THE PENNSYLVANIA STATE UNIVERSITY
SCHREYER HONORS COLLEGE

DEPARTMENT OF POLITICAL SCIENCE

Counterterrorism Strategies: Leadership Decapitation vs Mid-Tier Elimination

C. PHILIP NICHOLS III
FALL 2014

A thesis
submitted in partial fulfillment
of the requirements
for a baccalaureate degree in International Politics
with honors in International Politics

Reviewed and approved* by the following:

Peter Forster
Associate Dean, College of Information Sciences and Technology
Thesis Supervisor

Michael Berkman
Professor, College of Liberal Arts
Honors Adviser

* Signatures are on file in the Schreyer Honors College.

ABSTRACT

Western nations have long seen the impact of terrorist activity in foreign environments, but after the tragic attacks on September 11th and the bombings in London and Madrid, western nations realize that they are no longer impervious to large magnitude terrorist attacks. In response, they have begun to utilize strategies that will deter or disrupt these lethal activities. The two strategies specifically analyzed in this research were those of the traditional leadership decapitation strategy, and the newer mid-tier elimination strategy. Previous statistical research that has focused on leadership decapitation strategies has produced arguments both for, and against, its effectiveness in reducing the threat violent non-state actors pose. However, while there has been much statistical analysis completed on leadership decapitation strategies, there has been no statistical research on the strategy of mid-tier elimination. Both strategies hold varying degrees of consequences, positive and negative, in their use, prompting this research to determine if there are certain epochs where one might be more efficient to use over the other. The conclusion outlines three major policy implications in identifying certain circumstances in which a leadership decapitation strategy will be more effective than a mid-tier elimination strategy, and vice versa.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACKNOWLEDGEMENTS

I would like to extend my heart-felt thanks to Dr. Peter Forster for his indispensable guidance and knowledgeable advice throughout the creation of this thesis. Without his support, and superior insight into this topic, this thesis could not have been written.

I would also like to extend my thanks to Dr. David Lowery for his assistance in completing the statistical portion of the analysis. The guidance he provided was crucial in understanding the nuances of the statistical tools utilized in this research.

Finally, I would like to thank Dr. Gretchen Casper and Dr. Eugene Walton for their help in the formation of the initial stages of my research design.

Introduction

The dramatic increase in technology mixed with a globalizing world has prompted not only the United States, but also other militaries to develop new strategies to fight the growing threat terrorists pose. Terrorism can be seen throughout history as a violent strategy utilized by marginalized or weaker societal groups to achieve a political end. With the rapid growth of technology, the reach and possible implications of terrorist activities has accelerated. Western nations have long seen the impact of terrorist activity in foreign environments, but after the tragic attacks on September 11th and the bombings in London and Madrid, western nations realize that they are no longer impervious to large impact terrorist attacks. In response, they have begun to utilize strategies that will deter or disrupt these lethal activities. Notwithstanding, policymakers continue to struggle with ways to counter the terrorist threat including de-radicalization, counter-radicalization, and methods to erode groups' capabilities. The focus of this research is to ascertain which strategies are most effective in mitigating the operational capabilities of a violent non-state actor. While this question can be answered by a multitude of varying strategies, the two strategies that will specifically be analyzed are those of the traditional leadership decapitation strategy and the newer mid-tier elimination strategy.

In September 2014, the U.S. military was able to kill al-Shabaab's leader Ahmed Abdi Godane in a drone strike (Chothia 2014). Now al-Shabaab is on its heels and, "defectors [have] said that what little allure the group enjoyed was virtually gone" (Gettleman and Kushkush 2014). While the strategy of removing the leader from an organization has been utilized for ages, its effectiveness can still be seen in the present day. Israel has been using this strategy almost from its inception in order to counter threats to its security from violent non-state actors threatening it. The United States has recently adopted this policy in its efforts to diminish the threat that Al-Qaeda, and similar terrorist organizations, pose to the United States and its interests. This strategy has been the focus of a large amount of statistical research seeking to

determine how effective the strategy actually is in limiting a terrorist organization's capabilities. However, there is little available statistical research that compares the impact of eliminating the "leadership" versus eliminating the mid-tier operators.

The purpose of this research is to examine whether neutralizing the leader or the mid-tier personnel is more effective in limiting the operational capabilities of a violent non-state actor. The word neutralize is used here to incorporate the "unexpected loss" of a leader, either through killing, incarceration, or the questionable removal of that leader from power, as exemplified in the coup of the Liberians United for Reconciliation of Democracy, where western powers possibly pressured the leader's wife in to taking over power due to the leader's failure to disarm. It is also important to note that the purpose of defining a violent non-state actor, as such, is to limit the possible complications that the definitions of an insurgency or a terrorist group might pose. In this respect, violent non-state actors "are non-state armed groups that resort to organized violence as a tool to achieve their goals" (Mulaj 2010; 3). Overall, any insight into how to more effectively limit the operational capabilities of a violent non-state actor would surely be useful to policy-makers as they seek strategies to pursue future conflicts against terrorist groups.

The thesis is divided into the sections of the literature review, theory, data presentation and analysis, and conclusions. The literature review will focus on the research already completed in the academic community that has statistically analyzed the impact that leadership decapitation and mid-tier elimination strategies have on violent non-state actors. The theory section will analyze the varying consequences that exist in the removal of the leader or mid-tier personnel, and it will also provide an overview of the methodology used in the completion of this research. The data analytics section will present the data collected in the research and the result of the analysis. Finally, the conclusion will provide an overview of the critical takeaways from the research as well as the possible policy implications.

Literature Review

While it is important to identify the qualitative impact of leadership and mid-tier decapitations, which will be addressed in the theory section, the purpose of this literature review is to examine the statistical research completed on these strategies, if any at all. The large-n statistical research completed on the subject of leadership decapitations in terrorist organizations has been performed primarily in the last decade and has yielded mixed results. From these studies, the literature is generally divided into two schools of thought regarding decapitation. The first favors it as an effective counter-terrorism strategy, while the other sees it at best as ineffective and at worst a negative strategy. For example, works by Jenna Jordan, Mohammad Hafez, and Joseph Hatfield demonstrated the ineffective or even more negative outcome of possibly stimulating more violence in a violent non-state actor responding to leadership decapitation. Countering this finding, Bryan Pryce and Patrick Johnston demonstrated the strong effect that a leadership decapitation can have in eroding the capabilities of a violent non-state actor. Furthermore, the literature notes the trouble in establishing statistical significance. One of the early works, completed by Aaron Mannes, was overall, statistically inconclusive. While there has been much statistical research completed on the effects of leadership decapitation strategies, there has been no statistical analysis completed on the effect that mid-tier elimination strategies can have on the capabilities of an organization. This may be due to the ease in identifying a leader, who has a higher visibility in an organization, versus the more inconspicuous mid-tier leaders who are more difficult to identify.

The belief that the elimination of leaders of insurgencies tends to be ineffective at its best, and does more harm than good at its worst, is substantive. This idea was buttressed by Jenna Jordan's research. Jordan used a combined quantitative-qualitative approach. Examining 96 terrorist groups between 1945 and 2004, and 298 cases of leadership decapitation, Jordan's large-n quantitative analysis identifies if leadership decapitation is truly an effective counter-terrorism strategy. In order to complement her statistical analysis, Jordan used the case studies to examine the extent to which particular organizations are affected. In collecting the data, Jordan identified leaders only as the most visible

members of the organization, which she admitted was a broad definition (2009; 733). Jordan organized the groups based on whether they were separatist, religious, or ideological movements. In examining the effectiveness of the organization, Jordan determined if they were active or not after two years from the decapitation for her large-n study, and looked at the change in frequency and number of deaths in attacks for her case studies (2009; 733). Overall, she concluded that older, bigger, and separatist-/religious-based insurgencies were the most resilient to decapitations, which logically, is a very sound result (Jordan 2009; 746-749). More importantly, she also deduced that decapitation was not an effective counterterrorism strategy. She found that it was actually more harmful to neutralize the leader of an insurgency than it was not to (Jordan 2009; 753-754).

Hafez and Hatfield also completed research that reinforces the idea that leadership assassinations can prove more ineffective, and they did so through a statistical analysis. However, Hafez and Hatfield's work dealt with a small-n case study focused just on the Israeli-Palestinian conflict of a single case. Hafez and Hatfield evaluated the effect that Israeli targeted assassinations had on terrorist attacks between September 29, 2000 and June 16, 2004. They tested four hypotheses:

1. Viewed the assassination as a deterrent, whereby one would expect to see an immediate drop in the attacks.

2. Assessed whether there would be a high probability of an immediate surge in attacks by the insurgency, due to backlash, followed by a decline after the spike.

