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

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October 14, 2020

Abstract

Religiosity characterizes the fourth, i.e., the most recent, "wave" of terrorism. What explains the variance that the perpetrators advertise this ideological "brand" in their messaging? To answer this question, this paper studies Jihadist propaganda and violence together – both tactics are central to military organizations' operative. Specifically, I inspect "religiosity" and "secularism" in the groups' propaganda and theorize that they 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 collected an original database of 121 magazines in 11 different languages from 32 Jihadist groups from 1984 to 2019. I use a semi-supervised machine learning algorithm to classify documents and place each document 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 Twitter posts from ISIS-related accounts in 2015. Results from causal mediation analysis substantiate that group power (measured with territory control) indeed affects religious rhetoric through attempts to coordinate different types of audience. Evidence further demonstrates that religious rhetoric is more appealing among core members than among peripheral members and outsiders, according to their retweet rates. Drawing evidence from these analyses, an urgent policy need emerges to shift military efforts from uniquely eliminating exiting extremists to stronger battles against recruiting fighters, particularly through Jihadist media.

Violent groups pursue ideological and political impact in addition to attacks (Shapiro, 2013, 11), pitching themselves publicly to compliment their violent activities. In particular, radical Islamists – the major force of the current "wave" of terrorism – want larger impact of Islam and aspire to establish a unified society under Shari'a law. Groups with such religious motivation are found causing more deaths than their non-religious counterparts (Gaibulloev and Sandler, 2019; Piazza, 2009*a*; Toft, 2007). Given the important role of religiosity in modern warfare, why do violent groups emphasize their ideological standpoint more frequently sometimes than others? To answer this question, I examine Jihadist groups', i.e., radical Sunni Islamic groups',[1] ideological promotion in the form of propaganda in relation to their violent actions. While existing literature studies either violent attacks or, to a less extent, non-violent propaganda, this paper brings the two tactics in the same unified framework to understand how ideas mobilize people and evolve into a global movement.

Specifically, I scrutinize Jihadist groups' religious thoughts, reflected in their messaging, along with secular narrative and show that, while some literature would expect these radical Islamists to "wave the flag" for their religion when prevailing on the battlefield, they rather shift toward more secular rhetoric as their power increases. Further, these groups favor religious rhetoric when possessing limited capacity or facing setbacks. The mechanism lies in the groups' needs to maintain different sizes of coalitions. Being a sizeable insurgent force, a group would appeal to the largest possible audience by addressing a variety of pressing secular issues. These group leaders signal that they are capable of confronting the government and even replacing it. Some other groups, however, are much weaker. They, instead, maintain a small coalition with core members by stoking these members' beliefs in "God's will," "afterlife," etc. I thus conceptualize religiosity as the new "weapon of the weak" because it sustains the smaller organization.

To empirically illustrate the 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 from the causal mediation analysis 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.

The paper intends to contribute to scholars' knowledge about Jihadist groups' strategy in promoting ideology and, more broadly, about the role of religion in modern warfare. It also responds to an urgent policy need to shift military efforts from uniquely eliminating existing fighters to stronger battles against recruiting fighters, particularly through Jihadist

[2]Attack precision refers to soldier deaths rather than civilian deaths in state-based battles.

media.

Ideology and Violence

Albert Camus famously wrote: "Not every value entails rebellion, but every rebellion tacitly invokes a value." (p14 Camus, 2012) A value – no matter it is religious, leftist, rightist, nationalist, etc – defines an idea that is worth a group's while to fight for. It is only with such an ideological brand that a violent group became a political actor whose political goal guides its actions. Given such guidance, group with different ideologies often behave differently. Marxist-oriented leftist groups, compared with their right counterparts, recruit more female fighters, for one example (Wood and Thomas, 2017). The secular nationalist groups are, on average, less lethal than religious Jihadist-minded groups, for another example (Piazza, 2009*b*). These general patterns demonstrate that the overarching idea embraced by a group provides "a specific framing" of its aims and duties (Costalli and Ruggeri, 2015).

The reason why ideology is so important for a violent organization is that it facilitates recruitment, mobilization, and control over individuals. To survive and thrive, a group needs support from individuals of similar minds, and the natural way to achieve this is to spread the idea and select from the committed members (Bueno de Mesquita, 2005; Morris, 2020). From the individuals' perspectives, this ideological (or psychological) motivation is vital in their decision of joining a fight (Mitts, 2019; Ugarriza and Craig, 2013). Ideology also plays an important role in maintaining internal cohesion of any given violent organizations (Ugarriza and Craig, 2013). These organizations need to establish a sense of community that is largely sustained by ideas, and partly by non-violent activities (Cohen, 2013). In other words, ideology is wielding its effect in the daily operation of almost all groups.

