hostage Characteristics				In Perspective			
	B (SE)	95% Confidence Interval			B (SE)	95% Confidence Interval			B (SE)	95% Confidence Interval		
		Lower	Odds Ratio	Upper		Lower	Odds Ratio	Upper		Lower	Odds Ratio	Upper
<b>Ransom (Paid)</b>												
<b>Unpaid</b>	2.04 (0.29)	4.37	7.70**	13.57	2.32 (0.30)	5.64	10.13**	18.18	1.85 (0.31)	3.48	6.36**	11.63
<b>Identity (Religious)</b>												
<b>Unknown</b>	1.38 (0.26)	2.40	3.98**	6.60	-0.91 (0.28)	1.45	2.49**	4.28	0.71 (0.29)	1.15	2.04*	3.62
<b>Secular</b>	1.01 (0.25)	1.71	2.76**	4.46	-0.27 (0.21)	1.13	1.90*	3.21	-0.30 (0.31)	0.41	0.74	1.36
<b>Target Type (Government)</b>												
<b>Private</b>					-1.17 (0.21)	0.20	0.31**	0.47	-0.86 (0.23)	0.27	0.42**	0.67
<b>National Status (Co-National)</b>												
<b>Foreign National</b>					-1.50 (0.22)	0.14	0.22**	0.35	-1.38 (0.27)	0.15	0.25**	0.42
<b>Wave (Religious)</b>												
<b>New Left</b>									1.57 (0.26)	2.89	4.82**	8.03
<b>Development (Developed)</b>												
<b>Not developed</b>									0.54 (0.58)	0.55	1.72	5.40
<b>Constant</b>	-3.97 (0.33)				<b>-2.41</b> <b>(0.38)</b>				<b>-3.24</b> <b>(0.72)</b>			
<b>Chi-Squared</b>	126.32				199.51				240.50			
<b>-2 Log likelihood</b>	844.90				707.63				651.19			
<b>Nagelkerke R Squared</b>	0.191				0.31				0.38			
<b>N</b>	1004				902				886			

\* p < 0.05, \*\*p < 0.001

**Table 3: Known Identity Regressions (Ref: Killed)**

	Baseline Model				Hostage Characteristics				In Perspective			
	B (SE)	95% Confidence Interval			B (SE)	95% Confidence Interval			B (SE)	95% Confidence Interval		
		Lower	Odds Ratio	Upper		Lower	Odds Ratio	Upper		Lower	Odds Ratio	Upper
<b>Ransom (paid)</b>												
<b>Unpaid</b>	2.02 (0.36)	3.72	7.52**	15.19	2.21 (0.37)	4.42	9.14**	18.90	1.95 (0.39)	3.28	7.04**	15.10
<b>Identity (Religious)</b>												
<b>Secular</b>	1.02 (0.25)	1.71	2.76**	4.47	-0.65 (0.27)	1.14	1.91*	3.21	0.17 (0.33)	0.62	1.19	2.279
<b>Target Type (Government)</b>												
<b>Private</b>					-1.25 (0.26)	0.17	0.29**	0.47	-0.99 (0.27)	0.21	0.37**	0.63
<b>National Status (Co-National)</b>												
<b>Foreign National</b>					-1.24 (0.27)	0.17	0.29**	0.49	-1.16 (0.31)	0.17	0.32**	0.57
<b>Wave (Religious)</b>												
<b>New Left</b>									0.75 (0.36)	1.05	2.12*	4.28
<b>Development (Developed)</b>												
<b>Not developed</b>									0.91 (0.80)	0.52	2.48	11.98
<b>Constant</b>	<b>-3.95</b> <b>(0.378)</b>				<b>-2.36</b> <b>(0.44)</b>				<b>-3.38</b> <b>(0.95)</b>			
<b>Chi-Squared</b>	80.00				126.23				128.56			
<b>-2 Log likelihood</b>	568.79				466.88				450.20			
<b>Nagelkerke R Squared</b>	0.18				0.30				0.31			
<b>N</b>	748				647				634			

\* p < 0.05, \*\* p < 0.001,

## Conclusions

### *Ransom*

Ransom remained the single largest factor affecting hostage outcomes across every regression. In every case, no record of ransom payment significantly increased the likelihood of a hostage's death. According to our models, paying a ransom significantly decreases the likelihood that a hostage will be killed.

