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The Online Caliphate: Internet Usage and ISIS Support in the Arab World

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ABSTRACT
Experts argue that the internet has provided expanded opportunities for violent extremist groups to propagandize and recruit. The Islamic State of Iraq and Syria, or ISIS, is an exemplar in that it has heavily invested in an online presence and uses online communities and social media to attract and retain supporters. Does ISIS’s online presence translate into a higher probability that individuals in its target audience will become supporters? In this study we analyze over 6,000 individuals in six Arab countries to find if those that use the internet to follow political news or to express political views are more likely to support ISIS. We find that respondents who get their news online are significantly more likely to support ISIS than those who follow the news on television or print media. Moreover, those who use online fora for political expression are also more likely to express support for ISIS. Indeed, individuals who engage in online political discussion are more likely to support ISIS than those who engage in conventional political activity, though less than those who engage in contentious political behaviors such as attending a political protest. We conclude with a brief discussion of the academic and policy implications of these findings.

Is the internet an important catalyst for ISIS support in the Arab world? Do people in Arab countries who use the internet to obtain political news or to engage in online political discussion and activism exhibit higher levels of support for the Islamic State in Iraq and Syria? These are important questions given ISIS’s vaunted online presence and its use of the internet, particularly social media and messaging sites, to influence a wider audience, to broadcast its propaganda, to radicalize individuals and to recruit supporters and members. Furthermore, understanding the link between online behaviors of people in Arab countries, and wider Muslim world, has become even more critical as ISIS refocuses its efforts on online propaganda and recruiting—building its so-called “online caliphate”—after losing its physical caliphate in Iraq and Syria.

Since its formation as a coherent and distinct global violent extremist movement in June of 2014, the internet, particularly social media, has been an important component of ISIS’s strategy. In particular, scholars have documented the ways in which ISIS uses its high-quality online English magazine, *Dabiq*, and social media platforms such as Twitter, Facebook and Telegram to proselytize, recruit and provide a sense of community to...
supporters and followers. ISIS’s use of Twitter in particular seems to have been part of a centralized strategy to draw in and communicate with supporters. Twitter and other online social media sites have been described by the movement as means to construct an online Wilayat (province) of the Islamic State itself, underscoring the connection of ISIS’s online presence to the physical caliphate that ISIS built in Iraq and Syria from 2014 to 2018. Consequently, counterterrorism authorities recognize the importance of the internet for ISIS and have made suspension of social media accounts and greater monitoring of platforms like Twitter a key tool in limiting ISIS’s reach.

Moreover, as previously noted, ISIS’s loss of its actual physical caliphate in Iraq and Syria has driven the movement to double-down on its online activities. The physical caliphate, proclaimed by ISIS in 2014, was both a material and symbolic asset. It allowed ISIS to raise significant revenues by exploiting oil resources, engaging in criminal activities and most importantly by extracting taxes from the people living in the region under its control. The caliphate also provided supporters and potential recruits with an actualized achievement that set ISIS apart from rivals, like Al Qaeda, and undergirded the movement’s core identity. ISIS has turned to the Internet to compensate for its loss of its physical caliphate. Scholars argue that its online presence helps to deflect attention from its loss of territory, loss of cadres on the battlefield, low morale among its members and loss of revenue sources.

In this study, we investigate the consequences of ISIS’s Internet presence by examining the effects of Internet usage on expressions of support for ISIS in the Arab world. Using survey responses for between 6,000 and 7,000 individuals residing in six Arab countries in 2016 collected by Arab Barometer, we determine that while general Internet usage is not associated with higher levels of ISIS support, individuals who use the Internet to follow political news or to express political views online are significantly more likely to be ISIS supporters. These findings underscore the importance of ISIS’s Internet strategy for garnering and maintaining supporters and sympathizers. The study also adds to the existing body of empirical literature on public opinion about violent extremism in the Arab and wider Muslim world. Previous research has focused on attitudes about Western culture and U.S. foreign policy, trust in government and political institutions and the role of Islam in public life and politics as predictors of support for terrorism. A handful of studies have investigated the relationship between consumption of various types of mainstream, non-Internet media and attitudes toward violent extremist movements in Arab and Muslim countries. To our knowledge, our study is the first to specifically assess online behaviors and support for contemporary violent extremism in the Arab world using multi-country public opinion data. In the next section, we discuss the relevant literature on Internet usage and support for violent extremism. We explore two main strands of this body of work. The first positions the Internet as an instrument by which violent extremist movements like ISIS radicalize Internet users and use the Internet to recruit and maintain supporters. The second regards the Internet as a tool that might actually reduce support for violent extremists, or at least reduce the likelihood that radicalized individuals will become active supporters of terrorism. We construct the hypotheses of our study based upon these two strands in the literature and then test them using aforementioned public opinion data. We then present our results and conclude with a discussion of the academic and policy implications of our findings.
ISIS and the internet

Since the invention of the internet, people all over the world have enjoyed the benefits of numerous technological developments and online services found within cyberspace. Even though there are still digital divides among societies, countries, and regions, the global internet penetration rate\(^\text{12}\) has exponentially expanded in recent decades.\(^\text{13}\) According to Internet world Stats the global percentage of people who use the internet has increased from 26 to 55 percent in the past ten years.\(^\text{14}\) However, the internet penetration rate of the Middle East increased more rapidly and its rate is well above the global average, having advanced from a 30 percent penetration rate to a 65 percent penetration rate. Increased access to and use of the internet by people in developing countries produces many benefits including increased international trade, opportunities for entrepreneurship, business productivity and growth and social wellbeing.\(^\text{15}\) Unfortunately, violent extremist actors can also readily take advantage of the internet to promote their ideologies and spread their agendas.