3. Viewed the assassination as destabilizing to the organization and one would expect to see a decline in the success rate of attacks by the insurgency after the assassination.

4. Viewed an assassination as ineffective due to the substitution effect, unless it was combined with a military incursion. (Hafez and Hatfield 2006; 367- 371).

Their research concluded that Israeli targeted assassinations had no real impact on the insurgency as they did not consistently increase or decrease Palestinian violence after a targeted leadership decapitation (Hafez and Hatfield 2006; 380-382). This conclusion is similar to the research done by Jenna Jordan. These statistical results have reinforced the idea in the academic world that it could do more harm than good to neutralize the leader of an insurgency.

The other side of the argument is the idea that it is actually a beneficial counterterrorism strategy to eliminate the leader of an insurgency. The two leading researchers behind this idea are Patrick Johnston and Bryan Price. Price conducted a large-n quantitative study that consisted of 207 terrorist groups from 65 countries that were active from 1970 to 2008. He recorded 204 observations where the leader was either killed or captured and included an additional 95 instances where the leader was either expelled from the group, died of natural causes or in an accident, voluntarily resigned, or accepted a ceasefire agreement with the government. Price's research excluded leaders in the upper echelon, who were not either the direct leader or co-leader. He then analyzed the mortality rate of terrorist groups in order to determine the longevity of the group after suffering the loss of its leader (Price 2012; 29-32). Contrary to Jenna Jordan, he concluded that religious groups' effectiveness is more susceptible to leader decapitations and that the mortality rate of a group that experiences a decapitation is likely to increase (Price 2012; 35-41). Interestingly, he also determined that the longevity depends on the age of the organization with older organizations being the less susceptible to ending, a conclusion similar to Jordan's (Price 2012; 43-44). In addition, he found that any type of leadership turnover increases the likelihood of a terrorist group ending. Finally, he found that size does not have a significant effect in increasing the likelihood of the demise of a terrorist group (Price 2012; 43). Overall, he recommends that government officials utilize resources in the first 10 years of a group's existence to remove the leader, and after 20 years, to start distributing those resources to other counterterrorism initiatives (Price 2012; 45).

Leading to a similar conclusion, Patrick Johnston utilized a large-n quantitative research method that examined 90 campaigns from 1975 to 2003 with 46 decapitations. He measured the effectiveness of

the insurgency by examining campaign termination, meaning whether the campaign ended peacefully or whether the insurgency failed to produce a minimum number of attacks to meet a certain threshold and conflict intensity, which he measured in confirmed fatalities and insurgent-initiated incidents (Johnston 2012; 56). The leader was identified as the most powerful member in the organization (Johnston 2012; 53). Johnston also accounted for failed attempts at leadership decapitations in measuring the impact that might have on conflict intensity (2012; 57-58). This is significant because it introduces the concept of keeping leadership on the run which inhibits their ability to recruit, plan, and exploit. This strategy is mentioned in connection with the declining effectiveness of Al Qaeda's Afghanistan-Pakistan core following 9/11. The conclusions were that leadership decapitation strategies increase the chances of terminating the war with an increased likelihood of government victory (Johnston 2012; 62-63). Furthermore, leadership decapitation reduces the intensity of militant violence and the frequency of insurgent attacks (Johnston 2012; 64). In summation, Johnston's findings indicate that leadership decapitations have a significant impact on the termination of a campaign, no matter the age of the terrorist group. These findings disagree with Jenna Jordan's findings, and more so aligns with Bryan Price's research.

Another relevant point emerging from the literature is the difficulty in conducting statistically significant research in this area. Mannes completed one of the early attempts at a large-n statistical analysis on the effect of leadership decapitations in 2008. He examined 71 terrorist groups, and looked at 60 instances where the leader was removed from the group by arrest, murder, or other causes not associated with counterinsurgency tactics (Mannes 2008; 41-42). He defined the leader as either the most visible in the organization, or the second in command (Mannes 2008; 42). He concluded that the counterterrorism strategy of neutralizing the leader of the insurgent group does not have a significant effect on the reduction of terrorist activity. On the other hand, he did find that the neutralization of leaders of religious terrorist groups tends to cause an immediate spike in the terrorist activity of the group, supporting the "blowback effect", and that communist/socialist groups, who previously were

characterized as the most vulnerable to leadership decapitations, did not exhibit as such. Overall, he found very few statistically significant results, and he even stated in his conclusion that much more research needs to be conducted in this field in the future (Mannes 2008; 43). The limited results may have been due to the relatively medium number of groups, 72, he was examining over a large amount of time, 1968-2003 (Mannes 2008; 41). My study seeks to improve upon this by examining 45 groups over just a decade, 2000-2010.

The research performed by Johnston and Price proves contradictory to that done by Mannes, Jordan, Hatfield, and Hafez, in that they show targeted assassinations of the leaders of insurgencies does have a significant, negative effect on the capabilities of an insurgency.

The strategy of mid-tier elimination has recently come into favor in the academic/analytic world as a possible counter-argument to the traditional leadership decapitation strategy. The idea of mid-tier elimination is seen in works by David Kilcullen and Martin Muckian, but currently it is only a strategy defined through logic, and has not been substantiated with statistical analysis. In Muckian's article, he notes that,

> Modern insurgencies do not have a hierarchy that can be pulled apart. Targeting the ostensible leadership is not likely to have a significant disruptive effect. People or cells with special skills or who act as critical communication links or perform non-redundant functions are key vulnerabilities of a network. (2006; 23)

Muckian sees that modern insurgencies will be more network-based instead of the traditional hierarchical structure, and with that in mind, he suggests that a strategy of mid-tier elimination will be more effective in diminishing an insurgency's capabilities. While his work focuses on the Iraqi insurgency, Muckian extrapolates this insurgency as an indicator for the future of insurgencies. David Kilcullen comes to a similar conclusion in his work on insurgencies. In Kilcullen's discussion of useful metrics in understanding an insurgency he states,

> The insurgents' loss rate is also a useful indicator, especially in relation to losses in the middle tiers of the insurgent organization—the level below the senior leadership group, comprising planners, operational facilitators, technical specialists, trainers, recruiters, financiers, and lower-level operational commanders. (2010; 75)

In both of these instances, the authors suggest that the best way to defeat modern insurgencies is not to focus solely on eliminating the leadership of the insurgency, but rather to eliminate the personnel that allow the insurgency to function on a day-to-day basis. This originates from the assumption that an organization can function immediately without its leader, but an organization cannot continue to operate with the continuous loss of its mid-level personnel.

Previous statistical analysis has predominately focused on leadership decapitation strategies, with results supporting and countering the successfulness of such a strategy, while there has been no previous statistical analysis on mid-tier elimination strategies. With these ideas in mind, this study adds to the literature by determining whether a mid-tier elimination strategy is more effective in diminishing the capabilities of a violent non-state actor than the traditional leadership decapitation strategy in the modern era.

Theory

Foundations

Traditionally, many have viewed cutting the head off the snake, or neutralization of the leader, as the best way to dismantle an enemy organization or violent non-state actor. Expectations were that once a leader was eliminated, the rest of the organization would crumble without the guiding support of its leader. As Daniel Byman notes, a drop off in Hamas attacks on Israel, "occurred partly because Israel's targeted killings have shattered Palestinian terrorist groups and made it difficult for them to conduct effective operations"(2006; 103). Notwithstanding Byman's perspective, a possible new strategy is to target the mid-tier leaders of the organization. This strategy would prove effective if the network could not cope with the continuous losses of its mid-level personnel, which would slowly diminish its operational capabilities. This strategy holds that a mid-tier elimination campaign will eliminate the capacity of a violent non-state actor to continue operations, and at its best, force the leader to seek a negotiated end to the conflict, and at its worst, would considerably limit the pool of potential replacement leaders. Both strategies hold varying advantages and disadvantages in limiting the effectiveness of a violent non-state actor. To assess the efficacy of this strategy, it is important to understand the qualities of leadership, and the organizational style of the violent non-state actor.

The idea that eliminating the leader of an organization is detrimental to the organization's operational capabilities and even existence, rests on leadership qualities including charisma, and the leader's understanding of the organization. Charisma is recognized as a key characteristic of non-state violent organization's leaders (Price 2012; 17). In order to be successful as a covert violent organization, a leader must possess an aura that attracts followers and reinforces their loyalty. Simply put, "because they head organizations with no legal standing and therefore have no basis for legal authority, terrorist leaders depend more on charisma to attract, control, and keep followers" (Price 2012; 17). Without the given structure found in a legal organization, a terrorist leader must build his legitimacy within the

organization through charisma that develops strong social bonds. This aura can become so strong, that

even without complete operational control, the leader's existence can act as a beacon for the organization.

