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The Effects of State Leader Psychology on Civil War Lethality

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THE EFFECTS OF STATE LEADER PSYCHOLOGY
ON CIVIL WAR LETHALITY

by

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B.S. University of West Florida, 2007

A thesis submitted in partial fulfillment of the requirements
for the degree of Master of Arts
in the Department of Political Science
in the College of Sciences
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Major Professor: Paul Vasquez

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ABSTRACT

Does a state leader's psychology influence lethality in civil wars? This thesis analyzes the aforementioned question during post-1945 civil wars. This particular subject, paying close attention to individual psychology at the state level, is gaining traction amongst scholars, though limited scholarly attention has addressed whether leader psychology is an indicator of conflict severity in terms of lethality. The psychology of the state leader in this thesis is assessed from leadership traits and operational code indices, specifically direction of strategy (I1) and interpretation of the nature of the political universe (P1). The data and cases used are pulled from datasets by Dr. James Fearon and the Correlates of War Project. The leaders' speech content is derived primarily from prepared material and analyzed using verbal content analysis via Profiler Plus. In measuring the effects of the predictors on my dependent variable, I chose the methodological approach of count data models, specifically, zero-truncated negative binomial regression. The results from the eight models I ran show that specific psychological traits, particularly a leader's I1 and P1 scores, level of distrust, and need for power, do play a significant role when determining the causes of civil war lethality.

Dedicated to my parents, Robert and Marilyn, for supporting my military and educational endeavors.

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LIST OF ABBREVIATIONS

CC	Conceptual Complexity
COW	Correlates of War
DIS	Distrust
I1	Direction of Strategy
OLS	Ordinary Least Squares
P1	Nature of the Political Universe
PAD	Personality Assessment at a Distance
PWR	Need for Power
SC	Self-Confidence
UCF	University of Central Florida
VICS	Verbs in Context System
WWII	The Second World War

INTRODUCTION

The substantive research question investigated in this paper is whether a state leader's psychological orientation has an effect on conflict lethality, measured by the number of non-state battle deaths during a civil war. For the purposes of this paper, a civil war is defined here as "armed conflict within the boundaries of a recognized sovereign entity between parties subject to a common authority at the outset of the hostilities" (Kalyvas, 2006, 5).

Interpretations and definitions for civil war, however, can be numerous, varied, and, as Kalyvas (2006, 366) describes it, can feel "like unwrapping Russian dolls: one layer of interpretation yields to another in an endless and irresolvable quest for a 'real' nature that presumably lies hidden underneath." I have chosen to look exclusively at civil wars as a result of my interest in this type of warfare and the reality of the shifting paradigm of war since 1945, away from conventional and interstate and towards asymmetric and intrastate, as well as the future implications of and trends in warfighting.

Much research has focused on civil war onset, duration, and termination, but little has been done regarding civil war lethality. Even less scholarly attention has been spent on leader behavior during civil wars. Accounting for civil war determinants of lethality by examining the state without the decision-making element misses a very important facet of the conflict process responsible for violence.

My research question focuses on the conscious and subconscious personality characteristics of state leaders engaged in civil wars that have occurred since 1945. From this research question, I have developed a theory which states that the propensity for lethality during

a civil war is significantly enhanced by a leader's psychology. How a state leader perceives the political universe and his beliefs on how to achieve political goals, along with certain leadership traits inherent to personality, is an essential aspect of research pertaining to leader behavior. Violence initiated by state leaders should not be overlooked at a period in time when conventional wars are increasingly becoming uncommon, as internal and asymmetric wars, encompassing a changing dynamic in warfighting, become more prevalent.

The practical significance of studying post-World War II (WWII) civil wars is based on the changing dynamic of warfare since 1945. The development and employment of "weapons have always helped determine tactics, tactics in turn helped determine organization, operations, strategy, logistics, and command and control systems. All these were driven by the technology in use and, in turn, drove it along" (Creveld, 2007, 1). Massive deployments of light and mechanized armies have been employed in fewer conflicts since WWII due to the evolving nature of the battlefield and warfare tactics.

Warfare drastically changed after WWII. A shift toward limited warfare fought on a more local level began encompassing a military strategy reliant on the strategic balance gained from the limited scope of military action and increased popular support. This became the determining factor for victory (Nowlin & Stupak, 1998; Kahn, 1960; Russett, 1963).

The advancements in weaponry, tactics, and technology fostered by the Second World War have resulted in what Roger Trinquier (1964) calls the modern age of warfare. I expound on Trinquier's definition and define modern warfare as a subversive and unconventional form of warfare involving political, economic, military, and psychological tactics in order to gain the unconditional support of the population in an attempt to overthrow and replace an established

and legitimate government. Further, it can be said that unconventional warfare “occurs if and when the adversaries confronting each other have grossly disproportionate capabilities, whether in manpower, resources, or organizational base” (Janos, 1963, 637) and is heavily reliant on popular support. In this way, modern warfare has not only affected the strategies and tactics of wars since WWII as evident by the diminishing roles of tanks, large troop formations, and conventional conflict, but has also aided in the greater frequency of civil wars.

LITERATURE REVIEW

Academics and military professionals have produced comparable work pertaining to the distinct aspect and dynamic of warfare. The broad spectrum of civil war literature covers many facets and seeks to answer how and why civil wars start, how they are fought, why they last so long, how they are terminated, or why they are so violent. Very little literature, however, has sought to isolate state leader personalities when attempting to discover the determinants of lethality. I intend to explore this further by theorizing that state leader psychology, when controlling for structural determinants, impacts the lethality of a civil war. While most of the literature aims to analyze the structural variables associated with the causes of violence in civil war (Fearon, 2003; & Fearon and Laitin, 1999; Janos, 1963; Kalyvas, 2006; Lacina, 2006), I aim to expound upon what little literature exists regarding the human factor and psychology to further explain lethality. In some cases I use existing data and datasets that are largely congruent with my own to explain the causal mechanisms for violence.

The Nature of Civil Warfare

A considerable amount of literature exists that discusses the nature of civil wars. Strategists like Sun-Tzu (1971), Mao Tse-tung (1966), and Karl von Clausewitz (1942 & 1965) examine tactics and warfare from opposing sides as warfighters themselves. While their critiques can be applied to the entire breadth of war, Sun-Tzu and Mao, in particular, discuss warfare from an insurgent perspective. Clausewitz (1942), however, examines warfare through the role of the

state and though his assertions are concentrated on conventional warfare, his references are no less applicable to the asymmetric nature of civil war.

Each author maintains the importance of resources and popular support in war in order to obtain victory. Two of Clausewitz's general principles of warfare are the possession of material and other sources of strength and gaining positive public opinion (Clausewitz, 1942). These guiding principles of warfare, though intended for conventional warfighting methods, can be translated rather effectively for civil wars. Arreguín-Toft (2005) adds to these notions by stating that weak actors win wars against strong actors because of the interaction of the strategies they use more so than their relative power.

Civil war is itself an instrument of politics, fought by revolutionary or insurgent forces in protracted conflict utilizing guerrilla tactics in difficult terrain until the insurgent forces are strong enough to fight a conventional war against the state in order to change or overthrow the current political structure (Payne, 1989). Scholars have maintained several causes for the onset and duration of civil war. Fearon and Laitin (2003) argue that grievances are largely the causal mechanism associated with the onset of civil war. It can be further said that those excluded from the winning coalition become frustrated with the state for allocating and redistributing resources to the benefit of the state instead of the disenfranchised populace (Bueno de Mesquita, et al, 2005). Other scholars, such as Collier and Hoeffler (1998) maintain that power and economic conditions of the state influence onset. Still another school of thought maintained by some scholars such as Reynal-Querol (2002), says that social and ethno-religious concerns are the likely cause of most civil wars. While studying civil war onset is not the objective of this thesis, their causes are important to understand when controlling for like variables that may influence

lethality. Kalyvas (2006) says that although the above conditions may be present at the onset of civil war, the breakdown or dissolution of the monopoly of violence by way of armed conflict within the boundaries of a state is a better explanation for civil war onset and an important factor when studying civil war lethality and violence.

Civil wars occur in different forms with different warfighting styles. Fearon and Laitin (2003), among others such as, the participants in the Correlates of War Project, Sambanis (2003), Doyle and Sambanis (2006), and Small and Singer (1982) classify civil wars as having three basic criteria. According to them, the conflict must first meet the definition of civil war, which is “fighting between agents of (or claimants to) a state and organized, non-state groups who sought either to take control of a government, to take power in a region, or to use violence to change government policies” (Fearon & Laitin, 2003, 76). The second and third criteria state that at least 1000 individuals must be killed with a yearly average of 100 individuals killed in addition to at least 100 individuals killed on both sides (Fearon & Laitin, 2003, 76). Small and Singer (1982) define a civil war as having aggressive military action within a metropole with resistance to the state by a non-actor and meeting a 1000 death threshold.

Naturally, difficulties arise when classifying civil wars based on deaths (Sambanis, 2004). This is accounted for because “the 1,000 cumulative-death criterion divided by the 100 deaths-per-year rule gives a 10-year window for minor conflicts to be labeled civil wars” (Sambanis, 2004, 824). This paper uses the same criteria and 1000 death threshold, as stipulated by Fearon and Laitin (2003) and Sambanis (2004), to indicate a civil war, distinguish them from other forms of violent conflict, such as coups, terrorist attacks, and ethnic or tribal skirmishes and feuds that do not meet the requisite threshold, and code for inclusion in my dataset.

Bueno de Mesquita, et al (2005) discuss revolutions as a form of civil war and use selectorate theory to suggest that insurgent or revolutionary motivations are grounded with the intention of overthrowing the political system in order to include the excluded selectorate in the winning coalition. Selectorate theory links the winning coalition with the selectorate regarding the distribution of resources and how those decisions are related to the political survival of state leaders (Bueno de Mesquita, et al, 2005). Given this assessment of political logic in civil war, one can attest to how civil wars are fought from the perspective of the state. This perspective will change given the political dynamics of differing regime types but in the end, decisions made during civil war will be representative of a leader's desire to maintain power (Gartzke, 2001; Downes, 2008).