Much like previous technological advancements, the internet has shaped the ways in which terrorist actors behave.\(^\text{16}\) According to Rudner, the internet has provided many opportunities to religious-based terrorist organizations to wage their so-called “electronic jihad.”\(^\text{17}\) Scholars and practitioners have also discussed this increase of cyberterrorism and have warned the world’s communities about the possibility of catastrophic cyber-attack scenarios perpetrated by terrorist groups like Al Qaeda.\(^\text{18}\) In fact, early scholars saw the internet as a force multiplier for terrorist organizations and they predicted that it might create a digital menace.\(^\text{19}\) Although there have been some efforts by terrorist organizations to carry out some types of cyber-attacks against government websites, information systems, and other critical infrastructures, these activities do not seem to have attracted much attention from terrorist groups and their followers when compared to “traditional” terrorist activities. Even though cyberterrorism scenarios are still possible and terrorist groups may exploit cyberspace to commit cyberterrorist attacks, terrorist groups use the internet largely as a communication medium to advertise their gruesome activities in accordance with the strategy of “the propaganda by the deed,” which was a term first coined by anarchists in the 19\textsuperscript{th} century.\(^\text{20}\)

The internet provides a myriad of advantages to terrorist organizations. It is a low-cost, anonymous, minimally-censored medium that affords groups access to a large global audience with which they can instantly communicate and interact with a low risk of being apprehended.\(^\text{21}\) Byman classifies how terrorists use the internet into three main categories according to their purposes: propaganda, recruitment, and operational direction.\(^\text{22}\) Other scholars have delved into more specific ways extremists use the internet, revealing a wide range of activities such as information gathering and dissemination, propaganda, online community building, social networking, training, recruitment, financing, risk assessment and mitigation, operational support, and inspiration and motivation for terrorist activities.\(^\text{23}\) In particular, religious-based terrorist movements have actively used social media platforms to spread their propaganda, to recruit new members, and to create support for their activities.\(^\text{24}\)

ISIS has made significant use of the internet and has, in particular, exploited social media platforms such as Twitter, Facebook, YouTube, and Telegram in order to acquire attention through shocking news, gruesome pictures, and horrific videos about its
ISIS has allocated significant group resources to use social media in order to create propaganda and recruit young people from all over the world. By exploiting social media platforms, ISIS has weaponized online propaganda and embraced information warfare strategy. There are different types of internet users who operate online: unaffiliated sympathizers, propagandists, fighters, recruiters, and rivals. ISIS has a correspondingly diverse media outreach to capture all types of users. ISIS uses social media platforms to persuade Muslims around the world to join them to fulfill their religious duty of resurrecting the global caliphate through sensational messages, pictures, and videos. It also aims to create a fearsome warrior image for its opponents in order to inflict panic and terror in the minds of its enemies. Zelin analyzes the online activities of religious-based terrorist organizations and finds that Arabic-language forums are more active than English-language forums and most online activities of religious-based terrorist groups target Arabic-speaking communities. Even though religious-based terrorist organizations try to produce online media outputs in different languages to reach broader audiences, Arabic is still the most dominant language in the online "jihadi-sphere." Therefore, Arabic-speaking communities are more vulnerable to extremist messages and propaganda in the online environment than Western societies.

According to Zelin, organizations like ISIS belong to a recent phase of Islamist terrorist organization use of communication technologies. The first phase started during the 1980s with the distribution of sermons (khutbas) and other religious lectures through printed magazines, newsletters, and audiotape and videotape cassettes. In the second phase, religious-based terrorist organizations started to go online and develop websites to communicate their propaganda via the internet during the mid-1990s. After the mid-2000s, terrorist organizations started to explore interactive online forums and blogs to build virtual communities with like-minded individuals from all over the world. Online forums provided two-way communications between forum administrators and users which assisted them in building an online community with individuals who shared similar ideologies, dissenting opinions, and resentments. These individuals transferred their actions to social media platforms in the late 2000s and started benefiting from them to achieve the goals and objectives of their extremist ideologies. Organizations like Al Qaeda and ISIS belong to this last phase.

Counterterrorism scholars and experts state that ISIS developed a multidimensional information warfare strategy and adopted two main propaganda techniques to perform its "information operations": consumed and performative propaganda. While consumed propaganda consists of audio-visual media products such as magazines, newspapers, media reports, documentaries, posters, billboards, and other advertising outlets, performative propaganda relies on face-to-face interactions, small group discussions and other on-the-ground communication efforts between the representatives of ISIS provincial media bureaus and local populations under the control or within the reach of ISIS. To orchestrate its information operations, ISIS applied different strategies and tactics to reach its "friends and foes" in congruence with its territorial presence, control, and influence. Whereas information operations aimed to convey narratives about the success, superiority, and endurance of the Islamic State to local populations and also populations in the areas of expansion, they intended to deliver a message of fear, intimidation, and global war to its opponents and rivals. During the period it controlled territory in the Middle East, ISIS managed to establish an information monopoly by restricting internet access,
jamming radio signals, and forbidding satellite dishes for local residents in order to prevent their access to free information. Moreover, ISIS applied a multidimensional messaging strategy to encourage sympathizers to join and support ISIS’s global efforts and also to create fear and panic among its enemies and rivals. Even though the success of ISIS’s information operations has recently started to lose its power and influence since its defeat and loss of territory in Iraq and Syria, these efforts still pose threats to global security due to the possible dissemination of propaganda through offline and online networks.