This was seen in the case of Osama bin Laden,

> Regardless of the nature of his precise operational role in the organization, in the ten years since 9/11, he had become a legendary and mythical source of inspiration to individuals in the West who aspired to join his movement, regardless of whether they were in London, New York, Toronto, or Madrid. His absence will further contribute to the degrading of the operational and inspirational role of al Qaeda Core (Silber 2012; 295).

The removal of such powerful leadership can be quite effective in eliminating the momentum and drive of

the violent non-state actor to continue operations. A contemporary example of this considerable decline

exists in the case of the Real Irish Republican Army, whose leader, Michael McKevitt, was arrested in

March 2001. Upon his arrest, he admitted to the media that the group was 'at an end', and its

membership, along with its operations, drastically declined toward an almost non-existent state moving

forward (Cronin 2006; 21).

Another key characteristic of a traditional leader is his/her ability to maintain tangible command

and control over the organization. Command and control can be thought of as effectively distributing

resources to important nodes in the organization, or overall fundraising the organization's activities.

Once again this characteristic can be seen in Osama bin Laden as, "Bin Laden…issued general directives

and detailed instructions to different functional committees, which in turn supplied funding, logistical

support and guidance to peripheral nodes" (Kenney 2007; 151). This demonstrates that understanding the

structure of an organization is an important prerequisite to effective leadership. Without such

understanding, the leader will be unable to effectively control the organization's functions. Few men

possess both the quality of charisma with the innate knowledge of organizing a violent non-state actor,

such that the removal of such a leader can prove detrimental to the survival of the group.

Similar parallels to the advantages that a leadership decapitation can have on a network-

structured violent non-state can be drawn to those organized in a hierarchical manner. A network-based

violent non-state actor relies on bottom-up recruitment strategies, in which volunteers come forward to

commit acts of terror due to the draw that the organization has. This draw primarily again comes from the charisma a leader exudes, as seen in the late stages of al Qaeda, which relied on Osama's "legendary and mythical source of inspiration" to encourage bottom-up recruitment (Silber 2011; 294-295). Similarly, a violent non-state actor that relies on network-based structures must have a leader that has strong understanding of the operations of the organization. Once again using the late stages of al Qaeda as a model, "the emir knows everything there is to know about the operation involved…People in the logistics cell would not necessarily know who was involved in the surveillance cell"(Kenney 2007; 153). The leader knows all the players involved in the operation, while compartmentalized nodes in the network would not be able to identify the other nodes. This structure again requires a strong understanding by the leader of the organization in order to operate with such compartmentalization.

While a leadership decapitation strategy certainly may be effective, a few disadvantages might hinder that effectiveness. These hindrances may be based on the volatility of the leader's replacement, the lack of legitimacy a replacement has, and finally, the "blowback effect" that might ensue. The impacts of the volatility and illegitimacy of the replacement leader are unknown, while the "blowback effect" will certainly have a negative impact from the view of counter-terrorism officials.

First, by eliminating the leader of an insurgency, one also runs the risk of creating a vacuum for a more aggressive leader to take control of the insurgency and increase its acts of aggression. A more experienced leader, who has seen the loss of life first hand, might have been discriminate in the selection of operations, while a younger, more bloodthirsty leader from the front lines might utilize violent attacks more frequently (Kilcullen 2010; 75).

Another potential problem with eliminating a senior leader is that the eliminated leader may have been more willing, better positioned or had more legitimacy within the organization to negotiate a peaceful end to the conflict than a younger, more aggressive leader might. A new leader will likely not have consolidated complete control over the organization therefore making it nearly impossible to commit the entire organization to a negotiated peace settlement (Kilcullen 2010; 75).

Finally, the targeted killing of a leader may have an unintended "blowback effect". The "blowback effect" suggests that the rest of the organization is more likely to increase the number of attacks in order to prove that it is still functioning without its leader. This intense push of violence may lead to chaos within the organization itself, as isolated cells begin to act without orders (Ganor 2005; 119).

The advantages of a mid-tier elimination campaign lie in its ability to successfully mitigate the day-to-day operational capabilities of violent non-state actors, due to the unique importance and expertise mid-tier leaders have in successfully executing operations. Mid-tier leaders are essential in transforming the large goals of their leader and organization into daily operations. They act as the nodes in the larger network of the organization; distributing and gathering resources and intelligence in order to successfully execute operations. While foot soldiers are easy to replace, mid-tier leaders act as non-redundant nodes in the organization, whose loss, "creates what University of Chicago sociologist Ronald Burt calls 'structural holes' in the network that are not easily filled" (Kenney 2007; 30). The constant elimination of these non-redundant nodes can prove fatal to the violent non-state actor, as described below,

> Arresting these individuals would degrade these networks into isolated units, singletons or cliques, who would consequently be incapable of mounting complex large-scale operations owing to the lack of expertise and logistical and financial support. Small-scale operations would be very hard to eradicate completely, but without spectacular successes to sustain their motivation for terrorism, isolated operators will lose their enthusiasm. (Sageman 2004; 176)

Without the ability to gain attention through daily operations, the violent non-state actor may fail to attain new recruits, and is more than likely to begin to dissolve under consistently increasing government pressure. Failing to execute operations due to the loss of mid-tier commanders, a violent non-state actor will regress under the pressure of counter-terrorism programs employed by the government (Sageman 2004; 176). The constant elimination of mid-tier leaders also limits the pool from which a competent replacement leader can be chosen from, and thus limits the chances of successfully transitioning to the next generation of the organization. This, as noted by Cronin, can be a critical element in the ending of a terrorist group (2006; 17).

On the other hand, a possible problem with focusing solely on mid-tier elimination strategies is that the targeted mid-tier personnel might be more readily replaceable than the loss of a leader. In other words, their positions in the network might prove more redundant, and therefore, would not leave a 'structural hole' in the network of the insurgency (Kenney 2007; 30). There are many caveats and varying aspects that can exist in selecting the most appropriate policy for the situation at hand, and that is why there needs to be more research done on this topic.

Models:

The theory examined in this paper is whether limiting the operational capabilities of a violent non-state actor is more effectively done by eliminating its mid-tier personnel or its leader. While day-to-day operations can continue without the top leader, it is much harder for a leader to conduct daily operations when he is losing his mid-level commanders and operation strategists, and that is why this paper argues that mid-tier eliminations will have a stronger effect than leadership decapitations on the effectiveness of violent non-state actors. The null hypothesis that is being disproved is that counter terrorism policies that focus on mid-tier elimination are no more likely to limit the terrorist attacks of a non-violent state actor than the assassination of its leader. This theory has been espoused by the indication that unique modern technological advances have forced, or promoted, violent non-state actors to decentralize their organizational structures (Muckian 2006; 23). Over time, I expect to see a decrease in the overall terrorist attacks conducted by the violent non-state actor after suffering the loss of mid-level personnel as opposed to situations where their leader is neutralized.

In order to study the effects of leadership decapitations and mid-tier eliminations, three models are used to understand the nuances in the competing strategies. Below are the equations for each model:

Model 1: $E_v = \alpha - \beta_1 L_v - \beta_2 L_{lag1} - \beta_3 L_{lag2} - \beta_4 M_v - \beta_5 M_{lag1} - \beta_6 M_{lag2} + \beta_7 Size_{Medium} + \beta_8 Size_{Large} + \beta_9 Geog_{SEAsia} + \beta_{10} Geog_{CAsia} + \beta_{11} Geog_{EAfrica} + \beta_{12} Geog_{WAfrica} + \beta_{13} Geog_{CAfrica} + \beta_{14} Geog_{SAmerica} + \beta_{15} Leadership_{TopComand} + \beta_{16} Leadership_{Politiburo} + \beta_{17} Motive_{Political} + \beta_{18} Motive_{Ethnic} + c$

Model 2: $E_v = \alpha - \beta_1 L_v + \beta_2 Size_{Medium} + \beta_3 Size_{Large} + \beta_4 Geog_{SEAsia} + \beta_5 Geog_{CAsia} + \beta_6 Geog_{EAfrica} + \beta_7 Geog_{WAfrica} + \beta_8 Geog_{CAfrica} + \beta_9 Geog_{SAmerica} + \beta_{10} Leadership_{TopComand} + \beta_{11} Leadership_{Politiburo} + \beta_{12} Motive_{Political} + \beta_{13} Motive_{Ethnic} + \beta_{14}(Size_{Medium} * L_v) + \beta_{15}(Size_{Large} * L_v) + \beta_{16}(Geog_{SEAsia} * L_v) + \beta_{17}(Geog_{CAsia} * L_v) + \beta_{18}(Geog_{EAfrica} * L_v) + \beta_{19}(Geog_{WAfrica} * L_v) + \beta_{20}(Geog_{CAfrica} * L_v) + \beta_{21}(Geog_{SAmerica} * L_v) + \beta_{22}(Leadership_{TopComand} * L_v) + \beta_{23}(Leadership_{Politiburo} * L_v) + \beta_{24}(Motive_{Political} * L_v) + \beta_{25}(Motive_{Ethnic} * L_v) + c$

