New "Weapon of the Weak": Religiosity in Jihadist Propaganda

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Abstract

Radical religion characterizes the most recent wave of terrorism. How do the violent groups exploit this ideological "brand" in maintaining the organizations? In Jihadist propaganda, this paper seeks an answer and theorizes that these groups favor religiosity when facing setbacks and shift toward secularism as their power increases. This is because small groups prioritize their core members who advocate radical fundamentalism, while their larger counterparts need broader support from the secular world. Empirically, I collect an original database of 121 magazines from 32 Jihadist groups from 1984 to 2019 and use a semi-supervised machine learning algorithm to scale these documents on a "religiosity – secularism" spectrum. Tying this measure to the violence data, I show that the proportion of religious rhetoric is negatively associated with several indicators of group strength – a pattern holds both across groups and over time. To examine the mechanism, I leverage more than 18 million tweets from ISIS-related accounts in 2015. Evidence substantiates that group power affects religious rhetoric through attempts to coordinate different types of audience. These results respond to an urgent policy need to shift military efforts from uniquely eliminating exiting extremists to stronger battles against recruiting fighters, particularly through Jihadist media.

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Violent groups often invoke values and ideologies, advertising their "brands" while maintaining the organizations and recruiting new members. In particular, radical Islamists promote their religious "brand" with the aim of establishing a society under Shari'a law. This religious force has quickly evolved into the fourth (i.e., the current) wave of terrorism, causing more deaths than their non-religious counterparts (Gaibulloev and Sandler, 2019; Piazza, 2009*a*; Toft, 2007). Both the academic and policy communities have realized the importance of violent groups' ideological pursuits, yet we know little about these extremists' own interpretation of their beliefs or the determinants of their public discourses. How do these radicals' words relate to their actions? What is the role of these public narratives in the groups' overall strategy? To answer these questions, I examine Jihadist groups' (i.e., radical Sunni Islamic groups'[1]) ideological promotion efforts in the form of propaganda in relation to their group powers. Through this process, this paper brings violent attacks and non-violent propaganda in the same unified framework, while existing literature more regularly studies either but not both of these tactics together.

Specifically, this paper scrutinizes "religiosity" and "secularism" in Jihadist groups' propaganda. The main argument is that groups, when weak or facing setbacks, are more likely to share religious messages. They need to secure a small coalition with core members by stoking these members' beliefs in "God's will," "afterlife," etc. Conversely, they, when strong or expanding the organization, bring in more secular narratives to appeal to a wider audience who has heterogenous preferences. That is, in contrast to existing literature and popular views that bind Islamism and violence together, I show that religion is most emphasized when radicals commit the least attacks. I thus name this theory "the new 'weapon of the weak'," where the concept – "weapon of weak" – was originally introduced by Crenshaw (1981) to illustrate that terrorism, despite its lethality, indicates rebels' weakness.

To empirically illustrate the groups' propaganda strategy, I collected 121 magazines in 11 different languages from 32 Jihadist groups recorded in the TRAC database, Jihadiligy.net,

[1]Radical Shi'a groups are much fewer than radical Sunni groups.

or Jihadi Document Repository. These periodicals each release multiple issues, with dates of publication spanning from 1984 to 2019 (mostly after 2010). Using a semi-supervised keyword-based machine learning algorithm adapted from King, Lam and Roberts (2017), I place each page of text on a "religiosity – secularism" spectrum. I obtain violence data by integrating events from *Uppsala Conflict Data Program - Georeferenced Event Dataset (UCDP-GED)*, *Global Terrorism Database (GTD)* and *Armed Conflict Location & Event Data (ACLED)* as suggested by Donnay et al. (2018) to get comprehensive information on each groups' activity. I then tie the violence data to the propaganda data and show that the proportion of religious rhetoric is negatively associated with several indicators of group strength, including total violent events, state-based battles, and attack precision[2] – this pattern holds both across groups and over time. Such a relationship, as expected, does not hold with terrorist attacks, which themselves have been characterized as a "weapon of the weak."

I then test the suggested mechanism with regard to the need for different coalition sizes using a database containing more than 18 million Twitter posts from around 16.5 thousand unique ISIS-related accounts in 2015. I, again, use the above-mentioned machine learning algorithm to discover religious and secular keywords from the Twitter corpus and give each tweet a religiosity score. Group power is now measured by ISIS daily territory control. Results show that increase in power incentivizes the group to reach out to (measured by mention or @) more people outside of the exiting network, resulting in more secular rhetoric. From the receivers' side, I also find evidence that a tweet with higher religiosity score is more likely to be retweeted by core members than by peripheral or non-members.

Drawing evidence from these results, this paper makes several contributions. The illustration on Jihadists' intertwined violent and rhetorical strategies highlights an urgent policy need to shift military efforts from uniquely eliminating exiting extremists to stronger battles against recruiting fighters, particularly through media. The finding that Jihadist groups

[2]Attack precision refers to soldier deaths as a proportion of total deaths in state-based battles.

pursue secular goals, like their non-religious counterparts, but only foreground religiosity as their last resort demystifies the puzzling association between Islam and violence at the macro-level. This paper thus expands the academic understanding on the cause of the global Jihadist movement since 1979 and, more broadly, on the role of religion in modern warfare. Finally, the theory, though focused on religious extremists, has profound implications for studies on other ideology-oriented violent extremists: white supremacists, anarchists, nationalists, etc.

Ideology and Violence

Albert Camus famously wrote: "Not every value entails rebellion, but every rebellion tacitly invokes a value." (Camus, 2012, p14) The value that a violent group embraces – religious, leftist, rightist, nationalist, etc – is the brand that it is known as around the world (Costalli and Ruggeri, 2015). This brand defines the group's aims and makes it a political actor. Thus, just like other political and economic actors, these violent organizations also have branding incentives in order to rally followers and deter competitors (Tokdemir et al., 2020). Because such a brand condenses the values and ideals that are worth a group's while to fight for, it largely explains the group's behaviors (Sanín and Wood, 2014). Existing literature suggests that rebels with different ideologies often behave differently with regard to member selection and battlefield strategies (Piazza, 2009*b*; Wood and Thomas, 2017)

The ideological brand, however, is not set in stone but constantly subject to interpretation. Scholars have only recently started to pay attention to the shift in ideology in military organizations' public statements (Tokdemir et al., 2020). Usually, an ideological concept such as "religiosity" and "nationalism" contains much richer content than its name suggests and slightly different interpretations of these concepts could lead to very different political claims (Nielsen, 2017). As a result, the leaders of military organizations often exploit these nuances, changing public discourses under different circumstances to meet their strategic

needs (Tokdemir et al., 2020).

