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Joshua C. Eastin
Portland State University, jeastin@pdx.edu

Emily Kalah Gade
Emory University

Michael Gabbay
University of Washington

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Evaluating Militant Decision-Making with Information Science: The Irish Republican Movement During the "Troubles"

by

Joshua Eastin (Corresponding author)
Department of Political Science, Portland State University, Portland, OR, USA
ORCID: 0000-0002-7893-6955

Emily Kalah Gade
Department of Political Science, Emory University, Atlanta, GA, USA
ORCID: 0000-0002-9061-7869

&

Michael Gabbay
Applied Physics Laboratory, University of Washington, Seattle, WA, USA
ORCID: 0000-0002-4116-6782

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Introduction

What explains the variation in a militant movement's use of violence? Why do groups escalate attacks in one instance, only to pursue de-escalation or negotiation in another? This puzzle is a critical but understudied component of the civil war and terrorism literatures, as groups differ in how, when, and why they use violence. This disparity holds between groups, but also within them over time. For example, following infiltration by operatives of Her Majesty's Government (HMG) in the late 1970's, the Provisional Irish Republican Army in Northern Ireland switched from an intense campaign aimed at short-term victory to a long war strategy designed to wear down the enemy over decades. Similarly, in Syria in 2011, some Free Syrian Army groups began the conflict by espousing the Geneva Principles and eschewing "dastardly" methods of combat, but shifted to more extreme modes of violence as the conflict progressed. Why? The conditions which produce such escalations are often assumed rather than evaluated, because effective decision-making analysis requires detailed knowledge of movements, their leaders, and the context in which they operate (Shapiro 2012).

In this article, we empirically evaluate strategic decision-making within militant groups fighting HMG during "The Troubles" in Northern Ireland, most notably the Provisional Irish Republican Army (PIRA). We examine the conditions that compel groups to escalate their use of violence or to de-escalate conflict by exhibiting restraint, or pursuing negotiation, disarmament, or ceasefire. Understanding these conditions are important to both scholars and policymakers because groups are the main vehicles for planning and executing attacks. Yet, despite the link, our knowledge is lacking. One reason concerns the clandestine nature of militant groups, as there is a dearth of data on internal decision-making processes. Another

is that even for those movements for which we do have some information, qualitative analyses can limit the replicability of key findings.

To address these limitations, we adopt a novel empirical approach that has not previously been applied to studying militant groups, but is ideally suited for it. Developed by Drozdova and Gaubatz (2014), and drawn from information science, this method enables researchers to estimate which variables best reduce uncertainty around an outcome variable in a set of cases too small for regression analysis. In this way, the method permits scholars to generate "systematic, comparable, and replicable measures of uncertainty and influence" for factors identified in a structured case study context and to assess which ones have the largest impact in determining the outcome of interest (Drozdova and Gaubatz, 2014, 633). Unlike statistical analysis, the method makes no assumptions regarding the distribution of data, is ideal for small samples, is not vulnerable to omitted variable bias, and provides a way to rank the importance of different variables of interest in structured case studies. A key benefit is that it facilitates systematic and replicable analysis of qualitative data and assessment, and thus can partially bridge the quantitative-qualitative methodological divide while drawing strength from each.

In our case, this technique enables us to empirically evaluate the determinants of group decision-making within a key militant movement. We base the analysis on novel dataset of thirty-one strategic decisions made by the PIRA and its splinter groups during the Troubles. Examples of escalatory decisions include major bombings, targeted assassinations, and unilateral withdrawals from ceasefire agreements. De-escalatory decisions involve proposed ceasefires, requests for negotiations, deliberate attempts to restrict or curb violence, and voluntary disarmaments. We developed our dataset using a combination of qualitative studies and historical accounts of The Troubles, expert consultation, and declassified archival

documents from the British Prime Ministers' Correspondence Files between 1969-1974. Taken together, these data contain information sufficient to evaluate the impact of four factors identified in the literature as critical to explaining militant behavior: leadership, resources, state repression, and civilian support.

Our study also contributes to the theoretical literature by advancing knowledge of factors that influence militant groups to escalate or de-escalate violence. For the groups fighting in Northern Ireland, we find the most important drivers of conflict escalation to be resources—guns and money—and leaders who are predisposed to use them. Resources and hawkish leadership also generate the most substantial negative impact on decisions to restrain attacks, disarm, call for negotiations, or request ceasefire. In contrast, we find a loss in civilian support to be the most influential predictor of de-escalation: losing backing from below not only makes groups less-inclined to attack, it also motivates intentional restraint. We interpret these findings to argue that leadership has greater agency when it comes to escalating violence than in its de-escalation, and that access to resources is a critical component in enabling hawkish leaders to act on their preferences. Such access allows leadership to avoid simply reacting to changes in civilian preferences or levels of governmental repression. On the other side, de-escalation generally occurs in the context of declining civilian support, rather than at the initiative of dovish leadership, and is likely exacerbated by a lack of alternative access points for weapons, supplies and financing.

In subsequent sections, we draw on the civil conflict and terrorism literatures to develop hypotheses on the impact of leadership, resources, state repression, and civilian support on group decision-making. Next, we provide background information for our case and discuss its relevance and generalizability to other contexts. Third, we discuss data, methodology, and the results of our empirical estimations. We conclude with a discussion of

key findings and the study's limitations.

Theoretical Perspectives

In an early appraisal of the field, McCormick (2003) compartmentalizes theoretical frameworks for militant decision-making into psychological, strategic, and organizational approaches. Strategic approaches conceptualize groups as rational, unitary actors that act instrumentally to achieve political objectives, while organizational approaches trace decision-making to the internal characteristics and preferences of groups and their leaders. Psychological approaches focus on elements such as emotion and cognition that influence individual and group propensities for violence, and are prevalent in the terrorism literature. Such work has addressed psychological profiles and paths to radicalization, as well as the psychological determinants of particular types of violence such as suicide bombing. While subsequent work has focused more closely on individual factors relevant to decision-making—for example, a group's strategic environment, (e.g., Kydd and Walter, 2006), spatial considerations for attacks (e.g., Marchment and Gill, 2019), access to foreign sanctuary (e.g., Salehyan, 2007), or leadership losses (e.g., Johnston, 2012)—much of this scholarship can still be subsumed into one or more of McCormick's categories.