Civil War Lethality

Though violence itself might be seen as an unacceptable consequence of war, particularly when the violence is lopsided, violence against those fighting the conflict might be seen as inevitable and necessary (Hinde & Watson, 1995). Snyder and Jervis (1999) and Kalyvas (2006) observe that the relationship between the state and non-state actors on the precipice of a civil war breaks down as a result of a security dilemma and that civil wars are more violent than interstate wars because individuals are more vulnerable than states. A security dilemma refers to any situation in which one actor attempting to increase its security subsequently drives the opposing actor to increase its own security in response, thus reducing the security of both sides (Snyder and Jervis, 1999; Jervis, 1993).

Man would be in a constant state of war without government (Hobbes, 1651). This idea from *Leviathan* also helps to explain the contentiousness that arises between states experiencing internal conflict. The breakdown of government or the rise of factions challenging the legitimacy or power of government forces the country into a violent rift.

Violence refers to “the deliberate infliction of harm on people” (Kalyvas, 2006, 19). Violence is not limited solely to the battlefield but can manifest itself, either in indiscriminate¹ or selective forms, from both the insurgent and incumbent against those not directly involved in the conflict. Violence is a strategy, used to exterminate or control a group or population as well as to deter or coerce them. Furthermore, Walter (2009) argues that leaders do not fight over territory alone but because violence helps the state deter insurgents from pursuing secession in the future.

Violence in civil war is often endogenous to the causes of civil war onset and once it begins it causes and sustains more violence (Friedrich, 1972; Poole, 1995). Clausewitz (1873) viewed temperance in war as absurd; victory, to him, is the overarching objective of any campaign by overwhelming and decimating the enemy through superior force. How the state inflicts violence is yet another avenue for discussion on the increased lethality of civil wars since WWII.

As technology has advanced, so have the strategies of warfare. State leaders (as well as insurgents and terrorists) now have the ability to kill the enemy from a distance, limiting the emotional impact of the fight on the soldier. By detaching the human effect from combat, a state

¹ Indiscriminate violence in civil war is often a result of individual motivation, based solely on the target group’s identity, and orchestrated without regard for its consequences (Kalyvas, 2006).

leader is able to give a command from a safe distance to send troops into battle, unleash a barrage of artillery fire, or call for an aerial bombardment (Tromp, 1995).

The severity of a civil war, in terms of battle related deaths, is related to opportunity and motivation, though scholars often take one side or another. As both sides of a conflict gain momentum and strength, and as the war prolongs, both sides are apt to focus more on military action rather than diplomacy as the only solution for victory (Lacina, 2006). Mills (1956), in referencing the decline of diplomacy and the rise of the military-political elite during the Cold War, stated that diplomacy cannot exist, and, in fact, becomes meaningless when negotiations are seen as appeasement and not agreement. This, in turn, results in the outbreak or continuation of war and violence as the only necessary mechanisms to serve the ensuing animosity. The military-political elite are likely to use coercive force and instrumental violence when there is instability within a country caused by social change and an internal threat to the state's power (Horowitz, 1972; Huntington, 1968; and Eisenstadt, 1966). Violence and hostilities can help maintain the status quo, preexisting boundaries, and internal cohesion. Instilling fear and the subsequent hope of forestalling future violence as a result of sedition in a population also helps perpetuate an allegiance to a state leader (Cosser, 1957; Simmel, 1955; Wright, 1942a; & Wright, 1942b).

Scholars have also found that civil wars in which a government is a superior force to the enemy is more likely to incorporate higher levels of violence against their weaker opponents as well as noncombatants (Arreguín-Toft, 2003). Further, governments that face a strong insurgency with widespread popular support are also likely to incorporate increased levels of violence during civil war (Valentino, Huth, & Balch-Lindsay, 2004). A country's regime type is

important when understanding why democratic counterinsurgencies result in lower levels of violence as opposed to nondemocratic counterinsurgencies. Engelhardt (1992) notes that most democratic successes in counterinsurgency warfare are a result of fighting weak enemies and little need to use harsh tactics and strategies.

From another perspective, contrary to Mao, Hobbes, Kalyvas, and other scholars who argue that the monopolization of violence is an extension of power, the monopolization of violence can also be argued to exist wherever a power vacuum exists. When the state struggles to maintain its legitimacy and control by a lack or absence of power, violence becomes a tool of the weak state (Arendt, 1970; May, 2001). Through social conflict, a weakened power structure in the state, and the rise of insurgent groups, the orchestration of violence becomes a desperate strategy on the part of the state to maintain power and the status quo.

Psychology and State Leaders during Civil War

Psychological variables and the human context must be considered alongside situational assessments when discussing behavior and decision-making in civil war. Though most of the political science literature applies leader personality and psychology to international affairs, the same literature can also explain the causal mechanisms for civil wars and violence by treating non-state actors in a civil war as one would treat actors in a dyadic war. Greenstein (1969) suggests that there exists four conditions when a leader's personality is more likely to have an impact on warfighting strategy: when the leader controls or occupies a strategic location, when the prospects of the situation is uncertain, when no precedents have been set for managing a

particular scenario, and when the leader must make quick, spontaneous decisions. Levy (2003) explains that a leader's psychological variables interact with other causal and structural variables in order to help explain the leader's beliefs, decisions, and actions regarding policy. He goes on to add that the impact of psychological variables on foreign policy analysis is in explaining outcomes and any variant in said outcomes, not just explaining "links between the links" (Levy, 2003, 255).

There also exists in leaders a motivational bias, based on individual psychological needs like fears and desires, and a cognitive bias, where an individual's prior beliefs affect their observation and interpretation of information. Levy (2003) argues that these biases may lead to irrational decision-making or a tactical change in the leader's beliefs about how to best achieve a particular end. This is particularly the case in protracted civil conflict where the conflict becomes a part of daily life and affects such facets of society as economic, psychological, cultural, and social-structural dimensions that shape the political environment and place political constraints upon the government (Kelman & Fisher, 2003). Furthermore, as Levy (2003) states, the fundamental attribution error² relates to miscalculations about the others' undesirable behavior based on a leader's predisposition to interpret these behaviors based on his internal factors rather than environmental or structural constraints.

Kelman & Fisher (2003, 321) highlight the collective fears and needs of actors engaged in conflict that lead to "perceptual and cognitive constraints on their processing of new

² The fundamental attribution error is the attempt to explain an individual's behavior in any given situation by inferring that the causal mechanisms of the behavior pertain to internal, or personality, characteristics rather than external factors (Ross, 1977).

information, with a resulting tendency to underestimate the occurrence of change” thus making conflict resolution that much harder to achieve. These misperceptions or perceptual constraints relating to the other often result in “expressions of hostility and distrust toward the enemy as normatively prescribed behaviors...marked by delegitimization and dehumanization...[that] contributes to escalation and perpetuation of the conflict” (Kelman & Fisher, 2003, 321).

Staub and Bar-Tal (2003) list several psychological and societal processes along with certain cultural characteristics which contribute to the escalation of violence in civil war. Among these attributes that play a role in the occurrence of violence in civil conflict are ideological and societal beliefs and nondemocratic societies. These psychological and structural attributes help further explain the causation for increasing lethality in civil war by the state.³

³ Several pieces of literature also show the impact of psychology in leader decision making during times of war. Lorenz (1995) and Rapoport (1995) look specifically towards aggression and the fundamental causes of aggression in assessing the prevalence of violence in intrastate wars. The behavioral versus social contrast when discussing psychology and violence deals with more complex issues than just aggression (Hinde & Watson, 1995). There are two basic personality theory approaches to violence: frustration-aggression and rational-choice. Frustration-aggression approaches, attributed to personality theory, see actions and violence as an irrational response to negative stimuli, such as stress or failure. Rational-choice approaches assume that all behaviors are purpose driven and goal-oriented while considering the cost-benefit ratio of one's actions (Felson, 2004, 71).

The establishment of social classes in the division of labor also may eventually lead to exploitation and strife and the disintegration into an 'us' versus 'them' mentality (Rapoport, 1995). Social learning theory has suggested that personality is shaped by cultural and social experiences and that where a person falls on a compulsion-compassion scale is a determinant of the identity of the individual as well as the activity types in which the individual is likely to engage (Rapoport, 1995). Regarding the role of the nurturing or environmental effects on behavior, “violent behavior and the readiness to commit acts of violence is acquired, enacted, and changed through variations in association, stimuli, and other variable in the social learning process” and can manifest itself from societal or group influence or even more deliberate means such as training, education, and indoctrination (Akers & Silverman, 2004, 24).

Prospect theory is another avenue that examines the situational context of behavior and decision-making. It differs from personality theory in that the leader will consider possible outcomes and incur higher levels of risk based on the likelihood and weight placed on potential losses (Renshon, 2006).

Hinde & Watson (1995) suggest that violence is committed in modern warfare because there is rarely an individualistic attribute⁴ to combat. Soldiers can effectively destroy the enemy from a distance while state leaders are cordoned and protected from violence. This culture of technology and advanced weaponry has desensitized the human mind to accept killing another human when there is no direct, psychological connection between the two enemies. It is the leader's belief system that influences a leader's decision to order his troops to commit acts of violence.

To identify likely patterns of leader behavior and to determine a state leader's specific belief system (instrumental and philosophical), George (1969) asked a total of ten questions in order to assess a leader's operational code. Operational code analysis is "an approach to the study of political leaders that may focus narrowly on a set of political beliefs or more broadly on a set of beliefs embedded in the personality of a leader or originating from the cultural matrix of a society" (Walker, Schafer, & Young, 2003, 216). The philosophical beliefs are designed to measure how a leader views other actors within the political universe or how a leader might see the context of a particular action, while instrumental beliefs measure how a leader's own preferences within the political universe in terms of goals and risks and the most effective means in achieving those goals (Winter, 2003; George, 1969). The value for the nature of the political universe (P-1) falls between -1.0 (extremely hostile) and 1.0 (extremely friendly) and the value

⁴ Here, an individualistic attribute concerns the personal familiarity with the enemy and killing typically denoted by hand-to-hand and close-quarter combat.

for strategic direction (I-1) also falls between -1.0 (extremely conflictual) and 1.0 (extremely cooperative) (Walker, Schafer, & Young, 2003, 226).