There are two interesting conclusions that can be drawn from our models. Firstly, paying a ransom may decrease the likelihood of a hostage being killed. Where information is available to the amount paid for ransom, many of the ransoms paid do not equal the amount asked. When available, the data set indicates that ransom payments may be far less than the demanded ransom. This seems to imply that some payment is better than no payment, even if it is not the full amount the terrorist group demanded.

Secondly, having a record of paying a ransom decreases the likelihood of a hostage being killed. Because the data set does not differentiate between if a ransom was not paid because it was refused or if there is no record of payment, we cannot know the effects of not paying a ransom versus paying under the table. What we can say is that, in both scenarios, ransom payment, or lack thereof, is significant. In cases where the ransom is not paid, the conclusion is that refusing to pay a ransom increases the likelihood of a hostage's death because the terrorist group did not receive payment.

This result also supports the assumption that terrorist groups who use kidnapping for ransom are motivated by monetary means. Since it is impossible to know if multiple demands were made in each event within the data set, what we can assume is that if a

ransom is asked, money is a highly motivating factor in hostage outcomes. Not only are ransom demands important, they are a motivating force behind hostage outcomes.

### *Identity*

The results of the regressions did not support our second hypothesis, which is that religious terrorist groups are more likely to kill than either unknown or secular groups. Religious terrorist groups are less likely to kill a hostage than unknown groups when controlling for a variety of variables including wave of terrorism. Though secular terrorist groups are more likely to kill a hostage in the baseline model, when our control variables are added, secular religious groups are insignificant compared to religious groups (Table 2). Although insignificant, the relationship does point in the direction of our hypothesis (Table 3).

However, both religious and secular terrorist groups are less likely to kill a hostage than unknown groups . This seems to suggest that anonymity provides greater leeway in the outcome of the hostage. Perhaps this anonymity allows the terrorist group to do what it likes with a hostage rather than submit to a ruling member of the terrorist group. These unknown groups may be secular or religious but do not claim responsibility for the kidnapping. Perhaps this anonymity minimizes the risk of repercussions if a hostage is killed. Further research is needed to explore both these cases. One possibility is that a guiding sense of morality could play a role in the decision to kill a hostage or not.

Yet this conclusion seems to contradict the current trends of Islamic extremism, or at least common perceptions. We must only look to the massacres of James Foley and Peter Kassig to see that religious terrorist groups do kill their hostages. But perhaps



religious groups make a distinction between kidnapping for money and kidnapping for other reasons. Or perhaps it is the media and political atmosphere that skews how we see religious terrorist groups: maybe religious groups kill less often but when they do kill, it is sensationalized through the media and politicians. As the public, we may also be more inclined to remember brutal executions over joyous releases, which may skew our risk assessment in kidnapping cases.

### *Other Variables*

Though governmental targets are kidnapped less often, presumably because they are harder targets, they are more likely to be killed than private citizens. Private citizens are softer targets, kidnapped more often, but less likely to be killed. This result supports the assertion above that government officials are seen as the enemy by many groups and are therefore killed more often.

Co-nationals are targeted more than foreign nationals, which could be due to increased opportunity or to illustrate government weakness. This trend could again indicate a certain harbored resentment toward terrorist groups' states and people. The fear of repercussions from outside states could also mean foreign nationals are a riskier target. Foreign nationals may be more likely to be released because of this fear of repercussions. We must only look to the United States' actions against ISIS in response to American deaths to see that the killing of a foreign national can impact terrorist groups' power. However, the taking of foreign nationals and negotiating with foreign powers may increase a terrorist group's prestige and appearance of dominance. The release of a foreign national with concessions made on the part of the foreign national's government

could not only strengthen the terrorist group's power but also its reputation in the world system.