In this paper, we adopt an approach similar to that of Asal and Rethemeyer (2008) and Shapiro (2012), which examine the impact of variables identified in the literature as significant to understanding militant behavior, including: group leadership, resource access, civilian support, and state repression. While the scope of our analysis did not allow us to include every variable that could potentially be related to escalation or de-escalation, decisions on which to choose were based on a broad survey of the literatures on militant groups, terrorism, and violence in civil conflict, and tempered by the availability of

information available from our data sources and in the case literature. The variables we selected include those both internal and external to the group, and are some of the more commonly cited in the literature as having an impact on militant groups' use of violence. Our ultimate aim is to compare these factors to one another to determine which best influences the decision-making outcome—conflict escalation or de-escalation—among our cases.

Leadership

Leadership can be a pivotal to the success or failure of a militant organization. Leaders can foster inspiration and ideological cohesion, abet recruitment, and encourage networking and alliance-building. Indeed, "decapitation"—the assassination or arrest of group leaders— is a key feature of counterterrorism policy in states such as Israel and the United States precisely because of the expectation that removing leadership will lead to organizational breakdown and collapse (Hafez and Hatfield, 2006). Empirical evidence reveals that killing leaders can increase the odds of governmental victory and conflict cessation, and can reduce violence against civilians (Byman, 2006, Horowitz and Ye, 2013; Johnston, 2012).

For many groups, a leader's chief responsibility lies in their control over strategy, tactics, and administration (Freeman, 2014; Chatagnier et al., 2012). This is especially true for centralized and hierarchically structured organizations such as the PIRA, ETA, or Jemaah Islamiyah because this arrangement enables leadership to exert greater control over strategic decision-making, management, and the oversight of day-to-day operations (Sageman, 2004; Horgan and Taylor 1997). For groups such as Al-Qaeda, which operates as a decentralized and clandestine network, or "devolved network hierarchy," middle-level commanders can wield greater agency because of their closer links to rank-and-file members who carry out attacks (Farrall 2011 (133); Neumann, Evans and Pantucci, 2011).

Group and individual characteristics also matter: Jordan (2009) finds leadership to be more important for younger, smaller, and more ideologically-oriented groups than for older, larger, and more religiously oriented ones, presumably because leaders are less replaceable and more directly linked to administration and the development of strategy. For individual leaders, the ability to inspire a following and to provide administrative services and operational guidance can be critical to their relevance. Leaders who cannot perform these functions, or cannot perform them well, are less influential, less-likely to be directly involved in strategy, and less likely to cause hardship for an organization if removed.

A key expression of a leader's organizational relevance is the ability to exert her will over strategic decision-making. Thus, assessing whether strategic decisions reflect leader preferences can help reveal the importance of leadership to militant groups. As broadly centralized, hierarchically structured, and strongly oriented around the ideology of Irish Republicanism, groups fighting during the Troubles should provide a critical test of how much leadership matters to a group's use of violence (Horgan and Taylor 1997). We expect that leaders who are more predisposed towards violence as a political strategy (Hawks) to be more likely to support conflict escalation, and those who reveal a preference for non-violent actions (Doves) to be more likely to favor de-escalation. These insights inform our first hypothesis:

- *H1: Having hawkish leaders in power increases the chances of an escalatory decision and decreases the chances of a de-escalatory one.*

Civilian support

While civilians are often the targets of terror attacks, they can be pivotal to a militant group's fate in asymmetric conflict (Findley and Young, 2007; Berman, Shapiro, and Felter, 2011). The closer the alignment of political preferences between civilians and insurgents, the more likely

civilians are to join or support them, and the less likely they are to provide information to counterinsurgent forces that can aid in conflict suppression. Similarly, the less civilians support an organization and its political goals, the more willing they are to engage in subversion, either through everyday acts of resistance or by providing critical intelligence as "informers and agents" (Kirk-Smith and Dingle 2009). Thus, a common goal for groups seeking political change is to gain the support of civilian populations, especially for groups that lack alternative sources of capital and material resources.

Though some contest the value of civilian preferences in conflict (e.g. Kalyvas 2006), the efforts and resources groups devote to winning their support suggest civilians may play an important role in strategic decision-making. Some organizations—e.g., the Islamic State—gain support through public outreach, propaganda, and recruitment (Baele, Boyd and Coan, 2019), while others aim to provide local public goods. Some groups pursue strategies of extreme violence against opponents in an effort to "outbid" competitor groups and convince civilians of their resolve (Berman and Laitin, 2008; Horowitz and Ye, 2013; Kydd and Walter, 2006.) Bloom (2004), for instance, finds that the desire to maintain and grow civilian backing among the Palestinian people during the Second Intifada drove Islamist militants to compete over who could perform the most visible and violent attacks. The importance of civilians as a key decision-making factor is also echoed in studies on rebel governance, as militant groups adapt their strategies for civilian control to the level of resistance they anticipate facing (e.g. Arjona 2016).

We expect that increasing civilian support can motivate, or at minimum, enable groups to escalate conflict. Some are likely to amplify their use of violence as a means of building support through signals of strength and resolve (Eastin and Gade, 2018), while in other cases, increasing support can act as a permissive force that enables groups to act. We also expect

that losing civilian backing will curtail a group's ability to plan and carry out attacks, especially in absence of alternative sources of material and financial resources. While we are mindful that under certain conditions flagging loyalties could lead groups to lash out as a means of regaining what was lost, planning and executing significant attacks is a resource-intensive endeavor that requires a level of secrecy difficult to attain absent civilian cooperation, or at least acquiescence. Thus, the greater the level of civilian resistance, the less capable or willing groups should be to escalate violence.