Current operational code research uses a system within Profiler Plus, but separate from leadership trait analysis, that analyzes the content of a leader's speeches and writings, known as the Verbs in Context System (VICS) (Schafer & Walker, 2001; Walker, Schafer, & Young, 2003). This system analyzes a leader's operational code from public sources and statements made by the leader, most notably, public speeches (Walker, Schafer, & Young, 2003). It analyzes these public sources and retrieves belief patterns and, subsequently, interprets from them certain behavioral attributes compatible with said beliefs by extracting "values for six attributes for each recording unit (verb) and its surrounding context: subject, verb category, domain of politics, tense of the verb, intended target, and context" (Walker, Schafer, & Young 1998, 1999; Walker, Schafer, & Young, 2003). Winter (2003) warns against relying too heavily on simple attributions of political outcomes to a leader's personality and neglecting the structural constraints and actions of other actors, though he continues to note that both personality and situational factors must be considered when analyzing leader behavior and decision-making in war.

An examination of personality types can be categorized in four ways, by trait, motive, cognition, and social context. Within each of these categories can be found leadership traits that also help to explain leader behavior (Winter, 2003; Hermann, 2003). Leadership trait analysis

helps us understand how leaders relate to those around them. I examine four leadership traits⁵ for this particular study: the general distrust or suspiciousness of others, self-confidence, conceptual complexity, and the need for power and influence (Taysi & Preston, 2001; Hermann, 2003). The Personality Assessment-at-a-Distance (PAD) technique is used to analyze the verbal content of the political leaders in order to find values for each of the traits (Taysi & Preston, 2001; Hermann, 2003).

This technique consists of collecting data from either prepared material such as speeches and letters or spontaneous material such as interviews. As I discussed above, I use prepared material for my study as the primary means of collection. Though, in certain cases, as I denote in the data, I have gathered and utilized spontaneous verbal material from interviews in order to meet my requisite threshold of four thousand words. This psychological analysis of leaders in war should add to the limited scholarship available that explains what effects or costs certain intrinsic, psychological determinants have on civil war lethality.

⁵ Hermann (2003) lists seven leadership traits in total. I use as variables only the four I present in the paper. The remaining three: in-group bias, task orientation, and the belief in one's own ability to control events were omitted because these leadership traits, while important in assessing leader personality, are not the best reflections of how a leader would act with regards to violence in civil war.

METHODOLOGY

My sample of cases comes from a combination of Fearon's (2003) list of civil wars in the post-WWII era and from the Correlates of War Project. The unit of analysis I study is states in those civil wars. The dataset comes from the total number of civil wars having occurred since 1945 minus those cases either missing dependent variable data or where content data from the leaders is either lacking the requisite four thousand words or nonexistent in the English language. These parameters leave me with thirty cases. As the data that can be seen in Appendix B attest, those cases that were dropped for not meeting the requisite requirements for inclusion were dispersed across the entire distribution of battle deaths. I have also elected not to include those civil wars with multiple successive state leaders where there was not one leader in power for more than fifty percent of the conflict duration in order to avoid potential errors related to the effects that different leaders potentially have on warfighting. I use a dummy variable to control for those leaders whose tenure in office began after civil war onset and lasted more than fifty percent of the civil war.

I used STATA to analyze my count data by running zero-truncated negative binomial regression models with cross-sectional data from post-WWII civil wars in order to quantify the effects of a leader's psychology on the dependent variable, lethality.⁶ The reasons for using count data models, specifically negative binomial regression, come as a result of my dependent

⁶ There is disagreement as to which method is preferable with regard to the specifics of my dependent variable, most notably, the high values attributed to non-state battle deaths. As Hilbe (2008, 5) suggests, "Usually when modeling counts, the number of counts is between 8 and 40. When there are a large number of counts, it may be preferable to model as if it were continuous." Though he also admits that count data modeling can in fact be used despite the number of counts (Hilbe, 2008, 5).

variable constituting count data, which is discrete and not continuous, and “generally understood [to be] non-negative integers” (Hilbe, 2008, 5) and because my data does not allow for any partial integers.

Further, my models were adjusted to account for the lack of zeroes in my dependent variable (Hilbe, 2011, 36). Because of this and regardless of the large number of observations of non-state battle deaths per case, count data models are a better way to explain the dependent variable. Looking at my models, the likelihood-ratio tests of alpha are zero, suggesting that a negative binomial regression model is better suited to explain my data than a Poisson regression model due to overdispersion of the dependent variable. Furthermore, without the possibility of zeroes for my dependent variable data, a zero-truncated negative binomial regression model was used after being deemed most appropriate (Hilbe, 2011; Long, 1997). Horowitz, Simpson, & Stam (2011) also use a similar approach in the usage of count data models for analyzing large numbers of military casualties with discrete, non-zero data. While count data is often analyzed with ordinary least squares. Long (1997, 217) warns that “use of the linear regression models for count outcomes can result in inefficient, inconsistent, and biased estimates.” Advice from other scholars on this concern also verified my use of count data modeling over linear regression modeling.⁷

⁷ Dr. David Bearce (Colorado), and Dr. Philip Pollack (UCF), and Dr. Andrea Vieux (UCF) provided their expert opinions on this matter. Further, addressing the other school of thought regarding which methodological or econometric approach to use when analyzing count values for a dependent variable, there exists support for linear regression models in circumstances similar to that which exist in my thesis. In this thesis, as I have stated previously, I have chosen count models as opposed to Ordinary Least Squares (OLS), because it was the best way for me to see the relationship between the predictors and the dependent variable due to the discrete number of observations. However, there are some who maintain that when the dependent variable, regardless of whether it is a

The dependent variable I am studying in this thesis is lethality, which measures the aggregate, non-state (non-governmental) battle deaths inflicted by the state on its people during a civil war from its onset to its termination. The dependent variable is measured on an interval scale. To obtain the value for my dependent variable in terms of non-state battle deaths, I subtract total battle deaths of state participants from total (aggregate) battle deaths overall, found in the COW – Intrastate War dataset, to include noncombatants and insurgent forces. Battle deaths are defined as fatalities resulting solely from military operations (Lacina & Gleditsch, 2005). I chose to look at deaths resulting from battle-related causes in order to isolate and explain the causal psychological variables of the leader in relation to violence, discarding deaths as a result of natural causes. It is also the most direct indicator of human costs of war (Downes, 2008, 60).

Non-state battle deaths are studied in order to distinguish casualties directly resulting from conflict from other causes of death that are unrelated to the dependent variable such as violent crime, communicable diseases, starvation, and other non-battle related fatalities. However, disaggregating the noncombatants killed by the rebels and those killed by the state provided some levels of difficulty⁸ in separating one from the other. Lethality is a measurement that includes all enemy combatant deaths as well as noncombatant deaths because “it is difficult

count process, has high values, typically in the thousands, it is unnecessary to use count data models. While not necessary, arguably count data models can be used with smaller count values (Cameron & Trivedi, 1986; Cameron & Trivedi, 1998; Katchova, 2013; Quine & Seneta, 1986; University of Minnesota, 2010; Winkelmann & Zimmermann, 1995).

⁸ Here, the author understands the impossible task of delineating which few civilian deaths were caused by the insurgents and which deaths were caused by the state in certain ambiguous situations. These deaths, for the purposes of this paper, are aggregated in the variable data for civilian deaths caused by the state found in previous datasets.

to distinguish between irregular forces and noncombatants” when pursuing a direct route to victory during civil war (Downes, 2008, 158).

Verbal Analysis

I use the program Profiler Plus to analyze verbal material from each state leader in order to obtain the values of the leadership traits and the operational code indices of the individuals. The data collected for the content analysis consists of no less than four thousand words to ensure the viability of the values obtained for each psychological variable to be analyzed. Though the debate continues today as to whether prepared verbal samples versus spontaneous remarks are best for analyzing leaders at a distance, I use primarily prepared samples for the purposes of this thesis with the addition of spontaneous samples in order to meet the requisite four thousand word threshold for content analysis.⁹ The content samples are drawn from any period of time occurring before the conflict. This ensures that no endogeneity exists in the data; that a leader’s psychology, being altered by the onset of war, does not affect the measurement of his psychology as it pertains to civil war lethality.

There are a couple of reasons why I have chosen to primarily use prepared material over spontaneous material. First, prepared samples provide more verbal material, particularly for those leaders in earlier cases when spontaneous material might not be wholly available, particularly for non-English speaking leaders (Schafer, 2000). Second, prepared verbal material

⁹ Spontaneous material was only used for two cases as annotated in Appendix C: Mohammad Reza Pahlevi (1973) and Ali Abullah Saleh (2005).

offers insight into the state's decision-making process and better represents the state's official views (Schafer & Walker, 2006). Though speeches, for example, might be written by a person other than the state leader, the speech itself is still representative of the state leader's views and beliefs.

Psychological Variables

The operationalization of the psychological variables studied is derived from Hermann (2003) and Walker & Schafer (2003), experts in leadership trait analysis and operational code analysis, respectively. Below, I provide the necessary definitions and explanations of each of the psychological variables used and analyzed through Profiler Plus. I also examine certain operational code indices for each state leader on a scale “illustrating the range of values associated with each index [with] a particular score [being] anchored to an interpretation based on the distance between the score and the nearest descriptor” (Walker, Schafer, & Young, 2003, 226-227).

The operational code variables included in this analysis measure a leader's instrumental and philosophical beliefs. Instrumental beliefs “are those that inform the leader's own preferences for political actions in terms of strategies and tactics” while philosophical beliefs “are those held by the leader to assess the nature of the political universe and other actors” (Walker, Schafer, & Young, 2003, 217). I look exclusively at one particular facet of a leader's instrumental belief, measured by I1, which indicates how conflictual or cooperative a leader's direction of strategy is. Similarly, I analyze just one particular facet of a leader's philosophical

belief, represented by P1, which indicates whether the political universe is hostile or friendly to a leader. The operational code indices help measure a leader's view of the world and how they approach international affairs; it is a way to look at the leader's conscious view of the world and their perceived place/role in it.

A leader's operational coding reflects particular facets of his psychology in which his instrumental beliefs suggest the best way to achieve political ends. His philosophical beliefs of the political universe influence and direct how he perceives the context for action (George, 1969). An instrumental belief is the belief that informs the leader's own preferences for political actions in terms of strategies and tactics, while a philosophical belief is the belief used by the leader to assess the nature of the political universe and other actors in relation to himself (George, 1969).