Specifically, military organizations disseminate discourses through propaganda to mobilize, recruit, and exercise control over members. By revisiting and retouching its ideological brand, an organization identifies a constituency, socializing like-minded individuals into a coherence group and distancing them from the outside world (Sanín and Wood, 2014; Ugarriza and Craig, 2013). This process is strategic in nature because, while designing the discourses, the organization sets expectations for their prospective members and simultaneously takes into account external factors such as the presence or absence of rivalries (Tokdemir et al., 2020). From the prospective members' standpoint, the ideology promoted by the group is vital in their decision to join the fight (Ugarriza and Craig, 2013). Actually, the more a person commits to an idea, the more (s)he weighs ideological attraction over material goods. This is particularly true for religious organizations. The religious identity gives them credibility. These organizations are thus able to "buy" fanatic believers with little material benefits because, for these believers, spiritual services are more important benefits (Berman, 2011; Sanín and Wood, 2014; Weinstein, 2005). Therefore, Islamic radicals could build an "imagined community" using their religion and maintain its internal coherence even when many members do not personally know one another (Shapiro, 2013). This partly explains why several Jihadist groups has survived and thrived in the past decades.

Islamism and the Jihadist Movement

Religion characterizes the fourth (i.e., the most recent) wave of terrorism (Rapoport, 2004, 2006; Shughart, 2006). Religious violent groups are not only the most common type to emerge after 2001 but also the most lethal type (Berman, 2011; Gaibulloev and Sandler, 2019; Piazza, 2009*a*; Toft, 2007). Jihadism (i.e., radical Sunni Islamism), in particular, has a central role in modern warfare. Jihadist groups have been mobilizing people from around the world to kill in the name of God. This fact draws scholars' attention to not only these

groups military tactics, but also their ideological pursuits.

The Dichotomy of Religiosity and Secularism

The Jihadist movement demands a unified Islamic society where shari'a is the constitutional foundation. This utopian outlook follows a long tradition of Islamic thinking started at least from the Ottoman Empire (Feldman, 2012). In the Islamists' ideals, religion rules almost every aspect of society from building the Caliphate to praying for inner peace at home (Bonner, 2008). Although seeming like a totalistic world order to many, this utopia is considered as a solution to all existing societal problems by its advocates. Therefore, voices calling for a return to Islam have never stopped throughout the entire twentieth century (Feldman, 2012, 20). Since 1979, these calls have been increasingly answered with violent attempts (Hegghammer, 2010). The word "Jihad" took on a connotation of "fighting." Simultaneously, the Jihadist movement became a revolutionary force, which quickly expanded to a global scale.

In this movement, the Jihadist leaders dichotomize the world into "one of faith [and] the other of unbelief" (Bin Laden, 2005, 103). The conflict between religiosity and secularism is core to Jihadism (Blaydes and Linzer, 2012). Jihadists explicitly fight against democracy because the idea that people – rather than god – rule a nation fundamentally challenges Shari'a (Rapoport, 2004). Taking advantage of their religion, these extremists not only define their own people but, simultaneously, distance these people from all others. It is worth noting that the religion that these violent extremists embrace is a narrow and distorted interpretation of Islam and is different from what most Muslims in the world believe. They fight proactively against any deviation from their interpretation, attacking Shia Muslims, Hindus, Christians, and Atheists and condemning them as heretics and apostates (Gerges, 2017).

The tension between religiosity and secularism, however, does not mean that Jihadist groups completely discard the secular logic. On the contrary, Islamists pursue worldly goals

like any other political actors (Feldman, 2012, 3). In doing so, they have even reconstructed a set of concepts that were originally absent from the Islamic doctrine to accommodate organizational needs. For instance, a nation-state defined by territory is a secularized version of ummah (Roy, 1994, 17). Jihadists have accepted the secular notion of state, switching from fighting for a Utopia without territory to fighting for territory. Al Qaeda's claim that "America will not enjoy security until we live it in Palestine" is one of the examples showing Jihadists' territorial resolution (AQAP, 2010). Likewise, the idea of Islamic economy is also constructed (Roy, 1994, 133). The economy is not regulated by Shari'a but is important for political powers. Although opposing the western values and conducting extensive violence, Jihadist groups are cautious in depicting their compatibility with "universal values" such as human rights (Roy, 2004, 132).

For Jihadist groups, the Islamic ideology as a religious brand is not an unrealistic ideal but a practical tool to recruit people and sustain the organization. They are not satisfied with just an imagined community but they want material support and political power. Therefore, these groups incorporate both religious belief and secular logic in propaganda when it comes to mobilization.

From Individual Obligation to Collective Mobilization

The Jihadist idea has become particularly inciting since Osama Bin Laden reframed it as an individual obligation (Bin Laden, 2005, xvi). According to him, fighting against the infidels is a permanent and personal duty. In his framework, martyrdom (i.e., sacrifice for faith) holds a central place and will reward people in their afterlife. This logic further justifies suicide attacks, which are not found in the Quran but frequently used by terrorist organizations. The emphasis on individual obligation echoes the psychological needs of many lonely fighters who are physically separate from one another. They are marginalized in their nation-state but connected to an imaginary ummah (i.e., a Muslim community) (Roy, 2004, 42). Thus, individual Jihad maintains a loosely organized terrorist group that stays underground most

of the time (Rapoport, 2004).

However, Jihad as an individual obligation requires highly committed believers – a feature vital to the theory later described in this paper. For the dedicated believers, religion is an identity, not an option (Roy, 2004, 35). Accordingly, Jihadist groups highlight kinship and worship for recruiting purposes, as opposed to political positions (Sageman, 2004, 2011). This religious framework ensures loyalty but only appeals to mostly core members.

While highly religious narratives are popular among the most dedicated believers, the secularization of Islam contributes to larger mobilization. A number of potential Jihadist supporters demand more benefits than a rewarding afterlife. They are more likely to support a violent non-state group when the group takes a quasi-state position (Roy, 2004, 69). Therefore, to win a wider audience, Jihadist leaders would emphasize individual obligation less but focus more on what they could achieve as a group. Such a secularization process does not imply forging religiosity. Rather, it keeps the religious brand while accomplishing earthly goals (Feldman, 2012).

Furthermore, a pure secular discussion about a secular government's failure could also help with a religious group's mobilization. Instead of portraying the Islamic Utopia, the Islamists may choose to present the government's negative records in terms of corruption, repression, etc. Once the audience are alienated from that government, they are more likely to tolerate the group's civilian victimization (Berger, 2014). Alternatively, the groups would accuse the secular government's action of undermining the entire Muslim society and then justify their reciprocal actions – violence (Wiktorowicz, 2004, 8). These secular statements do not require the audience to commit much to the religion but could win their short-term support.