Model 3: $E_v = \alpha - \beta_1 M_v + \beta_2 Size_{Medium} + \beta_3 Size_{Large} + \beta_4 Geog_{SEAsia} + \beta_5 Geog_{CAsia} + \beta_6 Geog_{EAfrica} + \beta_7 Geog_{WAfrica} + \beta_8 Geog_{CAfrica} + \beta_9 Geog_{SAmerica} + \beta_{10} Leadership_{TopComand} + \beta_{11} Leadership_{Politiburo} + \beta_{12} Motive_{Political} + \beta_{13} Motive_{Ethnic} + \beta_{14}(Size_{Medium} * M_v) + \beta_{15}(Size_{Large} * M_v) + \beta_{16}(Geog_{SEAsia} * M_v) + \beta_{17}(Geog_{CAsia} * M_v) + \beta_{18}(Geog_{EAfrica} * M_v) + \beta_{19}(Geog_{WAfrica} * M_v) + \beta_{20}(Geog_{CAfrica} * M_v) + \beta_{21}(Geog_{SAmerica} * M_v) + \beta_{22}(Leadership_{TopComand} * M_v) + \beta_{23}(Leadership_{Politiburo} * M_v) + \beta_{24}(Motive_{Political} * M_v) + \beta_{25}(Motive_{Ethnic} * M_v) + c$

The E_v represents the effectiveness of the violent non-state actor through measurements of frequency and lethality of violent attacks. The lethality, in terms of civilians killed and civilians wounded, as well as the frequency of attacks committed by the violent non-state actor, are the dependent variables in these models. The L_v and M_v variables represent the leadership decapitation and mid-tier elimination strategies, respectively. These counterterrorist policy variables are considered the independent variables in these models. The rest of the variables in each model are the control variables for the models.

The first model breaks down the overall results from the model. This model also includes two lag variables for the independent variables to account for their impact on the violent non-state actor one and two years after their execution. The geographic areas of operations of the violent non-state actors are distributed into seven areas: Southeast Asia, Central Asia, East Africa, West Africa, Central Africa, South America, and the Middle East, which is the constant in this model. It is important to account for the impacts that different regions will have on understanding where counter-terrorism policies are more effective. The Middle East is the constant in this model, as I believe it contains the more operationally active of the violent non-state actors. The leadership variable delineates the violent non-state actors into

the varying leadership styles of top commander, politburo, and council, which in this case is the constant. It is also important to account for the different possible leadership styles utilized by the violent non-state actors. In this model, the council style of leadership is the constant, even though I feel the council and top commander leadership styles are equally capable of executing violent attacks. Finally, the motivation variable delineates the motivations of the violent non-state actors as political, ethnic, and religious. The motivations are classified based on Johnston's discussion of the difference between identity and ideological movements, in which he identifies communist insurgencies as ideological and ethnic/religious insurgencies as identity-based. The difference between these,

> conflicts is that ideological conflicts are fought over how polities should be governed, whereas identity conflicts usually involve at least one party that views itself as fundamentally different from the other and, consequently, is fighting to pursue some form of self-determination. (Johnston 2012; 69).

Johnston then argues that through this logic, identity-based conflicts are much harder to resolve than ideological conflicts (2012: 69). Politically motivated conflicts are easier to resolve, or at least eventually do so more readily in non-violent arenas, while ethnic and religious based struggles are much harder to resolve. While I believe that ethnic and religious based violent non-state actors are capable of committing equal violent attacks, recent trends suggest that religious violent non-state actors pose the greater threat to U.S. security in the near future, and that is why the religious violent non-state actors were selected as the constant variable (Cronin 2006; 7).

The second and third models examine the nuances of pursuing a leadership decapitation or mid-tier elimination strategy. The second model explicitly examines how a leadership decapitation strategy is effective when analyzing the group size, leadership style, geographic area of operation, and the motivation of the violent non-state actor. On the other hand, the third model explicitly examines the impact a mid-tier elimination strategy has on a violent non-state actor when accounting for the exact same control variables examined in the second model. These models make use of interaction variables in order to examine the relationship that exists between the independent variables and the control variables.

In each of these models, the coefficients for the leadership decapitation strategies and the mid-tier elimination strategies are negative, as I believe these variables will have a mitigating effect on the effectiveness of the violent non-state actors. The next step is to explain the large-n research design utilized in this study.

Methodology

This study relies on a large-n quantitative assessment, which uses statistical analysis to interpret data collected for a large number of individual cases. The strengths of a large-n quantitative study lie in its ability to extrapolate the data to identify general trends among the cases. The weaknesses of a large-n quantitative analysis exist when it applies generalizations to a unique combination of cases, and some of the assumptions do not apply to all of the cases. Some of these deficiencies are addressed by a cross analysis of the UCDP and START database.

Violent Non-State Actor	Motivation	Violent Non-State Actor	Motivation
Allied Democratic Forces (ADF)	Ethnic	Oromo Liberation Front (OLF)	Political
Al-Mahdi Army	Ethnic	Revolutionary Armed Forces of Columbia (FARC)	Political
Balochistan Liberation Army (BLA)	Ethnic	Sendero Luminoso- Shining Path	Political
Convention of Patriots for Justice and Peace (CPJP)	Ethnic	Sudanese People's Liberation Army (SPLM/A)	Political
Democratic Forces for the Liberation of Rwanda (FDLR)	Ethnic	Abu Sayyaf Group (ASG)	Religious
Forces for the Defense of Democracy (CNdd-FDD)	Ethnic	Al-Shabaab	Religious
Free Aceh Movement (GAM)	Ethnic	Ansar al-Islam	Religious
Justice and Equality Movement (JEM)	Ethnic	AQAP	Religious
Karen National Union (KNU)	Ethnic	AQIM	Religious
Kurdistan Workers' Party (PKK)	Ethnic	Armed Islamic Group in Algeria (GIA)	Religious
Liberation of Tigers of Tamil Eelam (LTTE)	Ethnic	Chechen Republic of Ichkeria	Religious
Liberians United for Reconciliation and Democracy (LURD)	Ethnic	Forces of the Caucasus Emirate	Religious
National Democratic Front of Bodoland (NDFB)	Ethnic	Hamas	Religious
National Liberation Front of Tripura (NLFT)	Ethnic	Hizb-I Islami-yi Afghanistan	Religious
Ogaden National Liberation Front (ONLF)	Ethnic	Islamic Courts Union (ICU)	Religious
Palipehutu-FNL	Ethnic	Islamic State in Iraq (ISI)	Religious
Patani Insurgents (Four Star PULO)	Ethnic	Jondullah	Religious
Sudan Liberation Movement and Army (SLM/A)	Ethnic	Lord's Resistance Army (LRA)	Religious
United Liberation Front of Assam in India (ULFA)	Ethnic	Moro Islamic Liberation Front (MILF)	Religious
Communist Party of India-Maoist (CPI-M)	Political	Palestinian Islamic Jihad (PIJ)	Religious
Communist Party of Nepal-Maoist (CPN-M)	Political	Taleban	Religious
Communist Party of the Phillippines (CPP/NPA-militant)	Political	Tehriki-i-Taliban (TTP)	Religious
National Liberation Army in Columbia (ELN)	Political		

Table 1: Violent Non-State Actors

Leader Neutralizations:

The critical data collected through an open-source database, LexisNexis Academic, were the neutralizations of leaders and mid-tier personnel for each violent non-state actor between 2000 and 2010. LexisNexis Academic is a database that collects a large amount of newspaper material and similar transcripts that may be sorted by keyword searches. The definition of neutralization in this research is determined as the "unexpected loss" of the leader or mid-tier personnel. The use of "unexpected loss" includes the loss of the official through either the killing, capturing, surrendering, or questionable removal from power of that official. Other research has held that, "[a]n incident of decapitation refers to the arrest or killing of a leader. I exclude cases where the leader is killed or removed by other members within the organizations"(Jordan 2009; 733). The definition of neutralization in this research is meant to go beyond previous interpretations, in order to take into account the "unexpected loss" of a leader, beyond natural causes and infighting. A typical keyword search would follow the formula, "'[Violent Non-State Actor name here]' commander [killed/captured/arrested]". Using this approach, I collected data on each time counterinsurgents were able to kill or remove a member of the violent non-state actor from power. I then proceeded to determine the level of the organizational structure to which the member belonged. Some example roles of mid-tier personnel are local/division commanders, explosive experts, and operation architects. Previous research identifies these mid-tier commanders as of a "high level of importance and a low level of redundancy"(Williams 2001; 93). This definition points to individuals in the organization that maintain special skill sets, particularly in operational strategy and bomb making. This LexisNexis method is consistent with that used by the researchers previously discussed.