While each type of belief contains five separate categories, I am only looking at the first categories of each, I1 and P1, as they are the most basic identifiers of instrumental and philosophical beliefs. These two beliefs represent, respectively, their strategic approach to goals on a scale of extremely conflictual to extremely cooperative, and how a leader views the nature of the political universe on a scale of extremely hostile to extremely friendly. Holsti (1977) believed that a leader's philosophical beliefs, or how he perceived the political universe, influenced a leader's instrumental beliefs and how the leader developed and implemented strategy. Thus, my expectations are as follow:

Hypothesis 1: As the leader's strategic direction (I1) becomes increasingly cooperative, non-state battle deaths will decrease.

Hypothesis 2: As the leader's view of the political universe (P2) becomes increasingly friendlier (P1), non-state battle deaths will decrease.

Using a different approach to measure leader personality, Margaret Hermann (2003) reveals leadership styles and leader psychology through leadership trait analysis by analyzing seven distinct traits. She has developed a series of trait indicators that assess the personalities of political leaders by examining what they say and how their words affect the perception they give to the public. Among the personality traits she identifies as key characteristics of leadership style are distrust, self-confidence, conceptual complexity, and need for power. They are being studied because they are subconscious and inherent to a leader's personality and as hypothesized, should play a causal role in lethality. The scores for each of these variables fall within the range of 0 to 1.

Distrust, a lack of sureness that creates wariness or feelings of uncertainty towards others, is a trait that marks a suspicious predisposition towards the actions of other people. A leader is more likely to increase non-state battle deaths if he is distrustful of the enemy or the population's motives and actions. This suspicious predisposition towards others results in a high distrust score, while a low distrust score is a reflection of a leader's willingness to rely on or engage others in policy-making. The leader puts his distrust into perspective by basing trust and distrust "on past experience with the people involved and on the nature of the current situation" (Hermann, 2003, 203). How a leader perceives the actions of others, particularly his opponent, can be an indication of how the leader will act in a given situation especially if he feels he needs to act mercilessly or preemptively to prevent an attack by the enemy or send a coercive message to the populace. Thus, my expectation is as follows:

Hypothesis 3: As the leader's level of distrust increases, non-state battle deaths will increase.

Self-confidence is the measure of one's own feeling of self-importance and is an assessment of the leader's "ability to cope adequately with objects or persons in the environment" (Hermann, 2003, 194). A higher self-confidence score is indicative of how confident a leader is when making decisions and does not need any positive feedback to enhance feelings of self-worth. A leader with low self-confidence, however, is likely to act more unpredictably while seeking acceptance for his actions. Low levels of self-confidence will lead a leader to believe that he may have no other option for any measure of success save for imposing more damage and death upon his opponent, while attempting to influence others' perception of himself. This unpredictability comes as a result of the leader being unsure of how to act and so acts in a way he thinks he should, based on how he wants to be perceived by others. Thus, my expectation is as follows:

Hypothesis 4: As the leader's self-confidence increases, non-state battle deaths will decrease.

How leaders differentiate situations and people, whether in black and white terms, or with shades of gray, is an indication of their *conceptual complexity*. Leaders who are high in conceptual complexity can ponder multiple stimuli and perspectives when assessing a situation. Leaders with high conceptual complexity scores are also more likely to be flexible in reacting to ideas and to be more open to and considerate of the uncertainties in war. This ability to differentiate the complexities of conflict will guide the leader in seeking alternatives to violence or in considering the costs and consequences of violence and whether violence is the best option,

strategically. Leaders with low conceptual complexity favor their intuition or the first option presented to them and understand scenarios or situations in terms of right or wrong, black or white (Hermann, 2003). The importance of a leader's conceptual complexity is paramount in assessing a leader's personality regarding levels of lethality and civil war, and it will identify how leaders view the battlefield and wartime decision making either on the tactical or strategic level. Thus, my expectation is as follows:

Hypothesis 5: As the leader's conceptual complexity increases, non-state battle deaths will decrease.

The *need for power* is a desire for "establishing, maintaining, or restoring one's power...[by] controlling, influencing, or impacting other persons or groups" and when the score is high, they are "generally daring and charming...[who] have little regard for those around them or for people in general" (Hermann, 2003, 190-91). There is also willingness by leaders to use others as a tool to obtain their goals and their superiority or control over others. Additionally, when a leader's need for power score is high, it indicates that the leader wants to establish control through manipulation and coercion in order to gain victory through whatever means are available. A leader who requires more power will inflict more damage and death in order to assume or resume control and influence over his opponent and the population. Conversely, when a leader's need for power score is low, it indicates less of a desire to be in control and more of an inclination to share influence and credit (Hermann, 2003). Thus, my expectation is as follows:

Hypothesis 6: As the leader's need for power increases, non-state battle deaths will increase.

Structural Variables

Psychological variables alone do not have enough explanatory power to determine lethality, so I have also included several structural variables to control for outside factors and influencers which might also affect a civil war's lethality. Most of the variables' definitions have been pulled from other scholars and researchers that I have further expounded upon to better explain their relative variance and causality in regards to the dependent variable.

RegimeType is representative of a nation's system of government. This nominal variable serves to differentiate governments in which the state leaders are responsible to a free and equal people through the democratic process from all other forms of government, to include autocracy, aristocracy, authoritarianism, monarchy, military rule, theocracy, etc. I use the Polity IV index of regime types for each country at the time of their civil war onset. This index has a range of scores from -10 to 10. Regimes that fall within the range of -10 – 5 are coded as nondemocratic and given a value of '0'. Countries that fall within the range of 6-10 are coded as democratic and given a value of '1'.

Bethany Lacina (2006) points out the relative lack of any definitive role regime type plays in civil war onset but proceeds to discuss the relative importance the variable plays when discussing conflict severity. Identifying if a state is democratic or nondemocratic is important in determining lethality in civil wars as a result of regime type. Because a democratic leader must account for public opinion, as well as the divided power structure common to democracies, democratic leaders are more conscious of political pressures when fighting a civil war. These democratic leaders are inclined to minimize violence in order to retain their political office (Lacina, 2006). Democracies, then, are more likely to avoid civilian casualties and resort to

negotiating and granting insurgent concessions in order to avoid any political backlash by disrupting social norms. Thus, my expectation is as follows:

Hypothesis 7: If a state engaged in civil war is non-democratic, then non-state battle deaths will increase.

Duration is operationalized as the total duration of the civil war, measured on an interval scale by the number of months from onset to termination, in order to control for the logical increase in lethality that occur in prolonged civil wars. The data for civil war duration comes from the Correlates of War – Intrastate War (v4.1) dataset. I have converted the data from years to months because the dates are presented not in number of years fought but in the actual years in which the war began and ended in order to better examine the lengths of each civil war.¹⁰ Thus, my expectation is as follows:

Hypothesis 8: Non-state battle deaths will be higher the longer a civil war's duration is.

MilitaryExpenditure is an interval variable depicting the absolute amount of the country's budget allocated to the military and is a better predictor of number of non-state battle deaths than addressing this as a percentage of a country's budget. Coding this variable as a percentage of a country's budget would result in poorer countries with a higher percentage of their budgets allocated to the military still producing a less overall amount and is thus, an incorrect comparison which could yield misleading results. The data comes from the Correlates of War – National

¹⁰ Civil wars “tend to last a long time when neither side can disarm the other, causing a military stalemate. They are relatively quick when conditions favor a decisive victory” (Fearon, 2004, 276).

Material Capabilities (v4.0) dataset, is measured in thousands of current year US whole dollars, and averaged by the number of years of the civil war. The purpose of the variable is to serve as a control for countries with stronger and more developed militaries as well as for advanced weaponry and technology that may be used against any non-state actors during the course of internal conflict. The technological modernization of armies, especially in developing countries, affords an avenue for internal terror as well as a means for coercion and deterrence while undergoing the turmoil of economic development (Cortese, 1976; Moore, 1965).

It is logical that a military's spending increases during times of conflict as opposed to times of peace. Countries with larger economic output allocated to defense and military spending are more likely to affect the lethality, strategy, and outcome of civil war. A state leader must increase spending on troops, equipment, weapons, munitions, food, and other resources necessary for warfighting, which results in the using of violence as a means of securing or protecting assets of increasing worth and that are necessary to support operations (Humphreys, 2003). Those countries with a higher military expenditure have an increased ability of protecting these assets and resources by increasing lethality. Thus, my expectation is as follows:

Hypothesis 9: The more absolute money a country spends on its military, the higher the non-state battle deaths will be during civil war.

ReligiousDifference is coded as a nominal variable, where '0' represents leaders having the same religious preference as the majority of the populace and '1' represents those leaders whose religious preference differs from that of the majority. This variable is included to determine the effects on lethality by whether or not the state leader shares the same religious views as the populace separate from ethnic backgrounds. Using Collier and Hoeffler (2004) work

on religious fractionalization, I modify their data to show only whether the leader shares the same religious affiliation as the majority of the state's population. This data was corroborated through research on each individual state and leader in power at the time of civil war onset.

I study this variable separately from ethnicity as religion has a sharper fragmentation within and among society than ethnicity does (Reynal-Querol, 2002). Further, as Professor Asma Afsaruddin (2012), from the University of Notre Dame alludes, in her lecture on Diversity of the Middle East: Ethnicity, Communal Identity, and Authority, religion is the main identifier of ethnicity which, itself, is comprised of a multitude of other identifiers including origin and language, and can be difficult to code. I chose to focus specifically on religion because this particular identifier represents the disparity between leader and populace and the violence that results from religious fractionalization.

Though ethnicity and nationalism are relative identifiers of groups of people, religion has stronger associative properties. While an individual can belong to or claim one or more ethnicities or nationalities, it is uncommon and rather difficult to associate and belong to more than one religion in most areas of the world, particularly where religious fractionalization is strongest. Thus, my expectation is as follows:

Hypothesis 10: Leaders with a religious affiliation different from the majority of the populace will increase the levels of non-state battle deaths during civil wars.