- *H2: An increase in civilian support increases the chances of an escalatory decision and reduces the chances of a de-escalatory one.*

Resources

The resources necessary to administer a militant organization and to execute attacks can influence strategic decision-making via their impact on organizational capabilities and goals (Feinstein and Kaplan 2010). The greater the stock and flow of resources to an organization, the more capable it should be to conduct attacks, and thus the more likely it should be to escalate violence to achieve political ends. Indeed, some scholars argue that resources are the primary determinants of group decision-making, especially with respect to their treatment of civilian populations (Weinstein, 2006). During its occupation of Syria and Iraq (approximately 2014 – 2017), the Islamic State drew significant funding from natural resource exports, taxation, looting, and antiquities trading, which it used to finance its administrative and recruitment efforts, as well as its military wing.

A decline in resource access could also lead to an escalation of violence if a group believes that doing so might provide a windfall. Attacks, especially large-scale attacks that generate publicity and media attention, can be viewed as signals to prospective recruits and

wealthy benefactors that an organization is worthy of support (Hovil and Werker, 2005). However, as with civilian support, the fact remains that escalatory violence requires a certain level of resources in order to fund planning, training, transportation, and materials acquisition, including weapons, and the means to deliver them. For this reason, Feinstein and Kaplan (2010, 282) argue that a militant group "…will in fact choose to pursue a large-scale attack only when it has grown to a size well in excess of the absolute minimum needed [to do so]." While a struggling organization might accept greater risk in order to ". . . go for it all" by scaling up its use of violence, it is still constrained by resource access (Feinstein and Kaplan, 2010, 282), and even more so when facing a regime focused on exposure and prevention. Thus, we expect that while groups struggling with a dearth of resources might amplify their use of violence in the short-term, a significant decrease in resource access should reduce a group's ability to wage violence, and thereby compel it to de-escalate.

- *H3: An increase in resource access increases the chances of an escalatory decision and decreases the chances of a de-escalatory one.*

State Repression

State repression refers to governmental actions designed to suppress or deter groups from waging attacks, or to punish them for having done so. Such actions might include internment, an amplification of violence, a shift to using military (rather than police) forces, mass arrests, checkpoint establishment, or an increased troop presence in key locations, among others. While the use of such tactics has long been a hallmark of states' counterterrorism policies, their ability to curtail attacks has been mixed. Repressing groups and their supporters can disrupt operations, diminish ranks, and deter others from joining, all of which can lead to de-escalation (Keohane and Zeckhauser, 2003). Bejan and Parkin (2015) for example, find that

Israel's application of repressive actions against Palestinians between 1987 and 2004 reduced the incidence of violence (See also: Dugan and Chenoweth, 2012). Yet, coercive state actions can also provoke radicalization, enhance recruitment, and ultimately enable groups to escalate violence (Hsu and McDowall, 2020). Indeed, some groups have sought to provoke repressive measures precisely in order to generate greater popular support (Lichbach, 1987; Bueno De Mesquita and Dickson, 2007).

Scholars have sought to resolve some of the contradictions in prior research by investigating the contingent nature of the repression/terrorism dynamic. For instance, Bell and Murdie (2016) find that repression can prime populations for resistance in states such as Northern Ireland with long histories of civil war. In examining violence during the second US/Iraq war, Eastin and Gade (2018) find the intensity of state repression to influence the outcome: low to moderate levels stimulate backlash, while high levels of repression deter future attacks. LaFree, Dugan, and Korte (2009) similarly find evidence for both backlash and deterrence effects in their examination of the Northern Ireland case. The latter effect came only in response to Operation Motorman, an immense British military intervention successful in suppressing group activity through overwhelming force (Sanders 2013).

Taking these findings into account, we expect increasing levels of state repression to encourage militant movements to respond in kind as long as the intensity of such repression is insufficient to overwhelm mobility and resource access.

- *H4: An increase in state repression increases the chances of an escalatory decision and reduces the chances of a de-escalatory one.*

Case Selection and Conflict Background

To evaluate our hypotheses, we examine data from the PIRA and offshoot groups during the

Troubles in Northern Ireland. The Troubles is an ideal case for analyzing decision-making determinants, because the length and scope of the conflict and groups' numerous tactical shifts throughout engender substantial variation on the dependent variable (decision-making outcome) while holding constant other unique conflict-specific factors. Existing articles which use the volume of available information about this conflict to generate insights on the use of violence lend credibility to this premise (Loyle, Sullivan and Davenport, 2014; Mesev, Shirlow and Downs, 2009; Sullivan, Loyle and Davenport, 2012; Sullivan, 1998; Thompson, 1989). As a result, we can have greater confidence that changes in outcome result from observed processes rather than some unobserved variable. Additionally, the depth and quality of available data, including recently released archival data from the Prime Minister's Correspondence Files, which detail UK Prime Ministers' 1969-1974 security correspondence, offers an enticing opportunity to trace state-level factors that might influence these decisions. The same is true for the availability of qualitative information on the groups' decision-making structures, which enables us to identify internal dynamics and evaluate their impact (Horgan and Taylor, 1997).

The Troubles began following a civil rights struggle in the 1960s, which fueled grievances and facilitated militant recruitment (Bosi, 2012; Ó Dochartaigh, 2004). Catholics faced discrimination in issues ranging from housing to employment. By the late 1960s, a Republican, anti-Union movement that sought secession from the United Kingdom and unification with Ireland gained strength. In response to increasing demonstrations and marches, pro-unionist militias such as the Ulster Volunteer Force (founded in 1965) emerged to represent an increasingly militarized Protestant base (Bruce, 1992). These 'Loyalist' groups began perpetrating armed attacks in Catholic communities with the UVF's first attack taking place on May 7th, 1966. Loyalist actions, coupled with a sense of unjust treatment of Catholics

in the north and desire for a united Ireland, prompted some of the more radical members of the Irish Republican Army to rise up and defend their communities, resulting in sectarian contestation and vigilantism (Silke, 1999; Silke and Taylor, 2000). When civil rights marches in Derry were banned in 1968, Catholic citizens begin rioting. This response exacerbated mounting tensions between Northern Ireland's Protestant armed groups—many of whom were unionist or loyalist supports of HMG—and its Republican armed groups—largely Catholic, often nationalist—who wanted Northern Ireland to secede from the UK and join a united Ireland.