While existing literature has mostly simplified a group's ideology to a label such as "left" or "religiosity," such an ideology contains much richer content and it is always subject to interpretation. Actually, revisiting and retouching the ideological standpoint is what pro-

paganda often is for. Slightly different interpretation attracts different audience (Nielsen, 2017) and the strategic use of such difference is likely to help with recruiting and solidifying members under specific circumstances. This logic underlies the argument that will be elaborated throughout this paper: the interpretation of a group's ideological standpoint changes according to the wane and wax of group power. Violent organizations indeed thought of their militant exercise, i.e., the "hard power," 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, however, mostly confines violent groups' available tactics to different types of violent attacks (e.g. Bueno de Mesquita, 2013), without getting into the dynamics in their propaganda.

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. While spiritual service provision including propaganda is always important for religious communities (Berman, 2011), it is especially important for the so-called terrorist organizations where members sometimes do not even know one another (Shapiro, 2013). Therefore, the next section will focus on Islamism and the Jihadist movement.

Islamism and the Jihadist Movement

Religiosity has a central role in modern warfare. It 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). The religious belief these groups hold is mostly radical Sunni Islamism, i.e., Jihadism.

An Ideological Brand: 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 the religion, they not only define their own people but, simultaneously, distant 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 in the Arabian Peninsula'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, they strategically use propaganda to mobilize people.

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 (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

On this basis, I propose a unified theory on Jihadist groups' strategic use of violence and non-violence (propaganda) tactics. Both tactics are integral parts of the groups' toolkit, but violent actions are more constrained by group power. In terms of violence, groups strategically choose from a mixture of battles, i.e., confronting a government's armed forces directly, and terrorist attacks, i.e., civilian targeting. While doing so, larger insurgent groups tend to focus on battles and only use terrorist tactics occasionally. Smaller terrorist groups, on the contrary, are involved in much fewer insurgent actions due to limited resources (Byman, 2005; Carter, 2012). Weaker groups may also cause excess civilian deaths unintentionally because they are not able to precisely attack armed forces (Green, 2018).

Because of the constraints of resources on violent tactics, groups strategically use their words to "match" their actions. They aim to use propaganda to win people's hearts and minds and maintain a coalition size that best serves their military actions. The key to achieve this is to tailor the proportion of religious and secular rhetoric in propaganda. Specifically, when a group is weak and only attacks sporadically, they would retreat to the core members ensuring their commitment despite the difficulties by emphasizing their religious beliefs. As the group grows in power, however, it takes more initiative and confronts the armed forces more. This situation leads the group to build and broaden its coalition and one effective way to do so is to bring in more secular discussion. Therefore, well-designed propaganda sustains recruitment and then compliments military actions. These changes are subtle and do not require the groups to reject what they have claimed previously.

In this propaganda process, I conceptualize religiosity as a new weapon of the weak because it is more often used by groups with weak organizations. This logic follows the well-established theory that terrorism is the weapon of the weak (Crenshaw, 1981), but religiosity

in their messaging is a much less visible weapon compared with violence. Indeed, we will later see that terrorist attacks and religious rhetoric co-occur with each other.

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. It is an effective tool to rally domestic and external support (Toft, 2007). Muslims generally regard their religion as identity and tend to be more trusting of organizations with similar ideological orientations. This argument is in line with some recent work that casts doubt on the direct relationship between Islam and violence (e.g. Cottee, 2017).

Propaganda facilitates mobilization primarily by attracting active Internet users (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). For this reason, 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

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

online repositories – the TRAC database, Jihadiligy.net, and Jihadi Document Repository – 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 very 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 case 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." 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.

sample of the remaining sentences, I train eight supervised learning algorithms,[6] 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.[7] 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 secularism 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 11 different languages. Finally, I use the selected keywords as a dictionary to classify each sentence as religiosity or secularism and then aggregate the score at the page level.