PopulationDensity is coded on an interval scale and is derived by dividing the average total population of a country during civil war by its area. Lichbach (1995) argues that as a country's population density increases, so also does the concentration of dissidents in a given area, which increases the likelihood of communication, dissemination, reduction of costs, and

coordination among insurgents. A concentration of persons within a given area also increases the probability of that area being occupied and used by insurgents as a base of operations and popular support as well as the state's inability to differentiate combatant from noncombatant. This makes the population density variable more useful than the general population size of a country which may be misleading. Population numbers, without regard to the geographic size of the country, do not account for the above points. The data for the population density variable comes from the United Nations Department of Economic and Social Affairs, Population Division, Population Estimates and Projections Section¹¹ and is measured by the estimated population per square kilometer.

The likelihood of a violent event taking place increases as the population density increases, thereby, increasing the likelihood of greater lethality (Hegre & Raleigh, 2005). The higher the density of a population in a given country, the higher the likelihood of increased non-state battle deaths is as a result of violence perpetrated by the state. Population density is directly correlated with the type of warfare involved and the resulting level of violence. For example, in areas with a lower population density, feuding and raiding are the likely forms of warfare conducted during conflicts resulting in limited violence, whereas in areas with higher population density feuding will take a back seat to war parties (Divale, 1973). Thus, my expectation is as follows:

¹¹ The 2012 revision: The dataset only goes as far back as 1950. For civil wars that began and ended between 1945 and 1949, no data is used. For civil wars that began before 1950 and lasted beyond 1950, data beginning at 1950 is used and computed using years from 1950 onward.

Hypothesis 11: Higher population density will result in higher levels of non-state battle deaths during civil war.

StateBattleDeaths is a measure of the number of the state's own battle deaths, and the data comes from the COW – Intrastate War (v4.1) dataset. A leader's propensity for retaliation through discriminate or indiscriminate violence increases the more fatalities the enemy inflicts upon the state. The variable is coded on an interval scale for the total duration of the civil war and aims to control for the violence attributed to retribution for the death's suffered by the state at the hands of the enemy. Thus, my expectation is as follows:

Hypothesis 12: The more battle deaths suffered by the state, the more non-state battle deaths will be suffered during the civil war.

NonInitiatingLeader is a dummy variable that codes whether a leader came in to power at any point after the onset of civil war. Leaders who were in power at the onset of the civil war are coded with a value of '0' whereas leaders who came to power during the civil war but after onset are coded with a value of '1'. It is expected that leaders who come in to power at any point during a civil war would inflict less non-state battle deaths than those leaders who were in office at the onset of the conflict.

There are several reasons why a dummy variable to control for when the leader took office is an important factor in ensuring data legitimacy with regard to increased lethality. Leaders may be more desiring of quickly eliminating or quelling the insurgent threat before it gets beyond their control and in doing so, are more willing to increase lethality to prevent the conflict from escalating and threatening a leader's hold on power. Leaders might also use violence during the early stages of war, at the time of onset or shortly after, in order to coerce the

population into not supporting the insurgents through material aid, harboring, or more active means such as joining the insurgent army.

Leaders who come to power during civil war, and remain in power for more than fifty percent of the duration, might see that violence used at onset had not been a reliable strategy in preventing popular sympathy for the insurgents and is thus not a proper tool. These leaders might also be anxious to end hostilities and so choose different tactics to end the war. Lastly, they may not share the same psychological characteristics as their predecessors and cannot be measured the same way with regards to civil war lethality. It is for this reason that I control for when a leader was in power. Thus, my expectation is as follows:

Hypothesis 13: Leaders who come to power at any point after the onset of civil war, and remain in power for more than fifty percent of the conflict's duration, will have a lesser impact on civil war lethality than leaders who were in power at the onset of civil war and remained in power for more than fifty percent of the civil war's duration.

In determining the causal effects for violence in civil wars as a result of leader psychology, I ran eight models, each measuring a different combination of variables on leader psychology based on bivariate correlations. This was done in order to avoid running models containing highly correlated variables which might adversely affect their relationship with the dependent variable. The conditions I used for dropping variables as a result of correlation were if any variables were significantly correlated with another at the 0.05 level and containing a magnitude with an absolute value of 0.4 or greater, indicating a correlation between variables that is greater than or equal to 40%. All eight models are also presented with their variable

coefficients first followed by their standard errors. Four models measure I1 against self-confidence and either conceptual complexity or need for power in combination with regime type (with self-confidence), duration, military expenditure, religious difference, population density (with need for power), state battle deaths, and whether a leader came to power after the onset of civil war. Two models are run with P1 and self-confidence with either conceptual complexity or need for power. All structural variables minus regime type and religious difference are included in both models. The last two models analyze just the leadership traits of distrust and self-confidence with either conceptual complexity or need for power. Regime type and duration are the only structural variables not included in both of these models because of the correlation with DIS. Finally, each significant psychological variable will be presented with a table of its predicted values measured against its unit increase¹² to give a clearer picture of the effects of leader psychology on lethality in civil wars, presented as non-state battle deaths.

After running several bivariate correlation models in SPSS against all the independent variables in my regression model, to determine if any multicollinearity exists between any of them, it was found that several were significantly correlated as indicated below in Table 1.

¹² The unit increase for the significant psychological variables will be explained in the discussion section of the Conclusion chapter.

Table 1: Bivariate Correlations

		II	P1	DIS	SC	CC	PWR	Regime Type	Dur.	Mil. Exp.	Religious Diff.	Pop. Density	State Battle Deaths	Non-Initiating Leader
II	Corr. Sig. N		.639* .000 29	-.435* .018 29	.106 .584 29	-.290 .128 29	.040 .837 29	.367 .050 29	-.306 .106 29	.003 .989 29	-.035 .864 27	.329 .088 28	.009 .965 29	-.340 .071 29
P1	Corr. Sig. N	.639* .000 29		-.538* .002 30	-.033 .861 30	-.093 .624 30	-.229 .224 30	.405* .026 30	-.353 .056 30	.096 .614 30	-.441* .019 28	.256 .181 29	-.190 .314 30	.078 .682 30
DIS	Corr. Sig. N	-.435* .018 29	-.538* .002 30		.006 .973 30	.247 .188 30	.069 .718 30	-.456* .011 30	.465* .010 30	-.074 .699 30	.280 .150 28	-.327 .084 29	.165 .385 30	.056 .770 30
SC	Corr. Sig. N	.106 .584 29	-.033 .861 30	.006 .973 30		.103 .588 30	-.127 .505 30	-.102 .592 30	-.013 .946 30	.054 .775 30	.277 .154 28	-.033 .865 29	.049 .796 30	-.098 .605 30
CC	Corr. Sig. N	-.290 .128 29	-.093 .624 30	.247 .188 30	.103 .588 30		-.469* .009 30	.053 .782 30	-.047 .805 30	-.081 .671 30	-.340 .077 28	.066 .732 29	-.165 .382 30	-.103 .587 30
PWR	Corr. Sig. N	.040 .837 29	-.229 .224 30	.069 .718 30	-.127 .505 30	-.469* .009 30		.037 .847 30	.110 .564 30	-.139 .465 30	.222 .256 28	.013 .948 29	.282 .131 30	.040 .834 30
Regime Type	Corr. Sig. N	.367 .050 29	.405* .026 30	-.456* .011 30	-.102 .592 30	.053 .782 30	.037 .847 30		-.332 .073 30	-.089 .639 30	-.273 .160 28	.701* .000 29	-.147 .438 30	-.134 .481 30
Duration	Corr. Sig. N	-.306 .106 29	-.353 .056 30	.465* .010 30	-.013 .946 30	-.047 .805 30	.110 .564 30	-.332 .073 30		-.031 .873 30	.019 .925 28	-.109 .575 29	.217 .250 30	.115 .544 30
Military Exp.	Corr. Sig. N	.003 .989 29	.096 .614 30	-.074 .699 30	.054 .775 30	-.081 .671 30	-.139 .465 30	-.089 .639 30	-.031 .873 30		-.024 .902 28	-.223 .245 29	-.053 .781 30	-.080 .675 30
Religious Diff.	Corr. Sig. N	-.035 .864 27	-.441* .019 28	.280 .150 28	.277 .154 28	-.340 .077 28	.222 .256 28	-.273 .160 28	.019 .925 28	-.024 .902 28		-.213 .286 27	.365 .056 28	-.101 .611 28
Pop. Density	Corr. Sig. N	.329 .088 28	.256 .181 29	-.327 .084 29	-.033 .865 29	.066 .732 29	.013 .948 29	.701* .000 29	-.109 .575 29	-.223 .245 29	-.213 .286 27		-.112 .563 29	-.120 .534 29
State Battle Deaths	Corr. Sig. N	.009 .965 29	-.190 .314 30	.165 .385 30	.049 .796 30	-.165 .382 30	.282 .131 30	-.147 .438 30	.217 .250 30	-.053 .781 30	.365 .056 28	-.112 .563 29		.026 .891 30
Non-Initiating Leader	Corr. Sig. N	-.340 .071 29	.078 .682 30	.056 .770 30	-.098 .605 30	-.103 .587 30	.040 .834 30	-.134 .481 30	.115 .544 30	-.080 .675 30	-.101 .611 28	-.120 .534 29	.026 .891 30	

* = Significance at or below the 0.05 level

RESULTS

Based on the results of the bivariate correlations, I ran eight models in order to review the effects of each predictor, independent of one another, on the dependent variable. Overall, the causal effects that a leader's psychological disposition has on lethality during civil war offer some surprising and significant results. Each case that was available for analysis as well as the specific verbal content used to achieve the requisite four thousand words of verbal content for can be found in Appendices A and B.

While some of the data, diverging farthest from zero on the dependent variable, appeared to be outliers, it was not necessarily true that this was the case. Looking at the aggregate battle deaths of each case in my dataset, a clear outlier was China, having resulted in over one million battle deaths. However, as analysis of raw residuals revealed, the Indonesia and Bosnia cases had residuals farthest from zero. These numbers were not so far removed from the rest of the cases which showed a relatively normal distribution, and I decided to leave the cases in the models.