As stated before, though it engages in extensive offline and face-to-face activities, we primarily are interested in the influence of ISIS’s online propaganda efforts. Our study recognizes the importance of both online and offline ISIS activities, and we note that ISIS has engaged in both types extensively. However, our study does not assess the relative importance of the two for the purposes of transmitting its propaganda, recruitment or for developing networks of supporters. We are therefore unable to settle the important debate regarding which mode of propaganda, recruitment or organization has been most effective for ISIS. We simply find that online political activities in the Arab world are associated with ISIS support.

**Internet as radicalizer or pacifier?**

While most experts agree that groups like ISIS have heavily invested in the internet as a propaganda, mobilization and recruitment tool, scholars are divided on how effective the internet has been for violent extremist organizations. One school of thought argues that the internet has boosted extremist ability to radicalize and recruit. Another suggests that either the impact of the internet has been minimal or has actually reduced radicalization or the likelihood that radicalized individuals graduate to deeper engagement or active involvement in political violence.

The first school of thought proposes several avenues by which extremist groups have used the internet to garner supporters. First, the internet facilitates the promotion and popularization of radical ideologies, such as extremist Salafism. It allows groups to reach a much wider audience easily, cheaply and safely. In this sense, the internet is a much larger megaphone for violent extremists than older, traditional modes of communication. Second, scholars note that the internet is used by extremist groups to construct online, virtual communities. Using chat rooms, message boards, curated video sites that allow viewer comments and social media platforms, terrorist groups can bind like-minded individuals together, bring new members into the fold, reinforce orthodoxy and forge among participants a sense of belonging, loyalty and meaning. In his study of Al Qaeda and its local franchises, Sageman argued that these virtual community networks were actually supplanting physical networks as the primary means to radicalize and recruit members and supporters. Davis and Cragin make a similar observation about a range of online extremist groups noting that the virtual networks that they forge enhance, and at times replace, physical relationships. Third, the internet can be used by violent extremist groups to reinforce the radicalization process. Individuals who participate in online communities controlled by extremist groups experience an “echo chamber” in which extremist views and biases are expressed and reinforced by other members. This is an organic, user-driven process, which in theory makes it a more potent tool of radicalization than movement-generated propaganda.
Research conducted by Koehler on right-wing extremists in Germany helps to illustrate how the internet facilitates radicalization. Websites, online communities and social media make networking among members and potential members easier. The pseudo-anonymous nature of online interactions allows participants to be more uninhibited in their expression, which stokes radicalized discussions. This also allows extremist beliefs to be validated, further encouraging radicalization. Online interactions of this sort also facilitate information sharing among participants while reinforcing their in-group identities. Once drawn into these communities, the internet allows members to perceive themselves, often erroneously, as a mass movement, which facilitates collective action. Finally, there is a self-correcting and reinforcing aspect for the extremist movements using the internet as well. The internet allows groups to direct, shape, test out and improve their propaganda efforts through continuous participant feedback and tracking of participant statistics.

The second school of thought is composed of scholars and experts who are skeptical about the role the internet plays in furthering radicalization and contributing to the vitality and effectiveness of violent extremist groups. First and foremost, while the internet can be used by extremist groups to further their objectives, it can also be used by counter-extremist forces as well. State agents can and do monitor extremist websites, communities and social media for the purposes of counterterrorism. There are also nongovernment organizations, private agencies and ad-hoc alliances of netizens and hackers who work against online violent extremism. Both government and nongovernment actors infiltrate online extremist sites and social media and produce counter-narratives and alternative viewpoints. Governments have also taken a repressive approach by removing, banning or even hacking the internet assets of violent extremist groups. For example, Twitter suspended a total of 1,210,357 accounts during the period of August 1, 2015 through December 31, 2017 in order to combat violent extremism within its community. Moreover, Anonymous, an infamous hacktivist group, declared an online war against ISIS and claimed to have dismantled 150 websites and to have flagged more than 100,000 Twitter user accounts and nearly 6,000 propaganda videos in 2015. The capacity to shut down websites and delete accounts essentially provides counterterrorism actors with a shut-off lever for radical groups that have become dependent on the internet for communication.

Additionally, some scholars are skeptical that the internet is a particularly effective way for violent extremist movements to recruit and maintain members and supporters. Benson argues that online communities and social media sites frequented by extremists serve as “terrorist preserves” that actually retard violent action by participants both by corraling potentially extremists together into one place where they can be more effectively monitored and managed and by providing an outlet where extremists can vent their grievances to one another, obviating the need for more radical action. Awan adopts a similar view, noting that most participants in online communities associated with violent extremists are dilettantes who are seeking to talk with like-minded companions but are not interested in actually engaging in political violence. In this sense, the online environment is not a substitute for traditional face-to-face outreach and recruitment and could even be a tool that pacifies individuals’ needs to escalate their involvement in extremism.

Perhaps this is why few scholars have been able to find a significant link between individuals’ exposure to violent extremist websites and online communities and actual
engagement in political violence. Rieger and colleagues studied the psychological effects of extremist videos (right-wing and Islamic) on youth radicalization and found that young German males rejected the messages and ideologies presented to them as online propaganda videos. Similarly, Baines et al. explored how British Muslims perceived extremist messages in the online environment and determined that the research participants were not sympathetic to extremist messages conveyed through media clips garnered from the internet. Moreover, Hoskins, Awan, & O’Loughlin carried out a discourse analysis of jihadi forums to better understand the role of the internet (Web 2.0) on radicalization. Their research found that the jihadi forums/websites are not effective in radicalizing potential supporters because they are not attractive enough to create an interactive platform for forum members and also they do not provide enough opportunities for forum members to reflect upon their ideas about the content represented by forum leaders and administrators. Rather, jihadi websites/forums serve as a “group-think” mechanism among committed members and terrorist groups use it to reinforce their ideologies and motivations. Moreover, Gill and Corner, who analyzed the online behaviors of lone actor terrorists to better understand the role of the internet in their radicalization, found that the Internet is not a force enabler for lone actors, rather it serves as an alternative form of communication. These studies are complemented by an investigation by Hengemuhle of sixty-three cases of homegrown radical Islamists from 2001 that found new media, including the internet, was not a significant contributing factor to recruitment in most cases.