New "Weapon of the Weak": A Unified Theory

This paper proposes a theory on military organizations' propaganda strategy termed as the "new 'weapon of the weak'," following Crenshaw (1981) who names terrorism as a "weapon of the weak." The core idea is that violent groups are more likely to emphasize their ideological brand in public discourses when they are relatively weak. In the context of the Jihadist movement, this theory would predict that the radical Islamists favor more religious rhetoric when weak but shift toward more secular rhetoric as their power increases. The mechanism lies in the groups' needs to maintain different sizes of coalitions. While small groups prioritize securing the most committed believers, larger groups appeal to a broader audience with heterogenous preferences.

When violent groups are weak, their priority is to secure the base by stoking their members' religious beliefs. These fanatic believers are more committed to spiritual rewards and less committed to worldly benefits and thus would respond to the religious calls even under difficult circumstances (Tokdemir et al., 2020). While the Jihadist movement generally wants wider support and recognition, managing a military organization requires material resources. That means a weak group needs to fill in its limited spots with the highest quality soldiers. Therefore, religious screening becomes crucial in keeping out the opportunists and free-riders (Weinstein, 2005). By moving further down to the religious end on the "religious – secular" continuum, groups more easily differentiate their brand from other competitors and more precisely target their unique constituents (Conrad and Greene, 2015). Although the competition between different groups is beyond the scope of this paper, it, if exists, gives a Jihadist group an additional incentive to emphasize religiosity while facing setbacks.

Relatively strong groups, on the other hand, appeal to broader audiences with more secular rhetoric. A stronger group takes more initiative on the battlefield and thus needs to build a larger coalition. This larger coalition means a more heterogeneous pool where not all members are equally committed to the religious ideal. More secular logic in discourses

then becomes necessary in engaging the peripheral sympathizers. At this time, the group could afford to let in some opportunists because of the adequate resources. Therefore, as the group expands, it also changes intrinsically because new followers have joined (Foster, 2019). Considering these factors, the secular rhetoric in propaganda not only attracts newcomers but also reflects the internal structure of the organization. Compared with religious statements, these secular statements cover a variety of subjects from local economy to foreign governments. It is apparent that larger groups favor some of these topics involving foreign governments as they conduct "rebel diplomacy" (Huang, 2016).

The proposed theory unifies groups' violent and non-violent (i.e., propagandist) tactics, examining their action and words in the same framework. This unification is critical because violent organizations indeed thought of their militant exercise and their propaganda together, which effort is evident in a letter from Usama bin Ladin to other al-Qaeda leaders: "We are now in a new phase of assessing Jihad activities [...] in two areas, military activity and media releases." Existing literature has well established the relationship between group power and violent tactics: larger armies generally focus on state-based battles, targeting civilians only occasionally, while smaller groups employ more terrorism (Byman, 2005; Carter, 2012). The latter may also cause excess civilian deaths unintentionally because they are not able to precisely hit armed forces (Green, 2018). Building on prior work, the current paper contributes by delineating the relationship between violence and propaganda as well: the more a group confronts government forces, which implies more military power, the less it emphasizes its ideological brand. This pattern is in line with Polo and Gleditsch (2016)'s finding that groups who hit more "'hard' or official targets" have more "inclusive audiences" while groups who attack "'soft' targets or civilians" have more "sectarian audiences." This unified theory thus explains a paradoxical phenomenon: the Jihadists' ultimate goal is to rule the society religiously, but they become less religious as they come closer to that goal. In that sense, religiosity is not the direct cause of the global prevalence of Jihadism. Rather, it is a weapon that ensures a Jihadist-minded organization survives even when it is at a

disadvantaged position.

While both the violent and non-violent tactics are integral parts of the groups' toolkit, violent actions are more resource-demanding and, thus, more constrained by group power. For that reason, this paper focuses on how groups strategically use their words to "match" their actions, although it is possible that the consistent adoption of certain rhetoric might also have an impact on battlefield performance. The strategic nature of propaganda implies that Jihadist groups, rather than "waving the flag" for Islamic extremism whenever possible, carefully design their religious or secular rhetoric to maintain a coalition size that best serves their military actions. In that sense, words become an intangible weapon that compliments guns.

Propaganda becomes particularly important for group mobilization in the internet age (Piazza and Guler, 2019). Internet and instant communication allow an organization to quickly adjust the content they would like to disseminate through online magazines, newsletters, and social media. These technologies then enable it to spread the materials on a global scale without knowing each individual target. Jihadist groups thus rally support as the intended type of audience encounters their narratives (Roy, 2004). Therefore, the empirical analyses in this paper will mostly focus on Jihadist groups' online propaganda.

Group Power and Religiosity: Analysis on Periodicals

An Original Database of Jihadist Periodicals

To begin investigations of Jihadists' propaganda effort, I built an original database of 121 magazines and newsletters in 11 different languages published between 1984 and 2019 from 32 Jihadist groups.[3] These periodicals were originally circulated in PDF format on communication platforms like `WhatsApp` and `Telegram`. I collected these materials via three major online repositories – the TRAC database, Jihadiligy.net, and Jihadi Document Repository

[3]For a full list of the groups and magazines covered by this study, see the Appendix.

– as well as many other individual blogs and webpages, tracking the historical posts using the `WayBackMachine` internet archive if the content had been censored. With extensive internet search, I hand-coded the specific group in charge, publishing languages, publishing date, self-claimed type (magazine, newsletter, etc), and the gender of the target audience.[4] These publications contain a wide range of content and reflect the highest quality of Jihadist groups' statements. The easy-to-circulate format makes them the most prevalent official propaganda materials. Compared with violent tactics, propaganda release as a non-violent tactic is less constrained by equipments and is mostly conducted regularly.

I digitized the entire archive and documented them at the page level using `tesseract`, an *Optical Character Recognition (OCR)* engine. This machine learning program utilizes pre-trained neural networks to recognize characters in each language. It can almost always accurately identify words from printed materials like magazines, although is not particularly good at grouping words into articles given the unconfined layout of periodicals. I thus primarily use a page as the unit of analysis, as was the choice in Karell and Freedman (2019). In most of the cases, one page is in correspondence with one article. The current setup yields about 2,000 issues (unique magazine and unique publishing time) and about 80,000 pages.[5]

To measure religiosity and secularism from Jihadist propaganda materials, I adapted a keyword-based algorithm from King, Lam and Roberts (2017). The goal is to build a customized dictionary of religious and secular vocabularies, given that researchers initially only have some of the keywords but not all of them. Specifically, as preparation, I divide the text at the sentence level, assuming each sentence has cohesive meaning. I then start from a *reference* set where I define the sentences as religious if it contains the word "Allah"/"God" and at least one of following words or their synonyms: "Shari'a," "afterlife," "Muhammad," "messenger," "fatwa," "prophet," and "prayer."[6] With the input *reference* set and a random

[4]Some magazines are specifically designed to address feminine issues. An example of such women magazines is *Beituki (Your Home)* released by al-Qaeda, which is still active at the time of writing this paper.