Table 2: Count Model Results

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
II	-1.1910* .57348	-.98413* .44546	-1.0064* .45976	-1.1039* .55524				
P1					-1.9508*** .4596	-1.744*** .39478		
DIS							10.3425*** 2.2798	8.9235*** 1.977
SC	.59514 1.1023	.45399 .85904	.42725 .83621	.5372 1.1239	-.87571 .7329	-.26159 .65208	.92465 1.1908	1.134 1.1971
CC	-.9254 1.9087			-.89672 1.9369	.03458 1.4273		-3.9023 2.5707	
PWR		6.3734*** 1.713	5.8183*** 1.6959			6.0885*** 1.5138		7.2841** 2.7585
Regime Type	.15398 .35432		-.1319 .29656					
Duration	.0308*** .0052	.02582*** .00381	.02623*** .00398	.03018*** .00533	.02603*** .0038	.02413*** .00277		
Military Expenditure	5.06e-09 7.21e-09	7.54e-09 6.16e-09	8.21e-09 6.13e-09	4.96e-09 7.63e-09	1.05e-08 6.15e-09	1.23e-08* 5.00e-09	2.20e-09 1.06e-08	7.47e-09 9.90e-08
Religious Difference	-.32821 .36368	-.2075 .29373	-.33601 .27386	-.28801 .39833			-1.371** .53371	-1.0109* .45524
Population Density		-.00078 .00154		.00044 .00199	.00061 .00149	-.00006 .00115	-.00161 .00268	-.00147 .00252
State Battle Deaths	.000016*** 2.24e-06	.000014*** 1.92e-06	.000015*** 1.89e-06	.000016*** 2.32e-06	.000014*** 1.74e-06	.000013*** 1.43e-06	.000016*** 3.21e-06	.00001*** 3.08e-06
Non-Initiating Leader	.59542 .64417	.67336 .52764	.66532 .53859	.56544 .65361	1.0781** .39659	1.0869*** .32061	-.81027 .92226	-.34192 .83145
Constant	8.3912*** 1.1012	6.1555*** .59584	6.2804*** .58892	8.3642*** 1.1104	8.3051*** .81454	6.3825*** .53314	8.8371*** 1.4508	4.6571*** 1.105
Number of Observations	27	26	27	26	29	29	27	27
Log likelihood	-250.88842	-237.86873	-245.95188	-243.52515	-270.38979	-263.78553	-264.43213	-262.18682

*** Significant at 0.001

** Significant at 0.01

* Significant at 0.05

Models 1 - 4

Models 1 - 4 show the regression of the data against the operational code variable of I1 and the leadership traits, self-confidence and either conceptual complexity or need for power, which has already been delineated above in Table 2. In Model 1, I1 shows statistical significance at the 0.05 level. It suggests that non-state battle deaths will decrease as a leader's direction of strategy becomes increasingly cooperative, as predicted in Hypothesis 1. Duration is significant at the 0.001 level and moves in a direction that indicates an increase in lethality for longer wars. StateBattleDeaths is also a statistically significant variable at the 0.001 level with a direction that indicates an increase in non-state battle deaths as state battle deaths increase. P1 and DIS were excluded from this model because of their significant correlation with I1. PWR was excluded from the model because it was significantly correlated with conceptual complexity. PopulationDensity was excluded from the model because of its significant correlation with RegimeType.

Model 2 analyzed much of the same variables as Model 1 but looked, instead, at the variables that were excluded from Model 1, because of their significant correlations, to see their effects on the psychological variables. In Model 2, I1 was analyzed with self-confidence and need for power; P1 and DIS were still excluded because of their significant correlation with I1 and CC was excluded because of its significant correlation with PWR. RegimeType was left out in this model in order to run the psychological variables against PopulationDensity. In this model, I1 was again significant at the 0.05 level and indicates that as a leader's direction of strategy becomes increasingly cooperative, non-state battle deaths decrease as predicted in Hypothesis 1. PWR was significant at the 0.001 level indicated that non-state battle deaths will

increase as a leader's need for power increases. This result suggests that I was correct in my prediction in Hypothesis 5. Duration is significant at the 0.001 level and moves in a direction that indicates an increase in lethality for longer wars. StateBattleDeaths is again significant at the 0.001 level.

Model 3 examines I1 with self-confidence and need for power but with the structural variable, RegimeType, instead of the structural variable, PopulationDensity. In this model, I1 is significant at the 0.05 level and accurately corroborates my hypothesis that more cooperative leaders will cause less non-state battle deaths, while PWR is significant at the 0.001 level and tells us that my prediction was correct in that leaders with a higher need for power will increase non-state battle deaths. Duration and StateBattleDeaths are both significant at the 0.001 level. Model 3 and Model 2 are similar in their results, both indicating statistical significance with I1 and PWR.

Model 4 measures I1 against self-confidence and conceptual complexity and with PopulationDensity instead of RegimeType. I1 is statistically significant at the 0.05 level and is the only statistically significant psychological variable in the model. It indicates that Hypothesis 1 is again correct in predicting that leaders who have a more cooperative direction of strategy will decrease non-state battle deaths. Duration and StateBattleDeaths are both significant at the 0.001 level. The data in Model 4 is not dissimilar from the data in Model 1.

Models 5 - 6

Models 5 and 6 measure the operational code variable of P1 against the leadership traits, self-confidence and either conceptual complexity or need for power, depending on the correlations between the variables as delineated above. The psychological variables of I1 and DIS were excluded from both models for their significant correlation with P1, as were the structural variables of RegimeType and ReligiousDifference for their correlation with P1. Model 5 measures P1 against self-confidence and conceptual complexity. P1 is the only statistically significant psychological variable in this model and shows significance at the 0.001 level while moving in the hypothesized direction. The value and direction of P1 suggests that civil war lethality decreases as a leader's view of the political universe becomes increasingly friendlier as predicted in Hypothesis 2. Duration and StateBattleDeaths are both significant at the 0.001 level, while NonInitiatingLeader is statistically significant at the 0.01 level. The positive direction of the NonInitiatingLeader variable's coefficient, however, indicates that we cannot accept Hypothesis 13. The results tell us that leaders who come to power after civil war onset have a greater impact on lethality than those leaders who are in power at the onset of civil war.

Model 6 analyzes P1 against self-confidence and with need for power instead of conceptual complexity, as was the case in Model 5. RegimeType and ReligiousDifference are again excluded because of their significant correlation with P1. In this model, P1 is statistically significant at the 0.001 level indicating that leaders with a friendlier view of the political universe decrease non-state battle deaths in civil war. PWR is also statistically significant in this model at the 0.001 level, indicating that leaders with a high need for power will increase lethality

in civil wars. MilitaryExpenditure is statistically significant at the 0.05 level and moves in the hypothesized direction. The result tells us that non-state battle deaths increase in war's where states allocate a large portion of their budget to the military. Because this variable measures the absolute amount of state money spent on the military, it is analyzed in relation to all of the cases. Duration and StateBattleDeaths are both statistically significant at the 0.001 level. NonInitiatingLeader is also statistically significant at the 0.001 level but moves counter to the hypothesized direction. The result in this model also tells us that those leaders who come to power during civil wars, as opposed to those leaders who are in power at their onset, have a greater impact on non-state battle deaths.

Models 7 - 8

Models 7 and 8 analyze just the leadership traits without the operational code variables. This was done to look at the relationship that a leader's level of distrust has on lethality since it was dropped in the other six cases as a result of it being significantly correlated with both I1 and P1. RegimeType and Duration are also dropped in both models as a result of their significant correlation with DIS. Model 7 analyzes DIS with self-confidence and conceptual complexity. In this model, DIS is statistically significant at the 0.001 level. This result indicates that leaders with high levels of distrust have a significant positive effect on lethality; as leader distrust increases, non-state battle deaths increase. StateBattleDeaths is significant at the 0.001 level while ReligiousDifference is significant at the 0.01 level. ReligiousDifference, though, moves in a direction counter to what was hypothesized. The value of ReligiousDifference in the model

indicates that lethality increases during civil wars where the state leader shares the same religious beliefs as the majority of the populace.

Model 8 analyzes DIS with self-confidence and need for power. DIS, again, has statistical significance at the 0.001 level, indicating that more distrustful leaders increase lethality in civil wars. PWR is significant at the 0.01 level, indicating that leaders with a high need for power increase lethality in civil wars. StateBattleDeaths has significance at the 0.001 level while ReligiousDifference, with a statistical significance at the 0.05 level, moves contrary to the hypothesized direction. This tells us that leaders who share the same religious beliefs as the majority of the populace increase lethality more than those leaders whose religious beliefs differ from the majority of the populace's.

The results are pretty clear in indicating how significant a role psychological variables play in determining the causes of lethality in civil war. We have seen that four particular psychological variables were statistically significant predictors of lethality: I1, P1, DIS, and PWR. Each of these four variables showed significance in every model in which they appeared and when controlled with several structural variables.

To give better meaning to my results, I ran predicted values models for each statistically significant psychological variable. The tables will show the average number of non-state battle deaths per unit increase of each variable, which is indicated under the 'value' columns. As I1 and P1 are scaled on a spectrum of -1 to 1, the range is broken into increments of 0.5. The predicted values for I1 were analyzed against the variables in Model 3, where I1 performed as predicted despite controls for several well-performing structural variables. The predicted values for P1

were analyzed against the variables in Model 6, where P1 performed as predicted despite several well-performing structural variables.

As the predicted values of I1 show in Table 3, Hypothesis 1 is correct in that leaders will increase non-state battle deaths as their direction of strategy becomes more conflictual. Leaders who have an extremely conflictual direction of strategy are responsible for an average of 251,450 non-state battle deaths, while leaders who have an extremely cooperative direction of strategy are responsible for only an average of 29,822 non-state battle deaths. The largest increase in the absolute number of non-state battle deaths occurs when the direction of strategy for leaders decreases one unit, or 0.05 points, from -0.5 to -1 (extremely conflictual), resulting in an increase of 103,889 non-state battle deaths.

Leaders with a strategic outlook (I1) that is more conflictual during civil wars will cause non-state battle deaths to increase, as the results show. This can be attributed to leaders viewing the “other” as incapable of negotiating or instigating diplomatic dialogue in order to cease hostilities. They view the insurgents as needing or wanting to fight, and no other option is available, and in this way, as the leader expects, violence and war are the only solutions.