Wave is an interesting variable in that it is presumed theoretically to be closely linked with identity, yet does not show collinearity. Hostages taken during before 1989 are more likely to be killed than those taken in 1990 or later. During the religious wave, 1990 and later, groups are less likely to kill a hostage. When added to the regression model, identity becomes insignificant (Table 3). This suggests that wave could be a proxy for identity, or vice versa. The New Left wave accounts for 211 of the 299 cases of kidnapping by secular identity groups; the religious wave accounts for 230 of the 328 of kidnappings by religious groups. Though this distribution indicates some overlap, this distribution does show that identity and wave are related. Though they are not collinear, this relationship could indicate that there is some outside force that the regression does not factor in, or that wave and identity are in fact related, despite collinearity tests.

Overall, it is clear that ransom is significant across every regression. Our first hypothesis is supported: paying a ransom decreases the likelihood of a hostage being killed. In contrast, our second hypothesis is not supported. Religious groups are not more likely to kill a hostage than unknown identity groups. Of course, these unknown groups may overlap with religious or secular groups, but the data set does not have this information. Therefore, we can only cautiously say that religious groups are less likely to kill a hostage than unknowns. Secular groups are insignificant in the final regressions, indicating that religious groups are not more likely to kill a hostage because identity is not a significant predictor. However, the changing direction of causality between Table 2

and Table 3 makes our hypothesis inconclusive. In conclusion, we can say that religious groups are at least not more likely to kill a hostage than any other group.

## Limitations

As with any study, there are limitations in this study resulting from the data. However, through the use of binary logistic regression it is possible to establish causality as opposed to simply correlation between independent and dependent variables. Validity, or the degree to which this study accurately measures the relationship between hostage outcomes and our independent variables, is a concern. The high number of cases in the data set is also advantageous for maintaining validity, as is the use of unbiased sources and rigid coding structures. While it is not possible to control for all variables that could possibly influence the relationship between independent and dependent variables (discussed below), it is possible to include several key variables in the model. These include ransom payment, development, and national status, the relationship between group identity and hostage outcomes.

There are some very potent limitations in the data set that influences this study. In short, there is no perfect data set, and the GTD is no exception. Missing data in the form of information about the terrorist group who carried out the attack and information about hostages could influence the results. We could not use combination outcomes in the data set due to indiscernible data about hostages, however these outcomes could provide insight into why a certain hostage is killed over others. In the kidnapping sample, there are a large number of cases with “unknown” group identity (256) because the terrorist group in the data set is also listed as unknown. These unknown identity cases are kept in the data set because they are an interesting contrast for secular and religious identities as

these groups are more likely to kill hostages than either religious or secular groups, making them an interesting case for future research.

We did run the regression without these unknown groups and removing them did not change the direction of causality for other variables, however unknowns did influence the rate of which each variable affected hostage outcomes. For example, without the unknowns, a hostage is even more likely to be killed if a ransom is unnoted. In addition, identity became insignificant without unknowns in the final model, indicating that unknown identities play an important role.

In addition, the data set does not allow us to test of other variables that may be important in hostage outcomes. Variables relating to the nature of the terrorist group or characteristics of the kidnappers such as gender, age, religious sect, criminal history, and organizational affiliations are not included in the data set. In addition, the role of third parties in hostage negotiations could be an influential variable; however it is not included in the dataset. Past concessions also influence future negotiations, however this is also not indicated in the data set.