[5]Results presented below are robust with different units of analysis: paragraph, page, or issue.

[6]The algorithm will eventually discover all related words even when the specified initial words are light

sample of the remaining sentences, I train eight supervised learning algorithms,[7] each of which independently classifies the rest of the documents into a *target* set (i.e., a potential religious sentence set) and a *non-target* set (i.e., a potential non-religious sentence set). Next, research assistants read the high probability words in the *target* set, refining the list to the words certainly conveying religious meanings, and those in the *non-target* set, refining the list to only non-religious words. The involvement of human knowledge makes the method a semi-supervised approach, as opposed to a fully unsupervised one, and ensures that the concepts measured empirically are what I explained theoretically.[8] Finally, I update the *reference* set with the refined words and repeat the classifying process.

One modification from King, Lam and Roberts (2017)'s original paper to meet my "scaling" purpose is that I also clearly define "secularism," as opposed to assuming secular rhetoric is the residual of religious rhetoric. I conduct the same procedure for secularism using the initial keywords "strategy," "government," "politician," "economy," "finance," "education," "rights," "humanity," and their synonyms. Hence, the algorithm searches for more keywords simultaneously from the most religious end and the most secular end. I consider that the method has exhausted the relevant keywords when the newly discovered non-religious keywords overlap predefined secular keywords and the newly discovered non-secular keywords overlap predefined religious keywords more than 80% of the time. I repeat this procedure with the 11 different languages.

Figure 1 shows a comparison of religious and secular words discovered from the English corpus and from the Arabic corpus.[9] The further a word is positioned to the ends, the more it discriminates the document from one type of rhetoric to another. An advantage of this algorithm is that it discovers the relevant keywords from the corpus being studied rather than assumes the keywords beforehand. It produces a highly context-dependent dictionary

different.

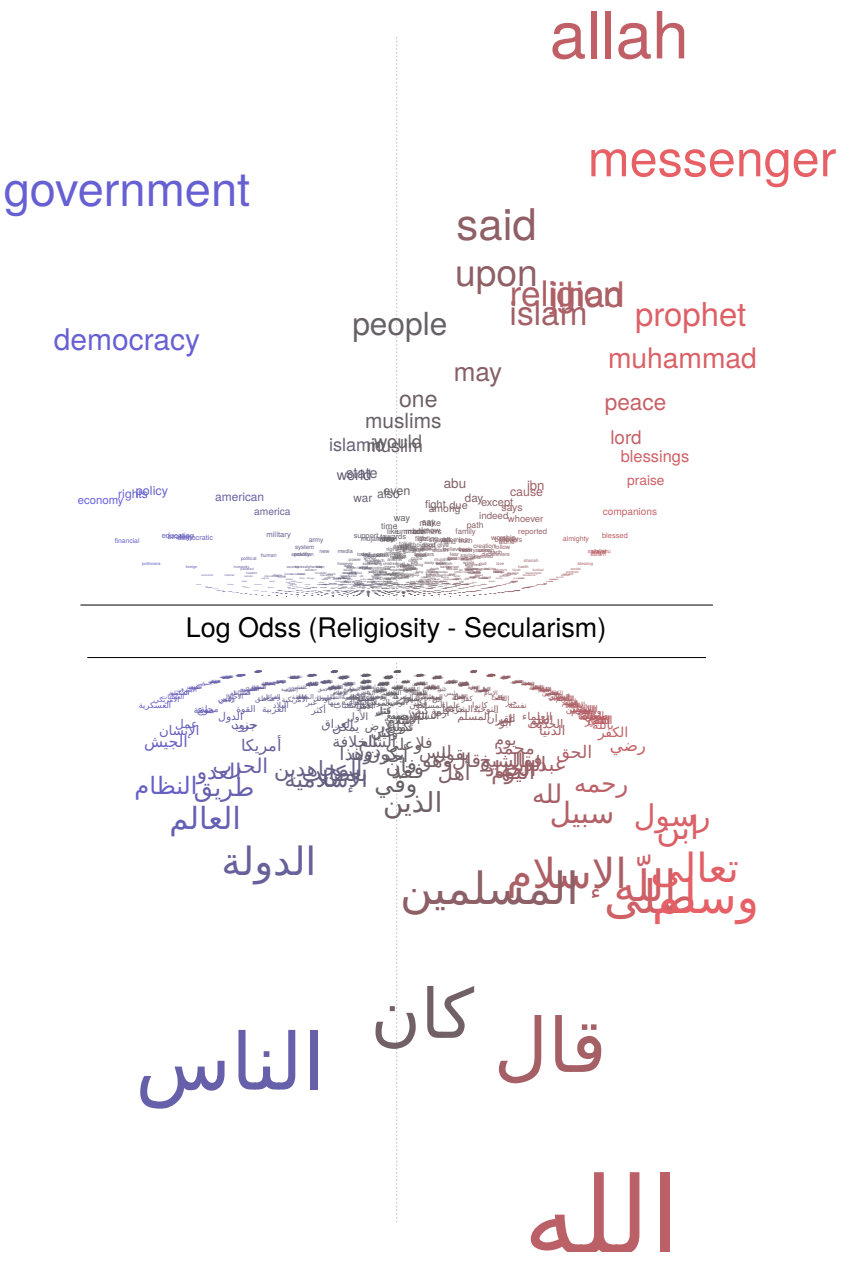
[7]These algorithms are naive bayes, nearest neighbor, logit, support vector machine, linear discriminant, tree, gradient boosting, and random forest.

[8]For validation of the measures, see the Appendix.

[9]More details and the measurement results for other languages can be found in the Appendix.

and, thus, avoids the pitfalls of off-the-shelf dictionaries that could potentially mismeasure concepts (Grimmer and Stewart, 2013). It also meets the need for multi-language processing, given that off-the-shelf dictionaries are usually not available across languages.