Table 3: I1 - Predicted Values

I1 value	Mean	Standard Deviation
-1	251,450	1,103,955
-0.5	147,561	647,847
0	86,595	380,184
0.5	50,818	223,108
1	29,822	130,929

Leaders who view the political universe as more hostile (P1) are more apt to increase non-state battle deaths. Interpreting the enemy’s intentions, for instance, as indication for hostile behavior, can result in preemptive action by the leader against the insurgents and the populace. Assuming hostile intent based on one’s view or understanding of the nature of the political universe can lead to an increase in non-state battle deaths that are either provoked or unprovoked. How the leader interprets the situation regardless of whether hostile action has been taken can be a causal effect of lethality. A leader’s psychology as it relates to operational code, or the leader’s conscious perception and reaction to the world and others, shows us that leaders exhibiting significance in these psychological variables can have a causal effect on the lethality of civil wars.

As the predicted values show in Table 4, Hypothesis 2 is correct in that leaders will increase non-state battle deaths the more hostile their view of the nature of the political universe becomes. Leaders who have an extremely hostile view of the nature of the political universe are responsible for an average of 426,211 non-state battle deaths, while leaders who have an

extremely friendly view of the nature of the political universe are responsible for an average of 7,528 non-state battle deaths. The largest increase in the absolute number of non-state battle deaths occurs when the view of the nature of the political universe decreases by one unit, or 0.05 points, from -0.5 to -1 (extremely hostile), resulting in an increase of 270,834 non-state battle deaths.

Table 4: P1 - Predicted Values

P1 value	Mean	Standard Deviation
-1	426,211	1,653,023
-0.5	155,377	602,615
0	56,643	219,686
0.5	20,649	80,087
1	7,528	29,196

DIS and PWR are leadership trait variables and scaled differently than the operational code variables. The leadership trait variables are scaled on a spectrum of 0 to 1. The values for DIS and PWR have thus been recoded to show unit increases of 0.2 and indicate the respective average number of non-state battle deaths. The predicted values for DIS were analyzed against the variables in Model 7, where DIS performed as predicted despite controls for several well-performing structural variables. The predicted values for PWR were analyzed against the variables in Model 6, where PWR performed as predicted despite controls for several well-performing structural variables.

Leaders who are more trusting and do not require a high need to gain or maintain power are also responsible for less non-state battle deaths than leaders who do have a high level of distrust and a high need for power. Models 7 and 8 showed this with regards to a leader's level of distrust. A leader's increasingly distrustful nature toward the world and other actors shows a causal effect on the lethality of civil wars. Leaders who lack trust in the motives of others, specifically in war, will likely have negative beliefs on how others will act in a situation. This would result in taking more egregious or preemptive actions against the enemy.

As the predicted values show in Table 5, Hypothesis 3 is correct in that leaders will increase non-state battle deaths the more distrustful they become of others. Leaders who are more distrustful of others are responsible for an average of 81,000,000 non-state battle deaths, while leaders who are less distrustful of others are responsible for an average of 4,079 non-state battle deaths. The largest increase in the absolute number of non-state battle deaths occurs when a leader's level of distrust increase by one unit, or 0.2 points, from 0.8 to 1, resulting in an increase of 69,800,000 non-state battle deaths.

Table 5: DIS - Predicted Values

DIS value	Mean	Standard Deviation
0	4,079	16,133
0.2	29,521	116,763
0.4	213,663	845,094
0.6	1,546,422	6,116,524
0.8	11,200,000	44,300,000
1	81,000,000	320,000,000

As PWR indicates, leaders who have an increased need for power are more likely to increase non-state battle deaths during periods of civil war. Leaders needing or wanting to solidify their hold on their power over the people and the country during times of war are more likely to exert force in order to maintain that power or to gain more of it. Power is an influential tool and can affect multiple facets of warfighting and the strategies and tactics used in civil war. Those leaders who are losing power will exert more of it through desperation in order to gain it back and prevent exile or death. Those leaders who have power and are unwilling to relinquish it will use everything at their disposal to discourage another from taking it. This variable was shown to be statistically significant in every model which suggests that leaders who need power are more willing to increase the number of non-state battle deaths in order to keep or maintain it.

As the predicted values show in Table 6, Hypothesis 6 is correct in that leaders will increase non-state battle deaths as their need for power increases. Leaders who have a high need for power are responsible for an average of 3,663,946 non-state battle deaths, while leaders who

have a lower need for power are responsible for an average of 3,711 non-state battle deaths. The largest increase in the absolute number of non-state battle deaths occurs when a leader's need for power increase by one unit, or 0.2 points, from 0.8 to 1, resulting in an increase of 2,741,268 non-state battle deaths.

Table 6: PWR - Predicted Values

PWR value	Mean	Standard Deviation
0	3,711	13,598
0.2	14,735	53,996
0.4	58,513	214,419
0.6	232,355	851,454
0.8	922,678	3,381,115
1	3,663,946	13,400,000

CONCLUSION

This thesis set out to predict and explain the extent to which a leader's psychology affected the lethality of civil wars in the post-WWII world. Distinctly looking at what I termed the modern age of warfare, I sought not only to look at the structural determinants to this end but to expand on this research and delve into an area with little to no scholarly research attributed to it. My hopes are that the significant results will lead to scholars building on my research and providing an even more thorough analysis with better explanatory data as a result. Further, the availability of the requisite resources to accomplish the gathering of foreign sources of speech data precluded me from enjoying a larger sample size. Accessibility to this data will only add to any future study in this subject.

When studying civil wars from the past and present, applying the human factor and effects of leadership during these wars, the results should aid in predicting the severity of future civil wars, thus influencing foreign policy and how future leaders handle these situations in order to prevent mass casualties and unjustified deaths. It is my hope that this thesis has done just that: provided the seminal, pioneering work that meshes psychological and structural determinants of lethality in this modern age of warfare to help prevent future violence and allow policy makers and warfighters a greater understanding of how to deal with future atrocities on a military and policy-making level. The results of this thesis will allow decision-makers to assess foreign leaders engaged in civil war should they be required to aid as a result of treaty obligations or national interest. Understanding leaders and their psychological dispositions toward violence and warfighting will help shape the strategies of said decision-makers. It will also help policy makers

in determining which individuals should be supported during foreign elections or placed in power if a government falls who represents a specific set of ideals and political beliefs aligned with our national interests.

Discussion of the Models

The theory I tested in this thesis stated that leader psychology plays a significant role in civil war lethality. To test this, I ran eight total models – four containing I1, two containing P1, and two containing just the leadership traits – with thirty cases, though some were omitted in the STATA modelling process due to missing data. The models returned some significant results pertaining to psychological determinants of lethality while also explaining a few structural variables.

This data reflects the premise of count data models as a more accurate method of measuring discrete data than linear regression. Linear regression assumes that the data of the dependent variable is continuous, whereas my data is discrete and does not consist of negative or partial integers. I privilege the use of count data models in this thesis because it is my belief, based on the supporting evidence used to justify my reasoning for doing so in this thesis, that analyzing my data with zero-truncated negative binomial regression best explains, and better quantitatively predicts, the effects of my independent variables on lethality.

As indicated by the predicted values tables above for each of the four significant psychological variables, I1, P1, DIS, and PWR were all shown to be significant indicators of lethality. I1 and P1 both suggest that when a leader's direction of strategy and view of the

political universe become more cooperative and friendlier, respectively, lethality decreases. DIS and PWR both suggest that as these variables move in a positive direction, representing an increase in distrust and need for power, respectively, lethality increases.

The psychological data were measured against seven structural variables, though not all at the same time due to the multicollinearity experienced between several of them. Five of the seven structural variables returned significant results. Surprisingly, RegimeType did not significantly predict lethality as I had expected. This might be explained by some of the literature relating to this occurrence: “When circumstances do not favor democracies, when they are in desperation of victory or less tolerant of costs, or they are challenged by a strong opponent, they are just as likely as non-democracies to incorporate increased levels of violence” (Downes, 2008; Engelhardt, 1992; Arreguín-Toft, 2003).

Also, surprisingly, NonInitiatingLeader did not have the expected results. Leaders who come to power after civil war onset might be more likely to increase non-state battle deaths in order to solidify their roles as leader through a projection of strength, to garner respect through fear, or to end hostilities, realizing that the predecessor’s strategy failed to resolve the insurgency. Despite these variables not showing statistical or substantive significance, several other structural variables did.

Duration showed high significance at the 0.001 level, in every model which it was present, indicating that as wars progress and prolong, non-state battle deaths increase. StateBattleDeaths was measured in every model, and in every model, it also showed high significance at the 0.001 level, indicating that as the state leader suffers more fatalities to his forces, non-state battle deaths increase. This suggests that lethality increases because of a

retaliatory response by the leader against the insurgents but also, too, against the civilians to project what future consequences might be should they allow the insurgents to launch another successful attack against the state. Coercion can help in deterring the populace from aiding the enemy or in giving information about the enemy and his movements or plans to the state.

State leaders can have a heavy influence on the duration of civil war conflict. Leaders involved in intrastate conflict have the tools and personnel to sustain the fighting as well as other resources native to the country. They have the ability to control concessions and negotiations and are not reliant on another state's capabilities or demands when making decisions. As long as the state leader is fighting an insurgency and has not lost control or power, it is in the leader's best interest, if victory is not quick and decisive, to prolong the fighting as long as possible in order to force capitulation and maintain the status quo.

MilitaryExpenditure was statistically significant in Model 6 where P1 and PWR were also significant. Leaders with a more hostile view of the political and an increased need for power are likely to allocate more budgetary funding toward the military in order to strengthen its capabilities and manpower. A stronger, larger military can be a capable tool used to suppress the opposition and the population and to quell any thought of or action toward insurrection by insurgents through the use of armed violence, martial law, or show of force.

ReligiousDifference was significant in Models 7 and 8, when the operational code variables were omitted for the leadership trait variables in order to measure DIS. However, as stated above, this variable moved in a surprising direction. Though it was only statistically significant in Models 7 and 8, it moved in a direction contrary to Hypothesis 10 and was thus, substantively significant in none of the models. Though it was predicted that a state leader in a

religious minority would seek to attack those in the weaker majority leading to an increase in lethality, this was not shown to be the case.