While in all cases a ransom is asked, the details of the ransom amount asked, ransom paid, possible multiple demands, and the source of the payment are often unknown. For example, a terrorist group may demand a ransom and release a prisoner, but the data set does not indicate multiple demands. The amount of ransom demanded and the amount paid (often not the same) are only available in some of the cases. This lack of data makes it impractical to use these variables in this research, but it could be influential to hostage outcomes. The amount paid or asked may or may not affect hostage outcome, but the knowledge that a ransom is paid may affect hostage outcome. Or,

perhaps a payment made that is less than the ransom demand increases the likelihood that a hostage is killed. Data on ransoms is incomplete in the dataset and incredibly hard to collect due to the backdoor dealings, role of third parties, and the inherently opaque nature of terrorist activity.

Several variables coded into the data set could not be used in the final binary regression due to the number of missing cases, lack of variability, or the collinearity between other variables. Because of this limitation, the purpose of this study is not to create a model for terrorist kidnapping outcomes, but to test the relationship of variables that may be influential to the hostage's outcome. Gender could not be used in the regression because over half of cases could not be coded due to lack of information on the hostage. Terrorist group motive was highly correlated with identity demonstrating collinearity. Motive is differentiated between limited and unlimited motive, which seemed to correlate with secular and religious groups respectively. Unlimited groups tended to also be religious groups and limited groups tended to be secular groups, indicating that motive was measuring the same thing as identity. Because of this collinearity, motive was dropped as a variable in the final regression in favor of identity. We chose identity over motive because identity is more likely stable while motives could vary with respect to each event.

In addition, length of captivity is recorded in the data set in two-thirds of the cases, however it was too problematic to use in the final regressions. The overwhelming majority of incidents lasted ten days or less, so there was very limited variation within the variable. In addition, over 90% of the cases in which length was recorded ended in a hostage's release. Overall, the hostage release rate is 80%, indicating that length had

skewed outcomes. Logically, this makes sense. If a hostage is killed, it is unlikely or rare that the precise moment they are killed is known. In these cases, it is impossible to identify length of captivity because the date of execution may not be known. In contrast, if a hostage is released, the length of captivity is known because the date of the event and the date of release are known.

External validity is questionable as to the generalizability of the study. It is based on a very specific set of data: events in which a terrorist group kidnaps an individual or individuals, demands a ransom, and the outcome of each hostage is known. On the other hand, the data set is comprehensive including all terrorist events on record (in the GTD) from 1970 through 2013. But overall, the study can only be generalized to terrorist kidnappings where the group makes an explicit ransom.

The reliability of this study is very strong. Because all the data collected comes from databases and sources that are publicly available, the study can be easily replicated. GTD only uses events that are documented in at least one quality, unbiased, verifiable source (“The Codebook” 2014, p. 7). In addition, the coding laid out above is consistent for all cases, which also facilitates replication.

## Call for Further Research

This study tests the influence of a number of key variables on hostage outcomes. However, because the data set does not provide a measure of all variables that have been shown to influence hostage outcomes, it is not possible to build a general model. Gender is an interesting variable, however there was not enough information to code gender in the dataset. Of the 1,004 cases, only 418 could be coded for gender. It would be interesting to look at whether groups target women and whether gender has a significant effect on hostage outcomes.

Of the cases that could be coded, the cross tabulation table shown below (Table 4) demonstrates a significant difference in outcomes between genders. Not only are females significantly less likely to be taken hostage, but also they are more likely to be released than male hostages. Secular or unknown groups are responsible for killing the female hostages. Yet, religious groups do not kill women hostages; they are released 100% of the time. This trend may indicate religious terrorist groups have an aversion to killing women, or at the very least are highly inclined to release women. Could the role of religion have an effect on how religious terrorist groups use and treat female hostages? Are women seen as more or less valuable in kidnapping for ransom? At the very least, why are they released? Future research should delve into this relationship between female hostages and religious terrorist groups.