**Hypotheses**

Taking the scholarly literature on the internet and violent extremism as a whole, we have several expectations. Given that groups like ISIS have invested in a significant internet presence, and that the dependent variable of our study, explained and operationalized in detail below, is individual endorsement of or support of ISIS and its behavior, but not actual engagement in political violence, we expect individuals who engage in more online political activity to express higher support for ISIS. More specifically we expect surveyed individuals in the Arab world who rely upon the internet for political news to be more likely to come across ISIS-sponsored or ISIS-friendly political information than individuals who rely upon traditional, non-internet sources for news. We also expect that individuals who engage in political discussions or other forms of political expression online are also more likely to do so in contexts where pro-ISIS sentiments are more common. Given these assumptions, we test the following two hypotheses:

- **H₁** Individuals who use the internet to follow political news are more likely to support ISIS.

and,

- **H₂** Individuals who use the internet to express their political views are more likely to support ISIS.

Given scholarly work suggesting that internet access either has no effect or actively retards support for violent extremism, we test null and negative hypotheses as well. These include two null hypotheses:
**$H_{1B}$ Individuals who use the internet to follow political news are not more likely to support ISIS.**

and,

**$H_{2B}$ Individuals who use the internet to express their political views are not more likely to support ISIS.**

**Analysis**

To test the impact of internet usage on support for ISIS in the Arab world, we conduct a series of ordered logistical and Tobit regression analyses using a sample of 6,516 to 6,587 survey respondents to the fourth wave of the Arab Barometer survey. Arab Barometer is a collaborative endeavor involving academic researchers in the United States and in various Arab countries that has conducted four rounds of surveys of public opinion on a wide variety of political, economic, social and cultural issues from 2006 to 2017. The surveys are conducted face-to-face in Arabic using nationally-representative samples. For our study, we use data from the Arab Barometer fourth wave. The fourth wave, the most recent, was fielded in 2016 and 2017 in Algeria, Egypt, Jordan, Lebanon, Morocco, Palestine and Tunisia and also included responses from Syrian refugees. The fourth wave surveyed respondents eighteen years of age or older. It utilized either a stratified cluster sampling or a multistage stratified sampling technique to identify respondents, depending on the country. The sampling technique was designed to solicit responses from a representative set of both rural and urban communities in each country. The fourth wave also was careful to survey both Sunni and Shi‘i Muslim populations in countries like Lebanon as well as including individuals residing in refugee camps in places like Palestine to further assure representativeness. Furthermore, the researchers who collected the fourth wave provide weights of the sample for each country, based upon strata. We applied these weights when running our analyses. The sampling frames used to develop the samples were derived from national censuses and from government housing surveys. As a result, the demographic breakdown of survey respondents to the fourth wave of the Arab Barometer match national averages, as can be seen in the descriptive statistics presented in Table 2. The fourth wave was conducted by Arab Barometer in conjunction with local partners, most of whom were affiliated either with local academic or research institutions or with government statistical bureaus. The average survey response and completion rate was 70 percent across all countries, ranging from a high of 80 percent for Jordan to a low of 56 percent for Tunisia.

The Arab Barometer fourth wave contained several questions about respondent support for ISIS. These include a question about whether the respondent believed ISIS’s (“Daesh’s”) tactics are compatible with the teachings of Islam, whether the respondent agreed with the goals of ISIS, and to what extent the respondent supported ISIS’s use of violence. Each of these questions were answered by the respondent using a six-point scale ranging from “agree/support to a large extent” to “disagree/do not support to a large extent” with categories for “I don’t know” and “declined to answer.”

At face value these three questions seem to be asking about different aspects or types of support for ISIS. However statistical diagnostics show that they are highly similar to one another and should properly be combined into an aggregate measure of overall support for ISIS. These diagnostics are summarized in Table 1.
The Cronbach’s Alpha for the three questions reveals a high level of internal consistency ($\alpha = .7467$), suggesting that the different types of respondent support for ISIS in Arab Barometer are closely related to one another and that respondents tended to answer them all in the same way. Furthermore, principle component factor analysis reveals that respondent answers to the three ISIS questions in Arab Barometer all load onto one single factor. Not one of the questions is found to be unique. Because of these diagnostics, we construct an aggregate ordinal measure of respondent attitudes toward ISIS’s compatibility with Islam, its goals and its use of violence to use as our dependent variable. We achieve this by using the “egen” function in Stata 14.0, which creates a row-wise mean measure of respondent attitudes on the three questions. This produces an aggregate Likert scale that ranges between 1, indicating very low agreement with or support for ISIS, to 4, indicating a very highly level of agreement with or support for ISIS. We dropped from the analysis any “do not know” or “declined to respond” responses and follow this same practice for all other such responses to survey questions. Because this dependent variable is ordinal, we utilize an ordered logistical regression estimation technique for our analysis. However, because the scale itself has thirteen possible ordered values, due to the fact that it aggregates average responses to three questions, we also conduct Tobit estimations that are censored at the lowest value (1) and the highest value (4) of the dependent variable. We use the Tobit estimations to check the robustness of the main models and to aid substantive interpretation of the results.