Figure 1: Comparison of Religious and Secular Keywords (English and Arabic)



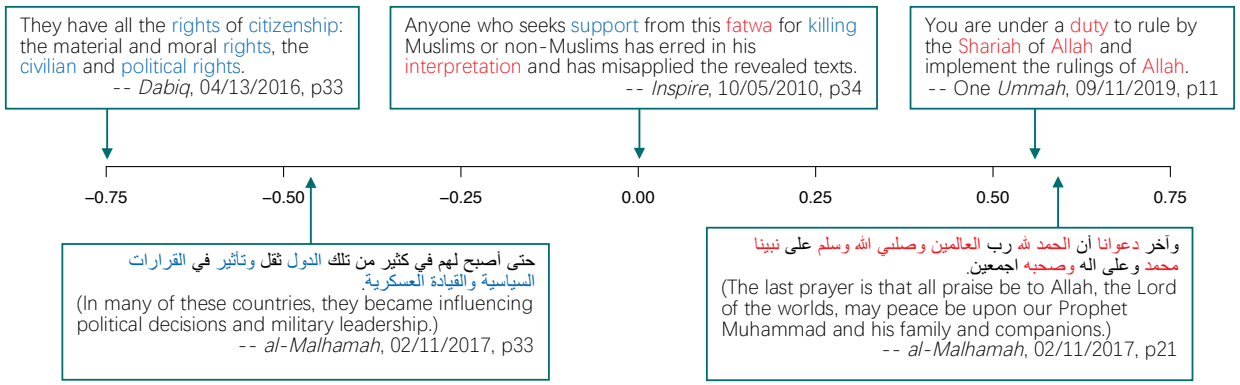
Note: The x axis reflects the log odds of each word conveying religious meaning as opposed to secular meaning, or vice versa. The size of the words reflect the frequency they appear in the corpus.

Finally, I use the selected keywords as a dictionary to calculate a *Religiosity Score* for each sentence, i, using

$$\text{score}_i = \frac{(|n_i \in K_R| - |n_i \in K_S|)}{n_i},$$

where $|n_i \in K_R|$ denotes the number of religious words, $|n_i \in K_S|$ denotes the number of secular words, and n_i denotes the number of total words.[10] Figure 2 shows some example sentences from the English and Arabic magazines and places them on the *Religiosity Score* axis. I then aggregate the resulting score_i at the page level.

Figure 2: Scaling Each Sentence on a "Religiosity – Secularism" Spectrum



Note: The axis indicates *Religiosity Score*. Religious keywords are highlighted in red, while secular keywords are highlighted in blue.

Explanatory Variables: Merging the Violence Data

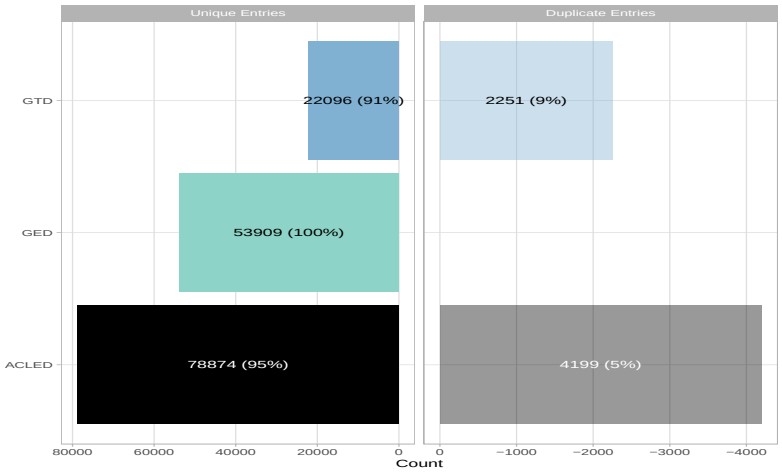
The explanatory variables in the analyses are indicators of groups' violent tactics or battlefield performance. To incorporate as much information as possible on each group's military activities, I follow Donnay et al. (2018) and merge the event records from *Uppsala Conflict Data Program (UCDP-GED)*, Global Terrorism Database (GTD), and *Armed Conflict Location & Event Data (ACLED)* by time, location, and event type while allowing some inaccuracy. Specifically, I regard two records from different sources as the same event if they

[10] Not counting the stopwords.

happened within a two-day window, within a three-kilometer window, and are of the same type. The goal of merging the data is to minimize the reporting bias in each single source (e.g., *UCDP-GED* only counting violent events during large-scale civil conflicts). As shown by Figure 3, different sources indeed provide different violent records without much overlap. These three sources jointly provide 154,909 violent event records from the Jihadist groups relevant to this analysis, with *UCDP-GED* records 53909, *GTD* records 22096, and *ACLED* records 78874, not counting the overlaps.These proportions are similar to those illustrated in Donnay et al. (2018) with a different geographic scope.

For each unit of observation (i.e., page), I count the number of groups-specific *Total Violent Events*, *State-based Battles*, and *Total Deaths (log)* 90 days prior to the publication of the magazine for each group. Three months are a reasonable window for a group to consider their military power while making statements and results hold for other periods as well. Additionally, I calculate *Terrorist Attack Ratio* (i.e., the proportion of attacks targeted at civilians in all attacks) and *Precision* (i.e., the proportion of non-civilian deaths in state-based battles). This "precision" indicator captures groups' ability to effectively achieve their goal (Berman et al., 2011). All indicators except *Terrorist Attack Ratio* imply group strength, while *Terrorist Attack Ratio* does not as the literature suggests that weaker groups tend to use a larger proportion of terrorist attacks.

Figure 3: Events from Different Sources Do not Overlap Much



Results from Periodical Analysis

Results have largely confirmed the expectation that Jihadist groups embrace more secularism in their propaganda when prevailing in military activities and adopt religiosity as a weapon during the weak time. Table 1 shows the ordinary least squares (OLS) estimations, where the explanatory variables all indicate group strength.[11] Regardless of whether or not group fixed effects are included, we can see that indicators suggesting a group is capable of carrying out large numbers of military actions (e.g., *Total Violent Event (log)*, *State-based Battles (log)*, and *Total Deaths (log)*) have significantly negative associations with the *Religiosity Scores* in magazine pages. The negative and significant sign of *Precision* is particularly revealing as it directly reflects a group's capability to hit an armed target when it intends to do so.

Here, models without group fixed effects are making comparisons both across and within groups, while models with group fixed effects only make within-group comparison. The result that "group strength" indicators are all negatively and significantly associated with religiosity in text in models without group fixed effects means stronger groups such as Islamic State generally use less religious language than smaller groups such as Jaysh al-Islam. A similar pattern from models with groups fixed effects means that a given group would change its rhetoric according to the wane and wax of power. Specifically, it would include less religious words in propaganda as it performs better on battlefields.

[11] For now, results are exclusively from Arabic and English text, which accounts for about 80% of the entire corpus. I also excluded newsletters as they are mostly battlefield report and vary less in content.