In addition, it is clear that many of the women were deliberate targets: either they were the wives, daughters, or family member of important men, or held positions of power themselves. In some cases, they were taken with other male hostages at random,



but rarely were women targeted independently. It would be interesting to investigate the scenarios with women hostages in more detail. Why are they killed less often than their male counterparts? Why are women targeted less often? How is their experience different than male hostages? What effect does group identity have on the propensity to kidnap females and their likelihood of release?

Gender of the kidnappers is not included in the data set; however it could be an interesting variable to explore in the future. The role of women in terrorist groups is a relatively new phenomenon and characteristic of only a few groups, such as the Chechen rebels and Tamil Tigers. It could be interesting to research the role of women in terrorist groups and how gender stereotypes affect or do not affect their role in the groups. Are women kidnappers more nurturing? Do they treat their hostages better? Are they more sympathetic? These are all questions that further research could explore in relation to gender of the terrorist kidnapper.

Table 4

<i>Gender of Target*</i>			
	Hostage Released	Hostage Killed	Percentage of Total
<b>Male</b>	<b>69%</b>	<b>31%</b>	<b>86.3%</b>
Religious	74.7%	25.6%	
Secular	74.9%	25.1%	
<b>Female</b>	<b>82.7%</b>	<b>17.3%</b>	<b>12.4%</b>
Religious	100%	0%	
Secular	76.2%	23.8%	

\* Chi-square value: 3.91 (0.05)

Length of captivity was not used in the final regression because of its lack of variation, however it would be an interesting variable for further research. Most hostage events in this dataset (43%) occurred in ten days or less. Very few of our cases lasted more than a month. The lack of variability in the cases made it difficult to divide the variable in a usable and theoretically sound way. In addition, the data is skewed in

relation to release within the data set. Over 90% of the cases in which length is known ended in release compared to about 80% overall. These outcomes did not fluctuate as length increased. Further research could delve into how length of captivity affects hostage outcomes by broadening the cases to include barricades and hijacking attacks. Though this data set was insufficient to do so, it would be useful to find at what point terrorist groups no longer find value in keeping a hostage alive.

Motive was too highly correlated with identity to be included in the final regressions, however it could be an interesting variable to explore in future research. The nature of a terrorist group’s final goals, whether they have a limited or broad scope, could influence their decisions to use kidnapping as well as the outcomes for hostages. In addition, motives could change from one operation to another or from one tactic to another. For example, do unlimited groups, such as Al-Qaeda, have limited motives in kidnapping for ransom? Do limited groups expound unlimited motives in order to make gains? For example, do groups with limited motives join groups with unlimited motives, such as Al-Qaeda affiliates, for funding or reputational gains? From the cross tabulation shown below (Table 5), limited groups seem to kill less often than unlimited groups in kidnappings for ransom. Why do limited groups kill less often? Qualitative case studies could examine these questions further.

Table 5

<i>Terrorist Group Motive*</i>			
	Hostage Released	Hostage Killed	Percentage of Total
Unlimited	80.2%	19.8%	25.2%
Limited	86.7%	13.3%	50%
Unknown	71.1%	28.9%	24.8%

\*Chi-Square value: 26.60 (0.00)

Wave is another interesting variable that future research could explore further. Wave was not highly correlated with identity, yet identity became insignificant when wave was added to the final regression. It is possible that wave captures factors outside identity that affect hostage outcomes. Since wave is a time-lapse variable, it could be capturing different norms of violence during different decades. Wave could also be accounting for an increase in technological advancement that may mean terrorist groups are simply better at kidnapping for ransom and do not need to kill as often in recent years. Wave may also be accounting for different international initiatives that have changed the way terrorist groups operate and when and why they kill hostages. Further research could explore exactly what the wave variable is capturing and what exactly the variable is explaining.