Figure 1 shows a comparison of religious and secular words discovered from the English corpus and from the Arabic corpus.[8] 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

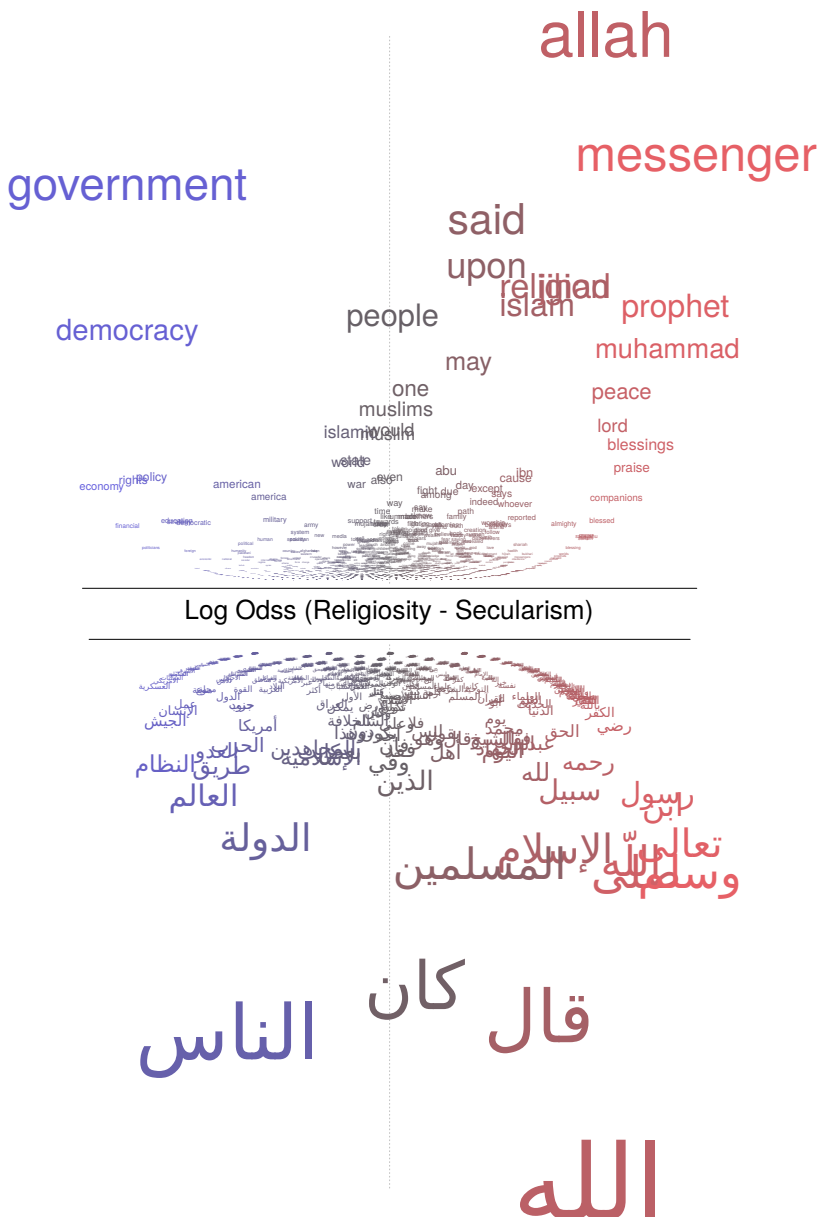
[6]These algorithms are naive bayes, nearest neighbor, logit, support vector machine, linear discriminant, tree, gradient boosting, and random forest.

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

[8]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 (Arabic)



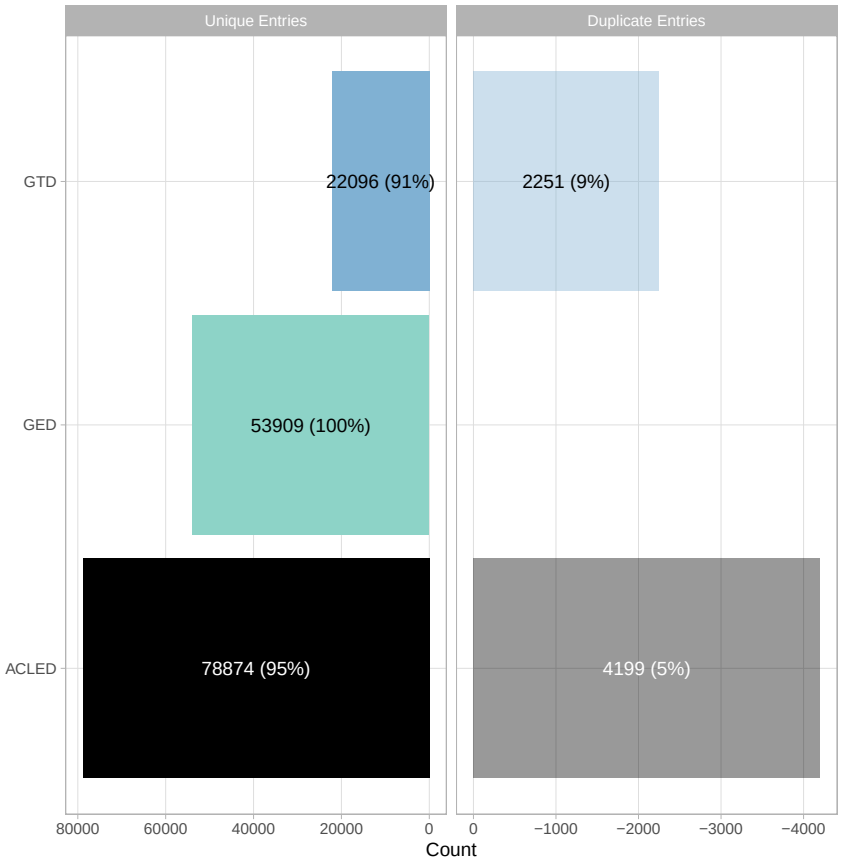
Note: The x axis reflects the log odds of each word conveying religious meaning as opposed to secular meaning, or vice versa. The size of the words reflect the frequency they appear in the corpus.