Table 2 summarizes the descriptive statistics on the dependent variable. For all respondents in the survey sample, the average level of support for ISIS using this aggregate measure is 1.13 (out of 4). This suggests that support for ISIS is quite low among the respondents surveyed by Arab Barometer. Furthermore, there appear to be country-level differences among respondents. Aggregate support for ISIS is lower among respondents
from Jordan, Morocco and Tunisia. It is higher among Algerian, Lebanese and Palestinian respondents. Because of these country-level differences, we also include dichotomous country indicators in all models, excluding one of them—Tunisia—to serve as the reference category.

We use several independent variables to measure internet use. The first is a general, ordinal measure of respondent use of the internet for any purpose. Ranging between 1 and 6, a measure of 6 indicates a respondent who reported being “online almost all day,” a 5 indicates daily usage, a 4 indicates use of the internet several times a week, a 3 indicates once a week use of the internet, a 2 indicates usage less than once a week and a 1 indicates a respondent who does not use the internet. Internet usage varies widely in the sample. Around 18.4 percent reported being online all day. 26.5 percent report daily usage of the internet. 12.8 percent use the internet several times a week. 3.2 percent use the internet once a week and another 2.8 percent less than once a week. A plurality of respondents, about 36.1 percent, reported that they did not use the internet at all. The type of internet usage captured in this measure is general and includes nonpolitical use of the internet. We use this measure to test whether internet usage of any type is associated with higher rates of support for ISIS.

Our second and third independent variables measure usage of the internet for political purposes. We focus on two types of political usage of the internet: use of the internet to keep abreast of political news and use of the internet to engage in political expression, such as participating in blogs and chats or engaging in online discussions. For the first of these independent variables, we construct a dichotomous measure coded 1 for respondents who reported using the internet to follow political news/political events. Around 17.1 percent of survey respondents used the internet to follow politics. The second independent variable is also a dichotomous measure coded 1 for respondents who reported using the internet in order to express political opinions. Around 12.8 percent of respondents used the internet to engage in political expression.

In our analysis, we conduct estimations that compare online political use of the internet alongside analogous non-online political activities. To do this, we constructed five additional dichotomous measures of non-online political news consumption and political engagement. We constructed a variable coded 1 for respondents who reported following political news on the television and another for respondents who reported reading a newspaper to follow politics. Around 39 percent of respondents followed politics through television while 6.1 percent read a newspaper to follow political news. We also created variables coded 1 for respondents who reported voting in the last parliamentary/national legislative elections, or who reported attending a political meeting or signing a petition in the last three years, or who reported participating in a political protest event in the last three years. Around 50.1 percent of respondents reported voting in the last parliamentary elections. Around 12.9 percent reported attending a political meeting. Around 13.3 percent reported attending a protest, march or sit-in.

The main purpose of including these non-internet activities in our analysis is to differentiate the effect of online political behaviors—political news gathering and political expression—from conventional, non-online political behaviors. Indeed, most respondents either rely upon the internet for political news or follow the news on television or through the newspaper and a majority either engage in online political expression or express themselves by voting, attending political meetings or protests. However, we also
acknowledge that respondents can, and do, engage simultaneously in online and non-online political activities. This reinforces our decision to include non-internet political behaviors as controls in the estimations.

We include in all estimations a set of control variables measuring respondent demographic characteristics. These include a dichotomous indicator coded 1 for respondents whose monthly household incomes were below the national median of the country in which they resided, a dichotomous measure coded 1 for respondents who were unemployed, the age of the respondent, a dichotomous indicator coded 1 for male respondents, a seven-point ordinal measure of respondent educational achievement level ranging from illiterate/no formal education to MA and above, and an ordinal measure for whether respondents described themselves as religious, somewhat religious or not religious. Around 52.1 percent of respondents were below the median monthly national income, approximately 11.2 percent were unemployed, the average age was around 40 (the median age of the respondents was 38), 49.9 percent of respondents were male, the average respondent had between a preparatory/basic and secondary education—less than .18 percent reported having no education and being illiterate while around 4.4 percent had a post-college education—and around 88.1 percent of respondents described themselves as somewhat religious or religious.

The descriptive statistics for all variables used in the study are presented in Table 3.

### Results

The results of our analysis support our two main hypotheses. Respondents who used the internet to follow political news online or who used the internet to express political opinions were more likely to express support for ISIS. The main results are summarized in Table 4.

Model 1 examines general internet usage as a predictor of support for ISIS. Respondents who reported using the internet more frequently, for both political and nonpolitical purposes, were
not more likely to express support for ISIS. This finding suggests that it is not internet use itself, broadly defined, that is associated with greater ISIS affinity. Models 2 and 3 demonstrate that specific types of internet usage are what matters. In model 2, respondents who reported using the internet to learn about political events were found to be more likely to express higher levels of support or approval for ISIS. Likewise, in model 3 respondents who reported using the internet to express political opinions, through chatrooms or social media and the like, were also more likely

<table>
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<th>Table 4. Internet usage and support for ISIS, main models.</th>
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<tbody>
<tr>
<td>General Internet Use</td>
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<td>Use Internet to Follow Politics</td>
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<tr>
<td>Use Internet to Express Political Views</td>
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<tr>
<td>Use TV to Follow Politics</td>
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<td>Use Newspaper to Follow Politics</td>
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<tr>
<td>Voted in Last Election</td>
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<td>Attended Political Meeting</td>
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<td>Participated in Political Protest</td>
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<td>Below Median National Income</td>
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<td>Unemployed</td>
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<td>Tunisia^</td>
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<td>Constant cut 1^b</td>
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*** p ≤ .000 ** p ≤ .01 * p ≤ .1
All estimations ordered logistical regressions models
Strata with single sampling unit centered at overall country mean
^Tunisia is the reference category among our country dichotomous indicators and is therefore excluded.
^Note, only first constant cut reported in table to conserve space. Coefficients and standard errors for cuts 2–12 available from authors.
to express support for ISIS. Both measures of political engagement online, therefore, are significant predictors of the likelihood of ISIS support in the surveyed population.