These events, as well as the perception among some members of the Official Irish Republican Army (IRA) that the response to loyalist violence and HMG repression was not strong enough, led to the founding of a hardline splinter group, the Provisional Irish Republican Army (White and White, 1995; Ó Dochartaigh, 1994). The PIRA began its violent campaign in 1970 and became the dominate IRA group when the Official IRA declared a cease fire in 1972. The founding of the PIRA represented an important shift in the conflict, as the Official IRA believed peace between Catholic and Protestants was necessary for a unified Ireland (Rekawek 2011).

A cycle of radical PIRA actions and state-based repression followed, initiating years of violence and retaliation in Northern Ireland and beyond. The PIRA began targeting HMG troops in 1971, a clear escalation strategy. HMG responded that August by authorizing the mass arrest and internment of Irish Catholic citizens under "Operation Demetrius," part of a broader push to integrate counterinsurgency policy into HMG's conflict response (Ó Faoleán, 2015; Melaugh, N.d.; Sanders, 2018). The original effort involved the arrest and internment of 342 Catholic citizens without trial. Between 1971-75, HMG interned 1,874 Irish Catholics and 107 Protestant sympathizers in HM Maze Prison at Long Kesh, all without trial (Lowry,

1976; McCleery, 2012). It famously subjected prisoners to the abusive "Five Techniques"—prolonged wall-standing, hooding, sleep deprivation, food/water deprivation, white noise—understood in some camps as justified and in others abhorrent (Charters, 1977; Newbery, 2009).

On January 30th, 1972, the Northern Civil Rights Association came out in force to protest the internment policies. HMG troops responded, opening fire into the crowd. Thirteen unarmed civilians were shot and killed that day by HMG Army's Parachute Regiment and other units on "Bloody Sunday," which fueled support for the Republican movement. Arms and funds poured in for the PIRA from international sources, largely the US and Libya, but also from Ireland (Ó Faoleán, 2014). The violence of 1972 also led to direct rule of Northern Ireland from Westminster, as well as the suspension of Stormont, Northern Ireland's parliament (English, 2003).

In 1972 the PIRA took the offensive. In addition to bombing attacks on the British mainland, the PIRA detonated at least twenty-two bombs in central Belfast in what came to be known as "Bloody Friday." The attack represented a significant escalation, with a greater number of bombs planted, diminished warning to civilians, and an expanded array of targets, including some civilian centers. Bloody Friday heightened HMG's sense of urgency in suppressing the PIRA threat, and shortly after the government responded with Operation Motorman, a campaign to capture the PIRA controlled areas of "Free Derry," which induced many PIRA leaders to flee across the Irish border (Bennett, 2010; LaFree, Dugan and Korte, 2009). The high civilian casualties on Bloody Friday also fostered resentment against the PIRA among civilians, even within Catholic communities. This resentment, alongside the PIRA's killing of Jean McConville—who, while accused of being an informant, was also a single mother of ten children—proved to be public relations disasters for the movement, affecting

everything from tactics to recruitment. The founding of the Irish National Liberation Movement (INLA, an Official IRA splinter group) in 1974, alongside increasing divisions among Protestant groups, likewise complicated the landscape and escalated tensions.

Over the course of the conflict, each major actor adopted a wide range of strategies and tactics, including both violence and nonviolence, and aimed at civilian audiences and combatants in Ireland, the UK, and abroad. Republican groups, from the PIRA to splinter groups such as the Continuity IRA and the Real IRA, carried out bombing and assassination campaigns, propaganda campaigns, and prison hunger strikes. The targets of these actions vary—pubs, security forces, government officials, shops, public offices, civilian centers—as do the locations in which they take place—Northern Ireland, Great Britain and even the European mainland. In the conflict's early years, indiscriminate violence was pervasive, both from militants and the government (Gill et al., 2014).

However, in the face of the harsh realities of a long struggle and the certainty that decisive victory was implausible, groups fighting HMG, the PIRA in particular, made a tough (and in some quarters unpopular) decision to shift towards a strategy of attrition and to become more discriminate in target selections. Termed the "Long War" campaign in 1977, this approach moved away from total victory as a short-term objective and adopted a long view towards attaining Republican goals.

When these changes failed to deliver results, the movement leadership shifted strategies again and began investing in the political system through the political arm, Sinn Fein. Between 1981-89, the Republican movement increasingly—though far from exclusively—relied on non-violent tactics—the 1981 hunger strike, for example. But it was the failure of the PIRA's Libyan-supported "Tet Offensive" that forced the movement to consider peace (Moloney, 2007). Ultimately the Good Friday Agreement (1998) marked the

end of the conflict for most, though violence persisted for groups like the Continuity and Real IRA (McDonald, 2012). The conflict has shaped life in Northern Ireland through the years, especially concerning understandings about violence as a tool to achieve political objectives (Feldman, 1991).

Data and Methodology

This article draws on a variety of data sources to examine decision-making within the PIRA and other groups fighting during the Troubles, including: Official IRA, Irish National Liberation Army (INLA), and REAL IRA. We began by compiling a list of major strategic decisions made within these groups over time. To be included in the dataset, a decision had to be made by group leadership, be of sufficient size/importance to be well-documented in scholarly historical texts, and to constitute a major policy shift of some kind (e.g., a decision to splinter, form a new political party, wage new forms of violence, change group structure, disband, ceasefire, sue for peace, attack a new location, etc.). The decision to begin bombing in Britain after previously only bombing in Northern Ireland, as well as the choice to pursue peace, are both examples of such major decisions. Where possible, we augment this secondary source information with primary data from 8,430 security-related archived pages from the British Prime Ministers' Correspondence Files between 1969-1974. These files were declassified in the early 2000s and provide insight into the type and intensity of repression that Republican groups were facing during this time period. Finally, we consulted conflict experts to back-check the accuracy of our characterizations of key decisions.