Throughout the research, I found that the leadership could be grouped into typically two different styles: top commander and the council. The top commander leadership style is the traditional hierarchical structure, where the leader dictates the strategy of all military operations. A group that exemplifies this style is the Lord's Resistance Army. Below is a diagram of this type of leadership:
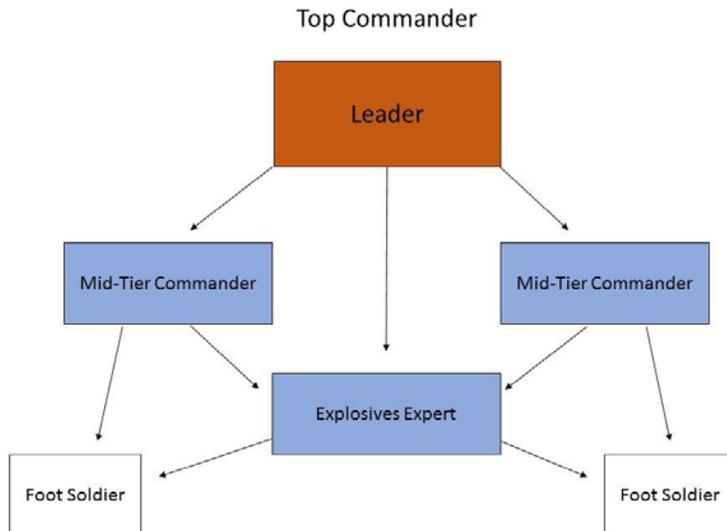
Figure 1: Top Commander Leadership

In the completion of this research, it was found that the media tends to portray a large number of mid-level commanders as the 'top' or 'senior' commander primarily in order to attract more attention to its headline. Thus, it was important to adjust for this bias. This was accomplished by conducting preliminary research on each violent non-state actor to determine what style of leadership the organization utilized. Those who possessed full control over all operational strategy were marked as the top comm anders of these actors, denoted by brown in the chart above. All other commanders or technological experts were considered as mid-tier commanders, denoted in light blue in the chart above.

The other style of leadership is the 'council' version, depicted in the chart below:

Figure 2: Council Leadership

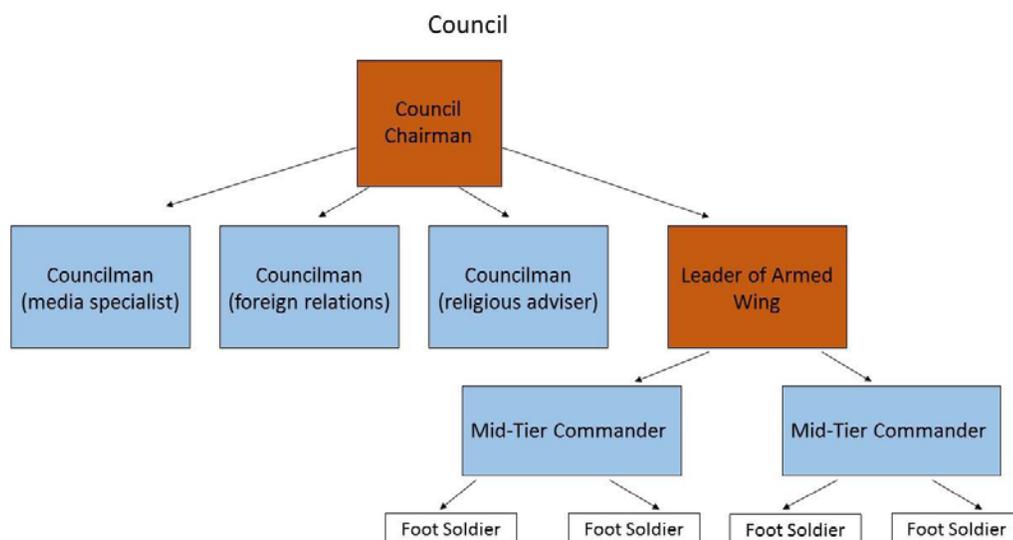In this organizational structure, two people are considered to be the top leaders; the council chairman and the leader of the armed wing. In this organization, the chairman typically sets out the general strategy for the attacks, while the leader of the armed wing makes sure they are carried out. Previous research has broadly identified the top leader as either those in the "upper echelon" or most "visible" in Jordan's case (2009; 733), or the most "powerful" in Johnston's case (2012; 53). Both of these definitions are admittedly broad, and in Jordan's case, may include leaders who are not operationally significant, such as the religious adviser. In my research, only the council chairman and the leader of the military wing are considered the leaders of this organizational structure due to the significant impact they have on operational decisions. Even though the council chairman may not be as operationally significant as the leader of the armed wing, the council chairman does outline broad-scale operational strategy, as well as act as a symbol of the strength of the organization, and his loss will surely have a significant impact on the rest of the group. A group that exemplifies this structure would be Hamas in Israel. These figures identify the approach as to how a member of a violent non-state actor was classified as either a leader, a mid-level commander, or a foot soldier.

Effectiveness of the Actor:

The second variable to be considered is the effectiveness of the actor. Effectiveness of the actor is defined as the operational capacity of the actor in terms of the frequency and lethality of violent attacks committed per year. The University of Maryland's START GTD collects the violent acts committed by the selected violent non-state actors for the entirety of the time frame. The GTD is a comprehensive collection of terrorist activities around the world from 1970 to 2012 (START 2012). For the purposes of this research, effectiveness is characterized by violent non-state actors' number of attacks, the number of citizens wounded, and the number of citizens killed for each year between 2000 and 2011. These measures, together, served as a marker for how effective the violent non-state actor is in promoting fear in a given population.

Control Variables:

The other aspect of this research was accounting for control variables. The decline of the violent non-state actor's effectiveness may not be solely a result of leadership decapitation but may also depend on different aspects. To account for other degrading variables, such as weather and financial strength, that may affect the strength of a violent non-state actor, a few control variables were identified. They were the average size of the group, the geographic region of the operations of the group, the motive of the group, and the leadership style. The use of an open-source database was again used to code all of these variables.

The average sizes of the violent non-state actors were broken into three categories: less than 1,500 fighters, greater than 1,500 but less than 3,500 fighters, and then greater than 3,500 fighters. The term 'fighter' is used here to identify those who go beyond tacit support, but rather, are militarily active throughout the entirety of the conflict years.

The geographical regions of operations were divided into 7 different areas: Central Asia (East of Iran and West of Bangladesh), Southeast Asia, the Middle East (East of Egypt and West of Iran), East Africa (the Horn of Africa), West Africa (West of Libya), Central Africa, and South America.

The motive of the group was coded as either ethnic, political, or religious, based on the end goals of the violent non-state actor. There was one case where the initial goal had changed from one of a religious nature to one based on ethnicity, and that was the National Liberation Front for Tripura. Originally, the group fought for Christianity in Tripura, India, but open source interviews demonstrated that the group had moved toward stronger calls toward ethnicity by the beginning of the 21st century. Previous research has shown that actors with ideologically based goals, such as political motivated actors, are more likely to accept the status quo than actors who base their conflict on principles of identity, such as religion and ethnicity. This is reinforced in the idea that, "[i]deology is more malleable, scholars argue, and so ideological conflicts are easier to resolve"(Johnston 2012; 69).

Finally, the leadership style was expanded to include three leadership categories: top commander, council with a chairman, and a politburo. While the council and politburo are similar in the generic use of the 'council' structure, they are coded separately to account for the unique control of the politburo in a group with communist or leftist motivations.

Data Analysis:

The method used to understand and analyze the complex relationship between the neutralizations of leaders in the upper echelon of the violent non-state actor's structure and the actor's resulting effectiveness was multiple linear regression. This technique affords the opportunity to see the vast effects that independent variables have on several dependent variables, while also including the control variables. Since there are three primary dependent variables, frequency, number of wounded, and number of killed, it is important to use multiple linear regression over simple linear regression in order to examine the impact the independent variables have simultaneously on this group of dependent variables. Logistical regression is not an appropriate choice in this case, as the dependent variables are not binary. Multiple linear regression served as the best type of analysis for this research.