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 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 2, 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 similarly 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 *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* could imply group strength, while *Terrorist Attack Ratio* does not as the literature suggests that weaker groups tend to use a larger proportion of terrorist tactics.

Figure 2: Events from different sources do not have much overlap



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.[9] No matter 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

[9]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.

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 include less religious words in propaganda when it performs relatively well on battlefields.

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 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 religiosity.

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

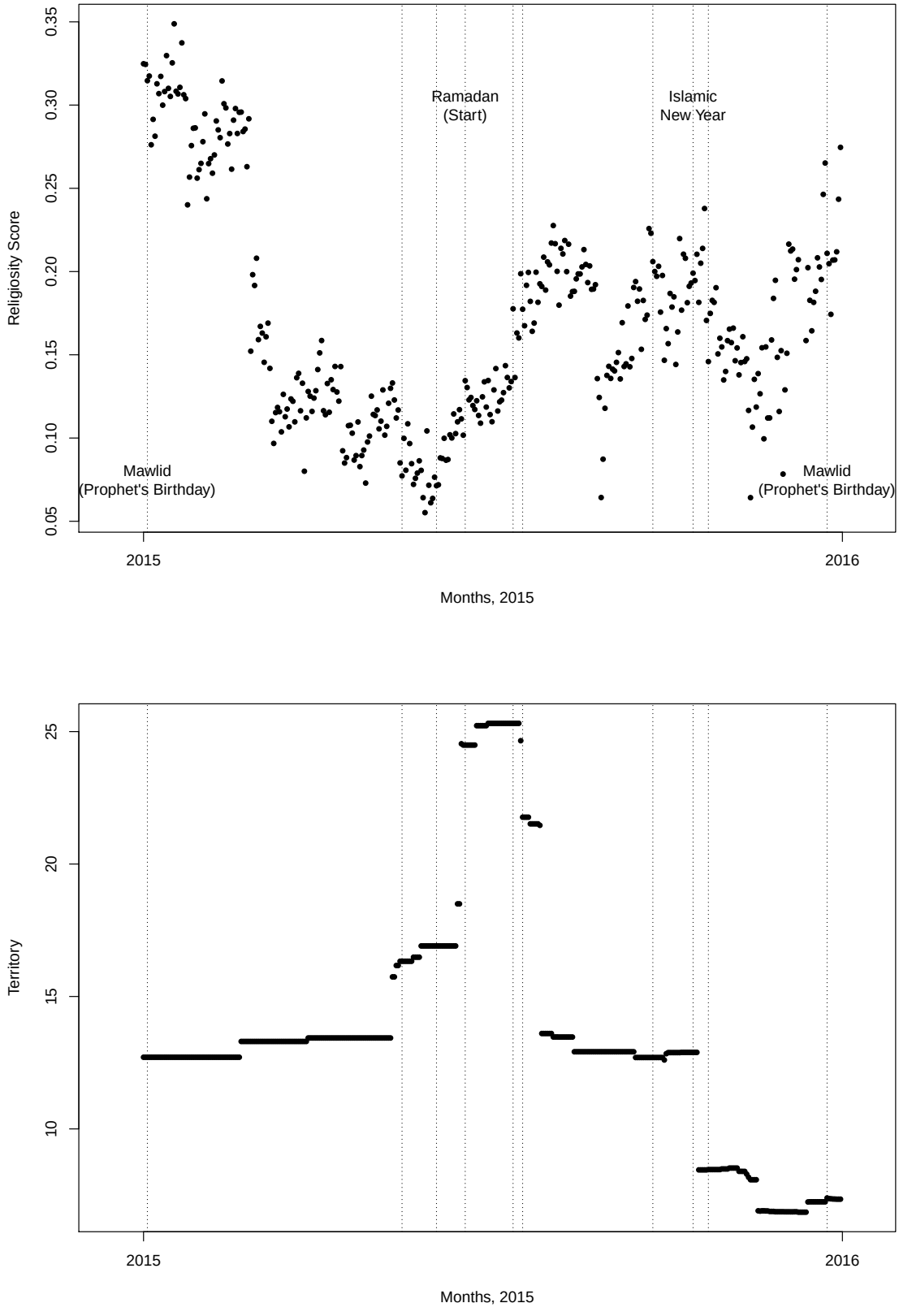
Mediation Analysis on Twitter Posts

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 ISIS-related Twitter 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 3 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 3 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 3: 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* (whether the tweet has a picture, audio or video attached to it), *Urls* (whether the tweet has a url attached to it), *Hashtags* (whether the tweet contains a hashtag), and *Zone* (whether the tweet reveals a time zone). Additionally, I also calculated *Days to Islamic Holidays* with each Tweet's timestamp.[10]

Table 3 shows the relationship between the explanatory variable and the mediator, as well as that between the mediator and the dependent variable. Unsurprisingly, *Territory* yields a positive relationship 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. *Outside Coordination* is negatively correlated with *Religiosity Score*, meaning that ISIS tends to use more secular rhetoric while trying to coordinate with people outside.

Table 4 shows the results from the mediation analysis. Due to limited computational power and the large size of the database, the current results are based on a small random sample of the entire Twitter corpus. The preliminary pattern is that *Outside Coordination* is indeed mediating the relationship between *Territory* and *Religiosity Score*.