Overall, we catalogued thirty-one decisions that were factually rich enough to describe internal decision-making process and the strategic environment at the time the decision was made. While our approach introduces a potential bias in our data in favor of larger, more

consequential decisions, we believe that we have captured the bulk of critical junctures and significant decisions taken by the PIRA, Official IRA, INLA, and REAL IRA during the Troubles. In the section entitled "Supplementary Information", we include our coding ontology and the list of decisions used in this analysis.

To demonstrate the flexibility of these methods, as well as to evaluate the robustness of our initial analysis, we perform a separate evaluation for decisions made only by the PIRA, which was by far the largest and most consequential of the groups challenging British sovereignty. If the same factors that explain decision-making patterns across these groups also explain decision-making within them, then it should provide additional support as to the accuracy of our findings.

Reducing Uncertainty

We analyze the decision-making data using a method drawn from information science and developed by Drozdova and Gaubatz (2014). This method is designed primarily for small-n samples (approximately five – forty observations), and evaluates how much each variable of interest reduces the uncertainty associated with the value of a binary dependent variable. It allows us to isolate the impact of a given independent variable on explaining the presence or absence of an outcome. In doing so, we can partially bridge the gap between quantitative and qualitative research by synthesizing "empirical confidence" gained from statistical studies (e.g., mathematical estimation of uncertainty reduction) with the "in-depth understanding generated by more focused cases" (Drozdova and Gaubatz, 2014, 633).

This method is not designed to replace qualitative or quantitative analysis; it cannot perform like a traditional statistical analysis across a large universe of cases, nor can it provide the depth of understanding, nuance, or analysis of mechanisms that rich qualitative studies

offer. The numbers generated should not be interpreted in the same way as regression analysis, nor do they fall prey to the same pitfalls (e.g., omitted variable bias). Rather, it draws on information theory, especially the study of uncertainty, which makes no conjectures about the distribution of data or other base statistical assumptions, to offer a means "to systematically rank order and compare the impacts of multiple factors that emerge from. . . qualitative analysis" (Drozdova and Gaubatz, 2014, 634). Thus, researchers must first perform a rigorous, structured, and focused comparison of the phenomena of interest using qualitative methods (King, Keohane and Verba, 1994; Van Evera, 1997). Its basis in information theory and focus on how individual variables reduce the uncertainty of an outcome distinguishes this method from Qualitative Comparative Analysis (QCA), a prominent technique for small-n case study analysis that is rooted in set theory and Boolean algebra and focused on identifying conjunctions of multiple variables needed to produce an outcome (Ide and Mello, 2022).[1]

The mutual information criterion provides a quantitative measure of the uncertainty around a positive or negative value of a dependent variable. Mutual information, which is used frequently in machine learning, is effectively a measure of dependence between two pieces of information. It tells us how much we learn about one piece of information by observing or knowing things about another. While this approach cannot determine causality, it can tell us how much a given independent variable (*X*) reduces uncertainty around the presence or absence of a particular outcome (*Y*). Importantly, it can tell also tell us whether one variable is more or less meaningful than another in predicting an outcome (Z). In this way,

[1] It is possible that the two methods could be combined in a complementary manner in which the uncertainty reduction screens out uninformative variables, thereby easing the problem faced by QCA in which the demand for the number of empirical cases rises exponentially with the number of variables.

we can quantify and rank the impact that different independent variables can have on the likely value of a binary dependent variable.

Information theory, which serves as the root of this method, is designed to estimate uncertainty in particularly "noisy" environments (Drozdova and Gaubatz, 2014, 636). It boils down to four steps – quantify, count, compute and compare. First, the researcher assigns one or zero values to all criteria of interest. Thus, one must construct a set of mutually exclusive binary variables for each category of interest. In this study, we disassemble categories such as "change" into binary variables such as "increase" and "decrease". After converting all metrics, both independent variables (*X*) and the outcome variable (*Y*) to binaries, one must count the number of times the outcome (*Y*) and the explanatory variable of interest (*X*) co-occur, and estimate the conditional probabilities. Perhaps more familiar to political scientists, conditional probabilities are, in the context of Bayes Theorem, the means of estimating the likelihood of a given outcome occurring given that another event has already occurred (e.g., the probability of A happening given that B has happened).

The third step requires the computation of information entropy, the uncertainty surrounding the value of an outcome absent further information. A DV has an entropy of one when the two possible outcomes—success and failure—are equally likely (occur the same number of times in the data). Information entropy is given as $H(Y)$, the conditional uncertainty (entropy of *Y* given knowledge of *X*) given as $H(Y|X)$, and the mutual information criterion (uncertainty about the outcome that remains given our knowledge of other factors, e.g., *X*) given as $I(Y\,;X) = H(Y) - H(Y|X)$.

This method allows the reader to understand more about the uncertainty surrounding the dependent variable (*Y)*. For each independent variable, $H(Y|X)$ measures how uncertain we are about whether or not the DV (*Y*) will be one (rather than zero) given that *X* is present

or absent. $I(Y; X)$ tells us how much knowing X reduces uncertainty around the likely value of Y. If this criterion is close to zero, then knowing X tells us almost nothing about the likely presence or absence of Y. The closer $I(Y; X)$ is to $H(Y)$, the more confident we are that X has predictive power for the outcome Y. In the social sciences, it is unlikely that any X will achieve perfect uncertainty reduction (e.g., $I(Y; X) = H(Y)$) as most of outcomes of interest result from a tangle of different factors.

It is important to emphasize that this method does not operate in the same manner as regression analysis. The variables included are not "controlling" for anything and the absence of key variables does not affect the uncertainty estimates of others. Rather, each variable is evaluated only in reference to how much its presence or absence reduces uncertainty around the value of the outcome variable Y. This method remains vulnerable to concerns over identifying causation, as well as possible spurious correlation – indeed it is not designed to make causal claims, simply to identify the importance of one variable in determining the likely value of another. It also is unable to reveal whether there exists some third factor that influences both X and Y, as well as how individually defined variables might interact with one another. This method ranks factors and can provide quantitative assessments of their importance; the top-level factors are those that matter more, though there is no particular threshold value that indicates relevance. The closer the mutual information criterion (MIC) value is to zero/one, the less/more the independent variable tells us about the probable value of the outcome.