StateBattleDeaths accurately explained how a leader would react while engaging an enemy in a civil war when the state's forces are attacked. If the state were to suffer fatalities as a result of an enemy attack, the state leader would be highly likely to respond with attacks resulting in higher numbers of non-state battle deaths. This was shown to be highly significant in all eight models. As Lyall (2009) stipulates, if it is believed by the state leader that the populace was involved either directly or indirectly, actively or passively, in the attack or in the preparations leading to the attack, then high levels of lethality are to be expected by the leader. These actions are a means of retribution and coercion against the populace in order to prevent them from aiding or supporting the insurgents in the future.

Ultimately, as the psychological data reveals, leaders who are significant in I1, P1, DIS, and PWR are more likely to increase lethality in civil wars. The data from the models are pretty clear and show that psychological determinants do have a significant effect on lethality in civil war. This particular area of scholarly research, identifying how leaders may act in wars concerning matters of lethality, deserves future study as well as attention from policy makers concerning matters of warfighting. A leader's psychology, as the models suggest, has a profound impact on the number of non-state battle deaths in civil war and should be considered as predictors when analyzing war lethality.

The Way Ahead: Future Research

This thesis has provided interesting results on the effects of leader psychology on civil war outcomes in terms of lethality measure in non-state battle deaths. But while this thesis sought to provide thought-provoking research and hopefully to establish a stronger foundation for this tract of scholarship, there is much room for improvement and future research. The analytical gain this evidence provides is such that it will aid to existing research and literature in better analyzing the causal effects of lethality in civil wars as they pertain to state leader psychology.

As stated earlier, one of the obstacles I faced was gathering large quantities of speech data for each leader in each case of my dataset. The reasons for not including much of this work, resulting in a minimization of cases, is not due solely to the unavailability of verbal content but rather the inability of the researcher to acquire the verbal content from foreign media sources, to transcribe the verbal content from foreign languages, or to obtain printed versions of the material, not accessible digitally. Should future researchers seek to expand on this study, further revelations on the causal effects of psychology and lethality may present themselves should the resources be available to them to acquire the necessary verbal content.

I wanted, also, to focus the parameters of this thesis solely on six psychological variables, four leadership traits and two operational code variables. Though there are still a multitude of other psychological variables that may be analyzed for future research with scholarly applications. The operational code indices of I2-I5 and P2-P5 (Walker, Schafer, & Young, 2003, 218-232) as well as the three remaining leadership traits mentioned in Footnote 5 may provide further insight and explanation of the predictors I used in this work to determine the causes of

lethality in civil wars as a reflection a leader's conscious and subconscious psychology. The effects of the operational code indices of I2-I5 and P2-P5 should provide especially useful results. The instrumental beliefs, I2-I5 are related to the question posed by I1: what is the leader's direction of strategy for political action. The philosophical beliefs, P2-P5, all help explain the leader's view of his role in the political universe. Each of these variables will help in better explaining the results of I1 and P1 by offering more in depth analysis of a leader's conscious political beliefs as they relate to the world and others beyond what I have provided in this thesis.

There are several ways to improve and expand upon this thesis and it is my hope that this research provided the necessary foundation for any future research to come regarding political leadership and the psychological determinants of lethality in modern warfare. Having the explanations for these disparities and gaps in research will, as described above, add to the current literature and aid in the understanding of the existing knowledge on this specific field of study as well as addressing how one might approach foreign policy crises concerning civil wars.

APPENDIX A: CASES USED IN FINAL DATASET

1. Soviet Union v. Baltic Guerrillas, 1945-1951, 32400 (aggregate battle deaths)
2. China v. Communists, 1946-1950, 1200000
3. China v. Taiwanese, 1947-1947, 1250
4. Philippines v. Huks, 1950-1954, 11300
5. Indonesia v. Darul Islam, 1953-1953, 2700
6. China v. Khamba Tibetans, 1956-1959, 16000
7. Indonesia v. Leftists, 1956-1962, 27200
8. Republic of Vietnam v. NLF, 1960-1965, 100200
9. India v. Naxalite Marxists, 1970-1971, 2100
10. Jordan v. Palestinians, 1970-1970, 3440
11. Sri Lanka (Ceylon) v. Janatha Vimukthi-JVP, 1971-1971, 4053
12. Cambodia v. Khmer Rouge, 1971-1975, 85000
13. Philippines v. MNLF Moros, 1972-1981, 30000
14. Pakistan v. Baluchi Rebels, 1973-1977, 8600
15. Democratic Republic of Congo v. FNLC, 1978-1978, 1000
16. Iran v. Anti-Shah Coalition, 1978-1979, 1100
17. Uganda v. National Resistance Army, 1980-1986, 46000
18. Nigeria v. Muslim fundamentalists, 1980-1981, 1050
19. Syria v. Muslim Brotherhood, 1981-1982, 3000
20. Nicaragua v. Contras, 1982-1990, 32200
21. Romania v. Anti-Ceausescu Rebels, 1989-1989, 1000
22. Bosnia v. Bosnian Serbs, 1992-1995, 46043

23. Georgia v. Abkhazia, 1993-1994, 8000
24. Russia v. Chechnya, 1994-1996, 10000
25. Philippines v. MILF & ASG, 2003-2003, 1000
26. Indonesia v. GAM, 2003-2003, 1550
27. Pakistan v. Waziri tribes, 2004-2006, 3000
28. Yemen v. Zaidi Muslims, 2004-2005, 2250
29. Philippines v. MILF & NPA, 2005-2006, 2823
30. Yemen v. Zaidi Muslims, 2007-2007, 3500

APPENDIX B: LETHALITY DATA DISPERSION

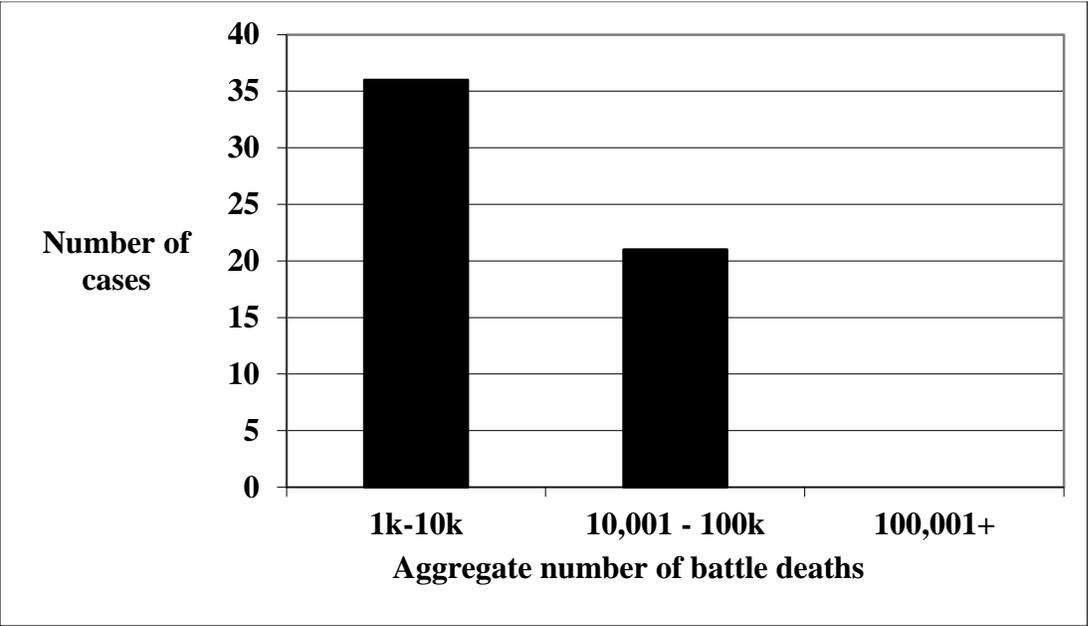


Figure 1: Dispersion of aggregate battle deaths from cases not included in final dataset

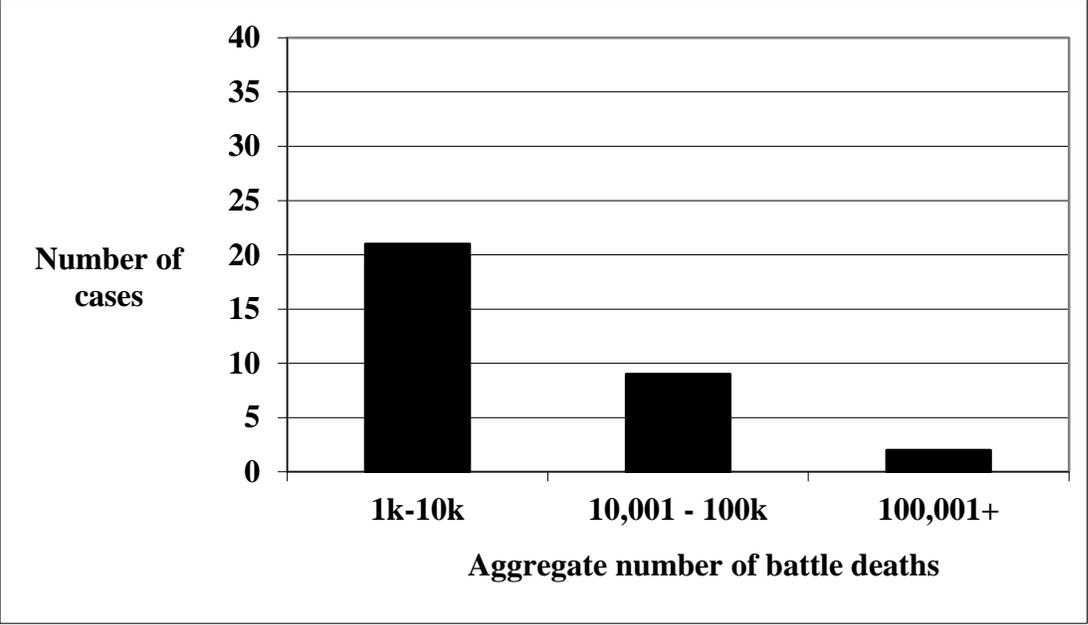


Figure 2: Dispersion of aggregate battle deaths from cases included in final dataset

APPENDIX C: VERBAL CONTENT

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