[10]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: Mediator and Outcome Estimates

	Dependent variable:	
	Outside Coordination	Religiosity Score
	probit	*OLS*
	(1)	(2)
Territory	0.035^{***}	-0.007^{***}
	(0.007)	(0.001)
Outside Coordination		-0.096^{***}
		(0.010)
Days to Islamic Holidays	-0.002^{**}	-0.001^{***}
	(0.001)	(0.0002)
Followers Count	-0.00002^{***}	-0.00000^{***}
	(0.00001)	(0.00000)
Favourites Count	0.00003	0.00000
	(0.00002)	(0.00000)
Friends Count	−0.00001	0.00001
	(0.00005)	(0.00001)
Statuses Count	0.00001	−0.00000
	(0.00001)	(0.00000)
Media	-0.530^{***}	-0.105^{***}
	(0.050)	(0.013)
Urls	-1.564^{***}	0.072^{***}
	(0.073)	(0.014)
Hashtags	-1.039^{***}	-0.201^{***}
	(0.051)	(0.014)
Zone	−0.065	−0.011
	(0.061)	(0.015)
Constant	-0.303^{***}	0.353^{***}
	(0.114)	(0.029)
Observations	667,800	667,800
R^2		0.131
Adjusted R^2		0.131
Log Likelihood	−299,153.300	
Akaike Inf. Crit.	598,328.600	
Residual Std. Error		0.328 (df = 667788)
F Statistic		$9{,}167.280^{***}$ (df = 11; 667788)
Note:		*p<0.1; **p<0.05; ***p<0.01

Table 4: Average Causal Mediation Effects

	Mediation Analysis			
	Estimate	95% CI (Lower)	95% CI (Upper)	p-value
Avg. Causal Mediation Effect	-0.000693	-0.000925	0.00	<2e-16 ***
Avg. Direct Effect	-0.006852	-0.009491	0.00	<2e-16 ***
Total Effect	-0.007545	-0.010108	-0.01	<2e-16 ***
% of Total Effect Mediated	9.12%	6.48%	14.00%	<2e-16 ***
Controls		Yes		
N=		667800		

Note: Standard errors clustered at the user level
Results based on only 200 Simulations
*p<0.1; **p<0.05; ***p<0.01

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 for 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.The goal is to examine how religious and secular rhetoric affects the probability a tweet gets retweeted among different types of audience. 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 5 presents the results. *Religiosity Score* is positively associated with *Core Member Retweet Rate* in OLS models with robust standard errors clustered at the user level). 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.

Table 5: 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.

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.

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