Despite these limitations, this method allows for levels of insight and rigor that have not previously been possible with our research question using either qualitative or quantitative methods. To complete the steps above, we analyze the impact each binary variable has on the dependent variable using joint and conditional probabilities to calculate

the mutual information criterion. Data are displayed in Table 1. Overall, our dataset contains information on thirty-one group decisions, coded across four groups within the Republican Movement: Official IRA (three decisions), Provisional IRA (nineteen decisions), INLA (three decisions), and Real IRA (six decisions). Two decisions in the dataset were coded as neither escalatory nor de-escalatory: the founding of the political party, Sinn Féin, and the movement's response to infiltration by HMG spies, which precipitated a move towards a "Long War Campaign". Additionally, data limitations precluded us from collecting data for all variables for every decision made. The number of decisions for which data for a particular variable was sufficient to decide include: Leadership—twenty-six; Repression—thirty-one; Resources—nineteen; and Civilian support—twenty-nine.

Table 1

Variable	**Esc = 1**	**Esc = 0**	**De-esc = 1**	**De-esc = 0**
Hawks in power = 1	12	3	2	13
Hawks in power = 0	5	6	6	5
Doves in power = 1	4	1	1	4
Doves in power = 0	13	8	7	14
Repression increase = 1	7	3	2	8
Repression increase = 0	13	8	7	14
Repression decrease = 1	3	2	2	3
Repression decrease = 0	17	9	7	19
Resources increase = 1	8	2	1	9
Resources increase = 0	3	6	5	4
Resources decrease = 1	1	2	1	2
Resources decrease = 0	10	6	5	11
Civilian support increase = 1	6	3	1	8
Civilian support increase = 0	12	8	8	12
Civilian support decrease = 1	5	7	7	5
Civilian support decrease = 0	13	4	2	15

Descriptive Statistics—counts of IV/DV overlap

Results

The results of the analysis are presented in Tables 2 and 3. Table 2 contains the results for all groups, while Table 3 contains results for the PIRA-restricted decision set. In each table, the variables are presented in rank order according to their Mutual Information Criterion (MIC), which expresses their relationship to the outcome variables: Escalation and De-escalation. Note that Escalation = 1 includes decisions that caused an escalation, whereas escalation = 0 could reflect either a de-escalation or no effect. The closer MICs are to 1, the greater the variable's influence on the outcome. "D" refers to the direction of effect. If D = 1 then the variable in question positively influenced the outcome; whereas if D = -1, then the variable had a negative influence.

Our most consequential findings concern resources, leadership, and civilian support. There is a clear break between the MIC values of *Resource increase*, *Civilian support decrease*, and *Hawks in power* and the remaining five variables, indicating that they are, in a relative sense, much more consequential in reducing uncertainty around what influenced decision-making. While their rank ordering changes slightly among the two samples, and among escalatory and de-escalatory decisions, these three variables collectively remain the most powerful determinants of group decision-making. Most of the remaining variables also reduce uncertainty, but significantly less than the top three. There is some variation within the top grouping, though not as much as that between the top three and the other five. The "NA's" listed for *Doves in Power* and *Repression decrease* in Table 3 reflect the fact that there was no one in power within the PIRA when the sample decisions were made who sought a more peaceful path, nor were there any significant declines in HMG repression prior to or during these decision-making processes.

Table 2

	Entropy of Y	Cond. Entropy	MIC	D	DV (Y)

Resources increase	**0.982**	**0.815**	**0.167**	**1**	**Escalation**
Hawks in power	**0.931**	**0.837**	**0.094**	**1**	**Escalation**
Civilian support decrease	**0.958**	**0.867**	**0.091**	**-1**	**Escalation**
Resources decrease	0.982	0.949	0.033	-1	Escalation
Doves in power	0.931	0.913	0.017	-1	Escalation
Repression increase	0.938	0.934	0.005	-1	Escalation
Civilian support increase	0.958	0.955	0.003	-1	Escalation
Repression decrease	0.958	0.937	0.001	-1	Escalation
Resources increase	**0.900**	**0.716**	**0.183**	**-1**	**De-escalation**
Civilian support decrease	**0.894**	**0.712**	**0.182**	**1**	**De-escalation**
Hawks in power	**0.890**	**0.747**	**0.143**	**-1**	**De-escalation**
Civilian support increase	0.894	0.826	0.068	-1	De-escalation
Repression increase	0.869	0.855	0.014	1	De-escalation
Doves in power	0.890	0.881	0.010	1	De-escalation
Repression decrease	0.869	0.861	0.008	1	De-escalation

Results from uncertainty reduction analysis for all decisions.

Table 3

	Entropy of Y	Cond. Entropy	MIC	D	DV (Y)
Resources increase	**0.982**	**0.815**	**0.167**	**1**	**Escalation**
Civilian support decrease	**0.982**	**0.826**	**0.156**	**-1**	**Escalation**
Hawks in power	**0.977**	**0.854**	**0.124**	**1**	**Escalation**
Resources decrease	0.982	0.949	0.033	-1	Escalation
Repression increase	0.982	0.950	0.032	1	Escalation
Civilian support increase	0.982	0.982	0	-1	Escalation
Doves in power	NA	NA	NA	NA	Escalation
Repression decrease	NA	NA	NA	NA	Escalation
Civilian support decrease	**0.900**	**0.626**	**0.274**	**1**	**De-escalation**
Hawks in power	**0.937**	**0.716**	**0.221**	**-1**	**De-escalation**
Resources increase	**0.900**	**0.716**	**0.183**	**-1**	**De-escalation**
Repression increase	0.900	0.837	0.063	-1	De-escalation
Civilian support increase	0.900	0.837	0.063	-1	De-escalation
Resources decrease	0.900	0.900	0	1	De-escalation
Doves in power	NA	NA	NA	NA	De-escalation
Repression decrease	NA	NA	NA	NA	De-escalation

Results from uncertainty reduction analysis for PIRA decisions.