In addition, this study finds that if a ransom payment is not made, it significantly increases the likelihood of a hostage being killed. Yet, as previous research has shown, previous concessions lead to 2.62 more kidnappings (Scott and Sandler 1987, p. 128). This creates an interesting paradox: if a ransom is paid, the hostage is more likely to live; but it is more likely to create another terrorist kidnapping by the same group. If the ransom is not paid, the hostage is much more likely to die, but it disincentivizes kidnappings in the future. Further research could delve into this relationship in greater detail and determine if there is an outcome in which a hostage is more likely to survive, but without survival leading to more kidnappings.

An interesting variable would be the hostage's home country's policy on paying ransoms and how that affects hostage outcomes. For example, the United States has a no-negotiation policy, meaning officially it does not pay ransoms. Does this mean that

American hostages are more likely to be killed because their government does not pay ransoms or less likely to be kidnapped? In comparison, is a hostage more likely to be released if the hostage is from a state where there is a liberal policy of negotiating with terrorists, such as Italy and Japan? How does a strict policy of non-negotiation, such as that of Great Britain and America, affect hostage targeting and hostage outcomes?

Unfortunately, the limited information on ransom demands and payments impedes the testing of ransom policy in this data set. While the data set indicates if a ransom was known to be paid, it does not indicate who made the payment. Further research could focus on the role of policy.

The role of religious extremist groups that are not Islamic in cases of kidnappings for ransom could also be the subject of future research (Table 6). A very small percentage of the religiously motivated groups in this study, like the Irish Republican Army (IRA) or Black September, are not Islamic extremist groups. Of the 328 cases identified as a religious terrorist group, non-Islamic religious groups perpetrate only 28 cases. Of those 28 cases, only 4 ended in the hostage being killed. The only non-Islamic group to kill a hostage is the IRA. Further research topics could use qualitative studies to examine the IRA's use of kidnapping for ransom, their reasons for killing these 4 hostages, and how the variables tested in this study relate to those outcomes.

Finally the influence of anonymity in terrorist groups could be another interesting topic for future research. In the dataset, there are a lot of unknown data points for both terrorist group identity and terrorist group motive. In both cases, unknowns are more likely to kill their hostages. This could suggest that anonymity allows terrorist groups to function without repercussions or follow any specific orders. It could also indicate that

maintaining anonymity in terrorist kidnappings is a valuable asset. In either case, the idea of anonymity in terrorist kidnappings could be an area for future research.

Qualitative case studies could be used to examine these relationships in future. The role of gender, anonymity, and fundamentalism are three variables that seem to be significant, but the relationship could not be teased out fully in this study. In addition, qualitative case studies could be used to study combination outcomes that could not be used in this quantitative study. Since qualitative studies do not necessarily need to distinguish specific hostage identities in each scenario, combination outcomes can be used in qualitative studies examining worldwide trends or focusing on terrorist groups' operations. In addition, qualitative studies could aid in understanding the role of unknown groups in kidnappings for ransom. As Andrew Silke finds, mathematical models give some insight into terrorist patterns, but they do not necessarily translate into real life. In examining barricade hostage situations, where hostages are held in one location, he finds that many mathematical studies fail to actually predict and explain outcomes. Silke suggests purpose driven databases and qualitative research may prove more fruitful (Silke 2001, p. 63-64).

Table 6  
*Terrorist Group Identity\**

	Hostage Released	Hostage Killed	Percentage of Total
Religious	92.4%	7.6%	32.7%
Secular	78.1%	21.9%	41.8%
Unknown	71.9%	28.1%	25.5%

\*Chi-square value: 44.04 (0.00)

## Policy Recommendations

There are two main policy implications regarding the outcome of this study. The first is that while the media and public perception seem to stress the religious extremists groups as the most feared terrorist organizations, we should be more skeptical and knowledgeable about kidnappings for ransom. The second is that it pays to pay: paying a ransom decreases the likelihood death significantly and should not be a shunned policy option for American diplomats, however it comes with a price.