Table 1: Battlefield Performances and Religious Rhetoric

	Dependent variable:							
	Religiosity Score							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Total Violent Event (log)	-0.312^{***}	-0.323^{***}						
	(0.026)	(0.101)						
State-based Battles (log)			-0.445^{***}	-0.606^{***}				
			(0.042)	(0.190)				
Total Deaths (log)					-0.255^{***}	-0.199^{***}		
					(0.021)	(0.070)		
Precision							-2.700^{***}	-2.227^{***}
							(0.827)	(0.607)
Target Women	1.312^{***}	0.292	1.567^{***}	0.994	1.379^{***}	0.282	2.493^{***}	-0.810^{*}
	(0.298)	(0.620)	(0.371)	(0.696)	(0.297)	(0.626)	(0.387)	(0.492)
Group Fixed Effects	No	Yes	No	Yes	No	Yes	No	Yes
Constant	1.626^{***}	2.469^{***}	1.612^{***}	2.469^{***}	1.657^{***}	2.469^{***}	2.275^{***}	5.137^{***}
	(0.093)	(0.269)	(0.093)	(0.269)	(0.094)	(0.269)	(0.723)	(0.757)
Observations	41,077	41,077	33,845	33,845	41,077	41,077	12,301	12,301
R^2	0.020	0.072	0.014	0.069	0.021	0.072	0.010	0.069
Adjusted R^2	0.020	0.071	0.014	0.068	0.021	0.071	0.010	0.068
Residual Std. Error	5.893	5.738	5.810	5.647	5.893	5.738	6.318	6.130
	(df = 41074)	(df = 41034)	(df = 33842)	(df = 33806)	(df = 41074)	(df = 41034)	(df = 12298)	(df = 12282)
F Statistic	427.314^{***}	76.189^{***}	237.568^{***}	66.159^{***}	432.159^{***}	76.060^{***}	63.366^{***}	50.895^{***}
	(df = 2; 41074)	(df = 42; 41034)	(df = 2; 33842)	(df = 38; 33806)	(df = 2; 41074)	(df = 42; 41034)	(df = 2; 12298)	50.895^{***} (df = 18; 12282)

Note: Clustered robust standard errors in parentheses. *p<0.1; **p<0.05; ***p<0.01

I further prob this idea by looking at the relationship between a known weapon of the weak (i.e., terrorism) and the new weapon of the weak proposed by this paper (i.e., religious rhetoric). As depicted in Table 2, *Terrorist Attack Ratio* and *Religiosity Score* are overall positively correlated. The fact that *Terrorist Attack Ratio* is positive and significant in across-group comparisons suggests that groups who tend to choose more terrorist attacks than battles when they have both options are weaker and would appeal to their supporters with more religious narratives.

Table 2: Terrorist Attack Ratio and Religious Rhetoric

	Dependent variable:	
	Religiosity Score	
	(1)	(2)
Terrorist Attack Ratio	1.097**	0.315
	(0.503)	(0.604)
Target Women	1.545***	0.573
	(0.356)	(0.792)
Group Fixed Effects	No	Yes
Constant	1.329***	2.469***
	(0.093)	(0.269)
Observations	33,845	33,845
R^2	0.002	0.068
Adjusted R^2	0.002	0.067
Residual Std. Error	5.844 (df = 33842)	5.652 (df = 33806)
F Statistic	35.172*** (df = 2; 33842)	64.489*** (df = 38; 33806)

Note: Clustered robust standard errors in parentheses.

*p<0.1; **p<0.05; ***p<0.01

Mechanism: Evidence from ISIS Tweets

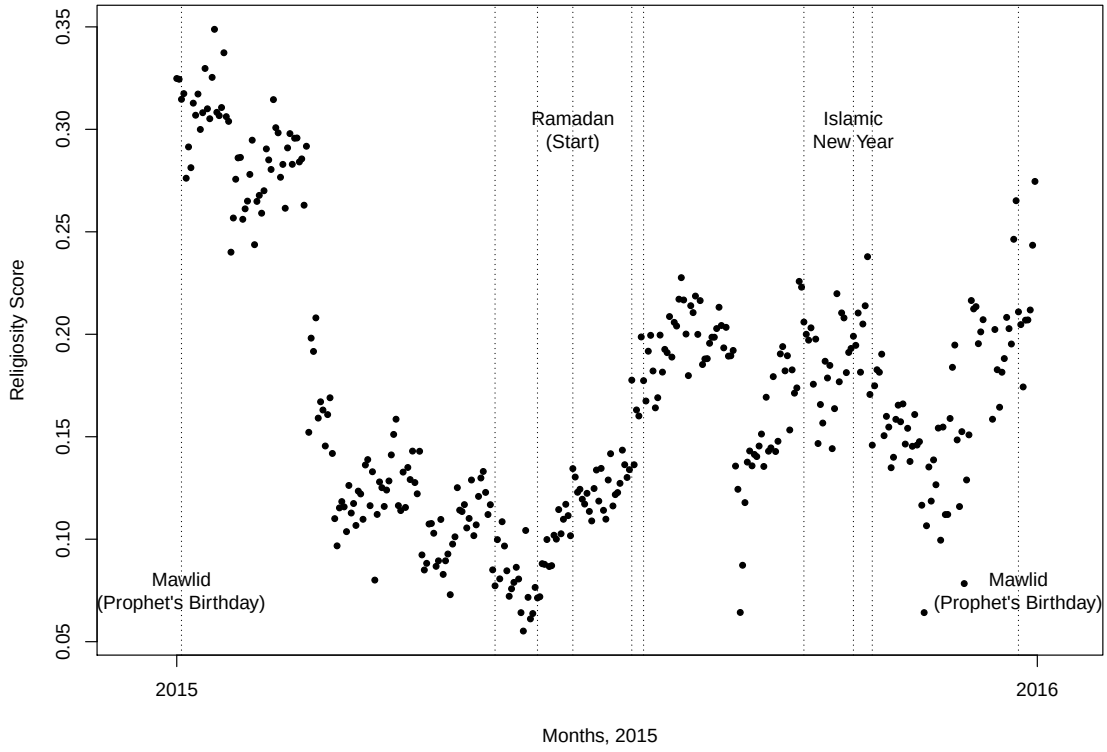
Tracking Down Coordination Efforts Using Twitter Posts