Overall, these results corroborate several of the expected hypothetical relationships discussed in the previous section. First, we find resource access to be the most powerful decision-making factor. This variable exerts the strongest influence on both escalatory (+) and de-escalatory (-) decisions in the full sample, and on escalatory decisions in the restricted

sample. Moreover, in the full sample, *Resource increase* exerts a substantially larger influence than either of the other top-two variables. This finding indicates how vital resources are to militant movements. Without weapons and the financing to use them, groups are simply less able to escalate violent campaigns. With these resources, not only are groups more likely to escalate, they are also significantly less likely to de-escalate.

Second, we find that leadership matters to the militant groups in our sample, especially as it relates to the strategic use of violence. We also find that the content of leader's preferences—a factor largely left out of prior attempts at quantitative modelling—varies in its impact on the outcome. Having hawkish leadership reduces uncertainty surrounding both escalatory (+) and de-escalatory (-) decisions to a greater extent than most of the other variables. However, dovish leadership does not significantly reduce the uncertainty surrounding either escalatory or de-escalatory decision-making.[2] A likely reason for this divergence is that because militant groups by their nature are predisposed towards violence, leaders with a preference for escalation are on average likely to wield greater influence than those who call for de-escalation. Nevertheless, while our findings provide measured support for works in the decapitation literature (e.g., Byman, 2006; Johnston, 2012; Morehouse, 2014) which argue that culling leadership is an effective means of reducing a group's capacity for violence, they also indicate that which leader is removed can have a determinative effect.

Third, civilian support plays a role in militant decision-making, though primarily as a predictor of de-escalation. A loss in civilian support has the strongest positive association with

[2] The leadership variables were coded according to the statements, opinions, and characterizations of leaders from contemporary observers and the leaders themselves in the lead up to making a strategic decision. The decisions themselves had no bearing on a leader's coding as a "hawk" or "dove".

de-escalatory decisions among all the variables examined, as well as one of the strongest negative associations with escalatory decision-making (H2). However, an increase in civilian support does not generate the inverse effect; it has a relatively minor negative association with de-escalatory decisions, and almost zero association with escalatory ones. We interpret these findings to reflect the importance of civilian backing to militant movements, as recalcitrant civilians, who often have intimate knowledge of militants' whereabouts and planning, can hinder attacks by cooperating with authority figures. Moreover, civilians provide intelligence, labor power, and resources to militant groups, which can enable them to function. When civilian support is high, groups have more flexibility to make decisions based on other considerations. However, when support declines, the loss can change a group's political calculus to a significant degree, leading to de-escalatory decisions that might not have otherwise been made. Civilians are especially critical for groups in territorial separatist conflicts such as The Troubles, where group legitimacy (in addition to group survival) is predicated on the ability to represent popular will.

Finally, we find little evidence that state repression is associated with either escalatory or de-escalatory decision-making to any meaningful degree, at least in this case. Indeed, these findings reject the conclusion that state repression will significantly alter a militant groups' decision-making around the use of violence (H4). This finding provides a contrast to prior works that argue that violence and repression provide the best means of preventing escalatory attacks. It also undermines the empirical rationale for policymakers considering a repressive crackdown, especially if doing so enables militant groups to maintain or build support from civilian populations.

Taken together, these findings reflect the complexity of terrorist decision-making, a process rarely driven by singular forces. In the case of the Troubles, and perhaps other groups

with similar goals and characteristics, we find that the most important factors in reducing uncertainty around escalatory decision-making to be guns, money, and leaders who are pre-disposed to use them. A stable base of civilian support creates the flexibility for groups to act on leaders' preferences. In contrast, losing civilian support is critical to de-escalation. Without civilians, groups such as the PIRA and others, are simply less secure and less capable of waging violence, and thus more likely to take actions that relax tensions.

An example of these dynamics' collective impact can be seen in the PIRA's decision to escalate the conflict with terrorist bombings on what became known as "Bloody Friday." Following "Bloody Sunday", the PIRA planted a series of bombs in central Belfast on 21 July 1972. The group sent out warnings less than an hour before the bombs were set to explode. Overwhelmed by the number of bombs, the security services were able to inactivate only a few of them and twenty-two exploded. While the PIRA claimed the bombings were not intended to kill, many of them occurred without enough notice to avoid civilian casualties (English 2003, 159; Taylor 2014, 362). This event represented a significant escalation in violence for the PIRA.

The purpose of this attack is contested; some see it as a response to Bloody Sunday while others view it as an attempt to pressure the British government to negotiate (Ó Dochartaigh 2015). Nevertheless, leadership was a critical factor in the attack (Reinisch 2019). Accounts suggest Sean MacStiofain (Chief of Staff of the PIRA) had planned a bombing campaign to destroy economic infrastructure in advance of the talks. However, most believe that Bloody Friday, as the attack came to be known, was "…planned by Twomey...Adams did not initiate Bloody Friday but was involved in its organization" (Moloney 2007, 117). In any case, Seamus Twomey, who at that time was in the leadership of the Belfast Brigade of the IRA and who become PIRA Chief of Staff in 1974, decided to implement it. Some sources say

that Brendan Hughes, the Operations Officer of the Belfast Brigade, executed the bombings, but still gave credit to Twomey for planning them (Moloney 2007, 105). The decision-making process is understood to have spanned several months, and was first proposed, then put to the side after the peace talks were called, then used to retaliate when they were called off.

Twomey's role as a hawk is especially important in understanding how events unfolded. Many accounts indicate that Twomey proposed violence at every stage of the conflict. "Adams and Bell were convinced that Twomey was "too fiery" for the new circumstances and they combined to persuade him to quit Belfast and move to Dublin;" in September 1972, Adams replaced him (Moloney 2007, 118). Others describe Twomey as a "die hard" willing to fight at any cost: "Various die-hard Provos, such as Seamus Twomey of the Belfast Command, wanted to fight on—'one big push to finish it once and for all' being their raison d'etre, regardless of the risk, or certainty, of civil war" (McGuffin 1973). While many people had their hands in this attack, one of this magnitude would have been unlikely to take place without Twomey's hawkish influence.