In contrast, we do not find the measures of conventional, non-internet political engagement to consistently predict support for ISIS. While we do find that respondents who reported using newspapers to follow political news and respondents who participated in at least one political protest to be more likely to support ISIS, respondents who followed political news via television or who voted in the last election or attended a political meeting are not.

Table 5. Internet usage and support for ISIS, Tobit models.

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<td>Use Internet to Follow Politics</td>
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<td>0.205*</td>
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<td>(0.096)</td>
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<td>Use Internet to Express Political Views</td>
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<td>(0.029)</td>
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<td>Use TV to Follow Politics</td>
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<td></td>
<td>(0.029)</td>
<td>(0.064)</td>
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<td>Use Newspaper to Follow Politics</td>
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<td>0.624***</td>
</tr>
<tr>
<td></td>
<td>(0.030)</td>
<td>(0.105)</td>
</tr>
<tr>
<td>Voted in Last Election</td>
<td>−0.001</td>
<td>−0.002</td>
</tr>
<tr>
<td></td>
<td>(0.032)</td>
<td>(0.031)</td>
</tr>
<tr>
<td>Attended Political Meeting</td>
<td>−0.070</td>
<td>−0.063</td>
</tr>
<tr>
<td></td>
<td>(0.058)</td>
<td>(0.057)</td>
</tr>
<tr>
<td>Below Median National Income</td>
<td>0.106</td>
<td>0.075</td>
</tr>
<tr>
<td></td>
<td>(0.081)</td>
<td>(0.078)</td>
</tr>
<tr>
<td>Unemployed</td>
<td>0.200*</td>
<td>0.219*</td>
</tr>
<tr>
<td></td>
<td>(0.106)</td>
<td>(0.103)</td>
</tr>
<tr>
<td>Age</td>
<td>0.000</td>
<td>0.002</td>
</tr>
<tr>
<td></td>
<td>(0.002)</td>
<td>(0.003)</td>
</tr>
<tr>
<td>Male</td>
<td>0.065</td>
<td>0.013</td>
</tr>
<tr>
<td></td>
<td>(0.066)</td>
<td>(0.063)</td>
</tr>
<tr>
<td>Education Level</td>
<td>−0.001</td>
<td>−0.002</td>
</tr>
<tr>
<td></td>
<td>(0.032)</td>
<td>(0.031)</td>
</tr>
<tr>
<td>Religious</td>
<td>−0.070</td>
<td>−0.063</td>
</tr>
<tr>
<td></td>
<td>(0.058)</td>
<td>(0.057)</td>
</tr>
<tr>
<td>Religious</td>
<td>−0.070</td>
<td>−0.063</td>
</tr>
<tr>
<td></td>
<td>(0.058)</td>
<td>(0.057)</td>
</tr>
<tr>
<td>Algeria</td>
<td>0.884***</td>
<td>1.026***</td>
</tr>
<tr>
<td></td>
<td>(0.160)</td>
<td>(0.155)</td>
</tr>
<tr>
<td>Jordan</td>
<td>−0.699***</td>
<td>−0.581***</td>
</tr>
<tr>
<td></td>
<td>(0.149)</td>
<td>(0.146)</td>
</tr>
<tr>
<td>Lebanon</td>
<td>0.953***</td>
<td>0.970***</td>
</tr>
<tr>
<td></td>
<td>(0.121)</td>
<td>(0.118)</td>
</tr>
<tr>
<td>Morocco</td>
<td>−0.110</td>
<td>−0.114</td>
</tr>
<tr>
<td></td>
<td>(0.130)</td>
<td>(0.130)</td>
</tr>
<tr>
<td>Palestine</td>
<td>1.106***</td>
<td>1.028***</td>
</tr>
<tr>
<td></td>
<td>(0.137)</td>
<td>(0.133)</td>
</tr>
<tr>
<td>Tunisia*</td>
<td>omit</td>
<td>ref cat.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constant</td>
<td>−1.144***</td>
<td>−1.191***</td>
</tr>
<tr>
<td></td>
<td>(0.242)</td>
<td>(0.239)</td>
</tr>
<tr>
<td>Obs.</td>
<td>6,547</td>
<td>6,516</td>
</tr>
<tr>
<td><strong>F</strong></td>
<td>16.62***</td>
<td>17.34***</td>
</tr>
</tbody>
</table>

*** p ≤ .000  ** p ≤ .01  * p ≤ .1
Tobit models with upper and lower censoring at 1 and 4 respectively
Strata with single sampling unit centered at overall country mean
*Tunisia is the reference category for our country indicators and is, therefore, excluded from the analysis.
The results of the Tobit models, summarized in Table 5, conform to the results of the main models. We use these to confirm the robustness of our findings and also to report the substantive impact of the variables.