This section outlined the necessity to use a large-n analysis, as well as the manner by which the data was collected. It is my hope that by using commonly available resources, the collection manner

outlined in this section can be repeated in similar future studies. It must be noted that while these are commonly available sources, they are also only open-source resources, and thus will be lacking when compared to the information that can be found by those with access to classified material. The following section discusses the results generated by the data collected in the manner outlined above.

Results

Data

In order to better understand the data, some summary statistics of the violent non-state actors should be outlined. The 45 violent non-state actors are analyzed through motivation, leadership style, group size, and geographic area of operation. Nineteen violent non-state actors were ethnically motivated, eighteen were religiously motivated, and eight were politically motivated. Under leadership style, twenty-nine violent non-state actors utilized a top commander style of leadership, fourteen utilized a council style of leadership, and two utilized a politburo style of leadership. Under group size, fifteen violent non-state actors commanded less than 1,500 active members, twenty-two commanded more than 3,500 active members, and eight commanded between 1,500 and 3,500 active members. Under geographic areas of operation, nine violent non-state actors operated in Central Asia, seven operated in Southeast Asia, nine operated in the Middle East, including the Caucasus Region, four operated in the East of Africa, three operated in West Africa, ten operated in Central Africa, and three operated in South America.

The results from the multivariate regression analysis are displayed in the table below. Overall, there were 43 instances of leadership decapitations, and 122 instances of an elimination of mid-tier personnel, out of 496 observations. The coefficients are the first numbers listed in each box, while the numbers in the parentheses are the standard errors for each variable. The coefficients with one star are those with data that are statistically significant to a p-value of less than .05. The coefficients with two

stars are those with data that are significant to a p-value of less than or equal to .01. The overall model analyzes the effect that each of the independent variables, both mid-tier elimination and leadership decapitation strategies, have on the dependent variables, lethality and frequency, while accounting for the constant variables. The leadership interaction model analyzes the sole effect that leadership decapitation strategies have on the dependent variables when accounting for the varying nuances of the nature of the violent non-state actor through the control variables. On the other hand, the mid-tier interaction model analyzes the sole effect that mid-tier elimination strategies have on the dependent variables, when examining the different factors that shape the violent non-state actors through the control variables.

n = 496		Overall Model			Leader Interact Model (Variable * Leader)			Mid-Tier Interact Model (Variable * Midtier)		
Variables		Frequency	Wounded	Killed	Frequency	Wounded	Killed	Frequency	Wounded	Killed
Leader		17.61*	120.82**	53.92**	-17.42	-34.84	-36.48			
		(7.45)	(33.91)	(18.4)	(18.78)	(85.7)	(46.9)			
	Lag 1	14.19	58.72	33.93						
		(8.30)	(37.79)	(20.5)						
	Lag 2	-1.64	1.43	-6.58						
		(9.32)	(42.44)	(23.02)						
Midtier		21.5**	36.83	37.71**				-19.99	-64.63	-58.43
		(5.61)	(25.52)	(13.84)				(12.16)	(60.27)	(30.93)
	Lag 1	14.77*	25.18	33.44*						
		(6.19)	(28.16)	(15.28)						
	Lag 2	19.13**	63.76*	32.22*						
		(6.24)	(28.42)	(15.42)						
Group Size										
	>1,500 & <3,500	7.63	46.67	10.83	15.37	99.47	84.79	1.28	-42.14	-14.24
		(7.29)	(33.18)	(18.0)	(27.59)	(125.91)	(68.91)	(14.14)	(70.11)	(35.98)
	>3,500	24.78**	152.29**	72.88**	65.72**	439.94**	222.93**	53.54**	151.48**	126.14**
		(6.12)	(27.84)	(15.1)	(18.55)	(84.64)	(46.32)	(11.0)	(54.53)	(27.98)
Geographic Region										
	SE Asia	10.88	-11.58	18.75	13.85	59.26	49	31.31*	108.83	87.53**
		(8.01)	(36.47)	(19.78)	(23.28)	(106.21)	(58.13)	(13.36)	(66.22)	(33.98)
	C. Asia	34.12**	73.64*	78.7**	52.73*	203.05*	150**	79.94**	265.45**	220.63**
		(7.58)	(34.5)	(18.72)	(21.63)	(98.7)	(54.01)	(12.71)	(62.98)	(32.32)
	E. Africa	12.15	-12	31.64	35.78	-157.51	-41.23	36.30*	151.1	84.55
		(10.12)	(46.05)	(24.98)	(31.68)	(144.59)	(79.13)	(18.1)	(89.7)	(46.03)
	W. Africa	26.1*	33.97	60.4*	28.12	47.71	103.45	61.02*	340.1**	190.05**
		(10.72)	(48.80)	(26.47)	(30.48)	(140.0)	(76.62)	(25.47)	(126.26)	(64.79)
	C. Africa	13.38	-9.56	58.18**	56.39	180.89	152.91*	41.28**	138.72	139.48**
		(7.87)	(35.82)	(19.43)	(30.48)	(139.1)	(76.12)	(14.83)	(73.52)	(37.73)
	S. America	20.52	32.35	46.94	63.8	3.34	50.1	30.09	221.33	83.8
		(13.9)	(63.3)	(34.34)	(44.71)	(203.99)	(111.64)	(28.93)	(143.41)	(73.6)
Leadership Style										
	Top Comander	3.67	38.19	19.05	4.13	53.05	12.52	-2.7	-37.12	-21.6
		(5.63)	(25.65)	(13.92)	(16.56)	(75.58)	(41.37)	(10.17)	(50.41)	(25.87)
	Politburo	26.62	-10.70	40.89	348.69**	69.14	284.98*	100.70**	-37.43	36.91
		(15.59)	(70.99)	(38.51)	(56.34)	(257.05)	(140.68)	(30.58)	(151.6)	(77.8)
Motivation										
	Political	-9.58	-137.12**	-85.79**	-100.96**	-432.82*	-254.62**	-48.41*	-199.75	-133.01*
		(10.99)	(50.05)	(27.15)	(37.86)	(172.74)	(94.53)	(22.27)	(110.38)	(56.65)
	Ethnic	-7.96	-63.83*	-55.08**	47.06	-255.1*	-172.14**	-23.77*	-30.83	-42
		(5.95)	(27.09)	(14.69)	(25)	(114.06)	(62.42)	(10.46)	(51.87)	(26.62)
R^2		0.2816	0.2077	0.252	0.2875	0.2376	0.2513	0.3659	0.1993	0.3086

Table 2: Regression Results

<u>Overall Model:</u>

The overall model, containing the data within the first three columns of the table, describes the impact that leadership decapitations and mid-tier eliminations have on the effectiveness of a violent non-state actor, when holding constant for the size, the geographic area of operations, the leadership style, and the motivation of the group. The lag variables for leadership decapitations and mid-tier eliminations demonstrate the impact the variables have one and two years after on the effectiveness of the violent non-state actor. The year of the loss of a leader or a mid-tier commander both show a statistically significant increase in the frequency and lethality of attacks. For a leadership decapitation, an increase of 17.6 attacks, 120.82 citizens wounded, and 53.92 citizens killed is expected the year a leader is lost. For a mid- tier elimination, an increase of 21.5 attacks and 37.71 citizens killed is expected. Although there is an immediate downward trend in the frequency and lethality of a violent non-state actor in the years following the loss of a leader, these numbers are not statistically significant. On the other hand, the frequency of attacks after a mid-tier elimination exhibits a short drop in the year after to 14.77 attacks, but then a spike in the second year to 19.13 attacks, both being statistically significant. The lethality of attacks drops in the number of citizens killed to 33.44 in the following year after suffering a mid-tier elimination, and then 32.22 in the year after with both being statistically significant. The number of citizens wounded is statistically significant at an increase of 63.76 in the second year after the loss of mid-tier personnel, but the previous years were statistically insignificant in this category.

The control variables also point to some interesting results. Logically, when compared to the smallest group size (i.e. less than 1,500 active members), the largest group size (i.e. larger than 3,500 active members) shows a statistically significant increase in the number of attacks, citizens wounded, and citizens killed. When compared to the Middle East, only Central Asia, West Africa, and Central Africa exhibit statistically significant differences. Central Asia demonstrates a higher frequency, number of citizens wounded, and number of citizens killed. West Africa only demonstrates a higher frequency and number of citizens killed, while Central Africa only exhibits a higher number of citizens killed when

compared to the Middle East. In terms of the leadership style, no statistically different data were found between the top commander, politburo, and council styles of leadership. Finally, the motivation variable found that both politically and ethnically motivated violent non-state actor's exhibit statistically significant fewer number of citizens wounded and killed. Interestingly, an ethnically motivated actor will wound 63.83 and kill 55.08 citizens fewer than a religiously motivated violent non-state actor, while a politically motivated actor will wound 137.12 and kill 85.79 citizens fewer than a religiously motivated violent non-state actor.