Resources also played a significant role in motivating the attack. At the time, the PIRA were thought to have armament supply lines from the Republic of Ireland (PREM 15 1010 005-019). The group was also receiving arms from Libya and from sympathizers in the United States in 1972 (English 2003, 117). There is some evidence that the PIRA obtained weaponry from the Basque group ETA, but this might not have begun until 1973. While more than 700 weapons and two tons of explosives were captured in a raid at the end of 1971, most of it had been replaced by mid-1972 (English 2003, 117). Moloney (2007) describes early 1972 as having "plentiful armaments" for the PIRA. Consistent with our analysis, this easy access to munitions undoubtedly made the Bloody Friday attack easier to plan and execute, and a decision to take such measures would have been highly unlikely without it.

In the lead up to Bloody Friday, the PIRA enjoyed a relatively robust civilian backing (Ross 2011, Kane 2019). The group played an important role in protecting the Catholic community, though many newer and younger recruits also joined simply because they 'despised' Protestants (Smith 2002, 93-98). The PIRA was also riding a surge in recruitment following Bloody Sunday (English 2003, 158; Moloney 2007 117). Even some Protestants supported the PIRA because they felt the group was necessary for maintaining community defense (Smith 2002, 92-94). Overall, these sentiments provided a solid base of support for the group, and gave it the confidence and flexibility necessary to execute the attack. While high civilian support for the group was not necessary, it is unlikely that the PIRA would've made such a significant escalation without it. Not only would've been more difficult to maintain the secrecy required to plan and plant the bombs, it also would've undercut the rationale for the attack, which was conducted, in part, to compel HMG to negotiate with the PIRA as representatives of the Catholic population in Northern Ireland.

HMG repression was a significant feature of this conflict and has been shown to increase civilian support and resistance (White, Demirel-Pegg, and Lulla 2021; Mathieson 2021). However, while repression did not play a significant part in directly motivating the attack, it likely contributed to increasing the PIRA's civilian support. HMG had significantly more supplies than the PIRA, more dedicated resources and clear military superiority. Yet, the struggles of navigating the political tensions within the population and the backlash over the use of force against targets in civilian centers meant that HMG could not rely on conventional modes of operation. The image and popularity of HMG suffered both in response to Bloody Sunday, and as a backlash against the introduction of internment, which began on 10 August 1971 and expanded rapidly (English 2003, Moloney 2007). Though accounts differ as to the purpose of the Bloody Friday bombings, the PIRA likely saw the attack as revenge for the earlier HMG

attack (Moloney 2007, 110-117; English 2003, 155-158). Thus, the symbolism and impact of Bloody Sunday encouraged the PIRA, while the lack of steady and persistent pressure enabled them to escalate.

While the Bloody Friday attack is only an example, it highlights how numerous factors can work in concert to create the conditions that lead to (in this case) a significant escalatory decision. This example also reveals the utility of the methodology used to investigate these dynamics. With these techniques, qualitative researchers can identify in a systematic and replicable way which factors are of relatively greater or lesser importance across observations, then use that awareness to guide assessment in individual cases. In our case, this technique enabled us to provide key insights into the determinants of group decision-making within the Irish Republican movement.

Conclusions

In this article, we employ a novel methodology to address an empirical question that has been notoriously difficult to study: the determinants of decision-making within militant groups. We analyze four variables revealed in civil war and terrorism literatures to hold significant explanatory power—leadership, resources, civilian support, and state repression—and evaluate how much each reduces uncertainty surrounding decisions to escalate violence. We find leadership characteristics and a group's access to material resources to be the most significant determinants of escalation. While civilian support does not appear to correspond to an escalation, its decline is strongly associated with de-escalation, a finding which provides further evidence that civilian preferences can be critical in asymmetric conflicts. Finally, state repression had little to no impact on the uncertainty surrounding decisions to escalate or de-escalate violence.

As with any study of a single case, future research should consider how these findings generalize to other cases, and across group types. Yet, this study does offer some important insights into militant group behavior that could be relevant to scholars and policy-makers. First, our findings regarding leadership and leader preferences are germane to the logic of movement decapitation: Removing leaders does not guarantee de-escalation if the leader targeted was a dove, or if a hawk is replaced by another, and possibly more radical, hawk. However, leadership removal might reduce the threat of violence if it is done in the context of waning civilian support. Next, while state repression could influence militant behavior in other ways, our study casts doubt on the idea that groups will necessarily respond to increasing repression by reducing their attacks. This finding might also reflect the importance of civilian populations, as greater force from the state can facilitate the alignment of civilian and militant preferences and lead to greater civilian support for militancy. Finally, our findings on the importance of resources, especially weapons and financing, indicate the need for diligence in limiting militant access to them as a means of de-escalating violence.

Overall, our analysis is significant for what it reveals about correlates of militant violence, but it is also significant for its application of a new methodology, one which leverages information science and the study of uncertainty to estimate variable influence in cases with relatively few quantitative observations. In our case, these techniques enabled us to draw on a wealth of qualitative scholarship to determine the relative importance of multiple variables found in prior work to explain variations in group behavior. In doing so, we are able to move beyond works highlighting monocausal explanations, as well as to illustrate the complexity inherent in decision-making processes. Although these techniques are not without their drawbacks—especially the need for extensive case-specific data—they do offer an opportunity to address a wide range of social science and security-related questions.

Future research would do well to examine the contingent nature of our findings and how they apply in other contexts, as well as to estimate in a more systematic way how the variables involved might interact with one another to produce different outcomes. Moreover, we recommend that scholars consider not only adopting the method used in this analysis, but developing it by, for example, combining it with other methods such as QCA to create even more rigorous and systematic approaches to analyzing qualitive data.

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