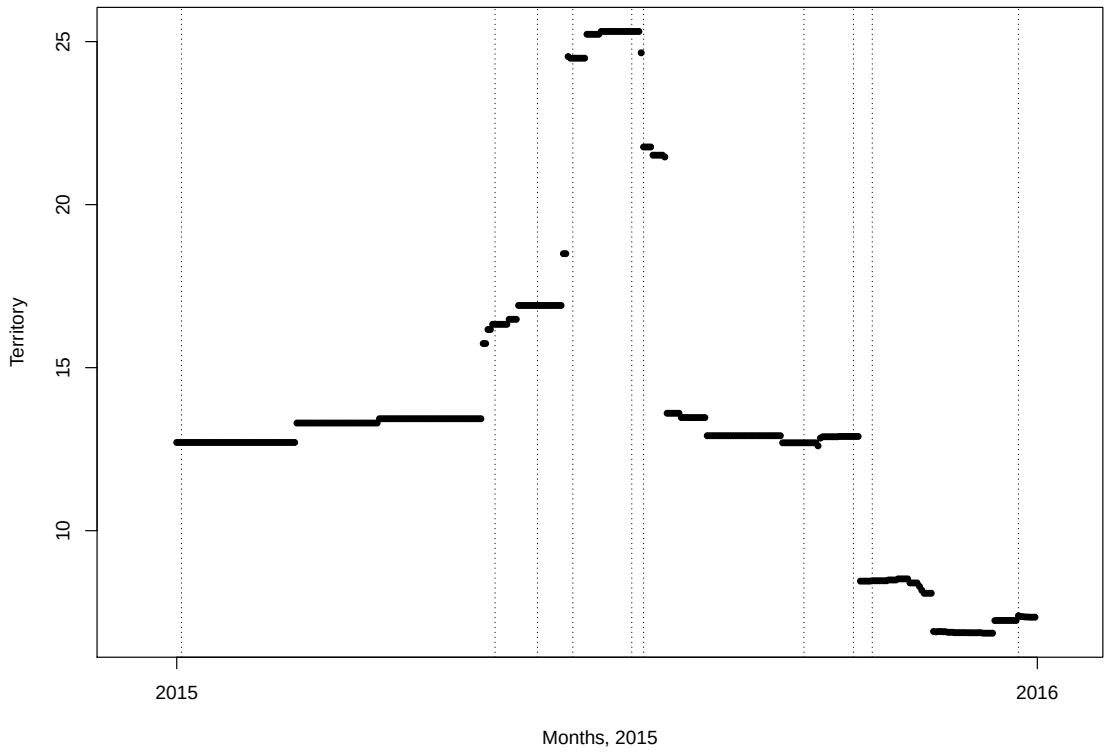
The analyses on magazines depict the association between the power of Jihadist groups and their designed propaganda messages. What, however, is the mechanism that drives the groups' strategic behaviors? My theory suggests that the different messages, religiosity and secularism, are effective in rallying support among different sizes of coalitions. To empirically examine the proposed mechanism on coalition sizes, I am going to use a large dataset of 18 million Tweets from ISIS-related accounts in 2015 collected by Alfifi et al. (2018). This dataset identifies Twitter users as ISIS members or sympathizers if their accounts have been reported by crowdsourcing platforms and eventually suspended. For these ISIS members or sympathizers, these authors put together *all* their tweets through private access to the Twitter Firehose.

I measure religiosity in each tweet using the same semi-supervised keyword-based dictionary method as was used above. Most tweets were originally post in Arabic, but they have been translated into English. The religiosity scores used in this section were obtained by repeatedly training the English text. Panel (A) from Figure 4 shows the average religiosity scores by date throughout 2015. We could observe a substantial variance across time. While the scores are generally higher around Islamic holidays, they are also subject to the influence of other unobserved factors.

To get a sense of ISIS group power, I measure the amount of territory controlled by ISIS on a daily basis using Geographical Information System (GIS) with the raw data reported by `liveuamap.com`. Panel (B) from Figure 4 shows this territorial change over time. By just looking at the raw data, one could tell that group power and its religious rhetoric are negatively correlated.

Figure 4: Religiosity Scores on Twitter and Group Power Indicated by Territory Control





To examine the proposed mechanism, I calculate the effort of *Outside Coordination* embedded in each tweet: the number of ISIS members (i.e., users whose IDs have been reported and confirmed as associated with ISIS as recorded by Alfifi et al. (2018)) that the tweet mentioned (`@`) divided by the number of users outside of the ISIS network (as of December 31, 2015) that the tweet mentioned (`@`). This is the mediator in the analysis. I further put together some tweet-level covariates that could potentially confound the proposed relationship: *Followers Count*, *Favourites Count*, *Friends Count*, *Statuses Count*, *Media* (i.e., whether the tweet has a picture, audio or video attached to it), *Urls* (i.e., whether the tweet has a url attached to it), *Hashtags* (i.e., whether the tweet contains a hashtag), and *Zone* (i.e., whether the tweet reveals a time zone). Additionally, I also calculated *Days to Islamic Holidays* with each Tweet's timestamp [12] and lagged *Territory* by five days as a control variable in the regression to account for the time series correlation.

Table 3 shows the relationship between the explanatory variable and the mediator estimated from a *Probit* model, as well as that between the mediator and the dependent variable estimated form an *OLS* model. Unsurprisingly, in model (1), *Territory* yields a positive effect on *Outside Coordination*, meaning that the larger the group power, the more likely its member is going to reach out to someone not yet in the organization. Notice that this effect is significant after accounting for the lag of *Territory*.

In model (2), *Outside Coordination* is negatively correlated with *Religiosity Score*, meaning that ISIS tends to use more secular rhetoric while trying to coordinate with people outside. The caveat is that the effect of *Territory* in this model cannot be intuitively interpreted as the post-treatment variable, *Outside Coordination*, is in the regression. It is worth noting that the effect of *Days to Islamic Holidays* is negative and significant. This result corresponds with the raw pattern in (A) from Figure 4 as ISIS members are more likely to use religious words when it gets closer to Islamic holidays.

[12] Islamic holidays concerned by this paper contain Mawlid 1436, Lailat al Miraj, Laylat al Bara'at, Begin of Ramadan, Night of Destiny (Laylat al-Qadr), End of Ramadan (Eid ul-Fitr), Festival of Sacrifice (Eid al-Adha), Islamic New Year, Ashura, and Mawlid 1437.