Leadership Interaction Model:

The leadership interaction model, containing the data in the middle three columns of the table, describes the impact that the control variables have when tied to a leadership decapitation. In this model, the only geographical areas that showed a statistically significant difference in the effectiveness of the violent non-state actor when losing a leader in the Middle East were Central Asia and Central Africa. Central Asia showed an increase of 52.73 more attacks in frequency, 203.05 more injured citizens, and 149 more casualties when there was a leadership decapitation. Central Africa only showed a statistically higher increase of 152.91 casualties when a leader was neutralized in the region compared to the Middle East.

When the motivation of the violent non-state actor was political and a leader was assassinated, the statistically significant data show that the number of attacks fell by 100.76, the number of wounded fell 432.82, and the number of deaths fell by 254.62 compared to religiously motivated violent non-state actors. When the motivation of the violent non-state actor was ethnic and a leader was assassinated, the only data that were statistically different showed a decrease in the number of citizens wounded by 255.1 and the number of casualties by 172.14 when compared to religiously motivated actors.

The only statistically significant data found when examining the style of leadership in relation to a leadership decapitation showed an increase in the number of attacks by 348.68 and the number of killed by 284.98 when the style of leadership was politburo compared to a council style of leadership.

When examining the relation between group size and a leadership decapitation, the only statistically significant data show that groups with more than 3,500 active members will increase their number of attacks by 65.72, the number of citizens wounded by 439.94, and the number of citizens killed by 222.93 after experiencing the loss of a leader.

Mid-Tier Interaction Model:

The mid-tier interaction model, containing the data in the last three rows of the table, describes the impact that the control variables have when tied to a mid-tier elimination. In this model, the geographic areas that showed a statistically significant difference when a violent non-state actor suffered the loss of its mid-tier personnel in the Middle East were South East Asia, Central Asia, East Africa, West Africa, and Central Africa. In terms of frequency of attacks after experiencing a mid-tier loss, South East Asia showed an increase of 31.31, Central Asia an increase of 79.94, East Africa an increase of 36.3, West Africa an increase of 61.01, and Central Africa an increase of 41.28. In terms of the number of citizens wounded, only Central Asia and West Africa showed a statistically different output than the Middle East. Central Asia had an increase of 265.45, while West Africa showed an increase of 340.1 citizens wounded when compared with the Middle East. In terms of the number of citizens killed, South East Asia, Central Asia, West Africa, and Central Africa showed a statistically different result from the Middle East. South East Asia showed an increase of 87.53, Central Asia an increase of 220.63, West Africa an increase of 190.05, and Central Africa an increase of 139.48 when compared to the Middle East.

In terms of the motivation of the violent non-state actor, an ethnically motivated violent non-state actor was only statistically different from a religiously motivated actor in terms of the frequency of attacks, while a politically motivated violent non-state actor was statistically different from a religiously motivated actor in terms of the frequency and number of citizens killed. An ethnically motivated actor is expected to see a drop of 23.77 attacks after suffering a mid-tier elimination when compared with a religiously motivated actor. On the other hand, a politically motivated violent non-state actor is expected

to see a drop of 48.41 in the number of attacks and a drop of 133.01 in the number of citizens killed when compared to a religiously motivated actor.

The style of leadership was only statistically significant in one variable; frequency of attacks. A politburo style of leadership was found to increase attacks by 100.7 after experiencing a mid-tier elimination when compared to a council-style leadership. This would suggest that overall the style of leadership does not affect the impact of a mid-tier elimination strategy, particularly when examining differences between top commander and council styles of leadership.

In terms of the size of the group, only groups with more than 3,500 active members were found to be statistically different from groups with less than 1,500 active members when suffering the loss of a mid-tier commander. Frequency of attacks increased by 53.54, the number of citizens wounded increased by 151.48, and the number of casualties would increase by 126.14. Comparing these data to those who experienced a leadership decapitation demonstrates that mid-tier elimination strategies have a more mitigating impact on the operational capabilities of larger violent non-state actors than a leadership decapitation strategy.

Analysis

The results from the overall model demonstrate that whenever a leader or commander from the mid-tier of the violent non-state actor is neutralized, the frequency and lethality of attacks increase. These results might exemplify the "blowback effect" that occurs when the leader of a violent non-state actor is eliminated. In examining a comparison of the magnitude between the results from a leadership decapitation and mid-tier elimination, the operational lethality of the violent non-state actor experiencing a mid-tier elimination tends to decrease in the short-term when compared to that of a leadership decapitation. While in the longer term the operational lethality of the violent non-state actor greatly decreases after it experiences a leadership decapitation, as opposed to a mid-tier elimination, the results

are statistically insignificant, and thus no major conclusions should be drawn from it. In the longer term, the frequency of attacks committed by a violent non-state actor slightly drops the year after experiencing a mid-tier elimination, but then immediately increases to a level near the attacks committed by the violent non-state actor in the same year the mid-tier commander was eliminated. The lethality of attacks after a mid-tier elimination continually declines, but at a negligible level. This would suggest that a continuous application of a mid-tier elimination strategy would have mitigating effects on the operational capabilities of a violent non-state actor, but failing to do so would prove ineffective against a violent non-state actor.

In examining the control variables, many results were justified through theory, but several interesting results were also found without justification. Expectedly, the largest group size showed much stronger operational capabilities when compared to the smaller group sizes. The style of leadership did not show a difference in operation capabilities. Interestingly, the violent non-state actors from Central Asia, Central Africa, and West Africa all demonstrated stronger operational capabilities than violent non-state actors from the Middle East. Also interestingly, violent non-state actors that found their motivation from religion were much more operationally capable than those that acted out of political or ethnic motivations.

In examining the leader and mid-tier interaction models, several insights can be extrapolated from their impact on the group size, leadership style, and motivation control variables. The leader interaction model demonstrates that a leadership decapitation is highly ineffective when the violent non-state actor commands active members beyond 3,500. The leader interaction model also shows a minimal difference between top commander and council leadership styles when a violent non-state actor experiences a leadership decapitation, but it exhibits a highly inefficient effect on the operational capabilities of the politburo style of leadership when compared to the council style of leadership. Finally, the results from the leader interaction model show that a leadership decapitation is much more effective in limiting the operational capabilities of ethnically or religiously motivated violent non-state actors, than religiously motivated violent non-state actors.

The results from the mid-tier interaction model demonstrate an increase in the frequency and lethality of attacks committed by a violent non-state actor commanding over 3,500 active members after experiencing the loss of one of its mid-tier personnel. Although when comparing this result to that of the leader interaction model, the mid-tier elimination strategy shows a much more mitigating effect on the operational capabilities of the violent non-state actor compared to when the organization suffers a leadership decapitation. The results of the mid-tier model also suggest an increase in the frequency of attacks committed by the politburo style of leadership and a negligible difference between the top commander and council style of leaderships. Once again though, the frequency of attacks committed by the politburo after experiencing a mid-tier loss is almost half of the frequency of attacks seen after a leadership decapitation strategy is pursued. The results in comparing mid-tier eliminations with the motivation of the violent non-state actor demonstrate a similar result to that compared with leadership decapitations, as the results point towards a decrease in frequency and lethality of attacks in the political and ethnically motivated actors, as opposed to religiously motivated actors. The magnitude of the decrease in frequency and lethality of attacks is not as large as those in the leader interaction model, and thus would suggest that the leadership decapitation strategy is more effective against these ethnically and politically motivated violent non-state actors.

The control variable for the geographic region of operations for the violent non-state actor is important to account for in the models, but it has provided for some complex results. In conclusion, I would suggest that the geographic region of operations for the violent non-state actor be given a more thorough examination in order to try to interpret some of these interesting data. Overall, the results from all three models have produced a number of interesting observations that will be further discussed and expanded upon in the final section.

Conclusion

Overview

Overall, both counterterrorism strategies of leadership decapitation and mid-tier elimination saw an increase in attacks by the violent non-state actor immediately after their execution. However, a strategy of mid-tier elimination was more effective in mitigating the lethality per attack as compared to the one of leadership decapitation. This information disproves the null hypothesis that the counterterrorism strategies of leadership decapitation and mid-tier elimination were equally effective, and in turn suggests that a mid-tier elimination strategy is a more effective strategy to pursue in the 21st century. Previous research had examined the effects of leadership decapitation strategies in a larger context, but this is the first study to evaluate the effects of these counterterrorism strategies solely in the 2000-2010 timeframe.