### *Informing Americans*

The first step in creating better outcomes is limiting the number of cases. Informing Americans about terrorist groups and where they operate, how to avoid them, and where not to travel should be more widely disseminated. Though American media tends to perpetuate the widely held belief that religious terrorist groups are abnormally violent, the media can be used to disseminate travel information and explain factors that influence kidnappings. In addition, the media could have a hand in reassessing the risk of religious terrorist groups by focusing on American releases and survival stories instead of focusing on the violence.

The results of this study show those declared religious terrorist groups are less likely to kill hostages than either secular or unknown identity groups in cases of kidnappings for ransom. This result indicates that religious terrorists, in these situations, are more interested in receiving a ransom than killing a Westerner or co-national. Though the media tends to portray religious terrorist groups as the ultimate threat, the data does

not support this claim in these cases. Perhaps we must change the national dialogue on terrorist kidnappings.

Being kidnapped for ransom does not have to be a death sentence, though we must keep in mind that multiple motives can exist. Though current religious terrorist groups extrapolate an agenda of “killing Westerners” and a “global jihad,” perhaps their agenda is more nuanced than their blunt propaganda. It is possible that kidnappings for ransom are intended to generate funds and serve no other purpose. Perhaps further research into religious terrorist organizations can explore terrorist group dynamics and whether these groups compartmentalize operations. If so, this could suggest that when terrorist groups use kidnapping for ransom they are interested in money more than their political agenda. Understanding this compartmentalization could help us in understanding when and if a ransom payment should be made and the purpose of these payments.

### *Practical Payments*

As stated in earlier sections, the debate on paying ransoms is a hot topic in the American media at this time, fueled by the recent deaths of American citizens at the hands of ISIS. These cases fit within this data set because a ransom was demanded in each kidnapping. According to our findings, not only should ransoms be paid in terrorist kidnappings, but also the payment should be known in order to keep these terrorist groups accountable. In cases where a ransom was paid and recorded, the hostage was over 10 times more likely to be released.

Making a ransom payment known may pressure a terrorist group to release the hostage. If a terrorist group kills the hostage after a payment is received, there would be

no point in further negotiations in other kidnappings or other events, because the credibility of the terrorist group would be lost. In comparison, if the ransom payment is made secretly and the hostage is killed, the terrorist group faces no repercussions. They do not lose their reputation because as far as anyone knows, no ransom was paid. This is a normative argument, but if we assume that a terrorist group kidnaps for money and wants to continue making money, to keep business good, they will stay true to their word: they will release a hostage when a ransom is paid. However, to hold terrorist groups accountable, ransom payments must be made known.

To keep terrorist groups accountable, ransom payments should not be made through back door channels, but should be public knowledge. However, this will only work if the majority of states agree to transparency in ransom payments. The international community should be more open about ransom payments because it could save civilians' lives as well as allow the international community to track the amount of money going to terrorist organizations through ransoms. In today's society, international norms suggest that states should not pay ransoms nor admit to paying ransoms. A more constructive method may be to be upfront and account for ransom payments.

Tracking ransom payments will allow the international community to have a stronger idea of terrorists' power and funding and could help us understand their funding and spending habits. This information could be used in coordinating better international anti-terrorist movements if there is a better idea of how terrorist groups operate. By tracking ransom payments and terrorist group activities, we will be able to understand where that money goes, what is done with it, and how ransom payments affect terrorist group activities. Because terrorism financials are inherently difficult to track and stop,



using ransom as a way to monitor money amounts and uses may allow us to research how to effectively cripple a terrorist group's financials. It may also help us in finding ways to cripple the organization by knowing where they use their money and how much they need to survive. Tracking ransom payments as a way to understanding terrorist groups' financials can serve a multitude of purposes in the fight against terror.