Table 3: Territory Increases Outside Coordination, Decreases Religiosity Score

	Dependent variable:	
	Outside Coordination	Religiosity Score
	probit	*OLS*
	(1)	(2)
Territory	0.014^{***}	-0.004^{***}
	(0.004)	(0.001)
Territory (lag)	0.022^{***}	0.001
	(0.004)	(0.001)
Outside Coordination		-0.091^{***}
		(0.004)
Days to Islamic Holidays	-0.003^{***}	-0.0002^{**}
	(0.0004)	(0.0001)
Followers Count	−0.00001	−0.00000
	(0.00002)	(0.00000)
Favourites Count	0.00002^{**}	−0.00000
	(0.00001)	(0.00000)
Friends Count	0.00000	0.00000
	(0.00003)	(0.00000)
Statuses Count	−0.00000	0.00000^{*}
	(0.00000)	(0.00000)
Media	-0.541^{***}	-0.096^{***}
	(0.025)	(0.006)
Rrls	-1.395^{***}	0.069^{***}
	(0.054)	(0.006)
Hashtags	-1.002^{***}	-0.206^{***}
	(0.050)	(0.005)
Time Zone	0.004	-0.040^{***}
	(0.030)	(0.005)
Constant	-0.309^{***}	0.281^{***}
	(0.049)	(0.012)
Observations	6,529,677	6,529,677
R^2		0.113
Adjusted R^2		0.113
Log Likelihood	−3,121,433.000	
Akaike Inf. Crit.	6,242,889.000	
Residual Std. Error		0.328 (df = 6529664)
F Statistic		$69{,}189.500^{***}$ (df = 12; 6529664)
Note:		*p<0.1; **p<0.05; ***p<0.01

Observable Implication: Responses from Different Types of ISIS Sympathizers

The analyses so far have shown that Jihadist groups behave strategically in designing propaganda materials *as if* their behavior is effective in rallying support among different sizes of coalitions. However, do different members indeed find different types of messages appealing? To provide evidence from the receivers' side, I restructured the data at each *unique* tweet level and calculated the times each unique tweet was retweeted among the ISIS core members and ISIS peripheral members, and users outside of the ISIS network. I define users whose numbers of followers are among the top 95% as core members following Steinert-Threlkeld (2017), so these core members are the most influential ones in the ISIS network. The peripheral members are the remaining 95% of the users. The outsiders are those who retweeted the post but not in the network. To put it differently, these user types are defined by:

$$\text{User} \in \begin{cases} \text{Members}, & \text{if } S = 1 \begin{cases} \text{Core}, & \text{if } PR(f) \geq 0.95 \\ \text{Peripheral}, & \text{if } PR(f) < 0.95 \end{cases} \\ \text{Outsiders}, & \text{if } S = 0, \end{cases}$$

where S is an indicator of account suspension and PR is the percentile ranking of the tweet based on the number of followers.

The goal here is to examine how religious and secular rhetoric affects the probability a tweet gets retweeted among different types of audiences. Correspondingly, the dependent variable is *Core Member Retweet Rate*, calculated by dividing the number of retweets from core members by that from all members.

Table 4 presents the results. In all three models with different specifications, where robust standard errors clustered at the user level, *Religiosity Score* is positively associated with *Core Member Retweet Rate* . This means that a tweet with a higher religiosity score is

more likely to be retweeted by ISIS core members than by ISIS peripheral members or by outsiders. This pattern thus confirms the expectation that more committed members favor more religious rhetoric. As a result, Jihadist groups, when weak, would incorporate more religious narratives to secure the support from these fanatic believers.

Table 4: Retweets by Different Types of Members

	Dependent variable:		
	Core Members/All Retweets		
	OLS		
	(1)	(2)	(3)
Religiosity Score	0.010***	0.007***	0.007***
	(0.001)	(0.001)	(0.001)
Followers Count		0.00000	0.00000
		(0.00000)	(0.00000)
Friends Count		−0.00000***	−0.00000***
		(0.00000)	(0.00000)
Media Attached		−0.004***	−0.004***
		(0.0004)	(0.0004)
Text Length		0.00005	−0.00002
		(0.00004)	(0.00004)
Hashtags		−0.002***	−0.002***
		(0.001)	(0.001)
Mentions		0.019***	0.019***
		(0.001)	(0.001)
Urls			−0.002***
			(0.0005)
Time Zone			0.001
			(0.001)
Constant	0.016***	0.014***	0.015***
	(0.0004)	(0.001)	(0.001)
Observations	1,115,357	1,115,357	1,115,357
R^2	0.001	0.011	0.011
Adjusted R^2	0.001	0.011	0.011
Residual Std. Error	0.101 (df = 1115355)	0.100 (df = 1115349)	0.100 (df = 1115347)
F Statistic	829.490*** (df = 1; 1115355)	1,755.616*** (df = 7; 1115349)	1,379.795*** (df = 9; 1115347)
Note:			*p<0.1; **p<0.05; ***p<0.01

Conclusion

This paper examines Jihadist groups' media strategy (i.e., propaganda) and its relationship with the groups' military strategy. I put forward a unified theory on non-violent and violent strategies: less group power drives Islamists to more civilian targeting and more religious talking, while more group power directs them to more state-based battles and more secular messaging. An original data collection of 121 Jihadist periodicals and violent data from multiple sources confirm these associations. I further theorize the underlying logic that small groups prioritize their core members who are mostly fanatic believers, while larger groups need broader support from more secularized Muslims. Evidence drawn from ISIS tweets supports this mechanism.

The paper aims to shift the current scholarly and policy focus from uniquely on violent attacks to both violent and non-violent tactics. The latter tactic is deeply rooted in the ideas that mobilize people to join the fight. These ideas are what the current Islamist groups themselves value the most. We would not be able to rid our society of these extremist organizations without understanding their strategy to win people's hearts and minds.

In this paper, I keep emphasizing that religiosity is a weapon of the weak – it is most effective in sustaining an organization and save it from vanishing but less effective in radicalizing peripheral Jihadist sympathizers. In that sense, religiosity itself is not to blame for the prevalence of radical Islamism. Correspondingly, one point I haven't visited but should be self-evident is that the extreme fundamentalist thoughts advocated by Jihadist groups are different from what an average Muslim would comply with. Therefore, the propaganda strategies discussed throughout this paper exclusively belong to extreme Islamists, not to the entire Muslim community. This caveat is in line with some recent work that casts doubt on the direct relationship between Islam and violence (e.g., Cottee, 2017). Indeed, existing literature has present such a paradox: The propaganda strategy of violent Islamists has particularly attracted scholars' attention, given the puzzling relationship between Islam and

violence: Violent groups advocating a radical Islamist ideology are more common and more lethal than their non-religious counterparts (Berman, 2011; Gaibulloev and Sandler, 2019; Piazza, 2009*a*; Toft, 2007), but no evidence has shown that the Islamic religion is driving support for militant organizations among a general population (Shapiro and Fair, 2010). This paradox implies that the religion propagated by the groups, not the religion itself, is the key to understand the prevalence of global Islamic movement, and the Jihadist movement in particular.

Finally, the theory, though focused on religious extremists, has profound implications for studies on other ideology-oriented violent extremists: white supremacists, anarchists, nationalists, etc. The first step to combat radical violence is to understand how these individuals and organizations exploit their ideological brand in propaganda to mobilize their followers.

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