Evaluating the nuances in the leader and mid-tier interaction models also suggests that a strategy of leadership decapitation is most effective against a violent non-state actor motivated by either political or ethnic means, when compared to a mid-tier elimination strategy. This may be due to the fact that replacement leaders of religiously motivated violent non-state actors are facing stronger legitimization battles, internally and externally, than replacement leaders in political or ethnic driven violent non-state actors. On the other hand, a mid-tier elimination strategy proves much more effective than a leadership decapitation strategy when the number of active members a violent non-state commands is greater than 3,500, and particularly when the group is organized in a politburo style of leadership. This is may be due to the fact that large violent non-state actors, especially those with a politburo style of leadership, have a steady supply of competent replacement leaders in order to compensate for a leadership decapitation strategy. It should also be noted that the politburo style of leadership has a very select sample size in this study, so one should be wary in applying this trend toward other cases.

These findings suggest that a counterterrorism strategy focusing solely on neutralizing the leadership of a violent non-state actor will not in itself effectively terminate the operations of the group,

but rather, these strategies will serve to mitigate the operational impact of violent non-state actors in the short run. In order to be effective, these strategies must be complemented by other soft-/hard-power strategies. These findings also suggest the existence of a "blowback" or legitimization effect when the top commander of a violent non-state actor is neutralized. This means that violent non-state actors will likely increase the frequency of attacks immediately after the loss of their top leader in order to legitimize themselves as a competent actor. This is critical to maintaining morale and recruitment. Furthermore, the new leader is seeking to demonstrate his control of the organization against potential internal threats.

This study complements both sides of the argument presented in the literature regarding the effectiveness of leadership decapitations as a counterterrorism strategy. In the year a leadership decapitation occurs, the frequency and lethality immediately rises, complementing the research performed by Jordan, Hafez, and Hatfield. On the other hand, the immediate downward trend in the lethality and frequency of attacks after a leadership decapitation occurs hints toward the same conclusions drawn by Price and Johnston. In summation, as more data on violent non-state actors is collected in the 21st century, more research should focus on the longer trends originating from leadership decapitations. In addition, future research should also be conducted to examine the curious results drawn from the geographic region of operations of the violent non-state actor, as organizations in Central Asia proved highly resistant to these counterterrorism strategies.

As previously noted, this study's timeframe is only from 2000-2010, which is a very selective sample. As time progresses and more data are collected, further research should attempt to expand upon these findings. In completing any statistical analysis, one always runs the risk of collinearity, but this effect was mitigated through the omission of certain variables in running the multivariate analysis, as described in the methodology, as well as by setting up two distinct models to analyze the interaction variables. In addition, as mentioned in the literature, the research conducted in this study utilized only open-source databases, which can provide a very abstract estimate of the data. Others with access to more classified and accurate sources should also attempt to expand upon these findings in the future. In

conclusion and accounting for the limitations of the study, several key policy implications can still be drawn from the results.

Policy Implications

Drawing upon the results of the statistical analysis, this study suggests three major policy implications. First, leadership decapitation strategies should be pursued in mitigating the operational capabilities of political or ethnic driven violent non-state actors. Second, mid-tier elimination strategies should be utilized in diminishing the operational capabilities of violent non-state actors that command more than 3,500 active members, and particularly when they are organized in a politburo style of leadership. Third, and finally, when the characteristics of the violent non-state actor do not fit in the above nuances, the continuous application of a mid-tier elimination strategy should be pursued, as it is more effective in mitigating the short-term operational capabilities of most violent non-state actors. In summation, the research points toward these three policy suggestions, but these counterterrorism strategies should never be pursued alone, but rather, in conjunction with other soft-/hard-power strategies in order to successfully eliminate a violent non-state actor. These counterterrorism strategy policy suggestions should only be pursued in mitigating the short-term operational capabilities of violent non- state actors.

Works Cited

Byman, Daniel. "Do Targeted Killings Work?" *Foreign Policy*, Vol. 85, No. 2 (March/April 2006): 102-104.

Chothia, Farouk. "Ahmed Abdi Godane: Somalia's Killed Al-Shabab Leader." *BBC News*, September 9, 2014. Accessed November 5, 2014. http://www.bbc.com/news/world-africa-29034409.

Cronin, Audrey Kurth "How al-Qaida Ends: The Decline and Demise of Terrorist Groups," International Security, Vol. 31, No. 1 (Summer 2006): 7-48.

Ganor, Boaz. *The Counter-Terrorism Puzzle: A Guide for Decision Makers*. The Interdisciplinary Center for Herzliya Projects, 2005.

Gleditsch, Nils, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Havard Strand "Armed Conflict 1946–2001: A New Dataset." Journal of Peace Research 39 (5) (2002): 615–37.

Hafez, Mohammed and Hatfield, Joseph "Do Targeted Assassinations Work? A Multivariate Analysis of Israeli Counter-Terrorism Effectiveness during Al-Aqsa Uprising" Studies in Conflict and Terrorism 29(4) (June 2006): 359-382.

Johnston, Patrick B. "Does Decapitation Work?: Assessing the Effectiveness of Leadership Targeting in Counterinsurgency Campaigns," Security Studies, Vol. 36, No. 4 (Spring 2012): 47-79.

Jordan, Jenna "When Heads Roll: Assessing the Effectiveness of Leadership Decapitation," Security Studies, Vol. 18, No. 4 (December 2009): 719-755.

Kenney, Michael. *From Pablo to Osama*. The Pennsylvania State University Press, 2007.

Kilcullen, David. *Counterinsurgency*. New York: Oxford University Press, 2010.

Kushkush, Isma'il, and Jeffrey Gettleman. "As Power of Terror Group Declines, Once Feared Fighters Defect." *The New York Times*, November 5, 2014.

Mannes, Aaron "Testing the Snake Head Strategy: Does Killing or Capturing Its Leaders Reduce a Terrorist Group's Activity?" Journal of International Policy Solutions, Vol. 9 (Spring 2008): 40-49.

Muckian Martin "Structural Vulnerabilities of Networked Insurgencies: Adapting to the New Adversary" US Army War College Quarterly, Vol. 36 (Winter 2006-07): 15-25.

Mulaj, Klejda. *Violent Non-State Actors in World Politics*. New York: Columbia University Press, 2010.

National Consortium for the Study of Terrorism and Responses to Terrorism (START). (2012). Global Terrorism Database 1991-2011. Retrieved from http://www.start.umd.edu/gtd

Price, Bryan C. "Targeting Top Terrorists: How leadership Decapitation Contributes to Counterterrorism," International Security, Vol. 36, No. 4 (Spring 2012): 9-46.

Sageman, Marc. *Understanding Terror Networks*. Philadelphia: University of Pennsylvania Press, 2004.

Silber, Mitch. *The Al Qaeda Factor: Plots Against the West*. Philadelphia: University of Pennsylvania Press, 2012.

Williams, Phil. "Transnational Criminal Networks." In *Networks and Netwars: The Future of Terror, Crime, and Militancy*, edited by John Arquilla, and David Ronfeldt, 61-98. Santa Monica: RAND, 2001.

Academic Vita

C. Philip Nichols III
cpniii33@gmail.com

E D U C A T I O N

The Pennsylvania State University, University Park, PA, Graduation: December 2014
B.A. in International Politics with a focus in National Security
Minors: German, Global Security, Security and Risk Analysis
Cumulative GPA: 3.83, Major GPA: 3.95
Schreyer Honors College Scholar, Paterno Fellow

Johns Hopkins University, Paul H. Nitze School of Advanced International Studies, Summer 2014
Course on Theories of International Relations, A-

Albert-Ludwigs-Universität, IES EU Program, Freiburg, Germany, Spring 2014, GPA 4.0
· Evaluated the European Union's policies and procedures, while visiting an array of member states, including Romania, Bulgaria, and the Czech Republic
· Improved understanding of the German language throughout the program

W O R K   E X P E R I E N C E

Intern,   May 2014- August 2014
Senator Allen Kittleman's Campaign,
Howard County, Maryland
· First-hand access to the political dynamics that exist beyond the formation of legislation
· Completion of vast array of campaign tasks, predominately either of an analytical or procedural nature

Intern, Strategic Intelligence Research,   August 2013- November 2013
Office of Military and Security Studies,
Pennsylvania State University
· Evaluated the expansive effects micro- and nano-satellites might have on the world stage in 2035
· Presented findings to Former Vice Chairman of the Joint Chiefs of Staff, General Cartwright

Intern,   June 27, 2013- August 16, 2013
Office of Congressman Steny Hoyer,
Minority Whip, Washington, D.C.
· Gained firm understanding of the structure of the Congressman's network
· Behind the scenes look at policy formation