Again, we find that respondents who used the internet to follow political news (model 4) and respondents who engaged in political expression online (model 5) were more likely to express support for ISIS. And, as is the case in the main models, respondents who followed political news through newspapers and who engaged in a political protest were more likely to be ISIS supporters while those that followed news on television or who engaged in political behaviors such as voting or attending a political meeting were not. In terms of substantive effects, use of the internet to follow politics is associated with an increase in the dependent variable of .196. Given a baseline average level of ISIS support of 1.13, on a 1 to 4 ordinal scale, in the sample, this translates to a 17.2 percent increase. Use of the internet to express political views is associated with a .205, or 18.1 percent, increase in support for ISIS. These effects are more substantive than use of newspapers to follow political news. A respondent who reported reading the newspaper to keep abreast of political events had a .118—around 10.4 percent—increased level of support for ISIS. However, participation in a protest is the most substantive predictor of support for ISIS in the analysis. Protest boosts ISIS support among respondents by .624, or around 55.2 percent. This in some ways is not surprising. Participating in a political protest is perhaps the most contentious, and risky, form of political engagement, particularly in countries that often sanction individuals who engage in autonomous public political activity. Individuals in the Arab world that engage in political protests are likely to be highly aggrieved, politically mobilized and perhaps more willing to express political preferences that are taboo or outside of the norm. The fact that our main independent variables of interest, online political news consumption and political expression, remain significant and substantive when protest is included in the model as a control is a confirmation of their robustness.

Many of the controls are not found to be significant in the estimations presented in Tables 4 and 5. Respondents with household incomes that are below the national median are not more, or less, likely to express support for ISIS. Age is also not significantly associated with higher levels of ISIS support in any of the estimations. We generally do not find gender to be a significant predictor of support for ISIS. The exception is model 1 where males are more likely to support ISIS. Education is also not significant in nearly all of the models, with the exception of model 1 where respondents with higher levels of education are more likely to express more support for ISIS. Across all estimations, more religious respondents are not more likely to support ISIS. However, unemployment is found to be significant in all models except model 1. Using the results of the Tobit estimations summarized in models 4 and 5, we find that being unemployed raises support for ISIS by between .200 and .219, or roughly by 17.6 to 19.3 percent. This finding is somewhat surprising. Most studies of public opinion in the Arab or Muslim world do not find socioeconomic factors to predict support for political violence or terrorism. The notable exception is Mousseau who found that poorer residents of urban areas in Muslim countries were more likely to voice support for violent extremism.

Finally, several of the country dichotomous indicators are significant. Support for ISIS is positively associated with respondents who reside in Algeria, Lebanon and Palestine, relative to Tunisia, the reference category. Palestinian residents seem to be the most likely to express support for ISIS. Residing in the Palestinian territories is associated with an increase of support for ISIS of between 1.106 (model 4) and 1.028 (model 5), or 97.8 and 90.9 percent respectively. Residence in Algeria and Lebanon have similar substantive effects. Algerian
residence was found to increase support for ISIS by .884 and 1.026 points in models 4 and 5, or 78.2 and 90.7 percent. Lebanese respondents had increased support by .953 (model 4) and .970 (model 5), or around 84.3 and 85.8 percent. In contrast, resident of Jordan were significantly less likely to voice support for ISIS. Jordanian residence was associated with a .699 (model 4) and .581 (model 5) point decrease, which translates to a 61.8 and 51.4 percent decrease in ISIS support. The coefficient for residence in Morocco is negative in most models, but not significant.

**Conclusion**

According to the results of our research, individuals in the Arab world who follow political news on the internet or who use online platforms to express their political opinions are significantly, and substantively, more likely to support ISIS. This finding is critical given the growing prominence of the internet in the Arab world, and wider Middle East, and the eclipse of more traditional media. It may also help to explain the rapid success of ISIS, whereby it has attracted thousands of supporters and volunteers globally over a remarkably short period of time.

The findings have potential policy implications. Overall, in showing that online political news consumption and political expression are associated with higher levels of support for ISIS, the results empirically reinforce the argument that the internet has been a crucial tool for ISIS. Specifically, the current military defeat of ISIS in the field and the collapse of its caliphate in the Middle East will possibly increase its online efforts to reduce the negative effects of losing grounds and to regain support from its sympathizers and followers, especially in Arab countries. Since most religious-based terrorist organizations, including ISIS, prefer the Arabic language more than other languages in the online jihadi-sphere, counterterrorism officials need to be more attentive to this issue in order to minimize the revival of ISIS via online propaganda and recruitment. This naturally suggests that counterterrorism efforts focused on ISIS’s internet presence, either in the form of friendly news reporting on the movement and the issues central to it or in social media platforms and the like, are warranted. Governments, private companies, international NGOs, and ad-hoc coalitions of netizens might focus efforts against the online activities of religious-based terrorist organizations like ISIS in order to monitor and counter violent extremism. Even though there are some global efforts in place to minimize and prevent online extremist activities, specific attention is needed for organizations like ISIS to fight against online religious-based extremism more effectively.

However, other findings provide important nuance. We do not find that conventional forms of media and political activity, with the exception of protest, predict support for ISIS but we do find that censorship boosts support for ISIS. This suggests to us that government monitoring, or restriction, of television or print media and political participation such as voting or attending political meetings is likely to yield few counterterrorism benefits.

The findings also highlight future avenues of academic research. We believe the study underscores the connection between the ways in which individuals seek and perhaps act upon political information and attitudes towards extremist organizations. Further research should be conducted to deepen our understanding about the relationship between the use of the internet and the support for violent extremism. One promising venue may look at the role of internet usage and active involvement in political violence. Even though our study shows a significant relationship between internet usage and the support for ISIS, we
still do not know the impact of internet usage on the radicalization of individuals and their propensity to act upon their views. Future research might try to determine what online behaviors distinguish individuals who are passive sympathizers with radical groups like ISIS from those who become active supporters and potential recruits. Finally, as discussed previously, engagement online might be a two-way street in terms of radicalization. More research is needed to determine circumstances under which online engagement can actually pacify would-be radicals, making it less likely that they will move towards extremist behavior.