### *The Psychological Implications of Shifting Strategies*

But first, changing the policy on ransom negotiations depends on changing the American norm of non-negotiation. Though America has always had a stated policy of non-negotiation, our data shows that through the early 2000's, ransom payments were made in exchange for American lives. The Iran-Contra Affair under Reagan is another example of America's past negotiations with terrorists. But George W. Bush solidified the "no negotiation" strategy as part of the American psyche, and it has become the cornerstone of American foreign policy in regard to terrorism. Negotiating is associated with weakness. In order to change the policy, we must also change the dialogue. If we begin to talk about negotiation as saving an American life as opposed to bending to a terrorist's will, we can begin to acknowledge that negotiation does not have to mean weakness.

There is an underlying question to be answered in changing the policy of paying a ransom: how much do we value an American life? Today, the typical ransom is in the millions. A recent *New York Times* report stated that over \$125 million has been paid to Al-Qaeda and its affiliates by European countries since 2008 (Callimachi 2014). The

money paid for ransom could be used by these terrorist organizations in the future against the United States.

In addition, studies suggest that every one concession, like a ransom paid, in a kidnapping leads to 2.6 more kidnappings as a direct result. A policy of paying ransom could lead to Americans being targeted more often, however it would mean those taken are more likely to come back alive. Paying a ransom increases the chances of bringing back American hostages alive, but it also could increase the number of American kidnappings and is a massive financial undertaking.

### *The Paying Paradox*

Paying a ransom creates an interesting paradox. If nothing else, it suggests that terrorist kidnappings are not black and white; our policy should not be either. On the one hand, paying a ransom significantly increases the chance a hostage will be released and not killed. The adage that a terrorist group will take the money and kill the hostage anyway is not supported by this study. Paying does pay: a ransom payment does influence release.

Yet, on the other hand, the implications of paying terrorist groups millions of dollars every time an American is taken comes with its own negative repercussions. As stated before, making a concession during negotiations with terrorist groups directly leads to 2.6 more kidnappings. So if we were to pay, are we setting up other Americans to suffer? In addition, the money used to pay the ransom funds these terrorist groups. It is possible, and even probable, that ransom payments fund larger operations and attacks.

Paying a ransom for an American may fund the next big terrorist attack, which could cost thousands of lives.

Simply put, there is no easy solution to this issue, as we can see by the multitude of policies throughout the world. As the American public, we do not want to see our citizens killed at the hands of terrorist groups – whether that be in a kidnapping or in a large attack like September 11<sup>th</sup>. In paying a ransom, it is not so clear what the right answer is: do we let our citizens die though we could do something to prevent it in kidnapping for ransoms, or do we pay and risk putting thousands of lives in danger in the future. While there is far from a clear answer, we can be more effective in dealing with these situations.

We suggest that American policy should give policy makers and negotiators leeway in deciding the best course of action. Every situation is different and should be treated as such. Our strict “non-negotiation” policy is costing American lives, not saving them. There should be times when we should be able to step in to save a citizen taken by a terrorist group. In less than a year, we have lost four American citizens at the hands of ISIS. Their deaths may have been preventable. A ransom was asked but not paid. Their European compatriots were released after a ransom was paid. Could a ransom payment have saved their lives? It is hard to tell, but the probability for release would have been much higher.

But how can we decide whom to save? After all, ransom payments can be used to kill others in the future. We suggest that a strategic negotiation team be developed across the Department of State, Department of Defense and Department of Homeland Security. This team would assess individual terrorist kidnappings to weigh the options such as:

what is the probability this hostage will be killed? How will the ransom fund this terrorist organization? How much of a threat is this terrorist group? Will this group pose a larger threat to American security if a ransom is paid? In addition, we can look at the tendencies of the terrorist group outside the kidnapping incident to inform our decision based on how violent the group is and how likely they are to target the United States in the future.

By giving consideration to each unique hostage case, we can create a cost benefit analysis that will show the impact of saving American lives when taken for ransom. There is far from a right answer in dealing with terrorist kidnappings for ransom, but if it could save even one American life, it is worth the effort.

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