Disclosure statement

No potential conflict of interest was reported by the authors.

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Notes

1. ISIS is an acronym commonly used in the media for the extremist movement known variously as the Islamic State in Iraq and Syria, the Islamic State in Iraq and al-Shams and the Islamic State in Iraq and the Levant. In the survey on which we base our analysis, ISIS is referred to by the acronym frequently used in the Arab World: “daesh.” In our paper, however, we conform to the acronym ISIS, as it is most frequently used among Western experts.
2. As was also the case for Al Qaeda in Iraq (AQI), the violent extremist movement which was the forerunner to ISIS. See F. A. Gerges, Isis: A History (Princeton University Press, 2017).


12. The percentage of the population that use the internet.


22. Byman (see note 7 above).
25. Berger and Morgan (see note 4 above); Bloom et al. (see note 3 above).
28. M. C. Benigni, “Detection and Analysis of Online Extremist Communities,” (Unpublished Dissertation, School of Computer Science, Carnegie Mellon University, 2017); Magdy et al. (see note 25 above); Thomas (see note 17 above).
29. Farwell (see note 23 above).
32. Zelin (see note 29 above).
37. Winter and Haid (see note 34 above).


44. D. Koehler, “German Right-Wing Terrorism in Historical Perspective. A First Quantitative Overview of the “Database on Terrorism in Germany (Right-Wing Extremism)”–DTGrwx’Project,” *Perspectives on Terrorism* 8, no. 5 (2014): 48–58.

45. See, for example, Benson (see note 18 above.)

46. Benson (see note 18 above).


50. Benson (see note 18 above).


52. H. Rogan, “JIHADISM ONLINE-A Study of How al-Qaida and Radical Islamist Groups Use the Internet for Terrorist Purposes,” (FFI/Report, 915, 2006); Weimann (see note 20 above).


54. Rieger et al. (see note 46 above).


56. Hoskins et al. (see note 46 above).


59. Note, we exclude responses from Egypt from our analysis as questions about support for ISIS were not included in the Egyptian surveys. We also excluded responses from Syrian refugees. Though Syrian refugees in Arab Barometer have been surveyed about ISIS, as recent migrants they were not surveyed for important covariates in our analysis, including questions about voting, attending political meetings or participating in protests in the past three years.

60. For a full description of the methodology used along with the complete data codebook and technical notes, see http://www.arabbarometer.org/.

61. Question 828. “To what extent do you believe Daesh’s tactics are compatible with the teachings of Islam?”.

62. Question 829. “To what extent do you agree with the goals of Daesh?”.

63. Question 830. “Two what extent do you support Daesh’s use of violence?”.

64. This resulted in dropping 412 respondents from the analysis, which is about 5.7 percent of the total sample. Perhaps surveyed individuals who declined to respond to questions about support for ISIS are clandestine ISIS supporters who fear revealing their support for a controversial organization. Only 79 respondents refused to answer at least one of the three
questions about ISIS that make up our aggregate measure. This accounts for around 1.1 percent of the total sample.
65. The total list of values for the dependent variable are: 1; 1.33; 1.5; 1.66; 2; 2.33; 2.5; 2.66; 3; 3.33; 3.5; 3.66; and 4.
67. Question 409, “On average, how often do you use the internet?”
68. Constructed using question 4101, “Do you use the internet in order to find out about political activities taking place in your country?”
69. Constructed using question 4102, “Do you use the internet in order to express your opinion about political issues?”
70. It is important to note that our indicators for respondent use of the internet to follow political news or to engage in political discussions online do not measure the percentage of online time the respondent devoted to these activities relative to other activities. This is due to the limitations of the Arab Barometer survey. Arab Barometer simply asks respondents how often they use the internet and whether they use the internet to follow political news or to express political opinions.
71. Question 4061, “In general do you follow political news through the television?”
72. Question 4062, “In general do you follow political news through a newspaper?”
73. Question 301, “Did you vote in the last parliamentary elections that took place?”
74. Question 5021, “During the past three years, did you attend a meeting to discuss a subject or sign a petition?” Coded 1 for respondents who have done this at least once.
75. Question 5022, “During the past three years, did you participate in a protest, march or sit-in?”
76. The majority of respondents seem to have engaged exclusively in either online or offline news gathering or political expression. Around 9.9 percent of respondents reported using both the internet and television to follow political news. Around 2.4 percent reported following political news on the internet and by watching television. Around 1.9 percent followed political news using all three modes. Around 7.5 percent expressed political opinions online and also reported voting. Around 5.5 percent both commented online and attended a political meeting. A similar percentage, 5.9 percent, both used the internet for political expression and attended a protest. 2.5 percent reported engaging in all four activities.
77. Question 1015aalq, 1015aajor, 1015aleb, 1015amor, 1015apal, 1015atun, “What is the total monthly income for all household members?”
78. Question 10045, “Are you unemployed – looking for work?” Note that in the data, respondents who are retired, students, housewives or are not looking for work are not coded as unemployed.
79. Question 1001, “What is your age?” Note, all respondents are 18 years or older.
80. Question 1002, “Level of education?”
81. Question 609, “In general, would you describe yourself as religious?”
83. Benson (see note 18 above); L. Green, The Internet: An Introduction to New Media (Berg, 2010); Tsfati and Weimann (see note 20 above); Weimann (see note 20 above).